

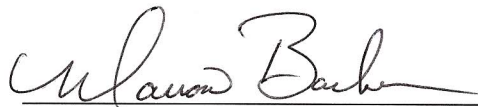
**FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
for**

PROJECT OSE #R0708-07

**SDDOT PROJECT NO. EM 8052(65), PCN 03KG
SDSM&T CONNECTOR ROAD
PENNINGTON COUNTY, SOUTH DAKOTA**

The FHWA has determined that the Build Alternative will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) and its supporting documentation, which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project, and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an EIS is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the attached EA.

11/06/2012
Date



Marion Barber, Environmental Specialist
Federal Highway Administration
116 E. Dakota Ave., Suite A
Pierre, SD 57501

ENVIRONMENTAL ASSESSMENT

Connector Road South Dakota School of Mines & Technology

PROJECT OSE #R0708-07

SDDOT PROJECT NO. EM 8052(65), PCN 03KG

PENNINGTON COUNTY, SOUTH DAKOTA

Submitted Pursuant to 42 U.S.C. 4332(2)(c)
49 U.S.C. 303

US Department of Transportation
Federal Highway Administration
and
South Dakota Department of Transportation
and
South Dakota Bureau of Administration
Office of State Engineer

The following persons may be contacted for additional information concerning this document:

James Kliewer, E.I.T.
Project Engineer
South Dakota Department of Administration
Office of the State Engineer
Joe Foss Building
523 E. Capitol
Pierre, SD 57501
605.773.5342

Marion Barber, P.E.
Environmental Specialist
Federal Highway Administration
116 E. Dakota Avenue, Suite A
Pierre, SD 57501
605.224.8033

Tom Lehmkuhl
Environmental Engineer
South Dakota Department of Transportation
700 E. Broadway Avenue
Pierre, SD 57501
605.773.3180

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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
APE	Area of Potential Effect
BMPs	Best Management Practices
CFR	Code of Federal Regulations
DENR	South Dakota Department of Environment and Natural Resources
DGFP	South Dakota Department of Game, Fish and Parks
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
NAC	Noise Abatement Criteria
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
NEPA	National Environmental Policy Act
NWI	National Wetland Inventory
OSE	South Dakota Office of the State Engineer
RCRA	Resource Conservation and Recovery Act
SDDOT	South Dakota Department of Transportation
SDSM&T	South Dakota School of Mines and Technology
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
TNM	Traffic Noise Model
U.S.C.	United States Code
USFWS	US Fish and Wildlife Service

ENVIRONMENTAL ASSESSMENT

Rapid City, Pennington County, South Dakota

Connector Road

1.0 INTRODUCTION

The South Dakota School of Mines and Technology (SDSM&T), a state-supported university located in Rapid City, South Dakota, is proposing to construct a new road and paved parking area on the south side of the campus. This is a South Dakota Department of Transportation (SDDOT) project being administered through the South Dakota Office of the State Engineer. The purpose of the project is to enhance traffic circulation and transportation operations on the SDSM&T campus. The proposed road and parking area are planned projects identified in the SDSM&T Campus Master Plan, dated October 2011. The project is listed on the State Transportation Improvement Plan under the 'Special Projects' funding category (EM 8052(65), PCN 03KG, Pennington County).

Funding for the project would come from federal and state government sources. The proposed parking area would be funded by SDSM&T Parking funds. Use of federal-aid money for a project is a "federal action" under the National Environmental Policy Act (NEPA), requiring the evaluation of potential environmental impacts. This Environmental Assessment (EA) documents the purpose and need for the project, alternatives considered, existing conditions, and environmental impacts and mitigation measures. Two alternatives were evaluated in this EA: a No Action Alternative and a Build Alternative.

Numerous federal, state and local agencies were contacted about this project. Correspondence from these agencies is located in Appendix A.

2.0 DESCRIPTION OF PROPOSED ACTION

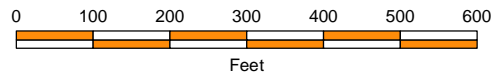
SDSM&T proposes to construct a new two-lane road (two 12-foot wide lanes, one in each direction) with curb and gutter near the southwest corner of the King Center (an intramural sports facility for use by SDSM&T students and personnel) to the vicinity of the Black Hills Business Development Center on the campus (see Figure 1). Ground-disturbing construction activity would consist of vegetation removal, utility relocation, earthmoving, grading, and paving. To build the proposed road, mechanized equipment such as backhoes, bulldozers, excavators, front-end loaders, dump trucks, concrete trucks and paving equipment would be used. A retaining wall to stabilize slopes on the south side of the proposed road is also part of the preliminary roadway design, the need for which would be further analyzed during final design.

A detailed description of the proposed project is contained in **Section 6.0 Alternatives Considered**.



**Connector Road
Rapid City, South Dakota
Environmental Assessment**

**Figure 1:
Proposed Project**



**1 inch = 250 feet
1:3,000**



3.0 EXISTING ENVIRONMENT

SDSM&T is located in Rapid City, east of the central business district, between St. Joseph Street and St. Patrick Street. Rapid City is the county seat of Pennington County and a gateway to Badlands National Park, Mount Rushmore National Memorial, and other attractions in the Black Hills area of southwestern South Dakota. The SDSM&T campus is the prominent land use feature in the project area. Photographs of the project area are located in Appendix B.

4.0 PURPOSE OF AND NEED FOR THE ACTION

The purpose of the proposed project is to enhance traffic circulation and transportation operations at SDSM&T. The road will also provide access to the south side of the campus where future building sites have been identified in the campus master plan. The new road will be valuable for emergency response vehicles and improving traffic flow during high-volume events on the SDSM&T campus. The project is needed to meet SDSM&T's goal of creating a pedestrian-oriented campus by placing through streets and parking on the campus perimeter.

5.0 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

No public outreach activities such as information meetings or project newsletters have been conducted or prepared for this project in advance of the issuance of the EA for a 30-day public review. As part of the early coordination process, the following federal, state, and local government agencies and tribes were contacted:

- US Fish and Wildlife Service-South Dakota Ecological Services Field Office
- South Dakota Department of Environment and Natural Resources
- South Dakota Department of Game, Fish and Parks
- South Dakota State Historic Preservation Office
- Cheyenne River Sioux Tribe
- Lower Brule Sioux Tribe
- Sisseton-Wahpeton Oyate
- Standing Rock Sioux Tribe
- Yankton Sioux Tribe
- Oglala Sioux Tribe
- Three Affiliated Tribes of North Dakota

Correspondence from the agencies that responded to a project consultation letter dated November 28, 2011 is located in Appendix A.

6.0 ALTERNATIVES CONSIDERED

No Action Alternative

Under this alternative, a new road and paved parking area would not be constructed. This alternative does not meet the purpose and need for the project, but is being evaluated to assess baseline conditions. Under the No Action Alternative, no ground-disturbing activities would occur, thus no impervious surface would be created and no direct impact to environmental resources would occur. The existing water quality of Rapid Creek, the nearest surface water resource, would remain at its current state under this alternative. The No Action Alternative would not provide short-term economic benefits such as the use of local building materials and an increase in temporary construction employment. This alternative is not consistent with the SDSM&T Campus Master Plan as it would not enhance transportation operations.

