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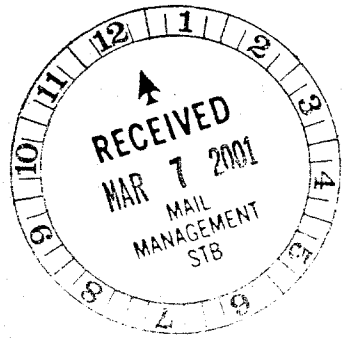


BANNER

CONSULTING ENGINEERS & ARCHITECTS

BANNER ASSOCIATES, INC.

201678

RESOLUTION NO. 06-01

A RESOLUTION RECOMMENDING APPROVAL OF THE B-4A BYPASS TO THE SURFACE TRANSPORTATION BOARD.

WHEREAS, The Brookings City Council desires to do what is best for the City of Brookings.

WHEREAS, The City of Brookings with a population of 17,200 is one of the largest urban areas in the State of South Dakota. It is located on Interstate 29 and U. S. Highway 14 and is an important educational, health care, business/economic and recreational resource for this region.

WHEREAS, Brookings is surrounded by a large agricultural area with land devoted to raising field crops – corn, wheat, soybeans – and providing animal pasture. It was established and grew initially as a supply and marketing center for this agricultural activity.

WHEREAS, Mid-sized cities such as Brookings play an extremely important role in the effort to achieve economic diversity for South Dakota. Mid-sized cities are able to provide the workforce, housing, education institutions and social, recreational and cultural amenities necessary to attract industry and commerce and enable it to survive. Brookings and others like it have existing infrastructure (roads, wastewater facilities, airports, etc.) necessary to provide services for these businesses and their employees.

WHEREAS, Brookings has grown at the rate of 7% in the last 10 years. It is predicted that the City will continue to grow in the next decade by approximately 10%.

WHEREAS, Like other mid-sized urban concentrations on the Northern Plains area, Brookings though attractive as a location for new industry and an important part of the State of South Dakota's future economy is a relatively fragile/vulnerable urban place. The urban area is relatively small and concentrated. Its layout is much like it was around the turn of the Twentieth Century; the commercial/governmental area is situated in the center and is surrounded by compact layers of business, housing, schools, etc. Industrial use is primarily located on the east and west edges of the City.

WHEREAS, Brookings has found over the years that land uses with adverse impacts on its residential population can have a disproportionate quantitative and qualitative impact on the City's livability. Use changes and impacts affect the City a great deal because of its limited size and tight pattern of development. The place where these impact uses are located is extremely important to the City's existing residents and its future development.

WHEREAS, For this reason, land uses having the potential to cause major adverse impacts have been historically located outside of town or on the outer fringe of the urban center to avoid hurting the existing urban area and to preserve the quality of life in the City. Examples of these uses which have been placed on the perimeter include: the Industrial parks, landfill and the Highway 14 bypass.

WHEREAS, Residents and businesses in the City of Brookings have examined, analyzed and discussed the coal train and the impacts from various alternative routes, for three years. Widespread publicity and discussion have occurred during this period, and the views of residents and businesses are well known though not loudly expressed.

WHEREAS, Among other activities, the City Council met with the DM&E in an attempt to negotiate a Community Partnership Agreement and developed and reviewed two specific bypass alternatives, and many other suggested routes, studied and examined the impacts from the alternative rail routing alignments, reviewed the DEIS and the extensive analytical material, attended hearings, held meetings, traveled to, observed and conferred with residents of other cities impacted by coal train routes and analyzed financial costs, opportunities and impacts related to the funding of a bypass.

Based on the above, the Council of the City of Brookings hereby adopts the following findings, conclusions and recommendation.

1. DM&E coal train will provide an overall benefit for the State of South Dakota and to the City of Brookings and as a result, the construction of the new line from the Powder River Basin to the Mississippi River is strongly supported.

2. DM&E coal train will result in a major change in rail travel at the City of Brookings. The number of trains passing through the City daily will increase from four to potentially forty (1,000%). Brookings has never had a large volume of through train traffic and was not built around or to accommodate a train system.

3. Routing the DM&E coal train on the existing rail alignment through the City regardless of the type, nature and amount of mitigation incorporated will have the following significant adverse impacts on the City:
    - The increased rail traffic would affect in some way 60% of Brookings County's population.
    - The additional rail traffic would increase the exposure index at major urban intersections to a level where grade separations should be considered where feasible.
    - The ability of emergency vehicles to get to various parts of the City would be compromised unless grade separations were provided at key locations.
    - The increased noise and vibration and decrease in air quality would have a negative impact on property values adjacent to the existing alignment.
    - Three highly utilized pedestrian crossings in the City of Brookings would have to be mitigated to minimize significant safety concerns.
    - Service to existing customers would be more difficult and less timely.
    - Future growth south of the tracks in Brookings might be negatively impacted.
    - If grade separations are constructed where justified by exposure index values or sound impacts, several property owners would have to be relocated, streets would

have to be closed and new entrances to several businesses would have to be identified and constructed.

- Increased rail traffic would cause considerable delay and general traffic interruption for the traveling public.
- Additional right of way may need to be acquired to construct any future passing sidings.
- Numerous property owners would be negatively affected by construction activities that would occur essentially in their back yards.

4. The City of Brookings has carefully evaluated Alternative B-4 as set forth in the DEIS. While Alternative B-4 as set forth in the DEIS remains a preferred alternative when compared with Alternative B-2, the City has developed a variation of Alternative B-4 which is Brookings' preferred alternative alignment. Because of its similarity to the Alternative B-4 alignment it is referred to as Alternative B-4A. Routing DM&E coal train on the proposed B-4A bypass adjacent to the Highway 14 bypass to the north of the City will avoid adverse impacts of Alternative B-2 and could result in beneficial impacts for both the land in this area and the City and County of Brookings. Among other potential beneficial impacts are the following:
    - The proposed bypass affects only a few property owners in comparison to the in-city route.
    - The proposed route would bypass 60% of Brookings County's population.
    - The proposed bypass would eliminate large increases in train traffic at urban intersections with high average daily traffic counts.
    - Improved safety for pedestrians and drivers would be possible if the coal train traffic was bypassed.
    - There would be no appreciable change in train noise and air quality along the current railroad alignment.
    - The ability of emergency vehicles to get to various parts of the City would not be negatively affected with the bypass.
    - There should be no appreciable negative economic impact on property values of the many homeowners adjacent to the existing railroad alignment. All through rail traffic is bypassed.
    - The concern over increased vibration and potential structural damage to building foundations along the current route would be negated with a bypass.
    - Construction on new trackage for the proposed coal train traffic would be easier along the new route compared to upgrading the existing route under traffic.
    - The wider right of way width on the bypass would lend itself better to future bypass siding construction.
    - Land for wetland mitigation along the proposed bypass would be donated by a local landowner.
    - The bypass would eliminate the need to fully mitigate the hazards associated with three highly utilized pedestrian crossings in the City of Brookings.
    - Current traffic interruptions in Brookings from train passage would not change with the proposed bypass.

- Future growth south of the current tracks in Brookings would not be negatively impacted with a bypass as proposed.
- No additional property would have to be acquired within the City if a bypass was constructed.
- The construction of the proposed bypass could create business opportunities for DM&E in the form of future industrial expansion in the Brookings area.
- A bypass would allow the coal trains to maintain higher speeds than normally possible through urban areas.

5. The establishment of the Highway 14 bypass on the north side of the City some 25 years ago, is proof of the benefit to all of creating a major transportation corridor bypass to avoid adverse impacts and to benefit the use.

6. The socio-economic cost of routing the coal train through the City dramatically exceeds the socio-economic cost of routing the coal train on a bypass north of the City.

7. The financial costs incurred by the DM&E for reconstructing the in-city route and associated mitigation features under any scenario will most certainly exceed the total costs of constructing the bypass and related mitigation. Indeed, the expenditure of $34 million of probable costs of mitigation under Alternative B-2 will not assure acceptable mitigation of the adverse impacts of Alternative B-2.

8. The City in recognition of the importance of constructing the bypass and preserving access and service to local shippers has previously offered $4 million to this effort and is willing to do whatever else it can to preserve service to local shippers and facilitate the selection, development, funding and utilization of the bypass route for the DM&E coal train.

NOW THEREFORE, BE IT RESOLVED that the City of Brookings thanks Governor William J. Janklow for his leadership in submitting and supporting the Brookings Bypass Proposal.

FURTHER BE IT RESOLVED that the City of Brookings thanks the Section of the Environmental Analysis (SEA) of the Surface Transportation Board (STB) for identifying the Brookings Alternative B-4 of the DEIS (Decision No. 31225) as the preferred alternative.

FURTHER BE IT RESOLVED that the City of Brookings will work to support Alternative B-4A or any alignment associated with Alternative B-4.

FURTHER BE IT RESOLVED that the City of Brookings expresses financial support for Alternative B-4A or any alignment associated with Alternative B-4.

FURTHER BE IT RESOLVED that the City of Brookings, in recognition of the importance of constructing the bypass, has offered financial support of $4 million to construct the Bypass, which includes financial support to preserve access and service to local shippers.

FURTHER BE IT RESOLVED that the City of Brookings recommends that the STB approve and order the B-4A Bypass as described in the "Supplemental Discussion and Impact Assessment of Bypass Variation at Brookings, South Dakota".

BE IT RESOLVED THAT the City of Brookings seeks direction from the SEA/STB with regard to all appropriate issues raised above.

Passed and approved this 27th day of February 2001.

CITY OF BROOKINGS

Mayor Virgil H. Herriott

ATTEST:

Shari Thornes, City Clerk
(SEAL)

SUPPLEMENTAL DISCUSSION AND IMPACT ASSESSMENT OF BYPASS VARIATION AT BROOKINGS, SOUTH DAKOTA

Prepared For

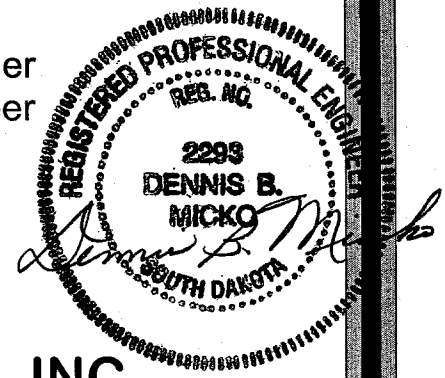
THE BROOKINGS CITY COUNCIL

Virgil Herriott, Mayor

COUNCIL MEMBERS

Samuel Artz	Keri Weems
Nathan Bibby	Tom Bozied
William Davidson	Michael McClemans

Michael Williams, City Manager
Gregg Jongeling, City Engineer



Prepared By

BANNER ASSOCIATES, INC.
CONSULTING ENGINEERS
BROOKINGS, SOUTH DAKOTA

FEBRUARY 27, 2001

#8033

SUPPLEMENTAL DISCUSSION AND IMPACT ASSESSMENT OF BYPASS VARIATION AT BROOKINGS, SOUTH DAKOTA

CHAPTER 4. DESCRIPTION AND ANALYSIS OF ALTERNATIVE B-4A ALIGNMENT

CHAPTER 5. DESCRIPTION AND ANALYSIS OF ALTERNATIVE B-4Aa ALIGNMENT

CHAPTER 6. COMPARATIVE ENVIRONMENTAL IMPACT ANALYSIS/ASSESSMENT

APPENDIX "A" - Statement to STB at Nov. 14, 2000 Public Hearing by Michael Williams, Brookings City Manager

APPENDIX "B" - Railroad ByPass Feasibility Study, Dated June 4, 1999

APPENDIX "C" - Overall Location Maps for Options A_1-C_1 and Options A_2-C_2

APPENDIX "D" - Alternative B-2

- Noise Impact Memorandum
- Mitigation Recommendation

APPENDIX "E" - City Attorney Memorandum

- Opinion Concerning Banner Report
- Issues on Implementation of Alternatives
- Financing Plan Discussion
- Establishment of Regional Railroad Authority
- Analysis of DM&E Condemnation Authority
- Other Bypass Construction Legal Issues

APPENDIX "F" - Mitigation Plan for B-2 Route at Brookings, South Dakota

1. Introduction and Background

1.1 INTRODUCTION. This report has been prepared by Banner Associates, Inc., under contract with the City of Brookings, South Dakota, to evaluate, compare and suggest possible location and mitigation improvements relating to the routing of the DM&E rail line at the City of Brookings. This supplemental report has been prepared in response to the Draft Environmental Impact Statement (DEIS) prepared by the Surface Transportation Board's Section of Environmental Analysis (hereinafter referred to as SEA) for the DM&E project to develop a new route to transport coal from the Powder River Basin in Wyoming to the Mississippi River at Winona, Minnesota.

This report also addresses the City's request that Banner examine the Brookings routing alternatives and analysis in the DEIS and include appropriate reassessment and supplementation in this report relating to the Brookings route alternative.

1.2 BACKGROUND. The City of Brookings and its residents have strongly and consistently expressed support for utilization of an alignment route for the coal train traffic which bypasses the City proper. The existing In-City alignment, hereinafter referred to Alternative B-2 as referenced in the DEIS, has been consistently viewed as unacceptable by residents and business within the City of Brookings as well as the Brookings City Council and the former Brookings City Commission because of the enormous disruption and adverse impacts which will result. This position has been expressed to the Surface Transportation Board (STB) on a number of occasions. Bypass locations and alignments have been under consideration by the City since the DM&E coal train project was first proposed.

The City initiated consideration of bypass alignments when it submitted a "Railroad Bypass Feasibility Study" to the STB on June 4, 1999 as part of its alignment consideration process. A copy of that original bypass study can be found in Appendix "B" of this report. The City's opposition to the upgraded In-City route and support for a bypass alignment was most recently stated at the public meeting held in Brookings on November 14, 2000 where STB sought input in response to the release of the DEIS. The presentation by City Manager, Michael Williams, as authorized by the City Council, repeated this opposition and expanded the discussion about and support for a bypass alignment. A copy of Mr. Williams' comments are included in Appendix "A".

The analysis performed in connection with this report assumes that a bypass alternative remains the preferred routing for the DEIS Coal Train at Brookings. The report, however, examines all alternatives and assessment/analytical information.

A primary focus and effort of this assessment, however, has been to identify enhancements to the Alternative B-4 bypass which was presented and supported in the DEIS as the preferred routing for all coal train traffic at Brookings, South Dakota from an environmental and land use standpoint.

The City requested and Banner Associates has explored modifications to the northerly bypass which would affect fewer people and less land than the B-4 alternative submitted to the STB in June of 1999. This B-4 alternative variation utilizes significantly more public right-of-way and land currently owned by the City, State and/or County in order to minimize the adverse impacts of the bypass, including condemnation, on land and other private property owned by individuals. The focused effort described above and represented by this report also responds to the request in the DEIS by the Section of Environmental Assessment (SEA) for further comments on the Brookings Bypass Alternative and the means by which the community would participate in funding its construction. (Refer to Appendix "E" for financing plan).

The City of Brookings has met with officials from the Dakota Minnesota and Eastern Railroad on several occasions in an attempt to come to consensus on a Community Partnership Agreement (Refer to Appendix "A"). Negotiations on this agreement have not been successful. The City, however, has received input and encouragement from a committee of the South Dakota Chamber of Commerce (RAILCO) to develop a variation of the B-4 alignment that would be acceptable to Brookings and still support the overall DM&E project. This committee was made up of business leaders from Brookings and others who worked with the City, Brookings County, DM&E and the State of South Dakota

In conclusion, the City of Brookings has attempted to comply with the STB's suggestion to negotiate mutually acceptable agreements with affected communities. The City of Brookings, with the assistance of the State of South Dakota and a committee of the State Chamber of Commerce (RailCo), explored additional alternative routes for a bypass. The reason for this exploration was to identify a bypass route that affected even fewer people and less land than the B-4 bypass alternative previously submitted to the STB and also utilized public right-of-way and State and City owned lands as much as possible. This process was successful in identifying an alternative bypass (B-4A) that is only 8.97 miles long and traverses a route adjacent to the Highway 14 Bypass, through State and City land and across less private property with fewer road crossings than the 15.2 mile bypass previously submitted. The shorter B-4A bypass is also less expensive to build and is only slightly longer than the existing In-City (B-2) route. A further enhancement is introduced with Alternative B-4Aa. Although physically the same bypass as B-4A, B-4Aa includes severing and removing segments of the existing In-City rail line in the mainly residential portion of the City. The enhanced routes (B-4A and B-4Aa) again meet the standard of being "reasonable and feasible" and do not "simply shift the potential environmental consequences of DME's proposal to different communities and populations". Similarly, this bypass enhancement does not add significant route miles that would make it "unlikely to allow applicant (D.M. & E.) to achieve its goal of providing efficient rail transportation". This enhanced bypass variation (B-4A) has strong support from residents of the City and its businesses and is consistent with the STB's sanctioning in the DEIS for a strong preference for development of a bypass for DM&E coal train traffic around Brookings.

2. Bypass B-4 Alternative and Enhanced Bypass Alternatives

2.1 DESCRIPTION OF B-4 ALTERNATIVE. Bypass alternative B-4 as submitted by the City of Brookings to the STB as the selected bypass route in the June 4, 1999 "Railroad Bypass Feasibility Study" is shown in Figure 1 of that report (Refer to Appendix "B"). This route was originally selected because: 1) It eliminated crossing U.S. Highway 14 west of Volga with the increased coal train traffic; 2) The coal train traffic bypassed the City of Volga which removed the same noise, vibration, and rail crossing safety issues for which Brookings had concerns; 3) It affected only 5 residences within 300 feet of the proposed bypass; 4) It eliminated an extremely dangerous crossing at the South Dakota Soybean Plant east of Volga; 5) It required only one additional crossing of U.S. Highway 14; 5) It avoided any existing businesses and 6) It bypassed the City of Brookings.

2.2 BYPASS ENHANCEMENT CONSIDERATIONS. Brookings is on a relatively flat plain. As a result, there are almost an infinite number of possible locations for the alignment of a new rail line bypass. The original B-4 alternative has led Brookings bypass supporters to focus on a bypass north of the City because much of the southern route would be located in a large flood plain. Although the southern route was considered feasible, it did not appear to be reasonable compared to the northern route. This analysis continues to make sense and as a result, Banner Associates has focused exclusively on enhancement of the northern B-4 bypass alternative.

Discussions with DM&E project engineers indicated that design standards for their proposed upgrade establishes maximum vertical profile grades of 1.0 % and maximum horizontal curves of 1.0 degree. These criteria have been used by Banner Associates, Inc. as basic assumptions in evaluating bypass route enhancements.

2.3 ALTERNATIVES. Initially, Banner examined and evaluated three (3) shorter bypass routes. Each route was mapped using 1.0 degree and 2.0 degree horizontal curves for a total of six (6) shorter bypass options (see Appendix "C"). The initial three (3) routes considered are described in more detail below:

2.3.1 Option "A". This bypass option diverges from the existing track alignment approximately 2.25 miles west of Western Avenue in Brookings. It swings northeast diagonally and crosses the Highway 14 Bypass just west of where it intersects with Highway 14 Business Loop. The proposed bypass then parallels the north right-of-way line of Highway 14 Bypass until it reaches County Road 77 (north Medary Avenue) at which time it again swings diagonally northeast until it reaches the quarter line one-half mile north of the Highway 14 Bypass. The alignment then parallels the quarter line until it crosses Interstate I-29 at which time it swings to the southeast to reenter and follow the Highway 14 Bypass right-of-way until it crosses Highway 14. The bypass then continues on the same southeast alignment until it curves to join the existing railroad alignment approximately 1.0 mile west of Aurora, SD. This alignment was mapped using both 1.0 (9.41 miles) and 2.0 (9.03) degree curves with the Options then marked with a one (1) or two (2) subscript to reflect the horizontal degree of curvature used (see Appendix "C").

