



***SURFACE TRANSPORTATION BOARD***  
***Washington, DC 20423***

*Section of Environmental Analysis*

September 27, 2000

Dear Reader:

The Surface Transportation Board's Section of Environmental Analysis (SEA) is pleased to provide you with the enclosed environmental document for the Dakota, Minnesota & Eastern Railroad Corporation's (DM&E) proposed rail line construction into Wyoming's Powder River Basin. Depending upon your request, you are receiving:

- The Executive Summary of the Draft Environmental Impact Statement.
- The Draft Environmental Impact Statement (Hard Copy).
- The Draft Environmental Impact Statement (CD-ROM).

This Draft Environmental Impact Statement was prepared by SEA in cooperation with the U.S. Department of Agriculture, Forest Service (USFS), the U.S. Department of the Interior, Bureau of Land Management (BLM), the U.S. Army Corps of Engineers (COE), the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), and the U.S. Coast Guard (Coast Guard). Under the requirements of the National Environmental Policy Act, the Board is the lead agency for preparing the Draft Environmental Impact Statement, and USFS, BLM, COE, Reclamation, and the Coast Guard are cooperating agencies. DM&E's proposal would require decisions from the Board and each of the five cooperating agencies.

The Draft Environmental Impact Statement discusses the potential environmental impacts that could result from the proposed Powder River Basin Expansion Project and includes SEA's preliminary recommendations for mitigating possible environmental effects. The Draft Environmental Impact Statement reflects SEA's independent analysis and considers the views of Federal, state, and local agencies, Tribes, ranchers, farmers, communities, homeowners, organizations, businesses, and environmental groups.

**Availability of the Draft Environmental Impact Statement**

Because the Draft Environmental Impact Statement is quite large – over 2,000 pages and several volumes – SEA has made the entire document available to key governmental agencies and other appropriate entities, parties of record, and those who specifically requested the entire document in response to a postcard mailing this past June.

SEA has also distributed the Draft Environmental Impact Statement to over 80 public libraries and asked that the Draft Environmental Impact Statement be made available in their reference section. To obtain the name of the library nearest you that has received the Draft Environmental Impact Statement, please call the Environmental Hotline at 1-877-404-3044, and leave your name, address and telephone number. The entire document also is available on the Board's website at <http://www.stb.dot.gov>.

### **Public Comment and Review of the Draft Environmental Impact Statement**

The Environmental Protection Agency will publish a notice in the Federal Register announcing the availability of the Draft Environmental Impact Statement. This notice starts the clock running on the public comment period. The notice should appear on October 6, 2000. The public has 90 days to provide comments on the Draft Environmental Impact Statement. All comments must be postmarked no later than 90 days from the expected October 6<sup>th</sup> publication date (**January 5, 2001**).

The public and any interested parties are encouraged to make written comments on all aspects of the Draft Environmental Impact Statement. SEA will consider all comments in preparing the Final Environmental Impact Statement, which will include SEA's final conclusions on potential significant impacts and SEA's final recommendations, including mitigation. The Board will then make its final decision regarding this project and any environmental conditions it might impose. When considering whether to grant final approval of the proposed transaction, the Board will consider the potential environmental effects and the cost of any environmental mitigation it might impose on the project.

### **Public Comment and Review of Related Materials**

SEA also invites comments on the Programmatic Agreement and Identification Plan, the Memorandum of Agreement, the Biological Assessment, and the Forest Plan Amendments, which are set forth in the Appendices to the Draft Environmental Impact Statement. SEA advises that comments on the Forest Plan Amendments should be filed directly with the USFS. Please send written comments on the Forest Plan Amendments to Wendy Schmitzer, USFS Project Coordinator, Douglas Ranger District, 2250 East Richards Street, Douglas, Wyoming, 82633, or call (307) 358-1634. You may email comments on the Forest Plan Amendments to: [wschmitzer@fs.fed.us](mailto:wschmitzer@fs.fed.us).

Finally, SEA advises that comments on the U.S. Army Corps of Engineers permitting requirements under Section 404 of the Clean Water Act, specifically on DM&E's Section 404 Permit Applications, should be filed directly with the appropriate COE district office. Please send comments on the Section 404 Permit Application relating to Minnesota to Mr. Timothy Fell, U.S. Army Corps of Engineers, St. Paul District, 190

5<sup>th</sup> Street East, St. Paul, MN, 55101-1638. Please send comments on the Section 404 Permit Application relating to South Dakota and Wyoming to Mr. Jerry Folkers, U.S. Army Corps of Engineers, Omaha District, 215 North 17<sup>th</sup> Street, Omaha, NE, 68102-4978.

When submitting comments on the Draft Environmental Impact Statement and the recommended environmental mitigation, please be as specific as possible and substantiate your concerns and recommendations.

Please mail written comments on the Draft Environmental Impact Statement to the address below. For comments exceeding five pages in length, please mail a signed original plus 10 copies. For comments five pages or less, a signed original is sufficient. Comments must be mailed by **January 5, 2001** to:

Office of the Secretary  
Case Control Unit  
STB Finance Docket No. 33407  
Surface Transportation Board  
1925 K Street, N.W.  
Washington, D.C. 20423-0001

Please write the following in the lower left hand corner of the envelope:

Attention: Victoria Rutson  
Environmental Project Manager  
Environmental Filing

### **Public Meetings**

In addition to receiving written comments on the Draft Environmental Impact Statement, SEA will host 12 public meetings on the Draft Environmental Impact Statement at the locations and times, and on the dates listed below. At each meeting, SEA and the participating cooperating agencies will give a brief presentation and interested parties may submit written comments or make oral comments. All public meetings will follow the same format and agenda. SEA will have a transcriber available at each meeting to ensure that oral comments are accurately captured. In some locations, two meetings will be held. Both the afternoon and evening meetings will follow the same format and agenda; it is not necessary to attend both meetings.

Meetings will be held at the following locations and at the dates and times indicated below:

**Douglas, WY**

Best Western Douglas Inn  
1450 Riverbend Drive  
Douglas, WY 82633  
Monday, October 30, 2000  
6:00 - 10:00 p.m.

**Brookings, SD**

Brookings Inn  
2500 East 5<sup>th</sup> Street  
Brookings, SD 57006  
Tuesday, November 14, 2000  
1:00 - 4:00 p.m. and  
6:00 - 10:00 p.m.

**Newcastle, WY**

The Fountain Inn  
2 Fountain Plaza  
Newcastle, WY 82701  
Wednesday, November 1, 2000  
1:00 - 4:00 p.m. and  
6:00 - 10:00 p.m.

**Mankato, MN**

Best Western Hotel and Restaurant  
1111 Range Street  
North Mankato, MN 56003  
Wednesday, November 15, 2000  
1:00 - 4:00 p.m. and  
6:00 - 10:00 p.m.

**Rapid City, SD**

Rushmore Plaza Civic Center  
444 Mount Rushmore Road North  
Rapid City, SD 57701  
Thursday, November 2, 2000  
6:00 - 10:00 p.m.

**Rochester, MN**

Mayo Civic Center  
30 Civic Center Drive South East  
Rochester, MN 55904  
Thursday, November 16, 2000  
1:00 - 4:00 p.m. and  
6:00 - 10:00 p.m.

**Pierre, SD**

Best Western Kings Inn  
200 South Pierre  
Pierre, SD 57501  
Monday, November 13, 2000  
1:00 - 4:00 p.m. and  
6:00 - 10:00 p.m.

SEA will also conduct a meeting specifically for interested Tribes and Tribal organizations, as part of the formal government-to-government consultation process on the Draft Environmental Impact Statement.

**Pre-Registration for Public Meetings:** Persons wanting to speak at a public meeting are strongly urged to pre-register by calling the toll-free Environmental Hotline for this project at 1-877-404-3044 and leave their name, telephone number, the name of any group, business, or agency affiliation, if applicable, and the date and time of the meeting at which they wish to speak. The deadline for pre-registration for all meetings is **October 20, 2000**.

Persons will be called to speak at each meeting in the order in which they pre-registered. Those wishing to speak but that did not pre-register will be accommodated at each meeting as time allows. Those wishing to speak at more than one meeting will also be accommodated as time allows and after all others have had an opportunity to participate. As SEA would like as many persons as possible to participate and given that there will be a limited amount of time at each meeting, all speakers are strongly encouraged to prepare summary oral comments, and submit detailed comments in writing. SEA also encourages groups of individuals with similar comments to designate a representative to speak for them.

Thank you for your interest and participation in this process. If you have any questions regarding how to comment on the Draft Environmental Impact Statement, please feel free to call the toll-free Environmental Hotline for this project at 1-877-404-3044. We welcome your comments.

Sincerely,

A handwritten signature in cursive script that reads "Elaine K. Kaiser".

Elaine K. Kaiser

Chief

Section of Environmental Analysis

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**SURFACE TRANSPORTATION BOARD**  
**Finance Docket No. 33407**

**Dakota, Minnesota and Eastern Railroad Corporation**  
**Powder River Basin Expansion Project**

**GUIDE TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**

This Draft Environmental Impact Statement (Draft EIS) evaluates the potential environmental effects that could result from the Dakota, Minnesota & Eastern Railroad Corporation's (DM&E) proposed Powder River Basin Expansion Project. The project involves construction of new rail for a total of nearly 300 miles and rehabilitation of approximately 600 miles of DM&E's existing rail line. The Surface Transportation Board's Section of Environmental Analysis (SEA), in cooperation with U.S. Department of Agriculture, Forest Service (USFS); U.S. Department of Interior, Bureau of Land Management (BLM); U.S. Army Corps of Engineers (COE); U.S. Department of Interior Bureau of Reclamation (Reclamation); and U.S. Coast Guard; has prepared this document in accordance with the requirements of the National Environmental Policy Act (NEPA) 42 U.S.C. 4321, Council of Environmental Quality (CEQ) regulations implementing NEPA, the Board's environmental rules (49 CFR Part 1105), and other applicable environmental statutes and regulations.

The Draft Environmental Impact Statement includes the following:

An **Executive Summary** which provides an overview and summary of the Draft EIS, including proposed mitigation, glossary of terms, list of acronyms and the references used in preparing the Draft EIS.

**Volume I: Chapters 1 and 2**

- Chapter 1 discusses the purpose and need for the project and sets forth the jurisdiction of the Surface Transportation Board (Board) and cooperating agencies. How the Applicant proposes to construct, operate and maintain the rail line and facilities associated with the project is also described. Chapter 1 also presents SEA's environmental review process and the agency coordination and public participation processes.
- Chapter 2 presents an overview of the proposed Action and Project, including the No-Build Alternatives, evaluated during SEA's environmental review process for each of the project's components.

**Volume II: Chapter 3 - Minnesota**

- Chapter 3 describes and evaluates proposed constructions and existing rail line reconstruction activities and alternatives in Minnesota. Sections include existing conditions, potential impacts resulting from reconstruction, proposed new constructions, bypasses, and rail yards.

**Volume III: Chapter 4 - South Dakota and Wyoming**

- Chapter 4 describes and evaluates proposed construction and existing rail line reconstruction activities and alternatives in South Dakota and Wyoming. Sections include potential impacts resulting from the proposed rail line reconstruction and extension, alternatives for segments of the proposed extension, proposed bypasses, and proposed rail yards.

**Volume IV: Chapters 5-7**

- Chapter 5 presents the cumulative impacts of the proposed PRB Expansion Project. Additionally, the cumulative potential impacts of the project and other unrelated proposed projects are presented for the project area in Minnesota, South Dakota, and Wyoming.
- Chapter 6 presents SEA's preliminary conclusions and recommendations regarding the identification of environmentally preferred alternatives.
- Chapter 7 presents SEA's preliminary mitigation recommendations to the Board.

**Volume V: Maps**

- This volume contains maps of the entire project area with the proposed route alternatives, proposed bypasses, rail yard locations, reconstruction segments, and extension alternatives shown.

**Volume VI: Appendices A-C**

- Appendix A contains the STB decisions issued for the PRB Expansion Project.
- Appendix B contains agency correspondence.
- Appendix C sets forth scoping materials. A summary of comments on the draft and final scope of the proposed project is provided. A blank comment sheet distributed during scoping meetings is included.

**Volume VII: Appendices D-H**

- Appendix D provides the methodology for the evaluation of environmental justice areas and outreach for environmental justice communities.
- Appendix E contains the methodology and supporting data for the evaluation of potential effects for air quality.
- Appendix F contains the methodology and supporting data for the evaluation of potential impacts due to noise generated by rail traffic.
- Appendix G contains the methodology and supporting data for potential transportation related impacts.
- Appendix H contains the methodology and supporting data for potential grade crossing safety related impacts.

**Volume VIII: Appendices I-N**

- Appendix I provides the Memorandum of Agreement developed by the Native American Tribes, STB, and DM&E.
- Appendix J provides the Programmatic Agreement and Identification Plan developed by the Native American Tribes, STB, Cooperating Agencies, the Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO), and DM&E.
- Appendix K provides the Biological Assessment of potential project impacts to Federally listed threatened, endangered, or special concern species that may be located within the proposed PRB project area, or potentially impacted from activities associated with the proposed construction or reconstruction activities along the existing rail line.
- Appendix L provides the U.S. Forest Service proposed amendments 8 and 20 to the current Forest Management Plans for the Buffalo Gap Natural Grasslands and Thunder Basin National Grasslands, and the technical report prepared by the U.S. Forest Service addressing the potential project impacts of the rail line extension alternatives in Wyoming and Western South Dakota.
- Appendix M contains an economic report describing the economic effects of the project to counties located within the PRB project area.
- Appendix N contains the Historic Structures Report that lists the bridges, buildings, and other structures of historic importance associated with the railroad and the surrounding area that could be affected by the proposed project.

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**DRAFT ENVIRONMENTAL IMPACT STATEMENT  
FOR THE  
POWDER RIVER BASIN EXPANSION PROJECT**

September 27, 2001

**Abstract**

**Lead Agency:**

**Surface Transportation Board**

1925 K Street, NW  
Washington, D.C. 20423-0001  
Contact: Victoria J. Rutson, Attorney  
Toll Free Environmental Hotline 1-877-404-3044

**Cooperating Agencies:**

**U.S. Department of Agriculture, Forest Service**

Including the **Medicine Bow-Routt National Forest**  
Douglas Ranger District and **Thunder Basin National Grassland**  
Forest Supervisor's Office - Jerry E. Schmidt, Forest Supervisor  
2468 Jackson Street  
Laramie, Wyoming 82070-6535  
Contact: Wendy Schmitzer, Project Coordinator (307) 358-4690

and the **Nebraska National Forest**

Fall River Ranger District/W. Half **Buffalo Gap National Grasslands**  
Forest Supervisor's Office - Mary H. Peterson, Forest Supervisor  
125 N. Main Street  
Chadron, Nebraska 69337-2118  
Contact: Wendy Schmitzer, Project Coordinator (303) 358-4690

**U.S. Army Corps of Engineers, Omaha District**

P.O. Box 5  
Omaha, Nebraska 68101  
Contact: Jerry Folkers (402) 221-4173

**U.S. Army Corps of Engineers, St. Paul District**

190 Fifth Street, East  
St. Paul, Minnesota 55101-1638  
Contact: Timothy J. Fell (651) 290-5360

**U.S. Department of the Interior, Bureau of Land Management**

Newcastle Field Office  
1101 Washington Blvd.  
Newcastle, Wyoming 82701-2968  
Contact: Bill Carson (303) 746-4453

**U.S. Department of the Interior, Bureau of Reclamation**

Dakotas Area Office  
P.O. Box 1017  
304 E. Broadway  
Bismarck, North Dakota 58502  
Contact: Jeffrey Nettleton, Office Manager (605) 394-9757

**U.S. Coast Guard**

Commander (obr)  
Eighth Coast Guard District  
1222 Spruce Street  
St. Louis, MO 63103-2832  
Contact: Bruce L. McLaren (314) 539-3900 Ext. 379, or  
Roger Wiebusch (314) 539-3900 Ext. 378

**Responsible officials:**

1. Surface Transportation Board Members  
**Surface Transportation Board**
2. Lyle Laverty, Regional Forester, Region 2  
**U.S.D.A. Forest Service**
3. Colonel Mark E. Tillotson  
**U.S. Army Corps of Engineers, Omaha District**
4. Colonel Kenneth S. Kasprisin  
**U.S. Army Corps of Engineers, St. Paul District**
5. Al Pierson, State Director, Wyoming  
**U.S.D.I. Bureau of Land Management**
6. Dennis E. Breitzman, Area Manager  
**U.S. D.I. Bureau of Reclamation**
7. Nick E. Mpras, Chief, Office of Bridge Administration  
**U.S. Coast Guard**

This Draft Environmental Impact Statement (Draft EIS) documents the environmental analysis, including analysis of alternatives, developed to address applications the Dakota, Minnesota, & Eastern Railroad Corporation (DM&E) has, or will, submit to the Surface Transportation Board, the U.S.D.A. Forest Service, the U.S. Army Corps of Engineers, the U.S.D.I. Bureau of Land Management, U.S.D.I. Bureau of Reclamation, and the U.S. Department of Transportation, U.S. Coast Guard. The project proposed by DM&E is known as the "Powder River Basin Expansion Project." DM&E's applications are for (1) authority from the Surface Transportation Board to construct and operate new rail line facilities in South Dakota, Wyoming, and Minnesota, pursuant to 49 U.S.C. 10901 (Finance Docket No 33407); (2) an easement from the U.S.D.A. Forest Service under the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1737, to cross portions of the Thunder Basin National Grasslands in Wyoming and portions of the Buffalo Gap National Grasslands in South Dakota, as proposed for the Powder River Railroad Expansion Project; (3) a U.S.D.I. Bureau of Land Management right-of-way under the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1761, to cross public lands administered by the BLM in Wyoming and South Dakota, as proposed for the Powder River Basin Expansion Project; (4) permits from the U.S. Army Corps of Engineers under Section 10 of the Rivers and Harbors Act and Section 10 of the Clean Water Act for dredging and filling activities within waters of the United States, and any other permits required associated with the Powder River Basin Expansion project; (5) U.S.D.I., Bureau of Reclamation authority for an easement from the United States, pursuant to the Reclamation Act of June 17, 1902 (32 Stat-388), Acts amendatory thereto, and 43 CFR Part 429, to cross Bureau of Reclamation facilities within the Angostura Irrigation District, South Dakota; and (6) authority under the General Bridge Act of 1946, as amended (60 Stat. 847; 33 USC 525 et seq.) and the Department of Transportation Act (Public Law 89-670, 80 Stat. 931-950, 49 USC 1651-1659) from the U.S. Coast Guard for activities related to major modification or replacement of the rail bridge over the Missouri River at Milepost 1066.5 near Pierre, South Dakota.

Several alternatives were analyzed in detail in this Draft EIS for the various components of the project. Where appropriate, the agencies have identified preferred alternative(s). In other cases, the agencies request additional public input concerning the alternatives before identifying a preferred alternative or alternatives in the Final EIS. The selection of the preferred alternative in the Draft or Final EIS is not legally binding. The alternative(s) ultimately selected by the agencies may change based on comments received from the public, other agencies, Tribes, and through the lead and cooperating agencies' various deliberative processes.

### **REVIEWER'S OBLIGATIONS**

Reviewers must provide the Board with their comments during the comment period that has been established for the Draft EIS (January 5, 2001). This will enable the Board and cooperating agencies to analyze and respond to the comments at one time and to use the information acquired in the preparation of the Final EIS, thus avoiding undue delay in the decision-making process. Reviewers have an obligation to structure their participation in the environmental review process so that it is meaningful and makes clear the reviewer's position and contentions. Vermont Yankee Nuclear Power Corp. vs NRDC, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the Draft EIS stage but were not raised until after completion of the Final EIS may be waived or dismissed by the courts. City of Angoon v. Hodel, 803 F.2d 1016, 1022 (9th Cir. 1986) and Wisconsin Heritages, Inc. v. Harris, 490 F. Supp 1334, 1338 (E.D. Wis 1980). Comments on the Draft EIS thus should be specific and should address the adequacy of the Draft EIS and the merits of the alternatives discussed (40 CFR 1503.3).

### **Comments on the Draft EIS**

The Draft EIS comment period concludes on **January 5, 2001**. Comments must be postmarked by that date.

Comments should be mailed to:   **Office of the Secretary  
Case Control Unit  
Finance Docket No. 33407  
Surface Transportation Board  
1925 K Street, NW  
Washington, D.C. 20423-0001**

**In the lower left-hand corner, indicate:**

**Attention: Victoria J. Rutson  
Environmental Project Director  
Environmental Filing**

**Please note that comments will be regarded as public information.**

### **Comments on Related Materials**

Regarding the Forest Plan Amendments, which are set forth in an Appendix to the Draft EIS and included as an attachment to the Executive Summary, the National Forest Management Act, 36 CFR Part 219.10(e), requires consistency between projects being proposed and National Forest Land and Resource Management Plans (Forest Plans). Two existing Forest Plans (Nebraska and Medicine Bow Forest Plans) were evaluated for consistency with standards and guidelines of those plans as well as the Draft National Grasslands Plan Revision (Preferred Alternative 3). Based on the U.S. Forest Service identification of its Preferred Alternative, Alternative C, it has been determined that if Alternative C is selected for implementation, then Alternative C will not be consistent with any of the Forest Plans above and plan amendments must be proposed. You are invited to comment on these proposed Forest Plan Amendments (set forth in Appendix L and the Executive Summary of the Draft EIS) and may send written comments to Ms. Wendy Schmitzer, USFS Project Coordinator, Douglas Ranger District, 2250 East Richards Street, Douglas, Wyoming, 82633 or call (307) 358-1634. You may email comments on the Forest Plan Amendments to: wschmitzer@fs.fed.us.

It is anticipated that DM&E will have submitted two permit applications under Section 404 of the Clean Water Act to the U.S. Army Corps of Engineers by the date of the Notice of Availability of the Draft EIS. Comments on DM&E's Section 404 Permit Application relating to Minnesota should be sent to: Mr. Timothy Fell, U.S. Army Corps of Engineers, St. Paul District, 190 5th Street East, St. Paul, MN 55101-1638. Comments on DM&E's Section 404 Permit Application relating to Wyoming and South Dakota should be sent to: Mr. Jerry Folkers, U.S. Army Corps of Engineers, Omaha District, 215 North 17th Street, Omaha, NE 68102-4978. The Corps of Engineers will make the Applications available for review at various locations. To find the location nearest you that has the Section 404 Application relating to Minnesota, please contact Mr. Fell at (651) 290-5360. To find the location nearest you that has the Section 404 Application relating to South Dakota and Wyoming, please contact Mr. Folkers at (402) 221-4173.

The Federal Agencies of the United States of America prohibit discrimination in their programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or family status. Persons with disabilities who require alternative means for communication of program information may contact the Surface Transportation Board Office of Public Services at (202) 565-1596 (voice) or 1-(800) 877-8339 (TDD/TDY) or the U.S.D.A. Office of Communications at (202) 720-2791 (voice) or (202) 720-7808 (TDD).

**To file a complaint:**

To the Surface Transportation Board:	Office of the Secretary Case Control Unit Finance Docket No. 33407 Surface Transportation Board 1925 K Street, NW Washington, DC 20423-0001 (202) 565-1592 (voice) or 1-(800) 877-8339 (TDD/TDY)
To the U.S.D.A. Forest Service:	Secretary of Agriculture U.S. Dept. of Agriculture Washington, DC 20250 (202) 720-7327 (voice) or (202) 720-1127 (TTD)
To the U.S. Army Corps of Engineers:	U.S. Army Corps of Engineers GOA Building 441 G Street, NW Washington, D.C. 20314-1000 (202) 761-0095
To the U.S.D.I. Bureau of Land Management:	U.S. Department of the Interior Secretary of the Interior 1849 C Street, NW Washington, D.C. 20240 (202) 208-3171
To the U.S.D.I. Bureau of Reclamation:	U.S. Department of the Interior Secretary of the Interior 1849 C Street, NW Washington, D.C. 20240 (202) 208-3171

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**EXECUTIVE  
SUMMARY**

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## EXECUTIVE SUMMARY

### ES.1 INTRODUCTION

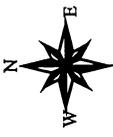
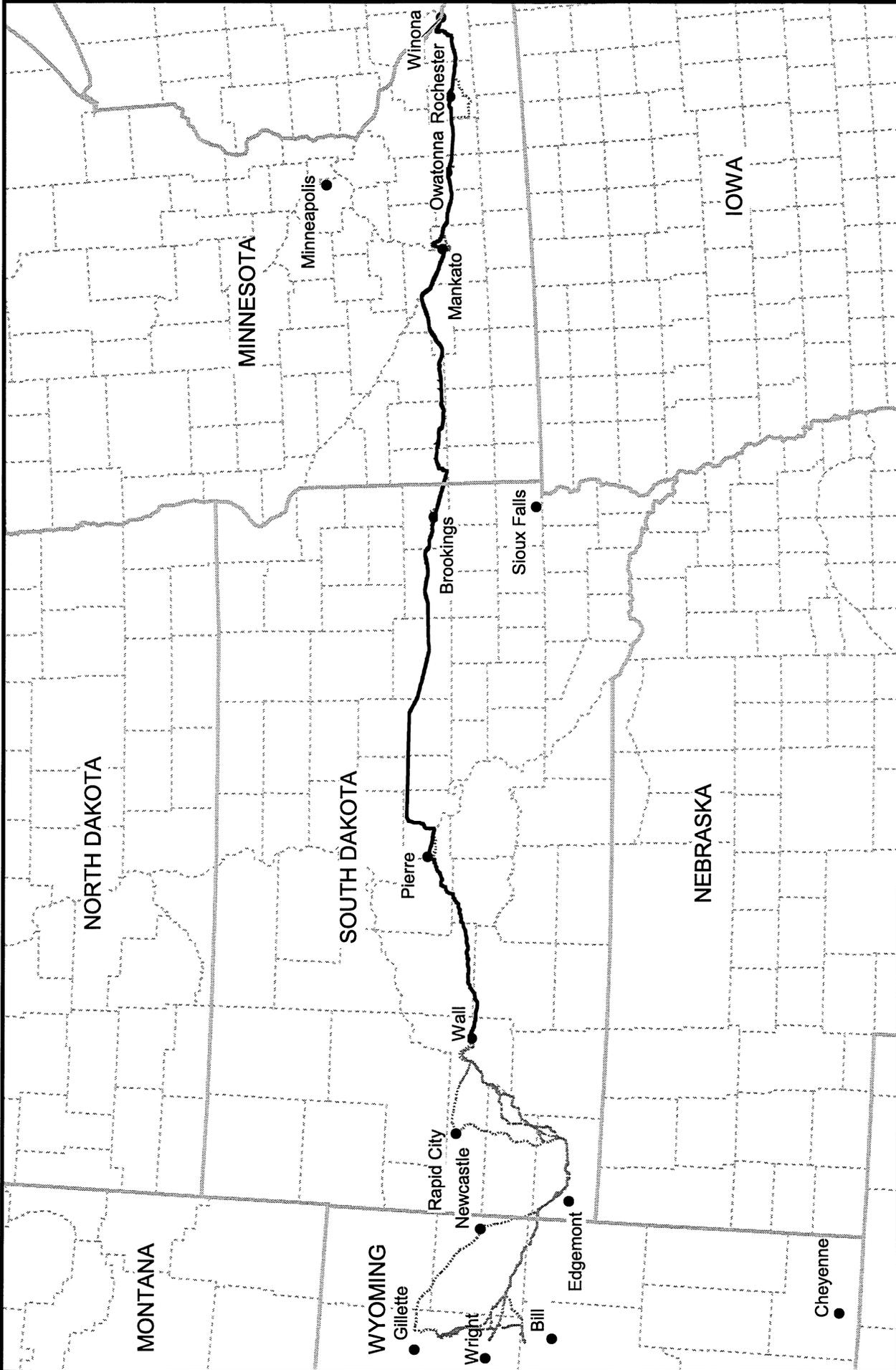
On February 20, 1998, the Dakota, Minnesota & Eastern Railroad Corporation (DM&E or Applicant) filed an Application with the Surface Transportation Board (Board) for authority to construct and operate new rail line and associated facilities in east-central Wyoming, southwest South Dakota, and south-central Minnesota. The Powder River Basin Expansion Project<sup>1</sup> (PRB Expansion Project) is designed to provide access for a third rail carrier to serve Wyoming's Powder River Basin coal mines to transport coal eastward and increase the operational efficiency of DM&E's existing rail line in Minnesota and South Dakota.

The PRB Expansion Project is the largest and most challenging construction proposal ever before the Board. It comprises nearly 1,000 miles of rail line – approximately 280 miles of new rail construction and 600 miles of rail line rehabilitation – traverses three states (Figure ES-1), involves the participation of five cooperating agencies,<sup>2</sup> entails numerous and diverse environmental issues, and involves new rail yards and various alternatives, as well as bypass proposals, the majority of which have their own potentially significant environmental impacts (Figure ES-2).

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<sup>1</sup> This case originally was entitled Dakota, Minnesota & Eastern Railroad Corporation – Construction and Operation – in Campbell, Converse, Niobrara, and Weston Counties, WY, Custer, Fall River, Jackson, and Pennington Counties, SD, and Blue Earth, Nicollet, and Steele Counties, MN. By decision served May 7, 1998, the Board shortened the title for the sake of simplicity. Throughout this Draft Environmental Impact Statement (EIS), DM&E's proposal is referred to as the Powder River Basin Expansion Project or PRB Expansion Project and encompasses both construction of the new rail line and the upgrade of DM&E's existing line. Legal distinctions between the two parts of the project, as well as limits of the Board's jurisdiction, are discussed later in this chapter.

<sup>2</sup> U.S. Department of Agriculture, Forest Service (USFS), the U.S. Department of Interior, Bureau of Land Management (BLM), the U.S. Army Corps of Engineers (COE), the U.S. Department of Interior, Bureau of Reclamation (Reclamation), and the U.S. Coast Guard (Coast Guard).

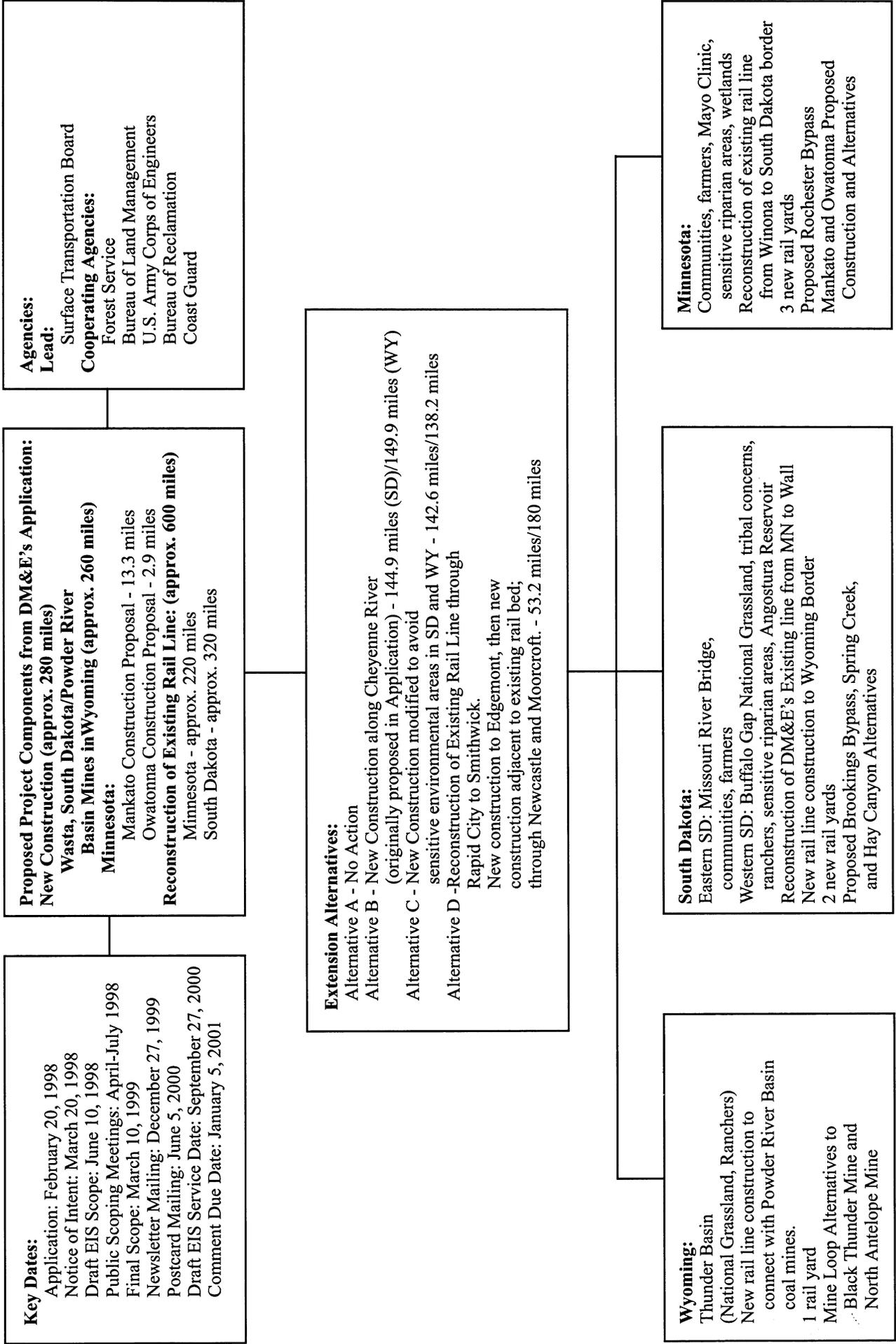


Existing Rail Line
  New Construction Alternatives

County Lines

Figure ES-1  
 POWDER RIVER BASIN EXPANSION PROJECT  
 Project Overview

## Figure ES-2 Powder River Basin Expansion Project at a Glance



The Board's Section of Environmental Analysis (SEA)<sup>3</sup> has prepared this Draft Environmental Impact Statement (Draft EIS) to identify and evaluate potential environmental impacts of the DM&E proposed rail line construction and operation to coal mines in the Powder River Basin. With this Draft EIS, SEA seeks to inform Federal, state, and local agencies, affected communities, Native American Tribes (Tribes), and the general public about the potential environmental effects of the proposed PRB Expansion Project. SEA also sets forth in this Draft EIS its preliminary conclusions regarding these effects, the various alternatives SEA has considered, and those actions that SEA currently recommends that the Board require of the Applicant to mitigate or alleviate potentially significant environmental impacts discovered during the course of the environmental review.

In conducting its environmental analysis thus far, SEA has considered a wide variety of interests and issues. These include communities, Tribes, homeowners, farmers and ranchers, and special resources affected by this project (such as two National Grasslands in Wyoming and South Dakota through which the proposed line would pass). As presented in detail in this Draft EIS, SEA has gone to great lengths to identify and address the potential environmental issues related to this proposal. SEA has undertaken extensive public outreach activities (detailed later in this Executive Summary) to give interested parties, agencies, Tribes, and the general public opportunities to learn about the project, define issues, and actively participate in the environmental review process.