Build Alternative

Under this alternative, a new road and a paved parking area would be constructed on the SDSM&T campus. The new road would be constructed from near the southwest corner of the King Center (an intramural sports facility) to the vicinity of the Black Hills Business Development Center, with an approximate 200-foot spur road to the north to tie into an existing campus road. The road would consist of two 12-foot wide lanes (one in each direction), with curb and gutter on both sides. Bicyclists would be able to share the road with motorists. The length of the proposed roadway improvements is approximately 1/3 mile. A retaining wall is part of the preliminary design as slope stability may be a concern. A new paved parking area would also be constructed at the east end of the project area, approximately 100 feet southwest and upslope of the campus daycare center. The parking lot is anticipated to have approximately 65 spaces. Placing parking on the perimeter of the campus is consistent with the Campus Master Plan to create a pedestrian-oriented campus.

Ground-disturbing construction activity would consist of vegetation removal, removal of existing pavement, earthmoving, grading, and paving. To build the proposed road and parking area, mechanized equipment such as backhoes, bulldozers, excavators, front-end loaders, dump trucks, concrete trucks, and paving equipment would be used.

This alternative is the Preferred Alternative, as it meets the purpose and need for the project.

Other Alternatives Considered

No other alternatives were considered as the proposed road and parking area are being constructed consistent with the SDSM&T Campus Master Plan for enhancing circulation and parking opportunities. In 2009, SDSM&T evaluated the feasibility of connecting St. Joseph Street to St. Patrick Street; however, that proposed project was cancelled in 2010 due to funding concerns. Such a potential connection is identified on the "Circulation Patterns Diagram" with no specific project development timeline identified by SDSM&T in the Campus Master Plan.

7.0 AFFECTED ENVIRONMENT AND IMPACTS

This section describes the affected environment and anticipated impacts of the Preferred (Build) Alternative. The following environmental resource categories are not within the affected environment and do not warrant further discussion in the EA: coastal barriers, coastal zone, wild and scenic rivers, farmland, and businesses/residences to be relocated.

Section 4(f) of the Department of Transportation Act of 1966 stipulates that the Federal Highway Administration (FHWA) and state transportation agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless: 1) there is no feasible and prudent alternative to the use of land; and 2) the action includes all possible planning to minimize harm to the property resulting from use. The Land and Water Conservation Act established a land and water conservation fund to assist local, state, and federal agencies in meeting the demand for present and future outdoor recreation sites. This is done through grants for land acquisition, park amenities, and other park development costs. Section 6(f) of the Act directs the National Park Service to assure that replacement lands of equal value, location and usefulness are provided as conditions to approval of land conversions. Where a Section 6(f) land conversion is proposed for a roadway project, replacement land would be necessary. There is no land or resources defined under either Section 4(f) or Section 6(f) that would be used or converted for the proposed project.

7.1 Land Use

The existing land use in the project area consists of SDSM&T facilities, including paved parking areas, the King Center intramural sports facility, a recreation field, classroom buildings, a daycare facility, and the Black Hills Business Development Center.

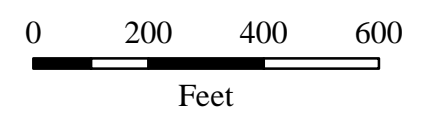
The Circulation and Parking plan for SDSM&T is shown on Figure 2. The plan shows a loop road in a location that is generally consistent with the Preferred Alternative. South of the loop road in the south-central part of the campus are two future research buildings. The Preferred Alternative would reduce the available area to develop the northernmost future research building as depicted on the Building and Land Use plan; however, the size, location and orientation of these future buildings are conceptual. The Preferred Alternative is not anticipated to jeopardize the development of future buildings or other land uses on the campus; however, approximately 20 existing parking spaces along the western edge of the King Center parking lot would be permanently displaced by the proposed road.

According to the Rapid City Code of Ordinances (Chapters 17.06 and .08) and the City's RapidMap online GIS tool, SDSM&T is located in the "Park Forest" zoning district. This district is intended to provide the city with an area to be preserved for its natural beauty and open character. Permitted principal and accessory uses in this zoning district include transportation.

**Figure 2:
Circulation and
Parking Plan**

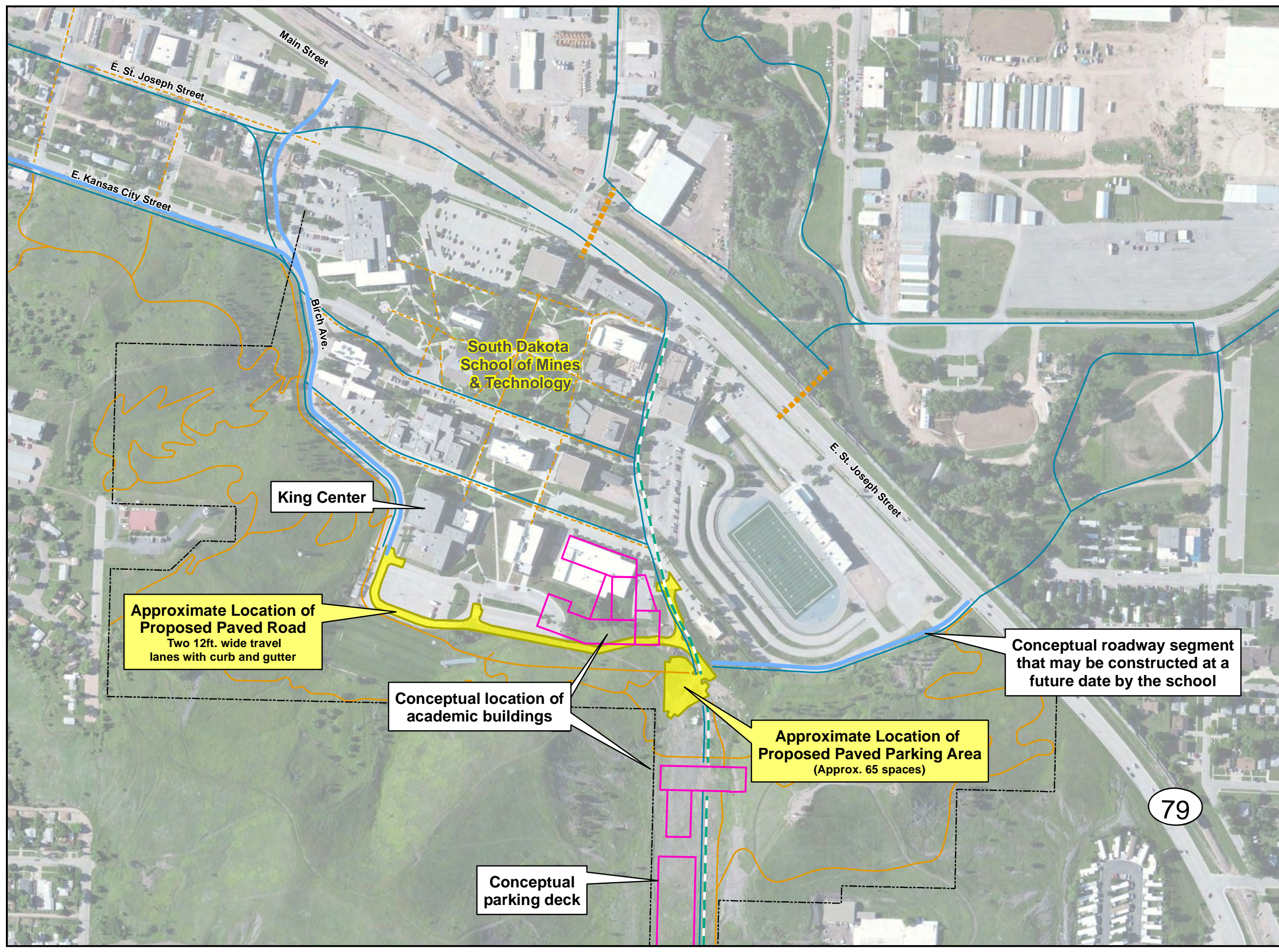
Legend

- Proposed Project
- Conceptual Building Footprint
Final location and layout to be determined by the School of Mines & Technology
- Signature Campus Street
Would integrate pedestrian and bike paths with improved streetscape features
- Limited Access Street
Access can be controlled by the School of Mines & Technology
- Bike Path
- Primary Pedestrian Path
- Potential Foot Bridge
- Turbine Trail (ultimate)
- Campus



