APPENDIX E - SPECIAL STATUS SPECIES HABITAT DESCRIPTIONS

(THIS PAGE INTENTIONALLY LEFT BLANK)

APPENDIX E
Special Status Species Habitat Descriptions

American Burying Beetle

The American burying beetle is the largest of the carrion beetles in North America. The life cycle of the beetle includes approximately two to three months underground as larvae and pupae during the summer with adults also present underground during winter. The adults provide the larvae with a food source underground during this period. The species has been found in a variety of habitats (i.e. woodlands, prairies) in areas with relatively non-compacted soils, containing a measurable layer of humus or leaf litter, and with high prey abundance (Creighton and Schnell 1998, Lomolino and Creighton 1996, USFWS 1991). This noctural species will travel several miles to a variety of soil and habitat types if the appropriate food sources are available (Lomolino et al. 1995). American burying beetles are currently known to occur in counties in south-central South Dakota (Backlund et al. 2008); however, historic records exist from Brookings County (Backlund and Marrone 1997).

Topeka Shiner

The Topeka shiner (*Notropis topeka*) is a small, silvery minnow, typically less than 3 inches in total length, that occurs primarily in clear pools in small streams within prairie or former prairie streams. Current habitat for this species is limited to only a few watersheds in the United States; however within these watersheds the species may be found in relatively high abundance (Dahle 2001, 69 FR 44736-44770). Diet for this species is highly diverse, including vegetation matter, zooplankton, and small aquatic invertebrates (69 FR 44736-44770). The low-order, central prairie streams that Topeka shiners inhabit have ground-water levels and flows that have been found to be crucial for the survival of the species (Berg et al. 2004). The streams generally have high water quality, cool to moderate temperatures, as well as pool and run characteristics (Dahle 2001, Pflieger 1997). Topeka shiners have also been found in intermittent streams throughout their current range in isolated pools maintained by the percolation of ground water or underground springs (Minckley and Cross 1959; 69 FR 44736-44770). Topeka shiners have been recorded in small entrenched streams with high grazing pressure and bank erosion (69 FR 44736-44770). The South Dakota Management Plan (Shearer 2003) designates May 15 through July 31 as the Topeka shiner spawning period.

The Topeka shiner is known to occupy numerous small streams in eastern South Dakota. The species was recorded in 2000 in an unnamed tributary to Deer Creek approximately 1.5 miles northwest of water well supply sites A and B (SDNHP 2008). As a result, Deer Creek and its tributaries are considered to provide potential habitat for Topeka shiners. The Final Designation of Critical Habitat for the Topeka Shiner (69 FR 44736-44770) defers to Shearer (2003) for the management of Topeka shiner in South Dakota including designation of critical habitat within the state (69 FR 44736-44770). Portions of Deer Creek and the connected Medary Creek are classified as high habitat priority. Deer Creek and nearby tributaries range from high to low to moderate to low priority habitat throughout the proposed Project Area (Shearer 2003). The Deer Creek mainstem near the proposed Project Area is primarily classified as high priority habitat. The nearest designated critical habitat for the Topeka shiner is in Minnesota in the headwaters of Medary Creek, which confluences with Deer Creek downstream of the proposed Project. The designated critical habitat is located approximately eight miles southeast of the proposed Project.

The Medary Creek Complex critical habitat consists of two stream segments in Lincoln County, Minnesota. According to the critical habitat designation (69 FR 44736-44770), Topeka shiners recently have been captured from several localities in this complex. Primary threats to the Topeka shiner that require special management in this watershed include agricultural practices and channel maintenance that increases sedimentation and other water quality impacts. Special management for the Topeka shiner in this watershed would include grass waterways and riparian fencing to reduce erosion. To the south of Medary Creek and further from the proposed Project, Willow and Flandreau creeks are also designated critical habitat in Minnesota and South Dakota.