SEA has also conducted appropriate technical analyses and studies, consultations, and site visits and gathered extensive environmental data, as detailed later in this Executive Summary. The potential environmental effects SEA identified, both beneficial and adverse, could be

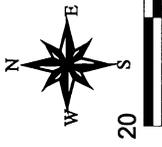
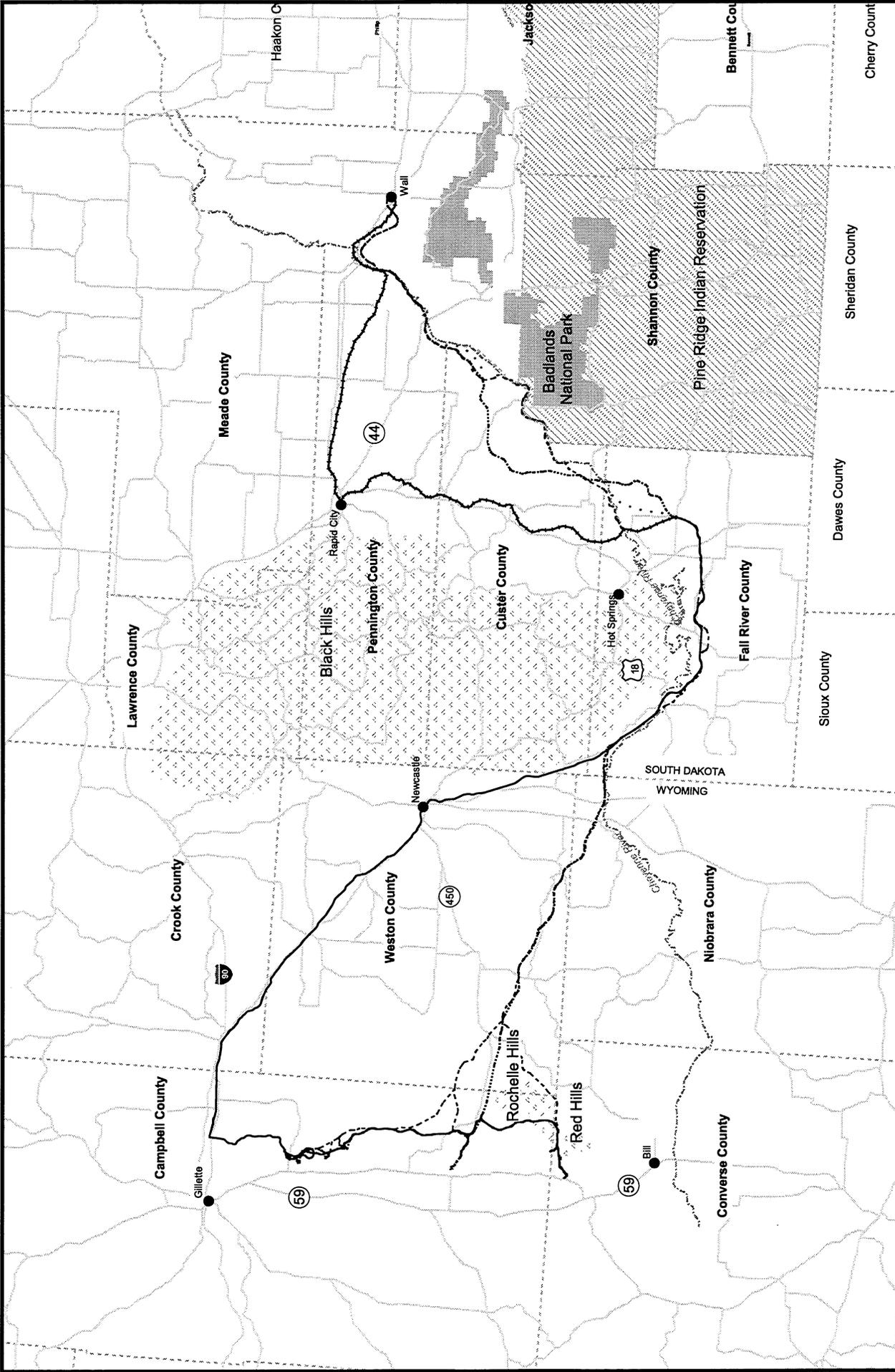
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<sup>3</sup> While this Draft EIS for convenience generally refers only to SEA, the document reflects the input of the five cooperating agencies.

substantial. As discussed in detail in this Draft EIS, the primary potential environmental benefit of this project is that DM&E's existing system in Minnesota and South Dakota, which currently is in generally poor condition, would be totally upgraded to allow the operation of unit coal trains, thus enhancing the safety of DM&E's existing rail operations. On the other hand, the dramatic increase in the number of trains operating on the existing system (from approximately 3 per day to a maximum of 37) – and the impact caused by construction and operation of well over two hundred miles of new rail line through generally pristine rural areas – would have significant environmental consequences, some of which, such as noise, would be difficult to mitigate. SEA's environmental analysis and its resulting preliminary environmental mitigation recommendations reflect the variety and complexity of the environmental issues and the most reasonable and feasible way to minimize some of the environmental impacts discovered during the course of SEA's environmental review.

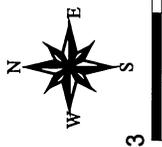
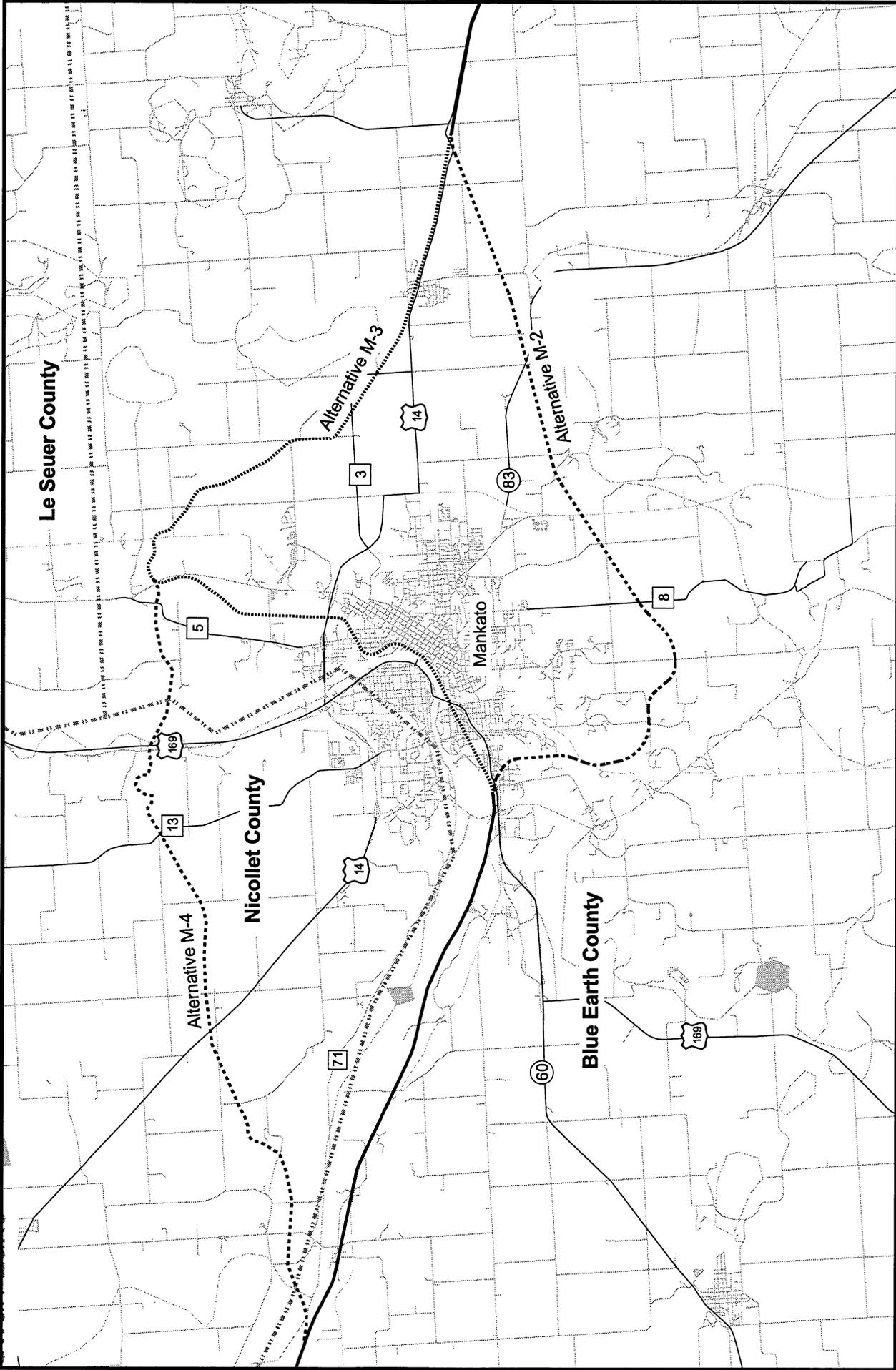
The Council on Environmental Quality regulations implementing the National Environmental Policy Act 1969 (NEPA), 42 U.S.C. 4321-4335, provide that the public must have a minimum of 45 days in which to review and comment on Draft EISs. Because of the size and complexity of DM&E's proposal, SEA is providing a 90-day period on this Draft EIS to allow ample time for public review and comment. As a result of the extended comment period, SEA will not entertain requests for extensions of the comment time beyond a maximum of 15 additional days.

SEA invites all interested parties to provide comments that could further assist SEA's environmental review. SEA specifically seeks comments on which alternatives should be viewed as environmentally preferable (including No-Action), the reasonableness and feasibility of proposed mitigation measures, and suggestions regarding additional or alternate mitigation measures to address potential significant environmental impacts. (See Sections ES.10 to ES.13



- Existing Rail Line
- ..... Alternative B
- ..... Alternative C
- ..... Alternative D- new construction
- ..... Variations
- ..... Alternative D- along existing line

Figure ES-3  
**POWDER RIVER BASIN EXPANSION PROJECT**  
 Extension Alternatives Overview



- Existing Rail Line
- New Construction
- Streams
- Roads
- County Line
- Existing Rail Line Alternative

Figure ES-4  
 POWDER RIVER BASIN EXPANSION PROJECT  
 Pre-Application Alternatives  
 Mankato, Minnesota

for a general explanation of SEA's approach to mitigation, and information on how to file comments on the Draft EIS.)

After the close of the public comment period, a Final EIS will be prepared reflecting further environmental analysis and consultation, as appropriate, and the comments on the Draft EIS. The Board then will issue a final decision, based on the entire environmental record, including the Draft EIS, the Final EIS, and all public and agency comments received, determining whether to give final approval to the project, and if so, appropriate environmental mitigation and its potential cost. DM&E cannot begin construction of its new rail line until the Board issues a final decision approving the Application and the decision has become effective.

## **ES.2 PROPOSED ACTION**

DM&E's new rail construction would include approximately 262.03 miles of rail line extending off DM&E's existing system near Wasta, South Dakota, extending generally southwesterly to Edgemont, South Dakota, and then westerly into Wyoming to connect with existing coal mines<sup>4</sup> located south of Gillette, Wyoming (Figure ES-3). This portion of the new construction would traverse portions of Custer, Fall River, Jackson, and Pennington Counties, South Dakota and Campbell, Converse, Niobrara, and Weston Counties, Wyoming.

The new rail construction would also include an approximately 13.31-mile line segment at Mankato, Minnesota, within Blue Earth and Nicollet Counties (Figure ES-4). DM&E currently has trackage on both sides of Mankato, accessed by trackage rights<sup>5</sup> on rail line operated by

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<sup>4</sup> Caballo, Belle Ayr, Caballo Rojo, Cordero, Coal Creek, Jacobs Ranch, Black Thunder, North Rochelle, North Antelope, Rochelle, and Antelope.

<sup>5</sup> Trackage rights are arrangements by which one rail carrier allows another to use its railroad track.

Union Pacific Railroad Company (UP). The proposed Mankato construction would provide DM&E direct access between its existing lines and avoid operational conflicts with UP.

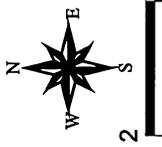
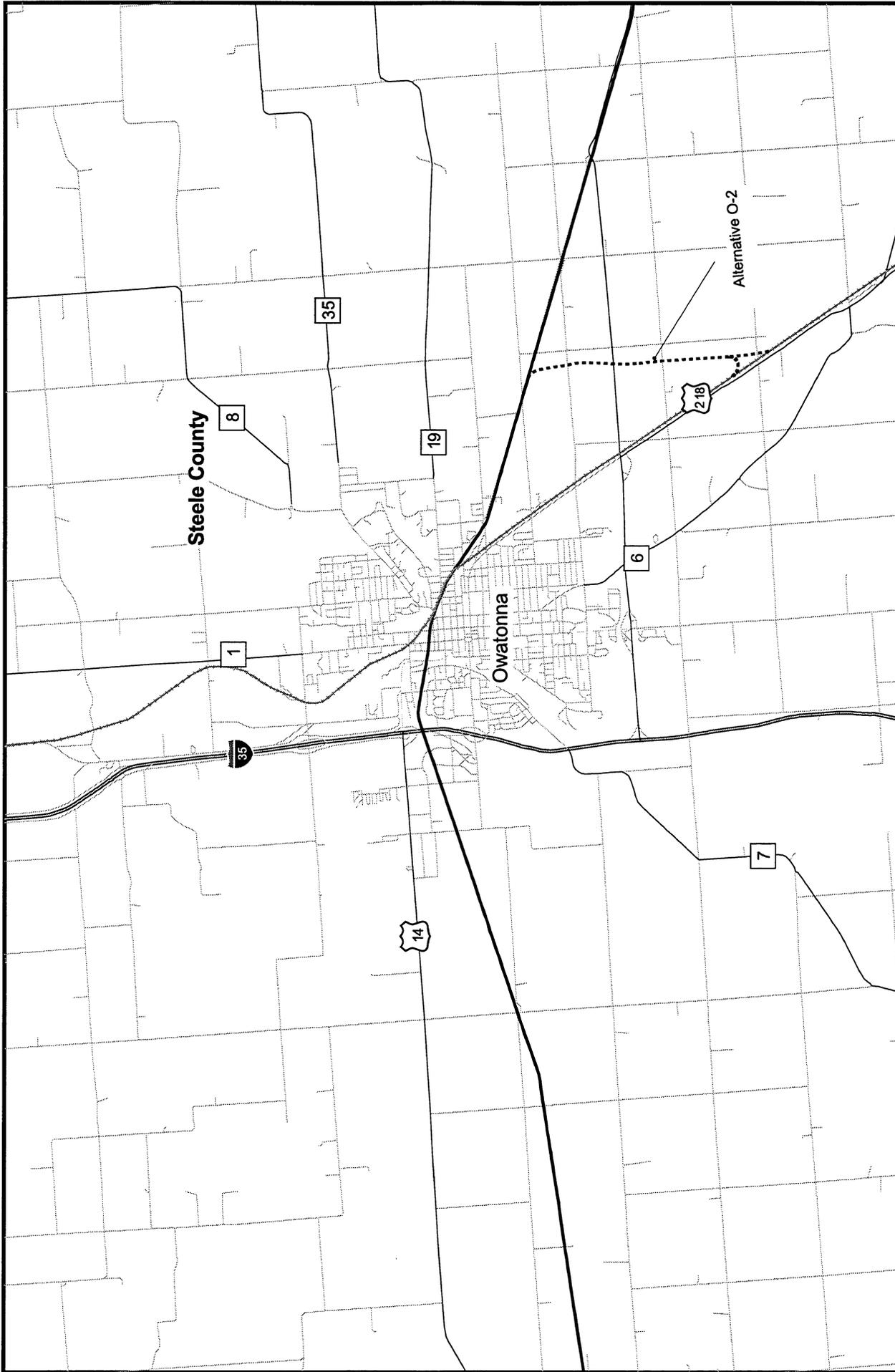
The final proposed segment of new rail construction would involve a connection between the existing rail systems of DM&E and the I&M Rail Link Railroad. The connection would include construction and operation of approximately 2.94 miles of new rail line near Owatonna, Minnesota in Steele County (Figure ES-5). The connection would allow interchange of rail traffic between the two carriers.

In order to transport coal over the existing system, DM&E also proposes to rebuild and upgrade approximately 597.8 miles of rail line along its existing system (Figure ES-1). The majority of this (approximately 584.95 miles) would be along DM&E's mainline between Wasta, South Dakota, and Winona, Minnesota. This upgrade would cross Winona, Olmsted, Dodge, Steele, Waseca, Nicollet, Blue Earth, Brown, Redwood, Lyon, and Lincoln Counties in Minnesota, and Brookings, Kingsbury, Beadle, Hand, Hyde, Hughes, Stanley, Haakon, and Jackson Counties in South Dakota. An additional approximately 12.85 miles of existing rail line between Oral and Smithwick, in Fall River County, South Dakota, would also be rebuilt. Rail line rehabilitation would include rail and tie replacement, additional sidings, signals, grade crossing improvements, and other systems.

### **ES.3 LEAD AND COOPERATING AGENCY DECISIONS**

The Draft EIS was prepared by SEA in cooperation with the U.S. Department of Agriculture, Forest Service (USFS); the U.S. Department of Interior, Bureau of Land Management (BLM); the U.S. Army Corps of Engineers (COE); the U.S. Department of Interior, Bureau of Reclamation (Reclamation); and the U.S. Department of Transportation, U.S. Coast Guard (Coast Guard). Under the requirements of NEPA, the Board is the lead agency for

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- Existing Rail Line
- New Construction
- Roads
- I&M Rail Link

Figure ES-5  
**POWDER RIVER BASIN EXPANSION PROJECT**  
 Pre-Application Alternatives  
 Owatonna, Minnesota

preparing the Draft EIS, and USFS, BLM, COE, Reclamation, and the Coast Guard are cooperating agencies. This Draft EIS has been prepared in compliance with NEPA and related environmental laws, Board regulations for implementing NEPA (49 CFR Part 1105), the guidance provided by the Council on Environmental Quality regulations implementing NEPA (40 CFR Part 1500), as well as USFS, BLM, COE, Reclamation, and Coast Guard policy, procedures, and guidance documents.

The Draft EIS evaluates the environmental effects of both DM&E's PRB Expansion Project and reasonable and feasible alternatives to the proposal. Consistent with its jurisdiction under its governing statute (the ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803 (1995)), the Board normally would conduct an environmental analysis only of the approximately 280-miles of proposed new construction, and the projected increase in operations over DM&E's existing system. However, in this instance, the Draft EIS also addresses construction-related impacts associated with the rebuilding of DM&E's existing mainline from the point of connection with the new construction segments between Wasta, South Dakota and Winona, Minnesota. The COE – one of the cooperating agencies – requires analysis of reconstruction of DM&E's existing system to satisfy its permitting requirements under the Clean Water Act. To allow the COE to make its permitting decisions without doing additional NEPA analysis beyond this EIS, an analysis of construction-related impacts along the rail line to be rebuilt, including sidings and rail yard facilities, is included in this Draft EIS.

The Federal agencies' actions considered in this Draft EIS will include decisions by the Board and each of the five cooperating agencies. The Federal agencies' decision-making authority, and the status of the various applications either submitted or to be submitted by DM&E to these agencies, is presented below.

### ES.3.1 The Board

In reviewing rail construction proposals under 49 U.S.C. 10901, the Board examines whether an applicant is financially fit, whether there is a public need for the proposed new service, and whether the project is in the public interest and will not unduly harm existing rail services. The Board can either (1) approve a transaction as proposed, without conditions; (2) approve the transaction with conditions to offset or reduce the potential impacts, including environmental impacts, of the proposed transaction; or (3) disapprove the transaction entirely.<sup>6</sup>

On December 10, 1998, the Board issued a decision finding that the new construction and operation proposed by DM&E in its Application satisfies the transportation aspects of 49 U.S.C. 10901.<sup>7</sup> (A copy of the Board's decision is attached at Appendix A to the Draft EIS.) In making this finding, however, the Board explained that the project could not be finally approved until the environmental review process required under NEPA and related laws is completed and the Board has the opportunity to assess fully the potential environmental effects and the cost of any environmental mitigation that it might impose on the project. The Board made clear in its decision that it would issue a further decision on the entire proposed project following the completion of the EIS process and that no new construction could begin until a final decision approving the construction is issued and has become effective. Following the conclusion of the

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<sup>6</sup> The Board's authority to impose conditions is not limitless. Any conditions imposed, including environmental mitigation, must be directly related to the transaction before the Board for approval, must be reasonable, and must be supported by the record before the Board. The Board does not have authority to require mitigation of pre-existing environmental impacts, such as impacts resulting from existing railroad operations or land development.

<sup>7</sup> In enacting the ICC Termination Act, Congress intended to facilitate rail line construction. Congress did so by changing the statutory standard from requiring approval, if the agency finds that a project is consistent with the public convenience and necessity, to requiring approval unless the agency finds that the project is inconsistent with the public convenience and necessity. The Board noted (December 10, 1998 decision at 17) that "[u]nder the revised statute, proposed rail constructions are to be given the benefit of the doubt."

environmental review process, the cooperating agencies also will issue decisions under their own governing statutes, based on the EIS and various applications submitted by DM&E.

### **ES.3.2 U.S. Forest Service**

On April 28, 1998, DM&E submitted a Special Use Application to the USFS for an easement under the Federal Land Management And Policy Act of 1976, 43 U.S.C. 1737, to construct a new rail line across portions of the Thunder Basin National Grassland (part of the Medicine Bow-Routt National Forest) in Wyoming and the Buffalo Gap National Grassland (part of the Nebraska National Forest) in South Dakota. USFS will decide whether to issue DM&E an easement, and, if issued, the terms and conditions, including location, of the easement.

The National Forest Management Act, (36 CFR Part 219.10(e)) requires consistency between projects being proposed and National Forest Land and Resource Management Plans (Forest Plans). Two existing Forest Plans (Nebraska and Medicine Bow Forest Plans) were evaluated for consistency with standards and guidelines of those plans as well as the Draft National Grasslands Plan Revision (Preferred Alternative 3). Based on the U.S. Forest Service identification of its Preferred Alternative for this project, Alternative C, it has been determined that if Alternative C, as well as other alternatives considered, is selected, then Alternative C will not be consistent with any of the Forest Plans above and plan amendments must be proposed (attached at the end of the Executive Summary). The National Grasslands Plan Revision is not yet completed but it is anticipated that a plan amendment to this plan may be necessary should an Action Alternative for this project be approved.

In addition, the USFS is required by 36 CFR Part 219 to inventory, evaluate, and consider all roadless areas within the National Forest System for possible inclusion in the National Wilderness Preservation System (Roadless Area Review and Evaluation II or "RARE II"). Certain alternatives could affect the RARE II areas identified on the Buffalo Gap National

Grassland, Nebraska National Forest, which would also trigger a Forest Plan amendment process, if selected. However, the USFS preferred Alternative C avoids those areas at this time.<sup>8</sup>

### **ES.3.3 U.S. Bureau of Land Management**

In April 1998, DM&E submitted its application to BLM to cross portions of public lands within Wyoming and South Dakota administered by BLM. BLM will decide whether to issue a right-of-way under the Federal Land Management and Policy Act of 1976 on public lands administered by BLM, and if so, where the the right-of-way would be located.

### **ES.3.4 U.S. Army Corps of Engineers**

DM&E will be submitting applications to the COE, St. Paul District and Omaha District, under Section 404 of the Clean Water Act for permits to engaging in dredging and filling activities within waters of the United States associated with DM&E's proposal.

### **ES.3.5 U.S. Bureau of Reclamation**

Reclamation is the agency responsible for operation and administration of the Angostura Reservoir in western South Dakota and associated irrigation canals and ditches. Reclamation works closely with the local irrigation district for repayment of project costs based on water delivered and acres of irrigated land. The PRB Expansion Project could cross lands, irrigation ditches or canals under the jurisdiction of Reclamation depending on the alternative approved for construction (if any are ultimately approved). In that event, a permit for such crossings would be required from Reclamation prior to construction.

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<sup>8</sup> The reader is invited to comment on the proposed Forest Plan Amendments (Attachment A) and may send written comments to Wendy Schmitzer, USFS Project Coordinator, Douglas Ranger District, 2250 East Richards Street, Douglas, Wyoming, 82633, or call (307) 358-1634. Comments may be emailed to: [wscmitzer@fs.fed.us](mailto:wscmitzer@fs.fed.us).

**ES.3.6 U.S. Coast Guard**

The Coast Guard has responsibility and authority to issue bridge permits under Section 9 of the Rivers and Harbors Act of 1899 and under the General Bridge Act of 1946. Therefore, in order for DM&E to rebuild or construct a new bridge over navigable waters (the Missouri River bridge crossing at Pierre, South Dakota), it would have to apply for and receive a permit from the Coast Guard.

**ES.4 OVERVIEW OF DM&E PROPOSAL AND ALTERNATIVES CONSIDERED IN THIS DRAFT EIS**

As discussed in more detail below, the original project as described by DM&E in its February 1998 Application to the Board, included the following components:

- Construction and operation of new rail line extending DM&E's existing system westward, accessing mines in the Powder River Basin of Wyoming to transport the region's coal resources to coal users located east of the basin (designated in this Draft EIS as Alternative B).
- Reconstruction and continued operation of DM&E's existing rail main line across South Dakota and Minnesota to standards allowing DM&E to safely and efficiently transport up to 100 million tons of coal annually in unit coal trains, as well as its existing rail traffic.
- Construction and operation of new rail main line to connect two sections of DM&E's existing rail main line at Mankato, Minnesota and avoid operating over existing rail lines owned and operated by UP Railroad Company via trackage rights (designated in this Draft EIS as the M Alternatives).

- Construction and operation of a new rail line connection between DM&E's existing rail main line and the existing rail main line of I&M Rail Link at Owatonna, Minnesota (designated in this Draft EIS as the O Alternatives).

Action alternatives developed as a result of the environmental review process included:

- Construction and operation of an alternative route for extending DM&E's existing rail system that would minimize use of the Cheyenne River corridor, loss of wetlands, and impacts to riparian habitats and avoid USFS RARE II (Roadless Area Review and Evaluation) areas in South Dakota, and avoid potential endangered species habitat in Wyoming (designated in this Draft EIS as Alternative C).
- Construction and operation of an alternative that would, to the extent practical and feasible, utilize existing transportation corridors in the vicinity of the project area, particularly existing rail lines (designated in this Draft EIS as Alternative D).
- Construction and operation of alternative routes for the proposed rail line extension in the Spring Creek area of South Dakota to avoid wetland and riparian habitats along Spring Creek (designated in this Draft EIS as the Spring Creek Alternatives).
- Construction and operation of alternative routes for proposed rail line extension in the Hay Canyon area of South Dakota to avoid wetland and riparian habitats along Hay Canyon and lands irrigated as part of the Angostura Irrigation Project (designated in this Draft EIS as the Hay Canyon Alternatives).

- Construction and operation of alternative routes for accessing the Black Thunder coal mine in Wyoming (designated in this Draft EIS as the Black Thunder North and South Alternatives).
- Construction and operation of alternative routes for accessing the North Antelope coal mine in Wyoming (designated in this Draft EIS as the North Antelope East and West Alternatives).
- Construction and operation of a new rail line alternative route that would bypass the existing DM&E rail line through the City of Rochester, Minnesota, as proposed by Rochester (designated in this Draft EIS as the R Alternatives).
- Construction and operation of a new rail line alternative route that would bypass the existing DM&E rail line through the town of Owatonna, Minnesota, as proposed by Owatonna.
- Construction and operation of a new rail line alternative route that would bypass the existing DM&E rail line through the town of Brookings, South Dakota, as proposed by Brookings (designated in this Draft EIS as the B-1 through B-4 Alternatives).
- Construction and operation of a new rail line alternative route that would bypass the existing DM&E rail line through the town of Pierre, South Dakota, as proposed by Pierre.
- Construction and operation of six major new rail yards, many new rail sidings, and improvements to several existing rail yards.

In this Draft EIS, SEA analyzed each action alternative for the various components of the project to determine whether it was reasonable and feasible and whether it would have potentially significant environmental impacts. Because each of the project components are independent of the other components — that is, selection of one alternative for a particular project component does not foreclose or require selection of a specific alternative for another project component — SEA conducted a separate evaluation for each project component.<sup>9</sup>

Additionally, it is important to note that because each project component is independent of the other components, the Board and cooperating agencies, as appropriate, could choose to approve some components of the project and not others. It is possible, for example, for one of the action alternatives into the Powder River Basin to be approved, but none or only one of the community bypasses.

SEA also considered the No-Action Alternative. Under the No-Action Alternative (designated in this Draft EIS as Alternative A), D&ME would not receive final approval from the Board to construct or operate a rail line extension into the PRB. The Special Use Application submitted by DM&E for an easement under the Federal Land Management And Policy Act to cross portions of the Buffalo Gap National Grassland in South Dakota, and the Thunder Basin National Grassland in Wyoming would not be granted by the USFS. The Application for a right-of-way crossing portions of land administered by the BLM in South Dakota and Wyoming would not be issued. COE would not issue permits for the dredging and filling of waters and wetlands associated with DM&E's proposal. Nor would Reclamation issue a permit for project impacts to

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<sup>9</sup> For example, Alternative D for the rail line extension would generally use existing DM&E right-of-way south from Rapid City to Smithwick, South Dakota. It would cross Spring Creek once along this alignment, but would be located over 20 miles west of the Cheyenne River and the alignments of Alternatives B and C. Although it would cross Spring Creek, Alternative D would completely avoid the Spring Creek area through which Extension Alternatives B and C would be required to pass due to these alternatives following new alignment along the Cheyenne River. Therefore, Alternative D would not require use, nor construction or operation, of any of the Spring Creek Alternatives because Alternative D avoids the Spring Creek area.

lands and facilities that are part of the Angostura Irrigation Project. It is also unlikely that DM&E would upgrade its existing rail line because, according to DM&E, the No-Action Alternative would not provide it with the financial resources needed to reconstruct its existing system.

## **ES.5 SCOPING AND PUBLIC INVOLVEMENT**

Throughout its environmental review process, SEA conducted extensive public outreach activities to inform the public about the PRB Expansion Project and to facilitate public participation. SEA consulted with Federal, state, and local agencies, Tribes, affected communities, landowners, and various private organizations to gather and disseminate information about the proposal.

### **ES.5.1 Public Scoping Process**

The first step of the EIS process is scoping. Scoping is an open process under NEPA for determining the scope of environmental issues to be addressed in an EIS and their potential for significance. Scoping gives the public the opportunity to provide information to the agency preparing the EIS identifying important resources, issues, or concerns that may be affected by the project. Public meetings and submission of written comments by interested agencies, Tribes, and the public are means used to obtain information on the project area. Scoping involves wide-distribution of information and requests for comments. Based on the information obtained, the agency develops a Scope of Study outlining the resources and analyses to be completed as part of preparing the EIS.

Here, the Board published its Notice of Intent to Prepare an EIS and Conduct Scoping Meetings on March 30, 1998. SEA then conducted 14 agency and public scoping meetings in all three affected states to provide opportunities for public involvement and input into the scoping process from April to July 1998. Interested persons and agencies were invited to participate in the scoping process by attending these meetings, reviewing the draft scope of study for the EIS,

and providing oral and written comments on the issues to be addressed in the EIS. Information sheets on the project, the draft scope of study, and comment sheets were provided at the scoping meetings. Tape recorders were also available for those participants who wished to record their spoken remarks rather than submitting written comments. Comment sheets were collected at the meetings or could be mailed directly to the Board. Attendees were invited to take comment sheets to other family members, neighbors, or friends who were unable to attend the meetings. Interested parties were also invited to submit written comments along with or in lieu of prepared comment sheets.

Over 1,000 people and representatives of more than 30 Federal, state, and local agencies attended the scoping meetings. Over 600 comment sheets were received, along with over 5,000 written comments from a variety of interests, including individuals, agencies, Tribes and communities.

On June 10, 1998, the Board published the draft Scope of Study for the Draft EIS in the Federal Register and invited public comment. The draft scope was also available at scoping meetings. Based on a complete review of all public comments received during scoping - both oral and written - the Board issued the Final Scope of Study March 10, 1999. The Final Scope was served on all parties of record, mailed to approximately 2,000 people, and published in the Federal Register (Vol. 64, No. 46, p. 11,980).

### **ES.5.2 Additional Public Outreach**

SEA also conducted an extensive public outreach program to identify the public's environmental concerns related to this project. This included meetings and consultations, many site visits, use of the Board's official website, and a toll-free project hotline. In addition, SEA prepared comprehensive mailings that included newsletters and other information material. These

outreach materials provided descriptions of the project and SEA's environmental review process to facilitate and encourage public understanding and participation.

Several resource agencies, communities, and Native American Tribes and organizations, including the cooperating agencies, expressed an interest in meeting with SEA and representatives of DM&E to discuss the project in greater detail and the environmental resources potentially impacted. Therefore, additional meetings and consultations were held with a number of individuals and groups, including the following:

- U.S. Forest Service
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- Wyoming State Historic Preservation Office
- Minnesota Department of Natural Resources
- Advisory Council on Historic Preservation
- Medicine Wheel Coalition
- Bureau of Indian Affairs
- Black Hills Sioux National Council
- Winona, Minnesota
- Mankato, Minnesota
- Ranchers and farmers from South Dakota and Wyoming
- Farmers from Minnesota
- Mayo Clinic
- University of St. Thomas Gainey Conference Center
- Bureau of Reclamation
- Wyoming Game and Fish
- Bureau of Indian Affairs
- Minnesota Historical Society
- Minnesota State Archaeologist Office
- South Dakota Game, Fish & Parks
- South Dakota State Historical Society
- U.S. Coast Guard
- Cheyenne River Sioux Tribe
- Medicine Wheel Alliance
- Grey Eagle Society
- Oglala Sioux Tribe
- Rochester, Minnesota
- Owatonna, Minnesota

## **ES.6 OVERVIEW OF SEA'S ENVIRONMENTAL ANALYSIS**

SEA's in-depth environmental review of Applicant's proposal and the various alternatives (including the No-Action Alternative) included:

- Independent environmental studies, including preparing biological surveys for threatened and endangered species, cultural resource surveys for paleontological and archaeological sites and historic resources, compiling data and studying potential effects on safety, including grade crossing safety and potential delays, air quality (including visibility), railroad and vehicular traffic volumes, wetlands and aquatic resources, noise, wildlife migration, geological resources and soils, and potential impacts to land use, such as ranches, farms, and communities, including environmental justice communities, associated with the construction of approximately 280 miles of new rail line and the upgrading of 600 miles of existing rail line.<sup>10</sup> In conducting its environmental analysis, SEA was assisted by several agencies with technical expertise, including the five cooperating agencies, which participated in the preparation of the Draft EIS, including the preliminary recommended mitigation.
- Independent analysis of potential project impacts related to operational increases in rail traffic, including safety (such as grade crossing safety, potential vehicular delays, and emergency vehicle response), noise, air quality, transportation, construction-related impacts to safety, land use, biological resources, water resources, geology and soils, air quality, noise, socioeconomics, hazardous materials, transportation systems, Tribes, cultural and historic resources, environmental justice, and cumulative effects. SEA evaluated potential impacts for three levels, or tiers, of projected rail operation to account for anticipated growth in train traffic as DM&E's proposed system would begin to operate and build its customer base: 20 million tons of coal transported annually (eight coal trains

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<sup>10</sup> Additional studies have been submitted as environmental comments during the environmental review process. These include the Minnesota Department of Transportation, the City of Mankato, Minnesota, the City of Rochester, Minnesota, and the Triple Seven Ranch. SEA has reviewed the information presented in these studies and included it, as appropriate.

per day); 50 million tons (17 coal trains per day); and 100 million tons (34 coal trains per day).

- Evaluation of concerns raised by government agencies and the public, including communities, Tribes, small businesses, farmers, ranchers, and environmental groups. Their concerns included the potential for safety impacts (including emergency vehicle access), noise/vibration increases, property value decreases, air quality impacts, effects on cultural resources and Tribal traditions, environmental justice issues, and broad quality of life issues.