1:4,000

Background Image Source:
- South Dakota School of Mines & Technology, Campus Master Plan, October 2011
- Bing (c) 2011 Microsoft Corporation and its data suppliers



According to the City of Rapid City Future Land Use map, the project area is designated as “Public”. The City defines this land use category as an area that “provides for facilities which serve the general public that are operated by the United States of America, the state of South Dakota or any political subdivision which qualifies for exemption from property taxes, or nonprofit organizations” (City of Rapid City 2009).

7.2 Socioeconomics

The Preferred Alternative is located within the limits of SDSM&T and would not disrupt community cohesion or bisect neighborhoods. No residential or business relocations would be required. The Preferred Alternative would provide new access to the south side of SDSM&T for fire, ambulatory and law enforcement personnel in the event of an emergency.

Construction of the Preferred Alternative would provide short-term economic benefits such as the use of local building materials and an increase in temporary construction employment.

7.3 Public Facilities, Utilities and Services

SDSM&T is a state-supported university offering undergraduate and graduate degrees in a number of disciplines. The School is also an important center for research and development for the state, nation and international community.

The Rapid City Fire Department provides a number of services including fire suppression, advanced life support transport services, a technical rescue team, a hazardous materials team, aircraft rescue, and firefighting response and other services. SDSM&T safety personnel regularly monitor the campus and work closely with the Rapid City Police Department in enforcing community, state, and federal laws, in addition to providing education and prevention programs. Rapid City Regional Hospital in Rapid City is the region's leading medical center offering a broad scope of services including emergency care.

In the Rapid City area, Black Hills Power provides electricity, Montana-Dakota Utilities provides natural gas, and Comcast provides cable television. Water, sewer, solid waste disposal and recycling and street operations and maintenance services are provided by the City of Rapid City Public Works Department. Rapid Transit System is the agency that provides fixed route bus service and Dial-A-Ride door to door service in the metropolitan Rapid City area. Between June and August, the agency operates a City Trolley narrated tour of Rapid City with various stops along the route.

7.4 Considerations Relating to Pedestrians and Bicyclists

Under both the Preferred Alternative and the No Action Alternative, bicycle lanes or sidewalks would not be constructed. With the Preferred Alternative, bicyclists would be able to share the road with motorists. The location of the proposed parking area on the perimeter of the campus is in keeping with the school's Campus Master Plan to promote a pedestrian core where the classroom buildings, dormitories, and other school facilities are clustered.

SDSM&T recognizes the requirement of having Americans with Disabilities Act (ADA) accommodation in association with the proposed project. Utilizing existing routes, ADA access to the proposed parking area will be available.

7.5 Water Quality

The Preferred Alternative would create storm water runoff as a result of approximately two acres of impervious surface. Storm water runoff is generated when precipitation from rain and snowmelt events flow over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the runoff is discharged untreated. The primary method to control storm water discharge is the use of best management practices (BMPs) (Environmental Protection Agency 2011).

The South Dakota Department of Environment and Natural Resources (DENR) reviewed the proposed project and has made a determination that it would have little or no impact on the surface water quality in the area (see Appendix A).

The proposed new road and parking area would be constructed to include a storm sewer and inlets in accordance with the City of Rapid City Drainage Criteria Manual. Erosion and sediment control will be in accordance with the 2009 edition of the City of Rapid City Stormwater Quality Manual and the DENR General Permit for Storm Water Discharges Associated with Construction Activities. BMPs will be used for erosion and sediment control, storm water pollution, and environmental damage. An erosion and sediment control plan and a Stormwater Pollution Prevention Plan (SWPPP) will be included in the project construction plans.

7.6 Air Quality

The Rapid City metropolitan area is currently in attainment with the National Ambient Air Quality Standards (NAAQS) established by the US Environmental Protection Agency; DENR performed an air quality review of the proposed project, which is located in the Rapid City Air Quality Control Zone. The Rapid City area has a long history of dust problems and fugitive dust sources contribute a big portion of the dust measured at air monitoring sites in the city. Air pollution levels for dust can exceed the health based NAAQS in periods of dry soil conditions and high winds. Control of these sources is important to protect public health.

The construction and use of the new road and parking area under the Preferred Alternative is not anticipated to adversely affect the air quality in the metropolitan area. BMPs will be in place during construction to minimize fugitive dust emissions. State regulations (Chapter 74:36:18-Regulations for State Facilities in the Rapid City Area) require the contractor of the proposed project to fill out an application and obtain a permit from DENR which requires the control of fugitive dust sources during the construction process (see Appendix A). The project would also enhance travel flow on campus, reducing the time that vehicles are idling and emitting pollutants.

7.7 Hazardous Waste

Facilities or areas where hazardous materials and waste were manufactured, stored, used, or disposed of are not expected to be encountered with the Preferred Alternative. According to correspondence received from the DENR, there are no reported spills or tank releases in the project area (see Appendix A). A review of the US Environmental Protection Agency's website indicated no National Priority List (Superfund) sites in or adjacent to the project area (Environmental Protection Agency 2012).

A visual inspection of the project area in November 2011 by POWER Engineers did not indicate any obvious surface evidence of the use, storage, disposal or manufacture of hazardous materials and waste. Discussions with SDSM&T personnel indicated that three household-type sheds that would be removed as part of the proposed project are not used to store any hazardous waste/materials, but are used just to store equipment related to maintaining the campus grounds.

7.8 Noise

According to FHWA requirements in 23 CFR 772, a noise analysis is required for federally funded transportation projects that include additional through lanes and/or new roadway alignment. The FHWA Traffic Noise Model 2.5 (TNM) Software was used to screen for potential traffic noise impacts. The South Dakota Department of Transportation Noise Analysis and Abatement Guidance (SDDOT 2011) was also followed for this noise analysis. The primary source for existing traffic noise is St. Joseph Street/Highway 79.

An increase in traffic would increase the noise levels in the area; however, these levels would not create a noise impact. A three decibel increase in noise levels is barely perceivable to most observers. The increase in noise levels is below three decibels; therefore, it is unlikely that most observers would detect or perceive a noticeable change in noise levels. The noise levels do not exceed the Noise Abatement Criteria (NAC) identified in 23 CFR 772 at any of the noise receptor locations as predicted by TNM 2.5. The project would not result in traffic noise impacts because the noise levels are below the NAC. See Appendix C for the noise analysis technical report.

7.9 Floodplains and Wetlands

According to the Federal Emergency Management Agency (FEMA) flood insurance map, the project area is located outside of the 100-year floodplain (FEMA 1996) and the Preferred Alternative would not encroach upon the 100-year floodplain.

