

BUTTE COUNTY, SOUTH DAKOTA

COMMUNITY WILDFIRE PROTECTION

PLAN

MAY 2007



Skylone Drive Fire – June 1988

This plan was made possible through the combined efforts of many people who provided information, data, ideas, analysis, and most importantly, their time. It has been reviewed by state and federal agencies with interest in its content and recommendations. The information presented is based on the most current information available at the time it was published. Ideas for improvement are welcomed and should be forwarded to the Butte County Emergency Manager at 839 Fifth Avenue, Belle Fourche, South Dakota 57717.

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Butte County, South Dakota Community Wildfire Protection Plan (CWPP) May 2007

Background. *The basis of the plan.*

The Healthy Forests Restoration Act of 2003 (HFRA) provides statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to consider priorities of local communities as they develop and implement hazardous fuel reduction projects. To take advantage of this opportunity to influence federal projects and receive federal assistance in wildfire hazard mitigation, Butte County must have a Community Wildfire Protection Plan (CWPP).

The format and content of the CWPP is not specified and may include items related to wildfire response, mitigation programs, community preparedness, structure/infrastructure protection, or public education. It should be a useful document that establishes recommendations, specifies priorities, and provides essential information that will help protect people, property and critical infrastructure and resources from a catastrophic wildfire event.

As a minimum the CWPP must:

1. be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties
2. identify and prioritize areas for hazardous fuels reduction treatments and recommend type and methods of treatment that will protect one or more communities and critical infrastructure
3. recommend measures that homeowners and communities can implement to reduce ignitability of structures throughout the area addressed in the plan.

Source: Preparing a Community Wildfire Protection Plan, A Handbook for Wildland Urban Interface Communities

Scope. *What this plan does.*

The Butte County Community Wildfire Protection Plan

1. Identifies Wildland Urban Interface (WUI) zones adjoining communities within Butte County.
2. Identifies critical infrastructure within Butte County, including the communities of Belle Fourche, Newell, Nisland, Vale, Castle Rock, Hoover and Arpan at risk from wildfire and it assesses the risk.
3. Identifies and prioritizes areas for hazardous fuels reduction treatments and recommends methods of treatment to protect communities and essential infrastructure.

4. Specifies areas of responsibility for local, state and federal firefighting organizations in Butte County.
5. Provides a snapshot of fire department capabilities in Butte County.
6. Catalogs water sources that can be accessed for firefighting and recommends improvements.
7. Identifies measures that communities and landowners can take to reduce ignitability and improve survivability of structures in the event of wildfire.
8. Specifies a County public education program.

Introduction. *A description of Butte County including:*

1. *Topography and vegetation*
2. *Land ownership (private, state, federal)*
3. *Rivers and lakes*
4. *Population*
5. *Communities*

Butte County is located in western South Dakota. It is bordered by Lawrence County and Meade County on the south, Meade and Perkins County on the East, and Harding County on the north. To the west is Carter County, Montana, and Crook County, Wyoming.

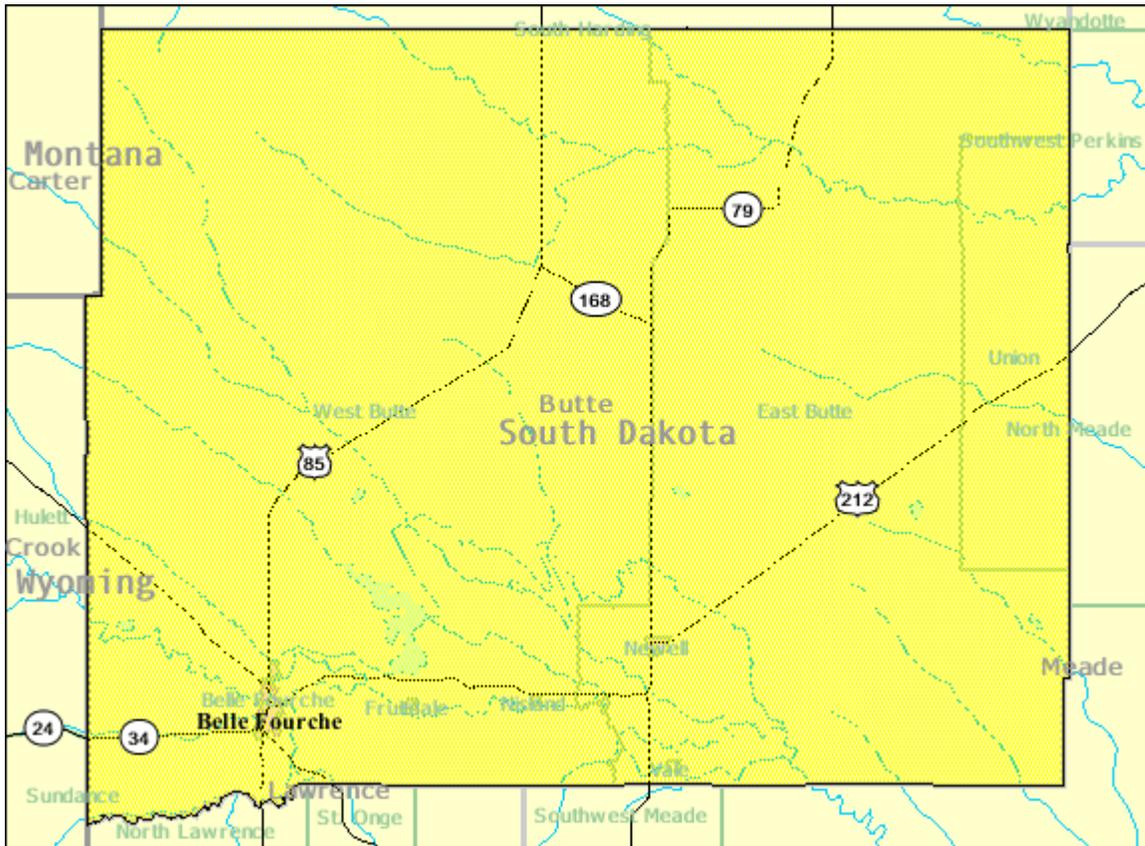


Figure 1 – Butte County

The County is comprised of a total area of 2,266 square miles; 2,249 square miles (1,439,360 acres) is land and 18 square miles (0.79%) is water.

Topography and Vegetation. The Belle Fourche River Valley west of the city of Belle Fourche is part of the bentonite-rich Grey Shale Foothills, the lowest elevations of the Black Hills which extend south and west of Butte County. This area is characterized by soft, dark grey shale, often with dwarf ponderosa pine and burr oak. South of Belle Fourche in the Redwater River watershed the area is more heavily treed with significant stands of ponderosa pine and steep brushy draws. North and east of Belle Fourche the land is characterized as rolling plains with scattered buttes and badlands type formations. There are deep, steep draws sculpted by seasonal water courses which make access by ground vehicles difficult at best and sometimes impossible. Soils are mostly heavy clay-loams. This area, which makes up roughly two thirds of Butte County, is classified as “northern wheatgrass-needlegrass plains” more often referred to as “short grass prairie.” The dominant vegetation includes western wheatgrass, green needlegrass, sideoats grama, blue grama, needleandthread, threadleaf sedge, little bluestem, and buffalograss. Many forbs and some shrubs occur throughout although in lesser densities than eastern South Dakota. Some of the more common forbs and shrubs are western snowberry, leadplant, scarlet globemallow, western wallflower, American vetch, prickly pear, fringes sagewort, scurfpeas, purple coneflower, prairie coneflower, dotted gayfeather, and Missouri goldenrod. Several species of sagebrush are common to the native rangelands of Butte County. Wild plum, golden currant, chokecherry, silver buffaloberry, and Russian olive are found in the southern half of the County, usually along larger seasonal streams. Along the Belle Fourche and South Moreau Rivers, stands of plains cottonwood and green ash are common.

The northern two thirds of Butte County, with the exception of some dry land farming of cereal grains, is used for rangeland grazing, primarily sheep and cattle. Some grass, mostly in draws and bottoms along seasonal streams, is hayed for winter forage.

Approximately 102,000 acres in Butte County are actively farmed. Small grains, such as wheat, barley and oats, are found on dryland farming operations throughout the County. In the southern third of the County east of Belle Fourche, on either side of the Belle Fourche River, the alluvial plain consists of irrigated farmland served by the Belle Fourche Irrigation District or the river itself. The irrigation project encompasses approximately 140,000 acres, 57,187 acres of which are actively irrigated. Primary crops are alfalfa, and corn. Many of the taller grasses, such as various bromes, clovers, and blue grasses are also found here.

Many farms and ranches throughout Butte County have shelter belts around house, barns and out buildings. Many of these shelter belts have Chinese elms, cedars, and various non-native trees and shrubs. Shelter belts must be properly maintained to preserve them from wildfire. Proper maintenance includes disking between rows to reduce grasses, pruning dead limbs, and replanting with fire resistive species. When properly maintained, these shelter belts can form a vegetative barrier which may reduce fire intensity and provide suppression opportunities during a wildfire event.

Land Ownership in Butte County. Land ownership is primarily private. However, large tracts are owned by federal and state governments and administered by various agencies. Much of the government-owned lands are leased to private operators for grazing. Table 1 shows general ownership of lands in Butte County.

Table 1 – Land Ownership in Butte County

Owner	Acres	Percent	Land Use
Bureau of Land Management	145,644	10.12	Grazing Leases
Bureau of Reclamation	14,652*	1.02	Belle Fourche Reservoir, irrigation control infrastructure/canals *includes water surface area
State of South Dakota	74,484	5.17	Grazing Leases - Schools & Public Land. Outdoor Recreation - GF&P
Private	1,204,580	83.69	

Rivers and Lakes in Butte County. There are two man-made lakes, and three major river drainages in Butte County.

Belle Fourche Reservoir (Orman Dam). The Belle Fourche Reservoir is located about 10 miles northeast of Belle Fourche, north of US Highway 212. The reservoir is formed by a homogeneous earthfill dam 6,262 feet long and 122 feet high constructed across Owl Creek, an intermittent stream tributary to the Belle Fourche River. The primary purpose of the reservoir is regulatory storage of water for irrigation for 57,183 acres in the general area of Newell, Vale, and Nisland along the valley of the Belle Fourche River. However, flood control, fish and wildlife conservation, and recreation benefits are inherently provided. Active storage capacity of the dam is 185,200 acre-feet and a water surface area of 8,040 acres. Dead storage is 6,800 acre-feet.

A diversion dam on the Belle Fourche River, about 1.5 miles northeast of the City of Belle Fourche and downstream of the confluence of the Redwater River, directs water down a 6.5 mile inlet canal to the reservoir. Flow from the diversion dam into the canal is controlled by a diversion dam control house. Flow from the reservoir is through two controlled outlet works through the base of the dam, one each for the north and south canals. A supply, distribution and drainage system serving the irrigated lands consists of 94 miles of canals, 450 miles of laterals, and 232 miles of drains.

Irrigation water from Belle Fourche Reservoir is critical to the agricultural economy of Butte County. Consequently, the facilities which control inflows into and outflows from the reservoir and the metering facilities along the canals are considered critical infrastructure.

The 6,731 acres of land which surrounds the reservoir is owned by the US Department of Interior, Bureau of Reclamation. Rocky Point Recreation Area, managed by the South Dakota Game, Fish and Parks Department, is a 327 acre portion of the Reclamation land on the southwest side of the reservoir. Public camping facilities and boat ramps have been developed for recreational use of the reservoir. Below the dam along the Owl Creek drainage, a 164 acre parcel of Reclamation land is managed by the South Dakota Game Fish and Parks Department, Wildlife Division, as a wildlife production area. This land is open for public hunting.

Newell Lake. Newell Lake is located 8 miles north of Newell, 2 miles east of SD Highway 79. The 183 surface acre lake is formed by an earthfill dam constructed across Willow Creek. The lake and 617 acres of land surrounding the lake is state-owned and managed by SD Game Fish and Parks as a recreation and game production area.

Belle Fourche River. The Belle Fourche River enters Butte County from Wyoming 18 miles northwest of Belle Fourche. It flows generally east through the southern quarter of the County to the point where it enters Meade County 10 miles east of Vale.

The river is dammed in eastern Wyoming forming Keyhole Reservoir which provides supplemental storage for irrigation water for the Belle Fourche Irrigation Project.

Redwater River. The Redwater River forms a 12-mile portion of the southern boundary of Butte County before turning north to join the Belle Fourche River near the City of Belle Fourche. Water from the river is also used for irrigation by agricultural operators along its valley.

South Moreau River. The South Moreau River is a seasonal stream that flows southeast from its source in Harding County, entering Butte County 10.5 miles west of US Highway 85. The river traverses the northern third of the County, entering Perkins County 16 miles southeast of Hoover.

Population. The U.S. Census of 2000 shows there were 9,094 people, 3,516 households, and 2,468 families residing in the County. The population density was 4 persons per square mile. There were 4,059 housing units at an average density of 2 houses per square mile. The average household size was 2.55 and the average family size was 3.07. In the County, the median age was 38 years.

Butte County is growing. From 1990 to 2000 the population increased 1,180, or 14.9% according to census figures. More importantly, the number of housing units in the County increased 557, up 15.9%. U.S. Census projections indicate continuing growth. From the 2000 baseline of 4,059 units, projections were for the addition of 164 units by July 2005. Based on increased County tax revenues from new homes, those projections appear somewhat low with housing growth occurring primarily in and around the edges of Belle Fourche and the southwestern portions of the County.

Communities. The County is divided into two townships, Union and Vale; and two areas of unorganized territory: East Butte and West Butte. See Figure 1.

There are eight communities in Butte County: Belle Fourche, Newell, Nisland, Vale, Fruitdale, Castle Rock, Hoover and Arpan.

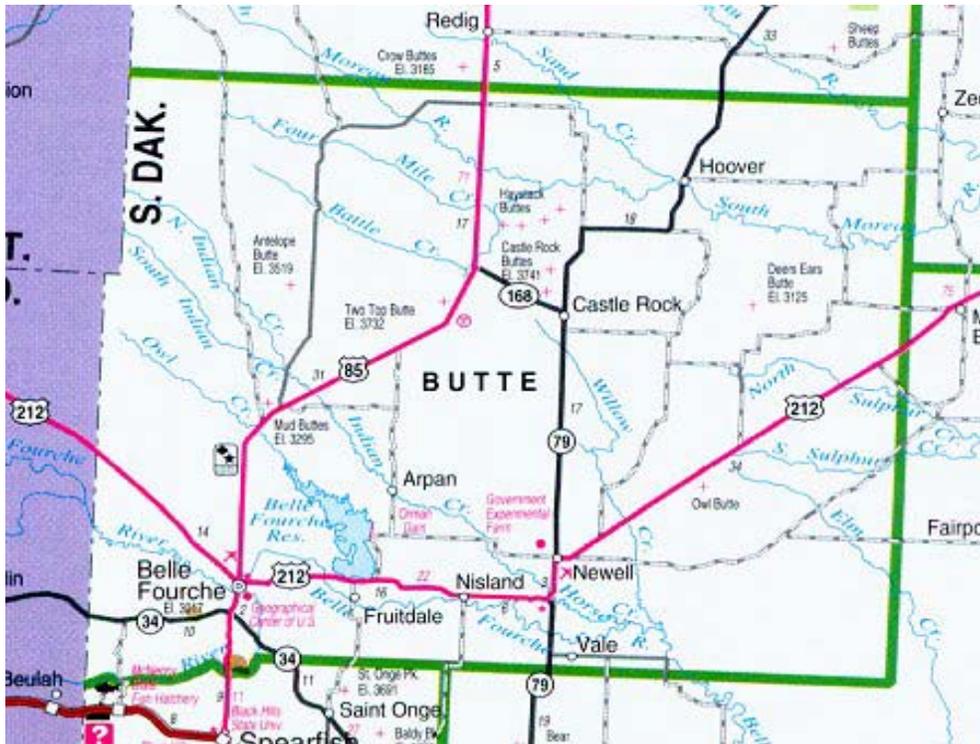


Figure 2 – Highway Map

Belle Fourche. Belle Fourche is located in the southwest corner of Butte County. It is the largest community in the County. The city is located on US Highway 85 about 5 miles north of the Lawrence County line. It is 10 miles north of Spearfish and Interstate Highway 90. South Dakota Highway 34 passes through the southern edge of the city and US Highway 212 passes through on the north edge. The Wyoming state line is 5 miles to the west. The Redwater River joins the Belle Fourche River near the southeastern edge of town. Belle Fouche has a volunteer fire department.