2.3.2 Option "B". This bypass option diverges from the existing track alignment approximately 1.75 miles west of Western Avenue in Brookings. It swings northeast diagonally and crosses the Business Loop of Highway 14 just south of the Highway 14 Bypass grade separation structure. It continues diagonally until it crosses the Highway 14 Bypass in the vicinity of Western Avenue. The proposed bypass then parallels the north right-of-way line of Highway 14 Bypass until it reaches County Road 77 (north Medary Avenue) at which time it again swings diagonally northeast until it reaches the quarter line one-half mile north of the Highway 14 Bypass. The alignment then parallels the quarter line until it crosses Interstate I-29 at which time it swings to the southeast to reenter and follow the Highway 14 Bypass right-of-way until it crosses Highway 14. The bypass then continues on the same southeast alignment until it curves to join the existing railroad alignment approximately 1.0 mile west of Aurora, SD. This alignment was mapped using both 1.0 (8.94 miles) and 2.0 degree curves (8.57 miles) with the Options then marked with a one (1) or two (2) subscript to reflect the horizontal degree of curvature used (see Appendix "C").

2.3.3 Option "C". This bypass option diverges from the existing track alignment approximately 3.25 miles (1.0 degree curve) or 2.5 miles (2.0 degree curve) west of Western Avenue in Brookings. It swings diagonally to the northeast crossing Highway 14 Bypass and continuing in this direction until it reaches the quarter line one-half mile north of the Highway 14 Bypass. The alignment then parallels the quarter line until it crosses Interstate I-29 at which time it swings to the southeast to reenter and follow the Highway 14 Bypass right-of-way until it crosses Highway 14. The bypass then continues on the same southeast alignment until it curves to join the existing railroad alignment approximately 1.0 mile west of Aurora, SD. This alignment was mapped using both 1.0 (10.31 miles) and 2.0 (9.47 miles) degree curves with the Options then marked with a one (1) or two (2) subscript to reflect the horizontal degree of curvature used (see Appendix "C").

3. Description and Analysis of Alternative B-2 Alignment

3.1 EXISTING ROUTE LOCATION. The existing In-City route of the D M & E railroad will hereinafter be referred to as Alternative B-2. The point on the existing B-2 alignment of the D M & E railroad that is common with the starting point of the proposed bypass is approximately 2.0 miles west of Western Avenue in Brookings, South Dakota. The existing track proceeds east southeast as it heads to Brookings. Beyond Brooking's Western Avenue the track continues east southeast for about 4.8 miles where it intersects the point on the east end of the bypass. Figure 1 shows the location of the existing railroad alignment. The total length of this route is 6.93 miles.

3.2 HORIZONTAL AND VERTICAL ALIGNMENT. The existing In-City B-2 alignment is generally straight with some minor curvature that is well within the design criteria used by the D M & E. The vertical alignment is generally level and within the design criteria. An exception is the vertical profile of the track as it passes through Brookings. The city is located on a rise and the railroad is laid out to pass over the highest part of the rise. On the west side of the city the grade on the track is 1.04 percent for approximately 1.4 miles. The track levels off through the central portion of the city and then slopes downward at 1.20 percent for one mile before it again levels off as it continues east.

3.3 ROADBED CROSS SECTION AND EARTHWORK. The existing road bed is of an old design with a subgrade width of 10 to 12 feet. The D M & E intends to widen the subgrade to a design top width of 28 feet. Inslopes would be constructed at 3 feet horizontal to 1 foot vertical. The overall roadbed section will need to be strengthened in order to carry the heavier car loads proposed for the coal train project. It is assumed that all construction can be restricted within the existing 100 feet of right-of-way but construction easements may be required for special construction situations.

Earthwork volumes were calculated by multiplying the area of the added embankment on each side of the track by the length of the segment and then multiplying the volume by 1.3 to allow for shrinkage. D M & E does not anticipate purchasing additional right of way through this portion of their project and therefore will be constructing its embankment within a 100 feet wide right of way area. There will be very little material within that narrow corridor available for use as embankment material. As a result nearly all embankment material will need to come from borrow sources outside the railroad right-of-way.

A portion of the earthwork volume will include the removal of highly organic topsoil and compressible soils prior to the placement of acceptable subgrade soil fill. The removal of these organic soils is often referred to as "stripping" and it is common for these materials to be stockpiled for future use or wasted in "inslope" sections. We estimate the depth of topsoil to be stripped along this alignment to range from 12" – 15" and could represent as much as 20% of the

earthwork volume. The cost of stripping and replacing topsoil is normally higher than the unit price for other earthwork.

3.4 ROADWAY CROSSINGS AND SIGNALS. The existing railroad alignment crosses 3 rural gravel roads and 5 urban streets in Brookings. A grade separation on interstate highway I-29 accommodates the railroad crossing at that point. With the exception of 10th Street, which is a gravel road on the west side of Brookings, the gravel roads are low traffic routes with traffic counts of less than 50 vehicles per day. The South Dakota Department of Transportation recorded 24 hour traffic numbers for each of the railroad crossings in Brookings. The following table shows traffic counts and the number of exposures for the current railroad traffic and the projected future railroad traffic based on 3 trains and 37 trains minimum, respectively.

EXPOSURE INDEX FOR ROADWAY CROSSINGS ON THE EXISTING RAILROAD ALIGNMENT

Crossing Location	Present Traffic Count	Present Train Count	Present Exposure	Projected Train Count	Projected Exposure
10th Street West	206	3	618	37	7,622
Western Avenue	3,405	3	10,215	37	125,985
Main Avenue	11,060	3	33,180	37	409,220
6th Avenue *	1,300	3	0	37	0
Medary Avenue	9,045	3	27,135	37	334,665
17th Avenue	3,820	3	11,460	37	141,340
22nd Avenue	13,150	3	39,450	37	486,550

* The 6th Avenue crossing is a grade separation with the railroad over the street but does not meet current design criteria.

The rural gravel surfaced crossings are anticipated to be at grade crossings. Approach signs and railroad crossing signs would be installed at each gravel road crossing.

At some point, the number of exposures becomes high enough that grade separations should be considered for traffic safety. The state of South Dakota does not currently have minimum standards for grade separations based on an exposure index. In Minnesota grade separations are considered when the exposure index reaches the 300,000 range. For the purpose of this study, an exposure index of 300,000 has been used as the minimum level for which a grade separation should be considered.

Western Avenue and 17th Avenue in Brookings have exposure indexes under 300,000. It is proposed that these two crossings be constructed with automatic flashing signal lights and roadway gates. Although Brookings Main Avenue has an exposure index greater than 300,000, it does not appear feasible to construct a grade separation at that location. Therefore, the Main Avenue crossing would be constructed with automatic flashing signal lights and roadway gates. The 6th Avenue underpass is located two blocks east of Main Avenue and provides limited traffic flow from one side of the railroad to the other. Limitations represented by this grade separation include vertical clearance (13') and flooding potential.

3.4.1 Medary Avenue Underpass. Medary Avenue is one of the primary routes across Brookings as can be seen by the 9,045 ADT and projected exposure index of 334,665. For that reason, it is proposed that a grade separation be constructed at its intersection with the railroad. Because of the existing street profile, an underpass for vehicles may be more appropriate than a vehicle overpass at this Medary location.

3.4.2 Twenty Second Avenue Overpass. Twenty Second Avenue has the highest railroad crossing traffic count in the city at 13,150 vehicles per day and a projected exposure index of 486,550. It is the primary route for emergency vehicles traveling between the north and south halves of the city. A grade separation is proposed for the intersection of 22nd Avenue with the railroad. The structure would allow vehicle traffic to pass over the railroad at that location.

3.4.3 17th Avenue Underpass. As noted above, 17th Avenue does not meet the minimum exposure index to be considered for a grade separation. However, the sound analysis study included in Appendix "D" does recommend a grade separation at this location for mitigation of sound impacts. Because of the existing street profile, an underpass for vehicles may again be more feasible than a vehicle overpass.

3.5 PEDESTRIAN CROSSINGS. There are presently three designated pedestrian crossings in Brookings. One is in the vicinity of 12th Avenue, the second in the vicinity of 16th Avenue and the third is on the east edge of Brookings adjacent to the interstate highway. The crossing near the interstate highway is on a public walking / bicycle path that extends around a large portion of the city. It is proposed that chain link fence be constructed along both sides of the right of way and that flashing lights and gates be installed at all three (3) pedestrian crossing locations. (Reference Mitigation Plan in Appendix "F").

3.6 BRIDGES AND DRAINAGE STRUCTURES. The existing railroad has 7 structures over rivers and drainageways between the beginning and ending points of the bypass route. Four bridges are between 60 and 80 feet in length and 3 are between 100 feet and 150 feet long. All of the structures are of timber construction. It is assumed that all bridges will be replaced with steel

and/or concrete structures with lengths similar to those in place. It is estimated that there are an average of 4 - 36 inch diameter culverts installed per mile of railroad. It is further assumed that one half of the culverts will be replaced and one half will remain in place with extensions added to each end.

3.7 RIGHT-OF-WAY. It is the intent of D M & E to contain its railroad upgrade within its existing 100 feet of right of way. To define property and prevent access along the railroad right of way, fencing will be installed. In rural areas 5 strand barbed wire fence mounted upon wood and steel posts would be constructed. In the urban areas, 8 feet high chain link fence would be installed along right of way abutting residential property.

3.8 TURNOUTS AND PASSING SIDINGS. A new track turnout would be installed at each location where one now is located. There are 7 turnouts within the segment of railroad being discussed in this report. As discussed in the bypass alternative, no passing sidings are included in this report as part of the reconstruction of the existing railroad.

3.9 SAFETY ISSUES. Safety is the primary concern of the community. Even with the grade separations, gated crossings and other precautions, there is still a danger of a train related accident. Increasing the number of trains from 3 to 37 compounds that danger regardless of the warning devices (gates, lights, bells or signs) in place.

4. Description and Analysis of Alternative B-4A Alignment

4.1 PREFERRED ALTERNATIVE B-4A. The preferred enhanced bypass alignment reflects a modified Option "A" as described in Chapter 2 and is hereinafter referred to as Alternative B-4A. It was selected primarily because it more fully utilized existing Highway 14 Bypass right-of-way than the other options and also utilized, to the greatest extent possible, property currently owned by the City of Brookings and the State of South Dakota (South Dakota State University property).

4.2 ROUTE LOCATION. It begins where the existing DM&E track crosses the boundary between sections 20 and 21 just 2.0 miles west of Western Avenue in Brookings, South Dakota. Using 1.5 and 2.0 degree curves, it swings diagonally northeast until it crosses Highway 14 1.0 mile west of Western Avenue. The proposed bypass then parallels the north right-of-way line of Highway 14 Bypass until it reaches County Road 77 (north Medary Avenue) at which time it again curves diagonally (1.5 degree curves) northeast until it reaches the quarter line one-half mile north of the Highway 14 Bypass. The alignment then parallels the quarter line until it crosses Interstate I-29 at which time it swings to the southeast (1.0 degree curve) to reenter and follow the Highway 14 Bypass right-of-way until it crosses Highway 14. The bypass then curves south (1.0 & 1.5 degree curves) until it curves to join the existing railroad alignment approximately 1.5 mile west of Aurora, SD. The total length of the bypass route is 8.97 miles compared to 6.93 miles of existing railroad between the beginning and ending points of the bypass. DM&E engineers from their Brookings headquarters location have reviewed the B-4A alignment and have indicated that it is acceptable from their perspective. Figure 1 shows the proposed alignment of the shorter bypass along with the present railroad alignment.

4.3 HORIZONTAL AND VERTICAL PROFILE. The existing ground profile along the shorter bypass route is well within the design criteria, with one exception. In one 3000 foot segment, the ground elevation changes from 1654 to 1670 and then back to 1650. Within that segment a grade cut will be required with the maximum cut being approximately 20 feet. By performing that cut, the entire bypass route could be designed well within the maximum grade of 1.0% established by DM&E as the desired design criteria. The bypass route has no physical restriction that would require constructing horizontal curves greater that the maximum 1.0 degree curve established by DM&E as a standard. However, the selected route does utilize 1.5 degree and 2.0 degree curves to avoid wetlands, farmyards and drainageways.

4.4 ROADBED CROSS SECTION AND EARTHWORK. The railroad cross-section to be used by DM&E utilizes a 28 foot subgrade width measured below the aggregate ballast. The cross-section also provides for 10 foot wide ditch sections located a minimum of 6 feet below the top of the rail. Inslopes would be constructed with a rise of 3.0 horizontal to 1.0 vertical. Figure 2 shows the proposed railroad typical cross-section.

Earthwork volumes were calculated by multiplying roadbed cross-sectional areas by the length of various segments and then multiplying that volume by 1.3 to allow a 30 percent embankment shrinkage factor. Because of the flat to gently rolling terrain, balance points between cuts and fills can be obtained within individual segments of one mile or less.

A portion of the earthwork volume will include the removal of highly organic topsoil and compressible soils prior to the placement of acceptable subgrade soil fill. The removal of these organic soils is often referred to as "stripping" and it is common for these materials to be stockpiled for future use or wasted in "inslope" sections. We estimate the depth of topsoil to be stripped along this alignment to range from 12"-24" and could represent as much as 30% of the earthwork volume. The cost of stripping and replacing topsoil is normally higher than the unit price for other earthwork.

4.5 ROADWAY CROSSING AND SIGNALS. The B-4A bypass alternative crosses 4 gravel surfaced roads and 4 bituminous pavement surfaced roads and a 4 lane divided rural interstate highway (I-29). The 4 gravel surfaced roads are fairly low traffic routes with traffic counts estimated to be less than 50 vehicles per day. The interstate highway has an ADT of 8,910 vehicles. With a minimum of 37 trains per day, the exposure index for the interstate highway is 329,670. Regardless of the exposure index, federal highway policy will require a grade separation at this intersection. The City of Brookings has also preliminarily indicated that grade separation structures should be provided to carry Highway 14 over the railroad where it crosses at two different locations. Major reconstruction of the roadways will also be required at these two locations and Figures 5 & 6 show the proposed geometry realignment. As can be seen by these Figures, the construction of these interchanges is relatively straight forward and fairly easy to accomplish. Traffic counts were also obtained for the bituminous surfaced roads and a table of the exposure index for those roads is shown below. County Road 5 north of the Highway 14 bypass is not crossed by the new rail alignment and is therefore not included in the table below.

EXPOSURE INDEX FOR ROADWAY CROSSINGS ON THE SHORTER BYPASS ROUTE

Crossing Location	Present Traffic Count	Projected Train Count	Projected Exposure
U.S. Highway 14, West of Brookings	6,425	37	237,725
County Road 77, N. of U.S. 14 Bypass	2,345	37	86,765
Landfill Road, N. of U.S. 14 Bypass	540	37	19,980
U.S. Highway 14, East of Brookings	2,800	37	103,600

With the exception of the crossings where grade separation structures are provided, all road crossings are anticipated to be at-grade crossings. Grade crossing approaches would be constructed and signage or crossing signals installed at each crossing. Approach signs and railroad crossing signs would be installed at each gravel road crossing. All asphalt surfaced road crossings would be equipped with automatic flashing signal lights and roadway gates.

As noted above, grade separations would be constructed at the intersection of the railroad bypass with I-29 and at both U.S. Highway 14 locations. The structures would allow the railroad to remain at grade with the highway elevated to pass over the railroad.

4.6 BRIDGES AND DRAINAGE STRUCTURES. The proposed shorter B-4A bypass route crosses North Deer Creek, Six Mile Creek, Deer Creek and several small streams and drainageways. USGS maps were used to identify the location of the various crossings and to estimate crossing sizes. In addition, a survey of bridges located on the existing DM&E route provided information on what type and size structures are in place on that line. The bypass roughly parallels the existing line and a majority of the streams and drainageways are common to both routes. Our preliminary inventory of drainage structure needs indicates that the bypass would require 2 bridges 50' in length or less, 4 bridges between 50' and 150', 1 box culvert with a 2-10' x 10' opening and 1 box culvert with a 10' x 10' opening. For cross drainage, it is estimated that an average of 4-36" diameter reinforced concrete pipe culverts with flared ends would be required per mile of railroad bypass for localized drainage. The bridges required for the grade separation locations are addressed in paragraph 4.5 above.

4.7 RIGHT-OF-WAY. It is DM&E's policy when acquiring new right-of-way to purchase a strip of land 200 feet wide. Because the bypass route crosses nearly level terrain, the railroad bed could easily be constructed within the 200 feet of acquired right-of-way. One exception would be in the area of cut previously identified. In this 3000' segment, an additional area of approximately 3 acres would be required to accommodate the back slopes in that portion where cut is at a maximum. Another possible exception to the 200 foot width of right-of-way would be the portion of the route (3.1 miles) that is immediately adjacent to the Highway 14 Bypass. In this area, it may be possible to reduce the additional taking of right-of-way to 150 feet. Based on these assumptions, we would estimate the total area of right-of-way required for the proposed bypass to total approximately 200 acres. Excluding land owned by South Dakota State University and the City of Brookings and excluding lands immediately adjacent to the existing Highway 14 Bypass, negotiations for right-of-way acquisition would involve nine (9) separate property owners.

4.8 TURNOUTS AND PASSING SIDINGS. A turnout would be required at each end of the railroad bypass to tie the new alignment to the existing rail line. To meet the DM&E's proposed operating plan, passing sidings will need to be provided at frequent intervals. That would be true for either a bypass route or a reconstructed route. Since the two routes are nearly the same length, it

is assumed that a passing siding would be the same length for either option. Therefore, no length, location or cost information was included for sidings because the cost of these improvements along either route would be offsetting.

4.9 SAFETY ISSUES. The B-4A bypass alternative would reduce the number of potential train/vehicle collisions due to the small number of vehicles traveling on the rural roads compared to the number traveling within the urban areas of Brookings. Refer to Sections 3.4 and 4.4 "Roadway crossings and Signals" for Exposure Index information.

4.10 RETENTION OF EXISTING TRACK. The B-4A bypass alternative would be constructed to carry all coal trains and other through traffic. The existing In-City track would be retained to provide service to rail customers located in Brookings. Although the track is presently maintained for the current rail traffic, it is assumed that some upgrade work and minor annual maintenance improvements would be required to continue use of this segment as a spur.

5. Description and Analysis of Alternative B-4Aa Alignment

5.1 ALTERNATIVE B-4Aa. B-4Aa is physically the same bypass alignment as Alternative B-4A except that it adds the enhancement of eliminating all rail traffic through the center of Brookings. Alternative B-4Aa is similar to Alternative B-4 as described and analyzed in the DEIS for Brookings in that all rail traffic at Brookings would use the B-4A bypass. With B-4Aa, the existing In-City rail line would be severed and the portion in the central part of the City would be removed.