A review of the National Wetlands Inventory (NWI) database shows that there are no identified wetlands in the project area. According to the US Department of Agriculture's online soil survey (websoilsurvey.nrcs.usda.gov), the soils in the project area [Pierre Urban Land Complex 6-15% slopes; Grummit Urban Land Complex 9-30% slopes] are not hydric soils; hydric soils are an indicator of the presence of wetlands. There are no hydrological sources such as rivers, lakes, and creeks in the project area. Therefore, the Preferred Alternative would not impact wetlands or waters of the United States.

7.10 Historical and Cultural Resources

A cultural resources investigation was conducted and a report (POWER 2011) was prepared for this EA that included a records search and reconnaissance survey. The records search was conducted at the South Dakota State Archaeological Research Center in Rapid City and indicated that 129 cultural resources have been documented within one mile of the project's Area of Potential Effect (APE). However, no cultural resources have been previously documented within the APE boundaries. No new archaeological sites or cultural properties were identified within the APE during the reconnaissance survey conducted on November 16, 2011.

On December 7, 2011, in accordance with Section 106 of the National Historic Preservation Act (36 CFR 800), the South Dakota Department of Transportation solicited comments on this project from the following tribes that have expressed an interest in projects located in Pennington County: Cheyenne River Sioux Tribe, Lower Brule Sioux Tribe, Sisseton-Wahpeton Oyate, Standing Rock Sioux Tribe, Yankton Sioux, Oglala Sioux Tribe, and Three Affiliated Tribes of North Dakota. No comments were received.

A Section 106 recommendation of "No Historic Properties Affected" was submitted to the South Dakota State Historic Preservation Office (SHPO) and the SHPO concurred in a response dated December 15, 2011 (see Appendix A).

7.11 Threatened and Endangered Species

According to correspondence received from the South Dakota Department of Game, Fish and Parks (DGFP), a search of the South Dakota Natural Heritage database for the project area indicated that there are no records of rare, threatened or endangered species that would be affected by the Preferred Alternative. The only documented record in the natural heritage database are in or along Rapid Creek [Mountain Sucker (*Catostomus platyrhynchus*)] – a monitored species. The nearest prairie dog town of any size (habitat for federally endangered Black-footed Ferrets and other monitored species) is located over one mile from the project site.

The US Fish and Wildlife Service (USFWS) lists the following species within Pennington County: whooping crane (*Grus americana*)-endangered, Least tern (*Sterna antillarum*)-endangered, Black-footed ferret (*Mustela nigripes*)-Experimental, Non-essential population, and Sprague's pipit (*Anthus spragueii*)-candidate for listing. The USFWS reviewed the proposed project in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.) and expressed no objection.

Appendix A includes correspondence from both of these agencies.

7.12 Visual Quality

There are no designated scenic vistas, byways or roads in proximity to the project area. The Preferred Alternative would be compatible with the existing and planned campus features.

Residential land use is not prominent in the area. Adverse impacts to visual quality are not anticipated with the Preferred Alternative.

7.13 Energy Consumption

Road and parking lot construction would require the use of fossil fuels, though not in large amounts. Construction equipment and vehicles that construction workers use to commute to the site operate on fuels such as diesel and gasoline. Asphalt is a petroleum-based product that would be used for paving the road. This consumption of petroleum-based products for construction is expected to be minimal and temporary in nature, although the asphalt is permanent.

7.14 Environmental Justice

The project was reviewed with respect to Title VI of the Civil Rights Act (42 U.S.C. § 2000D et seq.) and Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations". According to the SDSM&T, the ethnicity of the student population for the school year 2011-12 is as follows:

- American Indian: 3.4%
- Asian/Pacific: 1.4%
- Black/Non-Hispanic: 0.8%
- Hispanic: 2.9%
- Non-US Citizen: 5.2%
- Other: 1.5%
- White/Caucasian: 84.9%

Source: *Fast Facts 2011-2012* (<http://sdmines.sdsmt.edu/facts>)

Information on poverty status was not available.

The Preferred Alternative is located within the confines of the school campus away from campus housing adjacent parking, open space, athletic practice fields, and campus equipment/material storage. The location of the Preferred Alternative was chosen based on transportation goals and objectives identified in the "Campus Master Plan" and preliminary engineering. With the student population being predominantly white/Caucasian, disproportionately high and adverse effects to low-income and minority population groups as it relates to human health and the environment are not anticipated with the construction of the project.

7.15 Construction Impacts

Construction of the proposed project is anticipated to occur in 2014 and would create temporary construction impacts. These impacts may include disruption of utilities, noise, dust emissions from ground disturbing activities, and traffic control. BMPs to reduce construction impacts are listed and described in Section 8.0-Mitigation.

The acreage to be disturbed during construction exceeds one acre. As a result, a storm water discharge permit under the National Pollutant Discharge Elimination System (NPDES) would be applied for through the DENR. The purpose of the permit, known as the "General Permit for Storm Water Discharges Associated with Construction Activities", is to ensure that storm water discharges from construction activities are controlled and prevented to the extent practicable using BMPs. A Notice of Intent form would be submitted by either the contractor or South Dakota Office of the State Engineer (OSE) requesting coverage under this permit at least 15 days prior to the start of construction.

7.16 Indirect and Cumulative Impacts

Indirect impacts are secondary impacts that are created as a result of a project occurring later in time or farther removed in distance from the project area. Indirect impacts are not anticipated with this project.

Cumulative impacts are those impacts which result from the incremental impact of the project combined with the past, present and reasonably foreseeable future actions. SDSM&T is adopting a phased approach to implementation of the Campus Master Plan. Reasonably foreseeable projects were identified in the Plan's Phase 1A-Short Term (2011-2013) implementation plan and include:

- Construction of student housing outside of the northwest property boundary of the campus at the southwest corner of the E. Saint Joseph Street/Elm Avenue intersection;
- Construction of an inflatable structure or pre-fabricated steel structure on the recreation fields behind the King Center; and
- Improvements to Kansas City Street within the campus north of the project area, including reforestation of the hillside west of the road.

The only cumulative impact from these projects would be an increase in surface water runoff due to the increase in impervious surface created from these projects.

The improvements to Kansas City Street noted above include reconstruction of the road from the Kansas City Street/Birch Avenue intersection on the west side of the SDSM&T campus to the southwest corner of the King Center where this proposed project would begin. Kansas City Street reconstruction is planned for summer 2012 and, coupled with the proposed project, will improve mobility and traffic circulation as well as provide additional campus parking, which are consistent with circulation and parking goals outlined in the Campus Master Plan.

The SDDOT Statewide Transportation Improvement Plan for 2012-2016 and the City of Rapid City Capital Improvement Plan 2011-2016 were reviewed to see if there were planned transportation or other infrastructure projects being constructed or were planned to be constructed in proximity to SDSM&T. The only project that was identified from these plans was a pavement overlay of East St. Joseph Street from East St. Patrick Street to Steele Avenue. The City of Rapid City Department of Community Planning & Development Services is reviewing the final development plan for a proposed six-story apartment building with first floor commercial use to service the on-site residents. This proposed building is

located at East St. Joseph Street and Birch Avenue in proximity to the northeast corner of SDSM&T.