Western Prairie Fringed Orchid

The Federally-endangered western prairie fringed orchid (*Platanthera praeclara*) is a perennial herb with a showy flower. The species is restricted to areas west of the Mississippi and is currently found in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and Manitoba, Canada; the orchid has not been recently documented in South Dakota. However, there are recorded populations in Lincoln and Pipestone Counties in Minnesota (Owenby and Morley 1991), which are both adjacent to Brookings County. Western prairie fringed orchids are associated primarily with moist to mesic areas in intact, native tall grass prairie. The orchid is associated with native tall grass prairie species, including big bluestem, Indian grass, Kentucky bluegrass, and switch grass (Ladd and Oberle 1995). Other potential habitat includes wet prairies, sedge meadows, sub-irrigated prairies, and swales in sand dune complexes. In hydric habitats, the orchid is associated with communities dominated by sedges and spikerushes (USFWS 1996). They have, however, been found in roadside ditches and reclaimed grasslands.

Habitat of fair quality may exist within the proposed Project Area on both plant sites, all four water supply well sites, and the natural gas pipeline corridors. Although much of the proposed Project Area is disturbed, the western prairie fringed orchid has shown the ability to either persist through disturbance or colonize following disturbances in a manner similar to many other native prairie species. This is indicated by its presence along roadsides and reclaimed grasslands (Missouri Department of Conservation 2005, Sieg and King 1995).

Whooping Crane

The whooping crane (*Grus americana*) currently exists in three wild populations and at six captive locations. The only self-sustaining natural wild population nests in the Northwest Territories and adjacent areas of Alberta, Canada, primarily within the boundaries of Wood Buffalo National Park. The flock has recovered from a population low of 15 or 16 birds in 1941, to more than 200. These birds migrate through South Dakota and winter at Aransas National Wildlife Refuge and adjacent areas in Texas. The migration pathways of whooping cranes in the spring and fall are similar. From nesting grounds in northeast Alberta, the migration pathway extends 2,500 miles south-southeast through south-central Saskatchewan, northeast Montana, western North Dakota, central South Dakota, central Nebraska and Kansas, west-central Oklahoma, and east-central Texas. Overall, the migration corridor varies from 50 to 200 miles wide and could include the proposed Project Area as part of the corridor's eastern boundary. However, most documented observations of whooping cranes occur in central South Dakota along the Missouri River valley. According to the April 7, 2009 USFWS letter, the likelihood of whooping crane occurrence at the proposed Project Area is very low. To date there have been no

documented sightings in Brookings County, although sightings have been recorded in Kingsbury and Clark Counties 40 to 60 miles away (Austin and Richert 2001).

According to the Whooping Crane Recovery Plan (USFWS and CWS 2005), the current threats include limited genetics of the population, loss and degradation of migration stopover habitat, construction of additional power lines, degradation of coastal habitat, and threat of chemical spills in Texas. Collisions with power lines are a substantial cause of whooping crane mortality in migration and are known to have accounted for the death or serious injury of at least 30 whooping cranes since 1956. In the 1980s, two of nine radio-marked whooping cranes died within 18 months as a result of power line collisions.

Dakota Skipper

The Dakota skipper (*Hesperia dacotae*) is a small butterfly with a one-inch wingspan. Its habitat is native prairie consisting of bluestem grasses and forbs for nectar. This habitat is often located along transition zones of mixed and tall grass prairie (USFWS 2007). Dakota skippers inhabit dry-mesic hill prairies with abundant coneflower species, but also use mesic to wet-mesic tallgrass prairie habitats characterized by wood lily and smooth camas. Patches of suitable skipper habitat may be present within Brookings and Deuel counties, and the Dakota skipper has been documented at Oak Lake, approximately 1.5 miles west of the proposed pipeline ROW (SDNHP 2008).

Northern Redbelly Dace

Northern redbelly dace (*Phoxinus eos*) is a minnow found in boggy lakes, ponds, pools of headwaters and creeks. It has a dark olive or brown back and a dark stripe along its side. The body is silver or cream below the stripe, but turns red in breeding males. Northern redbelly dace feed on algae and small invertebrates and spawn in algal mats from late spring through summer (Ashton and Dowd 1991). In South Dakota it is documented in the Big Sioux River basin. It has been recorded less than one-half mile to the west of the alternative gas pipeline ROW in drainages connected to Deer Creek.