Preliminarily B-4Aa would involve the termination of the rail line midway between 6th and Main Avenues and just west of 22nd Avenue. The rail would be removed and the crossings at 17th Avenue, Medary Avenue and 6th Avenue would be eliminated. It is also possible, with spur changes and acceptance by the 3M Company that the In-City rail would be removed to enable the elimination of the 22nd Avenue crossing. Elimination of the rail line and crossing at Main Avenue is also possible but would need to be studied further to determine whether it needs to be maintained to serve the Co Op elevator.

5.2 ROUTE LOCATION. Refer to section 4.2 since the route location for the Alternative B-4Aa bypass is the same as Alternative B-4A.

5.3 HORIZONTAL AND VERTICAL PROFILE. Refer to section 4.3 since the horizontal and vertical profile of Alternative B-4Aa is the same as Alternative B-4A.

5.4 ROADBED CROSS SECTION AND EARTHWORK. Refer to section 4.4 since the roadbed section and earthwork for Alternative B-4Aa bypass is the same as Alternative B-4A.

For those segments of the In-City line that are severed and removed, the amount of earthwork would be dependent on whether the line would be maintained as a walking/biking path or converted to a greenway with appropriate landscape plantings. The purpose of this report, it is assumed that the existing railbed would be left intact for future conversion to a walking/biking path.

5.5 ROADWAY CROSSING AND SIGNALS. Refer to section 4.5 since the roadway crossing and signals for the B-4Aa bypass would be the same as Alternative B-4A.

A primary advantage of Alternative B-4Aa is that several of the crossings outlined in section 3.4 could be eliminated. The elimination of crossings at 17th Avenue and Medary Avenue would reduce the exposure index at these crossings from 11,460 and 27,135, respectively, to zero. The safety improvements reflected in this reduction in exposure index is the principle advantage of this crossing removal but the elimination of traffic delays is also of major importance. At 6th Avenue, the deletion of this underpass would eliminate both a flooding problem and a vertical clearance

problem that currently exists. If future studies were to determine that the crossings at Main Avenue and 22nd Avenue could also be eliminated and not affect rail service to existing shippers, most all of the adverse impacts of the existing In-City rail line would be eliminated (Refer to Section 6 for environmental impacts that would be altered) under this Alternative.

5.6 BRIDGES AND DRAINAGE STRUCTURES. Refer to section 4.6 since the bridges and drainage structures for Alternative B-4Aa bypass would be the same as Alterative B-4A.

As noted above under section 5.5, the deletion of the overpass bridge at 6th Avenue on the existing In-City rail line would have several advantages. The elimination of this bridge would also reduce long term maintenance costs associated with this structure. Depending on the use of vacated segments of the In-City line, the bridge may be retained as a pedestrian bridge to serve a future walking/biking path.

5.7 RIGHT-OF-WAY. Refer to section 4.7 since the right-of-way for the B-4Aa bypass would be the same as that for Alternative B-4A.

The elimination of segments of the In-City rail line could result in the vacation and ultimate sale of the right-of-way that it now occupies. Further study would be needed to verify whether there might be the potential for future rail shippers in the segments being considered for removal. The results of such a study would serve to guide the decision on the vacation and sale of any existing right-of-way.

5.8 TURNOUTS AND PASSING SIDINGS. Refer to section 4.8 since turnouts and passing sidings for the B-4Aa bypass would be the same as that for Alternative B-4A.

5.9 SAFETY ISSUES. Refer to section 4.9 since safety issues discussed for Alternative B-4A are the same as those for Alternative B-4Aa.

Also refer to section 5.5 above for safety issue improvements associated with the elimination of crossings that would be coincident with the removal of In-City rail line segments.

5.10 RETENTION OF EXISTING TRACK. The principle difference between bypass Alternatives B-4A and B-4Aa, as outlined in paragraph 5.1 above, is the removal of segments of the existing In-City rail line. The advantages of this removal are outlined in other sections of this chapter. Although there would be some initial cost associated with removal of these segments, this cost would be offset by not having to upgrade these existing rail line segments and over time by reduced annual maintenance costs. Because of this offsetting of costs, the cost of "Upgrade of existing track" has been reduced by an amount equal to the amount allocated for "Rail line removal" shown in the cost for this Alternative in Section 7.

6. Comparative Environmental Impact Analysis/Assessment

6.1 SUMMARY. Prior to the preparation of the DEIS, the STB established a process that encouraged communities bisected by existing DM&E rail lines to develop bypass proposals for the mitigation of negative impacts associated with the movement of coal trains through these existing jurisdictions. The City of Brookings submitted a "Railroad Bypass Feasibility Study", dated June 4, 1999 which advanced and described the Alternate B-4 bypass that was considered by the Surface Transportation Board as part of the environmental review process for the DM&E application.

The City of Brookings was extremely pleased that the DEIS concluded that the proposed Alternate B-4 bypass was a reasonable and feasible alternative and was preferable from an environmental standpoint to the upgrade and reconstruction of the In-City route for the coal trains. Because Alternative B-4 was a mitigation element not advanced by the DM&E, it was recognized that it might not satisfy the overall purpose and need defined for the project as well as the In-City line. As a result, the DEIS recommended direct negotiation between the City and the DM&E, requested further comments on the Alternative B-4 Brookings bypass and asked that the City identify how it would share in payment of the costs associated with the bypass. This analysis and report was commissioned to respond to the analysis request in the DEIS and examine the possibility of enhancing (impact and cost reduction) the B-4 alternate alignment.

The following discussion is intended to provide additional information relating to the environmental impacts associated with the Alternative B-2 use of the reconstructed DM&E rail line through Brookings for the coal train, impacts resulting from the construction and use of the enhanced northern bypass–Alternative B-4A and Alternative B-4Aa described in Section 4 and 5, respectively. This discussion attempts to provide new and additional comment regarding impacts associated with Alternative B-2 which will supplement and in some cases modify the information contained in Section 4.9 of the DEIS.

Alternative B-2: Existing Rail Line.

This Alternative, analyzed in the DEIS, involves the reconstruction of approximately 6.93 miles of existing DM&E rail line of which 4.26 miles is situated within the City of Brookings. All rail traffic, both coal trains and other traffic would utilize this rail line under this Alternative.

Alternative B-4A: Bypass for all Rail Traffic.

This proposed, modified bypass alignment is shown in Figure 1 and discussed in Section 4. This alignment would be located south of the initial B-4 bypass as

described in the DEIS and pass along the City's northern boundary. It would extend approximately 8.97 miles and at most locations would be near the Highway 14 bypass. It is 6.23 miles shorter than Alternative B-4 (the earlier northern alternative). It would connect with the existing DM&E line outside the jurisdiction of the City of Brookings. Under this Alternative, the existing In-City rail line would remain within the City of Brookings but would not be used for coal train traffic. It would be used exclusively to serve shippers within Brookings.

Alternative B-4Aa: Bypass for all Rail Traffic.

This Alternative would be similar to Alternative B-4A except that the In-City existing rail line would be severed and removed. Several rail crossings within the City of Brookings would be eliminated including existing crossings at 17th Avenue, Medary Avenue and 6th Avenue. Spur changes might also allow for the elimination of the 22nd Avenue crossing and the Main Avenue crossing though additional study is needed to determine whether this is feasible. In-city freight would be routed on remaining portions of existing track to locations to the east and west of the City for connection to the D M & E main rail line.

6.2 ENVIRONMENTAL IMPACT ASSESSMENT OF ALTERNATIVES.

The following discussion reviews the potential impacts of Alternatives B-2, B-4A & B-4Aa on natural and human resources as addressed in the DEIS.

6.2.1 TOPOGRAPHY.

Alternative B-2: Existing Rail Line.

The reconstruction of the existing rail line would not have any significant affect on the topographic features within the project area. The widening of the subgrade width to 28 feet and the flattening of inslopes to a 3:1 would cause a visible change in the roadbed cross-section. Depending on the source of fill material, drainage within and outside of the right of way could change.

Alternative B-4A: Bypass for all Rail Traffic.

The construction of the rail line roadbed would involve the cutting and filling of soil materials that would change the physiography of the project area. Existing drainageways would be impacted by construction of the bypass and provisions

would have to be made to maintain proper drainage at stream and river locations as well as localized watersheds. Equalizer piping may be required to eliminate the potential of the rail line roadbed acting as a dam.

Alternative B-4Aa: Bypass for all Rail Traffic.

The impacts to the physiography for the bypass are as described for Alternate B-4A above. The abandonment of segments of the existing rail line would include removal of the corresponding roadbed. The cutting and filling of soil materials associated with this removal would change the physiography of the existing alignment and may result in changes to the vertical alignment of intersecting roadways where existing crossings are eliminated. Removal of segments of the roadbed might also change drainage flow within the project area.

6.2.2 GEOLOGY AND SOILS.

Alternative B-2: Existing Rail Line.

This alternate would affect reconstruction of approximately 6.93 miles within a previously disturbed and established rail corridor. The widening and strengthening of the roadbed to accommodate the reconstructed and upgraded rail line would impact soils within the existing right-of-way. There would be the potential for environmental impacts during construction such as erosion, mixing of soil types, compaction by heavy equipment, etc. as mentioned in the DEIS. The possibility of petroleum spills that could contaminate soils and adjacent streams is always present when construction equipment is operating within the project area. Though the DEIS notes that new hazardous substance spills are unlikely during reconstruction and use of this alignment, the old rail bed is likely contaminated at present with polyaromatic hydrocarbons (PAHs) and petroleum residue. This contamination will likely generate the need for remediation and off site disposal of this material in connection with the reconstruction. The scope, nature and cost of this activity is unknown.

Alternative B-4A: Bypass for all Rail Traffic.

The bypass would impact areas currently used for farming operations. The soil types along the alignment of the bypass are outlined in the DEIS and are noted as being somewhat poorly drained. Topsoil that would need to be stripped ranges in depth from 0-20". Based on a right-of-way width of 200' across existing agricultural land and 150' adjacent to the existing Highway 14 Bypass right-of-way,

approximately 200 acres of soil would be disturbed during construction of the 8.97 mile bypass. The soil resources affected are not unique or of limited quantity and would be available for beneficial reuse. Soil removal activities creates the possibility of erosion from wind and rain. Construction practices and re-vegetation can adequately limit this impact. The environmental impacts described for Alternative B-2 could be experienced as related to soil compaction, mixing of soils and spills of hazardous materials.

Alternative B-4Aa: Bypass for all Rail Traffic.

Construction and operation impacts would be the same as those described for Alternatives B-2 and B-4A above.

6.2.3 PALEONTOLOGICAL RESOURCES.

Alternative B-2: Existing Rail Line.

Since the upgrade of the existing line will be completed within the existing right-of-way, it is assumed that there would be no significant paleontological resources that would disturbed that hadn't been previously destroyed.

Alternative B-4A: Bypass for all Rail Traffic.

Unlike western South Dakota, the area through which this Alternative would be constructed is not known to contain paleontological resources. As mentioned in the DEIS, the area adjacent to the Big Sioux River could contain some such resources though this area is characterized by relatively "new" sedimentary deposits on top of bed rock and the bed rock should not be impacted by construction. This alignment would cross the Big Sioux River near the Highway 14 bridge. No paleontological resources were discovered during construction of this structure in the 1970's. Otherwise because of farming operations and other construction disturbances along the proposed alignment, it is unlikely that any undisturbed paleontological resources would be encountered during construction or impacted by this alignment.

Alternative B-4Aa: Bypass for all Rail Traffic.

See above.

6.2.4 LAND USE.

6.2.4.1 AGRICULTURAL.

The amount of land identified as agricultural was estimated based on aerial photos. The estimate includes property which appeared to be cultivated for the production of crops and uncultivated land which appeared to be used for pasture or grassland.

Alternative B-2: Existing Rail Line.

The existing rail alignment crosses approximately 3.3 miles of agricultural land. Since most reconstruction for this alternative will be within the existing right-of-way, the only impact that this alternative would have on agricultural land use would be possible damage to crops or pasture land that has encroached on the right-of-way. Similar damage to crops or pasture land could occur if construction activities are conducted outside of the existing right-of-way.

Alterative B-4A: Bypass for all Rail Traffic.

This proposed bypass Alternative would cross approximately 8.1 miles of agricultural land and would be adjacent to 16.2 miles of crop land and pasture and grassland. This is a significantly smaller amount of agricultural land than would be impacted by the initial northern B-4 Alternative. The B-4A Alternative would take approximately 150 to 175 acres out of crop production and/or pasture use. This alignment also crosses over land owned by the City of Brookings and South Dakota State University. The alignment would pass through approximately 8 farms and might necessitate some changes in access to continue farming activity on farm fields which have been segmented. Alternative access would be available. The loss of prime farm land to railroad right-of-way from this Alternative would be limited and would not result in significant impact when assessed in comparison to the large amount of this resource in the Brookings area.

Alternative B-4Aa: Bypass for all Rail Traffic.

See above.

6.2.4.2 RESIDENTIAL.

Alternative B-2: Existing Rail Line.

Approximately 350 homes are located within 300 feet of the existing rail line as it passes through the City. In total approximately 30% of the City's housing supply is situated within a ½ mile band centered on the existing rail line. In short and as would be expected, the existing rail line is proximate to a great deal of housing/residential use within the City of Brookings.

The reconstruction and use of the existing rail line for coal trains would have a dramatic, adverse impact on the quality of residential use within the City. Impacts on air quality, noise, vibration, safety and other elements would be experienced by a significant number of human receptors. Real estate professionals also indicate that the value of residential property adjacent to the in-city route would be negatively impacted as a result of its use by the coal trains. These impacts are discussed further in Section 6.2.8 through 6.2.11 and Appendix "E" respectively.

Alternative B-4A: Bypass for all Rail Traffic.

The alignment for Alterative B-4A is situated in a rural area along the City's northern border. Only three homes are located within 300 feet of this alignment. The access to only one of these three residences would need to be altered as a result of the bypass construction. Further, new residential development in the Brookings area would likely avoid areas near this bypass alignment but a large amount of land is available for new housing in other adjacent areas. Construction and use of this alternative alignment would cause air quality, noise, vibration and other environmental impacts but because of the rural setting would not impact existing population. These impacts would also not be cumulative.

Alternative B-4Aa: Bypass for all Rail Traffic.

Environmental impacts on residents along the existing line related to air quality, noise, vibration and socio-economic would be reduced or eliminated with the removal of the existing rail line through this residential land use area.

6.2.4.3 BUSINESS AND INDUSTRY.

Alternative B-2: Existing Rail Line.

Approximately 2.5 miles of land along this Alternative is devoted to business and industrial use within Brookings. Current shippers include L.G. Everist, Inc., Minnesota Mining & Manufacturing, Farmers Co Op and Rainbow Play Systems. Reconstruction of the existing line would have temporary adverse impacts on customers and employees, and impact safety and rail service. During construction and later operation there would be increased noise and dust. Traffic delays associated with the dramatic increase in train traffic would result in substantial short and long-term adverse impacts on businesses in this area. In particular, adverse impacts would be experienced by the two shopping malls located south of the tracks along 22nd Avenue and within the primary commercial district adjacent to and north of the tracks along Main Avenue.

Alternative B-4A: Bypass for all Rail Traffic.

There is a small amount of business and industrial use along the B-4A bypass since it is immediately adjacent to Highway 14. The business activity however is limited to approximately 3 or 4 businesses with one of them not currently in operation. The B-4A alignment would require the relocation of a propane gas facility and gas measurement station currently located in the northwest quadrant of the Highway 14 bypass and Western Avenue intersection. Businesses along the existing rail line should experience little, if any, additional adverse impact from this Alternative.

Construction of a bypass on the B-4A alignment which is relatively close to the existing City boundary presents an excellent opportunity for future economic development. Such development would be consistent with City plans and the pattern of development as it has occurred in the past. It would be beneficial to both public and private sectors and provide significant opportunity for the DM&E to secure new shipping customers.

Alternative B-4Aa: Bypass for all Rail Traffic.

Construction and operation impacts for the bypass would be the same as those described for Alternative B-4A above.

Existing rail customers would continue to be served although some upgrade work and minor annual maintenance improvements may be required on the remaining spur segments. There could be some temporary inconvenience during construction for removal of portions of the existing rail line.

6.2.4.4 PUBLIC SERVICES.

Alternative B-2: Existing Rail Line.

The existing DM&E rail line essentially cuts the City of Brookings in half. The reconstruction of this line and its use by up to 34 coal trains per day would have drastic adverse impacts and consequences on the delivery of public services within the City. Three public schools are located south of the railroad and two public schools, along with South Dakota State University are located on the north side. The city has a volunteer fire department with members who work and live throughout the city. The main fire station and one substation are on the north side of the track and one substation is on the south side. The 61 bed Brookings hospital, which also houses the city ambulance service, is on the north side. A public park is located at the intersection of the railroad and Medary Avenue. A highly utilized public walking/bicycle path crosses the railroad on the east side of the city. Two major" pedestrian only" crossings, used primarily by school children, are located between Medary Avenue and 17th Avenue. An elderly apartment is located on property that abuts the north side of the railroad. A second nursing home with 79 beds is attached to the hospital on the north side of the railroad. There are two additional assisted living facilities on the south side of the track with a combined total of 60 living units. Figure 3 shows the City of Brookings and significant community facilities anticipated to be impacted by the increase of rail traffic from 3 trains per day to 37 trains per day. Reconstruction and operation of the existing line would impact users of these public facilities in terms of traffic delays, increased road traffic and safety concerns.

Alternative B-4A: Bypass for all Rail Traffic.

This Alternative would avoid causing the dramatic adverse impacts associated with the In-City line. It would, however, cause some limited impact, inconvenience and traffic delay with regard to public service delivery in the area to the north of the City's boundary. Crossings would

be closed during construction and trains would pass preventing the easy flow of traffic on County Road 77. As noted in the DEIS however, due to the low level of traffic, distance of crossing from these facilities and the rural setting in the area (low population density), these impacts would not have a significant effect on the provision of public services and the use of public facilities in the area.

Alternative B-4Aa: Bypass for all Rail Traffic.

The elimination of through train traffic in the City of Brookings would have a significant beneficial impact on the delivery and use of public services and facilities within the City. Traffic delays, access and movement by emergency vehicles and pedestrian safety would be improved significantly by the removal of the identified crossings.

6.2.5 WATER RESOURCES.

6.2.5.1 SURFACE WATER

Alternative B-2: Existing Rail Line.

There are seven water body crossings on the current alignment that are large enough to require bridge structures. Replacement of these structures in upgrading the existing corridor could impact these waterways as noted in the DEIS. Impacts such as increased sedimentation from erosion and instream work and contamination from petroleum spills could occur during construction activities. Potential spills of hazardous materials as a result of derailment could cause contamination of streams during operation although the frequency of accidents would likely be reduced due to the improved quality of the rail line.

Alternative B-4A: Bypass for all Rail Traffic.

The proposed bypass will require major drainage structures at 8 locations. During construction, these stream crossings would be impacted temporarily by increased sedimentation from erosion and instream work and possible contamination from petroleum spills. Although culvert piping will be installed to maintain current drainageways through the new roadbed, portions of the proposed rail line could act as a dam resulting in changes to

surface drainage patterns. Otherwise, no special/unique problems associated with surface water would result from this alignment.

Alternative B-4Aa: Bypass for all Rail Traffic.

Construction and operation impacts for the bypass would be the same as those described for Alternative B-4A above.

If the crossing at 6th Avenue could be removed as part of the elimination of segments on the existing line, a significant flooding concern would be eliminated. This flooding is the result of excess storm water runoff during major rainfall events.