Newell. Newell is located at the junction of US Highway 212 and SD Highway 79 in southeastern Butte County. It is situated 5.5 miles north of the Belle Fourche River and 9 miles north of the Meade County line. Newell has a volunteer fire department.

Nisland. The town of Nisland is the third largest town in Butte County. It sits on the north bank of the Belle Fourche River on US Highway 212, 6 miles west of the SD Highway 79 junction and 16 miles east of Belle Fourche. Nisland has a volunteer fire department.

Vale. The town of Vale is located in the southeastern corner of Butte County. It is situated one mile north of the Butte-Meade County line, one mile east of SD Highway 79 and is located approximately one mile south of the Belle Fourche River. Vale has a volunteer fire department.

Fruitdale. The town of Fruitdale sits on the north bank of the Belle Fourche River one mile south of US Highway 212. It is located 7.5 miles east of Belle Fourche and 7.5 miles west of Nisland. The town has no fire department and is on the western edge of the Nisland-Arpan Fire Zone.

Castle Rock. Castle Rock is 17 miles north of Newell on SD Highway 79 in central Butte County. Hoover lies 18 miles northeast. The town site is just south of the SD Highway 168 junction, which runs 6 miles between US Highway 85 to the west and SD Highway 79. There is no specific census data for Castle Rock. Castle Rock has a volunteer fire department.

Hoover. Hoover is located in northeastern Butte County on the east side of SD Highway 79, It is situated 6.5 miles south of the Harding County line and 15 miles west of the Perkins County line. The town site is at the confluence of the South Moreau River and Sand Creek. Hoover has no fire department but is in the Castle Rock Fire Zone. There is no specific census data for Hoover.

Arpan. The town site of Arpan is located in south central Butte County on Indian Creek 7 miles north of US Highway 212 and 10 miles south of US Highway 85. Arpan is in the Nisland-Arpan Fire Zone. There is no specific census data for Arpan.

Table 2 shows Butte County census data for 2000. Analysis of the data shows 61.6% of Butte County’s 9,094 residents lived in the cities of Belle Fourche, Newell, Nisland, Vale, and Fruitdale, which occupy only 0.23% of the County’s 2,248.51 square mile land area. Of the 4,059 housing units, 65.2% were in these five communities. These figures illustrate that the County is predominantly rural with low population density (1.56 persons per square mile) and housing density (0.63 housing units per square mile) in the two unorganized territories and Union Township.

Table 2 – U.S. 2000 Census Data for Butte County

Community	Location	Area in Square Miles	Land Area	Population	Population Density per Square Mile	Housing Units	Housing Units per Square Mile
Butte County	NA	2266.36	2248.51	9094	4.0	4059	1.8
Belle Fourche	44°40'02"N, 103°51'01"W	3.23	3.16	4565	1446.9	2122	672.6
Newell	44°42'09"N, 103°25'23"W	1.00	1.00	646	646.9	337	337.5
Nisland	44°40'25"N, 103°33'11"W	0.25	0.25	204	800.7	100	392.5
Fruitdale	44°40'05"N, 103°41'47"W	0.32	0.32	62	195.2	29	91.3
Vale Twp	44°37'12"N, 103°24'12"W	0.39	0.39	121	312.5	60	154.9
Castle Rock	44°42'53"N, 103°25'13"W	NR	NR	NR	NR	NR	NR
Hoover	44°06'44"N, 103°16'04"W	NR	NR	NR	NR	NR	NR
Arpan	44°46'50"N, 103°38'58"W	NR	NR	NR	NR	NR	NR
Union Twp	NA	141.52	140.77	31	.02	17	0.1
Butte East UT	NA	840.23	836.75	797	1.0	323	0.4
Butte West UT	NA	1279.42	1265.88	2668	2.1	1071	0.8

NA – Not Applicable
NR – Not reported.

Wildland Urban Interface Zones. *Definition of the Wildland Urban Interface zone. A summary of interface/intermix areas of concern surrounding the communities in Butte County.*

The Wildland Urban Interface (WUI) is defined by the National Wildfire Coordinating Group (NWCG) as "the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels". This interface includes all areas where developed lands, such as homes, businesses or agricultural lands, meet undeveloped lands, such as naturally appearing ecosystems like grasslands, woodlands or forests. It is synonymous with the term "intermix."

For the purpose of this plan, "wildlands" are forests (coniferous, deciduous and mixed), native grasslands, shrubs, wetlands, and transitional lands (mostly clear-cuts). For Butte County, large tracts of CRP and native grassland pastures used for livestock grazing are considered wildlands. Arable lands (e.g., row crops, irrigated hay cropland, etc.) and tree belts or windbreaks are not.

The expansion of the WUI in recent decades has significant implications for wildfire management and impact. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. Its expansion has increased the likelihood that wildfires will threaten structures and people.

Fire protection problems in the wildland/urban interface are very complex. Complicated barriers must be overcome to address them. These barriers include legal mandates, zoning regulations, fire and building codes, basic fire protection infrastructure, insurance/fire protection grading and rating systems, environmental concerns, Fire Protection Agreements, fiscal constraints and public apathy. Political, social and psychological factors further complicate the problems. There is no one simple solution.

The areas where wildlands, infrastructure and development intermingle in Butte County are few and include no federal or state lands subject to government mitigation projects. The County is largely rural with very low population densities. No formal buffers or WUI zones were identified. Consequently, this plan assesses areas or points where wildlands with significant vegetative fuels and critical public and commercial infrastructure and values meet. It establishes recommendations to manage such properties, suggests ways to reduce fuels, which could increase the intensity or severity of a wildland fire event, and identifies measures to provide defensible space around values to permit effective defense against a wildland fire.

The US Departments of Agriculture and Interior define the interface community as having a population density of 250 or more people per square mile, and the intermix community as having 28-250 people per square mile. Belle Fourche is the only community in Butte County listed in the federal register as an at risk community in the vicinity of federal land. However, Newell, Nisland, Vale and Fruitdale meet population density requirements of interface/intermix communities and they were assessed and their areas of concern are addressed in this plan. Castle Rock and Hoover were also assessed.

In the area south of State Highway 34 and along the US Highway 85 corridor between Belle Fourche and Spearfish, residential subdivisions and development in the Redwater River watershed southwest of Belle Fourche present the most significant wildland urban interface concerns in Butte County.

Infrastructure Risk Assessment. *This is a risk assessment of infrastructure and values associated with each community that are potentially at risk to from a wildfire event, including:*

1. *Ingress and egress routes from communities, housing developments, parks, and major industrial/agricultural areas*
2. *Public utilities, including water, sewer, power, and natural gas*
3. *Commercial operations, including petroleum storage (gasoline, diesel, propane, etc.) and communications (telephone, radio, etc.)*
4. *Schools, hospitals, city and county government facilities*
5. *Private values in subdivisions and developments*

For the purpose of this study the term 'risk' is defined as the probability of loss due to a wildfire event and the term 'hazard' is defined as an object or condition which influences risk of damage or destruction during a wildfire.

Each Butte County fire department identified and performed a risk assessment of infrastructure and values at risk to a wildfire event in their jurisdiction. A summary of the results of each assessment follows.

Belle Fourche. Belle Fourche is the County seat of Butte County. Belle Fourche is listed in the federal register as an “at risk community” for wildland fire. A wildland fire assessment for the Belle Fourche Fire Zone was accomplished for this plan. The city is surrounded by ranching operations, some dry land farming and several rural subdivisions. Primary ingress-egress routes for the city are US Highway 212, the major east-west route, which passes through the north side of the city. SD Highway 34 runs east-west through the southern edge of town. US Highway 85 is the major route passing north-south through the city center.

In general, the city center and values surrounding the city core are not at risk. County government facilities, including the Sheriff’s Office and County Dispatch Center are south of city-center and are not threatened by a wildland fire event. City government facilities are located in the city center and are not threatened.

The heavy industrial area north of town along US Highway 85 west along US Highway 212 abuts grasslands. The fuels consist of short prairie grasses and some sage brush. In most areas mineral soil separates these fuels and wildfires are quickly controlled and extinguished. Many facilities are of fire resistant metal construction. Most have large areas of bare earth and gravel, asphalt or concrete work areas which further reduce their exposure to fire. The McGas Propane storage facility on US Highway 85 near the industrial park and the MDU Gas Plant north of the city on MDU

Loop are well maintained. Vegetation is controlled by mowing and large areas throughout both facilities are graveled. City hydrants are located near the McGas facility and the MDU plant has a well and 12,000 gallon water storage tank. Risk is low.

The New Generation Feeds facilities east of Belle Fourche on the US Highway 212 Business Loop are separated from significant wildland fuels. Vegetation surrounding the facility is kept short by vehicle traffic on the property. The hay yard is separated from the manufacturing plant. There is a hydrant near the facility. Risk of damage from a wildland fire is low.

Rocky Point Recreation Area at Belle Fourche Reservoir is managed by South Dakota Game, Fish and Parks. There are 61 campsites and a picnic area/shelter in the 327 acre area. All structures are of fire resistant material construction; most are concrete. The park allows campfires in fire grates, which have a 3-foot mineral soil/gravel clear zone surrounding them. Campsites, the picnic area and road sides are mowed. The state enforces the Butte County burn ban in the camping and picnic areas when it is in effect. An emergency warning siren is located in the recreation area that can be activated by County Dispatch. Risk of wildland fire is assessed as low.

Remaining Bureau of Reclamation land surrounding the reservoir, with the exception of the SD Game Fish and Parks managed wildlife production area below the dam, is primarily short grass prairie bordering privately owned farms/ranches and leased Bureau of Land Management tracts. Accessible Reclamation land areas surrounding the lake are used for recreation. The County burn ban is enforced by the Butte County Sherriff in these areas. Reclamation land would benefit from a rotational grazing program as a management tool to reduce the fuel loading on lands surrounding the reservoir. However, because of the dry conditions of the last six years, fuel loading has remained light and risk of a catastrophic wildland fire is assessed as low.

Roadbed of the DM&E Railroad parallels US Highway 212 from the Wyoming border to Belle Fourche and SD Highway 34 from Belle Fourche to the Lawrence County line northwest of the town of St Onge. The rail line passes through the city center. Heat sources from rail traffic can provide the ignition source for a wildland fire and light wildland fuels, primarily short grasses, exist in the rail right-of-way on either side of the roadbed outside of the city limits. However, access is good to most areas and risk is considered low.

The Belle Fourche Landfill was studied in this assessment. The area likely contains potentially hazardous household waste which could be dispersed in smoke from a fire in the facility. Past experience with the landfill has shown this area to be at risk of fires originating in waste materials. The presence of hazardous, flammable materials and a risk of a fire which escapes into the surrounding wildland fuel requires consideration for offensive mitigation efforts by the City.

The largest areas of concern are the subdivisions south and west of Belle Fourche. There are six which because of fuel loading, both surface (prairie grasses) and aerial

(ponderosa pine), and topography present significant threat to private values from a wildfire event. All six subdivisions are bordered by private property. Mitigation efforts to improve or provide defensive space and to provide fuels breaks must be considered. These subdivisions are Hat Ranch Development, Country Club Estates, Prairie Hill Estates, Sandstone Estates, Prairie Pines Estates, and Grandview Subdivision.

Hat Ranch Development. Situated on the Redwater Hill on the ridge to the east side of US Highway 85, the development is 4 miles south of Belle Fourche. There are two subdivisions. One area is inside the city limit. It is accessed via Hat Ranch Road which is a blacktop road with a favorable grade for firefighting equipment. Values are newer, large, single-family homes with some fire-resistant materials used in construction. Most values are on open lots with short grasses and some ponderosa pine. In general, these values would be defensible. This area has a city hydrant system. The water storage tank serving this area is adequate at present for firefighting operations and structural protection. However, further development needs to be monitored and additional storage capacity added when capability is exceeded. The other area, which is outside the city boundary, extends south, along Minnesela Road. Here values are of older construction and sit among ponderosa pines on the hillsides or on top of the ridge. Access to the development is up a steep gravel road which would make access by heavy structure protection equipment difficult. In treed areas, ladder fuels, including dead and fallen limbs, appear to have been removed regularly, although additional tree thinning should be considered in some areas. Landowners need to be proactive in trimming tree limbs overhanging structures and establishing clear zones to make values more defensible from wildfire. There are no city fire hydrants in this area. Risk is assessed as medium.

Country Club Estates. This ridge top development south of the municipal golf course on the south edge of the city is surrounded to the south and west by grassland. There is an area of ponderosa pine on the north facing slope north of the development. Homes here are newer and are well maintained. Green zones surround most values. There are city hydrants and accessibility by firefighting equipment is good. Risk is assessed as low.

Prairie Hills Estates. The development is situated west of US Highway 85 off Wood Road about 1 mile south of Belle Fourche. Topography is rolling. The values here are smaller, stick-built construction, situated on small short grass acreages. Risk in this area is low.

However, west of the development along Wood Road there is a heavily timbered ridge with significant ladder fuels where there are several homes. These values would not be defensible. The landowners here should consider extensive tree thinning projects. West and south of this ridge the landscape opens up to rolling grassland with some ponderosa pine on hillsides. Risk in this area is low.

Sandstone Estates. This subdivision is on the east side of US Highway 85, 1 mile south of Belle Fourche. Access is by a single, steep, narrow gravel road. Homes are

modular with some trailer houses. They are generally situated on ridge tops or hill sides increasing their risk in the event of wildfire. There are some scattered ponderosa pines and brush in the draws below the values. But the bulk of the wildland fuels are short grasses. There are no hydrants in the development. Residents should consider tree thinning in draws and projects to control wildland grass fuels on slopes below structures. The risk to values in this area is high.

Prairie Pines Estates. The development is west of Belle Fourche along Sourdough Road, which runs along the ridge that separates SD Hwy 34 and US Highway 212. In the development, there is a city hydrant system and risk from wildfire is low.

However, west along Sourdough Road there are many small ranch-type operations. To the south the fuel loading is light, primarily short grasses. A few draws have stands of ponderosa pine. Homes situated on the south side of Sourdough Road are defendable and risk is low. To the north, there is nearly continuous growth of ponderosa pines on the north-facing slope. Many homes with outbuildings are located along this ridge top above the stands of pine. Homeowners must be encouraged to thin trees and establish open areas below their structures to make these values defendable. There is no hydrant system in this area. Overall assessment on the north side of Sourdough Road is medium risk.

Grandview Subdivision (Grandview Road & Bonato Road). This subdivision is 5 miles west of Belle Fourche on the south side of SD Highway 34. Access up Grandview is along a narrow, steep gravel road. Homes are amid scattered ponderosa pine on a north-facing slope. There are no hydrants. Access on Bonato Road is along a gravel road with more gradual grade. Homes in this area are on the ridge top. Fuels here are lighter grasses with some stands of ponderosa pine. Both areas with values are well maintained and show evidence of tree thinning and removal of ladder fuels.

The area south of the subdivision is a rugged foothill area of the Black Hills. It can be accessed only with four-wheel drive firefighting equipment and only in certain areas. The danger to the homes in the subdivision would be from an inability to establish fire lines to stop the progress of a fast moving fire from this area. Risk to the subdivision, as a result, is high. Fuel breaks south and west of the subdivision would be beneficial.

Table 3 is a summary of the subdivisions in the Belle Fourche Fire Zone discussed above.