#### **ES.7 SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS**

Based on its environmental analysis to date, SEA determined that the PRB Expansion Project would result in significant long-term adverse environmental impacts, as follows:

##### In Minnesota

- Safety, including emergency vehicle access and response.
- Geology and Soils.
- Surface Water and Wetlands.
- Ground Water.
- Vegetation.
- Agriculture
- Residential, Business, and Public Land Uses.
- Noise and Vibration.
- Cultural Resources.
- Recreation
- Environmental Justice

In Eastern South Dakota

- Safety, including emergency vehicle access and response.
- Residential and Business Land Uses.
- Surface Water and Wetlands.
- Noise and Vibration.
- Environmental Justice

In Western South Dakota and Wyoming

- Safety, including emergency vehicle access and response.
- Geology and Soils, including paleontological resources.
- Agriculture
- Ranching.
- Traditional Tribal Cultural Properties.
- Residential, Business, and Public Land Uses.
- Surface Water and Wetlands.
- Groundwater.
- Air Quality.
- Noise and Vibration.
- Vegetation.
- Threatened and Endangered Species, including other species of Federal concern.
- Cultural Resources.
- Aesthetics/Visual Resources.

In particular, construction of the proposed rail line would result in conversion of thousands of acres of land to rail line right-of-way, including hundreds of acres of public land, thereby removing it from current land uses. Many farms and ranches would be crossed, resulting in inconveniences and likely a need to significantly alter existing farming and ranching operations.

Construction would also clear and disturb these lands, removing vegetation and disturbing soils, reducing wildlife habitat and potentially affecting water quality. Significant paleontological and cultural resources could be destroyed as a result of excavation and earthmoving activities.

DM&E's PRB Expansion Project also would result in a dramatic increase in the number of trains on the existing system (from approximately 3 per day to a maximum of 37). During rail operations, farms and ranches would be inconvenienced and farming and ranching operations affected. Noise from locomotives would disturb wildlife, livestock, and local residents. Air emissions from locomotives would create reduced visibility within "Class I airsheds" (areas of high visual quality, such as national parklands). Rail line crossings of roads would delay traffic and provide opportunities for vehicle/train and train/pedestrian accidents. Table ES-1 provides a summary of these potentially significant adverse impacts.

<b>Table ES-1 Resources Along New Rail Construction in Wyoming and Western South Dakota Significantly Adversely Impacted By Action Alternatives</b>			
<b>Resource*</b>	<b>Alternative</b>		
	<b>B</b>	<b>C</b>	<b>D</b>
<b>Safety</b>	significant impact	no significant impact	highly significant impact
<b>Land Use</b>	significant impact - agricultural land Federal lands	significant impact - agricultural land Federal lands	significant impact - residential land business and industrial land
<b>Geologic Hazards</b>	significant impact	significant impact	no significant impact
<b>Soils</b>	significant impact	significant impact	significant impact
<b>Paleontological Resources</b>	significant impact	significant impact	significant impact
<b>Water Resources</b>	significant impact	significant impact	significant impact
<b>Wetlands</b>	significant impact	significant impact	significant impact
<b>Air Quality</b>	significant impact	significant impact	significant impact
<b>Noise</b>	no significant impact	no significant impact	significant impact
<b>Transportation</b>	no significant impact	no significant impact	substantial impact
<b>Safety</b>	significant impact	no significant impact	highly significant impact
<b>Vegetation</b>	significant impact	significant impact	no significant impact
<b>Endangered Species</b>	significant impact	no significant impact	no significant impact
<b>Cultural Resources</b>	significant impact	significant impact	significant impact
<b>Aesthetics</b>	significant impact	significant impact	significant impact
*Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.			

The PRB Expansion project also would have some environmental benefits. The primary environmental benefit of this project is that DM&E's existing system in Minnesota and most of South Dakota, which is currently in generally poor condition, would be totally upgraded to allow the operation of unit coal trains, thus enhancing the safety of DM&E's existing rail operations. Socioeconomic impacts from the proposed project also would be beneficial.<sup>11</sup> Socioeconomic impacts would include increased employment opportunities, increased tax base and revenues, and more spending for local goods and services.

## **ES.8 PRELIMINARY SELECTION OF PREFERRED ALTERNATIVES: NEW RAIL LINE CONSTRUCTION IN WYOMING AND WESTERN SOUTH DAKOTA**

### **ES.8.1 No-Action Alternative (Alternative A)**

Typically, the No-Action Alternative simply preserves the environmental status quo. In this case, however, SEA determined that the No-Action Alternative, like the Action Alternatives, could have substantial and significant adverse impacts to the human and natural environment. Specifically, absent construction of a new rail line, which according to DM&E is necessary to give it the resources needed to rehabilitate its existing track, DM&E has indicated that it could not afford to upgrade the existing line. In that event, DM&E states, it would likely continue to have a poor accident record, potentially compromising the safety of not only merchandise and equipment, but railroad personnel and the public as well. DM&E notes that without the construction of a new rail line and the related rebuild of the existing line, trains along the existing rail line would continue to operate at low speeds, resulting in frequent significant delays at road crossings. DM&E's existing shippers would be required to ship goods in conditions below accepted industry standards because they would be incapable of utilizing standard weighted cars,

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<sup>11</sup> Normally, the Board analyzes only those socioeconomic issues shown to be related to changes in the physical environment as a result of the proposed action. Here, in order to satisfy requirements of certain cooperating agencies, the analysis of socioeconomics in this Draft EIS is broader.

reducing the shippers' ability to be competitive. Furthermore, the safety of existing road crossings would continue to decline as crossing surfaces and the rail line deteriorate, increasing the potential for train and train/vehicle accidents. Road safety would also be reduced should shippers chose to rely more on trucks for their transportation needs, diverting rail shipments to less efficient truck transportation, putting an increased number of trucks on local roads. Should DM&E become a non-viable rail line, as noted by the Board in its December 10, 1998 decision, rail service could be lost to most of South Dakota and southern Minnesota, potentially resulting in significant economic hardship for the agricultural communities throughout the region, as well as increased truck traffic on local roads due to rail traffic no longer being available to ship goods.

In these circumstances, SEA determined that the No-Action Alternative would pose safety impacts, both rail and highway, and economic impacts to rail shippers along the existing rail line as well as potentially to the regional agricultural economy. Moreover, the No-Action Alternative would not satisfy the purposes or needs defined for the project. Under the No-Action Alternative, a third rail carrier would not obtain access to the Powder River Basin, and the potential benefits of DM&E's proposal — increased competition for coal shippers, increased regional rail capacity, and an additional rail option for utilities to utilize in obtaining Powder River Basin coal to meet the requirements of the Clean Air Act and increasing demand for electrical energy — would not occur. Also, according to DM&E, the No-Action Alternative would not provide DM&E the financial resources needed to reconstruct its existing system.

Finally, under any of the Action Alternatives, mitigation measures could be imposed to minimize, reduce, or eliminate some of the potential environmental impacts. SEA recognizes that some of the environmental impacts of the Action Alternatives cannot be adequately mitigated, as discussed in more detail below. However, under the No-Action Alternative, the Board has no

ability to impose mitigation because the Board would not grant final authority for DM&E to construct a new rail line.<sup>12</sup>

Nevertheless, SEA preliminarily concludes, based on the information available to date that, although the No-Action Alternative has its own potentially significant environmental impacts and would not meet Applicant's purpose and need, it would be premature to reject it at this point, given the substantial adverse environmental impacts associated with all the Action Alternatives and the difficulty of effectively mitigating some of their impacts. SEA requests further comments on the No-Action Alternative. SEA will consider the comments and, if appropriate, determine if the No-Action Alternative would be the environmentally preferable alternative in the Final EIS.

### **ES.8.2 The Action Alternatives For The New Rail Line In Wyoming and Western South Dakota (Alternatives B, C, D)**

Table ES-2 presents a summary of the various Action Alternatives (Extension Alternatives) considered by SEA for the proposed project, and includes each alternative's purpose as well as SEA's preliminary recommendation. The discussion below following the table provides a more detailed description of each alternative.

#### **ES.8.2.1 Alternative D**

During the public scoping process, it was suggested that DM&E use existing transportation corridors, particularly rail, for the project rather than construction of new rail line in new right-of-way. SEA and the cooperating agencies conducted site visits, examined maps, and reviewed available information regarding the study area and agreed that there could be opportunities to use parallel or existing transportation corridors in this case. SEA and the

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<sup>12</sup> In that event, however, DM&E could still upgrade its existing system, should it find the financial resources to do so, because rehabilitation of an existing line, by itself, does not require Board approval or environmental review.

cooperating agencies then consulted with DM&E to determine which, if any, of these corridors would provide reasonable and feasible alternatives for the project. After considerable investigation, DM&E concluded that none of the proposed existing corridor alternatives would be feasible. SEA and the cooperating agencies, however, determined that an existing rail corridor alternative should, nevertheless, be evaluated in the Draft EIS. Therefore, an alternative alignment — Alternative D — that SEA and the cooperating agencies believed would make the most effective use of the existing rail corridor opportunities in the area — was developed and included as a project alternative (Figure ES-6).

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Extension Alternatives (Wyoming and South Dakota)</b>			
Alternative B	Proposed route, extends southwest from Wall, South Dakota along the Cheyenne River and westward into Wyoming to access the coal mines	Extend DM&E's existing system westward to access the coal mines in the Powder River Basin of Wyoming	
Alternative C	Modified proposed route similar to Alternative B but with the alignment modification to avoid the environmentally sensitive areas along the Cheyenne River	Extend DM&E's existing system westward to access coal mines in the Powder River Basin of Wyoming and avoid environmentally sensitive areas along the Cheyenne River	Should it be determined that the project must meet the propose and need identified for the project Alternative C appears to be the least environmentally intrusive alternative.
Alternative D	Existing corridor alternative that utilizes existing rail line from Wall to Rapid City to Smithwick, new alignment west to Edgemont and then parallel existing rail line to access the mines	Extend DM&E's existing system westward to access coal mines in the Powder River Basin of Wyoming while utilizing existing rail lines to the extent practicable	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Extension Sub-Alternatives Spring Creek Alternatives (South Dakota)</b>			
Spring Creek Segment	Segment of Alternative B, crosses and follows Spring Creek floodplain	Provide efficient grade for new rail line extending DM&E's existing system.	While both alternatives would have potentially significant impacts to environmental resources, the Phiney Flat Alternative would have far fewer impacts that would be more capable of being mitigated, therefore SEA preliminarily concludes that the Phiney Flat Alternative would be environmentally preferable.
Phiney Flat Alternative	Segment of Alternative B moved out of Spring Creek drainage area	Avoid sensitive environmental areas (wetlands, riparian areas) along Spring Creek	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Hay Canyon Alternatives (South Dakota)</b>			
Hay Canyon Segment	Alignment following Hay Canyon drainage from north of the Cheyenne River south to Smithwick	Provide suitable alignment while avoiding environmentally sensitive areas along the Cheyenne River	Each of the alternatives would have significant environmental impacts, however to different resources. Because SEA would have to make a value judgement between wetlands/ riparian areas or irrigated lands, SEA requests additional comments from agencies and the public to assist in identifying an environmentally preferable alternative.
Oral Segment	Alignment following the Cheyenne River to Oral, then using existing rail line south to Smithwick	Provide suitable alignment while using as much of the existing DM&E rail line as practicable, avoid irrigated lands and environmentally sensitive areas along Hay Canyon	
WG Divide Alternative	Alignment following WG Divide drainage from north of the Cheyenne River south to Smithwick	Provide suitable alignment while avoiding environmentally sensitive areas along the Cheyenne River and Hay Canyon	

**Table ES-2**  
**Summary of Powder River Basin Expansion Project Alternatives**  
**Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Black Thunder Alternatives (Wyoming)</b>			
Black Thunder South	Two spurs, one north of Hwy. 450 to access Jacobs Ranch Mine, one south along Hwy. 450 creating a second rail loading loop to access the Black Thunder Mine	To provide access to Black Thunder Mine, avoiding need to cross existing Jacobs Ranch Mine Loop	Overall, neither alternative would have significant environmental impacts. However, because the North Mine Loop would have less overall environmental impacts, SEA preliminarily concludes the Black Thunder North Mine Loop would be the preferred environmental alternative.
Black Thunder North	Rail spur north of Hwy. 450 connecting to Jacobs Ranch Mine, continuing to the existing Black Thunder rail loop on the north side of Hwy 450	To provide access to Black Thunder Mine, minimizing new rail line construction	

<p style="text-align: center;"><b>Table ES-2</b>  <b>Summary of Powder River Basin Expansion Project Alternatives</b>  <b>Wyoming, South Dakota, and Minnesota</b></p>			
Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>North Antelope Alternatives (Wyoming)</b>			
North Antelope East	Mine connection spur connecting to existing mine loop just west of Porcupine Reservoir	Provide rail access to the North Antelope Mine	Overall, neither alternative would have significant environmental impacts. However, because the East Mine Loop would have less overall environmental impacts, SEA preliminarily concludes the North Antelope East Mine Loop would be the preferred environmental alternative.
North Antelope West	Mine connection spur connecting to existing mine loop west of Porcupine Reservoir	Provide rail access to the North Antelope Mine	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Mankato Alternatives (Minnesota)</b>			
M-1	No Build Alternative	Maintain current condition which involves operational inefficiencies due to DM&E operating over another rail carrier (UP)	Based on information to-date, Alternative M-2 appears to be environmentally preferred. Should DM&E reach agreement with UP and the City of Mankato and implement measures to ensure safety of flood control projects, Alternative M-3 could become environmentally preferred alternative.
M-2	Southern Mankato Route, provide a connection route south of Mankato.	Bypass DM&E's trackage rights on UP rail line, while avoiding existing rail corridor	
M-3	Existing Corridor Route, provide a connection route within UP's existing rail corridor.	Bypass DM&E's trackage rights on UP rail line by confining rail construction to existing corridor	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Owatonna Alternatives (Minnesota)</b>			
O-1	No action alternative, DM&E would be unable to interchange rail traffic with I&M, existing rail line would not be reconstructed	Maintain environmental status quo, DM&E rail interchange would be limited to existing locations	Assuming DM&E could implement Alternative O-5, SEA preliminarily concludes that Alternative O-5 appears to be the environmentally preferable alternative because it would not require any additional right-of-way and would have generally minimal environmental impacts. If Alternative O-5 could not be implemented, SEA believes Alternative O-4 would be the environmentally preferable alternative because it would have less environmental impacts and minimize new rail line construction.
O-2	Reconstruction of existing rail line, but no interchange with I&M	Improve rail operations through Owatonna, DM&E rail interchange would be limited to existing locations	
O-3	Reconstruction of existing rail line and construction of 3.2-mile rail line connection with I&M	Enable rail interchange between DM&E and I&M using connecting track long enough to accommodate an entire train	
O-4	Reconstruction of existing rail line and construction of 1.7-mile rail line connection with I&M	Enable rail interchange between DM&E and I&M, minimizing new rail line construction	
O-5	Reconstruction of existing rail line and construction of rail connection with I&M within existing rail line right-of-way of another rail carrier (UP)	Enable rail interchange between DM&E and I&M minimizing new rail line construction and confining construction to existing rail right-of-way	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Rochester, Minnesota Alternatives</b>			
R-1	No action alternative, existing rail line not reconstructed	To maintain the environmental status quo, rail operations in Rochester remain unchanged	SEA believes use of existing rail corridor is generally environmentally preferable to new rail line construction. However, the reconstruction and by-pass alternatives would both have significant although different environmental impacts. Therefore, SEA requests further comments on which alternative would be environmentally preferable and the extent to which the community should share the cost of a bypass, if one is approved.
R-2	Reconstruction of existing rail line through Rochester	Improve rail service and operation through Rochester	
R-3	Construction of new rail line by-pass around the South side of Rochester, no change in rail line or operations in Rochester	Minimize environmental impacts from increased rail traffic by routing it around Rochester	
R-4	Construction of a new rail line by-pass for all rail traffic around the south side of Rochester	Minimize environmental impacts by rerouting new and existing rail traffic around Rochester	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Brookings, South Dakota Alternatives</b>			
B-1	No-Action Alternative, existing rail line not reconstructed	To maintain the environmental status quo, rail operations in Brookings would remain unchanged	Based on the differences in the potential environmental impacts, SEA preliminarily concludes that Alternative B-4 appears to be the environmentally preferred alternative. However, because this alternative may not contribute to the overall purpose and need defined for the project because it would not improve rail service to Brookings shippers, SEA specifically requests further comments on the Brookings alternative, including the extend to which the community should share the cost of a bypass, if one is approved.
B-2	Reconstruction of existing rail line through Brookings	Improve rail service and operation through Brookings	
B-3	Construction of new rail line bypass around the north side of Brookings, no change in rail line or operations in Brookings	Minimize environmental impacts from increased rail traffic by routing it around Brookings	
B-4	Construction of a new rail line bypass for all rail traffic around the north side of Brookings	Minimize environmental impacts by rerouting new and existing rail traffic around Brookings	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Middle East Yard Options (Minnesota)</b>			
Option A	Construction and operation of new rail yard west of Mankato, Minnesota	Provide facilities for train crew changes and efficient interchange of rail traffic with UP	After considering the potential environmental impacts of the yard options, SEA determined impacts to Minneopa State Park to be significant and difficult to mitigate. Other environmental impacts could be mitigated. Therefore, SEA preliminarily concludes that Option B would be the environmentally preferable alternative.
Option B	Construction and operation of new rail yard east of New Ulm, Minnesota	Provide facilities for train crew changes and efficient interchange of rail traffic with UP, while avoiding State Park lands	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>West Yard Options (Wyoming)</b>			
Option A	Construction and operation of a new rail yard on the Campbell/Weston County line, Wyoming	Provide facilities for train staging and dispatch westward to the coal mines and eastward to coal users	Based on the information available to date, SEA considers Option B to be environmentally preferable due to it having less impact on public lands, particularly Thunder Basin National Grassland. In the event DM&E would exchange land elsewhere for National Grasslands at the Option A site and the USFS would agree to Option A, SEA would reconsider which yard alternative would be preferable.
Option B	Construction and operation of a new rail yard slightly south of Option A	Provide facilities for train staging and dispatch westward to the coal mines and eastward to coal users, avoiding impacts to National Grasslands	

**Table ES-2  
Summary of Powder River Basin Expansion Project Alternatives  
Wyoming, South Dakota, and Minnesota**

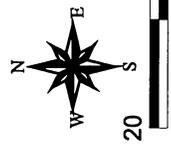
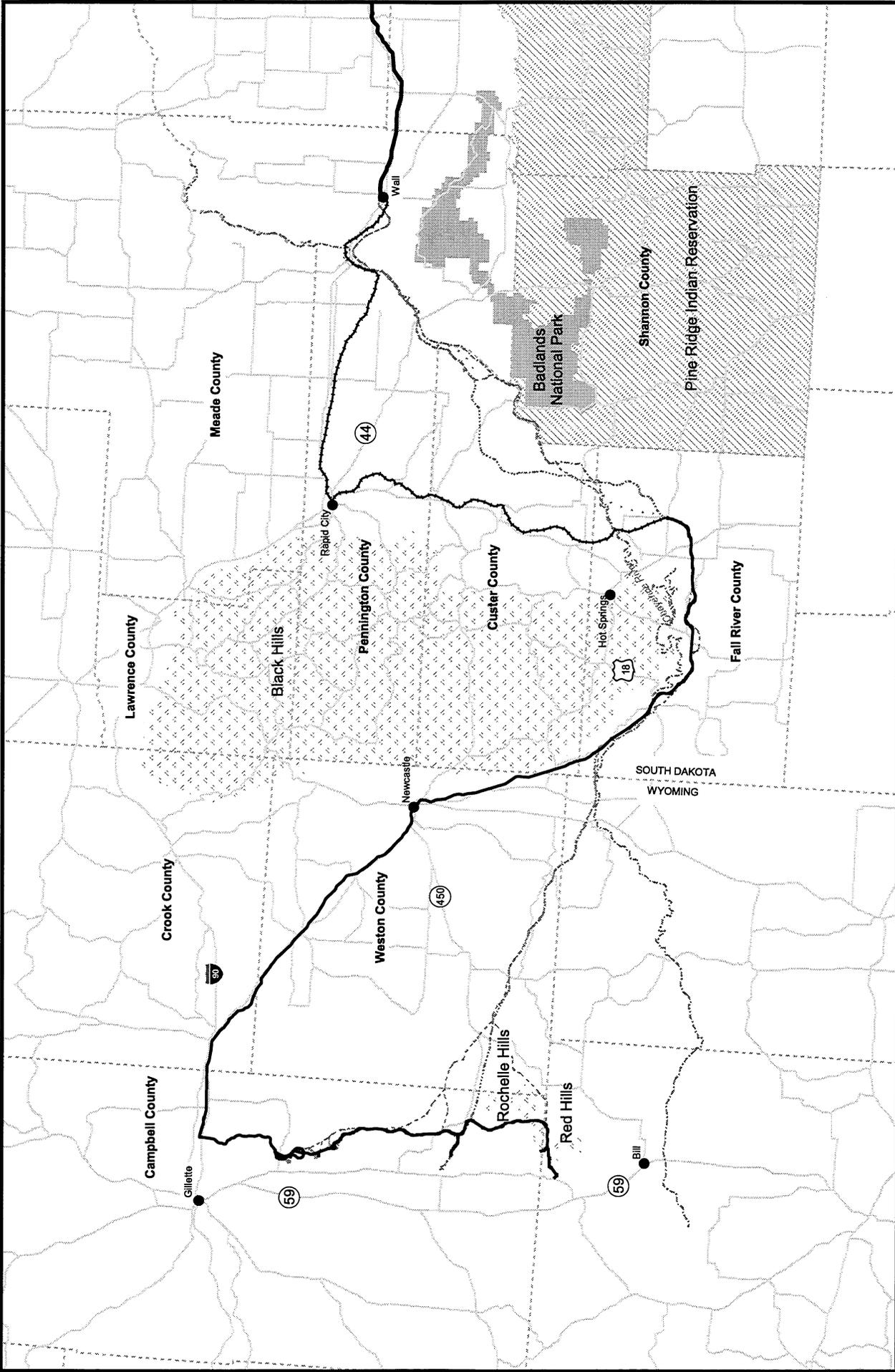
Alternative	Description	Purpose	SEA's Preliminary Recommendation
<b>Missouri River Bridge Alternatives (South Dakota)</b>			
Rehabilitation of Existing Bridge	Reinforce existing rail bridge to accommodate unit coal trains	Enable transport of unit coal trains over the Missouri River	SEA believes it is preferable to avoid impacts, even if temporary. Therefore, SEA preliminarily concludes that rehabilitation of the existing rail bridge is the environmentally preferred alternative. If DM&E submits information indicating rehabilitation of the existing rail bridge is not reasonable and feasible, SEA would re-evaluate this conclusion.
New Construction/ New Ownership	Construction and operation of a new rail bridge and transfer of ownership of existing bridge	Enable transportation of unit coal trains over the Missouri River and development of alternative use for the existing rail bridge	
New Construction/ Bridge Removal	Construction and operation of a new rail bridge and removal of existing rail bridge	Enable transportation of unit coal trains over the Missouri River with no alternative use for the existing rail bridge	

In this Draft EIS, SEA determined that, although Alternative D would utilize existing rail line corridor for approximately 251.3 miles of its total length of 353.4 miles,<sup>13</sup> the greater length of this alternative (over 70 miles longer than Alternatives B and C), combined with the numerous communities through which it would be required to pass and the lack of flexibility to avoid sensitive areas, results in Alternative D having more significant potential environmental impacts than either Alternatives B or C. These impacts include greater noise, air emissions, and impacts to visibility at Badlands National Park, Black Elk Wilderness Area, and Wind Cave National Park in South Dakota, all classified as “Class I airsheds,” or areas of important visual quality. In addition, because of its substantially longer, more circuitous route, Alternative D may not meet one of the stated purposes of the proposed rail line expansion, which is to efficiently deliver low sulphur coal from Wyoming’s Powder River Basin to utility markets located further east (see Board’s December 10, 1998 decision at 23 n. 44). According to DM&E, Alternative D adds “such significant capital costs and operating inefficiencies” to make the alternative unfinanceable (DM&E Comment dated June 9, 1999 at Appendix A, p. 5).

In sum, because the environmental impacts of Alternative D would be considerably greater than those of either Alternative B or C, and because it appears to fail to meet the Applicant’s purpose and need for the proposal, SEA has concluded that Alternative D would not be the environmentally preferable action alternative and accordingly has eliminated it from further consideration.

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<sup>13</sup> Only approximately 102.1 miles (approximately 29 percent) of the total 353.4 miles of Alternative D would involve rail line construction on new right-of-way, less than half what would be required for Alternatives B (260.6 miles) and C (256.3 miles).



- Existing Rail Line
- Alternative B
- Variations
- Alternative C
- Alternative D- new construction
- Alternative D- along existing line

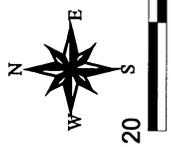
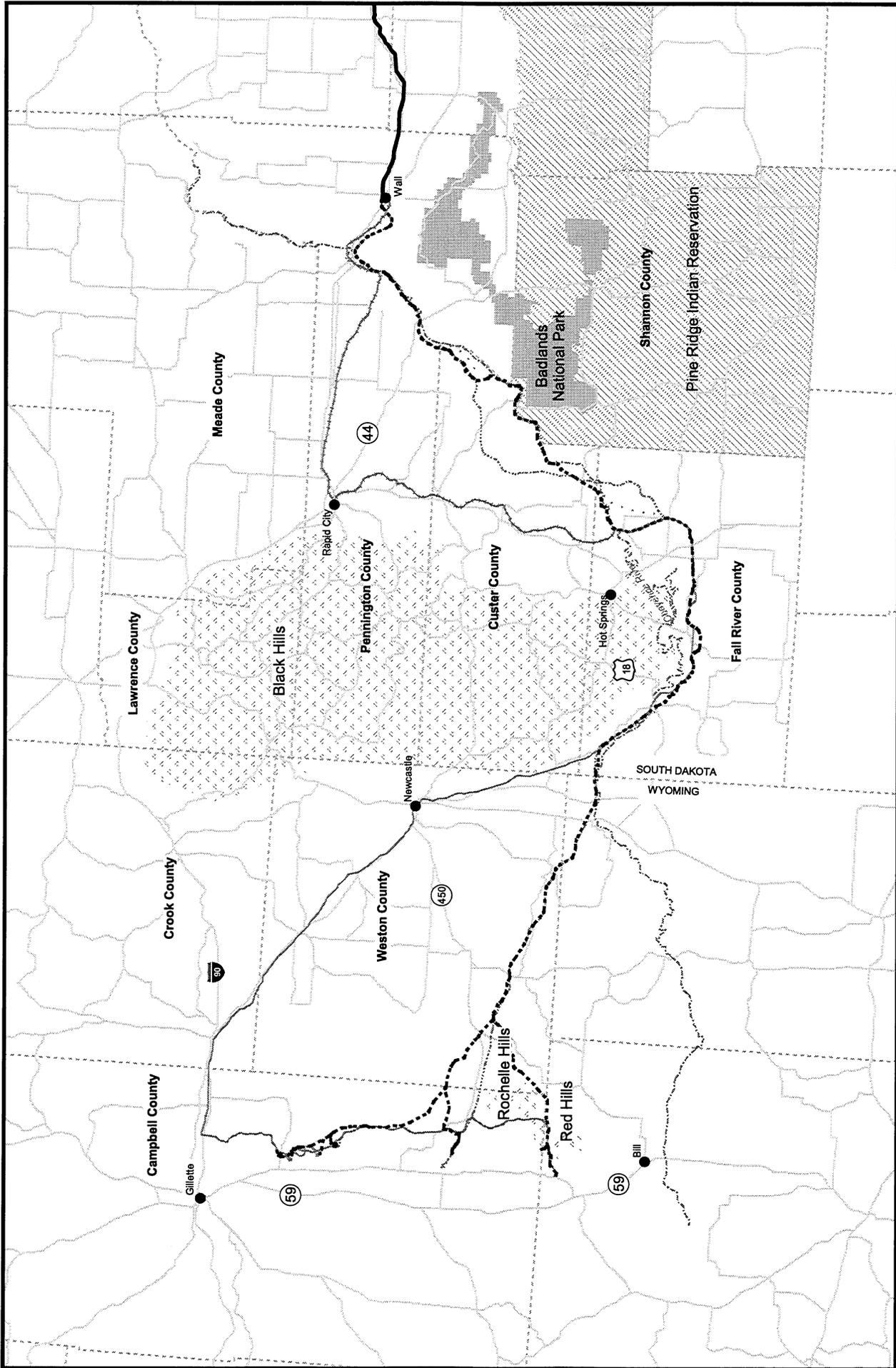
Figure ES-6  
POWDER RIVER BASIN EXPANSION PROJECT  
Alternative D

### **ES.8.2.2 Alternatives B and C**

Elimination of Alternative D left SEA two Action Alternatives to consider for the new rail line in Wyoming and Western South Dakota: Alternative B (Figure ES-7) and Alternative C (Figure ES-8). Alternative C was developed by modifying Alternative B – the one DM&E identified as preferred in its Application – to avoid sensitive environmental areas identified during the public scoping process. Much of the alignment for Alternatives B and C is generally the same. As a result, the potential environmental impacts of the two alignments are somewhat similar in nature. Specifically, SEA determined that both Extension Alternatives would have potentially significant impacts to geologic hazards, soils, paleontological resources, land use, water resources, wetlands, visibility, vegetation, cultural resources, and aesthetics. As discussed below, however, some of these potentially significant impacts could be reduced or eliminated through mitigation.

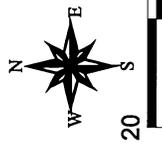
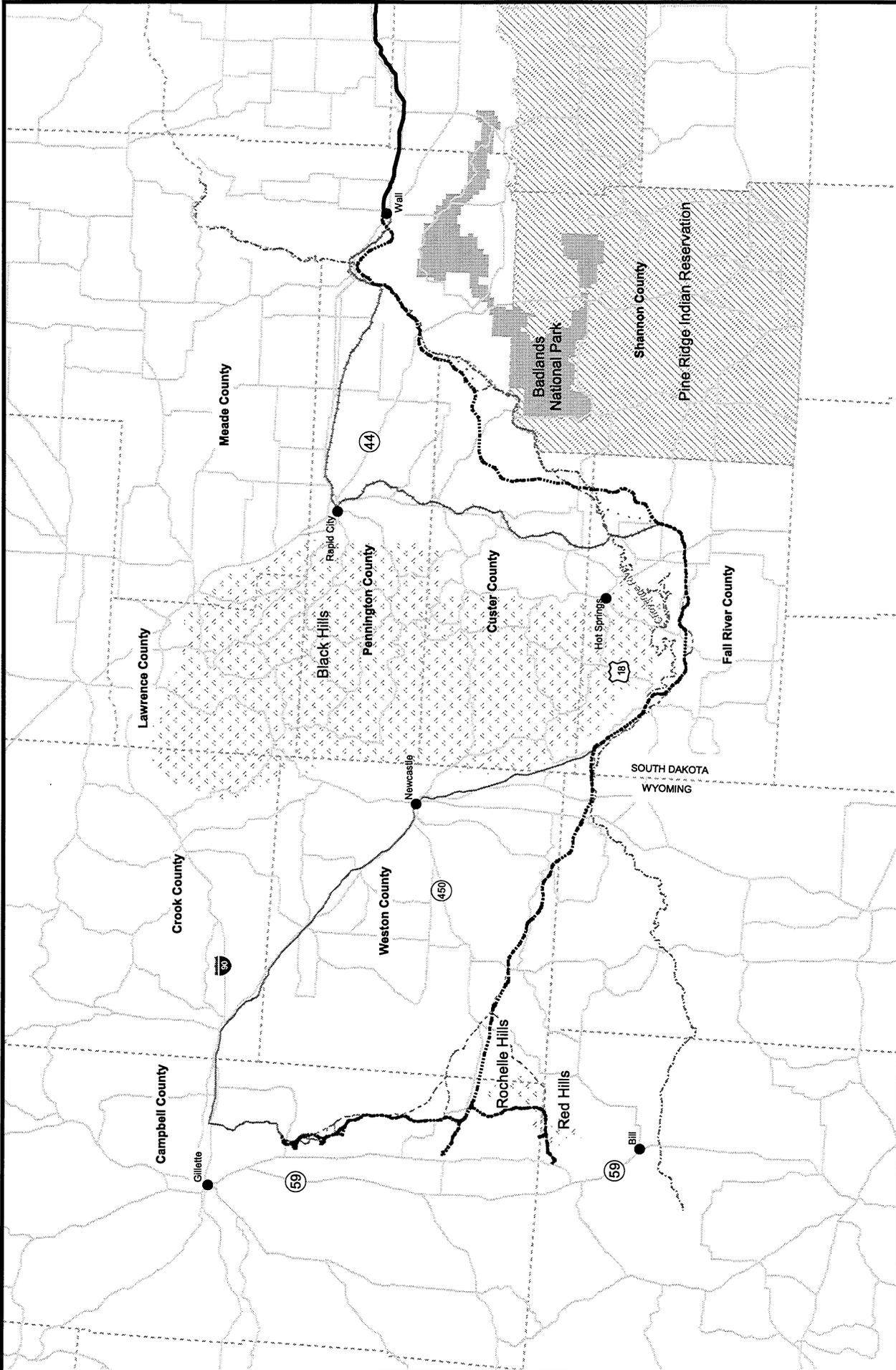
Despite the similarities in several environmental impact areas, Alternatives B and C differ in certain key respects. For example, Alternative B would likely have potentially significant effect on safety at one grade crossing (assuming DM&E were to transport a maximum 20 million tons) and two grade crossings (assuming movements of 50 and 100 million tons of coal annually). Alternative C would not result in these impacts because the number of vehicles that would traverse the crossings of this alternative is substantially less.

Potential impacts to Federal land, particularly lands managed by the USFS, would also differ between Alternatives B and C. Alternative B would cross 51.9 miles of USFS land, converting approximately 2,516.4 acres of USFS land to rail line right-of-way. Alternative C would cross only 38.9 miles of USFS land and convert approximately 1,886.1 acres to rail line right-of-way. Additionally, Alternative B would cross two USFS RARE II areas (defined above), likely eliminating them from consideration for inclusion in the National Wilderness Preservation System.



- Existing Rail Line
- ..... Alternative B
- ..... Alternative C
- ..... Alternative D- new construction
- ..... Alternative D- along existing line
- ..... Variations

Figure ES-7  
POWDER RIVER BASIN EXPANSION PROJECT  
Alternative B



- Existing Rail Line
- Alternative B
- Variations
- Alternative C
- Alternative D- new construction
- Alternative D- along existing line

Figure ES-8  
POWDER RIVER BASIN EXPANSION PROJECT  
Alternative C

The U.S. Fish and Wildlife Service (USFWS), USFS, and some state agencies are greatly concerned about potentially adverse impacts to the black-footed ferret under Alternative B, which would cross an area identified for reintroduction of this species. Construction and operation of a rail line across this area has been noted by USFWS and USFS as potentially jeopardizing efforts to reintroduce the species into the wild. By contrast, Alternative C would avoid this area and likely have little, if any, impact on black-footed ferrets.

Significant impacts to wetlands would result from both Alternative B and C. However, Alternative B would have significantly greater impacts than Alternative C. The potential loss of approximately 101.8 acres of wetlands would be more than twice the approximately 48.5 acres of wetlands lost from Alternative C.

On the other hand, while both Action Alternatives have the potential to significantly impact paleontological resources, Alternative C would likely result in a greater level of impact as it would involve disturbance in the form of excavation and earthmoving activities on approximately 1,837.6 acres with a PFYC (Probably Fossil Yield Classification) of 5. Alternative B, by comparison, would potentially affect only 1,061.8 acres of PFYC 5 areas. Alternative C would potentially affect approximately 116.4 acres within the Thunder Basin Special Interest Area, a parcel of land managed by the USFS and classified as a Special Interest Area (SIA) due to its fossil resources. Alternative B would also cross this SIA. It would potentially impact slightly less of the area, 96.9 acres, but overall impacts to the SIA would be similar between the two alternatives.