6.2.5.2 WETLANDS.

Alternative B-2: Existing Rail Line.

Reconstruction of the existing rail line will impact wetlands within the right-of-way. Much of the alignment crosses wetlands and widening the subgrade will result in some of those wetlands being eliminated. Wetlands impacted by the railroad upgrade are estimated at approximately 5 acres. With the 2 for 1 requirement for mitigation, 10 acres of wetland mitigation would likely be required. There is some question as noted in the DEIS whether these wetlands would be considered jurisdictional by the Corps of Engineers.

Alternative B-4A: Bypass for all Rail Traffic.

Copies of the National Wetland Inventory maps, prepared by the United States Department of Interior, were obtained to quantify wetlands along the bypass route. Wetlands impacted by the proposed bypass are estimated to be similar in quantity to alternative B-2 above. It is expected that wetlands within the right-of-way will be destroyed as part of the railroad project and that mitigation of this loss would be required. It is assumed that mitigation of this loss by 2:1 replacement would be required. A local landowner has volunteered to provide as much wetland mitigation area as required for the proposed bypass at no cost.

Alternative B-4Aa: Bypass for all Rail Traffic.

Construction and operation impacts for the bypass would be similar to those described for Alternative B-4A.

6.2.6 GROUNDWATER.

As noted in section 4.9.5.3 of the DEIS, there are no construction activities within any of the alternatives that involves subsurface alterations. Although groundwater contamination is a concern as it relates to accidental petroleum product spills during construction and hazardous material spills due to a derailment, the potential is rather unlikely. The low permeability of the soils in the area of the project alternatives would allow time to complete corrective action if a spill did occur.

6.2.7 AIR QUALITY.

There are four air emission generation sources of concern associated with this project. They include emissions from construction activity and equipment, emissions from new diesel locomotives, fugitive coal dust and vehicle emissions resulting from traffic backup at the various crossings. The DEIS quantifies train based air emissions for the various alternatives. Quantification of air emissions associated with traffic backups would be extremely difficult to develop at this stage and is not done in the DEIS. This source however could be very significant for the residents of Brookings if the In-City route is utilized for the coal train.

Alternative B-2: Existing Rail Line.

A major impact from this alternative is the emissions generated by the diesel locomotives as a result of the increase in number of trains from 3 to possibly 37 or more per day. Diesel emissions are heavy and have come under increased scrutiny pursuant to the Federal Clean Air Act due to their carcinogenic characteristics. The emission of fugitive coal dust, though difficult to quantify, is also a major potential concern within the City because of the proximity of a large amount of residential development. Fugitive dust and equipment emissions during construction would be a temporary impact and long term would not be considered significant. The other major potential impact results from vehicle emissions from cars awaiting crossings due to coal train passage. Though vehicle emissions have been substantially cleaned up in the last decade, they remain a significant potential source from both a direct and cumulative standpoint. Added to diesel exhaust and coal dust emissions, residents and other sensitive receptors

such as hospitals and schools could well experience a significant problem with air quality attributable to the B-2 Alternative. This potential exists despite the apparent lack of a perceived current problem and the frequency of cleansing winds on the eastern plains of South Dakota.

Alternative B-4A: Bypass for all Rail Traffic.

This alternative alignment essentially eliminates/avoids the adverse air quality impacts which would be associated with Alternative B-2. This alignment passes through a rural area with only 3 residential receptors in over 8 miles. There are no industrial uses to cause potential cumulative impacts, unlike B-2, and the amount of traffic using crossings incident to this alternative is minimal in comparison to that associated with the In-City route.

Approximately 200 acres of right-of-way would be disturbed during construction. This would cause some fugitive dust emission as would the operation of the construction equipment. The impact from this activity however is likely insignificant due to the location of the bypass alignment in a rural area dominated by relatively limited and targeted farm equipment utilization during the year. Air quality issues from the construction operation of a coal train on the B-4A bypass would essentially go unnoticed. Noise, air quality and other impacts were considered along with traffic movement efficiency in the location of the Highway 14 alignment in this corridor north of the City some 30 years ago.

Alternative B-4Aa: Bypass for all Rail Traffic.

Construction and operation impacts for the bypass will be as described for Alternative B-4A. This Alternative would result in beneficial air quality developments within the City due to the termination of all through train traffic. This benefit, however, is likely limited due to the low level use of the In-City route at present.

6.2.8 NOISE.

Alternative B-2: Existing Rail Line.

The increase in noise from 37 trains per day is a serious concern for the resident living along the existing In-City rail line. The noise sources include the diesel locomotive engine, wheel/rail interaction noise (wayside noise) and horn noise. The SEA outlined in the DEIS their determination that there would be a significant

increase in noise sensitive receptors exposed to adverse noise levels. Refer to the "Noise Impacts" segment of Appendix "D" for an expanded discussion of the environmental impacts of noise. The cost of mitigating the adverse impacts of noise to sensitive receptors is extremely large as can be seen in the cost estimates in Chapter 7.

Alternative B-4A: Bypass for all Rail Traffic.

Because of the rural location and sparse population along the bypass route, noise would not likely be a major environmental issue.

Alternative B-4Aa: Bypass for all Rail Traffic.

Noise impacts for the bypass would be similar to those described for Alternative B-4A above. Overall noise impacts within the City portion of the existing rail line would be all but eliminated with the removal of all through train traffic. With the understanding that most segments of rail line to be vacated under this Alternative are located in the residential area, the number of sensitive receptors impacted by both horn and wayside noise would be dramatically reduced.

6.2.9 VIBRATION.

Vibration, along with noise, are the two main concerns of most homeowners along the In-City route (B-2). Residents living in track side homes have testified at every public hearing held for this project that the passage of existing trains causes windows to rattle and foundations to shake. The transportation of heavy loads, such as rock ballast, during periods of frozen soils maximizes vibration impacts. Section 4.9.7.2 of the DEIS discusses vibration and notes that structures within 100 feet of the rail line are most likely to experience possible structural damage.

Alternative B-2: Existing Rail Line.

The increase in rail traffic combined with the increased weight and speed of this traffic would cause a significant elevation of vibration impacts. Currently, there have been 6 homes identified as being within 100 feet of the In-City route. The only effective mitigation of vibration for these home owners would be to purchase them.

Alternative B-4A: Bypass of all Rail Traffic.

Because of the rural location and sparse population along the bypass route, vibration would not likely be a major environmental issue.

Alternative B-4Aa: Bypass of all Rail Traffic.

Vibration impacts for the bypass would be similar to those described for Alternative B-4A above. Overall vibration impacts within the City portion of the existing rail line would be all but eliminated with the removal of all through train traffic. With the understanding that most segments of rail line to be vacated under this Alternative are located in the residential area, the number of structures impacted by vibration would be dramatically reduced.

6.2.10 SOCIO-ECONOMICS.

Alternative B-2: Existing Rail Line.

Increasing rail traffic from 3 to 37 trains per day will have a significant negative socio-economic impact on the City of Brookings. The quality of life, real and perceived, will be negatively affected. Impacts associated with safety, noise and air quality have been discussed previously. Other impacts will be experienced. North/south traffic movement will be delayed substantially both due to the dramatically increased frequency and significant size increase of the trains passing through town. Heavily used pedestrian crossings will be eliminated adversely affecting historic people movement. The potential for damage or impact to structures proximate to the rail line due to vibration will increase.

Significant concern has been expressed that the value of residential property in the vicinity of the rail line will decrease over time due to the increased rail traffic. As noted in the environmental justice section of the Brookings Impact Discussion, the City and particularly the areas adjacent to the track is characterized by a large number of low to modest cost homes. Any decline in property value could have a disproportionate impact. Residents adjacent to the track have already experienced an underlying property value diminution. The Brookings County Assessor has just recently reduced the assessed value of homes adjacent to the track by approximately 10% based on currently available information and sales price data. Homes across the street from trackside residences have experienced a 5% reduction in assessed valuation. The negative impact of proposed coal train traffic is the only known cause of the dimunition.

Alternative B-4A: Bypass for all Rail Traffic.

The construction and operation of a rail line along the B-4A bypass route should have little or no negative socio-economic impact and potentially a measurable beneficial economic impact. The sparsity of population in this area results in essentially no direct impact on individuals. Businesses in need of relocation would be appropriately compensated and numerous sites are available for relocation. Railroad /road crossings will be developed where none existed previously. Such crossings will cause delays in travel. The low traffic volume in the area, however, will cause a limited effect on the general public in comparison to the crossings on the existing rail alignment. The construction of grade separated structures at the three crossing locations with the highest traffic volume will eliminate any traffic delay or exposure at these crossings.

The new bypass will necessitate the acquisition of approximately 200 acres of crop, hay pasture or forested land. The rail line will also divide 9 parcels requiring access modification and causing some inconvenience to the land owners. In several cases the right-of-way will create an isolated segment of property with no access. Compensation at fair market value will be paid for any lands taken in this process as well as for diminution in value associated with access elimination. These provisions address adverse impacts to farmers, homeowners and business owners. It may also be possible to develop alternative access routes via negotiation.

Alternative B-4Aa: Bypass for all Rail Traffic.

The impacts associated with this Alternative would be similar to those described for Alternative B-4A. The removal of segments of the existing rail line in the City, particularly the section through the residential area should have a significant positive socio-economic impact in this area. With the removal of the rail line, pedestrian crossings could be retained and enhanced, traffic delays would be eliminated, damage to homes due to vibration would be negated and the concern about devaluation of property would become moot. The current road bed could become part of a green way used by City residents for walking and biking. Such a development would enhance the value of adjacent property and provide major benefit to the City for City recreational amenities. In short, removal of the existing track would likely enhance the quality of life within the City to a measurable degree.

7. Opinion of Probable Project Costs

7.1 COST ESTIMATING CRITERIA. Unit costs were developed for various components of the railroad cost comparisons. The cost per mile of track combines the costs for ballast, rail, ties, plates, spikes and surface leveling. Culverts were calculated using 36 inch diameter reinforced concrete pipe with flared ends. In nearly all cases the costs assigned to the bypass route and the existing upgrade are the same. One exception is for earthwork. On the bypass (Alternatives B-4A and B-4Aa), the right of way will be 200 feet wide and the embankment can be constructed using conventional earthmoving equipment and utilizing material found within the right of way. For the reconstruction of the existing track (Alternative B-2), the right-of-way is 100 feet wide and embankment material will need to come from borrow sources outside the right of way. Trucks and / or rail cars will probably be required to deliver the material to the construction site. Also, embankment construction will be occurring while the line remains in service. Building the embankment on both sides of the rail under traffic will create delays and inefficiencies in the construction process. Therefore, the cost of earthwork for the reconstruction was calculated at a higher rate than that used for constructing the bypass. A second exception is wetland mitigation where a donated site for the required bypass mitigation has reduced the cost from $5,000/acre to $500/acre.

Several sources of information were used to develop the opinions of probable costs for the three options discussed in this study. The South Dakota Department of Transportation , SDDOT, has a Division of Air, Rail and Transit, and personnel from that office were contacted about unit costs for some items. Following each state highway bid opening, the SDDOT publishes a tabulation of bids received for all the projects bid at that time. Banner Associates receives copies of those tabulations, and the information contained therein is useful in estimating future work. Several railroad construction contractors were contacted, and their representatives provided cost information. The firms contacted included: Midwest Railroad Construction from Gillette, WY; Swanson Contracting from Chicago, IL; Railroad Services, Inc. from Lakeville, MN; Dakota Rail Services from Fargo, ND and L.G. Everist, Inc. from Sioux Falls, SD. The information from the various sources was reviewed and compiled to form unit costs for the preparation of the opinions of probable costs for each alternate.

The SDDOT right of way department was contacted for information pertaining to land costs. A local real estate firm specializing in agricultural land sales also provided useful information on land prices in the area under consideration. The cost for right of way is assumed to be $5,000 per acre which is several times the probable land value, but includes mitigation costs for severance damages and legal activities that may be required in some cases.

Augustana College in Sioux Falls, SD has an archaeology department that performs archaeological studies for infrastructure projects such as the railroad bypass project. Their staff was contacted and provided cost information for conducting a records search and a walking survey for a proposed railroad alignment project.

Costs for reconstruction of state highways including the grade separation structures to accommodate the shorter proposed bypass were obtained from roadway design staff with the South Dakota Department of Transportation. These cost estimates included both railroad crossings of Highway 14 as well as the I-29 crossing.

Officials from both Northwestern Public Service and Northern Border Pipeline were contacted to obtain relocation costs for the peak-shaving gas facility and the gas measurement station, respectively.

Mitigation costs necessary for continued D M & E use of the existing route through Brookings, SD were developed by Charles DeWeese with Parsons Transportation Group.

The following schedules present the opinion of probable costs for the selected shorter bypass alignment (Alternatives B-4A and B-4Aa) and the reconstruction of the railroad along its present alignment (Alternative B-2).

7.1.1 OPINION OF PROBABLE COSTS

ALTERNATIVE B-2

ITEM NO.	DESCRIPTION	UNITS	QUANTITIES	UNIT PRICE	TOTAL
1	Clearing	Miles	6.93	$2,500.00	$17,325.00
2	Earthwork	Cu. Yds.	60,000	$5.00	$300,000.00
3	Reconstruct Track	Miles	6.93	$500,000.00	$3,465,000.00
4	Low Speed Turnout	Each	7	$50,000.00	$350,000.00
5	Pipe Culverts	L. F.	1,000	$80.00	$80,000.00
6	Bridges (7 Structures)	L. F.	655	$3,000.00	$1,965,000.00
7	Grade Crossing - Paved	Each	2	$60,000.00	$120,000.00
8	Grade Crossing - Gravel	Each	3	$25,000.00	$75,000.00
9	Barbed Wire Fence	Miles	10	$9,000.00	$90,000.00
10	8 Ft. Chain Link Fence	Miles	1.4	$80,000.00	$112,000.00
11	Topsoil and Seeding	Acres	50	$800.00	$40,000.00
12	Wetland Mitigation	Acres	10	$5,000.00	$50,000.00
13	Utilities Relocation	Lump Sum	Lump Sum	$200,000.00	$200,000.00
14	Mitigation Plan Items				
	Structure Purchases	Each	6	$100,000.00	$600,000.00
	Grade Separations*				
	22nd Avenue	Each	1	$4,500,000.00	$4,500,000.00
	17th Avenue	Each	1	$4,000,000.00	$4,000,000.00
	Medary Avenue	Each	1	$3,500,000.00	$3,500,000.00
	6th Avenue Upgrade	Each	1	$1,000,000.00	$1,000,000.00
	Sound Walls	L.F.	13,728	$225.00	$3,088,800.00
	Building Insulation	Each	475	$15,000.00	$7,125,000.00
	Grade Crossing Warning Devices*				
	Main Street	Each	1	$250,000.00	$250,000.00
	Western Avenue	Each	1	$150,000.00	$150,000.00
	Pedestrian	Each	3	$50,000.00	$150,000.00
	Construction				$31,228,125.00
	Contingencies, Engineering and Administration (20%) (Items 1-13 and selected items in 14)				$3,535,625.00
	Opinion of Probable Project Cost				$34,763,750.00
	Cost Per Mile				$5,016,400.00

* Includes (20%) contingency

7.1.2 OPINION OF PROBABLE COSTS

ALTERNATIVE B-4A

ITEM NO.	DESCRIPTION	UNITS	QUANTITIES	UNIT PRICE	TOTAL
1	Clearing	Miles	8.97	$5,000.00	$44,850.00
2	Earthwork	Cu. Yds.	300,000	$2.00	$600,000.00
3	New Track (rail; ties; ballast)	Miles	8.97	$600,000.00	$5,382,000.00
4	High Speed Turnout	Each	2	$100,000.00	$200,000.00
5	Turnout Controllers	Each	2	$120,000.00	$240,000.00
6	Pipe Culverts	L. F.	2,500	$80.00	$200,000.00
7	Bridges (6 Structures)	L. F.	500	$3,000.00	$1,500,000.00
8	Box Culverts	L. F.	200	$900.00	$180,000.00
9	Grade Crossing - Paved	Each	2	$60,000.00	$120,000.00
10	Grade Crossing - Gravel	Each	4	$25,000.00	$100,000.00
11	Signal Lights w/ Arms	Each	2	$120,000.00	$240,000.00
12	Crossbucks w/ Signage	Each	4	$2,000.00	$8,000.00
13	Fencing	Miles	17.8	$7,500.00	$133,500.00
14	Topsoil and Seeding	Acres	200	$800.00	$160,000.00
15	Right of Way	Acres	200	$5,000.00	$1,000,000.00
16	Archaeological Review	Lump Sum	Lump Sum	$20,000.00	$20,000.00
17	Wetland Mitigation	Acres	30	$500.00	$15,000.00
18	Upgrade of existing track (For use as spur line)	Miles	6.93	$75,000.00	$519,750.00
19	Sound Mitigation Building Insulation	Each	5	$15,000.00	$75,000.00
20	Highway Reconstruction and Grade Separation Structure* (U.S. Highway 14 Crossing on W. Side of Brookings)				$6,600,000.00
21	Highway Reconstruction and Grade Separation Structure* (U.S. Highway 14 Crossing E. of Brookings)				$1,900,000.00
22	Highway Reconstruction and Grade Separation Structure* (Interstate I-29 Crossing)				$4,200,000.00
23	Peak-Shaving Gas Facility and Gas Measurement Sta. Relocation*				$750,000.00
	Construction				$24,188,100.00
	Contingencies, Engineering and Administration (20%) (Items 1-19)				$2,147,620.00
	Opinion of Probable Project Cost				$26,335,720.00
	Cost Per Mile (Approximately)				$2,936,000.00

* Includes 20% Contigency

7.1.3 OPINION OF PROBABLE COSTS

ALTERNATIVE B-4Aa

ITEM NO.	DESCRIPTION	UNITS	QUANTITIES	UNIT PRICE	TOTAL
1	Clearing	Miles	8.97	$5,000.00	$44,850.00
2	Earthwork	Cu. Yds.	300,000	$2.00	$600,000.00
3	New Track (rail; ties; ballast)	Miles	8.97	$600,000.00	$5,382,000.00
4	High Speed Turnout	Each	2	$100,000.00	$200,000.00
5	Turnout Controllers	Each	2	$120,000.00	$240,000.00
6	Pipe Culverts	L. F.	2,500	$80.00	$200,000.00
7	Bridges (6 Structures)	L. F.	500	$3,000.00	$1,500,000.00
8	Box Culverts	L. F.	200	$900.00	$180,000.00
9	Grade Crossing - Paved	Each	2	$60,000.00	$120,000.00
10	Grade Crossing - Gravel	Each	4	$25,000.00	$100,000.00
11	Signal Lights w/ Arms	Each	2	$120,000.00	$240,000.00
12	Crossbucks w/ Signage	Each	4	$2,000.00	$8,000.00
13	Fencing	Miles	17.8	$7,500.00	$133,500.00
14	Topsoil and Seeding	Acres	200	$800.00	$160,000.00
15	Right of Way	Acres	200	$5,000.00	$1,000,000.00
16	Archaeological Review	Lump Sum	Lump Sum	$20,000.00	$20,000.00
17	Wetland Mitigation	Acres	30	$500.00	$15,000.00
18	Upgrade of existing track (For use as spur line)	Miles	5.43	$75,000.00	$407,250.00
19	Track Removal and Crossing Reconstruction	Miles	1.5	$75,000.00	$112,500.00
20	Sound Mitigation Building Insulation	Each	5	$15,000.00	$75,000.00
21	Highway Reconstruction and Grade Separation Structure* (U.S. Highway 14 Crossing on W. Side of Brookings)				$6,600,000.00
22	Highway Reconstruction and Grade Separation Structure* (U.S. Highway 14 Crossing E. of Brookings)				$1,900,000.00
23	Highway Reconstruction and Grade Separation Structure* (Interstate I-29 Crossing)				$4,200,000.00
24	Peak-Shaving Gas Facility and Gas Measurement Sta. Relocation*				$750,000.00
	Construction				$24,188,100.00
	Contingencies, Engineering and Administration (20%) (Items 1-20)				$2,147,620.00
	Opinion of Probable Project Cost				$26,335,720.00
	Cost Per Mile (Approximately)				$2,936,000.00

* Includes 20% Contigency

8. Conclusions

The proposed upgrade of the Dakota Minnesota and Eastern Railroad to transport coal through the City of Brookings will have a significant negative impact upon the community. Increasing rail traffic from 3 trains traveling at 10 miles per hour to 37 trains traveling at 45 to 49 miles per hour will expose vehicles and pedestrians to serious safety hazards when in the vicinity of the railroad track. Exposure indexes increase from a present range of 618 to 39,450 to a projected range of 7,622 to 486,550. The exposure index is based upon current vehicle counts, which will continue to increase every year. The 37 trains per day is considered a minimum number for transporting 100 million tons of coal per year. Increases in train traffic beyond that number would also increase the exposure index.