Banded Killifish

Banded killifish (*Fundulus diaphanus*) typically occur in shallow areas of clear lakes and ponds with a muddy or sandy substrate, and abundant submerged aquatic vegetation for attaching eggs. They eat insect larvae, mollusks, and small crustaceans. They are known to occur in Deuel County in South Dakota (Ashton and Dowd, 1991; COSEWEC 2003).

Blacknose Shiner

The blacknose shiner (*Notropis heterolepis*) is a minnow that requires clean, cool, well-oxygenated streams with abundant aquatic vegetation. The calm pool areas of the stream are critical to the survival of the species (Pflieger 1997). It feeds primarily on small aquatic insects, crustaceans, and algae. The species may occur in Brookings County (SDGFP 2001).

Sturgeon Chub

The sturgeon chub (*Macrhybopsis gelida*) is a minnow that requires continuously turbid, medium to large warm water rivers. It occurs in shallow areas of strong current with a coarse sand or

gravel bottoms. It is not known to occur in locations from the proposed Project Area (Ashton and Dowd 1991, NatureServe 2009)

Eastern Hognose Snake

The eastern hognose snake (*Heterodon platirhinos*) is typically found in wooded edges, grassy fields, and river valleys with loose (sandy loam) soils. The species burrows into the soil to overwinter. It feeds primarily on toads, frogs, and salamanders (Kiesow 2006). It is not known to occur in the proposed Project Area (SDGFP 2001).

Lined Snake

The lined snake (*Tropidoclonion lineatum*) is a small, brown snake that prefers prairies, hillsides, and woodland edges. It utilizes deep rocky outcroppings and small mammal burrows for hibernation (Kiesow 2006). It is not known to occur in the proposed Project Area (SDGFP 2001).

Northern Redbellied Snake

The northern redbellied snake is found in woodlands, moist grassy areas, and meadows near water (Behler 1996, Kiesow 2006). It is known from the area of the proposed gas pipeline corridor (SDGFP 2001).

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) has been removed from the endangered species list, but is still protected by the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c) and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). It can be observed throughout the State of South Dakota, including Brookings County, during any time of the year (69 FR 44736-44770). Only partially migratory, the bald eagle can inhabit a variety of locations in North America as long as adequate nesting, feeding, and watering grounds are available. Bald eagles feed on fish, waterfowl, small mammals, and carrion. The bald eagle builds large nests in the tops of trees near marshes, lakes and rivers. The USFWS indicated that there were no known bald eagle nests in the proposed Project Area. Oak Lake and Lake Hendricks may provide suitable roosting and nesting habitat.

References

Ashton, D.E. and E.M. Dowd. 1991. *Fragile Legacy. Endangered, Threatened and Rare Animals of South Dakota.* South Dakota Department of Game, Fish and Parks, Report No. 91-04. Jamestown, ND: Northern Prairie Wildlife Research Center Online. http://www.npwrc.usgs.gov/resource/wildlife/sdrare/index.htm (Version 08DEC97).

Austin, J. and A. Richert. 2001. *A Comprehensive Review of Observational and Site Evaluation Data of Migrant Whooping Cranes in the United States, 1943-99.* U.S. Geological Survey, Northern Prairie Wildlife Research Center, Jamestown, North Dakota.

Backlund, D.C., G.M. Marrone, C.K. Williams, and K. Tilmon. 2008. Population Estimates of the Endangered American Burying Beetle, *Nicrophorus americanus* Oliver (Coleoptera: Silphidae) in South Dakota. *The Coleopterists Bulletin* 62:9-15.

Backlund, D.C. and G. M. Marrone. 1997. New Records of the Endangered American Burying Beetle, *Nicrophorus americanus* Oliver (Coleoptera: Silphidae) in South Dakota. *Coleopterists Bulletin* 51:53-58.