In sum, after considering all the potential environmental impacts of Alternatives B and C based on its analysis to date, SEA preliminarily concludes that construction and operation of either of these alternatives would potentially result in significant environmental impacts to various resources. Moreover, if SEA's recommended mitigation is imposed and implemented, this would

likely reduce some but not all of the potential impacts, in some instances to levels below significant, under both Alternative B and C. Even with mitigation, however, both alternatives would result in some potential significant adverse environmental impacts, particularly in areas such as noise, land use, aesthetics, cultural resources, and possibly air quality (specifically visibility at Class I airsheds). Therefore, SEA, based on the information available at this time, does not believe that either of the two reasonable and feasible extension alternatives – Alternatives B and C – can be viewed as environmentally preferable. Nevertheless, Alternative B would have greater potential impacts to safety, Federal lands, water resources, and endangered species than Alternative C, which was specifically developed to avoid some of these impacts. As a result, SEA preliminarily concludes, that if the new construction receives final approval, Alternative C would appear to be the least environmentally intrusive action alternative for the new rail line in Wyoming and western South Dakota.<sup>14</sup>

### **ES.8.2.3 Alternative Route Variations**

In addition to the three Action Alternatives described above (Alternatives B, C, and D), short variations in these alignments have been developed and evaluated to respond to engineering and environmental issues raised during scoping and consultation with the cooperating agencies, as well as other Federal and state agencies. These short variations are located in the following areas: (1) Spring Creek in South Dakota; (2) Hay Canyon in South Dakota; (3) Black Thunder Mine in Wyoming; and (4) North Antelope Mine in Wyoming. SEA's analysis of these route variations is set forth in detail in the Draft EIS. These variations are also briefly discussed below, along with SEA's preliminary conclusions (see also Table ES-2).

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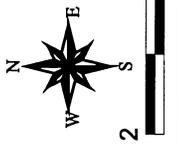
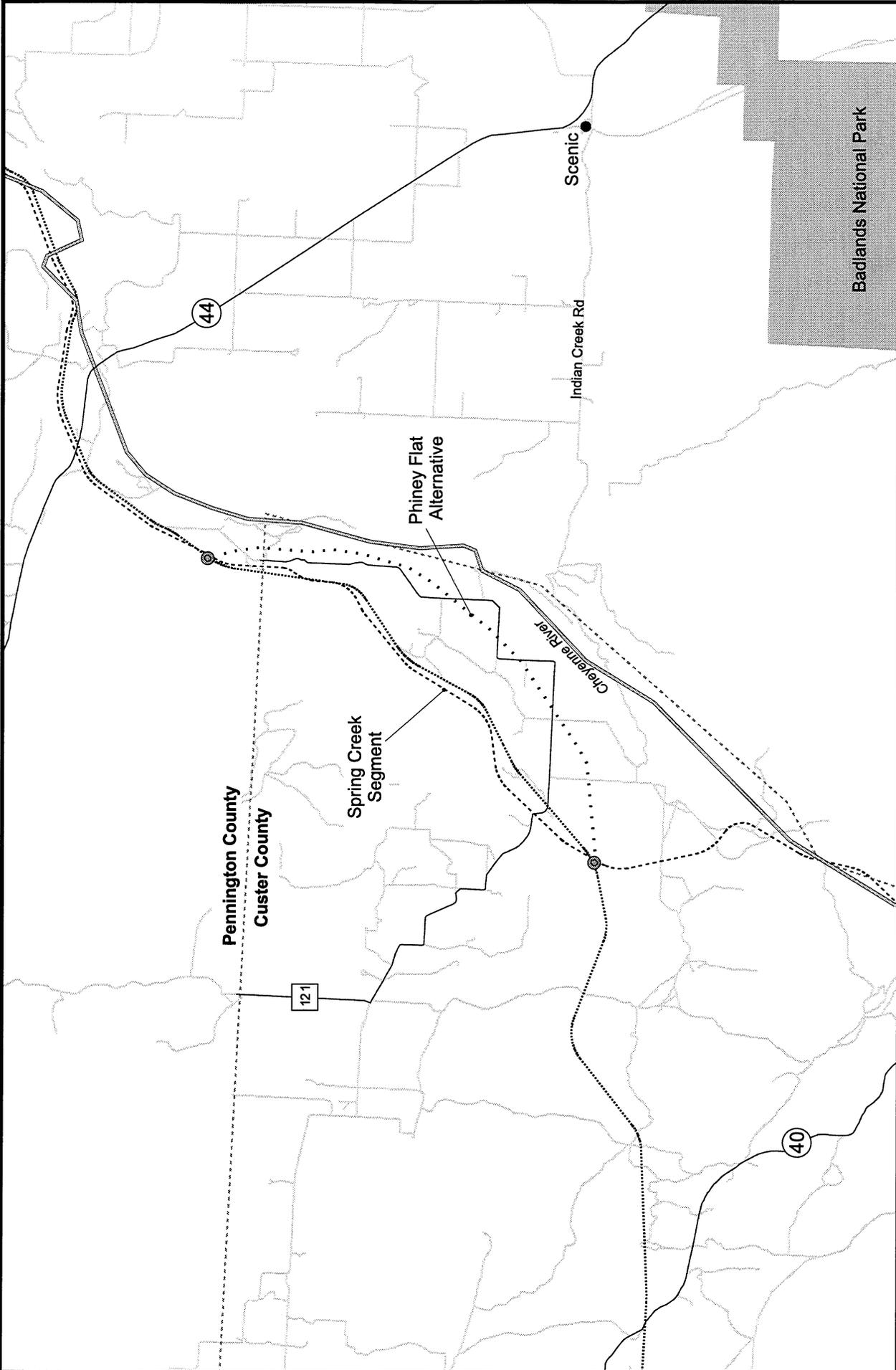
<sup>14</sup> In addition, the USFS has identified Alternative C as its preferred alternative, should the project receive final approval.

**ES.8.2.3.1 Spring Creek Alternatives - South Dakota****ES.8.2.3.1.1 Spring Creek Segment**

The 8.5-mile Spring Creek Segment of Alternatives B and Alternative C would follow the sideslope of the Spring Creek floodplain beginning in Pennington County, South Dakota, approximately 1.0 mile north of the Custer County line (Figure ES-9). This segment would continue south for approximately 3.0 miles crossing Spring Creek approximately six times. The segment would then turn to the southwest, cross Spring Creek and stay generally on the north side of the creek. The Spring Creek Segment would continue on the north slope of Spring Creek approximately 7.0 miles, crossing Spring Creek several more times. It would cross Spring Creek Road southeast of where the road crosses Spring Creek, ending approximately 1.0 mile southwest of Spring Creek Road.

**ES.8.2.3.1.2 Phiney Flat Alternative - South Dakota**

The 10.3-mile Phiney Flat Alternative (Figure ES-9) would provide an alternate alignment for the Spring Creek Segment. This alternative was developed to avoid wetland and riparian habitats along Spring Creek. It would move the Spring Creek portion of Alternatives B and C out of the Spring Creek drainage, upslope and southeast onto Phiney Flat. The Phiney Flat Alternative would extend from the point described for the Spring Creek Segment, approximately 1.0 mile north of the Pennington/Custer County line. It would cross Spring Creek Road and Spring Creek while still in Pennington County. The Phiney Flat Alternative would enter Custer County and ascend the slope at the north end of Phiney Flat, between the Cheyenne River and Spring Creek. This alternative would continue generally south and southwest across Phiney Flat. The alternative would curve westerly and end south of Spring Creek and approximately 1.5 miles west of Cheyenne River Road in Custer County.



- Alternative B
- ..... Alternative C
- ⊙ Variations
- ⊙ Marks Beginning and End of Spring Creek Alternatives

Figure ES-9  
 POWDER RIVER BASIN EXPANSION PROJECT  
 Spring Creek Alternatives

**ES.8.2.3.1.3 Preliminary Conclusion**

SEA's analysis showed that both the Spring Creek Segment and the Phiney Flat Alternative would have potentially significant environmental impacts. However, because the amount of impact to water resources, wetlands, and vegetation would be greater for the Spring Creek Segment, and because the impacts to the Phiney Flat Alternative are more capable of being mitigated, SEA believes that use of the Phiney Flat Alternative would be environmentally preferred.

**ES.8.2.3.2 Hay Canyon Alternatives - South Dakota**

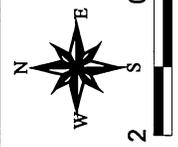
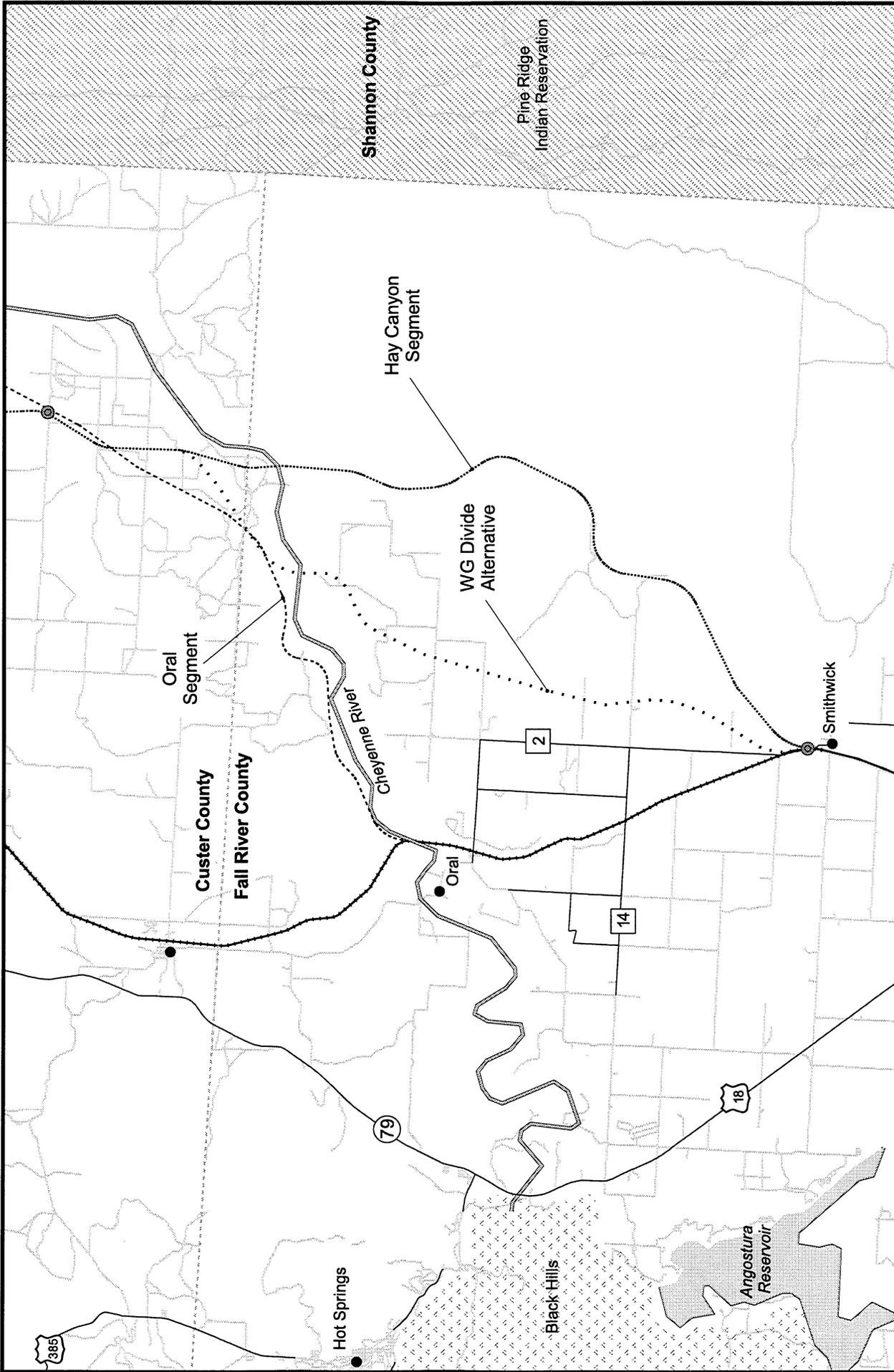
Three short route variations were developed to avoid impacts to wetland/riparian areas, the Cheyenne River and the Angostura Irrigation District in the Hay Canyon area of western South Dakota: the Hay Canyon Segment, the WG Divide Alternative, and the Oral Segment (Figure ES-10). Each of these three variations is described below.

**ES.8.2.3.2.1 Hay Canyon Segment**

The 18.5-mile Hay Canyon Segment would begin approximately 0.5 mile west of Harrison Flat near Cottonwood Cutoff. The segment would extend south across 268th Street and enter Harrison Flat. It would cross the Cheyenne River in Fall River County and enter Hay Canyon. The segment would continue south following Hay Canyon for approximately 7.0 miles. It would then turn west for approximately 1.0 mile then south 4.0 miles where it would end, approximately 0.5 miles north of Smithwick, South Dakota.

**ES.8.2.3.2.2 WG Divide Alternative**

The U.S. Fish & Wildlife Service (USFWS), COE, and South Dakota Department of Game, Fish and Parks (SDGFP) expressed concerns during the scoping process regarding the potential loss of wetlands and riparian habitat along the Cheyenne River and Hay Canyon. USFWS indicated that should these habitats be lost, efforts to mitigate their loss could be



- Alternative B
- ..... Alternative C
- ..... Alternative D-  
new construction
- Alternative D-  
along existing line
- Variations
- ⊙ Marks Beginning and End  
of Hay Canyon Alternatives

Figure ES-10  
POWDER RIVER BASIN EXPANSION PROJECT  
Hay Canyon Alternatives

unsuccessful. In a letter submitted to the COE on June 11, 1999, the USFWS indicated that because of the potential impact to wetland and riparian areas in the Hay Canyon area, efforts should be taken to avoid the Hay Canyon Segment. Conversations with the cooperating agencies indicated a likelihood that the USFWS would recommend to COE that DM&E's Section 404 permit be denied should the Hay Canyon Segment be selected for construction. As a result, SEA and the cooperating agencies coordinated with DM&E to develop an alternate alignment to avoid or minimize impacts to Hay Canyon. The WG Divide Alternative resulted.

The 14.7-mile WG Divide Alternative would cross the Angostura Irrigation District which is under the jurisdiction of the Bureau of Reclamation. It follows the same alignment as the Hay Canyon Segment for the first several miles. Approximately 1.0 miles north of the Custer County, Fall River County line, and approximately 1.5 miles west of the Cheyenne River, the WG Divide would leave the Hay Canyon segment and turn southwest. The WG Divide Alternative would extend away from the Hay Canyon Segment after crossing Harrison Flat, extending southwest across Lane Johnny Creek. It would turn south, cross the Cheyenne River, continuing south along WG Divide. The WG Divide Alternative would end approximately 0.5 miles north of Smithwick where it would join with the Hay Canyon and Oral Segments.

#### **ES.8.2.3.2.3 Oral Segment**

A third alternative, the 20.5-mile Oral Segment, was developed and analyzed. The Oral Segment would begin near Cottonwood Cutoff, west of Harrison Flat. The segment would extend southwest across the western edge of Harrison Flat for approximately 4.0 miles where it would enter Fall River County. After crossing into Fall River County, the segment would follow the north edge of the Cheyenne River flood plain. Approximately 1.5 miles north of Oral the segment would turn south and join the existing DM&E rail line. The Oral Segment would involve reconstruction of approximately 9.5 miles of the existing DM&E rail line.

#### **ES.8.2.3.2.4 Preliminary Conclusion**

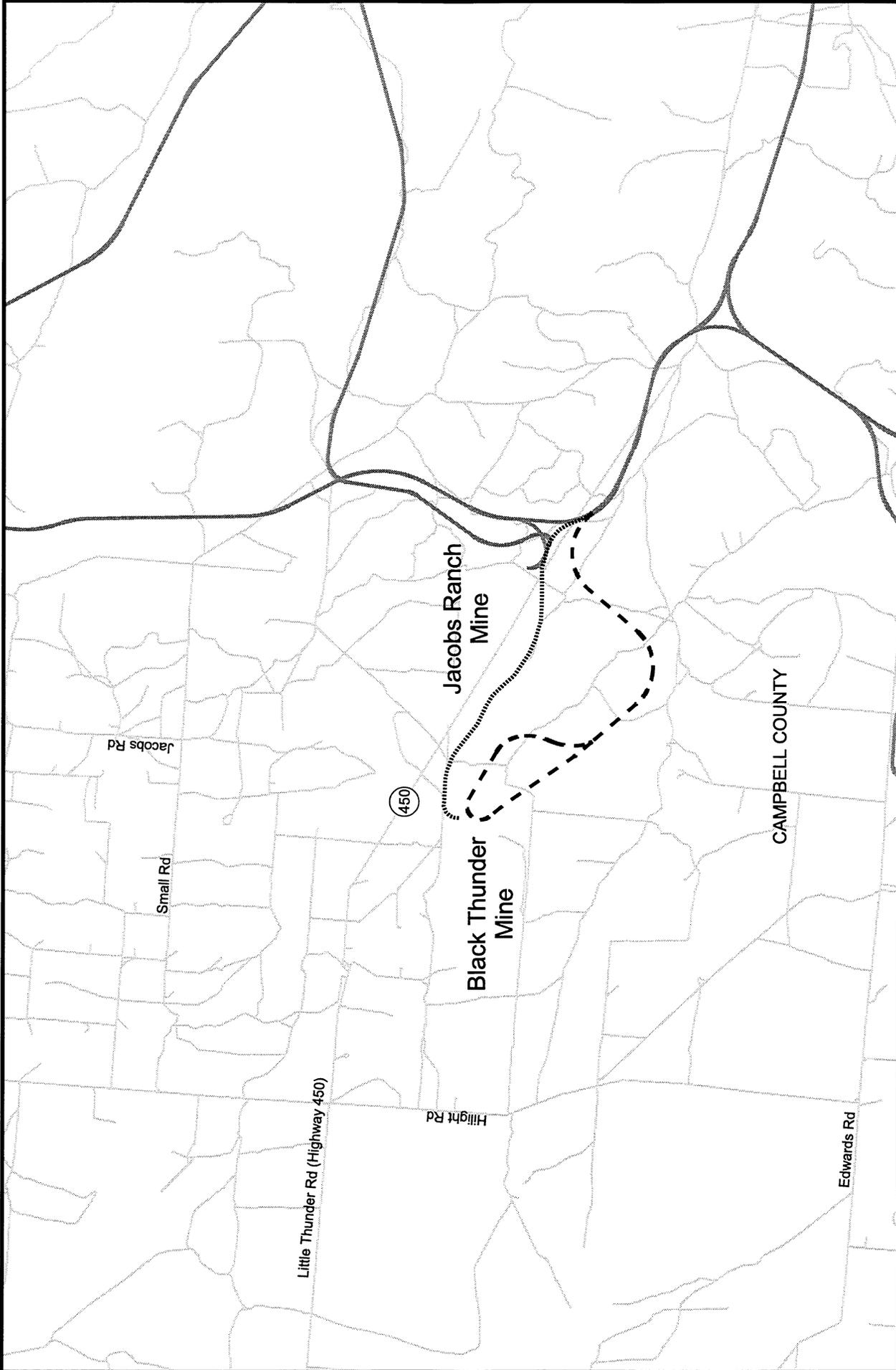
In reviewing the differences among the three alternatives — Hay Canyon Segment, Oral Segment, and WG Divide Alternative — SEA determined that each of the alternatives would have significant environmental impacts. However, these impacts would affect different resources: wetlands and riparian areas of Hay Canyon potentially would be most adversely affected by the Hay Canyon Segment, while irrigated lands in the Angostura Irrigation District potentially would be most adversely affected by the WG Divide Alternative, and the Oral Segment would have the most adverse affect on the Cheyenne River.

To identify an environmentally preferable alternative in this Draft EIS from among these three alternatives, SEA would have to make a value judgment on whether wetland/riparian areas of concern to USFWS are more important to the environment than irrigable lands of concern to Reclamation. SEA is reluctant to do so without the benefit of additional comment from the potentially affected agencies and the public to assist in identifying an environmentally preferable alternative. SEA will review and consider any comments and perform any additional analysis that is necessary for the Final EIS. SEA's identification of the environmentally preferred alternative from among the Hay Canyon, Oral Segment, and WG Divide Alternatives will be made, if one preferred alternative can be identified, in the Final EIS.

#### **ES.8.2.3.3 Mine Loop Alternatives - Wyoming**

##### **ES.8.2.3.3.1 Black Thunder Mine Loop Alternatives**

DM&E proposed two alternative routes for accessing the Black Thunder Mine in Wyoming: South Mine Loop and North Mine Loop (Figure ES-11). After reviewing these alternatives, SEA preliminarily concludes that neither alternative would have significant environmental impacts. However, the North Mine Loop would appear to be environmentally preferable because the South Mine Loop would have greater impacts to safety, geological



- ..... Black Thunder North Mine Loop
- Extension Alternatives
- - - - Black Thunder South Mine Loop
- Roads

Figure ES-11  
 POWDER RIVER BASIN EXPANSION PROJECT  
 Black Thunder Mine Loop Alternatives

hazards, soils, paleontological resources, land use, Federal lands, surface waters, wetlands, vegetation, wildlife (except raptors), transportation, cultural resources, and aesthetics.<sup>15</sup>

#### **ES.8.2.3.3.2 North Antelope Mine Loop Alternatives**

DM&E also proposed two alternatives to access the North Antelope Mine, the East Mine Loop and West Mine Loop (Figure ES-12), which are described in detail in the Draft EIS. SEA preliminarily concludes that neither alternative would have significant environmental impacts that could not be effectively mitigated. Because the West Mine Loop would have greater impacts than the East Mine Loop to safety, geological hazards, soils, paleontological resources, land use, surface waters, wildlife, threatened and endangered species habitat, and transportation,<sup>16</sup> SEA preliminarily concludes that the North Antelope East Mine Loop would be the environmentally preferable alternative.

In sum, based on its analysis to date, SEA considers Alternative C, using the Phiney Flat Alternative, the Black Thunder North Mine Loop, and the North Antelope East Mine Loop as the least environmentally intrusive alternative for extending DM&E's existing system to connect to the PRB coal mines. SEA has deferred selection of a preferred alternative for the Hay Canyon area in order to consider additional public and agency comment on the potential environmental impacts and available mitigation for environmental resources along the Hay Canyon alternatives.

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<sup>15</sup> The Black Thunder North Mine Loop would have greater but still minimal impacts to Federal grazing pastures, state lands, and raptor nests.

<sup>16</sup> The North Antelope East Mine loop would have greater but still minimal impacts to soils, number of Federal grazing pastures crossed, and wetlands converted to rail line right-of-way.

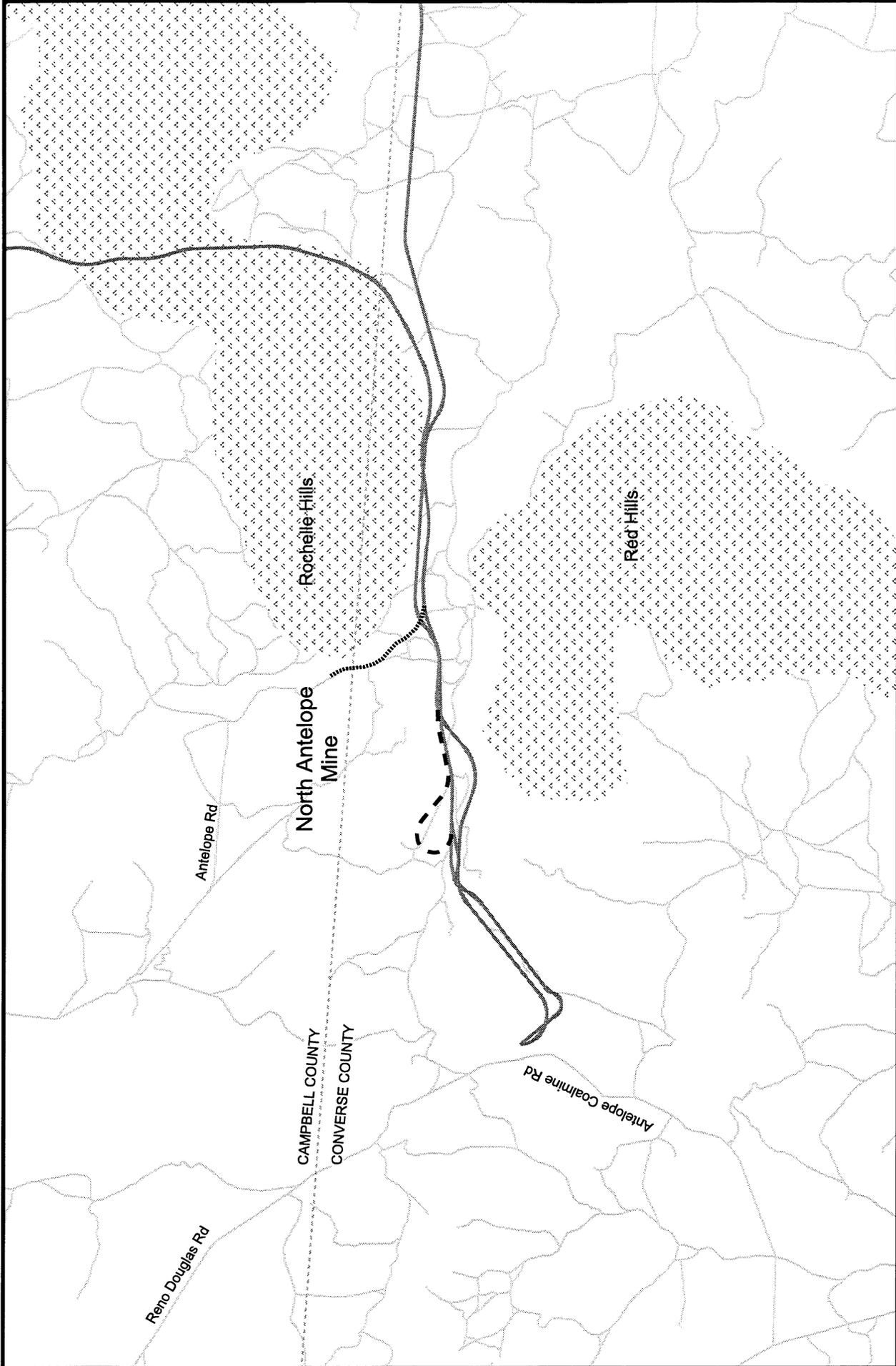


Figure ES-12  
 POWDER RIVER BASIN EXPANSION PROJECT  
 North Antelope Mine Loop Alternatives

North Antelope East Mine Loop
  Extension Alternatives

North Antelope West Mine Loop
  Roads

2 Miles

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**ES.9 PRELIMINARY SELECTION OF PREFERRED ALTERNATIVES:  
RECONSTRUCTION OF DM&E'S EXISTING RAIL SYSTEM IN SOUTH  
DAKOTA AND MINNESOTA**

Due to years of deferred maintenance, much of the existing DM&E rail system is in poor condition. Portions of the existing rail line must be operated only under speed restrictions (some as slow as 5 miles per hour, in contrast to other parts of the system where 40 miles per hour is the maximum speed allowed). Operation is generally limited to 263,000-pound cars (286,000 pound cars are considered the industry standard). DM&E's existing rail generally weights between 72 and 100 pounds per yard, much of which is jointed rail over 100 years old. Typically, rails are made of high-grade steel weighing between 112 and 145 pounds per yard, and are often welded together for smoother, quieter operations.

The rebuild of the existing DM&E main line from Wall, South Dakota eastward to Winona, Minnesota would occur in such a way as to enable the rail line to remain operational during reconstruction. Sections of the rail line would be taken out of service for 12 to 24 hours while old track, ballast, and ties would be replaced. The lightweight jointed track would be replaced with new 136-pound continuous welded rail capable of supporting 315,000 pound rail cars. Old ties would be replaced with new wood or concrete ties. Track and ties that are removed from the existing rail line would be disposed of properly or stockpiled for future use. However, considering the deteriorated condition of the existing rail line, it is unlikely that much of this material would be re-used. The existing ballast would be removed by truck or incorporated into the subgrade and replaced by new ballast. The majority of the rail work would be accomplished by rail-mounted equipment or equipment operating from the existing right-of-way.

Numerous sidings would be constructed along the existing line to accommodate the additional rail-mounted equipment necessary for rebuilding the existing rail line and providing continued rail service over the existing rail line. Additional sidings that would be necessary for the operation of the rail system following completion of the rebuild would be constructed during the rebuild process. Sidings would be designed to allow entry of trains from the main line at 40 miles per hour.

Completion of the rebuild of the existing DM&E rail system is anticipated to take two construction seasons, generally occurring during the period between April 1 and November 1. Following completion of the upgrade and the proposed new construction, the entire DM&E main line would consist of all new 136-pound continuously welded rail. The system would be designed to accommodate 315,000 pound cars. Up to 100 million tons of coal (approximately 750,000 cars) and approximately 66,000 freight cars of primarily corn, wheat, soybeans, bentonite and kaolin clay, cement, and wood products would be transported annually. Trains would operate over the new rail system at maximum speeds of 49 miles per hour.

As noted above, under the ICC Termination Act of 1995, the Board has the authority to license new rail lines accessing new markets (49 U.S.C. 10901). Railroads are not required to seek the Board's authority to rehabilitate or improve their existing systems. When DM&E submitted its Application to the Board in February of 1998, it sought the Board's approval to construct and operate a new rail line extending from its existing rail line near Wall, South Dakota into the Powder River Basin. The new construction also included a proposed new line segment at Mankato, Minnesota and a new connection near Owatonna, Minnesota.

DM&E's Application did not seek the Board's approval of DM&E's plans to rehabilitate its existing rail line in South Dakota and Minnesota given the fact that railroads can repair, replace, or rehabilitate their existing lines without any Board authority. As previously noted,

however, the U.S. Army Corps of Engineers (COE) – one of the cooperating agencies – asked that this Draft EIS include an analysis of the potential environmental impacts from activities associated with DM&E upgrading or rehabilitating its existing system so that COE will have the information it needs for its permitting decisions. In order to prepare a document that satisfies the regulatory requirements of all the cooperating agencies, including COE, these impacts have been assessed in this Draft EIS.

Two alternatives for the rebuilding and reconstruction of DM&E's existing system are assessed in this Draft EIS. The first alternative considered, the No-Action Alternative, would result if the Board denied DM&E's Application to construct and operate a new rail line extension into the Powder River Basin to transport coal. Under this alternative, DM&E could still undertake rehabilitation and reconstruction of its existing rail line. However, no new construction outside of existing rail right-of-way would be approved by the Board, and no new rail line into the Powder River Basin would be constructed.

The second alternative, designated in this section as the Action Alternative, would involve the total reconstruction and rehabilitation of DM&E's existing rail main line across southern Minnesota and most of South Dakota. The Action Alternative would result if the Board grants DM&E final authority to construct and operate a new rail line extension into the Powder River Basin and DM&E rebuilds its existing rail line for movement of unit coal trains. An upgraded, rehabilitated rail line could result in safety benefits to DM&E's existing rail operations, and could, in turn, enhance safety in the communities and surrounding rural areas through which DM&E operates. Because DM&E states that the rehabilitation of its existing system depends on approval of the new rail line expansion into the Powder River Basin, approval of DM&E's proposed rail

line extension likely would be necessary before reconstruction of the existing rail line would take place, despite the fact that no approval from the Board is required for this rehabilitation activity.<sup>17</sup>

DM&E's proposal to increase rail operations over its existing system – specifically, to add a maximum of 34 unit coal trains to its current rail operations – could detract from the safety improvements that would likely result from a totally upgraded DM&E rail line through Minnesota and South Dakota. Some of these potential safety impacts, however, could be mitigated (see Chapter 7). On balance, therefore, SEA preliminarily concludes that the Action Alternative for this portion of the project – that is, rehabilitation of DM&E's existing rail line – to be the environmentally preferred alternative.

### **ES.9.1 Mankato Alternatives**

In its Application to the Board, DM&E proposed to construct and operate an approximately 13.31-mile line rail segment to connect two sections of DM&E's existing main line at Mankato, Minnesota, in Blue Earth and Nicollet Counties, to avoid operating over existing rail lines owned and operated by Union Pacific Railroad Company (UP) via trackage rights. The proposed Mankato construction would provide DM&E direct access between its existing lines and avoid operational conflicts with UP.

In the Draft EIS, SEA considered three alternatives for the DM&E bypass of UP trackage rights in Mankato.<sup>18</sup> The No-Action Alternative, referred to as Alternative M-1 (Figure ES-13), would result from the Board's denial of DM&E's Application. The second alternative, known as

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<sup>17</sup> Permits would still be required by other agencies, including COE.

<sup>18</sup> An additional alternative, M-4, was included by DM&E in its Application. This alternative was a new rail loop north of Mankato and North Mankato to connect the two ends of DM&E's rail line. After reviewing the alternative, SEA has determined that engineering constraints (specifically, the vast amounts of cut and fill that would be required to create a level right-of-way) and unmitigatable environmental impacts to floodplains would render this route unreasonable and infeasible.

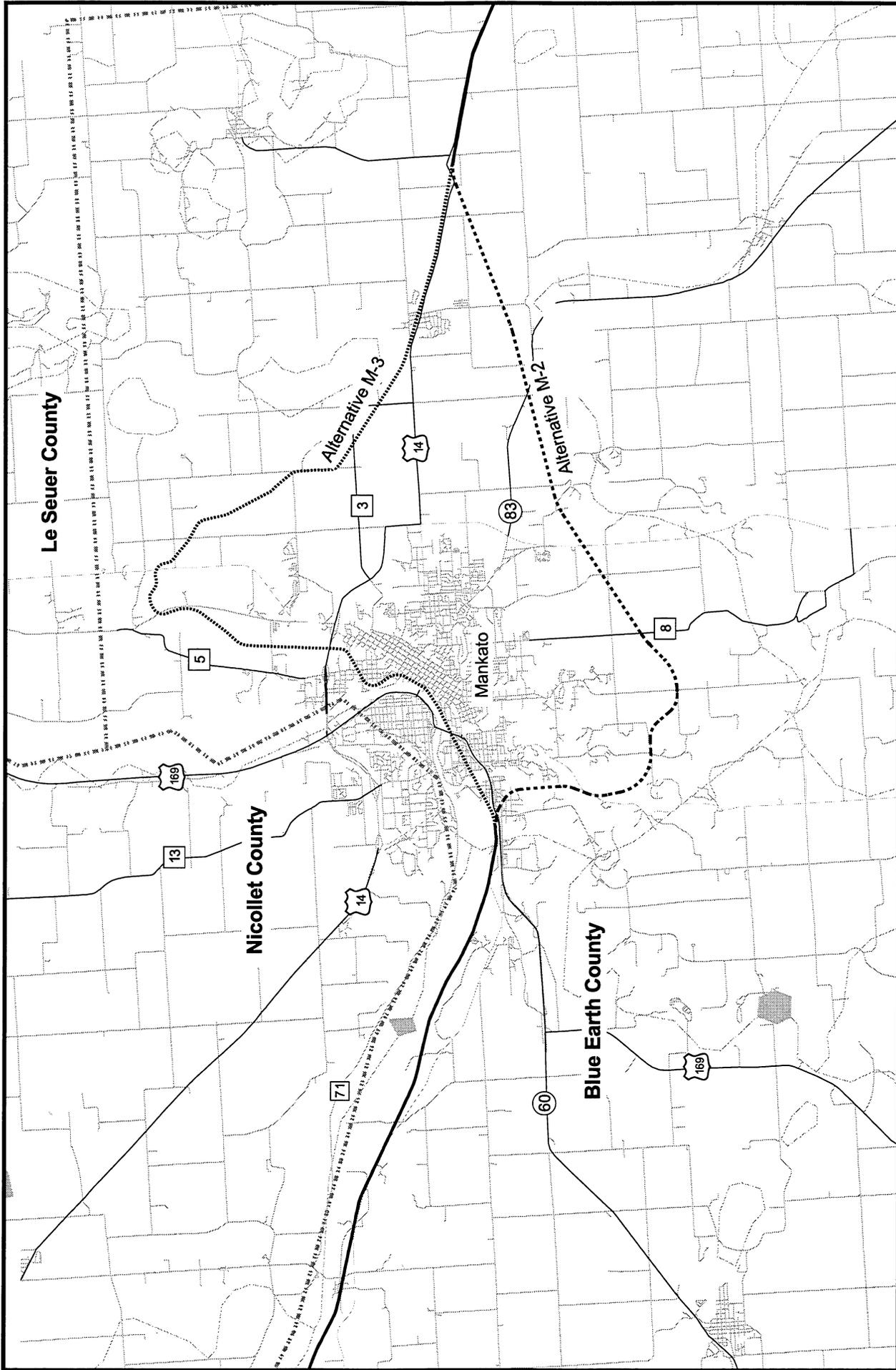


Figure ES-13  
**POWDER RIVER BASIN EXPANSION PROJECT**  
 Mankato Alternatives  
 Mankato, Minnesota

Existing Rail Line	Roads
—	—
.....	County Line
.....	Existing Rail Line Alternative
.....	Streams
.....	New Construction

3 Miles

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M-2, would involve the construction of the new 13.31-mile rail loop south of Mankato to connect DM&E trackage on the east of Mankota with that on the west side of town. The third alternative, M-3, would involve the construction of a new rail line within the existing UP right-of-way through Mankato.