Brookings is a growing community with residential development taking place primarily south of the railroad. As this growth continues, more of the population will be crossing the railroad on its way to and from school, work and other community functions. In addition to safety concerns, the 12 fold increase in trains passing through Brookings will be detrimental to the environment, property values, convenience and quality of life.

The B-4A bypass Alternative impacts 8.97 miles of rural land that is not currently crossed by a railroad. Nearly all of the land is used for agricultural related purposes; however, a significant percent is of marginal quality or poorly located for farming operations. Much of that land is low and wet and suitable only for prairie grass hay.

Although the B-4A bypass variation is about 2 miles longer than the existing rail line, it provides effective mitigation for a majority of the above concerns. It also is significantly less costly than the fully mitigated In-City B-2 Alternative and provides benefits to the D M & E operations as well. The bypass around Brookings circumvents 60 percent of the population of Brookings County. The bypass route can be constructed with a flatter vertical profile than the current alignment through Brookings which would offset a portion of the increased operational costs for the railroad company due to the longer route. The 200 foot right of way on the bypass will provide flexibility to the D M & E if future sidings are required.

The bypass will provide a high speed through traffic route for coal trains. By maintaining the present track for a spur line, local rail service can be continued. With the present railroad operation, switching to and from sidings often requires cars be temporarily stored on the mainline. Increasing mainline traffic would not allow such actions. Constructing either bypass Alternative B-4A or B-4Aa would provide more flexibility and less delays in switching cars at rail customer sidings.

The shorter bypass B-4A rail route is a feasible and reasonable alternative to reconstructing the existing alignment. The 2.0 mile difference in length is insignificant when viewed with the overall project scope in mind. The increase in safety to 60 percent of Brookings County's population combined with the tremendous cost saving difference between the fully mitigated B-2 route and the B-4A bypass makes the bypass an easy choice. The potential of future savings in the construction cost of proposed sidings is an added incentive.

9. Comparative Analysis of Alternatives – Executive Summary

Summarized below is a listing of advantages and disadvantages of the proposed shorter railroad bypass Alternatives B-4A and B-4Aa that could be constructed around the City of Brookings as a part of Dakota, Minnesota and Eastern Railroad Company's railroad improvement project. Also shown is a listing of advantages and disadvantages of upgrading the existing railroad track (Alternative B-2) along its current alignment through the City of Brookings.

9.1 ALTERNATIVE B-2: EXISTING RAIL LINE.

Advantages:

1. No additional right of way would have to be purchased except possibly for future siding construction.
2. The existing route is approximately 2.0 miles shorter.
3. Operating costs may be slightly lower but this has yet to be documented.
4. Minimal additional costs would be incurred to maintain service to existing customers.

Disadvantages:

1. The construction cost for the fully mitigated upgrade is more than either bypass alternative.
2. The increased rail traffic would affect in some way 60% of Brookings County's population.
3. The existing gradeline exceeds D M & E's design criteria of 1.00% maximum grade for approximately 2.4 miles.
4. The additional rail traffic would increase the exposure index at major urban intersections to a level where grade separations should be considered where feasible.
5. The ability of emergency vehicles to get to various parts of the City would be compromised unless grade separations were provided at key locations.
6. The increased noise and vibration and decrease in air quality would have a negative impact on property values adjacent to the existing alignment.
7. Construction under continued operation would be inconvenient and expensive.
8. Additional wetlands impacted by construction upgrade work would have to be mitigated.
9. Service to existing customers would be more difficult and less timely.
10. Future growth south of the tracks in Brookings might be negatively impacted.
11. If grade separations are constructed where justified by exposure index values or sound impacts, several property owners would have to be relocated, streets would have to be closed and new entrances to several businesses would have to be identified and constructed.

12. Increased rail traffic would cause considerable delay and general traffic interruption for the traveling public.
13. Additional right of way may need to be acquired to construct any future passing sidings.
14. Numerous property owners would be negatively affected by construction activities that would occur essentially in their back yards.

9.2 ALTERNATIVE B-4A: BYPASS OF ALL RAIL TRAFFIC.

Disadvantages:

1. This route would require the purchase of new right of way.
2. The proposed bypass route is approximately 2.0 miles longer.
3. The longer route may reflect slightly higher operating costs although this has not been documented to date.
4. This route will impact a small number of homeowners and other property owners not currently affected.
5. There would be a larger quantity of wetlands to mitigate.
6. There would be some additional costs to upgrade the current alignment to maintain it as a spur to service existing customers.

Advantages:

1. The overall construction cost is less than the fully mitigated In-City (B-2) Route.
2. The proposed route would bypass 60% of Brookings County's population.
3. The bypass would provide an improved gradeline with no sections having a grade greater than 0.70%.
4. The proposed bypass would eliminate large increases in train traffic at urban intersections with high average daily traffic counts.
5. Improved safety for pedestrians and drivers would be possible if the coal train traffic was bypassed.
6. There would be no appreciable change in train noise and air quality along the current railroad alignment.
7. The ability of emergency vehicles to get to various parts of the City would not be negatively affected with the bypass.
8. There should be no appreciable negative economic impact on property values of the many homeowners adjacent to the existing railroad alignment if all through rail traffic is bypassed.
9. The concern over increased vibration and potential structural damage to building foundations along the current route would be negated with a bypass.
10. Construction of new trackage for the proposed coal train traffic would be easier along the new route compared to upgrading the existing route under traffic.
11. The wider right of way width on the bypass would lend itself better to future bypass siding construction.

12. Land for wetland mitigation along the proposed bypass would be donated by a local landowner.
13. Current traffic interruptions in Brookings from train passage would not change with the proposed bypass.
14. The present rail service to local businesses involves switching to and from sidings and often requires cars to be temporarily stored on the mainline. This mode of operation could continue with the bypass.
15. Future growth south of the current tracks in Brookings would not be negatively impacted with a bypass as proposed.
16. No additional property would have to be acquired within the City if a bypass was constructed.
17. The construction of the proposed bypass could create business opportunities for D M & E in the form of future industrial expansion in the Brookings area.
18. A bypass would allow the coal trains to maintain higher speeds than normally possible through urban areas.

9.3 ALTERNATIVE B-4Aa: BYPASS OF ALL RAIL TRAFFIC.

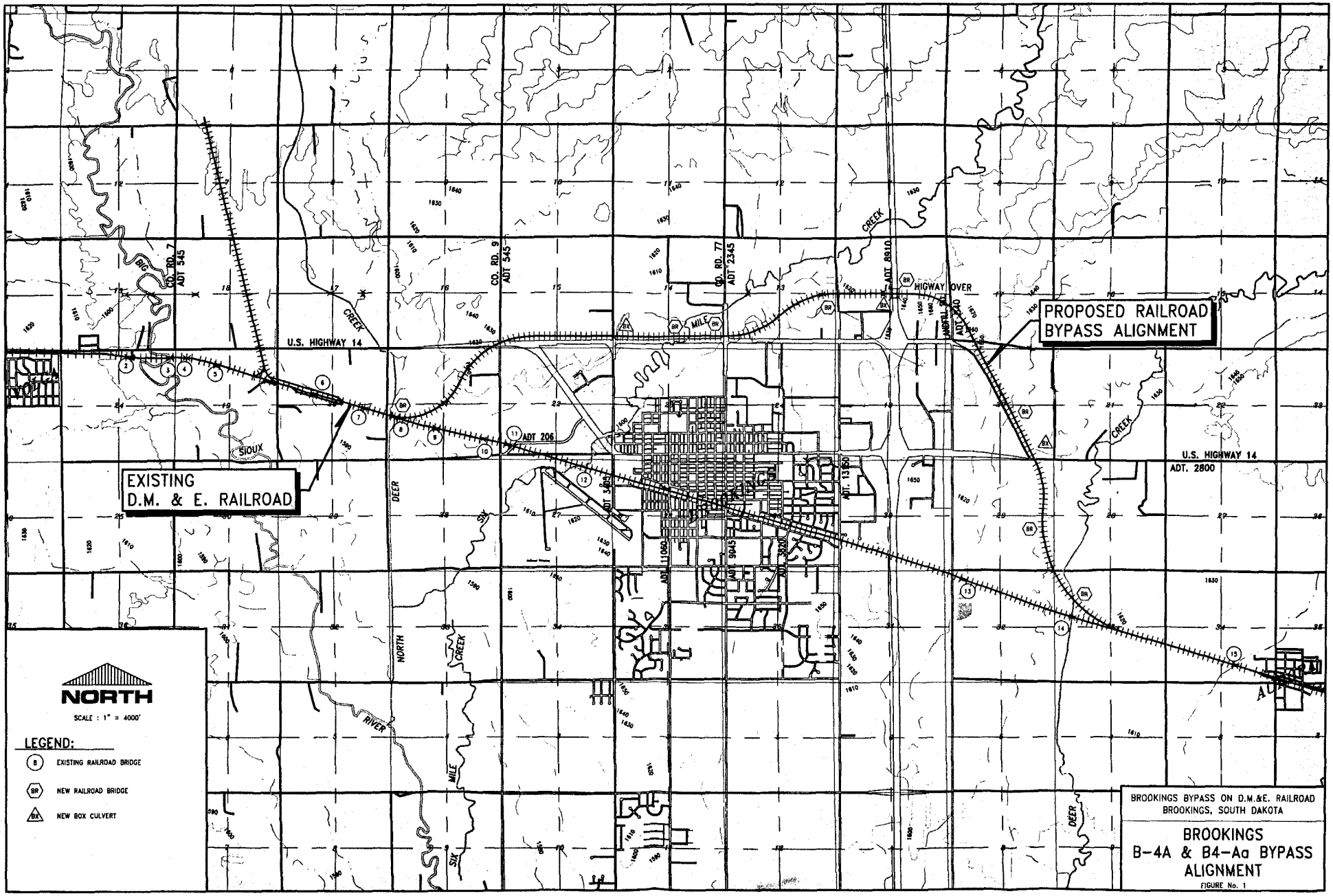
Disadvantages:

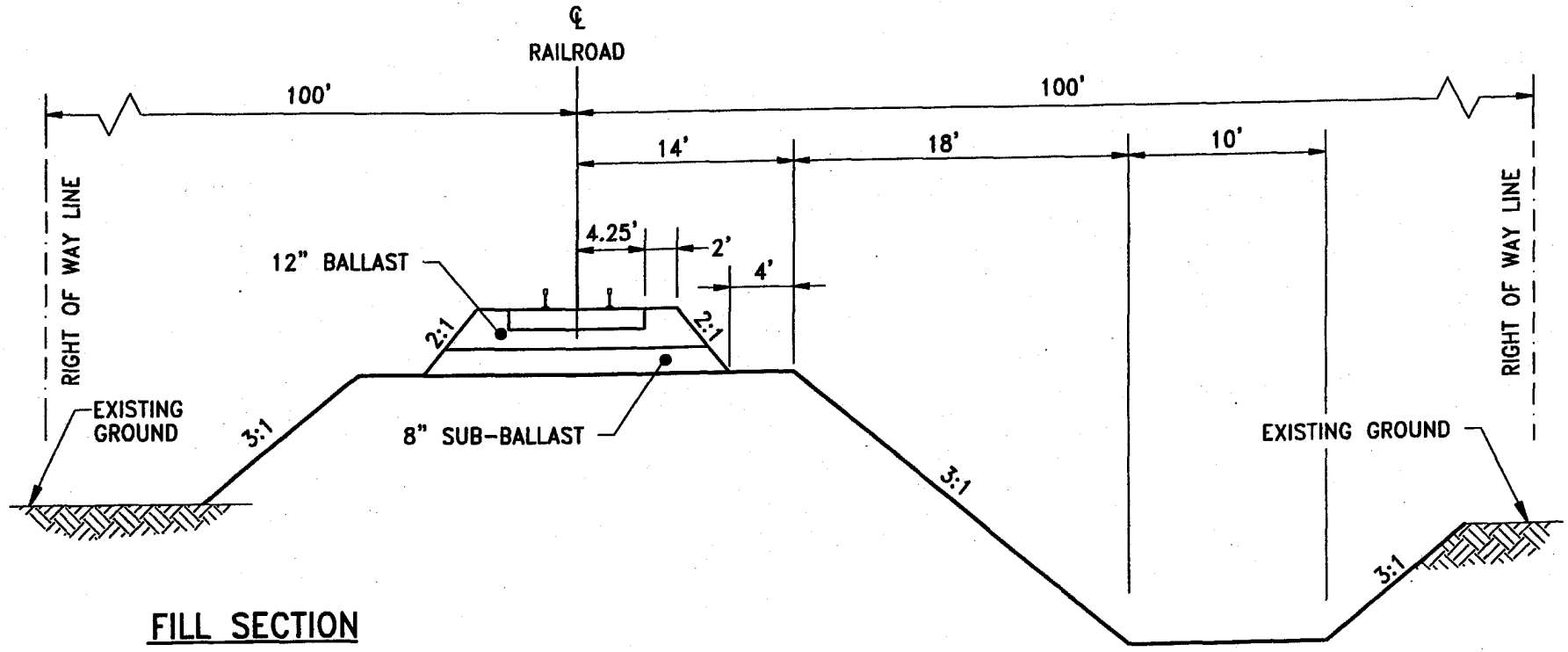
1. This route would require the purchase of new right of way.
2. The proposed bypass route is approximately 2.0 miles longer.
3. The longer route may reflect slightly higher operating costs although this has not been documented to date.
4. This route will impact a small number of homeowners and other property owners not currently affected.
5. There would be a larger quantity of wetlands to mitigate.
6. There would be some additional costs to upgrade the current alignment to maintain it as a spur to service existing customers.
7. Construction work related to elimination of existing crossings could temporarily disrupt traffic flow causing inconvenience to the traveling public.

Advantages:

1. The construction cost is less than the fully mitigated In-City (B-2) Route.
2. The proposed route would bypass 60% of Brookings County's population.
3. The bypass would provide an improved gradeline with no sections having a grade greater than 0.70%.
4. The proposed bypass would eliminate large increases in train traffic at urban intersections with high average daily traffic counts.
5. Improved safety for pedestrians and drivers would be possible if all train traffic were bypassed.
6. There would be an appreciable reduction in train noise, vibration and air quality along the current railroad alignment where sections are vacated.

7. The ability of emergency vehicles to get to various parts of the City would not be negatively affected with the bypass and improved where crossings are eliminated.
8. There should be no appreciable negative economic impact on property values of the many homeowners adjacent to the existing railroad alignment if all through rail traffic is bypassed.
9. The concern over increased vibration and potential structural damage to building foundations along the current route would be negated with a bypass and eliminated where portions of the existing line are vacated.
10. Construction of new trackage for the proposed coal train traffic would be easier along the new route compared to upgrading the existing route under traffic.
11. The wider right of way width on the bypass would lend itself better to future bypass siding construction.
12. Land for wetland mitigation along the proposed bypass would be donated by a local landowner.
13. Current traffic interruptions in Brookings from train passage would be eliminated with the proposed bypass and the closing of the existing In-City crossings.
14. The present rail service to local businesses involves switching to and from sidings and often requires cars to be temporarily stored on the mainline. This mode of operation could continue with the bypass.
15. Future growth south of the current tracks in Brookings would not be negatively impacted with a bypass as proposed.
16. No additional property would have to be acquired within the City if a bypass was constructed.
17. The construction of the proposed bypass could create business opportunities for D M & E in the form of future industrial expansion in the Brookings area.
18. A bypass would allow the coal trains to maintain higher speeds than normally permitted through urban areas.
19. The abandonment of segments of the existing In-City line would allow existing North-South streets to be connected where they now dead-ended due to the rail line.