Table 3 – Belle Fourche Subdivisions

Subdivision	Location	Water	Hazard	Adjoining Property
Hat Ranch	4 miles south of Belle Fourche. East of US Hwy 85. Redwater Hill.	City Hydrants (North) None (South)	Ridge top homes. Some fire-resistant construction in newest development (Hat Ranch Rd). Mostly grassland east and ponderosa pine west. Southern development (Minnesela Rd) has older homes surrounded by ponderosa pines. Two access routes.	Private
Country Club Estates	South of golf course. West of US Hwy 85	City Hydrants	Ridge top homes with steep pine-covered hill to north. Level, paved access.	Private
Prairie Hill Estates	1 mile south of Belle Fourche. West of US Hwy 85. Wood Rd.	City Hydrants	Scattered homes. Further west several private homes in thick ponderosa pine.	Private
Sandstone Estates	1 mile south of Belle Fourche. East of US Hwy 85.	None	Hillside & ridge top modular homes & trailers overlooking steep draws. Brush & ponderosa pines in draws. Access is steep gravel road.	Private
Prairie Pines Estates	2 miles west of Belle Fourche. Sourdough Rd.	City Hydrants	Ridge top with homes overlooking draws and valley. Brush and ponderosa pines in draws	Private
Grandview	5 miles west of Belle Fourche. South of SD Hwy 34. Grandview Rd and Bonato Rd.	None	Single steep, narrow gravel road access. Grandview homes older built on hillside among ponderosa pine. Bonato Rd homes have better safe zones around structures.	Private

Newell. Newell is on the northeastern edge of the Belle Fourche Irrigation Project. The town is surrounded by a mix of irrigated farmland, dryland agricultural fields, and prairie grasslands. Primary ingress and egress routes are US Highway 212, which runs east from the north edge of town, and SD Highway 79, which runs north-south through town. US Highway 212 runs west from the intersection of SD Highway 79 about 3 miles south of town. A wildland fire risk assessment of the fire district determined that no values or critical infrastructure were found to be at elevated risk due to a wildfire event. But there are areas that could be addressed to further reduce risk and make private values more defensible.

The City has several light industrial operations and a number of small commercial businesses. There are two gas stations and the Butte Electric Cooperative offices and maintenance yard on the east side of US Highway 212/SD Highway 79 on the south edge of town. The Belle Fourche Irrigation District offices and maintenance yard and the public school complex are on the west side of Dartmouth Street (US Highway 212/SD Highway 79) on the west side of town. These values are removed from wildland areas and not at risk.

There are two propane storage facilities; one is on the north end of Girard Street, the main street of the business district, north of SD Highway 79, and one (McPhearson Propane) on the south side of US Highway 212 east of Newell. The storage facilities are fenced and surrounded by short grasses, which are mowed to about 4 inches, providing a

buffer and making the facilities defensible. Risk could be further reduced by periodic mowing inside the storage areas. As currently maintained, risk is assessed as low.

Black Hills Power Company has an electric substation on the south end of Girard Street. The facility is fenced and the surface area inside the fence is gravel. However, there is an abundance of tall grasses in the treeline that borders the facility on the north and east side. This is privately owned. The substation has little flammable material and risk of damage by wildland fire is low; however, arcing from a fallen line in or adjacent to the facility could ignite the surface fuels in the treeline starting a wildland fire. The risk could be reduced by mowing around the facility fence to reduce the density of surface fuels.

Many older rural farms and ranches in the area would be made more defensible by improving or establishing safety zones around homes and auxiliary structures. Residents can mitigate risks by mowing and trimming grasses, trees and shrubs along fence lines and building foundations; and by removing and disposing of flammable refuse on their properties.

Nisland. The town of Nisland is situated on the north bank of the Belle Fourche River and irrigated farms surround the town site. Ingress and egress from the town is east-west via US Highway 212 and north-south by county-maintained gravel roads. The risk assessment evaluated commercial, government, and private values in the district and found no substantial risk of damage from a wildland fire event.

The West River Cooperative Telephone Company switching building, Post Office, Fire Hall, County Shop, the water supply well and commercial interests are within the town and not in proximity to wildland areas.

There is a Butte-Meade Sanitary Water District well and tank and a collocated County communications repeater facility on Shaykett Hill 3 miles west of town on the north side of US Highway 212. While these facilities are in an area of prairie grasslands, fuel loading is light and the enclosures are constructed of fire-resistant materials. The land adjacent to the facilities is grazed by livestock preventing accumulation of surface fuels. Risk is low.

There is a commercial propane storage facility 2.5 miles east of town on the south of US Highway 212 and east of Stonelake Road. There is some grass surrounding the facility but fuel loading is light and non-continuous due to heavy grazing. Risk could be mitigated further through more aggressive mowing or chemical treatment of existing vegetation inside the facility.

The Butte County Fairgrounds are 1.5 miles west and south of Nisland situated on along the Belle Fourche River. These buildings are of historical importance. The grounds are maintained by the town of Nisland. Fuel loading is primarily grass and considered light. Risk is assessed as low.

The town site of Fruitdale is largely residential with some small home-type businesses. Farming and irrigated agricultural operations surround the town providing a green-belt for protection. Risk to values is assessed as low.

There are two large cattle feed lots in the fire district.

Finally, as with most small rural towns and farms, more yard cleanup and maintenance would be beneficial.

Vale. The town of Vale is surrounded by farms and ranches. Many of the agricultural fields are irrigated creating a green zone surrounding the town. The primary ingress and egress route is Valley Township Road, which runs east-west through the town. Approximately one mile north of the town, the Belle Fourche River flows west to east and forms the northern boundary of the fire district. Within the town of Vale, the Butte-Meade Sanitary Water District's well, the Black Hills Power transformer facilities, and the West River Telephone Cooperative switching facility were assessed. Additionally, the old school building, which houses Head Start offices, and the community-owned old school gymnasium, which is leased by the Last Call Bar, were assessed for wildland fire risk. The Community Center, Vale Fire Hall, Leber Ag, K&J Industries and other small business facilities, as well as the community residential areas were evaluated. Finally the New Dawn Center and several representative farm/ranch operations were surveyed.

All critical infrastructure and private values in the town are judged to be at low risk to a catastrophic wildfire event. There are, however, areas for improvement which would reduce structural risks to fire and enhance structural protection. These fall into the area of general housekeeping practices. Residents can mitigate risks by mowing and trimming grasses, trees and shrubs along fence lines and building foundations; and by removing and disposing of flammable refuse on their properties.

Historically, the largest numbers of man-caused wildfire events in the Vale area occur during mowing operations on privately-owned, non-irrigated hay fields. During the summer months, particularly July - September, lightning causes many wildland fires. Most are quickly controlled and extinguished. However, the Belle Fourche River valley and remote farm/ranch operations east of Vale present some concerns. Many areas along the river are not accessible to firefighting equipment due to the topography. Most land is privately owned. The accumulation of ground fuels, particularly grasses and fallen limbs in these areas increases risk of fast-moving fires. Livestock grazing, fire breaks along fields above the river, and controlled burns are the best treatments to mitigate these risks. In remote farms/ranches, value protection can best be achieved by maintenance and revitalization of treelines/wind breaks, mowing around structures, and establishing "green zones" around homes. Public education programs are the best mitigation efforts available.

Castle Rock. Castle Rock and Hoover areas in northeastern Butte County are home to scattered ranching and some dryland farming operations. Many areas are rugged with deep draws with steep drops making vehicle access extremely difficult if not impossible. Most wildland fires in this area are caused by lightning. Those near roads are usually controlled and extinguished by the local volunteer fire department, which houses its firefighting equipment at strategic locations through out the district. Fires occurring in remote or inaccessible areas may become large requiring mutual aid response from neighboring jurisdictions and possibly state resources. It should be emphasized that many fires in this area are fought by ranchers and their families who are first on scene and work closely with volunteer firefighters. They provide a credible and necessary first line of defense.

The Castle Rock Fire Zone was assessed for risk to infrastructure and values. The Butte County communications repeater was evaluated for risk of damage during a wildfire. The equipment is installed in the Alltel cellular telephone facility on private property. It is north of Castle Rock on Civil Defense Tower Road. In addition to the Alltel cellular equipment and Butte County radio repeater equipment, State Radio and Grand Electric communications equipment is housed in the facility. The structure is concrete with a steel door and roof and judged to be resistant to damage by the light vegetative fuels surrounding it. Fuel loading surrounding the facility is kept low by livestock grazing. Antenna leads could be damaged by heat but fuel loading is not sufficient to create heat of intensity and duration necessary. However, a propane tank is sited within 50 feet of the structure. The area is accessible by firefighting equipment. Risk of damage by wildfire is assessed to be low.

Also evaluated was the American Tower Castle Rock microwave relay facility 2 miles north of Castle Rock on the west side of SD Highway 79. This facility consists of a brick building resistant to fire inside a fenced enclosure. Inside to enclosure the surface is gravel with no surface fuels. The facility risk of damage by wildfire is low.

The former USAF Missile Alert Facility 8.5 miles north of US Highway 212 to the northeast of Newell is privately owned. A well at that location provides water for four households in the immediate area. The well is accessible for refilling firefighting vehicles; however, transfer rate is currently limited.

The West River Cooperative Telephone Company remote switch terminals (RST) at various locations within the Castle Rock district could potentially sustain damage from wildfire. While the RSTs are enclosed and resistant to heat, if damaged, telephone communications to homes served by the RSTs would be interrupted. West River Telephone is encouraged to use chemical or mechanical (mowing/trimming) methods to remove light fuels located in close proximity to their RSTs to reduce risks of damage by fire.

Of more concern are the scattered ranch homes and associated structures. It is important that landowners mitigate risks to their properties by revitalizing, and maintaining trees

and shrubs in windbreaks and mowing around structures. Families should evaluate their ingress and egress routes should an evacuation become necessary.

Table 4 provides a summary assessment of values in Butte County potentially at risk to a wildfire event.

Butte County Community Wildfire Protection Plan

Table 4 – Infrastructure Risk Assessment for Butte County

Structure or Area at Risk	Location	Ownership	Fire District	Risk of Wildfire Occurrence	Structural Ignitability	Firefighting Capability	Overall Risk
County/City Government							
Butte County Court House	839 5th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Butte County State's Attorney's Office	849 5th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche City Hall	606 6th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Newell City Hall	108 3rd St.	Public	Newell	Low	Low	Good	Low
Nisland Town Hall	2nd St.	Public	Nisland-Arpan	Low	Low	Good	Low
Castle Rock Community Hall	SD Highway 79	Public	Castle Rock	Low	Low	Good	Low
Communications							
Radio Repeater – Castle Rock	Civil Defense Tower Rd.	Private	Castle Rock	Low	Low	Good	Low
Radio Repeater – Shaykett Hill	US Hwy 212 - West of Nisland	Public	Nisland Arpan	Low	Low	Good	Low
Belle Fourche City Transmitter	913 Summit St.	Public	Belle Fourche	Low	Low	Good	Low
West River Cooperative Telephone Company - RSTs	Various	Private	Various	Low	Low	Good	Low
West River Cooperative Telephone Company - Newell Switch Facility		Private	Newell	Low	Low	Good	Low
West River Cooperative Telephone Company – Nisland Switch Facility		Private	Nisland-Arpan	Low	Low	Good	Low
West River Cooperative Telephone Company – Vale Switch Facility		Private	Vale	Low	Low	Good	Low
Natural Gas							
Williston Basin Natural Gas Pipeline	Various	Private	Belle Fourche	Low	Low	Good	Low
MDU Gas Plant	MDU Loop Rd.	Private	Belle Fourche	Low	Low	Good	Low
Electric Distribution							
Butte Electric Cooperative, Arpan Substation	T9N R2E Sec 23, NW1/4	Private	Nisland-Arpan	Low	Low	Good	Low
Butte Electric Cooperative, Newell Substation	T8N R6E Sec 10, NE1/4	Private	Newell	Low	Low	Good	Low
Butte Electric Cooperative, Belle Fourche Substation	T9N R2E Sec 34, SE1/4	Private	Belle Fourche	Low	Low	Good	Low
Butte Electric Cooperative, Indian Creek Substation	T11N R2E Sec 23, NW1/4	Private	Belle Fourche	Low	Low	Good	Low
Black Hills Power, Belle Fourche Substation	Sourdough Rd.	Private	Belle Fourche	Low	Low	Good	Low
Black Hills Power, Newell Substation	Girard Ave.	Private	Newell	Medium	Low	Good	Medium
Railroad							
DM&E Railroad	Various	Private	Belle Fourche	Medium	Low	Good	Low
Highway Infrastructure							
Belle Fourche River Bridge, Belle Fourche	US Highway 85	Public	Belle Fourche	Low	Low	N/A	Low
Belle Fourche River Bridge, Belle Fourche	US Highway 212	Public	Belle Fourche	Low	Low	N/A	Low
Belle Fourche River Bridge, Newell	SD Highway 79	Public	Newell-Vale	Low	Low	N/A	Low

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Structure or Area at Risk	Location	Ownership	Fire District	Risk of Wildfire Occurrence	Structural Ignitability	Firefighting Capability	Overall Risk
Redwater River Bridge, Belle Fourche	US Highway 34	Public	Belle Fourche	Low	Low	N/A	Low
Horse Creek Bridge, Newell	US Highway 79	Public	Newell	Low	Low	N/A	Low
Bulk POL Storage/HAZMAT							
Hendrickson Oil Company	10955 US Highway 212	Private	Belle Fourche	Low	Low	Good	Low
Cenex Oil Company	2311 5th Ave.	Private	Belle Fourche	Low	Low	Good	Low
Dalcam Oil Company	719 Roundup St.	Private	Belle Fourche	Low	Low	Good	Low
Dalcam Oil Company	202 Griard Ave.	Private	Newell	Low	Low	Good	Low
McPhearson Propane Storage Facility	US Highway 212 - east	Private	Newell	Low	Low	Good	Low
McPhearson Propane Storage Facility	Girard St. - north	Private	Newell	Low	Low	Good	Low
Belle Propane Storage Facility	US Highway 212 - east	Private	Nisland-Arpan	Low	Low	Good	Low
Belle Propane Storage Facility	SD Highway 34 - east	Private	Belle Fourche	Low	Low	Good	Low
McGas Propane Storage Facility	US Highway 212 - north	Private	Belle Fourche	Low	Low	Good	Low
Airport							
Belle Fourche Municipal Airport	US Highway 85 - north	Public	Belle Fourche	Low	Low	Good	Low
Water Supply & Distribution							
City of Belle Fourche Municipal Water System - Water Storage, Supply, Treatment Facility	10944 Water Tank Rd.	Public	Belle Fourche	Low	Low	Good	Low
City of Belle Fourche Municipal Water System - Water Storage, Supply, Treatment Facility	911 Summit St.	Public	Belle Fourche	Low	Low	Good	Low
City of Belle Fourche Municipal Water System - Water Storage, Lift Station	19348 Valley View Ln.	Public	Belle Fourche	Low	Low	Good	Low
City of Newell Municipal Water System - Water Storage Facility	506 4th St.	Public	Newell	Low	Low	Good	Low
Town of Nisland Water System - Water Storage Facility	303 Vine St.	Public	Nisland-Arpan	Low	Low	Good	Low
Town of Vale Water System - Water Storage Facility	411 Andrew St.	Public	Vale	Low	Low	Good	Low
Butte-Meade Sanitary Water District - Bean Well	T9N R3E Sec 20, SW1/4	Private	Belle Fourche	Low	Low	Good	Low
Butte-Meade Sanitary Water District - Reed Well	T8N R4E Sec 22	Private	Nisland-Arpan	Low	Low	Good	Low
Butte-Meade Sanitary Water District - Boost Station	T9N R3E Sec 32, SE1/4	Private	Belle Fourche	Low	Low	Good	Low
Butte-Meade Sanitary Water District - Tank	T8N R4E Sec 3, NE1/4	Private	Nisland-Arpan	Low	Low	Good	Low
Butte-Meade Sanitary Water District - Reservoir	T8N R2E Sec 18, NW1/4	Private	Belle Fourche	Low	Low	Good	Low
Smeenk Well	Twilight Rd.	Private	Newell	Low	Low	Good	Low
Law Enforcement/Emergency Services							
Butte County Sheriffs Office	830 6th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche Police Department	1010 8th Ave.	Public	Belle Fourche	Low	Low	Good	Low