Construction and operation of Alternative M-3 would not only involve construction within this existing rail corridor, but would require modifications to UP's existing rail facilities. Access and permission from UP to undertake these activities would be required. At this time, DM&E does not have permission from UP to construct and operate Alternative M-3.

Two flood control projects are located along the alignment proposed for Alternative M-3. (1) an earthen levee located immediately adjacent to the existing UP rail line, with the levee on the river-side of the rail line, at Lehillier, Minnesota; and (2) a concrete flood wall in downtown Mankato, also immediately adjacent to the UP rail line, with the rail line located on the side of the flood wall away from the Minnesota River. These projects are designed to provide flood protection to the communities of Lehillier and Mankato during high water events in the Minnesota River.

After full consideration of the Mankato Action Alternatives, SEA determined that Alternative M-3 would have significant impacts to noise sensitive and vibration receptors and that extensive mitigation measures may be needed to ensure the continued integrity of the local flood projects. Although SEA believes that Alternative M-2 also has substantial impacts, it appears that, based on currently available information, these potential adverse environmental impacts could be effectively mitigated. Therefore, based on the available information, SEA preliminarily concludes that Alternative M-2 appears to be the environmentally preferable alternative.

At the same time, SEA recognizes that locating additional rail line construction on an existing rail corridor generally is preferable and less impacting to the environment than constructing a new rail line on previously undisturbed land. While Alternative M-3 would have significant impacts within Mankato, SEA understands that DM&E and the City of Mankato have been in the process of negotiating an agreement that contemplates DM&E operating through town, assuming that an agreement can be reached with UP. If a negotiated agreement is reached and submitted to the Board, Alternative M-3 could emerge as the environmentally preferred route.

### **ES.9.2           Owatonna Alternatives**

In its Application, DM&E proposed constructing a new 2.94 mile rail line to connect its existing rail line to the I&M Rail Link (I&M) system in the Owatonna area in Steele County, Minnesota. Currently, DM&E does not own rail line through Owatonna but operates over UP rail line, via a trackage rights agreement, through town to connect the ends of its existing system on the east and west sides of the town. However, unlike Mankato, in Owatonna UP does not operate trains over the section of line it owns (the same section which bridges the gap in DM&E's system). Thus, DM&E is able to operate with generally few, if any, restrictions upon its use of this UP line. DM&E, evidently, will continue to be able to do so if this project is approved.

SEA evaluated five alternatives for construction and operation of a new rail line connection between DM&E's existing main line and I&M. The alternatives that SEA considered include two No-Action Alternatives, project denial (Alternative O-1) and approval of a rail line extension but denial of authority for the I&M connection (Alternative O-2). Three Action Alternatives (Figure ES-14) were evaluated, including construction and operation of Applicant's 2.94-mile proposal (Alternative O-3), a 1.7-mile alternative (Alternative O-4), and an alternative within the town of Owatonna that would replace an existing rail diamond switch with a "Y" connection to connect with I&M (Alternative O-5). The "Y" connection would be located at an

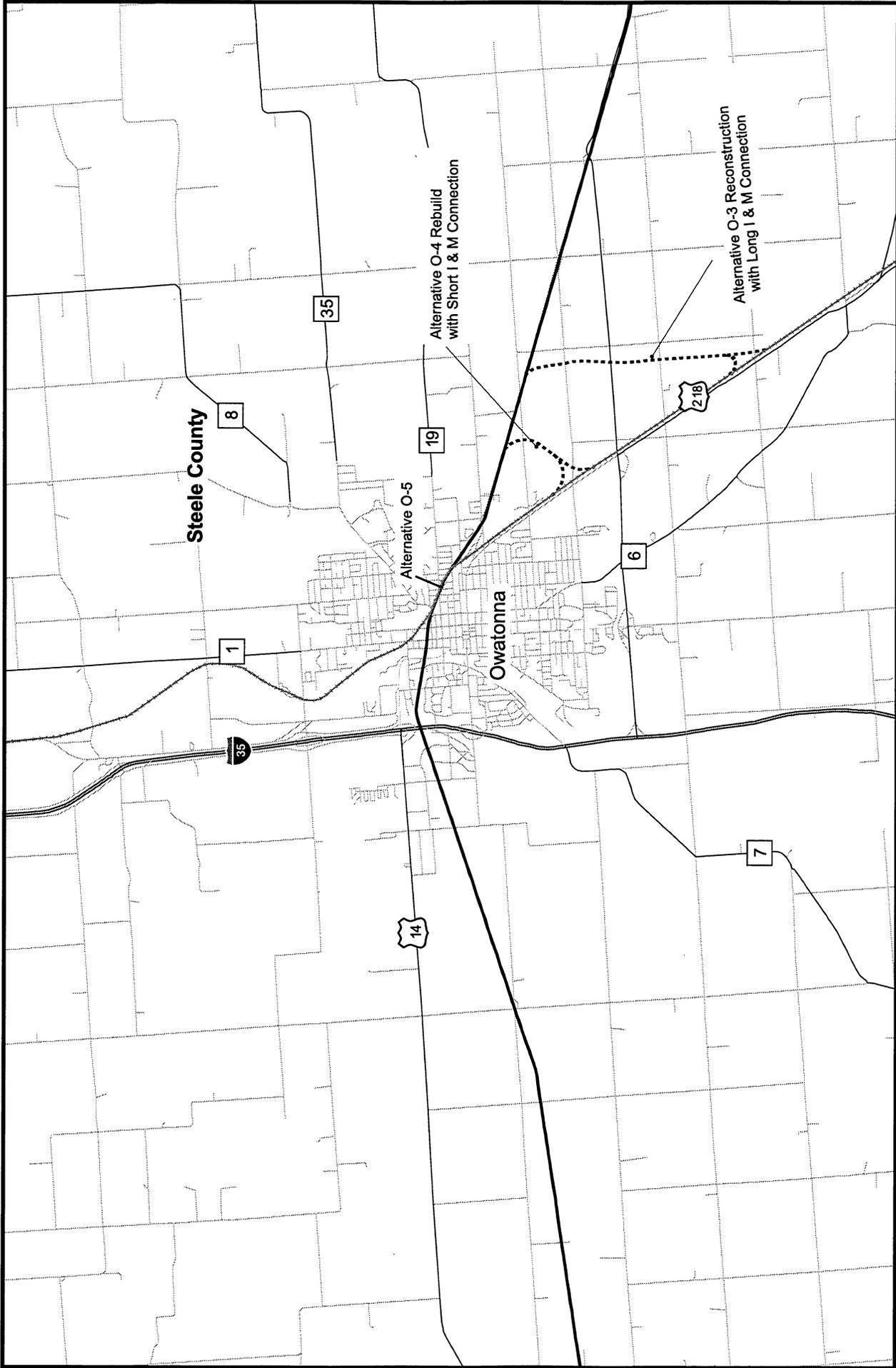
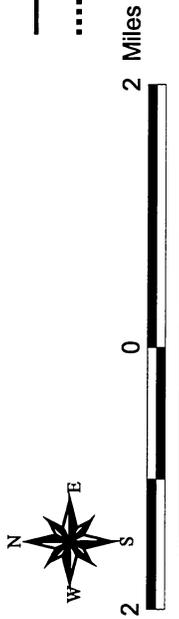


Figure ES-14  
**POWDER RIVER BASIN EXPANSION PROJECT**  
 Owatonna Alternatives  
 Owatonna, Minnesota

Existing Rail Line      Roads  
 New Construction      I&M Rail Link



existing connection between the existing UP rail line, over which DM&E operates through Owatonna via trackage rights, and the I&M rail line. However, use of the connection is not currently feasible due to the trackage rights agreement that DM&E has with UP.<sup>19</sup>

Based on SEA's analysis of the Owatonna alternatives, SEA concluded that Alternative O-2 would not meet DM&E's objective of connecting with I&M. Therefore, SEA has rejected it from further consideration.

In comparing the three Action Alternatives, SEA preliminarily concludes that Alternative O-5 appears to be the environmentally preferable alternative because it would require minimal upgrading on existing right-of-way. But Alternative O-5 could not be implemented without an agreement with UP for DM&E to connect with I&M. If that does not occur, SEA believes that Alternative O-4 would be more environmentally preferred than Alternative O-3. Alternative O-4 would have essentially the same impacts as Alternative O-3. However, Alternative O-4, which is shorter, would involve less new rail line construction than Alternative O-3, resulting in less ground disturbance, less land converted to rail line right-of-way, less loss of prime farmland, disturbance to fewer farming operations and rural residences, less locomotive emissions, and one less grade crossing of a highway.

### **ES.9.3 Proposed Community Bypasses**

On January 6, 1999, the City of Rochester, Minnesota requested that SEA consider a south bypass corridor as an alternative to DM&E's proposed plan to rehabilitate its existing rail line and operate additional rail traffic, primarily coal trains, through Rochester. In the Final Scope issued in March 1999, SEA provided a 30-day comment period for interested parties to submit

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<sup>19</sup> The trackage rights agreement between DM&E and UP allows DM&E unlimited access to this portion of UP's rail line. However, it prohibits DM&E from interchanging rail traffic along this portion of line.

comments on the Rochester Bypass. To allow the opportunity for other affected communities to develop bypass proposals, SEA subsequently issued a Notice to the Parties on April 20, 1999 providing time for them to do so.

In the Notice to the Parties, SEA noted that it would determine whether each bypass proposal submitted constituted a reasonable and feasible alternative to DM&E's plan to upgrade its existing route, or would simply shift the potential environmental consequences of DM&E's proposal to different communities and populations. Moreover, SEA stated that in deciding whether bypass proposals were reasonable and feasible, it would take into account DM&E's goal of creating a more efficient route by which to transport coal. SEA noted that "a circuitous route that bypasses numerous communities could add so many additional miles that it would be unlikely to allow Applicant to achieve its goal of providing efficient rail transportation" (see Notice to the Parties, at page 2, in Appendix A to this Draft EIS).

In response to the Notice to the Parties, three communities (in addition to Rochester), submitted bypass designs to SEA: Owatonna, Minnesota; Brookings, South Dakota; and Pierre, South Dakota. As part of its preparation of this Draft EIS, SEA assessed each of these bypass proposals and determined that three of the bypasses (Rochester, Owatonna, and Brookings) were reasonable and feasible alternatives, and therefore, should be subjected to the same environmental analysis as DM&E's proposal. SEA concluded that the Pierre, South Dakota bypass was not reasonable because of significant environmental and engineering constraints; therefore, the Pierre bypass has been dropped from further consideration for the reasons discussed in more detail later in this Draft EIS. Further, Owatonna subsequently withdrew its bypass proposal. Therefore, the Owatonna bypass proposal also is no longer being considered.

**ES.9.3.1 Special Considerations Involving Community Bypass Proposals**

It is important to note that, in making a final determination regarding the two remaining community bypass proposals (Rochester and Brookings), issues involving the cost of construction and operation of the bypass proposals, and whether to require communities to share these costs will have to be addressed. In past proceedings, the Board has not required communities to contribute to the funding of environmental mitigation absent a voluntary agreement between the railroad and the community to share costs. Here, however, the sole reason why certain communities have proposed a bypass is to move the railroad away from population centers. Moving the rail line would benefit the affected population by reducing residents' exposure to noise, vibration, and traffic delays at grade crossings but the railroad would not benefit, and, indeed could incur substantial additional costs, both related to the initial construction and possibly higher operating costs.

Because it appears that a bypass would thus benefit the community to the detriment of the railroad, SEA specifically requests comments on the extent to which the benefitting community should contribute to the cost of relocating the railroad, and exactly what portion of that cost the community should bear. SEA further advises the affected communities that, if the Board approves DM&E's proposal and ultimately orders it to build bypasses around the communities of Rochester and/or Brookings, those communities could incur potentially substantial costs associated with the bypasses.

**ES.9.3.2 Rochester Alternatives**

DM&E currently owns and operates a rail line through the City of Rochester. As noted above, Rochester submitted a proposal for new rail line construction deviating from the existing rail line around the south side of the City. The proposed bypass would enable rail traffic, particularly unit coal trains, to avoid passing through Rochester and Byron, Minnesota by operating over the bypass.

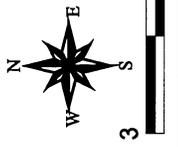
SEA has given extensive consideration to the Rochester alternatives in this Draft EIS. SEA considered four alternatives for the project component involving Rochester. The No-Action Alternative (project denial, Alternative R-1), reconstruction of the existing rail line through town (Alternative R-2), construction of a new 34.1-mile bypass (Figure ES-15) around the south side of town to move only future coal traffic (Alternative R-3),<sup>20</sup> and construction of the same bypass route to be used for all DM&E's rail traffic (both future coal and commodities currently moving through Rochester on DM&E's existing system) (Alternative R-4).

The No-Action Alternative would necessarily result if the Board denies DM&E authority to extend its system into the Powder River Basin. Conversely, if the Board grants DM&E authority for the extension, an Action Alternative would be required at Rochester to provide for the movement of unit coal trains.

Alternative R-2 involves reconstruction of the existing rail line through Rochester and generally passes through developed areas. Therefore, Alternative R-2 would have little impact on natural resources since the physical area has already been disturbed, but it would have substantial impacts to human resources, particularly from noise and vibration, including potential impacts to the Federal Medical Center adjacent to the line. Additionally, Alternative R-2 likely would have impacts on the movement of emergency vehicles in Rochester due to the location of the Mayo Clinic, a large medical complex in the town, and certain of the Mayo Clinic's facilities in close proximity to the existing rail line. Moreover, because of the size and nature of the Mayo Clinic's operations and its proximity to the existing rail line, a large number of emergency vehicles would be required to cross the rail line as they go to and from that facility.

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<sup>20</sup> Under that alternative, DM&E would continue to move its existing non-coal traffic along the existing rail line through Rochester. The line through Rochester would not be rehabilitated.



- Existing Rail Line
- New Construction
- Streams
- Roads
- County Line
- Existing Rail Line Alternative

Figure ES-15  
 POWDER RIVER BASIN EXPANSION PROJECT  
 Rochester Bypass Alternative Route  
 Rochester, Minnesota

Additionally, Alternative R-2 would have significant impacts to residential land use and noise because a large number of residences within close proximity to the rail line would be exposed to increased noise levels along the rail line. Moreover, some of these noise sensitive receptors are in environmental justice communities.

In contrast to Alternative R-2, Alternatives R-3 and R-4 (the bypass alternatives) would involve construction and operation of new rail line around the south side of Rochester. This new rail line would require new right-of-way through generally undeveloped farmland. Due to their location through rural, undeveloped areas, Alternatives R-3 and R-4 would have far fewer impacts to human resources than Alternative R-2. However, these alternatives would have substantially more impacts to natural resources, such as soils, vegetation, wildlife, wetlands, and farmland. In particular, Alternatives R-3 and R-4 would convert 53.2 acres of wetland, including 9.5 acres of forested wetlands to rail line right-of-way. Additionally, the area where the bypasses would be built has a potential to contain calcareous fens, a rare and sensitive type of wetland considered of high value and afforded special protection in Minnesota. Approximately 2.1 miles of the right-of-way under the bypass alternatives would also cross areas of karst topography;<sup>21</sup> 3.7 additional miles have a moderate to high potential for containing karst areas. Prior to construction, these areas would require extensive geological investigations to identify sinkholes, underground caverns, and other hazards, as well as implementation of extensive and expensive measures to insure safe construction and operation of a rail line through this area. Even with these measures, new sink holes and caverns could develop under the rail line, making it difficult to insure the safety of the rail line over the entire life of the project.

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<sup>21</sup> Karst topography refers, in this case, to underground areas where groundwater dissolves away the bedrock, creating spaces, tunnels, or holes within the bedrock, commonly known as underground caverns, sinkholes, or caves. These openings are subject to collapse as the bedrock dissolves away and can no longer support the weight of overlying material or structures.

The additional length of the two bypass alternatives, approximately 10.8 miles more than Alternative R-2, would also result in increased fuel consumption and associated locomotive emissions. Alternatives R-3 and R-4 would add 34 grade crossings, although all were calculated to have accident frequencies below SEA's level of significance. Moreover, under the bypass alternatives, the existing DM&E rail line through Rochester would not be reconstructed. Therefore, through trains (Alternative R-3) or trains accessing local shippers (Alternatives R-3 and R-4) would be required to operate over the deteriorated rail line, reducing the overall efficiency of the remainder of the rail line. The reduction in efficiency would only affect train movements for the short period they would be required to operate over this (relatively short) portion of the rail line; reconstruction of other portions of the existing line would likely lead to better overall service. However, if weight restrictions on the existing rail line in Rochester prevent Rochester shippers from using rail cars loaded to industry standards, the benefits to these shippers from reconstruction of other portions of the rail line would be minimized.

#### **ES.9.3.2.1 Preliminary Conclusion**

Based on the information available to-date, SEA preliminarily concludes that Alternative R-2 potentially would have significant impacts to land use and noise sensitive and vibration receptors located in the City, including certain facilities at the Mayo Clinic and possibly the Federal Medical Center. Moreover, noise impacts of the magnitude at issue here would be difficult to mitigate, and there would be impacts on transportation and safety, i.e., emergency vehicle movements. The bypass alternatives, Alternatives R-3 and R-4, however, also would have substantial impacts to a variety of resources, including soils, farmland, geology, wetlands, vegetation, and wildlife. Some of these impacts could be minimized through mitigation, although they could not be completely avoided.

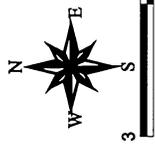
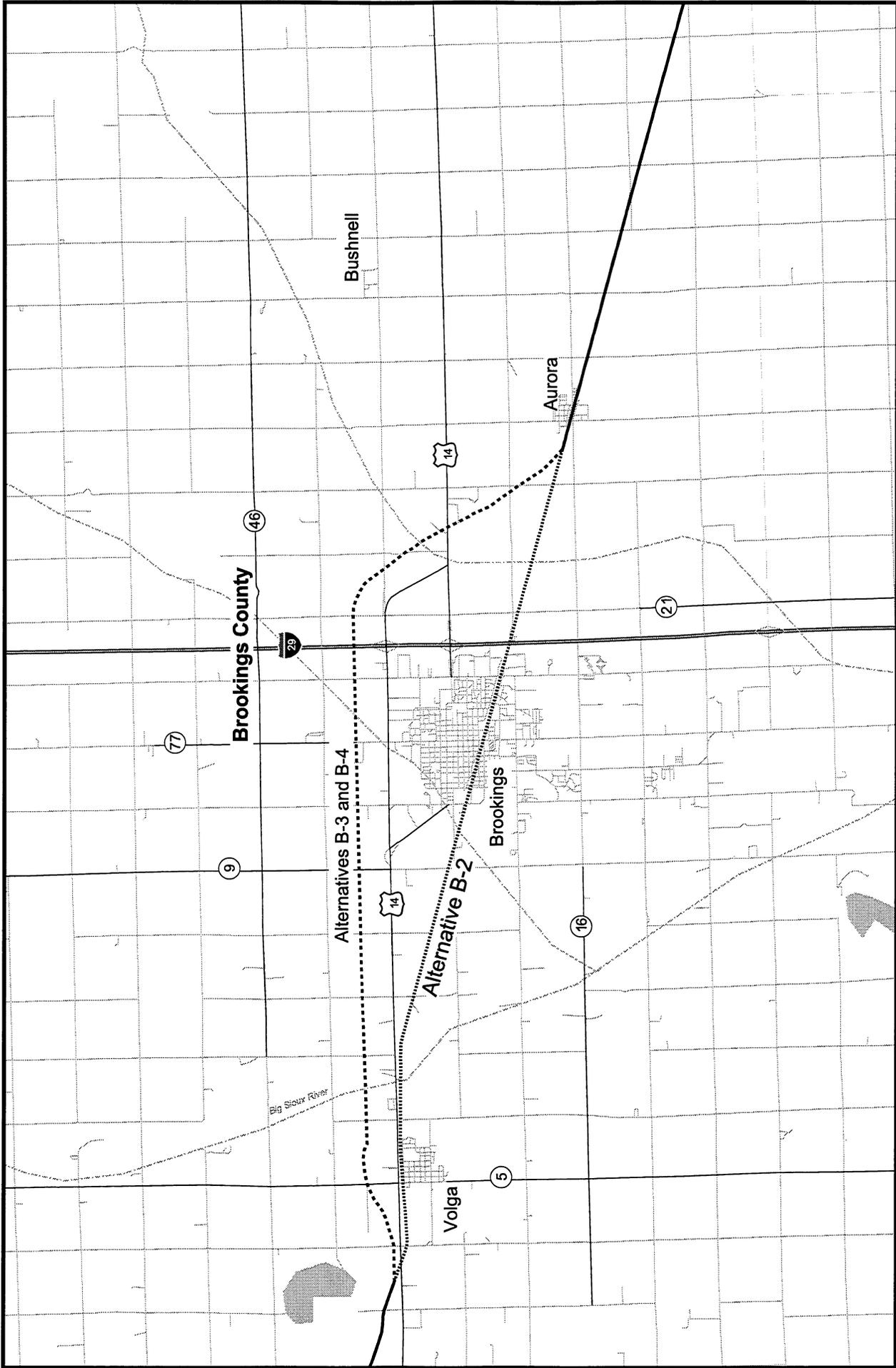
One of the stated purposes of DM&E's proposal is to provide improved rail service to existing shippers. Construction and operation of either of the bypass alternatives would not improve service or access to existing shippers on the existing DM&E rail line in Rochester, although reconstruction of other portions of the existing rail line would likely lead to better overall service. However, if weight restrictions on the existing rail line prevent the use of rail cars loaded to industry standards, the benefits to Rochester shippers of reconstruction of other portions of the rail line would be minimized. Thus, while from an environmental impact standpoint, the bypass alternatives appear to minimize overall impact to the human environment, they may not contribute to the overall purpose and need defined for the project.

Generally, use of existing rail corridors is environmentally preferable to construction of new rail line on undisturbed land. Here, however, both reconstruction and operation of the existing rail line and construction and operation of new rail line would have substantial, though different, adverse environmental impacts. Moreover, mitigation, even where likely to be successful at reducing impacts of the bypass options, would entail very substantial costs. In addition, the bypass alternatives may not contribute to the overall project purpose.

In these circumstances, SEA requests further comments on which of the various Rochester options are environmentally preferable and proposals for how to share costs, if one of the bypass options is selected. SEA will respond to the comments and, if appropriate, identify an environmentally preferable alternative for the City of Rochester in the Final EIS.

### **ES.9.3.3 Brookings Alternatives**

SEA has considered four alternatives for the project in the community of Brookings. These include the No-Action Alternative (B-1), reconstruction of the existing rail line through town (Alternative B-2), construction of a bypass (Figure ES-16) around the north side of town for future coal traffic only (Alternative B-3), and construction of that bypass route for all rail



- Existing Rail Line
- New Construction
- Existing Rail Line Alternative
- Roads
- Streams

Figure ES-16  
 POWDER RIVER BASIN EXPANSION PROJECT  
 Brookings Bypass Alternative Route  
 Brookings, South Dakota

traffic (Alternative B-4). If the Board denies DM&E authority to extend its system into the Powder River Basin, the No-Action Alternative in Brookings would result. On the other hand, if the Board grants DM&E authority for the extension, an Action Alternative would be required at Brookings to provide for movement of coal trains.

Alternative B-2, which involves reconstruction of the existing rail line, generally passes through developed, residential areas along the rail line and would involve existing rail line right-of-way. Consequently, Alternative B-2 would have little impact on natural resources but would have substantial noise, vibration, and residential land use impacts. Some noise sensitive receptors that would be exposed to increased noise as a result of Alternative B-2 are also located in environmental justice communities.

Alternative B-2 could also have potentially substantial impacts to wetlands, based on SEA's review of National Wetland Inventory (NWI) maps. However, many of the wetlands along Alternative B-2 have been created from lack of drainage along the existing rail bed, and therefore, could be of low quality and functional value. Despite their relative low quality, however, these types of wetlands would require permitting and mitigation for impacts by COE under the Clean Water Act.

Alternatives B-3 and B-4, the bypass alternatives, would involve construction and operation of a new 14.5-mile rail line around the north side of Brookings. This rail line would require new right-of-way through generally undeveloped farmland. Due to their location outside the more heavily populated areas, Alternatives B-3 and B-4 would have far fewer impacts to human resources than Alternative B-2, and by routing trains away from town, would reduce impacts to noise sensitive receptors that would be affected by train noise. However, these alternatives would have substantially more impacts to natural resources, such as soils, vegetation, wildlife, and farmland. Alternatives B-3 and B-4 would also result in a substantial amount of

wetland loss (approximately 18.9 acres), most of which would likely be of high quality (compared to approximately 30.5 acres for Alternative B-2, most of which as discussed above, would be of a low quality). The additional length of the bypass alternatives, approximately 1.2 miles more than Alternative B-2, would result in increased fuel consumption and associated locomotive emissions. Alternative B-4 could also significantly increase accident frequency at several road crossings.

DM&E has indicated that construction of the bypass alternatives would complicate rail access to an existing shipper north of Brookings by requiring additional movements of locomotives and rail cars to provide safe service to this shipper. Also, under Alternative B-3, the existing DM&E rail line through Brookings would not be reconstructed and through trains or trains accessing local shippers would be required to operate over the existing deteriorated rail line, thereby reducing the overall efficiency of the remainder of the rail line. Finally, the bypass alternatives would require construction of a new grade-separated rail bridge where they would cross Interstate 29 (I-29). During bridge construction, traffic delays on I-29 could be expected.

#### **ES.9.3.3.1 Preliminary Conclusion**

SEA preliminarily concludes that Alternative B-2 (the existing route through town) would have significant impacts to noise sensitive and vibration receptors that would be difficult to mitigate effectively. Other impacts, though substantial for some resources, such as wetlands and residential land use, likely could be more effectively mitigated. The bypass alternatives would also have substantial impacts; however, SEA believes these impacts could be adequately mitigated.

Based on the differences in potential environmental impacts, SEA preliminarily concludes that the bypass alternatives would appear to be environmentally preferred, with Alternative B-4 being preferred overall due to its reduction in noise levels to noise sensitive receptors. However, as discussed above, one of the stated purposes of this project is to provide improved rail service to existing shippers. Construction and operation of either of the bypass alternatives would not

improve service or access to existing shippers on the existing DM&E rail line in Brookings, although reconstruction of other portions of the existing line would likely lead to better overall service. Moreover, if weight restrictions on the existing rail line prevent the use of rail cars loaded to industry standards, the benefits to Brookings shippers of reconstruction of other portions of the rail line would be minimized. Additionally, construction and operation of the Brookings bypass alternatives would reduce access to an existing shipper and potentially require additional rail construction to provide for reasonable access to the shipper's facility, require the shipper to relocate, or require the shipper to convert from rail to truck for its transportation needs. Thus, Brookings bypass alternatives may not contribute to the overall purpose and need defined for the project. In these circumstances, SEA specifically requests further comments on the Brookings alternatives and the extent to which the community should share the costs associated with a bypass. SEA will address the comments received, and make a final recommendation to the Board, if appropriate, in the Final EIS.

#### **ES.9.4 Rail Yards and Sidings**

Numerous new rail yards have been proposed as part of the PRB Expansion Project.<sup>22</sup> The six major yards that would be located on Alternatives B, C, and D (at slightly different locations) would be designed to perform multiple functions, including crew change locations, inspections, dispatch and interchange, fueling, and maintenance.

DM&E stated in its Application that the distance and transit times between the yards was the primary factor in yard location. According to DM&E, yards must be located a sufficient distance away from each other to provide for crew changes, inspections, and maintenance functions, many of which are dependent on travel time, fueling considerations, and/or distance.

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<sup>22</sup> Normally, railroads do not need authority from the Board to construct rail yards or other facilities that are ancillary to a railroad's operations. However, because the yards at issue here would not be built but for this project, SEA has considered the yards in its environmental review.

Therefore, in the operating plan developed by DM&E, DM&E indicated that it would locate its new yards approximately 225 to 275 miles apart. The yards that actually would be constructed would depend on what Extension Alternative, if any, the Board ultimately approves, and with the two exceptions discussed below, there are no real alternatives to the various yards that would be built under Alternatives B or C.<sup>23</sup> The two exceptions are (1) the Middle East Staging and Marshalling Yard, and (2) the West Staging and Marshalling Yard, where alternative sites have been proposed. The following provides SEA's determinations on which yard site would be preferable.

#### **ES.9.4.1 Middle East Staging and Marshalling Yard**

The Middle East Staging and Marshalling Yard (Middle East Yard) would be located so as to facilitate rail interchange between DM&E and UP by operating in conjunction with UP's rail yard just north of Mankato, Minnesota. The Middle East Yard would allow for storage of train cars until picked up by UP. The alternative yard sites, Option A and Option B, would be located approximately 10 miles apart.

In assessing the two options in this Draft EIS, SEA determined that the Option A yard location would have greater impacts to state lands than Option B. Option A would require DM&E to acquire approximately 116.4 acres of land within the boundaries of Minneopa State Park. This land is not currently part of the park but has been identified for acquisition by the State, should it become available, to expand Minneopa State Park. DM&E currently operates rail line through this area and, if the proposed project is approved, would continue to do so regardless of train traffic in the Mankato area. Option B would not require acquisition of any lands within the park's boundaries. Option B for the Middle East Yard would result in the loss of

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<sup>23</sup> SEA examined the environmental effects of the yards that would be associated with Alternative D as well, but Alternative D has been eliminated from further consideration, as discussed above.

approximately 109.4 acres of prime farmland, verses no such loss for Option A, and 14.2 acres of wetlands, verses 3.7 acres for Option A. Option B, since it would be further from Mankato, would require DM&E to travel greater distances, increasing fuel consumption and travel time.

After considering the potential construction and operational impacts of the yard Options, SEA determined impacts to the Minneopa State Park to be extremely significant. Minneopa State Park is an important public resource for the citizens in and around Mankato. SEA, therefore determined Option B would be the environmental preferable location for the Middle East Yard.

#### **ES.9.4.2 West Staging and Marshalling Yard**

The West Staging and Marshalling Yard (West Yard) has two proposed locations that could be used should DM&E be granted final authority to construct and operate Alternative C. This yard would primarily function as a staging and dispatch location for empty trains traveling to the mines to be loaded and for loaded coal trains to await dispatch eastward. The two alternative sites for the West Yard, Option A and Option B, are located at the same point along Alternative C. However, Option B would be slightly south of Option A.

In undertaking its environmental analysis in coordination with USFS, SEA identified two areas where the yard options differed in potentially significant environmental impacts: conversion of public lands and water resources. Option A would require conversion of approximately 71.0 acres of Thunder Basin National Grassland (TBNG) and 78.0 acres of State of Wyoming land to railroad right-of-way, for a total impact of 149.0 acres. Additionally, USFS has indicated that construction and operation of a rail yard on this small parcel of TBNG would affect the remainder of the parcel by making it no longer desirable as a part of TBNG. This land would also, in practicality, no longer be available for public use, including livestock grazing, for which it is

currently used.<sup>24</sup> Option B would not affect any TBNG lands and would require conversion of only 45.0 acres of State of Wyoming land.

As for water resources, Option A would cross 21 intermittent streams; Option B would only cross 6. Additionally, nearly the entire northern border of the Option A yard would be within 500 feet of Little Thunder Creek. Option B would be approximately twice as far, 1,000 feet, away from Little Thunder Creek.

Based on the information available to date, SEA considers Option B for the West Yard to be environmental preferable.

#### **ES.9.5 Missouri River Bridge Alternatives**

At this point, DM&E is still considering two alternatives concerning how best to cross the Missouri River between Pierre and Fort Pierre, South Dakota. These alternatives are rehabilitation of DM&E's existing bridge or construction of a new bridge approximately 30 feet upstream of the existing bridge.

Before summarizing SEA's analysis, it is important to note that it is not yet certain that DM&E could rehabilitate the existing bridge to accommodate unit coal trains. The U.S. Coast Guard, the Federal agency with primary jurisdiction over the Missouri River Bridge, would be responsible for issuing a bridge permit before DM&E could implement modifications associated with rebuilding its existing bridge (if such modifications were extensive) or build a new bridge.

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<sup>24</sup> Indeed, USFS has indicated to SEA that it would require a land exchange before it would agree to Option A.

The existing DM&E rail bridge crosses the Missouri River in an area used extensively for boating and fishing. Both rehabilitation of the existing bridge and construction of a new bridge would pose safety hazards to boaters from falling building materials during construction and structures in the water for pier work. While these same concerns would apply to both alternatives, they would be substantially greater for the new bridge because of the installation of many new piers.

SEA determined that impacts to land use if the bridge is rehabilitated would be minimal and that temporary disturbances caused by reconstruction would cease in approximately 2 years. Construction of a new bridge, however, would require more extensive activities on river banks in proximity to several residences. Noise levels, human activity and ground disturbance would be increased accordingly. Additionally, as the new bridge would be built where all the nearby residences are also located, construction disturbance would be closer, and subsequently louder, than for rehabilitation. During rail line operation, impacts to residential areas would be similar as impacts would be related to increases in rail traffic and primarily include increased wayside noise. However, because a new bridge would be closer to several residences, it would result in a slightly higher increase in noise exposure.

With respect to issues of surface water, aquatic resources and fisheries, and endangered species, a new bridge would increase sedimentation and water turbidity. Construction of a new bridge would require placement of approximately 27 new piers within the river along with earth disturbing activities on each bank, potentially causing erosion of soil into the river. While any reductions in water quality related to these activities would be limited to the period of pier installation, they would be greater than those expected from rehabilitation of the existing bridge.