PROPOSED RAILROAD BYPASS ALIGNMENT
EXISTING D.M. & E. RAILROAD
U.S. HIGHWAY 14
U.S. HIGHWAY 14
ADT. 2800
HIGHWAY OVER
CO. RD. 7
ADT 545
CO. RD. 9
ADT 545
CO. RD. 77
ADT 2345
ADT 8810
ADT 206
ADT 3457
ADT 13500
ADT 9045
ADT 11063
BIG SIOUX RIVER
DEER CREEK
NORTH SIX MILE CREEK
SIX MILE CREEK
NORTH
SCALE : 1" = 4000'
LEGEND:
EXISTING RAILROAD BRIDGE
NEW RAILROAD BRIDGE
NEW BOX CULVERT
BROOKINGS BYPASS ON D.M.&E. RAILROAD
BROOKINGS, SOUTH DAKOTA
BROOKINGS
B-4A & B4-Aa BYPASS
ALIGNMENT
FIGURE No. 1

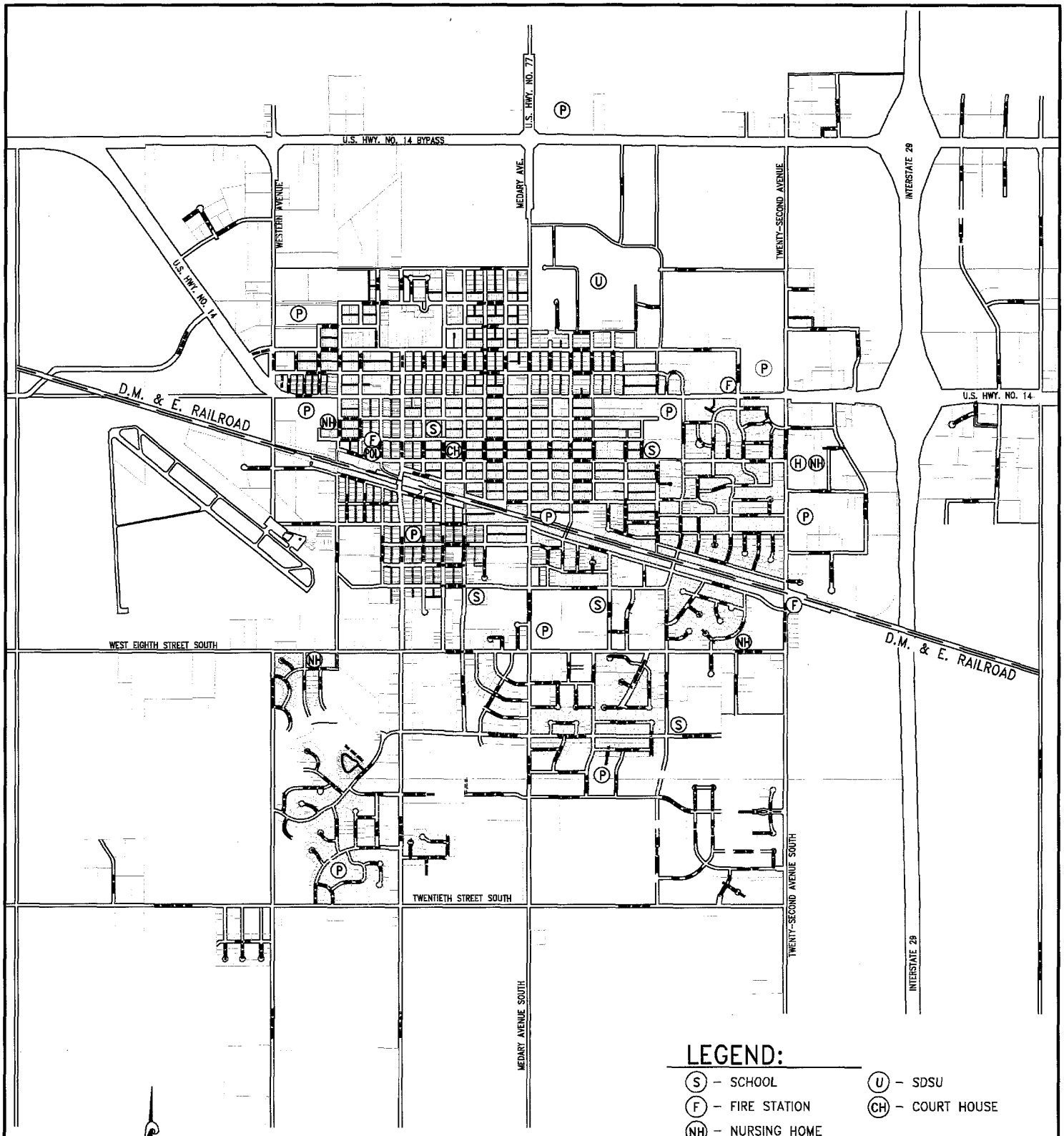


PROPOSED TYPICAL RURAL RAILROAD SECTION

PROPOSED TYPICAL RURAL RAILROAD SECTION

BROOKINGS R.R. BYPASS/DEPRESSED LINE
BROOKINGS, SOUTH DAKOTA

FIGURE No. 2



LEGEND:

- (S) – SCHOOL
- (F) – FIRE STATION
- (NH) – NURSING HOME
- (P) – PARK
- (H) – HOSPITAL
- (POL) – POLICE STATION
- (U) – SDSU
- (CH) – COURT HOUSE

CITY OF

BROOKINGS

SOUTH DAKOTA

BROOKINGS R.R. BYPASS/DEPRESSED LINE
BROOKINGS, SOUTH DAKOTA

CITY MAP OF BROOKINGS

FIGURE No. 3

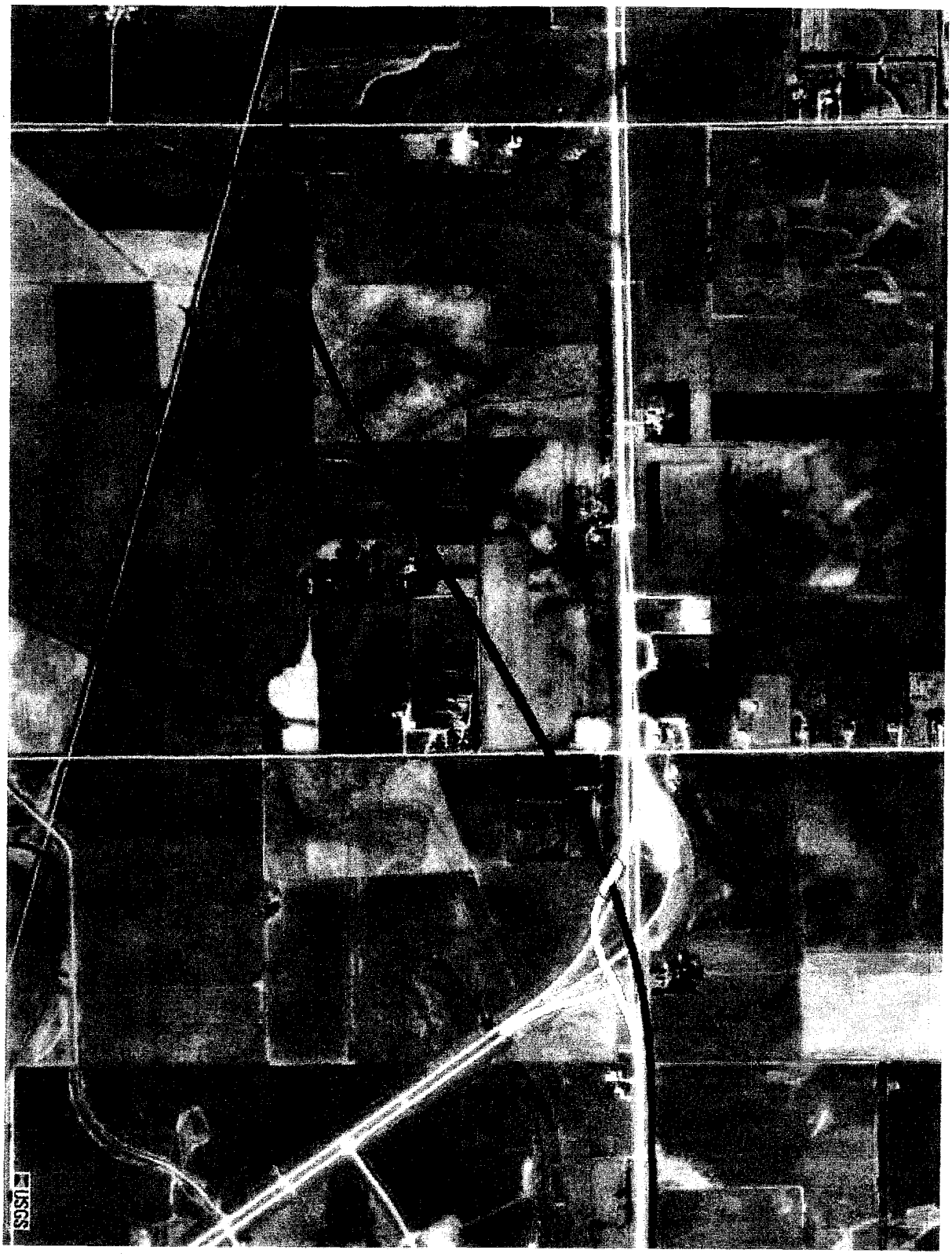


Figure No. 4 – Revised Hwy. 14 – Hwy. 14 ByPass Intersection (West)

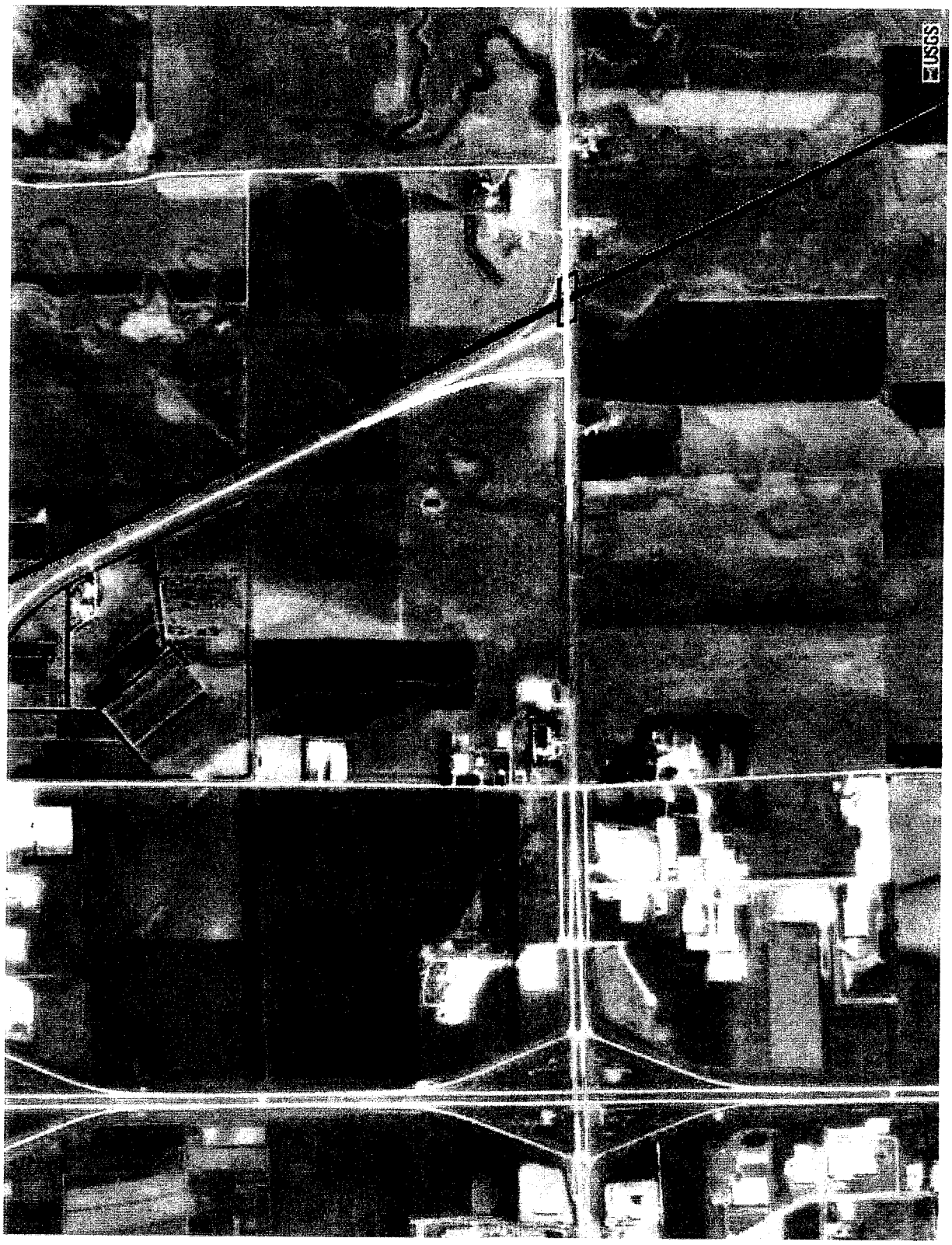


Figure No. 5 – Revised Hwy. 14 – Hwy. 14 ByPass Intersection (East)

Figure No. 6 – Railroad ByPass Crossing of I-29

APPENDIX A

The City of Brookings
Statement to the Surface Transportation Board (STB)
November 14, 2000
Michael Williams, City Manager

Good afternoon. My name is Michael Williams and I am the City Manager of the City of Brookings, South Dakota. Welcome to Brookings and thank you for the opportunity to be heard. My comments represent the City Council's position on the Dakota, Minnesota & Eastern Railroad Corporation's (DM&E) construction application (STB Finance Docket No. 33407). The Mayor and City Council are present. They are: Mayor Virgil Herriott and Councilpersons Bill Davidson, Nate Bibby, Tom Bozied, Keri Weems, Sam Artz, and Mike McClemans.

The DM&E expansion project is of huge concern to the Brookings community. The project has caused an uncomfortable and often heated debate. An uncomfortable and heated debate has occurred because the project is a good project in so many ways and the DM&E is one of our corporate citizens; but its proposed expansion will dramatically harm this community if it is allowed to proceed as requested in the DM&E's application.

I want to thank you for your process that allowed the submission of bypass proposals. This was an important step by the STB. The City and Governor Janklow supported the original DM&E application. However, support was conditioned upon a bypass proposal submitted to the STB after consideration of the negative impacts of coal trains passing through the city in comparison to an alternate route through a rural, less populated area. The City of Brookings was pleased to receive the Surface Transportation Board's Draft Environmental Impact Statement (DEIS). The DEIS agreed with the City by preferring a bypass (Alternative B-4) that would serve all traffic except service to local industries.

The DEIS properly stated that the use of the existing rail line through the City of Brookings would cause negative impacts from the construction and operation of the rebuilt railroad. A change from 3 slow moving trains a day to 37 high speed trains a day will have a dramatic effect on this City. Traffic delays, possibly emergency vehicle traffic, would certainly occur. The current right-of-way severs the City so that travel to nearby schools, medical facilities, commercial districts, and other public facilities will be difficult and less safe. Brookings has six at-grade crossings and the additional train traffic increases the probability of train/pedestrian and train/car collisions. In addition to the traffic delays and decreased safety, Brookings people would be subjected to decreased air quality and unacceptable levels of noise and vibration. The DM&E rail line runs through our commercial districts, a commercial historic district and a large residential area. There are 347 homes within 300 feet of the existing railroad right-of-way and many of these homes are directly adjacent to the right-of-way. Increasing the number of trains on the existing right-of-way simply harms too many people.

The 14.5-mile bypass suggested by the State of South Dakota and the City of Brookings mitigates the negative environmental impacts of the route through the residential and commercial areas of Brookings. The B-4 bypass route also causes some negative environmental impacts, but effects less residences, less people, less traffic, and less public areas. The City followed the STB's Notice of April 14, 1999, and demonstrated that the bypass proposal was "reasonable and

feasible" and did not "simply shift the potential environmental consequences of the applicant's proposal to different communities and populations." Further, the City demonstrated that the bypass did not add miles that would make it "unlikely to allow applicant to achieve its goal of providing efficient rail transportation." Again, the DEIS agrees with that analysis.

However, the DEIS also states that as an alternative to its unilaterally imposing mitigation measures on the DM&E, that agreements should be negotiated. And, if the DM&E submits negotiated agreements the Board would require compliance with those agreements in the final decision approving the project. These agreements would supersede any conditions that the STB would impose. Specifically the DEIS states:

DEIS, Volume IV, Chapter 7, Section 7.4, Role of Communities in Developing Environmental Measures and Bypass Proposals
"Throughout the project, SEA worked closely with affected communities to understand their environmental concerns and facilitate their participation in the environmental review process. As discussed in Chapter 1 and Appendix C, "Scoping and Outreach Materials," SEA's outreach efforts were extensive. To respond to concerns raised by this effort, SEA conducted site visits to collect data, assess first-hand the potential environmental impacts the project would have on particular communities, conduct additional studies, and report back to the communities on the status of environmental review.

SEA's list of recommended environmental mitigation measures reflect the communities' inputs and concerns. As part of this dialogue, SEA encouraged communities to offer suggestions for mitigation and bypass proposals. Specifically, on January 6, 1999, the City of Rochester, Minnesota (Rochester), requested SEA consider a southern 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. SEA sought additional information to assist it in determining whether Rochester's bypass proposal is a reasonable and feasible alternative designed to meet the purpose and need expressed in DM&E's proposal before the Board. To provide the same opportunity to other interested communities, SEA issued an April 20, 1999 Notice to the Parties providing time frames in which bypass proposals could be submitted, as certain communities had requested. Three other communities (Owatonna, Minnesota and Pierre and Brookings, South Dakota) concerned about proposed traffic increases on DM&E's existing system submitted alternative bypass proposals that would divert traffic from the communities. Subsequently, Owatonna withdrew its bypass proposal. In the Draft EIS, SEA has concluded that the Rochester and Brookings bypass proposals are reasonable and feasible alternatives, warranting detailed environmental analysis in this document. Upon close examination, SEA has concluded that the Pierre bypass does not appear to be reasonable and feasible.

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."

DEIS, Volume IV, Chapter 7, Section 7.5, 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 governmental entities to address potential environmental impacts, including ways to share costs associated with project-related environmental mitigation measures. Negotiated Agreements could be 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."

The City of Brookings believed that this process would allow local decisions, a streamlined process, and a better conclusion for everyone.

So, in an effort to compromise and continue to support the DM&E project the City of Brookings, with the assistance of the State of South Dakota and a committee of the State Chamber of Commerce (RailCo), negotiated with the DM&E and explored alternative routes for a bypass. The reason for this exploration was to design a bypass that effected even less people, even less land, and utilized public right-of-way and State and City owned lands as much as possible. This process was successful in identifying an alternative bypass route that is only 8 miles long and traverses adjacent to the Highway 14 Bypass, through State and City owned land, and through many less private property owners and road crossings than the bypass originally submitted. The shorter bypass is also less expensive to build and only slightly longer than the in-city route.

The DM&E had discussions with the Citizens Against a Brookings Bypass (CABB) and RailCo contacted property owners that would be crossed by the shorter bypass. CABB has stated that it "reluctantly agrees" with the RailCo plan, but still prefers the in-city route.

The shortened bypass is estimated to cost $26 million. The DM&E was willing to contribute $8.3 million towards the construction of the shortened bypass and then only if another entity submitted a separate application for construction and built and owned the new line itself. The DM&E offer left a huge gap in funding that the City is unable to fill. Also, the City of Brookings does not desire to depart from the process suggested by the STB believing it could lead to a viable bypass option, acceptable to all parties involved. The DM&E would not agree to this process or adequate funding of the bypass. So, no agreement that could be submitted to the STB for inclusion in the final order (as the STB suggested) has been reached. The City of Brookings will continue discussions with the DM&E in hopes of coming to an agreement. *However, at this time the City has no option but to petition the STB to impose mitigation on the DM&E in the form of a shortened bypass according to the most recent plan as described in attachment one.*

The City of Brookings is committed to engaging in negotiations with affected landowners and nearby landowners in an attempt to choose the route of least impact. The City is committed to cooperating in any environmental assessment that needs to be completed on the shortened bypass and asks for guidance from the STB in this regard. However, it is obvious that the shortened route has far less impact than the 14.5-mile bypass.

The shortened bypass proposal is a more "reasonable and feasible alternative" for the DM&E and causes less environmental consequences of both the in-city route and the 14.5-mile route. The long bypass proposal met the "reasonable and feasible" test, so the shortened version will certainly meet this test. While this shortened bypass proposal is a version of the B-3/B-4 alternative, the City is willing to conduct further analysis as required by the STB so that the

environmental review process moves forward without undue delay. The information could be the same as that ordered in the STB Notice that allowed the submission of bypass proposals.

> **30163 Service Date – April 20, 1999**
> ". . . any bypass proposal submitted by a community must, at a minimum, contain the following information: detailed maps showing where the route would be located; quantified impacts to wetlands; cut and fill requirements to permit design and operation of a railroad; roads that would be crossed and their average daily traffic levels; proximity of the bypass to sensitive structures (for example, schools, libraries, hospitals, residences, retirement communities, and nursing homes); and impacts to landowners and farmlands.
>
> Also, in considering bypass proposals that may be submitted to the Board and determining whether they constitute reasonable, feasible alternatives, we will take into account the applicant's goal to create a more efficient route by which to transport coal. 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."