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Structure or Area at Risk	Location	Ownership	Fire District	Risk of Wildfire Occurrence	Structural Ignitability	Firefighting Capability	Overall Risk
Butte County Ambulance - Belle Fourche	520 Faulk St.	Public	Belle Fourche	Low	Low	Good	Low
Butte County Ambulance - Newell	104 4 th St.	Public	Newell	Low	Low	Good	Low
Butte County Dispatch	830 6th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche Volunteer Fire Department	603 National St.	Public	Belle Fourche	Low	Low	Good	Low
Newell Volunteer Fire Department	102 4th St.	Public	Newell	Low	Low	Good	Low
Nisland-Arpan Volunteer Fire and Rescue Department	404 Second St.	Public	Nisland-Arpan	Low	Low	Good	Low
Vale Volunteer Fire Department	307 Rosander Ave.	Public	Vale	Low	Low	Good	Low
Castle Rock Volunteer Fire Department	Various	Public	Castle Rock	Low	Low	Good	Low
Schools							
North Park Elementary School	29 6th Ave	Public	Belle Fourche	Low	Low	Good	Low
South Park Elementary School	1816 Valley Dr.	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche Middle School	1302 Ziebach	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche High School	1301 12th St.	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche Administrative Offices	2305 13th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Newell Elementary, Middle & High Schools	501 Dartmouth	Public	Newell	Low	Low	Good	Low
Black Hills Christian Academy	11132 Valley 1 Rd.	Public	Belle Fourche	Low	Low	Good	Low
Medical							
Family Medical Care, Belle Fourche	2200 13th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Family Medical Care, Newell	308 Girard Ave.	Public	Newell	Low	Low	Good	Low
Belle Fourche Long Term Care	2200 13th Ave.	Public	Belle Fourche	Low	Low	Good	Low
Residential							
Hat Ranch Subdivision	US Hwy 85. 4 miles south of Belle Fourche. Redwater Hill.	N/A	Belle Fourche	Medium	Medium	Good	Medium
Country Club Estates	US Hwy 85. South of golf course	N/A	Belle Fourche	Medium	Low	Good	Low
Prairie Hills Estates	US Hwy 85. 1 mile south of Belle Fourche. Wood Rd.	N/A	Belle Fourche	Medium	Medium	Good	Medium
Grandview Subdivision	SD Hwy 34. 5 miles west of Belle Fourche. Grandview Rd and Bonato Rd.	N/A	Belle Fourche	Medium	Medium	Fair	High
Sandstone Estates	US Hwy 85. 1 mile south of Belle Fourche.	N/A	Belle Fourche	Medium	Medium	Fair	High
Prairie Pines Estates	2 miles west of Belle Fourche. Sourdough Rd.	N/A	Belle Fourche	Medium	Medium	Good	Medium
City of Newell	44°42'59"N, 103°25'23"W	N/A	Newell	Low	Low	Good	Low
Town of Nisland	44°40'25"N, 103°33'11"W	N/A	Nisland-Arpan	Low	Low	Good	Low
Town of Vale	44°40'5"N, 103°41'47"W	N/A	Vale	Low	Low	Good	Low
Town of Fruitdale	44°37'12"N, 103°24'12"W	N/A	Nisland-Arpan	Low	Low	Good	Low
Town of Castle Rock	44°42'53"N, 103°25'13"W	N/A	Castle Rock	Low	Low	Good	Low
Town of Hoover	44°06'44"N, 103°16'04"W	N/A	Castle-Rock	Low	Low	Good	Low
Townsite of Arpan	44°46'50"N, 103°38'58"W	N/A	Nisland-Arpan	Low	Low	Good	Low

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Structure or Area at Risk	Location	Ownership	Fire District	Risk of Wildfire Occurrence	Structural Ignitability	Firefighting Capability	Overall Risk
<i>Other</i>							
Orman Dam	US Highway 212 - east	Public	Belle Fourche	Low	Low	Good	Low
Belle Fourche Diversion Dam	1.5 miles northeast of Belle Fourche	Public	Belle Fourche	Low	Low	Good	Low
Badlands Early Head Start Office	Rosander Ave.	Public	Vale	Low	Low	Good	Low
Badlands Head Start	Dartmouth Ave.	Public	Newell	Low	Low	Good	Low
Black Hills Roundup Grounds		Public	Belle Fourche	Low	Low	Good	Low
Butte County Fairgrounds		Public	Nisland-Arpan	Low	Medium	Good	Low
Belle Fourche Irrigation District Offices & Maintenance Yard	209 Dartmouth Ave.		Newell	Low	Low	Good	Low
Belle Fourche Community Center	1111 National St.	Public	Belle Fourche	Low	Low	Good	Low
Newell Community Center	108 3rd St.	Public	Newell	Low	Low	Good	Low
Vale Community Center	Rosander Ave.	Public	Vale	Low	Low	Good	Low
Castle Rock Community Hall	SD Highway 79			Low	Low	Good	Low
BF Livestock Exchange	US Highway 85 - west	Private	Belle Fourche	Low	Medium	Good	Low
St. Onge Livestock	501 S. Dartmouth Ave.	Private	Newell	Low	Medium	Good	Low
AT&T Microwave Relay	SD Highway 79	Private	Castle Rock	Low	Low	Good	Low
New Generation Feeds	11094 Business 212	Private	Belle Fourche	Low	Low	Good	Low
Belle Fourche City Landfill		Public	Belle Fourche	Medium	Low	Good	Medium

Hazards and Treatments. *Factors affecting wildland fire. Hazardous fuels and conditions associated with each element of infrastructure identified at risk and recommended fuels reduction treatments and priorities.*

Wildland fires are fires fueled by grasses, weeds, field crops, brush, trees, shrubs and other similar vegetation. Once a wildland fire starts, burning is generally rapid and continuous. The three primary factors influencing wildland fire behavior are fuel, weather, and topography.

Fuel. There are two basic types of wildland fuels. Light fuels such as shrubs, grasses and leaves burn rapidly and are quickly ignited. Fires in light fuels spread rapidly but burn out quickly and are easily extinguished. These are the most prevalent fuels in Butte County. Heavy fuels such as limbs, logs and tree trunks do not ignite quickly and fire spread s slowly. Once ignited, heavy fuels do not burn rapidly but produce high levels of heat and are more difficult to extinguish. These fuels are found in the Belle Fourche, Redwater and South Moreau river valleys and in the foothills of southwestern Butte County.

The spread of wildland fire depends on fuel loading, the quantity of fuels available for combustion in an area, and on the horizontal continuity and vertical arrangement of fuels. Horizontal continuity affects the spread of wildfire depending on whether the fuels are distributed uniformly and continuously, allowing the fire to spread quickly from one object to another, or patchy, where areas of flammable fuels are broken by barriers such as rock, bare ground or fire resistive vegetation, which limits or slows the rate fire spreads. Vertical arrangement is the spatial relationship of fuels from the ground up. Ground fuels are all combustible materials lying beneath the surface including roots, rotten logs and other organic material. Surface fuels include materials lying on or immediately above the ground including leaves, grass, small dead wood, stumps, downed logs and low shrubs. Aerial fuels are green and dead materials located in the upper forest canopy including branches, crowns, snags and high shrubs.

As noted, the most common vegetative fuels in Butte County are grasses on the prairie, and in fence lines and field borders in agricultural areas (primarily light surface fuels). CRP tracts provide large areas of undisturbed grasses which can result in wildfires of higher intensity than experienced on grazed rangelands (because of reduced fuel loading). Of the 1,432,360 acres in Butte County, in November 2005 there were 23,758 acres (1.7%) enrolled in the Conservation Reserve Program. In the river bottoms and breaks, grasses mix with cottonwoods, ash and other trees and shrubs to fuel wildfires of higher intensity (presence of ground, surface and aerial fuels).

Weather. Western South Dakota is climatologically classified as semi-arid. The average annual rainfall for Butte County is 15.5 inches. However, since the average rainfall since 2000 has been nearly 2 inches below average each year, the risk of wildland fires has increased.

Wind also affects the spread of fire. While average winds are 10-13 miles per hour through out the year, wind speeds of 30-35 miles per hour are not uncommon and gusts associated with frequent summer thunderstorms can reach 60-70 miles per hour. Such high winds can make wildfires exhibit extreme fire behavior.

While average summertime daily temperatures in Butte County are in the mid-80s, frequent spells of 90-100 are not uncommon. When conditions of high temperatures, high winds and dry conditions combine, the frequency and intensity of wildfires increases dramatically.

Lightening is the greatest natural cause of wildfires in Butte County.

Climatology from National Weather Service for Newell, SD.

Topography. Topography, or the features of the earth's surface, has a decided effect on wildfire behavior. The steepness of a slope affects both rate and direction of a wildland fires spread. Fires usually move faster uphill than downhill and the steeper the slope, the faster the fire moves. Other terrain features such as ridges, chutes saddles, even tree belts can alter airflow causing turbulence, updrafts or channels which can cause very erratic fire behavior. Homes, structures, or other items of value situated on an uphill slope, on the top of a ridge, or at the head of a draw are at more significant risk from wildfire than those on the flat plain or at the base of a hill.

Of the three factors that influence the behavior of wildland fire, the only one which we can influence is fuel. Consequently, this plan seeks to identify fuel hazards placing structures or infrastructure at risk and specify the best treatments to mitigate the associated fuel hazards.

Table 5 provides a prioritize listing of structures/areas for mitigation programs in Butte County. Only structures or areas assessed to be at medium or high risk of loss or damage by a wildfire event are listed. This is not meant to imply that remote private values, such as farms, ranches, or homes in rural communities, are not at risk. These values could be made more defensible by improving or establishing safety zones around homes and auxiliary structures. Efforts including revitalizing and maintaining trees and shrubs in windbreaks and mowing vegetation adjoining driveways reduce risk. Residents can further mitigate risk by mowing and trimming grasses, trees and shrubs along fence lines and building foundations; and by removing and disposing of flammable refuse on their properties.

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Table 5 – Hazard and Treatment Recommendations for Butte County

Structure or Area at Risk	Location	Ownership	Fuel Hazard	Treatment	Method of Treatment	Priority
Grandview Subdivision	5 miles west of Belle Fourche. South of SD Hwy 34. Grandview Rd and Bonato Rd.	Private	Grass and ponderosa pine	Mechanical	Improve safe zones around values. Remove tree limbs overhanging homes. Conduct tree thinning projects in densely forested areas. Graze adjoining land south and west. Grade or disk firebreaks between undeveloped rangeland & subdivision.	High
Sandstone Estates	1 mile south of Belle Fourche. East of US Hwy 85.	Private	Grass, brush and ponderosa pine	Mechanical	Improve safe zones around values. Remove surface fuels on downhill slopes below structures. Conduct tree thinning projects in forested draws below values.	High
Hat Ranch Subdivision	4 miles south of Belle Fourche. East of US Hwy 85. Redwater Hill.	Private	Grass and ponderosa pine	Mechanical	Improve safe zones around values. Remove tree limbs overhanging homes. Conduct tree thinning projects in densely forested areas. Graze adjoining land east.	High
Prairie Pines Estates	2 miles west of Belle Fouché. Sourdough Rd.	Private	Grass and scattered ponderosa pine	Mechanical	Improve safe zones around values. Conduct tree thinning projects in densely forested areas. Graze adjoining grassland.	Medium
Prairie Hills Estates	1 mile south of Belle Fourche. West of US Hwy 85. Wood Rd.	Private	Grass and ponderosa pine	Mechanical	Improve safe zones around values. Conduct tree thinning projects in densely forested areas. Graze adjoining land.	Medium
Black Hills Power, Newell Substation	Girard Street, north of Hope Road	Private	Grass and trees in windbreak adjoining facility	Mechanical	Remove fallen limbs and dead trees in windbreak. Mow or disk vegetation adjoining facility.	Low
Belle Fourche City Landfill		City	Waste	Mechanical	Grade fire break to mineral soil between disposal site and adjoining grassland.	Low

Fire Suppression. *Description of dispatch and response to wildfires in Butte County, mutual aid agreements, thresholds/authority for requesting mutual aid and/or assistance from state and federal firefighting units. Summary of Belle Fourche, Newell, Nisland, Vale and Castle Rock volunteer fire departments, including apparatus, total number of firefighters, and number of members with wildland training (S-130/190).*

The protection of human life is the overriding priority in any wildfire event. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.

Incident Command System. Qualification for local fire management will meet standards established by the local departments and the Butte County Commission. The Butte County Commission has endorsed the National Incident Command System (NIMS) as the standard for managing large emergency responses, including catastrophic wildfire events.

County Dispatch. Butte County Dispatch is located in the County Court House in Belle Fourche. The dispatch center is operated by the County Sheriff's Office. Calls for emergency response are received from the public via an enhanced and wireless phase 2 911 system and for mutual aid via inter-county/state communications links. County fire departments are notified and dispatched via fire bar phone technology and radio paging on the Butte County Civil Defense channel.

Mutual Aid. Mutual aid agreements exist among all departments in Butte County and with departments in the seven Hills counties. Requests for mutual aid are made by the senior officer of the first dispatched department while enroute to or on-scene at the wildfire event. This individual will assume incident command until relieved by a senior or more qualified individual. The Incident Commander may request state or federal assistance. Such requests should be made with the approval of the County.

Butte County has signed a County Wildland Fire Protection Agreement with the State of South Dakota Department of Agriculture (SD DOA), Division of Wildland Fire Suppression. This agreement specifies expectations of Butte County and the SD DOA, Wildland Fire Suppression Division regarding State assistance. It details in who is authorized to request State assistance, required reporting, reimbursement rates and funding responsibilities. A copy of this agreement is included as Appendix 2 to this plan. A summary of the SD DOA, Wildland Fire Suppression Division is found in Appendix 3.

State Wildland Fire Suppression resources use the State Digital Radio Network for communications. All Butte County fire departments are capable of operating on State digital frequencies.

Units responding to Butte County mutual aid calls should contact the Incident Commander on Butte County Civil Defense Channel (analog). Upon establishing contact

they may be directed to the local fireground frequency or to Mutual Aid Channel 1 at the discretion of the Incident Commander.

Local departments may respond upon hearing mutual aid requests directly from adjacent jurisdictions. This may occur before a department outside Butte County has made the request through their county dispatch. Dispatching units must notify Butte County Dispatch when departing their district for mutual aid calls.

Fire Reporting. All County volunteer fire departments report fires to the State Fire Marshall in accordance with SDCL 34-29B-9. In addition, wildland fires will be reported to the State of South Dakota Department of Agriculture (SD DOA), Division of Wildland Fire Suppression, using the South Dakota Rural Fire Department Report Card. This form is available electronically on the SD Wildland Fire Suppression web page. For fires suppressed on BLM lands, a copy of the South Dakota Rural Fire Department Report Card should be forwarded to the Bureau of Land Management SD Field Office, Box 137, 55 Sherman, Fort Meade, SD 57741

Butte County Highway Department. The County Highway department has eight road graders dispersed through the County that could be used during a wildfire emergency to cut fire lines. Two of their operators are trained wildland firefighters. Request for equipment and operators would be made to the Butte County Highway Department through the County Emergency Manager by the Incident Commander.

Butte County Fire Resources. The County is divided into five fire zones served by volunteer fire departments. Volunteer fire department membership criteria, qualifications and training requirements are set by the individual organizations.

Belle Fourche Fire Zone. The Belle Fourche Fire Zone is the largest fire protection district in Butte County. The Belle Fourche Volunteer Fire Department serves the city of Belle Fourche and the district's 827 square miles (529,280 acres) in the western half of Butte County. The fire hall is located on National Street in Belle Fourche. All trucks are located at the fire hall.