The existing DM&E rail bridge is a swing span bridge which was formerly capable of opening to allow passage of vessels which were too tall to pass under the bridge. The swing span is no longer operational. However, the bridge, constructed originally in 1907, is currently included on the National Register of Historic Places (NRHP). Presently, it can not be determined if rehabilitation of the bridge would alter this status. If rehabilitation is accomplished so as to retain the nature and character of the existing bridge, it would be unlikely to affect the historic status of the bridge. However, if extensive modifications are necessary, the bridge may be determined no longer eligible for the NRHP. Construction of a new bridge would not itself affect the historic status of the existing bridge, provided ownership of the bridge can be transferred and the bridge retained without major modifications for other uses. However, if ownership cannot be transferred, Coast Guard regulations would require that the bridge be removed. Extensive modification of the existing bridge, altering its historic eligibility, or its removal would be considered a significant impact to the bridge as a historic resource.

After considering all the available information, SEA preliminarily concludes that rehabilitation of the existing rail bridge would be environmentally preferable to construction of new facilities. Although most of the differences in environmental impacts that would result from either of the bridge alternatives would be temporary construction-related impacts, SEA believes it is preferable to avoid impacts where possible, even if they are temporary.

#### **ES.10 DEVELOPMENT OF PRELIMINARY ENVIRONMENTAL MITIGATION**

Based on the information available to date, consultations with appropriate agencies and other entities, and extensive environmental analysis, SEA has developed preliminary environmental mitigation measures to address the environmental impacts of this proposed project, including new construction and upgrading the existing line, as well as anticipated rail operations. SEA's preliminary mitigation measures are set forth in full at the end of this Executive Summary and are outlined below.

**ES.10.1 Nature of SEA's Preliminary Mitigation**

SEA's recommended environmental mitigation is designed to address:

- The safety of rail operations. For example, SEA has proposed environmental mitigation that would require DM&E to submit grade crossing safety plans to the applicable state and local transportation jurisdictions for their review and approval and to install reflective material on the backside of all passive crossing warning devices (such as crossbucks) and verify to the Board that it has completed this task prior to moving any coal trains to and from the PRB.
- The concerns of communities. To accomplish this, DM&E, among other things, would be required to: 1) provide citizens, communities, agencies, Tribes, and other interested parties with a Community Liaison for resolving issues that may arise during construction or operation of the proposed project; 2) install temporary notification signs to advise motorists of the impending increase in train traffic and train speeds along its existing system and commencement of rail operations along its rail lines; 3) provide a toll-free number and contact point to all emergency response departments throughout the project area to report emergency situations and obtain train movement information; and 4) comply with the mitigation tailored to meet unique concerns of such communities as Rochester and Mankato, Minnesota.
- The regulatory requirements of the cooperating and other governmental agencies.

- The potential for short-term construction-related environmental impacts. Specifically, SEA has included numerous Best Management Practices for construction/upgrade activities and would require dust control and erosion prevention activities.
- The timing of when mitigation is implemented. For example, some of SEA's recommended measures would require DM&E to undertake certain activities before construction begins, such as fencing the boundaries of its rights-of-way, surveying raptor nests to minimize construction activity near them during nesting periods, and prohibiting stream crossing reconstruction of streams known or potentially containing Topeka shiners during their spawning period. Other measures would require DM&E to undertake certain activities after construction is complete, such as surveying whether construction had an effect on habitat functions and values and initiating land reclamation as soon as possible after construction.
- The potential for a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions in its final decision. Specifically, SEA has included a condition stating that if there are any material changes in the facts or circumstances upon which SEA relied to conduct its analysis or the Board relied upon in imposing specific environmental mitigation conditions, and upon determination or petition by any party who demonstrates such material change, the Board may review the continuing applicability of its final mitigation.

- The need to provide the Board with assurance that DM&E is complying with all environmental mitigation the Board imposes. To accomplish this, SEA has included a requirement that DM&E certify to the Board that it has complied with the terms of certain environmental mitigation measures (such as grade crossing improvements). Another mitigation measure states that Applicant shall retain a third-party contractor to assist SEA in monitoring and enforcement of mitigation measures on a regular basis until the Applicant has completed construction and reconstruction activities. Monitoring would include periodic site visits and preparation of brief reports to SEA concerning the status of mitigation implementation. This assistance to SEA would continue for a period that would include the first year of operation, or for any oversight period the Board imposes in this case.

SEA notes that not all of the effects of this project are mitigatable. For example, horn noise from train operations to residents located in proximity to the rail line would be significant and could not be fully mitigated without compromising safety. Even with mitigation, there would be some vehicle delay at grade crossings, visual impacts on the grasslands, and impacts to wetlands and riparian habitat.

SEA's preliminary environmental mitigation measures generally apply to both DM&E's proposed new rail line construction and the reconstruction and upgrade of DM&E's existing rail line. Only a few of the environmental mitigation measures in this Draft EIS are designed to apply to specific communities (i.e., Rochester and Mankato, Minnesota). That is so because, based on the information available to date, the potential environmental impacts on communities associated with the PRB Expansion Project appear to be largely the same. Regardless of the individual characteristics of the communities involved, each of the affected communities would experience

the same construction-related impacts and number of trains (37 trains per day operating over the rehabilitated rail existing line to move DM&E's existing agricultural traffic and the proposed maximum of 34 new coal trains to and from the Powder River Basin).<sup>25</sup> Moreover, the potential environmental impacts of the PRB Expansion Project on noise sensitive receptors is not related to the community in which the receptors are located, but rather, the proximity of residences to the rail right-of-way, regardless of the community. Similarly, ranchers would experience the same adverse environmental impact of moving cattle back and forth across an active rail line, no matter whether their ranch is located in Wyoming or South Dakota.

SEA also has not designed any environmental mitigation specific to the two remaining potential bypass routes around Brookings, South Dakota and Rochester, Minnesota. If SEA identifies one or more of these bypasses as environmentally preferable in the Final EIS, SEA will develop and recommend environmental mitigation applicable to that bypass for the Final EIS, if appropriate.

SEA specifically requests comments on the environmental mitigation measures this Draft EIS recommends. In particular, if commenters believe that the unique circumstances of a community warrant individually tailored environmental mitigation in addition to the environmental mitigation in the Draft EIS, SEA urges the commenter to submit suggestions for environmental mitigation, and why it would be appropriate, to SEA during the public comment period.

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<sup>25</sup> By contrast, in recent rail merger proceedings, the merger related increase in rail traffic along particular segments varied widely, and it was appropriate to tailor mitigation to reflect the differences in anticipated environmental impacts.

**ES.10.2      Role of Cooperating Agencies in Developing Environmental Mitigation**

In addition to assisting in SEA's environmental analysis, the cooperating agencies participated in developing the preliminary recommended environmental mitigation. In particular, the USFS, with input from BLM, developed mitigation measures designed to protect National Grasslands and other resources in the project area.

**ES.10.3      Role of Native American Tribes in Developing Environmental Mitigation**

As a result of consultation with Native American Tribes, SEA and the Tribes, cooperating agencies, and Applicant developed a Programmatic Agreement (PA) and a Memorandum of Agreement (MOA), providing Tribes the opportunity for substantive participation in the environmental and historic review process under NEPA and Section 106 of the National Historic Preservation Act in this case. The purpose of the PA is to ensure the proper and respectful identification and handling archeological sites, particularly burial sites and other sacred artifacts that may be discovered in the project area. The MOA is designed to address Tribal concerns for other, non-archeological resources such as sacred plants, water quality, and big game migration routes. SEA's environmental mitigation would require compliance with both the PA and the MOA. Both the PA and MOA also are attached in the appendices to the Draft EIS to permit public review and comment.

**ES.10.4      Role of Communities in Developing Environmental Mitigation**

Throughout the project, SEA worked with affected communities to understand their environmental concerns and facilitate their participation in the environmental review process. SEA's list of recommended environmental mitigation measures considers the communities' input and concerns. Moreover, as noted above, four community bypass proposals were submitted and considered. In the Draft EIS, SEA concluded that the Rochester, Minnesota and Brookings,

South Dakota bypass proposals are reasonable and feasible alternatives to DM&E's proposal, warranting detailed environmental analysis in the Draft EIS.<sup>26</sup>

SEA also encouraged DM&E to communicate with concerned residents and affected communities and use community input to develop voluntary mitigation and negotiated agreements to address community concerns. Often, negotiated agreements can result in more far-reaching mitigation for communities than mitigation the Board could unilaterally impose.

### **ES.10.5 Negotiated Agreements**

As an alternative to the mitigation that the Board would unilaterally impose on DM&E (notwithstanding mitigation required by other Federal regulatory agencies that may have jurisdiction over potentially affected resources), SEA has encouraged DM&E to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, including ways to share the costs associated with project-related environmental mitigation measures. Negotiated Agreements could be made with neighborhoods, communities, counties, cities, regional coalitions, states and other entities. If DM&E submits any negotiated agreements with communities or other entities to the Board, the Board would then require compliance with the terms of any such agreements as environmental conditions in any final decision approving the proposed PRB Expansion Project. These negotiated agreements would supersede any environmental conditions for that particular community or other entity that the Board would otherwise impose.

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<sup>26</sup> Upon close examination, SEA concluded that the Pierre, South Dakota bypass does not appear to be reasonable and feasible. Owatonna, Minnesota has withdrawn the bypass proposal that it submitted.

**ES.10.6 Preliminary Nature of Environmental Mitigation**

Finally, SEA emphasizes that the recommended environmental mitigation measures in this Draft EIS are preliminary and it invites public and agency comments on these proposed environmental mitigation measures. In order for SEA to effectively assess the comments, it is critical that the public be specific regarding any desired mitigation and the reasons why the suggested mitigation would be appropriate.

SEA will make its final recommendations on environmental mitigation to the Board in the Final EIS after considering all public comments on the Draft EIS and conducting further environmental analysis, agency consultations, and site visits, as appropriate. The Board will then make its final decision regarding this project and any environmental conditions it might impose. When considering whether to grant final approval on the proposed transaction, the Board will consider the potential environmental effects and the cost of any environmental mitigation it might impose on the project.

**ES.11 AVAILABILITY OF THE ENTIRE DRAFT EIS**

Because the Draft EIS is quite large – over 2,000 pages and several volumes – SEA has made the entire document available only to key reviewing agencies and other entities, parties of record, and those who specifically requested it in response to a postcard mailing in June 2000. However, SEA has distributed the Draft EIS to over 80 public libraries and asked that the Draft EIS be made available in their reference section. To obtain the name of the library nearest you that has received the Draft EIS, please call the Environmental Hotline at (877) 404-3044, and leave your name, address and telephone number. The entire document also is available on the Board's website (<http://www.stb.dot.gov>), and can be accessed by clicking on "Decisions & Notices," and selecting anyone of the following choices: 1) Service Date (September 27, 2000), 2) Docket Number (FD 33407), or 3) Docket Prefix (FD). The Draft EIS will be listed as "Environmental Review" under the "TYPE" category.

**ES.12 PUBLIC MEETINGS**

In addition to receiving written comments on the Draft EIS, SEA will host 12 public meetings on the Draft EIS at the locations and times, and on the dates listed below. At each meeting SEA will give a brief presentation and interested parties may submit written comments or make oral comments. All public meetings will follow the same format and utilize the same agenda. SEA will have a transcriber available at each meeting to ensure that oral comments are accurately captured. In some locations, two meetings will be held. Both the afternoon and evening meetings will follow the same format and utilize the same agenda; it is not necessary to attend both meetings.

**Douglas, WY**

Wyoming State Fair Park  
400 West Center Street  
Douglas, WY 82633  
Monday, October 30, 2000  
6:00 - 10:00 p.m.

**Newcastle, WY**

The Fountain Inn  
2 Fountain Plaza  
Newcastle, WY 82701  
Wednesday, November 1, 2000  
1:00 - 4:00 p.m. and  
6:00 - 10:00 p.m.

**Rapid City, SD**

Rushmore Plaza Civic Center  
444 Mount Rushmore Road North  
Rapid City, SD 57701  
Thursday, November 2, 2000  
6:00 - 10:00 p.m.

**Pierre, SD**

Best Western Kings Inn

200 South Pierre

Pierre, SD 57501

Monday, November 13, 2000

1:00 - 4:00 p.m. and

6:00 - 10:00 p.m.

**Brookings, SD**

Brookings Inn

2500 East 5<sup>th</sup> Street

Brookings, SD 57006

Tuesday, November 14, 2000

1:00 - 4:00 p.m. and

6:00 - 10:00 p.m.

**North Mankato, MN**

Best Western Hotel and Restaurant

1111 Range Street

North Mankato, MN 56003

Wednesday, November 15, 2000

1:00 - 4:00 p.m. and

6:00 - 10:00 p.m.

**Rochester, MN**

Mayo Civic Center

30 Civic Center Drive SE

Rochester, MN 55904

Thursday, November 16, 2000

1:00 - 4:00 p.m. and

6:00 - 10:00 p.m.

**ES.12.1 Pre-Registration for Public Meetings**

Persons wanting to speak at a public meeting are strongly urged to pre-register by calling the toll-free Environmental Hotline for this project at (877) 404-3044 and leave their name, telephone number, the name of any group, business, or agency they are representing, if applicable,

and the date and time of the meeting at which they wish to speak. The deadline for pre-registration for all meetings is **October 20, 2000**. Persons will be called to speak at each meeting in the order in which they pre-registered. Those wishing to speak but that did not pre-register will be accommodated at each meeting as time allows. Those wishing to speak at more than one meeting will also be accommodated as time allows and after all others have had an opportunity to participate. As SEA desires for as many persons as possible to participate and given that there will be a limited amount of time at each meeting, all speakers are strongly encouraged to prepare summary oral comments, and submit detailed comments in writing. SEA also encourages groups of individuals with similar comments to designate a representative to speak for them.

### **ES.13 REQUESTS FOR COMMENTS ON THE DRAFT EIS**

The public and any interested parties are encouraged to make written comments on all aspect of this Draft EIS. SEA will consider all comments in preparing the Final EIS, which will include SEA's final conclusions on potential significant impacts and SEA's final recommendations, including SEA's final recommended mitigation. All comments must be submitted within the 90-day comment period, which will close January 5, 2001. SEA also invites comments on the Programmatic Agreement and Identification Plan, the Memorandum of Agreement, the Biological Assessment, and the Forest Plan Amendments,<sup>27</sup> which are in the Appendices to the Draft EIS.<sup>28</sup> When submitting comments on the Draft EIS and the recommended mitigation, please be as specific as possible and substantiate your concerns and recommendations.

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<sup>27</sup> Comments on the U.S. Forest Service, Forest Plan Amendments, should be submitted in writing to Wendy Schmitzer, USFS Project Coordinator, Douglas Ranger District, 2250 East Richards Street, Douglas, Wyoming, 82633, via phone at (307) 358-1634, or email to wschmitzer@fs.fed.us.

<sup>28</sup> Comments on the U.S. Army Corps of Engineers (COE) permitting requirements under the Clean Water Act (Section 404 Permit Applications) should be filed directly with the appropriate COE district office.

Please mail written comments on the Draft Environmental Impact Statement to the address below. For comment letters over 5 pages, please mail a signed original plus 10 copies. For comment letters 5 pages or less, a signed original is sufficient. Comments must be mailed to:

Office of the Secretary  
Case Control Unit  
STB Finance Docket No. 33407  
Surface Transportation Board  
1925 K Street, N.W.  
Washington, D.C. 20423-0001

Please write the following in the lower left hand corner of the envelope:

Attention: Victoria Rutson  
Environmental Project Manager  
Environmental Filing

## **ES.14 PRELIMINARY ENVIRONMENTAL MITIGATION MEASURES**

### **ES.14.1 Safety**

#### **ES.14.1.1 Grade Crossing/Warning Devices**

1. Prior to initiating any construction activities related to this project, Applicant shall develop adequate grade crossing safety plans to minimize traffic delay and improve vehicular safety at grade crossings and submit these plans to the appropriate state and local transportation agencies for their review and approval.

2. Prior to initiating any construction activities related to this project, Applicant shall consult with the Federal Railroad Administration, State Departments of Transportation, and appropriate local agencies to develop a priority list for upgrading grade crossing warning signals on the existing rail line. To the extent possible, Applicant shall prioritize for actual improvement those warning signals at grade crossings on the existing rail line that have the greatest predicted accident frequency increase.
3. Applicant shall maintain the new and existing rail line and grade crossing warning devices according to Federal Railroad Administration track safety standards (49 CFR Part 213).

#### **ES.14.1.2 Emergency Response**

4. At least one month prior to initiation of construction activities in the area, Applicant shall provide the information described below, as well as any additional information, as appropriate, to each local emergency response organization or other similar body for communities within the project area regarding project-related construction and operation of both the new and existing rail line:
  - The schedule for construction throughout the project area, including the sequence of construction and reconstruction of grade crossings and approximate schedule for these activities at each crossing.
  - Expected schedule for change in rail line operations, including when changes in train speeds and levels of traffic are anticipated to occur, and current and new train speeds and levels of rail traffic.

- A toll-free number for the Applicant's contact who shall be available to answer questions or attend meetings for the purpose of informing emergency service providers about the project construction and operation.
  - Revisions to this information, including changes in construction schedule, as appropriate.
5. Applicant shall consult with the communities of Rochester, Owatonna, and Mankato, Minnesota and Brookings and Pierre, South Dakota, and any other affected communities that so request, to coordinate train movements and emergency response and discuss the possible installation by the Applicant of a real-time train location monitoring system to connect grade crossing warning devices to nearby traffic signals and provide a display in the local emergency response center showing the position of the grade crossing warning signals.
  6. Applicant shall fund participation in a training session at the national training center in Pueblo, Colorado, for a maximum of four representatives of the emergency response organization or coordinating body for affected communities that express an interest in such training, each year for three years from the date DM&E initiates construction activities associated with the project.
  7. Applicant shall coordinate with the appropriate state Departments of Transportation, counties, and affected communities to develop a program for installation of temporary notification signs or message boards on railroad property at public grade crossings, determined by the State and/or County to warrant such measures, clearly advising motorists of the impending increase in train traffic and train speeds along its existing system and commencement of operations along its new rail line. The format and lettering

of these signs shall comply with the U.S. Department of Transportation, Federal Highway Administration's Manual on Uniform Traffic Control Devices and shall be in place no less than 30 days before, and 6 months after, completion of project-related construction and reconstruction activities in the area. As an alternative, Applicant shall conduct a media campaign throughout the counties and communities surrounding the rail line providing information and notice to the public of project-related changes along its existing system and commencement of operations along its new rail line. This campaign shall include the use of different media (radio, television, newspaper, public meetings, etc.) and may include such things as public service announcements, advertisements, or legal notices. Applicant shall certify to the Board that it has complied with this condition prior to moving coal trains to and from the Powder River Basin.

8. For each of the public grade crossings on the new and existing rail line, Applicant shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade crossing identification number in compliance with Federal Highway Regulations (23 CFR Part 655). The toll-free number shall be answered 24 hours per day by Applicant's personnel. Where Applicant's right-of-way is in close proximity to another rail carrier's crossing, Applicant shall coordinate with the other rail carrier to establish a procedure regarding reported accidents and grade crossing device malfunctions.
  
9. Applicant shall consult with interested communities along its new and existing rail line to identify alternative safety measures to eliminate the need to sound train horns in the community, in accordance with Federal Railroad Administration's final rule on the *Use of Locomotive Horns at Highway-Rail Grade Crossings*.

10. Applicant shall install reflective material on the back side of all passive crossing warning devices, such as crossbucks, on the new and existing rail line. Reflective material shall be installed so that headlights from vehicles approaching the grade crossing on the opposite side of the rail line will strike the material and illuminate it to provide a continual illumination in the absence of a passing train and a flashing appearance when a train is passing due to the space between the rail cars. Applicant shall certify to the Board that it has complied with this condition prior to moving coal trains to and from the Powder River Basin.
  
11. To the extent possible, Applicant shall minimize trains blocking grade crossings throughout its system.

#### **ES.14.1.3 Track Warning Devices and Track Infrastructure**

12. Applicant shall properly maintain its new and existing rail line. Maintenance shall include trimming vegetation on railroad property that obscures visibility of oncoming trains and assuring that rail, railroad ties, track fastenings, and ballast material are in good repair, and that warning devices operate properly and are legible.

#### **ES.14.1.4 Hazardous Material Handling Issues**

13. Prior to initiating any project-related construction activities, Applicant shall develop a Spill Prevention, Control, and Countermeasure Plan (Plan) to prevent spills of oil or other petroleum products and other hazardous materials during construction and reconstruction activities, and operation and maintenance of the line. At a minimum, the Plan shall address the following:

- Definition of what constitutes a spill.
- Requirements and procedures for reporting spills to appropriate government agencies.
- Methods of containing, recovering, and cleaning up spilled material.
- Equipment available to respond to spills and their location.
- List of governmental agencies and Applicant's management personnel to be consulted with in the event of a spill.

In the event of a spill, Applicant shall comply with its Plan and applicable Federal, state, and local regulations pertaining to containment of the spill and appropriate clean up.

14. Applicant shall comply with Department of Transportation Hazardous Materials regulations (49 CFR Parts 171 and 179) when handling, storing, or disposing hazardous materials. Applicant shall dispose of all materials that cannot be reused in accordance with applicable Federal, state, and local waste management regulations.
15. Applicant shall develop internal emergency response plans to allow for agencies and individuals to be notified in an emergency and to locate and inventory emergency equipment for use in dealing with emergencies. Applicant shall provide the emergency response plans to the relevant state and local entities prior to moving coal trains to and from the Powder River Basin.
16. Applicant shall notify the U.S. Fish and Wildlife Service, and the appropriate state departments of natural resources, in the event of a reportable hazardous materials release with the potential to affect wetlands or wildlife habitat(s), particularly those of Federally threatened or endangered species.

17. Applicant shall use established standards for recycling or reuse of construction materials such as ballast and rail ties. When recycling construction materials is not a viable option, Applicant shall use disposal methods that comply with applicable solid hazardous waste regulations.

#### **ES.14.1.5 Fire Prevention**

18. Prior to initiating any construction activities related to this project, Applicant shall develop an adequate plan for fire prevention and suppression and subsequent land restoration during construction and operation of both the new and existing line. Applicant's plan shall ensure that all locomotives are equipped with functioning spark arrestors on exhaust stacks and fire extinguishers suitable for flammable liquid fires and provide for the installation of low-spark brake shoes.

#### **ES.14.1.6 Miscellaneous**

19. During project-related construction at grade crossings, Applicant, to the extent practicable, shall maintain at least one open lane of traffic at all times, to allow for the quick passage of emergency and other vehicles.
20. In undertaking project-related construction activities, Applicant shall use construction materials and safety practices recommended by the American Railway Engineering Association (AREA) and the recommended standards for track construction and reconstruction in the AREA Manual for Railway Engineering. Applicant shall maintain the track and provide for track inspection in compliance with AREA and Federal Railroad Administration requirements at 49 CFR 213.

21. Applicant shall adhere to Federal Occupational Safety and Health Administration (OSHA), Federal Railroad Administration, and State construction and operational safety regulations to minimize the potential for accidents.
22. Applicant shall refuel locomotives at designated refueling locations. Applicant shall exercise care during refueling to prevent overflows.
23. Applicant shall make Operation Lifesaver programs available to communities, schools, and other organizations located along the new and existing rail line.

#### **ES.14.2      Transportation**

24. To the extent possible, Applicant shall confine all project-related construction traffic to a temporary access road within the right-of-way or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, Applicant shall make necessary arrangements with landowners to gain access from private roadways. The temporary access roads shall be used only during project-related construction.

#### **ES.14.3      Land Use and Community Concerns**

##### **ES.14.3.1    General**

25. Prior to initiation of construction or reconstruction activities related to this project, Applicant shall establish a Community Liaison to consult with affected communities, farmers, ranchers, businesses, landowners, and agencies; develop cooperative solutions, be available for public meetings; and conduct periodic public outreach. This Community Liaison shall have access to Applicant's upper management. Applicant shall provide the

name and phone number of the Community Liaison to mayors and other appropriate local officials in each community through which the new and existing line passes.

26. In many communities, adjacent property owners have encroached on Applicant's existing right-of-way. Applicant shall make reasonable attempts to identify and notify these individuals of its proposed project-related reconstruction schedule through these areas prior to beginning reconstruction activities in the area.
27. Applicant shall erect temporary construction fencing, where appropriate, prior to initiation of construction or reconstruction activities related to this project. Applicant shall inspect temporary construction fencing regularly and promptly repair any damage.
28. Applicant shall install permanent fencing, where appropriate, along the new and existing rail line. Applicant shall consult with the South Dakota Department of Game, Fish and Parks, Wyoming Game and Fish Department, and Minnesota Department of Natural Resources and affected landowners to determine appropriate fencing designs. Applicant shall inspect all fencing regularly and shall promptly repair any damaged fencing.
29. At least 48 hours prior to initiating herbicide applications, Applicant shall make reasonable attempts to notify residents of property adjacent to the right-of-way.
30. Applicant shall ensure that all areas disturbed by project-related construction or reconstruction activities which are not the railroad's property (such as access roads, haul roads, crane pads, and borrow pits), promptly are restored as closely to their original condition as is practical following conclusion of project-related construction or reconstruction activities at that site.

**ES.14.3.2 Agriculture/Ranching**

31. Applicant shall provide its reconstruction and construction schedule to affected farmers and ranchers to allow them to determine whether they should continue to crop or graze right-of-way areas or discontinue such activities due to impending construction and reconstruction activities related to this project.
32. Applicant's Community Liaison, established by Condition 25, shall work with farmers and ranchers to remedy any damage to crops, pastures, or rangelands caused by Applicant's construction or reconstruction activities related to the project. The Community Liaison also shall have authority to negotiate with farmers and ranchers regarding the possibility of train-free periods to facilitate movement of equipment or livestock from one side of the rail line to the other.
33. In negotiations with farmers and ranchers, Applicant shall be guided by the Land Use Mitigation Policy and Plan negotiated by the Applicant with the Landowner Advisory Board, which addresses the following areas of concern:
  - Direct and indirect land loss.
  - Displacement of capital improvements (wells, windmills, corrals, outbuildings, irrigation systems, etc.).
  - Noxious weed control.
  - Fencing.
  - Livestock casualty.
  - Fire prevention and suppression
  - Fire casualty.
  - Construction-related impacts.

**ES.14.3.3 Residential**

34. Applicant's project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties unless negotiated with and agreed to by the property owner.
35. In residential areas, Applicant shall store its equipment and materials in established storage areas or on Applicant's property whenever possible.
36. The Community Liaison, established in Condition 25, shall work with affected landowners to appropriately redress any damage to the landowner's property caused by Applicant's project-related construction or reconstruction activities.

**ES.14.3.4 Business and Industrial**

37. Applicant's project-related construction vehicles, equipment, and workers shall not access work areas by crossing business or industrial areas, including parking areas or driveways, unless negotiated with the business owner.
38. In business and industrial areas, Applicant's project-related equipment and materials shall be stored in established storage areas or on Applicant's property. Parking of Applicant's equipment, vehicles, or storage of materials along driveways or in parking lots is prohibited unless agreed to by the property owner.
39. The Community Liaison, established in Condition 25, shall work with affected businesses or industries to appropriately redress any damage to the business's property caused by Applicant's project-related construction or reconstruction activities.

40. Applicant shall insure that entrances and exits for businesses are not obstructed by project-related construction activities except as required to move equipment.

#### **ES.14.3.5 Minerals and Mining**

41. To help maintain the existing natural environment to the extent practicable, Applicant shall utilize materials such as rock, gravel, and sand available from local sources in its project-related activities.
42. Applicant shall consult with the owners of existing mines and quarries in the project area, particularly the quarry in Mankato, Minnesota, if Alternative M-3 is selected, to ensure that project-related construction and reconstruction activities minimize impacts to mine related operations.
43. Prior to initiating construction of the new line, Applicant shall obtain any necessary permits from the U. S. Department of Interior, Bureau of Land Management regarding mineral removal and oil and natural lessees.

#### **ES.14.3.6 Federal Lands**

44. Applicant shall obtain a Special Use Permit from the U.S. Forest Service (USFS) granting an easement for the rail line to cross lands administered by the USFS designated as National Grasslands prior to initiating any project-related construction activities on USFS lands. Any conditions required under this easement, in addition to those imposed by the Board and those set forth in Attachment A to this chapter, shall be adhered to by the Applicant for activities on USFS lands.

45. Applicant shall obtain the appropriate permit from the U.S.D.I. Bureau of Reclamation for crossing any lands, irrigation ditches, or canals which are part of the Angostura Irrigation District.
46. No U.S. Fish and Wildlife Service (USFWS) lands, such as waterfowl production areas (WPAs) and wetland easements, would be crossed by the project-related construction or reconstruction. However a new rail yard facility under either Alternative B or C could be located across a wetland easement. In that event, Applicant shall acquire and provide to the USFWS additional wetland easement(s), replacing in kind, function, and value, and subject to USFWS approval and necessary environmental reviews and permitting, the wetland easement(s) lost from rail yard construction.

#### **ES.14.3.7 State Lands**

47. If any project-related construction activities are required on state lands, Applicant shall consult with the appropriate state personnel prior to conducting these activities.
48. Applicant shall consult with managers of state lands to determine peak use periods for the state lands that provide for over-night use. Applicant shall attempt to schedule project-related construction activities to avoid these periods to the extent practical.

#### **ES.14.3.8 Utility Corridors**

49. Applicant shall make reasonable efforts to identify all utilities within its existing right-of-way or that cross its existing right-of-way. Applicant shall notify the owner of each utility identified prior to project-related construction and reconstruction activities and coordinate with the owner to minimize damage to utilities. Applicant shall also consult with utility

owners to design the rail line so that utilities are protected during project-related construction and reconstruction activities and subsequent maintenance and operation of Applicant's rail line.

50. Should previously unidentified utilities be discovered during project-related construction activities, Applicant shall cease construction, take appropriate action to protect the utility, and contact the utility owner immediately. In the event of damage to any utility during project-related construction or operation, Applicant shall contact the utility owner immediately and take appropriate remedial action.

#### **ES.14.4 Water Resources**

51. Applicant shall obtain all Federal, state, and local permits required by the U.S. Army Corps of Engineers for alteration of wetlands, ponds, lakes, streams, or rivers as a result of this project.
52. Applicant shall obtain all necessary Federal, state, and local permits required by the U.S. Army Corps of Engineers for storm water discharge resulting from this project, including National Pollutant Discharge Elimination System permits for project-related construction or reconstruction activities.
53. To minimize sedimentation into streams and waterways, Applicant shall use best management practices, such as silt screens and straw bale dikes, to minimize soil erosion, sedimentation, runoff, and surface instability during project-related construction and reconstruction activities. Applicant shall disturb the smallest area possible around any streams and tributaries, and shall consult with the Natural Resource Conservation Service, Minnesota Department of Natural Resources, South Dakota Department of Game, Fish,

and Parks, Minnesota Pollution Control Agency, Wyoming Department of Game and Fish, and the State Departments of Transportation to ensure proper re-vegetation of disturbed areas as soon as possible following construction or reconstruction activities related to this project.

54. Applicant shall establish staging areas for project-related construction equipment in areas that are not environmentally sensitive in order to control erosion. When project-related construction activities, such as culvert and bridge work, require work in stream beds, Applicant shall conduct these activities, to the extent possible, during low flow or periods when the stream is dry.
55. When engaging in any project-related construction activities near streams, Applicant shall construct any temporary stream crossings as close to a right angle with the stream as possible. Applicant also shall design temporary bridges to span across the ordinary high water elevations of waterways to the extent practical. Following the project-related construction, Applicant promptly shall remove all temporary construction crossings and restore the area to as close to its original condition as possible.
56. Applicant shall ensure that, when used in its project-related construction activities, cofferdams or check dams consist of native material, sheet pile, sandbags, or other engineered designs matching the local site conditions.
57. Applicant shall establish staging and laydown yards for project-related construction at least 50 feet from wetlands or waterways, if topography permits. If topographic conditions do not permit a 50-foot distance, these areas shall be located no less than 10 feet from the water's edge. Applicant shall not clear any vegetation between the yard area and the waterway or wetland.

58. Applicant shall not service project-related construction equipment within 25 feet of wetlands or waterways, and shall refuel all project-related construction equipment at least 100 feet from these sensitive areas.
59. Applicant shall ensure that all culverts and bridges are clear of debris to avoid potential flooding and stream flow alteration. Applicant shall design all project-related drainage crossing structures to pass a 100-year flood. Applicant shall reconstruct the existing rail line and construct the new rail line in such a way as to maintain current drainage patterns as much as possible. Applicant shall regularly inspect and maintain culverts, bridge abutments, and bridges to ensure surface water drainage is preserved.
60. To ensure the integrity of the Flood Control Project in Mankato, Minnesota if Alternative M-3, the existing rail corridor alternative through Mankato, is approved, Applicant shall coordinate with the U.S. Army Corps of Engineers and local agencies in Mankato and obtain any necessary permits, to prevent adverse impacts from project-related rail line construction and operation to flood control structures.
61. Applicant shall employ best management practices to control turbidity and disturbance to bottom sediments during project-related construction or rehabilitation of Applicant's bridge over the Missouri River at Pierre, South Dakota.
62. Applicant shall obtain a Bridge Permit from the U.S. Coast Guard for any project-related activities that would result in the extensive modification of Applicant's existing rail bridge over the Missouri River in Pierre, South Dakota, or for construction of a new rail bridge over the river.

63. Applicant shall complete project-related construction and reconstruction activities through wetlands, when such wetlands extend outside the rail line right-of-way, in continuous segments, in order to minimize both the time required to complete construction and the time land adjacent to wetland areas is disturbed.
64. Applicant shall ensure that any herbicides used in right-of-way maintenance are approved by the U.S. Environmental Protection Agency and are applied by licensed individuals who shall limit application to the extent necessary for rail operations. Applicant shall ensure that herbicides shall not be applied within 150 feet of perennial streams and wetlands to minimize the amount potentially entering waterways.
65. Applicant shall ensure that any wells that could be affected by project-related construction or reconstruction are appropriately protected or capped to prevent well and groundwater contamination. If these wells are located on private land, Applicant must first secure permission from the landowner before undertaking any such activities.

#### **ES.14.5 Recreation**

66. Applicant shall ensure that adequate clearances and access are provided for safe navigation of recreational boats on the Missouri River at the location of any project-related rehabilitation or construction of Applicant's bridge across the Missouri River at Pierre, South Dakota. Applicant also shall install appropriate warning devices to notify boaters of project-related bridge construction activities and the location of a safe navigation route.

**ES.14.6 Air Quality**

67. Applicant shall comply with the final recommendations of the Air Quality Working Group, consisting of agencies with appropriate technical expertise which was established for this project, to minimize the impacts of regional haze on Class I airsheds resulting from the locomotive emission of Applicant's Powder River Basin coal trains.
68. Applicant shall comply with the U.S. Environmental Protection Agency emissions standards for diesel-electric railroad locomotives (40 CFR Part 92) when purchasing and rebuilding locomotives.
69. Applicant, to the extent practicable for project-related operations, shall adopt fuel saving practices, such as throttle modulation, dynamic braking, increased use of coasting trains, isolation of unneeded horsepower, and shutting down locomotives when not in use for more than an hour when temperatures are above 40 degrees to reduce overall emissions.
70. To minimize fugitive dust emissions created during project-related construction activities, Applicant shall use such control methods as water spraying of construction areas, tarp covers for haul vehicles, installation of wind barriers, or chemical treatment. Applicant shall also regularly operate water trucks on haul roads to reduce dust.
71. Applicant shall maintain project-related construction and maintenance vehicles in good working order with properly functioning mufflers to control emissions and noise.
72. Applicant shall notify local fire departments at least 4 hours before any project-related open burning and obtain verbal or written permission from the fire departments prior to burning activities.