The State is willing to fund the cost of right-of-way purchases adjacent to the Highway 14 bypass and to fund the Interstate 29 grade separation crossing. The State's contribution is estimated at $4.5 million. The City of Brookings is willing to provide $4 million to the project and anticipates utilizing these funds, in part, for right-of-way acquisitions because the City is committed to fairly compensating affected landowners and assisting the DM&E in acquisitions. The State and the City contributions equate to a local effort of $8.5 million. This is a very large commitment from the City and illustrates its strong support and genuine belief that a bypass is absolutely necessary for mitigating the adverse impacts of the DM&E expansion project. However, in South Dakota any local government expenditure can be stopped by referendum. To cover the unlikely event of an unsuccessful referendum the City requests that the STB make a contingency order that would provide mitigation without the $4 million City contribution. While undesirable and unlikely, an unsuccessful referendum would cause the Council to advocate for complete mitigation of the in-city route impacts. The City requests that this "back-up mitigation plan" be the same as offered by the DM&E to the City of Brookings in October/November of 2000 with the exception of complete funding of an overpass when traffic reaches 40 NMT.

Summary

The City Council has held many public hearings and public meetings and negotiations with the DM&E on the DM&E expansion project for the last two years. The DM&E and other engineers and architects have analyzed the bypass routes. These hearings, meetings, negotiations, and diligent study are the basis for the City of Brookings position on the DM&E expansion.

1. The City of Brookings remains supportive of the overall project with that support conditioned upon the construction of a bypass around the community thereby mitigating the many negative impacts to the residents, not only of the area immediately adjacent to the tracks, but the entire community.
2. The City of Brookings is unique in comparison to the many communities on the DM&E expansion route. The DM&E has reached agreement with other communities and landowners during the project development and the regulatory process, but we have not

reached resolution in Brookings because it is unique and different mitigation methods are required. The Surface Transportation Board's DEIS properly demonstrated a preference for a bypass around the City of Brookings.

3. The DM&E must have ownership and more financial responsibility for a bypass. This project is of benefit to the Railroad and mitigation of negative effects should not be an undue financial burden to the citizens of any one community. The DM&E asserts that it has made generous mitigation offers to communities, more than any railroad in history, and this philosophy should be carried through for the City of Brookings. It must be recognized that Brookings is in need of different mitigation methods because of the physical arrangement of the City and the DM&E should be responsible for most of the costs.
4. The DM&E should have limited use of the in-city route. The bypass should be used as much as possible. The bypass should be constructed to reduce negative environmental impacts by moving most rail traffic to a less populated area. The in-city route should be used for local shippers only - as the DEIS suggests.
5. The City will conduct further review of the proposed shortened bypass, but argues that the shortened bypass is clearly a "reasonable and feasible" route, clearly a more "reasonable and feasible" route than the long bypass and clearly a route that negatively affects far less people than both the in-city route and the long bypass. The City requests that the STB order the construction of the shortened bypass route as mitigation.
6. The City will engage in further dialogue with effected landowners and the CABB about the proposed shortened route.
7. The City offers up to $4 million towards the funding of a bypass. This is a large amount for the City of Brookings. The City also expects approximately $4.5 million from the State. This totals to a local effort of $8.5 million.
8. Because the City expenditure could be blocked by a referendum, the City requests that the STB order a contingency plan of in-city mitigation funded by the DM&E as proposed by the DM&E in October/November of 2000. The difference in this plan and of that requested by the City is the full funding by the DM&E of an overpass upon reaching a traffic level of 40 NMT. A copy of this mitigation proposal is attached.
9. The City will continue to have a dialogue with the DM&E.
10. The City will further refine its position and submit a filing to the STB before the DEIS comment period expires. I request that the STB provide the City with some guidance in proceeding with this shortened bypass proposal. The City wants to follow proper procedures and provide the necessary information for the STB to properly consider the shortened bypass.

Again, thank you for your serious consideration of the necessity of a bypass for Brookings. It is critical mitigation. Thank you.

Michael Williams
City Manager
311 3rd Ave
PO Box 270
Brookings, SD 57006-0270

November 21, 2000

Ms. Josephine Waldner
Secretary, CABB
Box 272
Brookings, SD 57006

Dear Ms. Waldner,

I am writing in response to your letter I received on Monday, November 20, 2000. In it, you suggest that I have misstated two points.

First, Railco contacted those people who owned property that it knew would need to be purchased. I believe that Railco did not know if property would need to be purchased along the right-of-way or simply thought that additional right-of-way was less of an issue than "crossing" someone's land. I believe that it is more intrusive to cross or sever someone's land than to acquire additional right-of-way, which is one attractive piece of the shortened bypass. At any rate, you are correct in stating that Railco did not contact those property owners adjacent to Highway 14 in which some right-of-way would need to be purchased, but my statement pertains to those that will be crossed.

Second, the resolution adopted by CABB requests that the City Council take action immediately by choosing between the 16 mile bypass, the Railco bypass or the in-city mitigation. It demonstrates a dislike of the long bypass, a preference for the in-city route and a "willingness to participate in the Railco proposal for a local process to develop and determine the need for a reasonable bypass."

Perhaps I have misquoted the CABB, but I understood the resolution to mean that the Railco route was a compromised position that was <u>not</u> preferred over the in-city route, but

preferred over the 16-mile route. The City has proposed the shortened bypass, but did not enter into the Railco agreement. The prepared remarks state "CABB has stated that it 'reluctantly agrees' with the Railco plan, but still prefers the in-city route." Please notice that throughout the statement, I do not identify the shortened bypass as the Railco plan. I call it the shortened route. I wanted to distinguish between the Railco proposal/DM&E latest offer and the line on the map developed by the Railco group. Possibly I failed at that. CABB did "reluctantly agree" with the Railco Plan/DM&E offer, but may not have agreed with the shortened bypass without further analysis. Again, I was trying to demonstrate that CABB had identified the Railco/DM&E offer as a possible compromise which helps support the viability of the shortened bypass. I hope this clarifies the city's statement.

Lastly, I take great offense to your statement that "the fact that we were not contacted because the State would be acquiring our property by eminent domain is evading the issue and an attempt to disguise where in fact the line was going and keep us from fighting it. The way you are stating it to the STB is a blatant lie and using semantics to your advantage." The City has taken every effort to get input on this important issue. The Railco proposal was advertised and public meetings were held. No one has been left from the process. No one intends to hide anything and to think that we could hide the proposed route is absurd! You have had much input even though Railco did not contact you.

This is a complex issue with much public attention. I did not mean to mislead anyone with the City's statement. Certainly, it is not a "blatant lie" or an attempt to "use semantics to (our) advantage." I am committed to a code of ethics that promotes representative government and the highest ethical behavior. It is too bad that a public issue has caused rational people to call their public servants liars; of course, nothing is further from the truth.

Michael Williams
City Manager

cc: Ms. Victoria Rutson, STB
STB Finance Docket No. 33407
Surface Transportation Board
1925 K Street, NW
Washington, D.C. 20423-0001

Attachment One:
Map and Description of Shortened Bypass Route.

Attachment Two:
Proposed Community Partnership Agreement, October 2000.

COMMUNITY PARTNERSHIP AGREEMENT

CITY of BROOKINGS, SD
RAILROAD IMPROVEMENT, MITIGATION and PARTNERSHIP

This Agreement is entered into by and between the city of Brookings, SD (hereinafter "City") and the Dakota, Minnesota and Eastern Railroad (hereinafter "DM&E").

RECITALS

Among the purposes of this Agreement are to (1) improve existing transportation and environmental conditions in the City to the maximum extent practicable, (2) minimize or mitigate any negative environmental and transportation impacts to the City which may result from DM&E's proposed construction and rebuilding project, (3) provide more effective, efficient rail service throughout the DM&E service territory, (4) foster the timely approval and development of the DM&E railroad's New Construction and Rebuild initiatives, as those terms are described in STB Finance Docket No. 33407 (hereinafter "Project"), and (5) foster a partnership approach to working through issues of mutual interest and concern on an ongoing basis -- not only with respect to the Project development and construction, but also in the years and decades beyond.

This Agreement is based on and consistent with the development philosophy set forth in Appendix 1 of DM&E's Application before the federal Surface Transportation Board (herein "STB") seeking regulatory approval to construct and operate an extension of its existing rail system, and the rebuilding of its existing trackage in South Dakota and Minnesota.

NOW, THEREFORE, contingent upon the occurrence of (a) final regulatory approval of DM&E's application in STB Finance Docket No. 33407 and any other regulatory approval necessary to construct and operate the Project, and (b) an affirmative vote of DM&E's Board of Directors to proceed with construction of the Project following such final regulatory approval -- and as a condition of construction of the Project -- DM&E and the City agree as follows:

1. City Option; DM&E Obligation. The City may terminate this agreement at any time, with or without cause. DM&E does not have that option. Nothing in this Agreement shall prevent the City from changing its position relative to the Project at any time during the STB's consideration of DM&E's Application or its subsequent construction, or from ceasing efforts to advance the Project as described below, provided that in the event the City so chooses it shall relieve both parties of any and all obligations pursuant to this Agreement and shall terminate the same, which

termination shall be effective upon written notice of either party to the other. DM&E, however, shall be bound by this Agreement immediately upon its execution, which binding effect cannot be modified except by the action or the inaction of the City (as provided for in this Agreement), in which event DM&E shall provide written notice to the City specifying a reasonable means to cure said action or inaction, if any such cure is reasonably effective and available (in which case the City will be permitted at least 7 days from the date of notice to cure its action or inaction).

2. Valuable Consideration. It is the parties' intention that -- because of (1) the efficiencies of mutual cooperation, (2) the inherent benefits of negotiated agreements, (3) the long range advantages of a partner relationship, (4) the regulatory and political advantages of negotiated mitigation and enhancements, (5) the time value associated with the support provided hereby, and (6) various additional reasons -- the entirety of the conditions set forth in this Agreement are intended to and should exceed those established by STB caselaw precedent and reasonably expected to be imposed by the STB as a condition of regulatory approval absent this Agreement. The parties hereto specifically acknowledge that the conditions agreed to herein do not purport to reflect mandatory conditions reasonably expected to be unilaterally imposed by the STB absent the mutuality of benefits and valuable consideration received by both parties to a negotiated agreement. Accordingly the parties hereto emphasize that no part of this Agreement is intended to be used by either party or any third party to seek or avoid conditions through the regulatory process. Both parties to this Agreement specifically request that this Agreement NOT be considered by any regulatory agency as a guide for unilateral conditions to be imposed on the Project. Unlike unilateral regulatory conditions, there exists in this Agreement mutual beneficial consideration negotiated by the parties hereto.

3. Option for Regulatory Conditions. The City shall have the option to substitute regulatory conditions in lieu of this Agreement in the event that City subsequently determines for any reason that such regulatory conditions are more advantageous than the whole of this Agreement. In the event the City opts to accept generic regulatory imposed conditions in lieu of this Agreement, it shall have the unilateral right to do so for a period of 30 days following final STB approval by providing written notice of the same to DM&E. However, unless and until City terminates this Agreement, it shall constitute full and complete resolution of all outstanding issues between the parties, and neither party shall seek further or special regulatory conditions to approval of the DM&E project.

4. Continuing Negotiations. The parties shall continue to negotiate and work together to minimize concerns on any issue that may arise in the future relative to the Project, based on the partnership principles set forth herein. DM&E and the City shall take all reasonable efforts to address and resolve issues as they arise, and shall continue negotiations on such issues which may from time to time result in additional amendments to this Agreement.

5. Safety. DM&E is in the process of developing a system-wide Safety Implementation Plan ("Safety Plan"). Said Safety Plan shall address physical improvements, technological improvements, training, public education and awareness, etc. DM&E shall make a draft of the Safety Plan available to the City for comment and input prior to its completion. It is DM&E's intention and expectation that the Project and its Safety Implementation Plan will result in an overall safer rail system than exists today. In that regard, the Rebuild portion of the existing rail infrastructure through the City shall be replaced with high quality heavy gauge steel rails, new rail ties for a majority of existing rail ties, and significantly improved rail-bed, including substantial additional ballast. DM&E shall develop new rail traffic control and communications systems. DM&E shall fund a significant upgrade to its grade crossing system, including those City-specific improvements identified in Appendix 1 of this Agreement. DM&E shall continue to work with appropriate safety agencies and technical experts to verify the effectiveness of or improve its overall Safety Plan, and in the event additional system-wide improvements are adopted such improvements will be applied to the City regardless of whether or not they are specified in this Agreement.

6. Traffic. DM&E shall undertake reasonable efforts to improve or mitigate traffic impacts relative to the Project. DM&E shall continue to work with the City in an effort to improve traffic flows through operational planning, track design, and/or use of reasonably available technology or other means available to the parties.

7. Noise. It is recognized that the single biggest noise impact issue is the train whistle. In the event the City now or in the future desires to minimize whistle noise, the parties shall cooperate with each other and appropriate regulatory agencies to provide an environment conducive to safe, whistle free operations, consistent with the policies and conditions set forth herein, with the goal of achieving whistle free status within some or all of the City limits.

8. Grade Crossings. The City grade crossings within the City limits are as listed and at the locations specified in the map at Appendix 1 to this Agreement. Grade crossing protection is normally and primarily the responsibility of the governmental authorities responsible for the street/highway/road involved. Notwithstanding that fact, DM&E shall at a minimum install crossing protection or traffic control devices at levels specified in Appendix 1. Said levels are tied to average daily train traffic levels. DM&E shall provide to City on or before March 31 of each full calendar year following completion of Project construction and operational commissioning a verified count of average daily DM&E coal unit train traffic levels in the City for the previous year (for both loaded and empty trains), which shall be added to a base traffic level of three trains per day (1.5 loaded and 1.5 empty). Those updated train traffic levels shall be used in conjunction with motor vehicle average daily traffic counts as of the date of this Agreement (and/or per Appendix 1)

to determine the grade crossing control level to be funded by DM&E pursuant to Appendix 1. Grade crossing devices required pursuant to Appendix 1 shall be installed as soon as practicable following submission of the verified count. It is understood and agreed to by the parties that grade crossing devices are provided for the purposes of safety, traffic control, and/or noise reduction. Any modifications made for traffic control, noise reduction or other purposes are deemed reasonable and safe by the parties hereto.

(a). Designation as "whistle free" crossings means the installation of either (a) sufficient gates (four quadrant) or median dividers (curbs, posts, barriers, etc.) or other devices which are reasonably expected to qualify for "whistle free" status at each crossing pursuant to forthcoming federal regulations (which regulations are not finalized but are expected to provide for the establishment of whistle free crossings in the event additional protection such as that outlined above is installed) if such devices are installed prior to adoption of the regulations, or (b) devices that do in fact qualify for some level of whistle free status if installed following adoption of the federal regulations. Such designation also means that, in the event the City enacts a whistle free ordinance and takes other action reasonably required to provide a safe whistle free environment, DM&E shall undertake good faith efforts with the City and appropriate regulatory authorities to implement safe whistle free operations.

(b). As a condition of DM&E funding installation and ongoing maintenance of whistle free status, both parties must have an ongoing commitment to maximize safety. The parties understand that the effective implementation of whistle free status will require an ongoing cooperative relationship between the City and DM&E as envisioned in the partnership concept described herein. The parties recognize that grade crossing safety cannot be maximized without coordinated efforts between the parties directly, and their best efforts to involve other responsible parties such as parents, the media, the motoring public, pedestrians, and others. The parties agree to cooperate in good faith to develop a reasonable and safe environment for whistle free development and maintenance. Examples include but are not limited to (a) an effective local law enforcement program for vehicular and pedestrian safety violations, (b) development of local regulations and/or railroad rules designed to provide a safer transportation environment, (3) coordinated joint public education programs, etc. Both the City and DM&E reserve the right to require that a whistle be blown at any crossing, regardless of its designation as whistle free, in the event either or both parties make a good faith determination the whistle is necessary based on safety needs, provided, however, that in the event such determination is made by DM&E contrary to the City's preference, then DM&E shall remain obligated to pay for the whistle free upgrade so as to avoid any financial conflict of interest in making such determination.

(c.) DM&E shall undertake all other grade crossing work as may be specified in Appendix 1 hereto.

(d). Nothing in this Agreement is intended to limit or in any way preclude either party's existing or future obligations relative to grade crossing protection. The parties shall continue to make good faith efforts to encourage and secure funding for ongoing grade crossing protection safety programs which may be funded in large part by long established government programs. In the event any crossing covered by this Agreement could or does become eligible for normal government grade crossing protection funding prior to construction of the Project, the parties shall cooperate to fully utilize those programs in advance of such construction, provided, however, that DM&E shall reimburse City for City's share of such funding at the time of Project construction. In no event shall either party forgo opportunities for immediate grade crossing enhancements in reliance on future funding via this Agreement, and each will act aggressively to foster such grade crossing safety improvements prior to Project construction.

9. Other commitments. At or before the achievement of 80 million net tons of coal traffic as per the procedure set forth in the Partnership Agreement, DM&E will fund 75% of the reasonable cost for an overpass structure for a mutually agreeable site on land obtained or owned by the City. Such site shall be deemed reasonable if it is located so as to service one of the several busiest vehicular traffic corridors in the City and does not require design and/or cost accommodations significantly in excess of that required by other reasonable site locations within the City. If DM&E and the City do not achieve mutual agreement on a site, such site shall be determined pursuant to the arbitration provision of the agreement. At this site, DM&E shall be responsible for funding 75% of a grade separation which will accommodate two-way traffic reasonably consistent with the traffic flow at the selected site. DM&E shall be responsible for 75% of the cost of the bridge structure spanning the railroad, the roadway construction that ramps up to meet the structure, and associated retaining walls, earthwork, paving, stripping, and normal highway appurtenances. DM&E will not be responsible for property acquisition, regulatory approvals (if any), construction to roadway enhancements for temporary detours, or major utility relocations..

10. Right-of-way Clean-up. DM&E shall clear its City right-of-way of debris at the conclusion of construction of the Project, and maintain it in a reasonable and tidy manner thereafter. Specifically, DM&E shall exercise reasonable care to control noxious weeds. In the event DM&E fails to exercise reasonable care to control noxious weeds or reasonably maintain its right of way, City may after 30 days following written notice to DM&E (which notice must contain photographic evidence of the problem to be addressed) undertake reasonable means to control the same; and DM&E must pay for the reasonable cost thereof if it fails to take reasonable steps to address the problem within 30 days of receipt of such notice.

11. Utility crossings. DM&E shall bear the reasonable and necessary costs of protecting from Project construction and operation impacts the existing City utility

crossings of the DM&E right of way that are identified by the City in the map located at Appendix 2 to this Agreement, and as may be specified therein. Additionally, DM&E shall install casings and/or make other identified provisions for potential future utility crossings as identified and specified in said Appendix 2.

12. Drainage. DM&E shall ensure reasonable and adequate drainage of its rail bed, and shall correct any identified deficiencies in such drainage that may currently exist. City may identify such drainage issues at any time following execution of this Agreement but prior to construction start-up by providing written notice to DM&E at the address provided for in the notice section of this Agreement.