Belle Fourche Volunteer Fire Department

Mailing Address

Street or PO Box 605 National Street
 City Belle Fourche State SD Zip 57717

Department Location

Street Address 605 National Street
 City Belle Fourche State SD Zip 57717
 Building Description Brick

Contact Information

Business Phone # 892-6237
 24 Hour Phone # 892-2737
 Fax #
 E-mail Address
 Contact Person #1 Mark Hespe 24 Hour Phone # 892-2737
 Contact Person #2 Darian Reede 24 Hour Phone # 892-2737
 Method of Activation County Dispatch

Communications Capabilities

	Transmit	Receive	Side Tones	Call Sign (s)
Primary Radio Frequencies	155.745	154.055	141.3	_____
Primary Radio Frequencies	156.210	156.340	_____	_____
Primary Radio Frequencies	154.160	154.160	_____	_____

Communications Equipment

State Digital Network Capable	Yes	
Portable Radios	Yes	14
Pagers		

Building Capabilities

Meeting Room (s) (yes/no)	Yes	1
Gymnasium (yes/no)	No	
Complete Kitchen (yes/no)	Yes	1
Showers (yes/no)	No	
Warehouse/Storage Space	Yes	1

Butte County Community Wildfire Protection Plan

• **Firefighters**

Firefighters on Department Roster	SD Certified Firefighters	Certified Wildland Firefighters	Haz Mat Operations Level Certified
39	30	30	2

• **Pumping Apparatus**

Type 1 Wildland Engine Less than 350 gal. & 350 gpm pump Primarily Wildland suppression	Type 2 Med. Engine 350-750 gal. & 350-500 gpm pump Mix of Wildland & Structure suppression	Type 3 Heavy Engine Over 750 gal. & over 500 gpm pump Primarily Structural fire suppression
5	0	4

• **Aerial Apparatus**

Type 1 Aerial Ladder Ladder in access of 50 feet Primarily Upper Level Rescue	Type 2 Platform Articulating Boom/Platform over 50 feet Mix of rescue & elevated master stream	Type 3 Snorkel Articulating Boom over 50 feet Primarily elevated master stream

• **Tender/Tanker Apparatus**

Type 1 Small Tender Less than 1000 gal. or slow fill/dump	Type 2 Large Tender More than 1000 gallon & rapid fill/dump	Type 3 Potable Tender Hauls Potable water
0	2	0

Specialized/Unique Equipment

Jaws of Life – 2, lift air bags, hydraulic spreader jacks, metal saws – 2, rescue jacks

NIMS/ICS Trained Personnel

IS 700	IS 800	ICS 100	ICS 200	ICS 300	ICS 400
39		39	30		

Special Capabilities

Structural Fire, Wildland Suppression, Medium/Heavy Rescue

Newell Fire Zone. The Newell Fire Zone is 388 square miles (248,320 acres) in Southeast Butte County. It is north of the Vale Fire Zone and south of the Castle Rock Fire Zone. The district and town of Newell are served by the Newell Volunteer Fire Department. All the department's fire trucks are housed in the Newell Fire Hall located on the corner of 4th Avenue and Girard Street in Newell.

Newell Volunteer Fire Department

Mailing Address

Street or PO Box PO Box 517
 City Newell State SD Zip 57760

Department Location

Street Address 104 4th Avenue
 City Newell State SD Zip 57760
 Building Description Wood

Contact Information

Business Phone # 456-2115
 24 Hour Phone # 892-2737
 Fax # _____
 E-mail Address _____
 Contact Person #1 Phillip Thornhill 24 Hour Phone # 892-2737
 Contact Person #2 Mike Clausen 24 Hour Phone # 892-2737
 Method of Activation County Dispatch

Communications Capabilities

	Transmit	Receive	Side Tones	Call Sign (s)
Primary Radio Frequencies	155.745	154.055	141.3	_____
Primary Radio Frequencies	155.995	153.860	_____	_____

Communications Equipment

State Digital Network Capable Yes
 Portable Radios Yes 12
 Pagers

Building Capabilities

Meeting Room (s) (yes/no) Yes 1
 Gymnasium (yes/no) No
 Complete Kitchen (yes/no) Yes 1
 Showers (yes/no) No
 Warehouse/Storage Space Yes 1

Butte County Community Wildfire Protection Plan

• **Firefighters**

Firefighters on Department Roster	SD Certified Firefighters	Certified Wildland Firefighters	Haz Mat Operations Level Certified
29		10	

• **Pumping Apparatus**

Type 1 Wildland Engine Less than 350 gal. & 350 gpm pump Primarily Wildland suppression	Type 2 Med. Engine 350-750 gal. & 350-500 gpm pump Mix of Wildland & Structure suppression	Type 3 Heavy Engine Over 750 gal. & over 500 gpm pump Primarily Structural fire suppression
3	1	2

• **Aerial Apparatus**

Type 1 Aerial Ladder Ladder in access of 50 feet Primarily Upper Level Rescue	Type 2 Platform Articulating Boom/Platform over 50 feet Mix of rescue & elevated master stream	Type 3 Snorkel Articulating Boom over 50 feet Primarily elevated master stream

• **Tender/Tanker Apparatus**

Type 1 Small Tender Less than 1000 gal. or slow fill/dump	Type 2 Large Tender More than 1000 gallon & rapid fill/dump	Type 3 Potable Tender Hauls Potable water
	2	

Specialized/Unique Equipment

Drop Tank

NIMS/ICS Trained Personnel

IS 700	IS 800	ICS 100	ICS 200	ICS 300	ICS 400
15		15	15		

Special Capabilities

Structural Fire, Wildland Suppression

Nisland-Arpan Fire Zone. The Nisland-Arpan Fire Zone is approximately 134 square miles (85,760 acres) in south central Butte County. The Nisland-Arpan Volunteer Fire and Rescue Hall is located on 2nd Street in Nisland. All the department's trucks are located there.

Nisland-Arpan Volunteer Fire and Rescue

Mailing Address

Street or PO Box PO Box 169
 City Nisland State SD Zip 57762

Department Location

Street Address 404 2nd Street
 City Nisland State SD Zip 57762
 Building Description Wood

Contact Information

Business Phone # 257-2710
 24 Hour Phone # 892-2737
 Fax # _____
 E-mail Address _____
 Contact Person #1 Randy Vallery 24 Hour Phone # 892-2737
 Contact Person #2 Bill Heidrich 24 Hour Phone # 892-2737
 Method of Activation County Dispatch

Communications Capabilities

	Transmit	Receive	Side Tones	Call Sign (s)
Primary Radio Frequencies	155.745	154.055	141.3	_____
Primary Radio Frequencies	154.415	154.415	_____	_____

Communications Equipment

State Digital Network Capable Yes
 Portable Radios Yes 20
 Pagers Yes

Building Capabilities

Meeting Room (s) (yes/no) Yes 1
 Gymnasium (yes/no) No
 Complete Kitchen (yes/no) No
 Showers (yes/no) No
 Warehouse/Storage Space No

Butte County Community Wildfire Protection Plan

• **Firefighters**

Firefighters on Department Roster	SD Certified Firefighters	Certified Wildland Firefighters	Haz Mat Operations Level Certified
17	12	2	

• **Pumping Apparatus**

Type 1 Wildland Engine Less than 350 gal. & 350 gpm pump Primarily Wildland suppression	Type 2 Med. Engine 350-750 gal. & 350-500 gpm pump Mix of Wildland & Structure suppression	Type 3 Heavy Engine Over 750 gal. & over 500 gpm pump Primarily Structural fire suppression
4		1

• **Aerial Apparatus**

Type 1 Aerial Ladder Ladder in access of 50 feet Primarily Upper Level Rescue	Type 2 Platform Articulating Boom/Platform over 50 feet Mix of rescue & elevated master stream	Type 3 Snorkel Articulating Boom over 50 feet Primarily elevated master stream

• **Tender/Tanker Apparatus**

Type 1 Small Tender Less than 1000 gal. or slow fill/dump	Type 2 Large Tender More than 1000 gallon & rapid fill/dump	Type 3 Potable Tender Hauls Potable water
	1	

Specialized/Unique Equipment

Jaws-of-Life cutter & spreader (2), 1 – 1000 gallon drop tank, generator, mobile light/generator, rescue jacks.

NIMS/ICS Trained Personnel

IS 700	IS 800	ICS 100	ICS 200	ICS 300	ICS 400
13		13	13		

Special Capabilities

Structural Fire, Wildland Suppression, Medium/Heavy Rescue, EMT-B (2)

Vale Fire Zone. The district is 119 square miles (76,160 acres) in southeast Butte County (84 square miles/53,760 acres) and northwest Meade County (25 square miles/16,000 acres). It is served by the Vale Volunteer Fire Department. The fire hall is located on Rosander, the main street of the town. Two Type 6 brush trucks are remotely located, one in the eastern portion of the district and one south of the district. Remaining equipment is located in Vale.

Vale Volunteer Fire Department

Mailing Address

Street or PO Box PO Box 114
 City Vale State SD Zip 57788

Department Location

Street Address 309 Rosander Avenue
 City Vale State SD Zip 57788
 Building Description Wood

Contact Information

Business Phone # 456-1666
 24 Hour Phone # 892-2737
 Fax #
 E-mail Address
 Contact Person #1 Mike Grubl 24 Hour Phone # 892-2737
 Contact Person #2 Doug Cox 24 Hour Phone # 892-2737
 Method of Activation County Dispatch

Communications Capabilities

	Transmit	Receive	Side Tones	Call Sign (s)
Primary Radio Frequencies	155.745	154.055	141.3	_____

Communications Equipment

State Digital Network Capable	Yes	
Portable Radios	Yes	14
Pagers	Yes	

Building Capabilities

Meeting Room (s) (yes/no)	Yes	1
Gymnasium (yes/no)	No	
Complete Kitchen (yes/no)	No	
Showers (yes/no)	No	
Warehouse/Storage Space	No	

Butte County Community Wildfire Protection Plan

• **Firefighters**

Firefighters on Department Roster	SD Certified Firefighters	Certified Wildland Firefighters	Haz Mat Operations Level Certified
41	2	21	

• **Pumping Apparatus**

Type 1 Wildland Engine Less than 350 gal. & 350 gpm pump Primarily Wildland suppression	Type 2 Med. Engine 350-750 gal. & 350-500 gpm pump Mix of Wildland & Structure suppression	Type 3 Heavy Engine Over 750 gal. & over 500 gpm pump Primarily Structural fire suppression
	5	

• **Aerial Apparatus**

Type 1 Aerial Ladder Ladder in access of 50 feet Primarily Upper Level Rescue	Type 2 Platform Articulating Boom/Platform over 50 feet Mix of rescue & elevated master stream	Type 3 Snorkel Articulating Boom over 50 feet Primarily elevated master stream

• **Tender/Tanker Apparatus**

Type 1 Small Tender Less than 1000 gal. or slow fill/dump	Type 2 Large Tender More than 1000 gallon & rapid fill/dump	Type 3 Potable Tender Hauls Potable water
1	1	

Specialized/Unique Equipment

Mobile light/generator

NIMS/ICS Trained Personnel

IS 700	IS 800	ICS 100	ICS 200	ICS 300	ICS 400
14		10	10		

Special Capabilities

Wildland Suppression, EMT-B (2)

Castle Rock Fire Zone. Castle Rock Fire District is the second largest fire district in Butte County consisting of 816 square miles (522,240 acres) in northeastern Butte County. It is served by the Castle Rock Volunteer Fire Department. The Castle Rock Fire Hall is located in Castle Rock. However, most of the department's trucks are remotely located at strategic ranches in the district to reduce response times.

Castle Rock Volunteer Fire Department

Mailing Address

Street or PO Box 13790 Badland Creek Lane
 City Newell State SD Zip 57760

Department Location

Street Address 20 miles north of Newell
 City Castle Rock State SD Zip 57760
 Building Description Stick Built - Stucco

Contact Information

Business Phone # 866-4650
 24 Hour Phone # 892-2737
 Fax #
 E-mail Address
 Contact Person #1 Clay Olson 24 Hour Phone # 892-2737
 Contact Person #2 24 Hour Phone # 892-2737
 Method of Activation County Dispatch

Communications Capabilities

	Transmit	Receive	Side Tones	Call Sign (s)
Primary Radio Frequencies	155.745	154.055	141.3	_____
	Transmit	Receive	Side Tones	Call Sign (s)
Primary Radio Frequencies	154.190	154.190	_____	WNAE 494

Communications Equipment

State Digital Network Capable Yes
 Portable Radios No
 Pagers No

Building Capabilities

Meeting Room (s) (yes/no) Yes Castle Rock
 Community Hall
 Gymnasium (yes/no) No
 Complete Kitchen (yes/no) No
 Showers (yes/no) No
 Warehouse/Storage Space No

Butte County Community Wildfire Protection Plan

• **Firefighters**

Firefighters on Department Roster	SD Certified Firefighters	Certified Wildland Firefighters	Haz Mat Operations Level Certified
21			

• **Pumping Apparatus**

Type 1 Wildland Engine Less than 350 gal. & 350gpm pump Primarily Wildland suppression	Type 2 Med. Engine 350-750 gal. & 350-500 gpm pump Mix of Wildland & Structure suppression	Type 3 Heavy Engine Over 750 gal. & over 500gpm pump Primarily Structural fire suppression
7		

• **Aerial Apparatus**

Type 1 Aerial Ladder Ladder in access of 50 feet Primarily Upper Level Rescue	Type 2 Platform Articulating Boom/Platform over 50 feet Mix of rescue & elevated master stream	Type 3 Snorkel Articulating Boom over 50 feet Primarily elevated master stream

• **Tender/Tanker Apparatus**

Type 1 Small Tender Less than 1000 gal. or slow fill/dump	Type 2 Large Tender More than 1000 gallon & rapid fill/dump	Type 3 Potable Tender Hauls Potable water
	1	

Specialized/Unique Equipment

NIMS/ICS Trained Personnel

IS 700	IS 800	ICS 100	ICS 200	ICS 300	ICS 400

Special Capabilities

Wildland Fire Suppression

Water Sources. *Categorized listing of water sources available for firefighting in Butte County.*

The City of Belle Fourche and City of Newell have hydrant systems which serve the community and adjacent subdivisions. Nisland has flush valves in the town water system which can be accessed in fire emergencies. The Butte-Meade Sanitary Water District has installed fire hydrants on their water lines along US Highway 212. However, the effectiveness of firefighting efforts in remote areas frequently depends on available seasonal water sources or water relays set up on the fireground and serviced by available tanker resources.

Seasonally, at Belle Fourche Reservoir drafting operations can be accomplished from the dam or from the high/low water boat ramps at Rocky Point. At Newell Lake water can be accessed from the dam or boat ramp. The canals and laterals in the Belle Fourche Irrigation District can also be used for drafting operations at points where they cross roads.

One recommendation to improve accessibility to water seasonally available in the canal system of the Belle Fourche Irrigation District is through installation of a dry hydrant system at selected canal bridges and control structures. Grant funding should be requested to design and install these systems and to construct portable water filters, which will attach to the hydrants.

A second recommendation is to improve the tanker assets and portable water tanks in the volunteer fire departments. Since most departments rely heavily on private donations to meet operating expanses, equipment upgrades and acquisition is dependent on grants.

A third recommendation is to configure the Smeenk well to better accommodate resupply of brush trucks and tanker resources. Currently a garden hose is attached at the facility for filling trucks during the fire season. CWPP grant funding could be used to install a 2 inch supply line with coupling on the well head at the facility. This would greatly speed the refill process.

Finally, in the Hat Ranch area, the current city water storage tank serving the area is adequate for firefighting purposes. However, as development continues, capacity should be continuously evaluated and increased as necessary to ensure adequate water supplies for wildland fire emergencies. As storage tank expansion becomes necessary, grants to cities for water and infrastructure development can be explored.

An annex to this plan will be published, containing a categorized listing of all firefighting water sources available in the County.

Wildfire Mitigation Measures, Recommendations and Programs. *Measures and programs that communities and landowners can use to mitigate risk to values and infrastructure and improve defensibility of structures in the event of wildfire.*

The cost of fighting wildfires is expensive and continues to rise. In 2006, the cost of an engine and crew averages \$130 - \$160 per day. If air support is required, a helicopter costs approximately \$3000 per hour, an air tanker about \$1500 per hour and a load of fire retardant is about \$1000. While federal funding is usually available to cover some of the firefighting cost, it does not cover loss to personal property and structures. Any steps that governments, landowners and private citizens can take to reduce the ignitability of their homes and improve the survivability of property in the event of wildfire, can lessen the impact from a catastrophic loss they might otherwise experience.

There are no state or federal mitigation projects planned in Butte County. In addition, risk assessments revealed that there are no federally managed lands which adjoin private land with values at risk. This may change if development near Belle Fourche Reservoir continues.

However, there are things which can be done to reduce the chance of catastrophic loss due to wildfire. Mitigation and fuels reduction programs fall primarily in the private sector. They are grouped into several general areas; agricultural practices, mowing and chemical vegetation control, windbreak plantings and maintenance, development, construction practices, public ordinances, private fuels reduction projects, the Firewise/USA Communities program, and public education.

Agricultural Practices. There are several areas where agricultural practices can assist in mitigating wildland fire. Fire breaks along fence lines, around hay fields or house/farm yards can provide effective barriers for protecting property from wildland fire damage or at least provide a good defense line for firefighters. Planned grazing to reduce fuel loading in pasture land helps lessen wildland fire intensities. Mowing drive ways provides firebreaks and produces better ingress and egress routes in event of wild fire. Finally, conducting haying operations, particularly mowing during periods of cooler weather such as mornings and evenings, can reduce the chances of man-caused wildfires. Mowing hay when temperatures are above 90°F and relative humidity is below 30% increases the likelihood that fire will spread rapidly in light fuels such as dry prairie grass.