8.0 MITIGATION

Construction of the Proposed Project would not result in impacts to biological, physical or socioeconomic resources or human health and safety in the project area. Therefore, no mitigation is required. BMPs to address temporary and short-term construction-related impacts consist of the following:

- Properly maintained construction equipment to minimize emissions and noise.
- Application of water or chemical stabilizer to reduce fugitive dust on exposed earth.
- Maintaining the construction entrance such that mud tracking and sediment flow would not enter the roadway or adjacent drainage areas.
- Implementation of a SWPPP that includes best management practices and an erosion and sediment control plan for construction storm water runoff.
- Implementation of a Spill Prevention Control and Countermeasures Plan for hazardous materials and waste storage, use, disposal, and spill control during construction.
- Providing alternative travel patterns if detours are necessary.
- Application of grass seed to disturbed areas.
- Construction would primarily occur during daylight hours.

9.0 REFERENCES

- AM Legal. 2012. Rapid City, SD Code of Ordinances-Title 17 (Zoning). Retrieved from www.amlegal.com on January 11, 2012.
- Axiom Points. 2012. Traffic Analysis Report-Loop Road and King Center Parking Extension Project. South Dakota School of Mines and Technology Rapid City, South Dakota; January 30, 2012.
- City of Rapid City. 2012. Rapid City Area Future Land Use Map. Retrieved from Rapid City government website <http://www.rcgov.org/Transportation-Planning/flu-plans.html> on January 11, 2012.
- City of Rapid City. 2012. Zoning map. Retrieved from Rapid City government website <http://www.rcgov.org> -Rapid Map GIS mapping portal on January 11, 2012.
- City of Rapid City. 2011. 2009 Edition of the Stormwater Quality Manual. Retrieved from Rapid City government website <http://www.rcgov.org/Public-Works/> on November 23, 2011.
- City of Rapid City. 2009. Future Land Use Descriptions. Retrieved from Rapid City government website <http://www.rcgov.org/Transportation-Planning/flu-general-information.html> on January 11, 2012
- Environmental Protection Agency. 2012. Superfund information for South Dakota. Retrieved from Agency website <http://www.epa.gov/region8/superfund/sd/index.html> on January 11, 2012.
- Environmental Protection Agency. 2011. Stormwater runoff information. Retrieved from Agency website http://cfpub.epa.gov/npdes/home.cfm?program_id=6, on November 23, 2011.
- Federal Emergency Management Agency (FEMA). 2011. Flood Insurance Rate Map-Community Panel 465420 0008F. City of Rapid City-Pennington County, South Dakota. Map Revised February 16, 1996. Retrieved from FEMA website <http://msc.fema.gov> on November 23, 2011.
- POWER Engineers, Inc. 2011. Intensive Cultural Resources Survey of 1.8 acres for Loop Road West and King Center Parking Extension for the South Dakota School of Mines and Technology Project in Rapid City, Pennington County, South Dakota (Permit # SDCL1-20). December 2, 2011.
- South Dakota Department of Transportation (SDDOT). 2011. Statewide Transportation Improvement Plan. Retrieved from SDDOT website http://www.sddot.com/pe/projdev/planning_stip.asp March 28, 2012

South Dakota School of Mines and Technology (SDSM&T). Fast Facts 2011-2012. Student Demographics. Retrieved from School of Mines and Technology website <http://sdmines.sdsmt.edu/facts> on February 7, 2012.

South Dakota School of Mines and Technology. 2011. Campus Master Plan. October 2011.

US Department of Agriculture. 2012. Hydric soils data for Rapid City area retrieved from Department's Web Soil Survey from <http://websoilsurvey.nrcs.usda.gov/app> on February 7, 2012.

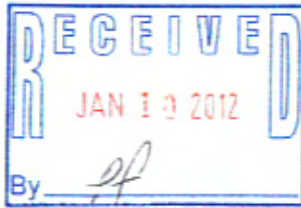
US Fish and Wildlife Service (USFWS). 2011. National Wetlands Inventory. Online map database-retrieved National Wetland Inventory maps from website <http://www.fws.gov/wetlands/> on November 23, 2011.

APPENDIX A

Agency Correspondence

AGENCY CORRESPONDENCE

DATE OF CORRESPONDENCE	FROM	TOPIC(S)
January 4, 2012	Scott Larson, US Fish and Wildlife Service	Project review for protected species; No objection determination stamped on returned consultation letter
December 29, 2011	John Miller, Environmental Program Scientist, South Dakota Department of Environment and Natural Resources	Surface water quality determination and approval is stamped on returned consultation letter
December 15, 2011	Amy Rubingh, South Dakota State Historic Preservation Office	Concurrence on South Dakota Department of Transportation Section 106 Determination of No Historic Properties Affected stamped on returned consultation letter sent by South Dakota Department of Transportation
December 6, 2011	Brad Schultz, ES Manager I, South Dakota Department of Environment and Natural Resources-Air Quality Program	Project Air Quality Review
December 2, 2011	Robert McDonald, South Dakota Department of Environment and Natural Resources	Spills and tank releases; Resource Conservation and Recovery Act (RCRA) database search
November 28, 2011	David Ode, Acting Coordinator, South Dakota Natural Heritage Database-South Dakota Game, Fish and Parks Department	Natural Heritage review for rare, threatened or endangered species



POWER ENGINEERS, INC.
ENERGY, FACILITIES, COMMUNICATIONS

2041 SOUTH COBALT POINT WAY
MERIDIAN, ID 83642

PHONE 208-288-6100
FAX 208-288-6199

This constitutes a report of the Department of the Interior prepared in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). We have reviewed and have NO OBJECTION to this proposed project.

1/4/12 Date *Scott Johnson* Supervisor

November 28, 2011

Natalie Gates
U.S. Fish & Wildlife Service
420 Garfield – Suite 400
Pierre, SD 57501-5408

Subject: Proposed Loop Road and King Center Parking Extension, South Dakota School of Mines and Technology, Rapid City, Pennington County SD;
Section 6, Township 1N, Range 8E

Dear Ms. Gates:

POWER Engineers is preparing an environmental assessment for the South Dakota Office of the State Engineer for the proposed construction of a new road and paved parking area (approximately 65 spaces) on the campus of the South Dakota School of Mines and Technology (SDSM&T) in Rapid City, South Dakota. This project will be funded, in part, with money from the federal government. The new road would be approximately 1/3 mile long, consisting of two 12-foot wide paved travel lanes (one in each direction) with curb and gutter. The purpose of the project is to enhance traffic circulation and transportation operations on the SDSM&T campus. The proposed corridor where the road would be constructed is situated in a generally developed area on the south side of the campus with vegetation consisting primarily of grasses and a few deciduous trees.

We are requesting your assistance in identifying any threatened, endangered, and/or sensitive species with the potential to occur in or in proximity to the study area as well as any general concerns that your agency may have about the proposed project. We would appreciate receiving your response by December 30, 2011.

Thank you for your assistance. If you have any questions or need additional information, please contact me at (208) 288-6100 x6462.

Sincerely,

Steve Linhart
Senior Environmental Planner

Enclosures: 1 Map
c: Victoria Jobs, EIT (SD Office of the State Engineer)
DMS 124591 PER 01

IF ENCLOSURES ARE NOT AS NOTED. PLEASE NOTIFY US AT ONCE.