Berg, J.A., T.A. Petersen, Y. Anderson, and R. Baker. 2004. *Hydrogeology of the Rock River Watershed, Minnesota, and Associated Off-Channel Habitats of the Topeka Shiner*. Minnesota Department of Natural Resources, St. Paul.

Committee on the Status of Endangered Wildlife in Canada (COSEWEC). 2003. *Assessment and Update Status Report on the Banded Killifish (Fundulus diaphanous).*

Creighton, J.C. and G.D. Schnell. 1998. Short-Term Movement Patterns of the Endangered American Burying Beetle *Nicrophorus americanus*. *Biological Conservation* 86:281-287.

Dahle, S.P. 2001. Studies of Topeka Shiner (*Notropis topeka*) Life History and Distribution in Minnesota. Master's Thesis. University of Minnesota, St. Paul.

Kiesow, A. 2006. *Field Guide to Amphibians and Reptiles of South Dakota*. South Dakota Department of Game Fish and Parks, Pierre.

Ladd, D. and F. Oberle. 1995. *Tallgrass Prairie Wildflowers*. The Nature Conservancy, Helena, Montana. 199 pp.

Lomolino, M.V. and J.C. Creighton. 1996. Habitat Selection, Breeding Success and Conservation of the Endangered American Burying Beetle *Nicrophorus americanus*. *Biological Conservation* 77:235-241.

Lomolino, M.V., J.C. Creighton, G.D. Schnell, and D.L. Certain. 1995. Ecology and Conservation of the Endangered American Burying Beetle *Nicrophorus americanus*. *Conservation Biology* 9:605-614.

Minckley, W.L. and F.B. Cross. 1959. Distribution, Habitat, and Abundance of the Topeka Shiner, *Notropis topeka* Gilbert, in Kansas. *American Midland Naturalist* 61:210-217.

Missouri Department of Conservation. 2005. *Endangered Species Guide Sheet: Western Prairie Fringed Orchid*. http://mdc.mo.gov/nathis/endangered/endanger/orchid/. (Accessed June 4, 2009).

NatureServe. 2009. NatureServe Explorer: An Online Encyclopedia of Life, Version 7.1. NatureServe, Arlington, Virginia. http://www.natureserve.org/explorer/. (Accessed June 4, 2009).

Owenby, G.B. and T. Morley. 1991. *Vascular Plants of Minnesota: A Checklist and Atlas*. University of Minnesota Press, Minneapolis.

Pflieger, W.L. 1997. *Fishes of Missouri, Revised Edition*. Missouri Department of Conservation, Jefferson City. 372 pp.

Shearer, J.S. 2003. *Topeka Shiner (Notropis topeka) Management Plan for the State of South Dakota*. South Dakota Department of Game, Fish and Parks Report 2003-10.

Sieg, C.H. and R.M. King. 1995. Influence of Environmental Factors and Preliminary Demographic Analysis of a Threatened Orchid, *Platanthera praeclara*. *American Midland Naturalist* 134:61-77.

SDGFP. 2001. South Dakota GAP Analysis Program (SD-GAP). *Occurrence and Distribution of Wildlife and Fish Species in South Dakota*. http://wfs.sdstate.edu/sdgap/mammal.html. (Accessed July/August 2009).

USFWS. 2007. USFWS Dakota Skipper (*Hesperia dacotae*) Fact Sheet. http://www.fws.gov/midwest/Endangered/insects/dask-color.pdf. (Accessed June 4, 2009).

USFWS and Canadian Wildlife Service (CWS). 2005. *International Recovery Plan for the Whooping Crane* (*Grus americana*). Ottawa: Recovery of Nationally Endangered Wildlife (NENEW), and USFWS, Albuquerque, New Mexico. 162 pp.

USFWS. 1996. *Platanthera praeclara (Western Prairie Fringed Orchid) Recovery Plan*. USFWS, Fort Snelling, Minnesota. 101 pp.

USFWS. 1991. *American Burying Beetle (Nicrophorus americanus) Recovery Plan*. Newton Corner, Massachusetts. 80 pp.

(THIS PAGE INTENTIONALLY LEFT BLANK)