Mowing and Spraying. Mowing road right of ways can provide an effective firebreak, particularly where these roads traverse areas of heavy wildland fuels. State and County Highway Department policies and budgets control mowing and spraying. Additionally, wildlife habitat considerations also impact right of way vegetation control. Finally, haying of rights of way is critical to agricultural operators. There are some potential compromises that could be addressed. For example, mowing schedules could be adjusted to treat areas of dense vegetative fuels during time of increasing fire danger. Mowing operations for hay production could be moved ahead during dry periods to reduce fuel loading in rights of way. Chemical control of vegetation in and around critical structures

and public utilities could be increased to provide effective reduction of wildland fuels to a distance that makes the value easier to protect or less susceptible to damage.

Windbreak Plantings and Maintenance. Windbreaks can provide fire breaks where wildland fires can be stopped if fire resistant species are used in plantings and they are properly maintained. Appendix 4e is a list of fire resistance species that will grow in Butte County and should be considered in windbreak plantings or general landscaping. Maintenance practices include disking or mowing to reduce low ground covers and grasses between plantings and removing dead trees and shrubs along with fallen branches to reduce ladder and surface fuels.

Development. Rural residential subdivisions can present special problems or considerations for firefighters. The County and municipal governments should establish policies to have each newly proposed subdivision reviewed by the fire chief of the district in which it is planned as part of the approval process. This step would provide departments with the opportunity to identify areas, such as accessibility, water/hydrant availability, topographical features, fuel types/loading, special equipment needs, and other firefighting considerations which should be known in the interest of safety before the area is developed. Such an evaluation will enable better emergency service response preparedness and identify mitigation concerns that can improve safety for residents far beyond a wildland fire event.

Additionally, we strongly suggest municipalities require that developers address public warning systems in new subdivisions or developments, particularly where interface concerns exist.

Construction Practices. Structures that use fire resistant materials in construction, landscape using fire resistant species, that are setback from wildlands, and those with established green zones are easier to protect and reduce the risk of damage during a wildfire event. Additionally, structures that use fire resistant construction materials and landscaping may qualify for lower insurance premiums. Counties and towns should strongly encourage private developers and contractors to include FIREWISE planning in their projects. Construction and landscaping checklists are included in Appendix 4c and 4d. Subdivisions, public facilities and commercial enterprises should be subject to review by local fire authorities during the planning phase and their recommendations addressed before construction begins. Access for emergency vehicles, fire resistant construction materials, setback from wildlands, landscaping design and plantings, and hydrant systems are some of the areas that should be evaluated. Tax incentives could be used to encourage implementation of recommendations in private projects and statutory requirements could be implemented for public facilities.

Public Ordinances. The Butte County Commission has a ban for open burning and use of fireworks during time of increased fire danger. Currently, this is a year-round restriction modified to allow controlled burning in periods of reduced fire danger. Residents must call controlled burns to County Dispatch and/or their local fire department's chief. Unfortunately, this practice is not universally known and, as a result,

local departments are frequently dispatched to unreported controlled fires. If a controlled fire escapes, landowners and residents that require fire assistance can be held liable for firefighting costs. Better public awareness of County procedures and/or levying charges for fire responses to individuals who routinely or flagrantly disregard notification protocols should be considered by County law enforcement. In addition, automatic triggers for the County burn ban should be considered and a well-defined public notification procedure developed to ensure residents are advised when burn restrictions are implemented. A copy of the Butte County Burn Ban is included as Appendix 5 to this plan.

The County Commission and city governments should consider adopting fire zoning ordinances or codes which address wildland fire safety concerns and wildland fuel accumulation controls in subdivisions and developments where significant wildland urban interface issues exist. As a minimum, fire planning and public warning systems should be addressed in all future subdivisions and developments during the public approval process. With urban growth spreading into rural areas of Butte County wildland fire mitigation could become a serious public safety issue. Property owners in developments and subdivisions with fire safety codes or formal wildland fire planning guidelines may benefit from lower insurance premiums and higher property value.

Private Fuels Reduction Projects. The County can encourage private landowners to accomplish fuel reduction projects, especially in those areas identified at risk in Table 5 of this plan. Such projects should include establishing fire breaks between grassland/rangeland fuels and structure safe zones, tree thinning of ponderosa stands, and windbreak revitalization. Funding for projects could be cost shared between the landowner and local government by leveraging grant programs currently available for wildfire mitigation. Federal grants administered through Bureau of Land Management and the Federal Emergency Management Agency are two potential resources. Many states are using funds from the National Fire Plan to provide funds through a cost-share with residents to help them reduce the wildfire risk to their private property. Usually this is in the form of thinning or pruning trees, shrubs and other vegetation and/or clearing the slash and debris from this kind of work. Grant funding could be allocated through programs set up at county or city level. Further study of this option is highly recommended. Tax incentives for approved projects could also be developed on the city/county level to encourage landowner participation.

Firewise Communities/USA Program. Butte County and the City of Belle Fourche should encourage residents of “at risk” developments and subdivisions identified in this plan to participate in the Firewise communities program. The City of Lead and Mountain Plains Subdivisions 1 & 2 in Spearfish are recognized South Dakota Firewise Communities. Information on requirements and standards, and a description of how communities move through the process is included in Appendix 6.

Public Education. Information about the risks to property and values by wildfire and the mitigation measures landowners and individuals can implement must be an integral part of Butte County’s Community Wildfire Protection Program. Some information is already

available and should be distributed at community events, fairs and by direct mailings. In addition, the internet has a wealth of information that can be accessed and applied by individuals to reduce risks to their property and make their homes more defensible in the event of a catastrophic wildfire. Grant funding can be used to defray some of the costs of ordering or producing and distributing wildfire education materials. Finally, landowners can contact local fire chiefs and ask them to provide an assessment of risks and mitigation recommendations for their individual properties.

The following tables contain a list of publications and internet web sites with valuable information on wildland fire and mitigation.

Publications.

Table 6 – Wildland Fire Online Publications

Publication	Available From
Wildfire Safety Guidelines for South Dakota Rural Homeowners	State of South Dakota www.state.sd.us/doa/fire/index.htm
Living With Fire – A Guide for the Black Hills Homeowner	State of South Dakota, Department of Agriculture www.state.sd.us/doa/forestry/Living%20With%20Fire.pdf
Wildland/Urban Interface Fire Hazard Assessment Methodology	Firewise Communities www.firewise.org/resources/files/wham.pdf
Firewise Checklists	Firewise Communities www.firewise.org/usa/files/fwlists.pdf
A Homeowners Guide to Wildfire Retrofit - Is Your Home Protected From a Wildfire Disaster?	Firewise Communities www.firewise.org/resources/files/wildfr2.pdf
Firewise Around Your Home	Firewise Communities www.firewise.org/resources/files/fw_brochure.pdf
Fire in the Wildland-Urban Interface: Understanding Fire Behavior	University of Florida Extension edis.ifas.ufl.edu/FR138

Internet Resources.

Table 7 – Wildland Fire Internet Resources

Web Site	http://
Firewise Communities	www.firewise.org/
South Dakota Fire Marshall	www.state.sd.us/dps/fire/
State Wildland Fire Suppression Division	www.state.sd.us/doa/Wildland_Fire/Home_Page/index.htm
State Division of Resource Conservation and Forestry	www.state.sd.us/doa/forestry
National Weather Service Fire Weather	www.crh.noaa.gov/unr/firewx/index.php
Bureau of Land Management – South Dakota	www.blm.gov/mt/st/en/fo/south_dakota_field.html
Insurance Services Agency	www.iso.com/
National Fire Plan	www.fireplan.gov/
USDA Forest Service	www.fs.fed.us/

Butte County Community Wildfire Protection Plan

Planning Partners. *A list of individuals who provided information included in this plan. It is contact list for various local, state and federal entities involved in wildfire planning and mitigation in Butte County.*

Table 8 – Planning Partners

Agency	Representative	Address	Phone	Review
Bureau of Land Management	Terry Chaplin Travis Lipp	SD Field Office Box 137, 55 Sherman Fort Meade, SD 57741 terry_chaplin@blm.gov	720-0745	Meeting 16 Apr 07 Comments incorporated
Bureau of Land Management	Marian Atkins	SD Field Office 310 Roundup Street Belle Fourche, SD 57717 marian_atkins@blm.gov	892-7001	Complete 11 Apr 07
Bureau of Reclamation	Ryan Alcorn	515 9 th St., Rm 101 Rapid City, SD	394-9757	Complete 6 Apr 07 Comments incorporated
SD GF&P	Ken Rost Brad Nelson	11361 Nevada Gulch Rd. Lead, SD 57754	584-3896	Suggestion incorporated
State Forestry	Coe Foss	3305½ W. South St., Rapid City, SD 57702 coe.foss@state.sd.us	394-2395	Complete 3 Apr 07 Comments incorporated
State Forestry	Brian Garbish	11361 Nevada Gulch Rd. Lead, SD 57754		Meeting 16 Apr 07
SD DOA, Wildland Fire	Jim Strain	4250 Fire Station Rd. Rapid City, SD	393-8011	Meeting 16 Apr 07 Comments incorporated
SD DOA, Wildland Fire	Robert Lehmann	3305½ W. South St., Rapid City, SD 57702 robert.lehmann@state.sd.us	394-2584	Meeting 16 Apr 07 Comments incorporated
SD DOA, Wildland Fire	Tim Eggers	11361 Nevada Gulch Rd. Lead, SD 57754 tim.eggers@state.sd.us	584-2300	Telecom 3 Apr 07 Implemented some changes based on recommendations
Butte County Emergency Manager	Misty Peck	839 Fifth Ave. Belle Fourche, SD 57717 misty.peck@buttesd.org	723-0900	Complete 20 Mar 07 Changes incorporated
Butte County Highway Department	Donald Adams	830 6 th Ave. Belle Fourche, SD 57717	892-4414	Complete 3 Apr 07 Suggestion incorporated
Butte County Weed Control	Winfred Bauer	718 Griard Ave. Newell, SD 57760	456-1313	Complete 3 Apr 07
Belle Fourche Fire Chief	Mark Hespe	11030 SD Highway 34 Belle Fourche, SD 57717	892-2156	Complete 15 Mar 07
Belle Fourche City Engineer	Terry Wolterstorff	513 Grant St. Belle Fourche, SD 57717	892-3006	Complete 5 Apr 07 Suggestion incorporated
Belle Fourche City Council		606 6 th Ave. Belle Fourche, SD 57717		
Newell Fire Chief	Phillip Thornhill	P.O. Box 161 Newell, SD 57760	456-0145	Complete 15 Mar 07
Nisland Fire Chief	Randy Vallery	12287 Vallery Road Nisland, SD 57762	257-2365	Complete 18 Mar 07 Changes incorporated
Vale Fire Chief	Darron Trohkimoinen	19192 Vale Cut-Off Road Vale, SD 57788	456-2918	Complete
Castle Rock Fire Chief	Clay Olson	13790 Badland Creek Road Newell, SD 57760	866-4650	Complete 16 Mar 07
Belle Fourche Irrigation District	Clint Pitts	209 Dartmouth P.O. Box 225 Newell, SD 57760	456-2541	Complete 9 Apr 07
Butte-Meade Sanitary Water District	Rick Richards	117 Girard Ave. Newell, SD 57760	456-2288	Complete 22 Mar 07
Planner	Fred Wells	13060 193 rd St. Vale, SD 57788	456-1420	Complete

Revision and Review: This plan should be reviewed at least annually and revised as necessary. The focal point for the review process is the Butte County Emergency Manager. Changes or recommendations regarding the plan should be forwarded to

Butte County Emergency Management
839 Fifth Avenue
Belle Fourche, South Dakota 57717.

Approved:

BUTTE COUNTY EMERGENCY MANAGER, Misty Peck

CERTIFICATE OF ADOPTION

The Board of Butte County Commissioners in Regular Assembly on _____, 2007, hereby approves the Butte County Community Wildfire Protection Plan, effective May 1, 2007, as the official document for fire risk mitigation activities.

CHAIRMAN, Steve Smeenk

COMMISSIONER, Ken Hanson

COMMISSIONER, Stan Harms

COMMISSIONER, Kim Kling

COMMISSIONER, Marvin Kindsfater

ATTEST:

COUNTY AUDITOR, Elaine Jensen

DATE

Appendices.

1. Glossary of Key Terms and Acronyms
2. South Dakota Department of Agriculture, Wildland Fire Suppression Division
3. County Rangeland Fire Protection Agreement
 - a. County Rangeland Fire Protection Agreement
 - b. Appendix A to County Fire Agreements
 - c. Butte County Resolution 2007-1 – Mutual Aid Request Designees
4. Public Education Materials
 - a. Ten Simple Steps to Protect Your Home from Wildland Fire
 - b. Fire Safety Tips for Rural Residents
 - c. FIREWISE Construction Checklist
 - d. FIREWISE Landscaping Checklist
 - e. FIREWISE Plants for Windbreaks and Landscaping
5. Butte County Resolution 2006-17 - A Resolution to Provide for Temporary Emergency Regulation of Open Burning and Other Fire Hazards in Butte County
6. Firewise Communities/USA Program

Appendix 1

Glossary of Key Terms and Acronyms

Term/Acronym	Definition
BLM	Bureau of Land Management
CRP	Conservation Reserve Program
CWPP	Community Wildfire Protection Plan
FMO	Fire Management Officer. Title used by federal agencies and WFS.
Firewise and Firewise Communities/USA (FWC/USA)	Program sponsored by the National Wildfire Coordinating Group that promotes practices designed to protect property from ignition by wildfire; administered in South Dakota by WFS; the FWC/USA program gives recognition to communities that fulfill requirements of the program
GFP	South Dakota Game Fish & Parks. Responsible for management of wildlife in the state. GFP does maintain two type 6 engines in Spearfish that may assist on Harding County fires.
GPA	Used to denote a wildlife management unit owned by Game Fish and Parks.
GPC	Northern Great Plains Dispatch Center. The zone dispatch center located in Rapid City, SD that is responsible for all federal dispatch responsibilities for all of South Dakota except for Harding County and the north half of Perkins County.
ICS	Incident Command System. A standardized on-scene emergency management construct specifically designed to provide for the adoption of an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources during incidents. It is used for all kinds of emergencies and is applicable to small as well as large and complex incidents. ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations.
IMT	Incident Management Team. National IMT's are sometimes ordered into Harding County to manage large and complex wildland fires burning on federal and state lands.
ISO	Insurance Services Organization. Provides risk rating.
NIFC	National Interagency Fire Center. Located in Boise Idaho.

Term/Acronym	Definition
NIMS	National Incident Management System. A system mandated by Homeland Security Presidential Directive 5 (HSPD-5) that provides a consistent nationwide approach for Federal, State, local, and tribal governments; the private-sector; and nongovernmental organizations to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity. To provide for interoperability and compatibility among Federal, State, local, and tribal capabilities, the NIMS includes a core set of concepts, principles, and terminology. HSPD-5 identifies these as the ICS; multi-agency coordination systems; training; identification and management of resources (including systems for classifying types of resources); qualification and certification; and the collection, tracking, and reporting of incident information and incident resources.
NWCG	National Wildfire Coordinating Group. Coordinates wildfire management at national level and sets standards for the issuance of “red cards”
OEM	South Dakota Office of Emergency Management. OEM a division of the department of Public Safety and the OEM duty officer must be contacted by the appropriate county officials when assistance is requested in Harding County for large prairie fires burning on private land.
PPE	Personal Protective Equipment. Specialized clothing or equipment worn by employees for protection against health and safety hazards. Personal protective equipment is designed to protect many parts of the body, i.e., eyes, head, face, hands, feet, and ears.
ROSS	Resource Ordering and Status System. The nationwide database system that federal/state dispatch centers use for resource status for wildfire assignment. MCC manages the ROSS accounts for Harding County VFD’s with assistance from WFS.
Red Card	Certification of national qualifications status for wildfire response; regulated by National Wildfire Coordinating Group.
RFA	Rural Fire Assistance. Grant program financed by federal agencies and administered by WFS.
SCBA	Self Contained Breathing Apparatus
SCD	Soil Conservation District
SDNG	South Dakota National Guard. SDNG resources for forest fires can be requested through WFS and GPC. For large prairie fires or non-fire incidents, SDNG resources must be requested through the OEM Duty officer via the authorized county official.
SEAT	Single Engine Air Tanker.