**ES.14.7 Biological Resources**

73. Applicant shall comply with the terms set forth in the Biological Assessment that has been prepared under Section 7 of the Endangered Species Act, 16 U.S.C. 1531.
74. Applicant shall develop and implement, in consultation with the U.S. Fish and Wildlife Service and South Dakota Department of Game, Fish and Parks, a mitigation plan designed to compensate for the loss of trees, shrubs, and other woody vegetation as a result of project-related construction and reconstruction activities. Applicant's plan shall focus in particular on riparian areas or other areas that are not addressed as part of wetland mitigation.
75. Applicant shall conduct a survey for raptor nests prior to the initiation of project-related construction activities. Applicant also shall attempt to minimize disturbance to active nests until after nesting has been completed. Applicant shall consult and coordinate with the applicable state agency (South Dakota Department of Game, Fish and Parks, Wyoming Game and Fish Department, or Minnesota Department of Natural Resources) to determine the appropriate action to compensate for raptor nests removed or destroyed during project-related construction activities.
76. Prior to initiating project-related construction activities, Applicant shall consult with the Natural Resource Conservation Service, local grazing associations, and interested landowners, to develop an adequate plan for controlling noxious weeds during construction of the new rail line and related facilities and operation of the new and existing rail line. The plan should include an approved list of herbicides.

77. Prior to initiating project-related construction activities, Applicant shall consult with the Natural Resource Conservation Service, local grazing associations, local fire and emergency response departments, and interested landowners to develop an adequate plan for fire prevention, suppression, and rehabilitation in order to protect natural habitat.
78. Prior to initiating new rail line construction activities in South Dakota and Wyoming, Applicant shall consult with the South Dakota Department of Game, Fish and Parks and Wyoming Department of Game and Fish to develop mutually acceptable under- and overpass designs to protect wildlife, particularly big game.
79. Prior to initiating new rail line construction activities in South Dakota and Wyoming, Applicant shall coordinate with the South Dakota Department of Game, Fish and Parks and Wyoming Game and Fish Department to develop adequate fencing standards and designs to allow for movement of wildlife, particularly big game, across the right-of-way. Applicant shall encourage the use of these types of fencing when negotiating with landowners on fence installation on private property.
80. Applicant shall remove carcasses from the rail line right-of-way as part of normal rail line inspection and maintenance activities.
81. Should project-related construction and operation activities affect previously unidentified threatened or endangered species, Applicant shall immediately cease construction and contact the U.S. Fish and Wildlife Service for guidance on how to protect these species.

**ES.14.8 Geology and Soils**

82. Applicant shall limit ground disturbance to only the areas necessary for project-related construction and reconstruction activities.
83. During project-related earthmoving activities, Applicant shall remove topsoil and segregate it from subsoil. Applicant shall also stockpile topsoil for later application during reclamation of the right-of-way. Applicant shall place the topsoil stockpiles in areas that would minimize the potential for erosion, and use appropriate erosion control measures around all stockpiles to prevent erosion.
84. Applicant shall commence reclamation of disturbed areas as soon as practicable after project-related construction ends along a particular stretch of rail line. The goal of reclamation shall be the rapid and permanent reestablishment of ground cover on disturbed areas. Applicant shall attempt to reclaim disturbed areas prior to cessation of project-related construction activities for the winter to avoid disturbed soils being subject to erosion throughout the winter. If weather or season precludes reestablishment of vegetation, Applicant shall use measures such as mulching, netting, or ground blankets to prevent erosion until reseeding can be completed.
85. Prior to initiating project-related construction activities, Applicant shall consult with the local offices of the Natural Resources Conservation Service, State Departments of Natural Resources, Fish and Game, and State Departments of Transportation, to develop an adequate plan for restoring and revegetating disturbed areas within the rail line right-of-way for each State (including greenstrip seed mix specifications). Applicant shall monitor reclaimed areas for three years. For those areas where efforts to establish vegetative

cover have been unsuccessful after one year, Applicant shall reseed annually until vegetative cover is established.

86. Applicant shall take reasonable steps to ensure that fill material used in project-related construction and operation activities is free of contaminants.

87. Applicant shall design and construct the new rail line so as to consider local geologic potentials for slumping and landslides and develop and implement adequate measures to minimize the potential for these to occur.

#### **ES.14.9 Paleontological Resources**

88. Prior to engaging in any project-related construction across Federal lands, Applicant shall conduct testing within the proposed right-of-way where there is a potential for paleontological resources of Class 3 or higher. This testing shall be done to the depth below ground surface at which the rail line is anticipated to be constructed. Prior to initiating construction activities in the areas that warrant testing, Applicant shall prepare a paleontological resources report identifying any resources encountered, as well as the strata most likely to contain significant paleontological resources. Applicant shall submit the report to the Board and the appropriate Federal land managing agency. After submitting the report, Applicant shall consult with the appropriate Federal land managing agency to develop appropriate measures to minimize damage to paleontological resources during project-related construction. These measures may include a requirement that the Applicant retain a paleontologist be present during earthmoving activities affecting the strata most likely to contain significant fossil resources.

89. If paleontological resources are encountered during project-related construction activities on Federal lands, Applicant shall immediately cease construction activities, inform the appropriate Federal land managing agency of the identified resource, and arrange for evaluation of the resource and determination of how to protect the resource by a qualified paleontologist. The paleontologist may be employed by the Federal land managing agency, the relevant State Historic Preservation Office, or may be retained by Applicant.
90. Any paleontological resources recovered from project-related construction activities across Federal lands shall remain the property of the United States Government.

**ES.14.10 Noise**

91. Applicant shall consult with affected communities regarding Applicant's project-related construction schedule, including the hours during which construction takes place, to minimize, to the extent practicable, construction-related noise disturbances in residential areas.
92. Applicant shall install rail lubrication systems at curves where doing so would reduce noise for residential or other noise sensitive receptors.
93. Prior to initiating project-related construction activities, Applicant shall develop a Construction Noise and Vibration Control Plan to minimize construction noise and vibration within the communities along the rail line. Applicant shall designate a noise control officer/engineer to develop the Plan, whose qualifications shall include a least 5 years' experience with major construction noise projects, and board certification membership with the Institute of Noise Control Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.

94. Applicant shall comply with Federal Railroad Administration regulations (49 CFR Part 210) establishing decibel limits for train operations.
95. Applicant shall consult with interested communities along its new and existing rail line to identify measures to eliminate the need to sound train horns consistent with Federal Railroad Administration standards.
96. If Applicant's proposal to reconstruct its existing rail line through Rochester, Minnesota, is approved, Applicant shall implement a program to minimize vibration resulting from train operations in Rochester, where large amounts of vibration-sensitive equipment are present (e.g. magnetic resonance imaging systems (MRI) of the General Electric 1.5 Tesla Signa series contained in the Charlton North building). The design goal for vibration mitigation shall maintain the current levels of railroad-related vibration.
97. Applicant shall regularly inspect rail car wheels to maintain wheels in good working order and minimize the development of wheel flats (areas where a round wheel becomes no longer round but has a flat section, leading to a clanking sound when a rail car passes). Prior to moving Powder River Basin coal trains, Applicant shall inspect new and existing rail for rough surfaces and grind these surfaces to provide a smooth rail surface during operation.

#### **ES.14.11 Environmental Justice**

98. Applicant shall consult and coordinate with the Lakota Sioux Tribe to develop a Hazardous Material Emergency Response Plan to account for the special needs of Native American persons on the Pine Ridge Reservation in South Dakota, particularly those inhabiting Red Shirt, which is located less than 1.0 mile from the new rail line construction

under Alternative B. This plan shall include Applicant-sponsored training in hazardous materials response for appropriate tribal personnel.

#### **ES.14.12 Cultural Resources**

99. Applicant shall implement all the mitigation included in the Programmatic Agreement and Identification Plan that has been developed through the Section 106 consultation process under the National Historic Preservation Act.
100. Applicant shall implement all the mitigation included in the Memorandum of Agreement that has been developed to ensure that the concerns of Native American Tribes related to the proposed project which are outside the Section 106 process under the National Historic Preservation Act are considered and addressed.
101. Prior to initiating project-related construction or rehabilitation of Applicant's bridge over the Missouri River located at Pierre, South Dakota, Applicant shall ensure that the Section 106 process of the National Historic Preservation Act is completed for all archaeological sites and historic structures that would be impacted by the proposed project.
102. If archeological resources are encountered during project-related construction activities, Applicant shall immediately cease excavation work in the area and inform and consult with the appropriate State Historic Preservation Office regarding appropriate measures to protect the resource. If the archaeological resource is discovered on Federal lands, Applicant shall contact the appropriate Federal land managing agency and then the appropriate State Historic Preservation Office.

**ES.14.13      Monitoring and Enforcement**

103.    If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board may review the continuing applicability of its final mitigation, if warranted.
104.    Applicant shall retain a third-party contractor to assist SEA in the monitoring and enforcement of mitigation measures on an as-needed basis until Applicant has completed project-related construction and reconstruction activities, as well as a period covering the first year of project-related operations, or for any period the Board imposes.

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**Attachment A**  
**Forest Plan Amendments**

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**NEBRASKA NATIONAL FOREST AND  
BUFFALO GAP NATIONAL GRASSLAND  
LAND AND RESOURCE MANAGEMENT PLAN  
ROCKY MOUNTAIN REGION  
USDA FOREST SERVICE**

**PROPOSED AMENDMENT 8**

**MODIFICATION OF MANAGEMENT  
PRESCRIPTION 1D (UTILITY CORRIDORS)  
TO DESIGNATE RAIL LINE CORRIDOR ON  
BUFFALO GAP NATIONAL GRASSLAND**

Page Code - Chapter III, pages 154-157

Digest: Chapter III, page 157 - Designates rail line corridor under Management Prescription 1D where rail line crossing the Buffalo Gap National Grassland is less than 10 miles in length.

Reason for Amendment: The existing Management Prescription, 1D, which provides for utility corridors, state's management emphasis is for major oil and gas pipelines, major water transmission and slurry pipelines, electrical transmission lines, and transcontinental telephone lines. Management activities within these linear corridors strive to be compatible with the management goals of the management areas through which they pass." Rail lines of 10 miles in length or greater were considered as part of this existing prescription. This amendment to the 1D Management Prescription is consistent with the original intent for management of a utility corridor. A new rail line corridor and route alternatives are being analyzed in the Powder River Basin Expansion Project Environmental Impact Statement. Based upon this analysis and if an action alternative is selected, this prescription will be modified to allow for a site-specific linear rail line corridor across a section of the Buffalo Gap National Grassland that will be less than 10 miles in length on the grasslands but approximately 1,000 miles in length in its totality. The purpose of this rail line is to transport coal from the Powder River Basin in Wyoming to eastern utility markets for national public use.

Goal: To provide for and administer a necessary special purpose corridor across a portion of the Buffalo Gap National Grassland to ensure safe, efficient use of the facilities necessitating use of these lands in the interest of the national public, consistent with the purposes of the National Grasslands that include developing energy resources, and to minimize impacts upon the resources, landscape, and environment.

Prescription: This prescription is applicable to strips of land or other relatively small land areas which are, or may be, occupied by high to moderately high investment facilities authorized by memorandums of understanding, easements, or special use permits. These specific, relatively

small areas (in relation to the overall planning area) are, or may become, primarily occupied for purposes other than renewable resource production. Although these lands are included in management areas that may differ along the length of the corridor, the corridor will be managed for complimentary resource objectives, where conditions permit. Where the corridor is inconsistent with management area standards and guidelines, mitigation will be developed, to the extent practicable to minimize impacts and affect compliance with the *Nebraska National Forest and Buffalo Gap National Grasslands Land and Resource Management Plan* and all other applicable laws. Those lands surrounding this linear corridor shall continue to be managed under the existing management prescriptions, standards and guidelines.

If a rail line corridor is approved, the management area map will be amended to show the location, length, and width of the corridor and/or easement, and identify the number of acres that will be modified.

NEPA Evaluation and Plan Amendment Significance Determination Process: The NEPA evaluation of this proposed amendment, as called for by 36 C.F.R. section 219.10(k), will be performed as part of the Powder River Basin Expansion Project EIS process, for which the U.S. Forest Service is a cooperating agency. As part of the proposed plan amendment evaluation, a determination as to whether the proposed amendment is a significant or non-significant amendment to the current plan will be made and documented in the final U.S. Forest Service decision on the right-of-way, easement, use and occupancy, or other permit for the project.

A consideration of the significance determination factors enumerated in the U.S. Forest Service Handbook and examples given in the U.S. Forest Service Manual suggests that the proposed amendment is a non-significant amendment to the Forest Plan. The location and size of the area involved in the change is relatively small - a linear special purpose corridor across a portion of the Buffalo Gap National Grassland, less than 10 miles in length - in comparison to the overall planning area for the *Nebraska National Forest and Buffalo Gap National Grassland Land and Resource Management Plan*. Under the Forest Service handbook factors, the smaller the area affected, "the less likely the change is to be a significant change in the Forest Plan." Id. Ch. 5.32(3)(b).

Secondly, the revision of the existing Management Prescription 1D should not alter the long-term relationship between the levels of goods and services projected by the Forest Plan. The proposed amendment is consistent with the original intent of Management Prescription 1D for management of a utility corridor, and mitigation will be developed to the extent practicable to minimize the impacts of the management prescription modification on other provisions of the *Nebraska National Forest and Buffalo Gap National Grasslands Land and Resource Management Plan*. Additionally, these lands adjacent to the linear special purpose corridor will continue to be managed under the existing management prescriptions, standards, and guidelines for those areas in the Forest Plan.

Thirdly, the change in management prescription is proposed only for the specific situation of the Powder River Basin Expansion Project new rail line and corridor. The provisions of a specific proposed permit or occupancy and use permit provides a basis for considering a proposed plan

amendment. *See* U.S. Forest Service Manual 1922.5(2); U.S. Forest Service Handbook 1909.12, Ch. 5.32. Because the change applies only to this situation and the change should not alter the desired future condition of the land and resources or the anticipated goods and services to be produced, based on the provisions discussed above (including limited scope of the special purpose corridor and the mitigation to be imposed together with continuation of existing management prescriptions for adjoining areas), the proposed plan amendment should not be significant. *See* U.S. Forest Service Handbook 1909.12, Ch. 5.32(3)(d).

This amendment is consistent with the *National Environmental Policy Act* (NEPA), 36 C.F.R. 219, 40 C.F.R. parts 1500 to 1508, and Chapters 10 and 40 of FSH 1909.15 (09/21/92). In addition, it has been determined that this amendment is a non-significant amendment under the criteria of the *National Forest Management Act* and in accordance with Forest Service Handbook 1909.12, Section 5.32.

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**MEDICINE BOW NATIONAL FOREST AND  
THUNDER BASIN NATIONAL GRASSLAND  
LAND AND RESOURCE MANAGEMENT PLAN  
ROCKY MOUNTAIN REGION  
USDA FOREST SERVICE**

**PROPOSED  
AMENDMENT 20**

**MODIFICATION OF MANAGEMENT PRESCRIPTION 1D  
(UTILITY CORRIDORS) TO INCLUDE RAIL LINE  
CORRIDOR ON THUNDER BASIN NATIONAL  
GRASSLAND**

Page Code - Chapter III, page 96

Digest: Chapter III, page 96 - Modifies Management Prescription 1D to include rail line corridor on Thunder Basin National Grassland.

Reason for Amendment: The existing Management Prescription 1D, which provides for utility corridors, states “Management emphasis is for major oil and gas pipelines, major water transmission and slurry pipelines, electrical transmissions lines, and transcontinental telephone lines. Management activities within these linear corridors strive to be compatible with the goals of the management areas through which they pass.” Rail lines were not considered as part of this existing prescription. However, this amendment to the 1D Management Prescription is consistent with the original intent for management of a utility corridor. A new rail line corridor and route alternatives are being analyzed in the Powder River Basin Expansion Project Environmental Impact Statement. Based upon this analysis and if an action alternative is selected, this prescription will be modified to allow for a site-specific linear rail line corridor across a section of the Thunder Basin National Grasslands for the purpose of transporting coal from the Powder River Basin in Wyoming to eastern utility markets for national public use.

Goal: To provide for and administer a necessary special purpose corridor across a portion of the Thunder Basin National Grassland to ensure safe, efficient use of the facilities necessitating use of these lands in the interest of the national public, consistent with the purposes of the National Grasslands that include developing energy resources, and to minimize impacts upon the resources, landscape, and environment.

Prescription: This prescription is applicable to strips of land or other relatively small land areas which are, or may be, occupied by high to moderately high investment facilities authorized by memorandums of understanding, easements, or special use permits. These specific, relatively

small areas (in relation to the overall planning area) are, or may become, primarily occupied for purposes other than renewable resource production. Although these lands are included in management areas that may differ along the length of the corridor, the corridor will be managed for complementary resource objectives, where conditions permit. Where the corridor is inconsistent with management area standards and guidelines, mitigation will be developed, to the extent practicable, to minimize impacts and affect compliance with the *Medicine Bow National Forest and Thunder Basin National Grassland Land and Resource Management Plan* and all other applicable laws. Those lands surrounding this linear corridor shall continue to be managed under the existing management prescriptions, standards, and guidelines.

If a rail line corridor is approved, the management area map will be amended to show the location, length, and width of the corridor and/or easement and identify the number of acres that will be modified.

NEPA Evaluation and Plan Amendment Significance Determination Process: The NEPA evaluation of this proposed amendment, as called for by 36 C.F.R. Section 219.10(k), will be performed as part of the Powder River Basin Expansion Project EIS process, for which the U.S. Forest Service is a cooperating agency. As part of the proposed plan amendment evaluation, a determination as to whether the proposed amendment is a significant or non-significant amendment to the current plan will be made and documented in the final U.S. Forest Service decision on the right-of-way, easement, use and occupancy, or other permit for the Project.

A consideration of the significance determination factors enumerated in the U.S. Forest Service Handbook and examples given in the U.S. Forest Service Manual suggests that the proposed amendment is a non-significant amendment to the Forest Plan. The location and size of the area involved in the change is relatively small - a linear special purposed corridor across a portion of the Thunder Basin National Grassland - in comparison to the overall planning area for the *Medicine Bow National Forest and Thunder Basin National Grasslands Resource Management Plan*. Under the Forest Service Handbook factors, the smaller the area affected, "the less likely the change is to be a significant change in the Forest Plan." Id. Ch. 5.32(3)(b).

Secondly, the revision of the existing Management Prescription 1D should not alter the long-term relationship between the levels of goods and services projected by the Forest Plan. The proposed amendment is consistent with the original intent of Management Prescription 1D for management of a utility corridor, and mitigation will be developed to the extent practicable to minimize the impacts of the management prescription modification on other provisions of the *Medicine Bow National Forest and Thunder Basin National Grasslands Resource Management Plan*. Additionally, those lands adjacent to the linear special purpose corridor will continue to be managed under the existing management prescriptions, standards, and guidelines for those areas in the Land and Resource Management Plan.

Thirdly, the change in management prescription is proposed only for the specific situation of the Powder River Basin Expansion Project new rail line and corridor. The provisions of a specific proposed permit or occupancy and use permit provide a basis for considering a proposed plan amendment. See U.S Forest Service Manual 1922.5(2); U.S. Forest Service Handbook 1909.12,

Ch. 5.32. Because the change applies only to this situation and the change should not alter the desired future condition of the land and resources or the anticipated goods and services to be produced, based on the provisions discussed above (including the limited scope of the special purpose corridor and the mitigation to be imposed together with continuation of existing management prescriptions for adjoining areas) the proposed plan amendment should not be significant. *See* U.S. Forest Service Handbook 1909.12, Ch. 5.32(3)(d).

This amendment is consistent with the *National Environmental Policy Act (NEPA)*, 36 CFR 219, 40 CFR parts 1500 to 1508, and Chapters 10 and 40 of FSH 1909.15 (09/21/92). In addition, it has been determined that this amendment is a non-significant amendment under the criteria of the *National Forest Management Act* and in accordance with Forest Service Handbook 1901.12, Section 5.32.

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**Attachment B**  
**Forest Service Proposed Mitigation**

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# **U.S. FOREST SERVICE DRAFT MITIGATION PLAN**

The following is a summary of potential mitigation measures that are proposed by the U.S. Forest Service for inclusion in the Draft Environmental Impact Statement for the DM&E Railroad Powder River Basin proposal. These mitigation measures will apply only to the proposed new line construction on federal lands affected in the states of South Dakota and Wyoming. These mitigation measures are generally broad at this stage of the analysis and will be further refined in detail in the Final environmental Impact Statement and Record of Decision.

It is the intent of the U.S. Forest Service to develop a land exchange strategy with the DM&E Railroad so that if an action alternative is selected, the land under the rail line will eventually become the property of the DM&E Railroad over time. This would also include lands that are “widow pieces,” or, in other words, leftover pieces of land resulting from the railroad location that would be difficult to manage due to their small size. Any land exchange proposals will be analyzed separately from this analysis under the appropriate laws, regulations and policies that govern land exchanges. Unless or until any land exchanges transpire, the proponent shall mitigate the impacts to National Grasslands accordingly.

The following mitigation measures are based on laws, regulations and policy as well as best management practices. It is important to note that not all mitigation measures will be identified at this time as no final decision has been made. However, where impacts are known to occur, mitigation practices are being recommended or required. There may be voluntary mitigation provided by the proponent but the extent of that is not known at this time.

There are several stages of this project. If approved, there will be a construction phase, daily operations and maintenance phase, and monitoring phase. Each of these phases will have mitigation measures applied that may differ from the previous stage. For example, mitigation measures required during construction may not be applicable to the day-to-day operation of the railroad and vice versa. Therefore, the mitigation measures are being developed that will address both long-term and short-term impacts of the railroad construction and operation.

The U.S. Forest Service will apply the standards for mitigation to the project as provided in 40 CFR 1508.20, which states “Mitigation includes:

- a. Avoiding the impact altogether by not taking a certain action or parts of an action.
- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e. Compensating for the impact by replacing or providing substitute resources or environments.”

**IT IS IMPORTANT TO NOTE** that the original route proposal, (Alternative B, Proposed Action) as submitted by DM&E Railroad Corporation in their Special Use Application, was voluntarily modified by the DM&E Railroad due to certain preliminary concerns by federal agencies that potential impacts along that proposed route could preclude the issuance of a Special Use Permit. The DM&E Railroad took a hard look that their proposed route and based on the environmental impacts identified early on, modified portions of their route into what is now known as Alternative C (Modified Proposed Action).

In essence, the DM&E Railroad mitigated many of the potential environmental effects of their proposal at considerable cost to them by following the purpose stated in 40 CFR 1508.20(a) above. This action, taken by the DM&E Railroad, is acknowledged by the U.S. Forest Service as project mitigation.

Management Objectives for each Management Prescription Area that the proposed railroad and its alternative routes pass through is provided in the *Medicine Bow National Forest Land and Resource Management Plan* and the *Nebraska National Forest Land and Resource Management Plan*. Project impacts affecting management objectives and standards and guidelines across the length of the routes will be mitigated, where possible, to acceptable levels. However, there will be some impacts and effects that will not be mitigable. Where those situations occur, the U.S. Forest Service and the proponent will discuss alternative voluntary measures that, while not mitigating in kind, will reflect the proponent’s stated intent to be environmentally sensitive.

**GENERAL MITIGATION RECOMMENDATIONS:**

If an action alternative is selected, there will be a number of construction and operation plans required. These plans, at a minimum, include the following:

Construction Plan (staging, people camps, equipment use, construction schedule gravel and water sources, access roads, law enforcement, fencing, etc.).

Operating Plan (including daily operations, numbers of trains, train schedules, etc.)

Noxious Weed Plan (management and treatment of noxious weeds along route).

Fire Plan (suppression, coordination with states and counties and Federal agencies).

Air Quality Plan (per air quality committee recommendations)

Wetlands Mitigation Plan (per U.S. Army Corps of Engineers requirements)

Transportation and Public Safety Plan (consisting of environmental mitigation, imposed by the Surface Transportation Board)

Safety Environmental Health Action Plan (including management of industrial discharges, sedimentation/erosion control, storm water discharge, mine and surface reclamation, spill prevention, control and countermeasures, storage tanks, handling waste materials, etc.

Soil and Revegetation/Reclamation Plan (including approved seed mixes, erosion control, compaction prevention, etc.)

Within each of these plans, there are specific mitigation measures that will be required and best management practices identified for the prevention or minimization of impacts.

## **GENERAL MITIGATION MEASURES BY RESOURCE AREA**

### **Air Quality:**

Mitigation for air quality will be developed based upon recommendations of the air quality team, including representatives of the Region VIII Environmental Protection Agency, the U.S. Forest Service, U.S. Park Service, Wyoming Department of Environmental Quality, and the South Dakota Department of Environmental Quality.

### **Cultural and Historic Resources:**

The Programmatic Agreement (Appendix J) outlines the process by which the DM&E Railroad will mitigate for the impacts to cultural resources. The Memorandum of Agreement (Appendix I) outlines the process for communicating and consulting with Native American Indian Tribes and tribal governments during the analysis process. In addition to the provisions of both documents, the U.S. Forest Service will require the DM&E Railroad to:

- a. Maintain access to sacred sites by Native American Indians by Executive Order 1307.
- b. Mitigate on a site-by-site basis according to the *National Historic Preservation Act*, Section 106 compliance.
- c. Monitor all construction sites for historic properties to ensure protection of these sites as well as monitor and protect known eligible historic properties impacted by construction.
- d. Identify areas where traditional plant collection can continue if traditional plant sites are impacted.
- e. Prevent “looting” of sites and cultural resources by employees or subcontractor employees.
- f. Monitor erosion at cut and fill areas for cultural resources.

### **Paleontological Resources:**

Where the railroad route crosses areas of federal land where the paleontological rating is a Class 5 rating, meaning that the area has the highest probability of producing paleo resources such as dinosaur bones, fossils, etc., a qualified paleontologist and/or necessary support personnel will monitor on-site at all times during excavation. Any discoveries will be evaluated for significance and operations in the vicinity of the discovery will be halted until written authorization to proceed is issued by the U.S. Forest Service. All recovered specimens will be evaluated for the purpose of scientific research and a curation plan shall be developed.

In areas other than Class 5, the DM&E Railroad shall report to the project paleontologist any discovery made for examination and determination of the significance of the specimen.

### **Transportation/Public Safety:**

In addition to any Transportation and Safety mitigation imposed by the Surface Transportation Board, the U.S. Forest Service will require the following:

The DM&E Railroad will work with the U.S. Forest Service to develop a plan for the development of roads needed during construction, roads needed for access to the rail line, and the obliteration of roads where efficiencies can be developed. All new roads across U.S. Forest Service lands will require a Special Use Permit. Use of existing U.S. Forest Service roads will require an assessment as to the level of use, and will determine the standard to which the roads must be maintained by the proponent. A commercial use permit will be required when equipment exceeds 33,000 pounds.

Legal access to public lands will be maintained and the U.S. Forest Service will retain all easements on all road crossings through the right-of-way.

All appropriate safety standards will be applied to any new roads and/or road crossings, such as proper signage, warning systems, and whistle blowing. Maintenance of roads used or developed will be done to U.S. Forest Service road standards.

Cattle guards on all road crossings will be required with an associated gate on the side, both of which will be maintained by the proponent.

### **Land Uses/Grazing:**

Impacts to any permitted grazing allotment shall be mitigated so that the U.S. Forest Service is made whole and the permittee can continue to maintain grazing operations with as little interruption as possible. For example:

Where livestock is separated from water sources as a result of the rail line bisecting an allotment,

the proponent will provide water, i.e. by developing a new well, dam, spring, windmill, etc. sufficient to replace the loss or access to water.

Fencing of the rail line easement will be done to U.S. Forest Service standards prior to construction and the proponent will work with the state Game & Fish as well for appropriate fencing standards for wildlife and wildlife passages.

The proponent will be responsible for removing an equal amount of fencing as will be constructed when opportunities are identified through the allotment management planning process or where other opportunities for fence removal are recognized.

Any loss of livestock will be mitigated i.e. livestock/train collisions.

The proponent will pay for the administrative costs necessary to modify grazing permits as a result of the railroad.

For more recommended site-specific mitigation, please see Appendix L Resource Technical Reports and Impact Assessment for the Proposed Dakota, Minnesota and Eastern Railroad, Chapter 4.15, Grazing Resources, pages 4-29 through 4-48.

#### **Soils Resource:**

Best management practices for soil protection will be requirement. This will include soil erosion prevention, soil compaction prevention, soil productivity, and other measures to be detailed in the Soils and Revegetation/Reclamation Plan. Gravel needed for the construction and stabilization of the rail lines will be taken from off-forest sources. Soil stabilization through revegetation practices will be required to prevent erosion, slumping, loss of topsoil, siltation and salinization of surface waters. Soil productivity will be maintained especially where construction activities may affect existing irrigation systems, canals, laterals or ditches. Invasion of noxious weeds due to construction clearing will be controlled through measures outlined in the Noxious Weed Control Plan.

#### **Water Resource:**

All water quality standards, both federal and state, shall be met. All live drainage crossings and culverts will not impede fish movement. All drainage crossings will be designed for 100-year flood events. Water sources needed for construction will be found on private lands.

#### **Recreation/Aesthetic Resources:**

Noise and nightlights will create impacts to the recreation and visual quality resources. Train whistles will disturb wildlife and the presence of the train will cause changes in wildlife movement which can affect hunting. Whistle-blowing will be controlled by requirements of the Federal

Railroad Administration. Visual resources will be impacted by the physical presence of the railroad on the landscape. Some visual mitigation will be accomplished by the use of non-reflective rails and color matching of facilities where possible. Dispersed recreationalists will be displaced in the vicinity of the railroad and will seek experiences elsewhere on the grasslands.

These impacts are of a type and nature where there is no definitive or set mitigation practices. The U.S. Forest Service recognizes that some of these impacts will not be mitigated. However, it is strongly recommended that the proponent be sensitive to these resource impacts and consider voluntary alternative mitigation such as development of an interpretative site or campground, etc.

**Wildlife and Aquatic Resources:** There will be substantial impacts to wildlife habitat and aquatic resources through the development and operation of the railroad. Mitigation measures will be developed cooperatively with the Wyoming Game & Fish Department, U.S. Fish & Wildlife Service, and U.S. Forest Service biologists. Threatened and Endangered species will be specifically addressed through consultation under Section 7 of the Endangered Species Act (See Biological Assessment Appendix K). Anticipated non-mitigable habitat impacts may occur. Where this happens, off-site enhancements may be used to partially replace losses. A complete wildlife mitigation plan will be developed and disclosed in the Final EIS if an action alternative is selected. See also *Resource Technical Reports and Impact Assessment for the Proposed Dakota, Minnesota, & Eastern Railroad, Chapters 4.17 and 4.18, pages 4-53 through 4-125*) for more information on wildlife impacts.

**Existing Infrastructure:** The DM&E Railroad will be required to locate and contact all holders of permits for the following where the rail line is known to cross or be in the proximity of:

- a. Transmission lines
- b. Power lines
- c. Telephone lines
- d. Water wells/reservoirs
- e. Oil Wells
- f. Coalbed Methane wells
- g. Earthen dams
- h. Pipelines
- i. Cables
- j. Facilities
- k. Any other structure above or below ground.

The proponent will work with the permittees and the agency that has issued such permits, to develop appropriate mitigation so that disturbance to permitted uses will be minimized during construction of the rail line.

This list of proposed mitigation measures is intended to be dynamic and will change between the Draft EIS and the Final EIS based on comments from the public, and the identification of a preferred alternative.