SURFACE WATER QUALITY DETERMINATION

It appears, based on the information provided, that this project will have little or no impact on the surface water quality in this area. ~~This project is approved.~~

Approved By: John Miller

Date: 12-29-2011

(605) 773-3351 FAX - (605) 773-5286

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

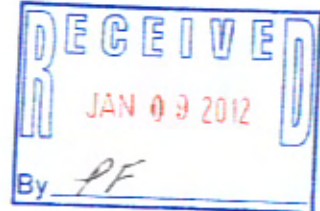
POWER ENGINEERS, INC.

ENERGY, FACILITIES, COMMUNICATIONS

2041 SOUTH COBALT POINT WAY
MERIDIAN, ID 83642

PHONE 208-288-6100

FAX 208-288-6199



November 28, 2011

John Miller
Environmental Program Scientist
South Dakota Dept. of Environmental & Natural Resources
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3181

Subject: Proposed Loop Road and King Center Parking Extension, South Dakota School of Mines and Technology, Rapid City, Pennington County SD; Section 6, Township 1N, Range 8E

Dear John:

POWER Engineers is preparing an environmental assessment for the South Dakota Office of the State Engineer for the proposed construction of a new road and paved parking area (approximately 65 spaces) on the campus of the South Dakota School of Mines and Technology (SDSM&T) in Rapid City, South Dakota. This project will be funded, in part, with money from the federal government. The new road would be approximately 1/3 mile long, consisting of two 12-foot wide paved travel lanes (one in each direction) with curb and gutter. The purpose of the project is to enhance traffic circulation and transportation operations on the SDSM&T campus. The proposed corridor where the road would be constructed is situated in a generally developed area on the south side of the campus with vegetation consisting primarily of grasses and a few deciduous trees.

We are requesting your assistance in identifying any general concerns or requirements that your agency may have about the proposed project. We understand that because this project will disturb more than one acre, coverage under the "General Permit for Storm Water Discharges Associated with Construction Activities" will need to be obtained. We would appreciate receiving your response by December 30, 2011.

Thank you for your assistance. If you have any questions or need additional information, please contact me at (208) 288-6100 x6462.

Sincerely,

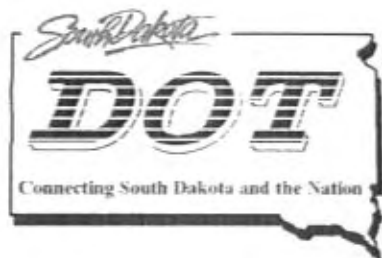
Steve Linhart
Senior Environmental Planner

Enclosures: 1 Map

c: Victoria Jobs, EIT (SD Office of the State Engineer)
DMS 124591 PER 01

RECEIVED
DEC 01 2011
SURFACE WATER PROGRAM

IF ENCLOSURES ARE NOT AS NOTED. PLEASE NOTIFY US AT ONCE.



Department of Transportation
Office of Project Development
Environmental Office
700 E Broadway Avenue
Pierre, South Dakota 57501-2586
605/773-3268 Fax: 605/773-6608

DEC 09 2011
South Dakota
SHPO

December 7, 2011

Amy Rubingh, Review & Compliance Archaeologist
State Historic Preservation Office
Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501-2217

RE: Project EM 8052(65), PCN 03KG, Pennington County
SD School of Mines & Technology (SDSM&T) Connector Road
Environmental Assessment

Dear Ms. Rubingh:

Attached for your review is a cultural resources survey report, entitled, *A Letter Report on an Intensive Cultural Resources Survey of 1.8 acres for Loop road West and King Center Parking Extension for the South Dakota School of Mines and Technology Project in Rapid City, Pennington county, South Dakota (Permit # SDCL 1-20)*, by Johanna Marty.

SHPO Concurrence to a determination of 'No Historic Properties Affected' was received on April 6, 2009 to this project's original proposed alignment. This letter has also been attached for your review. An updated Environmental Assessment is currently being conducted on this project due to a proposed new alignment. The purpose of the update project is to enhance traffic circulation and transportation operations at SDSM&T. The updated proposed project includes the construction of a new road and a paved parking area on the SDSM&T campus. The new road would be constructed from near the southwest corner of the King Center (an intramural sports facility) to the vicinity of the Black Hills Business Development Center with an approximate 200-foot spur road to the north to tie into an existing campus road. The road would consist of two 12-foot wide lanes (one in each direction) with curb and gutter on both sides. A retaining wall is part of the preliminary design as slope stability may be a concern. A new paved parking area would also be constructed at the east end of the project area approximately 100 feet southwest and upslope of the campus daycare center. The parking lot is anticipated to have approximately 65 spaces.

The cultural resources survey report ascertained that no previously recorded or newly identified cultural resources will be impacted by this project.

The report recommends that a Section 106 finding of No Historic Properties Affected be granted for this project. The SDDOT concurs and requests SHPO concurrence in a Section 106 determination of *No Historic Properties Affected* for this project.

Sincerely,



Tom Lehmkuhl
Environmental Engineer
Office of Project Development
605.773.3180

SECTION 106 DETERMINATION

Based upon the information provided to the South Dakota State Historic Preservation Office on 12/9/11 we concur with your agency's determination of "No Historic Properties Affected" for this undertaking.

Gary D. Vost
State Historic Preservation Officer (SHPO)
By: Gary Ruben
12/15/11 111209005F
Date SHPO Project #

Attachment

Pursuant to 36 CFR part 600.10, if historic properties are discovered or unanticipated effects on historic properties found after the agency official has completed the Section 106 process, the agency official shall avoid, minimize or mitigate the adverse effects to such properties and notify the SHPO/THPO, and Indian tribes that might attach religious and cultural significance to the affected property within 48 hours of the discovery.

SECTION 106 CONSULTATION
Concurrence of the State Historic Preservation Office does not relieve the federal agency official from consulting with other appropriate parties, as described in 36 CFR Part 600.2(c).



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

December 6, 2011

Mr. Steve Linhart
Power Engineers Inc.
2041 South Cobalt Point Way
Meridian, ID 83642

Dear Steve Linhart:

The air quality review of your November 28, 2011, letter describing the proposed Loop Road and King Center Parking Extension project in Rapid City has been completed. The project will be located in the Rapid City Air Quality Control Zone and the project appears to include the alteration of more than one acre of land on state owned or controlled property.

If appear the project is subject to Chapter 74:36:18-Regulations for State Facilities in the Rapid City Area. The regulations require the contractor to fill out an application and get a permit which requires the control of fugitive dust sources during the construction process. A state application can be obtained from the department's regional office in Rapid City by contacting Jim Anderson at 605-394-2385.

The Rapid City area has a long history of dust problems and fugitive dust sources contribute a big portion of the dust measured at the air monitoring sites in the city. Air pollution levels for dust can exceed the health based National Ambient Air Quality Standard in periods of dry soil conditions and high winds. Control of these sources is important to protect public health and the continued growth of Rapid City.

If you have questions or require further information please contact me at 605-773-6038. Thank you for supplying the information to the Air Quality Program for review.

Sincerely,

Brad Schultz
ES Manager I
SD Air Quality Program
605-773-6038

cc: Jim Anderson, DENR Regional Office Rapid City

Steve Linhart 6462

From: Robert.McDonald@state.sd.us
Sent: Friday, December 02, 2011 8:06 AM
To: Steve Linhart 6462
Cc: Mike.Tietz@state.sd.us; Kim.McIntosh@state.sd.us
Subject: Information Request
Attachments: SDMTSpills.gif; KMBT36220111201163446.pdf

Mr. Linhart,

Kim McIntosh forwarded your information request to me regarding the Loop Road project at the SD School of Mines and Technology. Attached is a map showing the locations of all reported releases and storage tanks in the vicinity of the project at SDSM&T. If you have any questions about any of these please contact me. Mike, Kim wanted me to forward this to you as well so that you are aware of any potential issues that may arise during this project. I have also attached the original information request letter.