Term/Acronym	Definition
School Lands	A common term used in South Dakota to describe lands owned by State of South Dakota and administered by the Commissioner of School and Public Lands. Harding County has more school land acres in the state than any other South Dakota county.
SFA	State Fire Assistance. Grant program financed by federal agencies and administered by WFS.
TFR's	Temporary Flight Restriction. Used by firefighters to close out airspace from unauthorized aircraft when air tankers and helicopters are working a fire. TFR's are ordered through a national system and any order for a TFR for a Harding County fire must be placed through MCC.
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VFD	Volunteer Fire Department
WFS	South Dakota Division of Wildland Fire Suppression
WPA	Wildlife or Waterfowl Production Area
WUI	Wildland-Urban Interface. The place where wildland fuels and human structures meet

Appendix 2

State of South Dakota Department of Agriculture, Wildland Fire Suppression Division (WFS)

The Division of Wildland Fire Suppression (WFS) has the statutory authority under state law to direct and coordinate fire wildland fire suppression activities through the offices of the State Wildland Fire Coordinator on wildfires burning on state or privately owned forested lands within the state. That authority is found in SDCL 41-20-1.1 and 41-20-4.

WFS headquarters are co-located with the Northern Great Plains Dispatch Center at the Rapid City Regional Airport. Normal office hours are 0800-1700, M-F. However, WFS maintains a 24-hour contact through a Duty Officer posting that may be reached by calling the on-call dispatcher for Great Plains Dispatch at Rapid City State Radio at 605-393-8121.

WFS maintains 4 field offices and one handcrew base facility. The field offices are located in Hot Springs, Rapid City, Custer State Park, and Lead. The handcrew base is located in Rapid City. The Lead Field Office handles routine fire administration and suppression issues for Harding County that involve the state.

In addition, WFS maintains one Fire Equipment Shop in Springfield, SD, that refurbishes FEPP fire trucks. The phone number for the State Fire Shop is 605-369-4471.

WFS also maintains 1 dozer and transport, 1 food kitchen (250 person), 1 shower unit, and several command and general staff trailers for the Northern Great Plains IMT and Type III incidents.

WFS can utilize several types of state contracted aviation resources to aid in fire suppression. WFS has several type 4 SEATs on contract that can utilize reload bases in around western South Dakota, to include the Buffalo Airport. In addition, the state will maintain permanent SEAT bases at Rapid City and Lemmon during fire season in cooperation with the USFS and the BIA. WFS can also utilize the SDNG Type I heavy lift helicopters (UH-60's) upon request to the Governor for water drops on wildland fires within the state.

WFS has 17 Type 6 and 4 engines and crews that can mobilize from its field stations during the fire season. Additionally, two Type II handcrews are available for dispatch from the Rapid City Handcrew Base Facility through GPC during the fire season. If requested, additional engines and crews can be requested from SD GFP and DOC through GPC.

WFS maintains the Five Party Cooperative Fire Protection Agreement with USDA – Forest Service and the USDI agencies (NPS, BLM, USFWS, and BIA) that allows WFS

to cooperatively share federal agency resources for fire management issues on state and private land in Harding County.

WFS maintains a training schedule in cooperation with the BLM and USFS in offering NWCG training to these departments. In addition, WFS works with MCC in maintaining ROSS records in the national dispatch system

MCC will maintain operational control for federal fire activities in Butte County. This means among other things, that MCC will manage any requests for TFR's, maintain flight following communications for federal and state contracted aircraft on Butte County fires, and support any Type I, II, or III teams ordered into Butte County on multi-jurisdictional fires. Butte County is managed for federal dispatch matters under the Rocky Mountain Area, with Northern Great Plains (GPC) in Rapid City as the zone dispatch center.

Appendix 3a

**COUNTY RANGELAND
FIRE PROTECTION AGREEMENT**

Revised November, 2006

THIS AGREEMENT is made and entered into by and between the South Dakota Department of Agriculture, hereinafter referred to as the STATE, and Butte County, a political subdivision of the State of South Dakota, hereinafter referred to as the COUNTY.

WHEREAS, the State may enter into cooperative agreements with counties for the provision of assistance in fire prevention and suppression efforts, pursuant to the provisions of SDCL 41-20-4, 41-20-8, 41-20-8.1, the Joint Powers Act in chapter 1-24, and

WHEREAS, the County may cooperate with the Secretary of Agriculture for the protection of rural farm, range, and forest lands in the county from fire, pursuant to the provisions of SDCL 34-31-1 and 34-31-2, and the Joint Powers Act in chapter 1-24, and

WHEREAS, such cooperative assistance between the State and the County is highly desirable and increases the effectiveness of the protection of rural farm, range, and forest lands in the County from wildland fire;

NOW, THEREFORE, in consideration of the above, the STATE agrees to provide rangeland fire suppression to the COUNTY, subject to and upon the following terms and conditions:

I.

FIRE SUPPRESSION

A. The STATE agrees:

1. To provide advisory technical assistance and training, at the discretion of the County Emergency Manager, regarding the suppression of wildfire fires.

2. To provide rangeland fire suppression assistance pursuant to SDCL 41-20-8.1. The State will provide one engine and two personnel at no cost to the County, subject to availability of units in the area. Any additional assistance (beyond one engine and two personnel) specifically requested by the County will be paid for by the County in accordance with the Attached Schedule A, which contains the same rates the State pays to its contractors.

3. To indemnify and hold the County, its officers, agents and employees, harmless from and against any and all actions, suits, damages, liability or other proceedings that may arise as the result of the State performing services hereunder. This section does not require the State to be responsible for or defend against claims or damages arising solely from errors or omissions of the County, its officers, agents or employees.

B. The COUNTY agrees:

1. To by resolution of the Board of Commissioners, designate a person(s) as a county rural fire coordinator who shall have the authority to request rangeland fire suppression assistance on behalf of the County as provided in SDCL 41-20-8.1 and to work with the State in other rural fire protection matters.

2. To inform the State of any change in personnel or the authority of said person(s) as provided in subsection (1) above.

3. To prepare a Department of Labor (1st report of injury) report when an accident on a wildland fire in the county results in death, serious injury or illness relating to the incident within 10 days of said event and send the report to the State at the following address:

South Dakota Department of Agriculture
Division of Wildland Fire Suppression
4250 Fire Station Road, Suite #2
Rapid City, SD. 57703-8722

4. To indemnify and hold the State, its officers, agents and employees, harmless from and against any and all actions, suits, damages, liability or other proceedings that may arise as the result of the County performing services hereunder. This section does not require the County to be responsible for or defend against claims or damages arising solely from errors or omissions of the State, its officers, agents or employees.

C. The STATE and COUNTY mutually agree:

1. To coordinate the issuance and termination of State and County burn bans and other temporary fire restrictions that affect both parties.

2. This Agreement does not establish a separate legal entity as contemplated by SDCL 1-24-5. The cooperative undertaking described herein will be financed and conducted under the provisions of this agreement by the State and County respectively. Each party has responsibilities under the terms of this Agreement and no joint board or joint administrator will be used. Purchase and maintenance of equipment used to fulfill the agreement will be undertaken by the respective agencies as described herein. No real property will be purchased to use for this Agreement.

3. A copy of this Agreement will be filed by the State, with the Attorney General and the Legislative Research Council not more than 14 days after execution as required by SDCL 1-24-6.1

4. This agreement will become effective on the 1st Day of December, 2006, and will terminate on the 31st Day of December, 2009.

5. Financing required by this agreement will come from regular State and County department budgets and the state fire suppression fund. This Agreement depends upon the continued availability of appropriated funds and expenditure authority from the Legislature and Butte County Commission for this purpose. If for any reason the Legislature or County Commission fail to appropriate funds or grant expenditure authority, or funds become unavailable by operation of law or federal funds reductions, this Agreement will be deemed null and void. Termination of this Agreement for any of the reasons stated herein shall not be considered a default by the State or County nor does it give rise to a claim against the State or County.

6. All parties must comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352, 42 U.S.C. 2000d) and, in accordance with Title VI of that act, no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the applicant receives Federal financial assistance and will immediately take any measures necessary to effectuate this agreement.

7. This Agreement shall be governed by and construed in accordance with the laws of the State of South Dakota. Any lawsuit pertaining to or affecting this Agreement shall be venued in Circuit Court, Sixth Judicial Circuit, Hughes County, South Dakota.

II.

RECORDS

A. The STATE agrees:

1. To provide fire report forms to be used by the County and its fire departments in reporting fire occurrences, causes, and cost information.

2. To compile the information and provide the Butte County Commissioners, Emergency Manager/Fire Coordinator and fire departments an annual fire statistics summary report.

3. To furnish a cost statement within 60 working days for all fire related expenditures incurred by the State for wildfire suppression activities specifically requested by the County to the following address:

Misty Peck, Emergency Manager
Butte County Courthouse
839 5th Avenue
Belle Fourche, SD 57717

B. The COUNTY agrees:

1. To furnish a cost statement within 30 working days for all fire related expenditures incurred by the County relating to damages or expenses associated with wildfire suppression activities to the local State fire management officer at the following address:

Fire Management Officer
South Dakota Division of Wildland Fire Suppression
4250 Fire Station Road, Suite #2
Rapid City, SD. 57703-8722

2. To pay reasonable costs for the direct fire suppression assistance from the State specifically requested by the county on any range fire, as set forth in SDCL 41-20-8.1. Costs shall be determined by the terms of Appendix A attached hereto.

3. To provide to any Incident Management Team (IMT), which is managing a large fire within the county, with a point of contact (POC) (in most cases the County Emergency Manager) to work with the IMT on fire related issues. These issues may include but are not limited to the following: life safety concerns such as subdivision evacuations, road closures, damage to county roads and bridges, damage to county infrastructure, location of evacuation centers, and facilitation of public meetings concerning fire information.

III.

AMENDMENT

This Agreement may be amended or modified only upon the execution of a written amendment to this Agreement signed by both parties hereto.

IV.

TERMINATION

This Agreement shall remain in full force and effect until terminated by either party upon sixty (60) days written notice to the other party.

Butte County Community Wildfire Protection Plan

IN WITNESS WHEREOF, the parties hereto cause this agreement to be Executed on the dates listed below:

STATE OF SOUTH DAKOTA

BY: _____ Dated:

Director, Division of Wildland Fire
Suppression

APPROVED BY:

_____ Dated:

Larry Gabriel, Secretary, South Dakota
Department of Agriculture

COUNTY OF BUTTE

BY: _____ Dated:

Chairman, Butte County
Commission

Appendix 3b

APPENDIX A - FOR COUNTY FIRE AGREEMENTS

2006-2007 Compensation Rates for Equipment when DOA provides direct assistance using state personnel and equipment are as follows: Road grader or patrol (\$68/hr); ATV (\$40/day); Floatable pump (\$30/day); Tractor w/lowboy (\$2.50/mi); Mobile cache (\$6.24/mile+\$600/day); Portable 300 gal. helicopter dip tank (\$25/day); Portable water tender (\$1.05/mi+\$100/day); 10 KW Generator (\$65/day); Portable 1,500 gal. tank (\$20/day); Cargo transport vehicle (\$6.24/mi); Communications or command trailer (\$300/day); Finance van (\$6.24/mi+\$100/day); Burn truck or 1 ton pickup (\$0.59/mi); Black Hat or Bear Mountain crew transport (\$5.03/mi). Tender Type 1 and Tender Type 2 (see chapter 20 of the Interagency Incident Business Management Handbook for the Rocky Mtn./Great Basin Coordinating Groups).

2006-2007 Compensation Rates for Personnel and Equipment when DOA provides assistance through local contractors are as follows:

1. Reimbursement for Meals and Lodging. Compensation for meals and lodging is at the discretion of the incident commander. The first meal shall be provided by the State. Reimbursement of lodging and meals for Contractor personnel will be based on per diem rates and rules established for the State of South Dakota.

A. Lodging:

Reimbursement for lodging will be based on receipts and will not exceed current state rate per night per individual. Receipts for multiple occupancy must show the single rate and the multiple occupancy rates. Individual reimbursement will be based on the total room rate (plus tax) divided by the number of occupants. The current State reimbursement rate is \$45.00 per day.

B. Meals:

Reimbursement for meals will be based on and cannot exceed current State per diem rates. Tips are not reimbursable. State rates are, Breakfast - \$5.00, Lunch - \$9.00, and Dinner - \$12.00. (These rates are subject to change.)

2. Compensation Rates for Contract Personnel. The State will receive compensation for personnel at the following hourly rates.

** Rates will change when the new rates are published in the Interagency Incident Business Management Handbook by National Wildfire Coordinating Group. You will be sent a replacement page for your contract, when the new rates are published.

3. Compensation Rates for Fire Engines and Tenders. The Contractor will be compensated for engines and tenders based on the following base hourly rates.

ENGINES	RATE/HR	WATER TENDERS	RATE/HR
NWCG Engine Type 1	\$165.00 W/4 Personnel	NWCG Tender Type 1	\$78.00
NWCG Engine Type 2	\$145.00 W/3 Personnel	NWCG Tender Type 2	\$67.60
NWCG Engine Type 3-5	\$52.00	NWCG Tender Type 3	\$52.00
NWCG Engine Type 7	\$82.80	Tender Type 4	\$53.28 W/2 personnel
Engine Type 9	\$26.00	Tender Type 5	\$37.68 W/2 personnel

--Add \$20.00/Hr to the rates listed above for any engine equipped with a Compressed Air Foam System (CAFS) to cover the cost of foam based on an application rate of three tenths of one percent @ 25gpm and additional equipment.

4. COUNTY agrees to reimburse the STATE for Single Engine Air Tanker (SEAT) Air Contract Costs incurred by the State ONLY when the County has specifically requested such service in advance.

SEAT Air Contract Costs of STATE to be reimbursed by the COUNTY are:

Active Standby

Airplane Gallons	Rate
600-699	\$1,504.00 per day
800 +	\$2200.00 per day

(A day is defined as one 24-hour period)

A three (3) day minimum is charged for active standby time if called.

Flight Time

Airplane Gallons	Rate
600-699	\$1,355.90 per hour
800 +	\$2,000.00 per hour

The STATE is responsible for all lodging and meal expenses incurred during services provided under this contract and will make all lodging and meal arrangements. All lodging and meals will be limited to current state per diem rates.

Appendix 3c

RESOLUTION 2007 – 12
Mutual Aid Request Designees

This resolution is to identify the County personnel designated to request mutual aid assistance in the suppression of rangeland fires within Butte County.

COUNTY RESOLUTION AUTHORIZING RANGE FIRE REQUEST FOR ASSISTANCE

WHEREAS, state law allows the South Dakota Wildland Fire Coordinator to assist in the suppression of rangeland fires only upon a formal request by a Board of County Commissioners, and

WHEREAS, the South Dakota Wildland Fire Coordinator has requested that a person be officially designated to make such requests, and

WHEREAS, at the time of a fire emergency there is insufficient time to convene the Board to made such requests,

NOW THEREFORE BE IT RESOLVED, by the County Commission in and for the County of Butte, State of South Dakota, that the following identified individuals are hereby authorized to request assistance in the suppression of rangeland fires within the County, in and for the County, as specified in SDCL 41-20-8.1.

NAME:	ADDRESS:	PHONE NUMBER:
Misty Peck Emergency Management	839 5 th Avenue Belle Fourche, SD 57717	605-723-0900 Work 605-210-1628 Cell 605-892-2737 (24/7 Dispatch)
Fred Lamphere Butte County Sheriff	839 5 th Avenue Belle Fourche, SD 57717	605-892-3324 Work 605-892-2737 (24/7 Dispatch)
Steve Smeenk/ Chairman Butte County Commission	18466 Viken Rd Newell, SD 57760	605-456-2231 Home
Stan Harms Butte County Commission	1809 8 th Avenue Belle Fourche, SD 57717	605-892-4961 Home
Ken Hansen Butte County Commission	12098 Snoma Rd Fruitdale, SD 57717	605-892-6821 Home
Kim W. Kling Butte County Commission	19001 2y Ranch Ln Belle Fourche, SD 57717	605-892-2242 Home 605-892-3848 Work
Marvin Kindsfater Butte County Commission	18762 Marvin Rd Belle Fourche, SD 57717	605-892-2285 Home

This authority shall continue in full force and effect until terminated by the Board Of Commissioners.