## LIST OF ACRONYMS AND ABBREVIATIONS

<b>AAR</b>	Association of American Railroads
<b>ACHP</b>	Advisory Council on Historical Preservation
<b>AD</b>	ano domini (year of our lord)
<b>ADT</b>	Average Daily Traffic
<b>AIRFA</b>	American Indian Religious Freedom Act
<b>APE</b>	Area of Potential Effect
<b>Applicant</b>	Dakota, Minnesota, and Eastern Railroad Corporation
<b>AQRV</b>	Air Quality Related Values
<b>AREA</b>	American Railway Engineering Association
<b>AREMA</b>	American Railway Engineering and Maintenance of Way Association
<b>ARPA</b>	Archaeological Resource Protection Act
<b>ATV</b>	All-Terrain Vehicle
<b>AUM</b>	acres per animal use month
<b>BA</b>	Biological Assessment
<b>BEA</b>	Bureau of Economic Analysis
<b>BGNG</b>	Buffalo Gap National Grasslands
<b>BLM</b>	Bureau of Land Management
<b>BNSF</b>	Burlington Northern Santa Fe Railway Company
<b>Board</b>	Surface Transportation Board
<b>BP</b>	before present
<b>Btu</b>	British Thermal Unit
<b>BU</b>	unknown Buteo hawk
<b>CAAA</b>	Clean Air Act Amendments of 1990
<b>CALPUFF</b>	Trademark of air modeling system developed by Earth Tech, Inc.
<b>CAM-PLEX</b>	Multi-event facility located in Campbell County
<b>CBM</b>	Coal Bed Methane
<b>CBTC</b>	Communication Based Train Control
<b>CEQ</b>	Council on Environmental Quality
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation and Liability Act
<b>CERCLIS</b>	Comprehensive Environmental Response, Compensation and Liability Information System
<b>CFR</b>	Code of Federal Regulations
<b>C&amp;NW</b>	Chicago & North Western Transportation Company
<b>CO</b>	carbon monoxide
<b>Co.</b>	County
<b>Coast Guard</b>	U. S. Coast Guard
<b>COE</b>	U. S. Army Corps of Engineers
<b>Coop</b>	Cooperative
<b>Corp.</b>	Corporation
<b>CORRACTS</b>	Corrective Action Reports
<b>CP</b>	Canadian Pacific Railway Company

<b>CR</b>	County Road
<b>CSAH</b>	County State Aid Highway
<b>dB</b>	decibel
<b>dBA</b>	Decibels (of sound) including the Audible range for humans
<b>District</b>	Angostura Irrigation District
<b>DM&amp;E</b>	Dakota, Minnesota & Eastern Railroad Corporation
<b>DNR</b>	Department of Natural Resources
<b>DOE</b>	Department of Energy
<b>DOT</b>	Department of Transportation
<b>dv</b>	Deciview
<b>E</b>	Endangered
<b>EA</b>	Environmental Assessment
<b>EIS</b>	Environmental Impact Statement
<b>EJ</b>	Environmental Justice
<b>EPA</b>	Environmental Protection Agency
<b>EMS</b>	Emergency Medical Services
<b>ERNS</b>	Emergency Response Notification System
<b>°F</b>	degrees Fahrenheit
<b>FEMA</b>	Federal Emergency Management Agency
<b>FERC</b>	Federal Energy Regulatory Commission
<b>Final Scope</b>	Final Scope of Study
<b>FLPMA</b>	Federal Land Policy Management Act of 1976
<b>FRA</b>	Federal Railroad Administration
<b>g</b>	acceleration of a falling object due to gravity
<b>GE</b>	Golden Eagle
<b>GHO</b>	Great Horned Owl
<b>GPA</b>	Game Production Area
<b>GPS</b>	Global Positioning System
<b>GTM</b>	Gross Ton Miles
<b>Hwy</b>	Highway
<b>ICC</b>	Interstate Commerce Commission
<b>ID</b>	Identification
<b>I&amp;M</b>	I&M Rail Link
<b>IMPROVE</b>	Interagency Monitoring of Protected Visual Environment
<b>ITA</b>	Indian Trust Assets
<b>L<sub>dn</sub></b>	Average Day-night equivalent sound level
<b>LF</b>	Solid Waste Facilities/Landfill
<b>LPG</b>	Liquefied Petroleum Gas
<b>LQG</b>	Large Quantity Generators
<b>LUST</b>	Leaking Underground Storage Tanks

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<b>MCBS</b>	Minnesota County Biological Survey
<b>mgd</b>	million gallons per day
<b>MLA</b>	minor, long-term, adverse
<b>MN</b>	Minnesota
<b>MNHDB</b>	Minnesota Natural Heritage Data Base
<b>MNT</b>	Million Net Tons
<b>MOA</b>	Memorandum of Agreement
<b>MP</b>	Milepost
<b>MRI</b>	Magnetic Resonance Imaging Systems
<b>MSU</b>	Mankato State University
<b>mt</b>	million tons
<b>m.y.</b>	million years
<b>NA</b>	Not Available
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NAGPRA</b>	Native American Graves Protection and Repatriation act
<b>NCP</b>	National Oil and Hazardous Substance Pollution Contingency Plan
<b>NEPA</b>	National Environmental Policy Act
<b>NFRAP</b>	“No Further Remedial Action Planned”
<b>NHPA</b>	National Historic Preservation Act
<b>No.</b>	Number
<b>NO<sub>2</sub></b>	nitrogen dioxide
<b>NO<sub>x</sub></b>	nitrogen oxides
<b>NON</b>	Non-listed (rare - may become listed)
<b>NPL</b>	National Priorities List
<b>NRHP</b>	National Register of Historic Places
<b>NWI</b>	National Wetland Inventory
<b>O<sub>3</sub></b>	Ozone
<b>OAQPS</b>	Office of Air Quality Planning and Standards
<b>OHV</b>	Off Highway Vehicle
<b>PA</b>	Programmatic Agreement
<b>Pb</b>	lead
<b>PFYC</b>	Probable Fossil Yield Classification
<b>PIH</b>	Poison Inhalation Hazard
<b>PM<sub>10</sub></b>	particulate matter less than 10 microns in size
<b>PRB</b>	Powder River Basin
<b>PRIM</b>	Public Recreation Information Map
<b>PSD</b>	Prevention of Significant Deterioration
<b>R</b>	Range (used for legal descriptions)
<b>RT</b>	Red-tailed Hawk
<b>RCRA</b>	Resource Conservation and Recovery Act

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<b>RCRIS</b>	Resource Conservation and Recovery Information System
<b>Reclamation</b>	Bureau of Reclamation
<b>RIMS</b>	Regional Input-Output Modeling System
<b>ROS</b>	Recreation Opportunity Spectrum
<b>ROW</b>	Right-of-way
<b>RV</b>	Recreational Vehicle
<b>SARA</b>	Superfund Amendments and Reauthorization Act of 1986
<b>SC</b>	Special Concern
<b>SD</b>	South Dakota
<b>SDGFP</b>	South Dakota Department of Game, Fish and Parks
<b>Sec.</b>	Section
<b>SEA</b>	Surface Transportation Board's Section of Environmental Analysis
<b>SEM</b>	Scanning Electron Microscope
<b>SHPO</b>	State Historic Preservation Office or Officer
<b>SHWS</b>	State Hazardous Waste Sites
<b>SIA</b>	Special Interest Area
<b>SIL</b>	Scenic Integrity Levels
<b>SNA</b>	State Natural Areas
<b>SO<sub>2</sub></b>	sulfur dioxide
<b>SPCCP</b>	Spill Prevention, Control and Countermeasure Plan
<b>spp.</b>	Species
<b>SQG</b>	Small Quantity Generators
<b>SR</b>	State Route
<b>STB</b>	Surface Transportation Board
<b>SW</b>	Swainson's Hawk
<b>SWF/LF</b>	Solid Waste Facilities/Landfill
<b>T</b>	Township (used for legal descriptions)
<b>T</b>	Threatened species
<b>TBNG</b>	Thunder Basin National Grasslands
<b>TCP</b>	Traditional Cultural Property
<b>THPO</b>	Tribal Historic Preservation Officer
<b>tpy</b>	tons per year
<b>TRB</b>	Transportation Research Board
<b>TSD</b>	Treatment, Storage and Disposal Facilities
<b>TSS</b>	total suspended solids
<b>TWP</b>	Township
<b>UP</b>	Union Pacific Railroad Company
<b>U.S.</b>	United States
<b>USC</b>	United States Code
<b>USDA</b>	U. S. Department of Agriculture

<b>USFS</b>	U. S. Forest Service
<b>USFWS</b>	U. S. Fish and Wildlife Service
<b>USGS</b>	U. S. Geologic Survey
<b>UST</b>	Underground Storage Tank
<b>VOC's</b>	volatile organic compounds
<b>VQO</b>	Visual Quality Objective
<b>WGFD</b>	Wyoming Game and Fish Department
<b>WMA</b>	Wildlife Management Area
<b>WNDDDB</b>	Wyoming Natural Diversity Database
<b>WPA</b>	Waterfowl Production Area
<b>WY</b>	Wyoming

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## GLOSSARY

<b>A-weighted scale</b>	Scale that considers only those frequencies of noise that are audible to the human ear. Noise levels are denoted as dBA, or decibels of audible noise.
<b>abatement</b>	Decrease in force or intensity.
<b>accelerated eutrophication</b>	Increase in mineral and organic nutrients resulting in an increase in the growth of algae and other aquatic vegetation and a decrease in dissolved oxygen.
<b>accident frequency rate</b>	The number of accidents occurring within a specified period of time, in association with train and vehicle interactions.
<b>acquisition</b>	Purchase or exchange to obtain possession.
<b>ad valorem</b>	Before improvements.
<b>Advisory Council on Historic Preservation</b>	An independent Federal agency charged with advising the President and Congress on historic preservation matters and administering the provisions of Section 106 of the National Historic Preservation Act.
<b>adjacent</b>	Within 500 feet.
<b>aesthetics</b>	Visual quality.
<b>aggregate</b>	Hard rock materials used as a basic structural material.
<b>airshed</b>	Area that is within the fallout range for particles, gases, or other substances carried by the air.
<b>alfisols</b>	Soils with a high clay content having a moderate to high base saturation point.
<b>alignment</b>	The location of the ground plan or position of the rail line.
<b>allotment</b>	Parcels or portions of pasture land assigned for use by ranchers. Land ownership is generally with a Federal Agency.

<b>alluvial</b>	Pertaining to river or streams.
<b>alluvium</b>	Clay, silt, sand, gravel or similar materials deposited by running water.
<b>amphibian</b>	Cold-blooded vertebrate having gilled larvae and air-breathing adults.
<b>anhydrite</b>	Mineral used in the production of sulfuric acid.
<b>anticline</b>	Convex-upward folds in rocks or rock layers.
<b>Application</b>	A formal filing with the Surface Transportation Board related to railroad mergers, acquisitions, constructions, or abandonments. Applications may be either Primary Application or Inconsistent and Responsive (IR) Applications.
<b>aquifer</b>	Water bearing layer of permeable rock, sand, or gravel.
<b>archaeological</b>	Pertaining to the study of material remains of past human life and activities.
<b>Area of Potential Effects</b>	The geographic area surrounding a rail activity where an individual (or resource) or group of individuals (or resources) could likely experience changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.
<b>aridisols</b>	Dry soils.
<b>attainment</b>	The concentration of criteria pollutants in the area is present at or below the levels established by EPA for the protection of air quality.
<b>average daily traffic</b>	The average number of vehicles that travel along a specific roadway each day.
<b>avian</b>	Pertaining to birds.

<b>ballast</b>	Gravel or broken stone laid on a railroad bed to provide stability.
<b>bank stabilization</b>	Implementation of techniques to prevent deterioration, erosion, or other changes along stream banks that may result in the loss of soils and cause weakening or loss of structures built along or across the stream.
<b>bedrock</b>	The solid rock underlying unconsolidated surface material.
<b>bentonite</b>	Volcanic ash.
<b>best management practices</b>	Procedures and practices that are used to minimize environmental impacts from construction, such as silt screens and planting vegetation on bare soil to minimize erosion.
<b>big game</b>	Large animals that are hunted for sport and meat, such as deer, antelope, and elk.
<b>block group</b>	A small population area that the U.S. Census Bureau uses to measure and record demographic characteristics. The population of a block group typically ranges from 600 to 3,000 people and is designed to reflect homogeneous living conditions, economic status, and population characteristics. Block group boundaries follow visible and identifiable features, such as roads, canals, railroads, and above-ground high-tension power lines.
<b>borrow pits</b>	Areas used to supply fill dirt.
<b>brood</b>	The young of birds hatched or cared for at one time.
<b>Btu</b>	British thermal unit. The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at a specified temperature.
<b>bypass</b>	Route alternative designed to direct train traffic around a specified geographical area.

<b>CALPUFF</b>	A multi-layer, multi-species, non-steady-state puff dispersion model that simulates the effects of time- and space-varying meteorological conditions on pollutant transport, transformation and removal. CALPUFF can be applied on scales of tens of meters to hundreds of kilometers.
<b>Cambrian</b>	System of rocks marked by fossils 500 - 575 million years old.
<b>Canidae family</b>	Animal classification consisting of dogs and related species.
<b>carnivore</b>	Animal whose primary diet consists of meat.
<b>carrion</b>	Dead and putrefying flesh.
<b>channelization</b>	Straightening of a stream channel.
<b>Class I, II &amp; III Railroad</b>	Railroad are classified by the Surface Transportation Board according to average annual operating revenues (aaor). Class I railroads have aaor of \$256.4 million or more; Class II railroad have aaor of between \$256.4 million and \$20.5 million; and Class III have aaor of less than \$20.5 million.
<b>Clean Water Act</b>	Clean Water Act of 1977.
<b>commercial</b>	Business or industrial.
<b>compliance</b>	Conformity in fulfilling official requirements.
<b>concession</b>	Settlement, action of acceptance.
<b>confining unit</b>	Low permeability layers that are slow to transmit water.
<b>congestion</b>	Concentration of traffic, traffic jams.
<b>coniferous</b>	Cone-bearing.
<b>conspicuous</b>	Noticeable.

<b>contaminant</b>	Substance that pollutes or makes unfit for use. Includes substances such as lubricating oil, diesel fuel, herbicides.
<b>contour</b>	Distance or range at which noise levels equal a specified decibel level.
<b>Cooperating Agencies</b>	U.S. Department of Agriculture, Forest Service; U.S. Army Corps of Engineers; U.S. Department of Interior, Bureau of Reclamation; U.S. Department of Interior, Bureau of Land Management; U.S. Coast Guard.
<b>coulee</b>	A small stream or dry stream bed, gully.
<b>coupler</b>	Connection device used to join rail cars.
<b>Cretaceous</b>	System of rocks 65 - 140 million years old.
<b>criteria pollutants</b>	Six principal regulated pollutants including: sulfur dioxide SO <sub>2</sub> , carbon monoxide (CO), ozone O <sub>3</sub> , nitrogen dioxide (NO <sub>2</sub> ), lead (Pb) and particulate matter (PM).
<b>cultural resources</b>	Any prehistoric or historic district, site, building, structure, or object that warrants consideration for inclusion in the National Register of Historic Places (NRHP). A cultural resource that is listed in or is eligible for listing in the NRHP is considered a historic property (or a significant cultural resource). For the purposed of this document, the term applies to any resource more than 50 years of age for which SEA gathered information to evaluate its significance.
<b>culvert</b>	A drain under a road or rail line consisting of a pipe or other passage allowing water to pass under the road or rail bed.
<b>cumulative impacts</b>	Impacts resulting from the incremental impacts of the proposed project when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (Federal or non-Federal) or person undertakes such actions, as described in 40 CFR 1508.7. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

<b>cut and fill</b>	Process of removing high spots and filling in low spots to provide a more level area with fewer and less severe topographic variations, during construction.
<b>database</b>	Collection of data organized for rapid search and retrieval (as by a computer).
<b>decibel (dB)</b>	A unit of noise measured on a logarithmic scale that compresses the range of sound pressures audible to the human ear over a range from 0 to 140, where 0 decibels represents sound pressure corresponding to the threshold of human hearing, and 140 decibels corresponds to a sound pressure at which pain occurs. Sound pressure levels that people hear are measured in decibels, much like distances are measured in feet or yards. A-weighted decibel (dBA) refers to a weighting that account for the various frequency components in a way that corresponds to human hearing.
<b>deciview</b>	Unit of measurement for impairment or reduction of visibility.
<b>degradation</b>	Decline in function, condition, or suitability of use.
<b>demographics</b>	The statistical characteristics of human populations (as age, race, or income).
<b>direct job</b>	Employment with the railroad to perform construction or reconstruction activities associated with the proposed project.
<b>down-line</b>	Refers to other portions of rail line directly connecting to a specific portion of rail line being constructed or evaluated.
<b>drainage</b>	Area or district drained, channel through which water drains.
<b>easement</b>	An interest in land owned by another that entitles its holder to a specific limited use.
<b>ecosystem</b>	The complex of a community and its environment functioning as an ecological unit in nature.

<b>efficiency</b>	Effective operation as measured by a comparison of production with cost (as in energy, time, and money).
<b>emergency response plan</b>	Emergency notification plan that contains a priority list of those agencies and individuals to be notified in an emergency. The plan shall include names and phone numbers of contact persons that are to be notified in the case of an event, specific responsibilities and procedures to be followed by operation and maintenance personnel, and the location and inventory of all emergency equipment and any standard equipment that may be useful in dealing with emergencies.
<b>emergent wetland</b>	Wetlands dominated by herbaceous vegetation which include wet meadow, mixed emergent marsh, and cattail marsh.
<b>emissions</b>	Substances discharged into the air (as by smokestack or diesel locomotive). Air pollutants that enter the atmosphere.
<b>endangered species</b>	A species of plant or animal that is in danger of extinction throughout all or a significant portion of its range and is protected by state and/or Federal laws.
<b>entisols</b>	Soils found on steep slopes and alluvial (river) basins. They range from shallow to deep, occurring in areas ranging from nearly level to very steep.
<b>environmental justice</b>	Federal action developed to ensure that low-income and minority populations are not disproportionately or adversely affected by developments that would negatively impact the environment.
<b>erosion</b>	Gradual loss or wearing away by the action of wind, water, or glacial ice.
<b>erosion hazard</b>	Areas with high potential for erosion due to wind, water, or steepness of slope.

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<b>ethylene acetyl</b>	Flammable gas used for welding and other commercial and industrial activities.
<b>eutrophication</b>	Increase in minerals and organic nutrients resulting in an increase in the growth of algae and other aquatic vegetation and a decrease in dissolved oxygen.
<b>evaluation criteria</b>	Resources such as noise, safety, air quality, or transportation analyzed.
<b>excavation</b>	Cutting, digging, or scooping to form a hole or remove soil material.
<b>existing rail traffic</b>	Approximately three trains per day transporting commodities such as grain, kaolin clays, and timber products.
<b>excepted track</b>	Track lines designated by railroads as “excepted” are exempt from compliance with minimum requirements for roadbed, track geometry, and track structure. The excepted track provision, which has been part of the track safety regulations for more than 15 years, permits railroads to conduct limited, slow-speed operations over substandard trackage on low density lines where it is likely that a derailment would endanger anyone along the right-of-way.
<b>extinction</b>	No longer existing.
<b>eyrie</b>	The nest of a bird of prey on a cliff or mountain top. Also, a brood of birds of prey in the nest.
<b>“farm in valley” noise</b>	39 dBA in daytime and 32 dBA at night.
<b>Federal Register</b>	Publication of the U.S. Government providing information on Federal activity to the public.
<b>fill</b>	Material used to fill in low places.
<b>floodplain</b>	An area built up by depositions of sediment from stream water. Low lands along a stream or river which would be submerged by floodwater.

<b>foraging</b>	Browsing or grazing.
<b>forb</b>	A plant other than grass.
<b>forested wetlands</b>	Wetlands characterized by woody vegetation that is greater than 6.0 meters tall.
<b>foreseeable</b>	Apparent through ordinary reasoning and experience.
<b>fossil</b>	A remnant impression or trace of an animal or plant of past geologic ages that has been preserved in the earth's crust.
<b>fragmentation</b>	To divide into smaller pieces.
<b>frost heave</b>	Upward ground movement or swells caused by the expansion of moisture in the ground as it freezes.
<b>functional wetland</b>	Wetlands capable of providing functions such as surface water retention, nutrient uptake, and wildlife habitat.
<b>furbearers</b>	Fur covered animals whose coats or pelts may be used for clothing or other items (such as fox, coyote, badger, beaver, etc.).
<b>game species</b>	Birds that may be hunted for sport and meat, such as pheasants, turkey, grouse, and mourning doves.
<b>geology</b>	The science of the history of the earth and its life as recorded in rocks.
<b>glacial till</b>	Material deposited by glaciers.
<b>gneiss</b>	A foliated metamorphic rock corresponding in composition to a feldspathic plutonic rock (as granite), 2,750 million years old.
<b>grade</b>	Intersecting transportation corridors constructed at the same level. Used in association with highway/rail or pedestrian crossings along the rail line.

<b>grade separated</b>	Intersecting transportation corridors built at different elevations to provide continual traffic flow through both corridors, usually comprised of one corridor at ground level and the other across a bridge structure.
<b>gradient</b>	Rate of slope or change in elevation.
<b>granite</b>	Very hard natural igneous rock formation of visibly crystalline texture formed essentially of quartz and orthoclase or microcline, 2,600 million years old.
<b>grazing</b>	To feed on growing vegetation.
<b>groundwater</b>	Water within the earth, such as that found in an aquifer, that supplies wells and springs.
<b>growing season</b>	Period in which crops are grown, extending from planting to harvest. This period generally extends from April to September in most of the project area.
<b>gypsum</b>	Chalk-like minerals.
<b>H-pile supports</b>	A structure comprised of two long verticle columns of steel or reinforced concrete that are driven into the ground and connected with a horizontal brace support, designed to carry a verticle load.
<b>habitat</b>	The place(s) where plant or animal species generally occur(s) including specific vegetation types, geologic features and hydrologic features. The continued survival of that species depends upon the intrinsic resources of the habitat. Wildlife habitats are often further defined as places where species derive sustenance (foraging habitat) and reproduce (breeding habitat).
<b>hacked</b>	Hatched or raised by hand.
<b>halite</b>	Rock salt.
<b>haze</b>	Fine dust smoke, or a light vapor causing lack of transparency of the air, producing a cloudy appearance.

<b>hazardous materials</b>	Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive or chemically reactive.
<b>herbaceous</b>	Having little or no woody tissue.
<b>herbicide</b>	An agent used to destroy or inhibit plant growth.
<b>high probability</b>	A high probability area is an area where it is expected that archaeological sites exist but have not been recorded. High probability areas are normally areas near past and present permanent water sources.
<b>historic</b>	Pertaining to chronicled events or history.
<b>Holocene</b>	Recent.
<b>horn noise</b>	Sound emitted during sounding of horn by locomotives.
<b>horticulture</b>	Gardening.
<b>hydrocarbons</b>	A category of chemical substances containing the elements carbon and hydrogen.
<b>igneous</b>	Formed from molten lava.
<b>impact</b>	To impinge on, effect.
<b>implementation period</b>	For the proposed project, two to three years for construction and reconstruction and six years to potentially reach 100 MNT of annual coal transport.
<b>indirect job</b>	Employment created due to increased demand, generally in the service industry, such as restaurants, convenience stores, bars, grocery stores, hotels, etc., related to the increase in railroad workers.
<b>in-stream</b>	Relating to the area contained within the banks of a stream or river.
<b>infiltration</b>	Movement of water into the soil.

<b>infrequent</b>	For this project, necessary only once every several years.
<b>insectivores</b>	Animals whose diet consists mainly of insects.
<b>integrity</b>	Unimpaired condition.
<b>intermittent stream</b>	Small waterway in which water flow is not continuous. Usually having only a seasonal water supply or sporadic water flow.
<b>intrusion</b>	Unwelcome entry.
<b>irrigation</b>	Providing a water supply to land by artificial means.
<b>interspecies competition</b>	Active demand by two or more species for one or more environmental resource in short supply.
<b>Joint line</b>	Segment of rail line operated cooperatively between Burlington Northern Santa Fe Railway Company and Union Pacific Railway Company to access Powder River Basin coal mines south of Gillette, Wyoming.
<b>jurisdictional wetlands</b>	Wetlands that fall under the jurisdiction of the U.S. Army Corps of Engineers.
<b>karst</b>	A term applied to topography common in areas with carbonate rocks and evaporites where groundwater dissolves away the underground rock creating caves, sinkholes, and lack of surface streams.
<b>key trains</b>	Any train with five or more tank car loads of chemicals classified as a Poison Inhalation Hazard (PIH), or with a total of 20 rail cars with any combination of PIH's, flammable gases, explosives, or environmentally sensitive chemicals.
<b>lacustrine</b>	Relating to or formed in lakes.
<b>landfill</b>	Waste materials disposed of for burial between layers of earth.

<b>landmark</b>	A conspicuous object on land that marks a locality.
<b>landslide</b>	Rapid downward movement of a mass of rock, earth or artificial fill on a slope.
<b>large city</b>	For this project, a city with a population over 20,000.
<b>levels of operation</b>	Amount of coal transported (20, 50, and 100 million net tons per year).
<b>level of service</b>	Length of delay for vehicles at highway/rail grade crossings when considering the potential traffic during high volume periods, such as rush hour.
<b>life history function</b>	Activities such as breeding, wintering, or migration that would occur during the life cycle of an organism.
<b>livelihood</b>	Means of support or subsistence, employment.
<b>loam</b>	Soil formed from the mixture of varying amounts of clay, silt, and sand.
<b>loess</b>	Wing-blown, silty material.
<b>maintenance-of-way</b>	Activities associated with the upkeep or maintenance of a rail line and its associated structures.
<b>mammal</b>	Class of higher vertebrate that nourish their young with milk secreted by mammary glands and have skin more or less covered with hair.
<b>marshaling yard</b>	Rail yard in which trains are assembled and disassembled.
<b>media</b>	Public information services, such as radio, television, newspaper, public meetings, etc.

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<b>Memorandum Of Agreement</b>	The document that records the terms and conditions agreed upon. In this case the Memorandum of Agreement is between the Surface Transportation Board, participating Tribes and Tribal organizations, and the Dakota, Minnesota & Eastern Railroad Corporation. It is designed to address concerns that may be presented by construction of the Powder River Basin Expansion Project.
<b>metamorphic</b>	Rocks altered by heat and/or pressure.
<b>methodology</b>	A particular procedure or set of procedures.
<b>migration</b>	Moving periodically or seasonally from one place to another due to climate, for feeding or breeding.
<b>mine loop</b>	Section of track providing connection with the coal mines from which trains are loaded for transport.
<b>mitigation</b>	Actions to prevent or lessen negative effects.
<b>mollisols</b>	Deep and well drained soils with a sand loam texture. Soils that occur on uplands that range from nearly level to strongly sloping.
<b>nightlights</b>	Artificial lighting used at night.
<b>No-Action Alternative</b>	Decision of denial by the STB for the construction proposed by DM&E.
<b>noise sensitive receptors</b>	Residences, churches, hospitals, and schools.
<b>nomadic</b>	Roaming about from place to place without a fixed pattern of movement.
<b>nonequilibrium</b>	Unequal, a change from the current condition.
<b>Notice of Intent</b>	Public notice stating intent to perform a regulated action.
<b>noxious weed</b>	Unwanted plant species which are harmful to native plant species due to competition for habitat and resources.

<b>operation</b>	Activities of the railroad related to the movement of trains and freight along the rail line.
<b>Ordovician</b>	425 - 500 million years.
<b>outcrops</b>	Rock formations or bedrock that appear at the surface of the ground, or project out of the surrounding soil.
<b>outwash plains</b>	Low areas formed by erosion of soil or glacial melt, usually characterized by exposed rock throughout the area.
<b>overstory species</b>	Trees that make up the upper levels or canopy of a forest or timbered area.
<b>ozone</b>	A triatomic form of oxygen naturally formed in the upper atmosphere or generated by electrical discharge in the atmosphere. It is a major agent in the formation of smog when produced in the lower levels of the atmosphere due to increases in oxygenating compounds.
<b>paleontological</b>	Pertaining to the science of past geological periods as known from fossil remains.
<b>parcel</b>	A tract or plot of land.
<b>parturition</b>	To give birth.
<b>passive device</b>	Warning device at railroad crossings such as signs, or crossbucks painted on the roadway.
<b>perennial stream</b>	Waterways with a continuous or uninterrupted flow of water. Containing water year round.
<b>periphery</b>	The outward boundary, edge.
<b>Pleistocene</b>	The period preceding Quaternary.
<b>pollutant</b>	A contaminant or man-made waste.
<b>Powder River Basin</b>	Region of northeast Wyoming that is characterized by an abundance of coal deposits.

<b>preclusion</b>	To rule out in advance.
<b>Precambrian</b>	Before 570 million years ago.
<b>predation</b>	A mode of life in which food is primarily obtained by the killing and consumption of animals.
<b>prehistoric</b>	Relating to or existing in times before written history.
<b>prime farmland</b>	Designation of the U.S. Department of Agriculture for land that is best suited for food, feed, forage, fiber, and oilseed production. Produces the highest yields with minimal inputs of energy and economic resources.
<b>Programmatic Agreement</b>	A document that records the terms and conditions agreed upon to resolve the potential adverse effects of a Federal agency program, complex undertaking or other situation.
<b>project area</b>	Areas along the existing and proposed rail line contained within the right-of-way or surrounding area that would be affected by the project.
<b>prototype</b>	Standard or typical example, original model.
<b>proximity</b>	In the general area, located close to.
<b>PSD Class II increments</b>	Levels of emissions for the prevention of significant deterioration for air quality in rural areas that are not designated as Class I (state and Federal parklands, etc.).
<b>public grade crossing</b>	Grade crossing where a public thoroughfare, such as a roadway or trail, intersects and crosses the rail line.
<b>public services</b>	Services provided to the general public, such as schools, hospitals, police, fire, and ambulance service.
<b>quarry</b>	An open excavation to obtain stone, slate, or limestone.
<b>Quaternary</b>	0.01 to 1.6 million years ago.

<b>quiet zone</b>	Segment of rail line within which is situated one or a number of consecutive highway/rail crossings at which locomotive horns are not routinely sounded.
<b>radiocarbon dating</b>	Determination of the age of an object based on the content of radioactive carbon particles contained within it.
<b>rail bed</b>	Foundation upon which rail line ties and rails are secured.
<b>railroad related facilities</b>	Water stops, depots, freight houses, maintenance yards, or other facilities required for the operation of a railroad.
<b>rail yard</b>	A location where rail cars are switched and stored.
<b>range improvements</b>	Structures, fencing, or other facilities (such as windmills, water lines, watering tanks, ponds, corrals, barns, and outbuildings) used to improve or maintain yields of rangeland.
<b>rangeland</b>	Land used or suitable for grazing and livestock production.
<b>raptors</b>	Bird of prey, including eagles, hawks, and owls.
<b>RARE II</b>	Roadless areas located in natural settings that are protected by restricted use.
<b>rebuild</b>	Structural rehabilitation of the rail line consisting of rail, tie, and ballast replacement.
<b>recharge</b>	Water entering an aquifer.
<b>recommendations</b>	Suggestions of the Section of Environmental Analysis for the Surface Transportation Board.
<b>reconstruction</b>	Same as rebuild.
<b>recreation</b>	Activities participated in for the purpose of enjoyment, relaxation, hobby, sport, etc.
<b>reliability</b>	Consistent operating performance, dependability.

<b>reptiles</b>	A cold-blooded animal that has scales or bony plates on its skin and lays eggs.
<b>reservoir</b>	An artificial lake where water is collected and kept in quantity for use as irrigation, water supply, fisheries, recreation, or hydroelectric power.
<b>residential</b>	Providing living accommodations for an extended period of time, such as neighborhoods or other areas containing houses.
<b>revenue</b>	The yield of income sources, such as taxes, that a government entity collects for public use.
<b>right-of-way</b>	The strip of land for which an entity (e.g., a railroad) has a property right to build, operate and maintain a linear structure, such as a road, rail line, or pipeline. Ranges from approximately 50 to 200 feet for the existing rail line in this project and between 200 and 600 feet for the proposed new rail line.
<b>riparian</b>	Relating to or living or located on the bank of a natural watercourse, such as a river.
<b>road-kill</b>	Animals killed by vehicles on roadways or railroads.
<b>roosting</b>	Resting or sleeping.
<b>round stone</b>	Rounded or smooth stones generally found in streams or lakes. Smooth stones due to the wave or current action of water.
<b>runoff</b>	Water flow over the surface of the ground that drains into a stream or lake.
<b>scoping</b>	Process of acquiring information to determine the extent of activities or areas of interest that require analysis, definition, or explanation in the production of an environmental impact statement. Information is generally solicited from interested parties and those expressing concerns.

<b>sedentary</b>	Not migratory, settled, non-mobile.
<b>sedimentary</b>	Formed by deposition of soil particles.
<b>sedimentation</b>	Deposition of soil particles, usually by water.
<b>Seismic data</b>	Data showing movements or vibrations of the earth's surface.
<b>sensitive species</b>	Any species which may be adversely affected by changes in its habitat.
<b>service areas</b>	Restaurants, convenience stores, bars, grocery stores, etc.
<b>shorebird</b>	Birds that frequent the shoreline of water bodies, such as avocets, sand pipers, plovers, herons, egrets, etc.
<b>shrub/shrub wetlands</b>	Wetlands characterized by woody vegetation less than 6.0 meters in height.
<b>silt</b>	Loose sedimentary material containing rock particles.
<b>site leads</b>	Areas where it is suspected that an archaeological site exists but no on-the-ground confirmation is available. The site may or may not exist and the minimum area depicted on the Minnesota Historical Society maps is 0.25 of a square mile and many times includes up to one square mile.
<b>slump</b>	Land that drops or slides down suddenly due to the steepness of the land surface.
<b>soil conditions</b>	Properties or characteristics of the soil (such as stiffness, uniformity, depth to rock, percentage of components).
<b>soil mapping unit</b>	Soil areas that are mapped to show location of soils with determined properties.
<b>songbird</b>	A bird that utters a succession of musical tones, including passerine birds such as sparrows, larks, warblers, robins, cardinals, jays, etc.

<b>sound</b>	A physical disturbance in a medium (e.g. air) that is capable of being detected by the human ear.
<b>sovereignty</b>	Freedom from external control, self-ruling.
<b>speed restrictions</b>	Reduced speed limits imposed to improve safety in higher risk areas along the rail line.
<b>staging yard</b>	Rail yard in which trains are held for dispatch to their next destination.
<b>stationary source</b>	Point of origin for pollutants in a fixed location (such as a factory or power plant).
<b>steep slope</b>	Slope greater than 9 percent.
<b>stratified</b>	Layered.
<b>stratigraphic units</b>	Stratified rock layers.
<b>stream crossing</b>	Section of rail line built over a waterway using a culvert or bridge structure.
<b>stresses</b>	Conditions causing bodily or mental tension resulting in reduction in healthfulness (such as lack of food, cold, exposure to weather, hunting pressure disturbance).
<b>sub-ballast</b>	Rock or substrate material used to form the foundation for the ballast in construction of a rail bed.
<b>sub-grade</b>	The subgrade is the earthen or fill portion of the rail bed upon which the sub-ballast material is placed.
<b>substrate</b>	The base or foundation.
<b>Swift Act</b>	Federal code that directs the Secretary of the Department of Transportation (DOT) to develop regulations relating to noise and rail safety measures.

<b>swing bridge</b>	Type of bridge construction in which a section of the bridge is free-standing and can be swung horizontally to allow passage of tall vessels, such as ships or sail boats, which exceed the height limit beneath the bridge deck.
<b>synclinal</b>	A trough of stratified rock in which the beds dip toward each other from either side.
<b>tangent</b>	A straight line extending from a fixed point of a curve.
<b>taxa</b>	Classifications of plants and animals according to their natural relationships.
<b>terrestrial</b>	On land.
<b>tertiary</b>	1.6-66 million years old.
<b>thatch</b>	A mat of undecomposed plant material accumulated next to the soil in a grassy area.
<b>threatened</b>	A species that is likely to become an endangered species within the foreseeable future throughout all or part of its range, and is protected by state and/or Federal law.
<b>threshold</b>	The level or point at which attainment levels are exceeded.
<b>topography</b>	Characteristics of the land surface.
<b>trackage rights</b>	An agreement between railroad companies in which the owning railroad contracts the usage of a section of its rail line for use by another railroad.
<b>Traditional Cultural Property</b>	A property that is eligible for inclusion in the National Register of Historic Places because of its association with cultural practices or beliefs of a living community that are (a) rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Examples include: 1) a location associated with the traditional beliefs of a Native American Tribe about its origins, its culture history, or the nature of the world. 2) a location where Native American Tribal religious

practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural roles of practice. 3) a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining it's historic identity.

<b>tributary</b>	Waterway which flows into a larger waterway or water body.
<b>undercutting</b>	Cutting away materials to leave an overhanging portion in relief.
<b>undulating</b>	Having a wavy or flowing manner.
<b>unique geological formation</b>	Geological formations considered to be uncommon, unusual and or containing characteristics or qualities that make them of interest to science or the general public.
<b>vantage point</b>	A position or standpoint from which something is viewed.
<b>vegetation</b>	Plant life or plant cover.
<b>vehicle queue length</b>	The number of vehicles stopped at a grade crossing during a train passing event.
<b>viewshed/scenic values</b>	Scenery, noted areas, and characteristics or features surrounding a specific location.
<b>visibility</b>	The degree of clearness of the atmosphere.
<b>visual disturbance</b>	Change in normal visual appearance.
<b>volatile organic compounds</b>	Subgroup of hydrocarbons which can easily combine with other chemicals, including those in the air, to form ozone.
<b>waterfowl</b>	Birds that frequent water; swimming birds, including ducks and geese.

<b>watershed</b>	A region or area bounded peripherally by a water parting and draining ultimately to a particular watercourse or body of water.
<b>water table</b>	The upper limit of the portion of the ground wholly saturated with water.
<b>waterway</b>	Stream, creek, river, or any other long narrow channel in which water flows.
<b>wayside noise</b>	Noise generated by locomotive engines and the interaction of train wheels and the railroad track as the train moves along the rail line.
<b>wetland</b>	As defined by 40 CFR Part 230.3, wetlands are “those areas that are inundated or saturated sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include swamps, marshes, bogs and similar areas.
<b>wheel flats</b>	Areas where a round rail car wheel becomes no longer round but has a flat section, leading to the familiar clanking sound as a rail car passes.
<b>whistle free zones</b>	Area where horn sounding is not required, or is exempted.
<b>zeolite</b>	Highly absorbent minerals.
<b>zoning and planning</b>	Partitioning of a township or city by ordinance into sections reserved for different purposes (such as residential or commercial development).
<b>20 MNT</b>	20 million net tons per year of coal transport, equivalent to eight trains per day, four loaded and four unloaded, in addition to the three existing trains would total 11 trains per day.

**50 MNT**

50 million net tons per year of coal transport, equivalent to eighteen trains per day, nine loaded and nine unloaded, in addition to the three existing trains would total 21 trains per day.

**100 MNT**

100 million net tons per year of coal transport, equivalent to thirty-four trains per day, seventeen loaded and seventeen unloaded, in addition to the three existing trains would total 37 trains per day.

**6,400-foot train**

Comprised of 115 rail cars with 3 locomotives.

**7,400-foot train**

Comprised of 135 rail cars with 3 locomotives.

\* \* \* \* \*

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Cydney E. Millstein	M.A., B.A. Art History	Architectural Historian
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#### **Archlab - University of South Dakota**

Brian L. Molyneaux	Ph.D. Anthropology	Archaeologist
Timothy H. Heaton	Ph.D. Anthropology	Paleontologist
Heather Finlayson	M.A. Anthropology	Paleontologist

#### **Environ**

Ralph E. Morris	M.A., B.A. Mathematics	Manager, Air Quality Modeling
Ed Tai	B.S. Atmospheric Science	Air Quality Modeling Specialist
Gerard Manfell	Ph.D. Mechanical Engineering	Emissions Preparation