Bob McDonald
SD DENR
605-773-4549



Steve Linhart 6462

From: Dave.Ode@state.sd.us
Sent: Monday, November 28, 2011 1:19 PM
To: Steve Linhart 6462
Subject: SD SM&T project area T&E Search

Hello Steve,

I have searched the SD Natural Heritage Database for any documented records of rare, threatened or endangered species in Section 6, T1N R8E including the SD School of Mines and Technology Campus. The only documented records in our database from this section are in or along Rapid Creek, e.g. Mountain Sucker (*Catostomus platyrhynchus*) - a monitored species. Of course, the lack of past documentation does not necessarily mean the absence of rare species.

I also looked at our 2008 prairie dog survey map and it looks like the nearest prairie dog town of any size (habitat for federally endangered Black-footed Ferrets and other monitored species) is located over one mile away from your project site.

As a state project, there is no charge for this data report.

If you have any questions don't hesitate to call or write.

Sincerely,

David J. Ode
Acting Coordinator
SD Natural Heritage Database
Game, Fish & Parks Department
523 East Capitol Avenue
Pierre, SD 57501

ph: 605-773-4227
email: dave.ode@state.sd.us
fax: 605-773-6245

APPENDIX B

Site Photographs-November 2011

Facing west towards practice field and parking lot.



Facing east toward campus equipment storage area.



Facing northwest toward small drainage facility, downslope of proposed road location. The King Center (L) and Black Hills Business Development Center (R) are in background.



Facing southeast toward gravel lot/campus equipment/material storage area where the proposed parking area would be constructed.



APPENDIX C

Noise Analysis Report

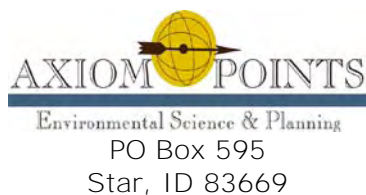
**Traffic Noise Analysis
for
Loop Road and King Center Parking Extension
Project**

**South Dakota School of Mines and Technology
Rapid City, SD**

Prepared for:

POWER Engineers
2041 South Cobalt Point Way
Meridian, Idaho 83642

Prepared by:



January 30, 2012

Table of Contents

Regulatory Requirements and Definitions.....	1
Noise Criteria	1
Noise Measurements.....	2
Methodology and Assumptions	3
Impact Analysis and Conclusions	4
Appendix: 23 CFR 772 Noise Abatement Criteria	5

Regulatory Requirements and Definitions

According to Federal Highway Administration (FHWA) requirements 23 CFR 772, a noise analysis is required for federally funded transportation projects that include additional through lanes and/or new roadway alignment. The FHWA Traffic Noise Model 2.5 (TNM) Software was used to screen for potential traffic noise impacts associated with the Loop Road and King Center Parking Extension project, within the South Dakota School of Mines and Technology Campus in Rapid City, South Dakota.

The purpose of the proposed project is to enhance traffic circulation and transportation operations at the South Dakota School of Mines and Technology. The proposed project includes the construction of a new road and a paved parking area on the campus. The new road would be constructed from near the southwest corner of the King Center (an intramural and varsity sports facility) to the vicinity of the Black Hills Business Development Center with an approximate 200-foot spur road to the north to tie into an existing campus road. The road would consist of two 12-foot wide lanes (one in each direction) with curb and gutter on both sides. A new paved parking area would also be constructed at the east end of the project area approximately 100 feet southwest and upslope of the campus daycare center. The parking lot is anticipated to have approximately 65 spaces.

Sound is created when an object vibrates and radiates part of its energy as acoustic pressure or waves through a medium such as air or water, or through a solid object. Sound levels are expressed in units called decibels (dB), while the A-weighted sound level in decibels is referred to as dBA. Typical sound levels experienced by humans range from approximately 40 dBA, the daytime level in a typical quiet living room, to 85 dBA, the approximate level produced by a food blender at 3 feet.

Noise Criteria

To properly assess noise impacts associated with roadway projects, noise-sensitive land uses and activities (receptors) in the vicinity must first be identified and analyzed. Anticipated changes in noise levels for these sensitive areas are evaluated during peak hour conditions (anticipated future traffic volumes based on design) when noise levels are expected to be highest.

The South Dakota Department of Transportation (SDDOT) Noise Analysis and Abatement Guidance, effective date July 13, 2011, indicate that traffic noise impacts occur under either of the following conditions:

- When the comparison of predicted design year traffic noise levels to federally defined noise abatement criteria (NAC), levels for various land use activity categories are approached or exceeded. Approach is defined as at or within 1 dBA of the NAC, or greater than 66 dBA, for land use that includes active sports areas, day care centers, parks, schools). FHWA defines this as Category C. Land use in the project area is Category C. See Appendix for FHWA’s Noise Abatement Criteria table.
- When the predicted design year traffic noise levels substantially exceed the existing noise level. Substantial is defined as 15 dBA or greater.

If a traffic noise impact is predicted, FHWA procedures and SDDOT guidelines indicate that mitigation should be considered.

Noise Measurements

Presently, the project area is comprised of vacant land and the South Dakota School of Mines and Technology campus, including the stadium and track area. The noise receptors in the project area are R1, R2, and R3 as shown in Table 1 and Figure 1.