Duly passed and adopted at a regular meeting of the Commission on the 18th Day of April, 2007.

BOARD OF BUTTE COUNTY COMMISSIONERS

STEVE SMEENK, CHAIRMAN

ATTEST: _____
ELAINE JENSEN, BUTTE COUNTY AUDITOR

Appendix 4a

Ten Simple Steps to Protect Your Home from Wildland Fire

Wildfire can strike home if you have not taken some steps to protect your house and property. The actions and precautions listed below are designed to help you prepare your home and lessen the threat of wildland fire damage to you and your property.

1. LPG tanks should be far enough away from buildings for valves to be shut off in case of fire. Keep area around the tank clear of flammable vegetation.
2. Store gasoline in an approved safety can away from occupied buildings.
3. All combustibles such as firewood, wooden picnic tables, boats, stacked lumber, etc. should be kept away from structures.
4. Clear roof surfaces and gutters regularly to avoid build-up of flammable materials such as leaves and other debris.
5. Remove branches from trees to a height of 15 feet or more.
6. In rural areas, clear a fuel break of at least 3 times the fuel length around all structures.
7. Have fire tools handy such as: ladder long enough to reach your roof, shovel, rake, and a bucket or two for water.
8. Place connected garden hoses at all sides of your home for emergency use.
9. Assure that you and your family know all emergency exits from your home.
10. Assure that you and your family know all emergency exits from your neighborhood.

A few things you should be aware of during dry, warm periods...

1. Know if there is or is not a burning ban in place for your town, city, or county.
2. If you burn, clear a large area on the ground of any combustible material, such as grass, leaves, and scrap wood, burn only what you want to burn.
3. Do not leave your burn pile unattended and have a hose at the ready.

Appendix 4b

Fire Safety Tips for Rural Residents

- Create a defensible space of at least 30 feet around your house and outbuildings; closely mow lawns and trees should be pruned and spaced widely apart.
- Establish fuel breaks along roadways and between buildings and fields or woodlands.
- Keep mufflers and spark arresters on agricultural equipment in proper working order and watch out for rocks and metal when bush hogging or mowing.
- Monitor hay-baling operations closely, dry hay can ignite within the baler.
- Watch out for sparks when using welding equipment to build fences or repair equipment.
- Avoid driving or parking vehicles in grassy areas where tall, dry grass comes into contact with hot pollution control equipment under vehicles.
- Postpone outdoor burning until your area greens up, check with local fire department to determine if ban on outdoor burning have been lifted.
- When debris burning is allowed, establish wide control lines down to bare mineral soil prior to lighting your fire. Burn trash in a burn barrel or other fire-safe receptacle covered with a wire mesh or gird that will help contain burning debris. Stay with your fire until it is out.

Appendix 4c

FIREWISE Construction Checklist

When constructing, renovating, or adding to a FIREWISE home, consider the following:

- Choose a FIREWISE location.
- Design and build a FIREWISE structure.
- Employ FIREWISE landscaping and maintenance.

To select a FIREWISE location, observe the following:

- Slope of terrain; be sure to build on the most level portion of the land, since fire spreads more rapidly on even minor slopes.
- Set your single-story structure at least 30 feet back from any ridge or cliff; increase distance if your home will be higher than one story.

In designing and building your FIREWISE structure, remember that the primary goals are fuel and exposure reduction. To this end:

- Use construction materials that are fire-resistant or non-combustible whenever possible. For roof construction, consider using materials such as Class-A asphalt shingles, slate or clay tile, metal, cement and concrete products, or terra-cotta tiles.
- Constructing a fire-resistant sub-roof can add protection as well.
- On exterior wall facing, fire resistive materials such as stucco or masonry are much better choices than vinyl which can soften and melt.
- Window materials and size are important. Smaller panes hold up better in their frames than larger ones. Double pane glass and tempered glass are more reliable and effective heat barriers than single pane glass. Plastic skylights can melt.
- Install non-flammable shutters on windows and skylights.
- To prevent sparks from entering your home through vents, cover exterior attic and underfloor vents with wire screening no larger than 1/8 of an inch mesh. Make sure under eave and soffit vents are as close as possible to the roof line. Box in eaves, but be sure to provide adequate ventilation to prevent condensation.
- **Include a driveway that is wide enough to provide easy access for fire engines (12 feet wide with a vertical clearance of 15 feet and a slope that is less than 5 percent). The driveway and access roads should be well-maintained, clearly marked, and include ample turnaround space near the house. Also provide easy access to fire service water supplies, whenever possible.**
- Provide at least two ground level doors for easy and safe exit and at least two means of escape (i.e., doors or windows) in each room so that everyone has a way out.
- Keep gutters, eaves, and roofs clear of leaves and other debris.
- Make periodic inspections of your home, looking for deterioration such as breaks and spaces between roof tiles, warping wood, or cracks and crevices in the structure.
- Periodically inspect your property, clearing dead wood and dense vegetation at distance of at least 30 feet from your house. Move firewood away from the house or attachments like fences or decks.

Any structures attached to the house, such as decks, porches, fences, and outbuildings should be considered part of the house. These structures can act as fuel bridges, particularly if constructed from flammable materials. Therefore, consider the following:

- If you wish to attach an all-wood fence to your house, use masonry or metal as a protective barrier between the fence and house.
- Use metal when constructing a trellis and cover it with high-moisture, low flammability vegetation.
- Prevent combustible materials and debris from accumulating beneath patio decks or elevated porches. Screen or box-in areas below patios and decks with wire screen no larger than 1/8 inch mesh.
- Make sure an elevated wooden deck is not located at the top of a hill where it will be in direct line of a fire moving up slope. Consider a terrace instead.

Access additional information on the FIREWISE home page: www.firewise.org

Appendix 4d

FIREWISE Landscaping Checklist

When designing and installing a FIREWISE landscape, consider the following:

- Local area fire history.
- Site location and overall terrain.
- Prevailing winds and seasonal weather.
- Property contours and boundaries.
- Native vegetation.
- Plant characteristics and placement (duffage, water and salt retention ability, aromatic oils, fuel load per area, and size).
- Irrigation requirements.

To create a FIREWISE landscape, remember that the primary goal is fuel reduction. To this end, initiate the zone concept. Zone 1 is closest to the structure; Zones 2-4 move progressively further away.

- Zone 1. This well-irrigated area encircles the structure for at least 30' on all sides, providing space for fire suppression equipment in the event of an emergency. Plantings should be limited to carefully spaced low flammability species.
- Zone 2. Low flammability plant materials should be used here. Plants should be low-growing, and the irrigation system should extend into this section.
- Zone 3. Place low-growing plants and well-spaced trees in this area, remembering to keep the volume of vegetation (fuel) low.
- Zone 4. This furthest zone from the structure is a natural area. Selectively prune and thin all plants and remove highly flammable vegetation.

Also remember to:

- Be sure to leave a minimum of 30' around the house to accommodate fire equipment, if necessary.
- Widely space and carefully situate the trees you plant.
- Take out the "ladder fuels" — vegetation that serves as a link between grass and tree tops. This arrangement can carry fire to a structure or from a structure to vegetation.
- Give yourself added protection with "fuel breaks" like driveways, gravel walkways, and lawns.

When maintaining a landscape:

- Keep trees and shrubs properly pruned. Prune all trees so the lowest limbs are 6' to 10' from the ground.
- Remove leaf clutter and dead and overhanging branches.
- Mow the lawn regularly.
- Dispose of cuttings and debris promptly, according to local regulations.
- Store firewood away from the house.
- Be sure the irrigation system is well maintained.
- Use care when refueling garden equipment and maintain it regularly.
- Store and use flammable liquids properly.
- Dispose of smoking materials carefully.
- Become familiar with local regulations regarding vegetation clearances, disposal of debris, and fire safety requirements for equipment.
- Follow manufacturers' instructions when using fertilizers and pesticides.

Access additional information on the FIREWISE home page: www.firewise.org

Appendix 4e

FIREWISE Plants* for Windbreaks and Landscaping

TREES

Deciduous:

Betula	Birch
Acer spp.	Maple
Alnus spp.	Alder
Catalpa speciosa	Northern Catalpa
Cornus florida	Flowering Dogwood
Fraxinus spp.	Ash
Gleditsia tricanthos	Honey Locust
Malus spp.	Apple
Populus spp.	Aspen, Cottonwood, Poplar
Prunus spp.	Cherry
Quercus spp.	Oak (burr)
Rohinia pseudoacacia	Black locust
Salix spp.	Willow

SHRUBS

Amelanchier spp.	Serviceberry
Atriplex canescens	Four Wing Saithush
Buddilia davidi	Butterfly Bush
Caryopteris x clandonesis	Blue-Mist Spirea
Cornus serica	Red Osier Dogwood
Cotoneaster spp.	Cotoneaster
Liqustrum spp.	Privet
Mahonia spp.	Creeping Grape Holly
Pachistima canbvi	Dwarf Mountain Lover
Phi ladelphus spp.	Mock Orange; Syringa
Rhamnus fragula	Buckthorn
Rhododendron spp.	Azaleas, Rhododendrons
Ribes spp.	Currant
Sheperdia argentea	Silver Buffaloberry
S-mphoricarpus albus	Snowberry
Viburnum trilobum	Cranberry Bush
Yucca spp.	Yucca

PERENNIALS

Achillea spp.
Allium schoenoprasum
Bergenia spp.
frodiaea spp.
Coroepsis spp.
Erysimum linifolium
Eschscholzia spp.
Fragaria spp.
Geranium spp.
Hemerocallis hybrids
Heuchera spp.
Iris spp.
Kniphofia uvaria
Lupinus spp.
Oenothera spp.
Penstemon spp.
Solidago spp.
Strachys bvsantina

Common name

Yarrow
Chives
Bergenia
Lilies
Coreopsis
Wall Flower
California Poppy
Wild Strawberries
Geranium
Daylilies
Coral bells
Iris
Red hot poker
Lupine
Evening Primrose
Beard tongue
Goldenrod
Lamb's ear

GROUNDCOVERS

Succulents:

Delospema nuhigenum
Echeveria spp.
Sudem spp.

Non-succulents:

Schillea tomentosa
Ajuga reptans
Arctostaphylois uva-ursi
Armeria meritima
Cerastium tomentosa
Cotoneaster dammeri
Euonvmus fortunei
Potentilla tahernaemontanii
Senecio cineraria
Thymus praecox articus
Verbenia bipinnatifida

Common name

Hardest Ice Plant
Hens & Chicks
Stone Crops
Woolly Yarrow
Carpet Bugle
Kinnikinnick
Sea Pink; Thrift
Snow In Summer
Bearberry Cotoneaster
Winter Creeper
Spring Cinquefoil
Dusty Miller
Mother of Thyme
Verbena

***All plant material will burn but listed plants are more fire resistive.**

Appendix 5

RESOLUTION 2006-18

A RESOLUTION TO PROVIDE FOR TEMPORARY EMERGENCY REGULATION OF OPEN BURNING AND OTHER FIRE HAZARDS IN BUTTE COUNTY

WHEREAS, the Commissioners of Butte County are charged with protecting the health and safety of the citizens of Butte County, including all property situated therein; and

WHEREAS, the Emergency Manager of Butte County has consulted with local fire officials and law enforcement officials concerning the threat posed by wildfires; and

WHEREAS, Butte County and a vast portion of South Dakota has been declared to be in a state of drought; and

WHEREAS, the Commissioners of Butte County have deemed it necessary to enact certain temporary controls to reduce the threat posed to the citizens and property of Butte County by wildfires.

NOW, THEREFORE BE IT RESOLVED, that pursuant to SDCL 7-8-20 (18) Butte County does hereby enact this resolution on an emergency basis effective July 7, 2006 at 12:01 AM and impose a ban to prohibit or restrict open burning in order to protect the public health and safety; and

IT IS FURTHER RESOLVED, that the prohibited activities shall include open fires, and any other activity which could be reasonably calculated to lead to the ignition and/or spread of wildfires in Butte County; and

IT IS FURTHER RESOLVED, that the area to which the prohibitions referenced above shall be applicable shall include the entire area of Butte County excepting those lands falling within the boundaries of any commercial, state, or federal campground. Fires will be allowed in designated fire pits/places only, the merits of which will be left to the discretion of the Butte County fire department serving the affected jurisdiction. Such fires and barbeque grills (briquette type) will be attended at all times; and

IT IS FURTHER RESOLVED, that open flame/burning will not be allowed at any time, except with fire department supervision. Request for fire department supervision/standby shall be made seven days in advance or at the discretion of the affected fire department. Each request for fire department supervision/standby shall be made to the fire department serving the affected jurisdiction.

IT IS FURTHER RESOLVED, that any and all violators of this emergency declaration will be forwarded to the Butte County State's Attorney for prosecution under South Dakota Codified Law.

IT IF FURTHER RESOLVED, that the prohibition of certain activities provided for above shall remain in effect until such time as the Commissioners of Butte County determine that the threat posed by wildfires has abated.

Dated this 7th day of July, 2006

Marvin Kindsfater
Chairman of the Board
Butte County Commissioners

Attest:

Elaine Jensen
Butte County Auditor

Appendix 6

FIREWISE COMMUNITIES/USA Program

The Firewise Communities/USA standards are designed and maintained to give you maximum flexibility in creating the best plan for your community.

* Enlist a wildland/urban interface specialist to complete a community assessment and create a plan that identifies agreed-upon achievable solutions to be implemented by the community.

* Sponsor a local board or committee that maintains the Firewise Community/USA program and tracks its progress or status.

* Observe a Firewise Communities/USA Day each year that is dedicated to a local Firewise project.

* Invest a minimum of \$2.00 per capita annually in local Firewise projects. (Work by municipal employees or volunteers using municipal and other equipment can be included, as can state/federal grants dedicated to that purpose.)

* Submit an annual report to Firewise Communities/USA that documents continuing compliance with the program.

Moving Through the Firewise Communities/USA Process.

- 1) Candidate Firewise Communities/USA sites frequently self-select. Initial contact with the program is often made by a community resident---either over the Internet or through the State Forestry agency. All contacts are listed at www.firewise.org/usa in the 'Contact a Representative' area. They can be reached via e-mail from that area of the web site.
- 2) Once contact has been established, the Firewise representative schedules a site visit to the community.
- 3) A community assessment is performed, either by the state liaison or his/her designee.
- 4) Community residents create a local Firewise board or committee. This is generally composed of a variety of homeowners. Fire staff participate as invited guests.
- 5) When the assessment is completed, the Firewise representative or his/her designee presents it to the Firewise board.
- 6) The Firewise board uses the information in the assessment to create an agreed-upon, area-specific action plan for the community. The state liaison or his/her designee approves the plan.
- 7) The Firewise board works with the community to complete its first action item. This usually marks its first 'Firewise Day'.

- 8) Board members then download the Firewise Communities/USA application form from www.firewise.org/usa, complete it and submit it to the Firewise representative, along with supporting documentation.
- 9) Firewise Communities/USA status is renewable annually upon completion of that year's action item/Firewise Day. Both interactive and downloadable renewal forms are available at www.firewise.org/usa.

What Is the Best Size for a Firewise Communities/USA Recognition Area?

The recommended size for a participating Firewise Communities/USA site approximates that of a homeowners association. The size of a Firewise Communities/USA site is not governed by an arbitrary, fixed rule but rather by the limit of its effectiveness. Successful Firewise Communities/USA participation requires homeowner commitment. A community larger than a homeowners association has significant difficulties coalescing in the manner required by the Firewise Communities/USA program.

The following checklist can help you determine if your community is a good size to undertake the Firewise Communities/USA process.

- Does your community function effectively as a unit?
- Are you and your neighbors able to work together on a wildfire mitigation project?
- Are most of your neighbors willing to take part in a Firewise Communities action plan?
- Is your community small enough that it can organize effectively without depending on municipal/agency guidance?

Communities beyond the traditional neighborhood size generally have difficulty meeting the effectiveness and individual engagement criteria required for a long-term commitment to wildfire mitigation. Successful, long-term, participating communities are those where homeowners are engaged in reducing their home ignition potential.

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