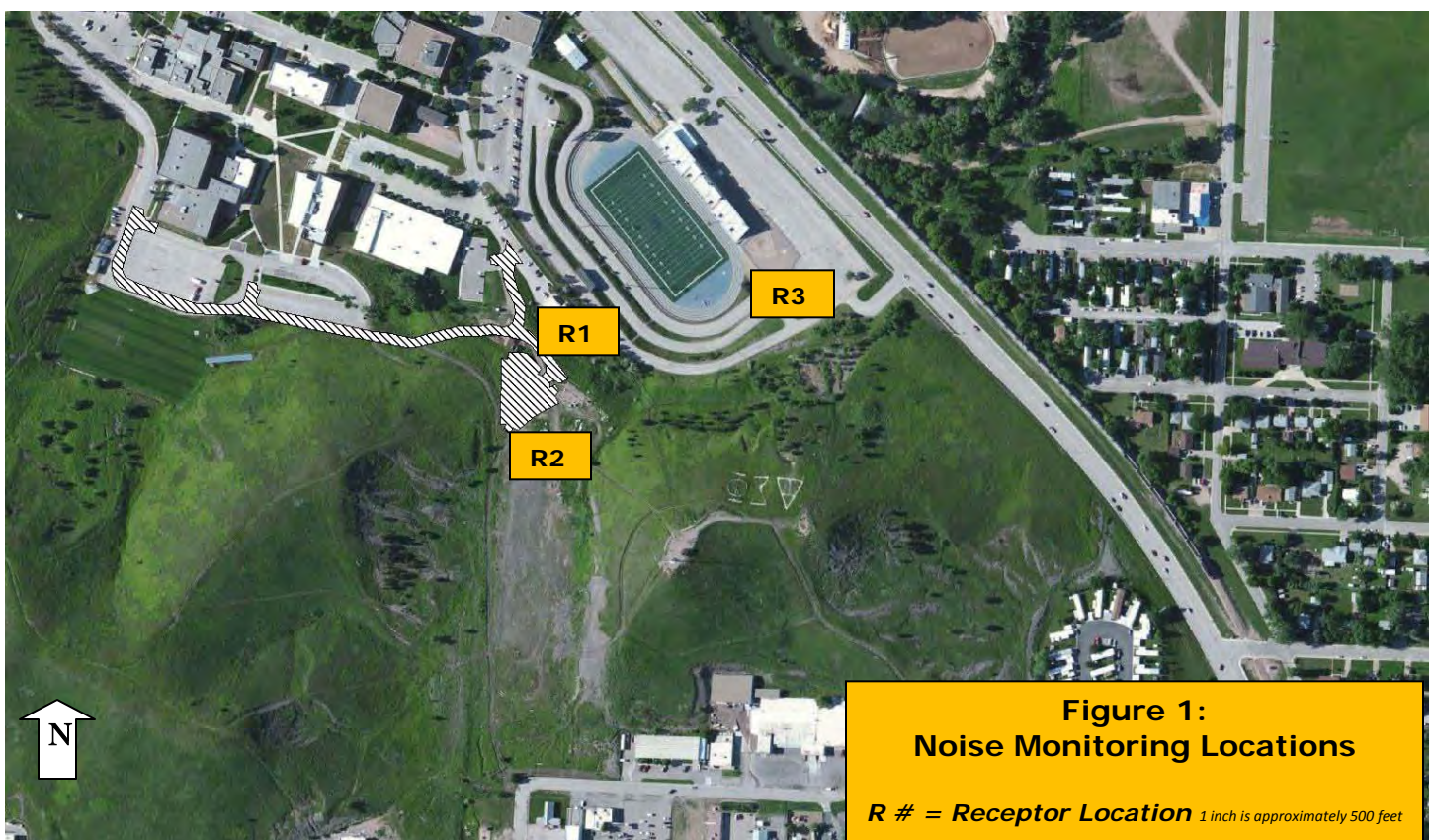
Existing noise levels were recorded with a Larson-Davis, Model LXT, Type I sound level meter and readings were taken on March 17, 2009 between the times of 4:00 p.m. to 5:30 p.m. and on March 18, 2009 between 7:00 a.m. and 7:30 a.m. Traffic, by vehicle class, located on St. Joseph Street was counted during monitoring times to obtain traffic counts for monitoring locations. Meteorological conditions such as temperature, humidity, and wind speed were recorded before and after each measurement. Other noise sources that were not from traffic along nearby roadways were noted during each measurement. Noise measurements were taken until noise levels during a particular sample timeframe (15 minutes) stabilized and a minimum of three measurements were obtained at each monitoring location. Repeat measurements were obtained until the measurements agreed within 1 dBA. The noise meter was calibrated before and after each set of measurements. Although the analysis of noise impacts focuses on future traffic noise, these readings help to establish current noise levels in the project area.

Ambient or existing noise level readings were taken at three representative noise-sensitive locations (Receptor [R]) shown in Table 1. The monitoring locations are also shown in Figure 1.

TABLE 1: SUMMARY OF AMBIENT NOISE LEVEL MEASUREMENTS

Monitoring Location	Location Description	Ambient Noise Level (dBA)
R1	Kids Kastle Little Miner’s Clubhouse, 501 E. St. Joseph St.	61
R2	Near the corner of proposed parking lot	53
R3	Near access road to campus by stadium	57

Based on the existing noise measurements, there were no locations which indicated that the noise levels are currently exceeding the noise abatement criteria. The primary sources for existing traffic noise is St. Joseph Street. Traffic counts obtained during noise measurements from 2009 were compared with traffic volumes from 2011, in order to determine if new measurements should be obtained. Because traffic counts were similar; it was determined new measurements were not necessary. While the ambient noise measurements are higher than the TNM noise level at receivers 1 and 2; there are reasons for the variation. This is mainly due to vehicles passing near the microphone, including a motorcycle; the duration of the measurement (15 min) and due to higher truck volumes on St. Joseph Street. At receiver 3; the ambient and TNM noise levels are the same, which provides a reference that the TNM does not need adjustment.



Methodology and Assumptions

Noise sensitive land uses were identified adjacent to the proposed corridor of the new loop road and parking extension area south of the stadium and campus. Noise sensitive areas at various setbacks from the proposed corridor were considered.

The noise analysis was based on an assumed worse-case scenario where no shielding from topography would occur between the proposed road alignments and the receivers. Input of project data for the 2030 (Ultimate Build) Scenario into TNM 2.5 assumed the following peak traffic volumes, speeds and roadway section: 1783 cars, 56 medium trucks, 37 heavy trucks and

2 motorcycles; speed of 35 mph; two 12-ft. travel lanes, two 2-ft. shoulders. The traffic volumes were estimated by using 12 % of the daily traffic volume counts and an annual growth rate of 2.5 %. These numbers were based on the Rapid City Area Planning Organization's, *2010 Traffic Volume Counts Report*, (February 2011) and the *Rapid City Area 2030 Long Range Transportation Plan* (September 2005). Traffic volumes were assessed on the existing East St. Joseph Street. It was assumed that 5% of the total traffic would comprise the volume of the loop road. Vehicle classifications for cars, medium trucks, and heavy trucks were derived from traffic data obtained March 17 and 18 while recording traffic noise measurements.

Impact Analysis and Conclusions

The following table provides a summary of the noise receptors and corresponding noise levels compared to the average existing noise level.

TABLE 2: EXISTING AND FUTURE NOISE LEVELS

Summary of TNM 2.5 Noise Analysis				
Receptor	Noise Level [Leq (h)]		Increase over Existing (dBA)	Impacted?*
	Existing 2011	Future 2030		
1	48	50	2	No
2	43	44	1	No
3	53	54	1	No

*The NAC for Activity Category C is 66 Leq (h) per SDDOT Noise Analysis and Abatement Guidance (July 2011).

The highest increase in noise levels would be experienced at receptor 1 in the area near the loop road and parking area where currently only a parking lot exists. The new loop road would provide for through traffic. This increase in traffic would increase the noise levels in the area; however, these levels would not create a noise impact. A 3 decibel increase in noise levels is barely perceivable to most observers. The increase in noise levels is below a 3 decibel increase. Therefore, it is unlikely that to most observers there would a noticeable change in noise levels at receptors 1-3. The noise levels do not exceed the NAC at any of noise receptor locations as predicted by TNM 2.5. The project would not result in traffic noise impact because the noise levels are below the NAC.

Appendix: 23 CFR 772 Noise Abatement Criteria

The following table summarizes noise abatement criteria corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

23 CFR 772 Noise Abatement Criteria [Hourly A-Weighted Sound Level_decibels (dB(A)) ¹]				
Activity Category	Activity Leq(h)	Criteria ² L10(h)	Evaluation Location	Activity Description
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve as an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ³	67	70	Exterior	Residential
C ³	67	70	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E ³	72	75	Exterior	Hotels, motels, office, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	---	---	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing
G	---	---	---	Undeveloped lands that are not permitted

¹ Either Leq(h) or L10(h) [but not both] may be used on a project

² The Leq(h) and L10(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

³ Includes undeveloped lands permitted for this activity category.