13. Partnership Community. It is the parties' intention that the cooperative relationship represented by this Agreement shall continue beyond the conclusion of Project construction. It is the parties' intention that they shall maintain and foster effective communication and an ongoing relationship to effectively address the inevitable issues that arise with railroads. Both parties shall endeavor to foster such a relationship on a going forward basis. City is hereby recognized as a DM&E Partnership Community for its efforts and assistance in developing the Project, and shall maintain such status unless City acts to terminate this Agreement prior to the conclusion of Project construction. DM&E shall establish a Community Liaison for each of the three states affected by its construction Project who shall serve as a point of contact for local communities (cities, counties and states). DM&E shall provide by written notice to the City the name and contact information of such Liaison officer in the relevant state prior to commencement of Project construction. Such Liaison officers shall be supplied with a list of Partnership Communities and shall be directed to place a priority emphasis on (a) maximizing for such communities the economic and other benefits resulting from ongoing operations and (b) resolving any issues of concern associated with Partnership Communities. Said Liaison will serve as an advocate for Partnership Communities as a resource to said communities in providing answers and assistance and resolving issues of concern. At a minimum of once every year, if a major issue is not otherwise resolved to the City's satisfaction, and at the City's request therefor, DM&E shall make available for a personal meeting in the City a DM&E officer with sufficient authority to resolve the issue.

14. STB Conditions. For any general area covered by this Agreement, City shall have the option to elect the provisions of this Agreement or the STB conditions as a complete substitute to this Agreement.

15. City Support. City supports the DM&E Project. The City recognizes that funding for the improvements contemplated by this Agreement is expected to be made possible in part by timely Project advancement through the regulatory and construction process, and by avoiding the frequent delays brought about by an adversarial process. The additional accommodations recognized in this Agreement

are provided to develop and maintain and convey to appropriate parties public consensus achieved through a negotiated partnership approach to Project development. Accordingly, the City agrees to cooperate in good faith to advance the Project in an effort to achieve regulatory approval, construction start-up, and general Project development as soon as practicable, and shall take reasonable efforts to help effectuate those results following the execution of this Agreement through operational start-up following completion of construction. The City may at any time change its position relative to the Project, or undertake other actions which could reasonably be expected to delay or otherwise complicate timely regulatory approval (from the STB or other state or federal authorities), Project construction, other Project development and/or operations; provided, however, that any such position change or action will relieve both parties of all obligations pursuant hereto, and result in the termination of this Agreement and any amendments hereto, upon written notice thereof, which notification shall comply with section 1 of this Agreement.

16. Amendments. It is anticipated by the parties that not every issue to arise out of this Project is covered in this initial Agreement. As new issues arise or identified issues need further development, the parties shall continue to negotiate in good faith in an effort to resolve them to mutual satisfaction. By mutual written agreement signed by duly authorized representatives of the parties (in the case of DM&E its President and Chief Executive Officer), this Agreement may be amended, which amendment(s) shall be sequentially numbered and shall specifically refer to this Agreement. Any such agreements shall be enforceable as though part of this Agreement, whether or not they are filed with the STB or any other agency.

17. Engineering & Design Modifications. It is understood and agreed by the parties that this Agreement (in particular the Appendix 1 design) is based on preliminary design and engineering analysis. As the design, engineering, operating plan and similar work product is further refined, such design features of this Agreement are subject to reasonable changes resulting therefrom (e.g., placement of certain facilities, buildings, sidings, etc.), and subject further to City's rights under section 1 of this Agreement. In the event the design changes, DM&E shall provide reasonable notice thereof to the City and coordinate any changes to Appendix 1 as it is refined.

18. EXCLUSIVITY. THE PARTIES TO THIS AGREEMENT SPECIFICALLY OBJECT TO THE USE OF THIS AGREEMENT BY ANY PERSON OR ENTITY NOT A PARTY HERETO IN ANY MATTER RELATED TO STB FINANCE DOCKET NO. 33407, OR ANY OTHER ASPECT OF THE DM&E RAIL CONSTRUCTION AND REBUILDING PROJECT. BOTH PARTIES TO THIS AGREEMENT HAVE NEGOTIATED IN GOOD FAITH, AND HAVE MADE CONCESSIONS IN THE SPIRIT OF A NEGOTIATED COMPROMISE. BOTH PARTIES HAVE GAINED BARGAINED FOR CONSIDERATION AS A RESULT OF THIS AGREEMENT. NO ONE PROVISION OF THIS AGREEMENT STANDS BY ITSELF. EACH IS INTERRELATED TO THE OTHER, AND ALL RELY

HEAVILY ON AN OVERRIDING PARTNERSHIP RELATION. CITY HAS HELPED PAY FOR THE ENHANCED IMPROVEMENTS BY ITS ONGOING AND EARLY COOPERATIVE PARTNERSHIP EFFORTS, ITS TIMELY SUPPORT, ITS CONSTRUCTIVE EFFORTS TO PROVIDE INFORMATION AND ADVICE IN FOSTERING PROJECT DEVELOPMENT AND PARTICIPATING IN COOPERATIVE RAILROAD DESIGN EFFORTS THAT HAVE RESULTED IN SIGNIFICANT SAVINGS IN TERMS OF COSTS, FUTURE PLANNING AND DEVELOPMENT EFFORTS, CONSTRUCTION PROCESS IMPLEMENTATION, AND MANY OTHER ISSUES. DM&E HAS CONSCIOUSLY AGREED TO MITIGATION CONDITIONS FAR IN EXCESS OF THOSE SUPPORTED BY PAST PRECEDENT BECAUSE OF SIGNIFICANT VALUE PROVIDED BY CITY NOT ONLY WITH RESPECT TO THE DEVELOPMENT OF THE IMMEDIATE PROJECT, BUT ALSO FOR OTHER REASONS INCLUDING BUT NOT LIMITED TO PARTNERSHIP SUPPORT IN PROJECT CONSTRUCTION AND FUTURE OPERATIONS, AND OTHER SUPPORT TO BE ACHIEVED THROUGH THE PARTNERSHIP PROCESS. AGREEMENTS AND CONCESSIONS PROVIDED HEREIN ARE BASED ON VALUE RECEIVED AND CONTRIBUTIONS MADE BY THE PARTIES HERETO. FOR THESE AND OTHER REASONS, THE PARTIES HERETO REQUEST THAT THIS AGREEMENT NOT BE CONSIDERED BY THE STB OR ANY OTHER PUBLIC BODY AS A BASIS FOR APPLYING THE CONDITIONS SET FORTH HEREIN OR ANY OTHER ASPECT OF THIS AGREEMENT TO THIRD PARTIES NOT A SIGNATORY TO THIS AGREEMENT, OR FOR ANY OTHER REASON WHATSOEVER UNLESS BY THE MUTUAL SPECIFIC WRITTEN CONSENT OF ALL SIGNATORIES HERETO.

19. Legally binding,successors in interest. This Agreement shall be legally binding upon and shall inure to the benefits of the parties hereto, their licensees, successors and assigns.

20. Notice. Any written notice given under this Agreement shall be effective if delivered in person, sent by same day or overnight courier, or sent by mail on the date placed in the United States mail with proper postage and addressed as follows:

If to DM&E:

President & Chief Executive Officer
Dakota, Minnesota & Eastern Railroad Corporation
337 22nd Avenue South
P.O. Box 178
Brookings, South Dakota 57006

With copies to DM&E's Community Liaison, as identified in Section 13 of this Agreement.

If to City:

Mayor
City of Brookings
City Hall
311 3rd Avenue
Brookings, South Dakota 57006

21. Regulation. In the event that any portion of this Agreement is deemed to be inconsistent with or contrary to any controlling statute, regulation, regulatory condition, or similar legal authority, such provision shall be null and void; but the remainder of the Agreement shall remain in effect. In the event that any such inconsistent provision is deemed significant and material, the parties (or arbitration panel) shall replace it with a similar provision modified to comply with said controlling legal authority and to comply as closely as possible with the spirit and intent of this Agreement.

22. Arbitration. In the event City and DM&E cannot mutually agree on the meaning, application, interpretation, objectives or compliance with respect to any of the terms, provisions or conditions of this Agreement, the parties shall petition the American Arbitration Association to designate a duly qualified arbitrator knowledgeable in railroad legal and operating matters. Such arbitrator shall have the right to fashion a remedy consistent with the objectives, rights and obligations of this Agreement. The decision of the Arbitrator shall be final, and shall not be subject to appeal.

Agreed to this ___ day of _____, 2000.

DAKOTA, MINNESOTA & EASTERN RAILROAD CORPORATION

by_____
its PRESIDENT & CEO

CITY OF BROOKINGS

by_____
its MAYOR

TABLE OF APPENDICES
COMMUNITY PARTNERSHIP AGREEMENTS

APPENDIX 1 TO DM&E COMMUNITY PARTNERSHIP AGREEMENT WITH THE CITY OF BROOKINGS

This Appendix 1 with its accompanying notated Community Plan map presentation (hereinafter "Community Plan") is incorporated into the Community Partnership Agreement (hereinafter "Partnership Agreement") between DM&E and the City of Brookings, SD (hereinafter "City"). This Appendix 1 provides crossing-specific and other details of DM&E's funding commitment for improvements identified in the Community Plan. Page references herein refer to pages in the Community Plan. This Appendix 1 provides additional detailed descriptions. In the event of an inconsistency between this detailed text and the brief text reference notes in the Community Plan presentation, this Appendix 1 text shall control.

1. At the bike path/pedestrian crossing approximately 200 feet west of I-29, place crossbuck and stop sign protection, and provide advance warning signage and/or other advance warning devices suitable for pedestrian or bike traffic. (page 6)

2. The 22nd Avenue crossing will be upgraded to include gates and flashing lights at start up of Project operations. Additionally, DM&E will design the site for whistle free status and pre-wire the site for any necessary whistle free technology (full gates and lights), and install any necessary foundations for the gate pedestals sufficient for whistle free standards. At the achievement of 40 million net tons of coal traffic (as per the procedure set forth in the Partnership Agreement), and upon enactment of a City ordinance directing whistle free status consistent with the Partnership Agreement, DM&E shall fund the addition of gates or other requirements for whistle free status (as per the procedure set forth in the Partnership Agreement). (page 7).

3. On both sides of the track, beginning just west of 22nd Avenue and continuing westward to 17th Avenue, DM&E shall construct a chain link fence (pages 7 & 8).

4. The 17th Avenue crossing will be upgraded to include gates and flashing lights at start up of Project operations. Additionally, DM&E will design the site for whistle free status and pre-wire the site for any necessary whistle free technology (full gates and lights), and install any necessary foundations for the gate pedestals sufficient for whistle free standards. At the achievement of 40 million net tons of coal traffic (as per the procedure set forth in the Partnership Agreement), and upon enactment of a City ordinance directing whistle free status consistent with the Partnership Agreement, DM&E shall fund the addition of gates or other requirements for whistle free status (as per the procedure set forth in the Partnership Agreement). (page 8).

5. On the north side of the track, beginning just west of 17th Avenue and continuing westward to the existing north-south fence extending down from 12th Avenue, DM&E shall construct a chain link fence (pages 9 & 10). On the south side of the track, beginning just west of 17th Avenue and continuing westward to Medary Avenue, DM&E shall construct a chain link fence (pages 9 & 10). The pedestrian paths across the railroad at 16th Avenue and 12th Avenue will be closed. (pages 9 & 10)

6. The Medary Avenue crossing will be upgraded to include gates and flashing lights at start up of Project operations. Additionally, DM&E will design the site for whistle free status and pre-wire the site for any necessary whistle free technology (full gates and lights), and install any necessary foundations for the gate pedestals sufficient for whistle free standards. At the achievement of 40 million net tons of coal traffic (as per the procedure set forth in the Partnership Agreement), and upon enactment of a City ordinance directing whistle free status consistent with the Partnership Agreement, DM&E shall fund the addition of gates or other requirements for whistle free status (as per the procedure set forth in the Partnership Agreement). (page 11).

7. On the south side of the track, beginning just west of Medary Avenue and continuing westward to 6th Avenue, DM&E shall construct a chain link fence (pages 11 & 12).

8. Starting at an existing fence corner in the northeasterly quadrant of the 6th Avenue Viaduct and continuing approximately 60' +/- to the north along the east side of 6th Avenue, DM&E shall construct a chain link fence (page 13).

9. The vertical and horizontal clearance of the 6th Avenue underpass will be reviewed in final design in an effort to improve either or both clearances. Preliminary design work indicates that significant clearance improvements may be difficult to achieve, but a good faith effort will be made to coordinate with the City through the final engineering design to achieve that result. (page 12)

10. The Main Avenue crossing will be upgraded to include gates and flashing lights at start up of Project operations. Additionally, DM&E will design the site for whistle free status and pre-wire the site for any necessary whistle free technology (full gates and lights), and install any necessary foundations for the gate pedestals sufficient for whistle free standards. At the achievement of 40 million net tons of coal traffic (as per the procedure set forth in the Partnership Agreement), and upon enactment of a City ordinance directing whistle free status consistent with the Partnership Agreement, DM&E shall fund the addition of gates or other requirements for whistle free status (as per the procedure set forth in the Partnership Agreement). (page 13).

11. On the north side of the track, beginning just west of Main Avenue and continuing westward approximately 200 feet, DM&E shall construct a chain link fence (page 13).

12. The Western Avenue crossing will be upgraded to include gates and flashing lights at start up of Project operations. This crossing is relatively remote from residential impacts, but presents a concern to the city from a noise standpoint in that the whistle for this crossing may be problematic in some parts of town if it must be blown from the train in advance of its reaching the crossing (especially for west-bound trains). At this crossing, upon the achievement of 40 million net tons of coal traffic (as per the procedure set forth in the Partnership Agreement), DM&E shall at its option either (a) install a directional whistle, or (b) upon enactment of a City ordinance directing whistle free status consistent with the Partnership Agreement, fund the addition of gates or other requirements for whistle free status (as per the procedure set forth in the Partnership Agreement). (page 14)

13. The 6th Street West crossing will be upgraded to include crossbucks and a stop sign, if agreeable with the state and city at start up of Project operations. City is suggesting gates and flashing lights at service start up. DM&E will continue a dialogue consistent with and subject to the overall safety plan. (page 15)

14. Throughout the City, DM&E will clean its right of way of debris and provide ongoing reasonable maintenance.

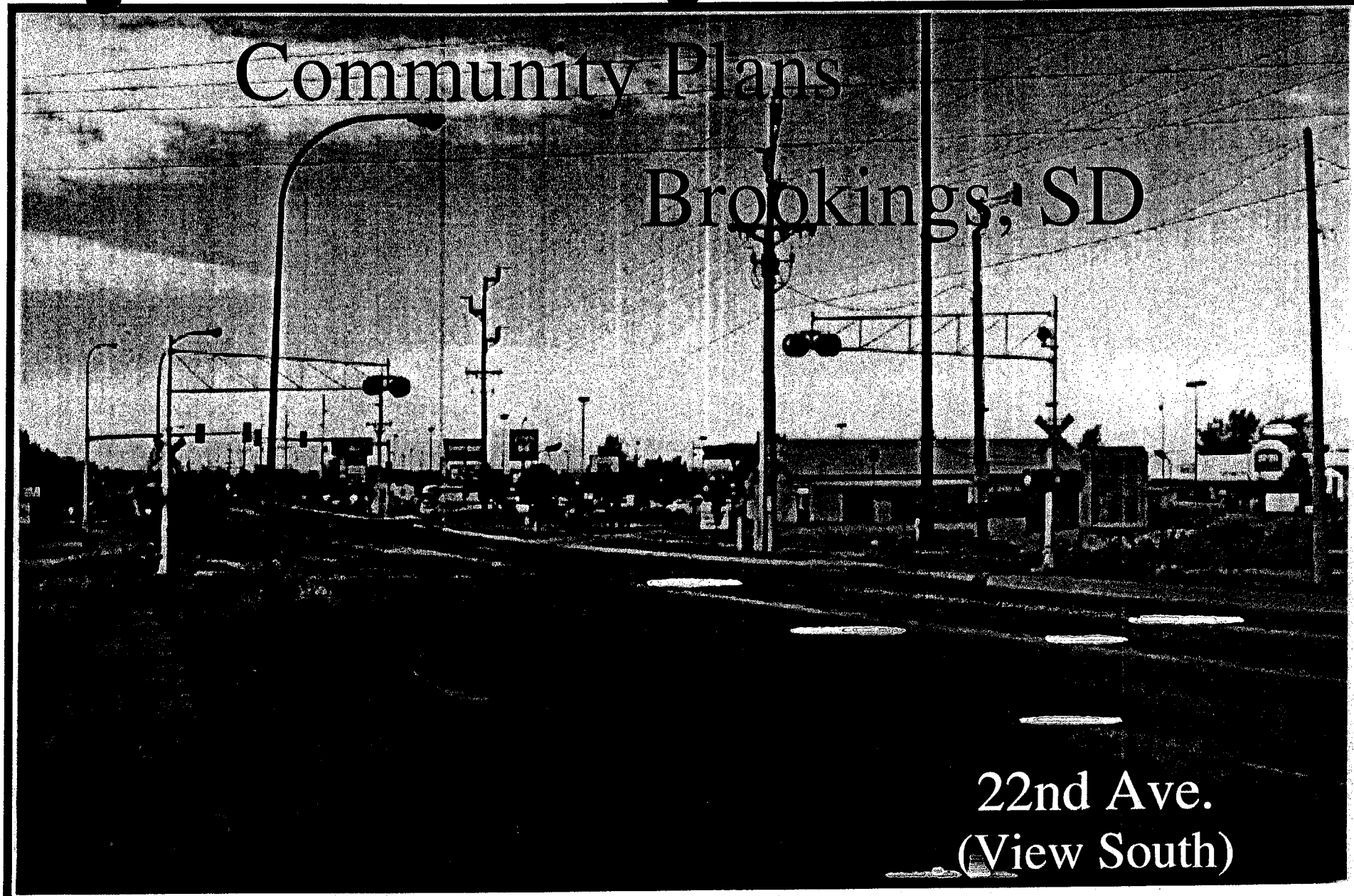
This Appendix 1 to the Partnership Agreement is verified by the parties on this _____ day of _____, 1999.

_____ _____

For DM&E For City

BROOKING.doc

Community Plans
Brookings, SD



Brookings

Brookings, SD

DM&E

Disclaimer

This Community Plan is not binding on any party until and unless both DM&E and a duly authorized representative of the City execute the Community Partnership Agreement. No portion of this draft Plan can be relied upon by any party or entity for any reason unless such agreement has been executed by both parties.

Additionally, this document is a **DISCUSSION DRAFT** plan. It is not an offer by DM&E, and cannot be consummated without the signature of both parties. Because it contains commitments likely to be significantly in excess of any reasonably expected regulatory condition, execution by DM&E may require board of directors and/or shareholder approval. Accordingly, DM&E makes no representations as to whether this Discussion Draft will be signed, except that any signature will have the appropriate authority if and when executed by DM&E.

Please note that the final design of the Project has not been completed. Any future design/engineering modifications required (e.g., facilities, sidings, traffic control technology, et cetera) will be provided to the City on a timely basis. The additional design requirements, if any, will be reviewed and discussed with the City as provided in Section 18 of the Agreement.

Brookings, SD
DM&E

Baseline Formula

A formula was developed to establish a "baseline" for traffic control devices. This "baseline" can be enhanced but will not be reduced. The first step in determining the appropriate baseline level of traffic control to be utilized at a crossing is calculating the Exposure Index. The Exposure Index is defined as the number achieved when multiplying the number of daily trains by the Average Daily Traffic (i.e. number of cars per day crossing the track)

Exposure Index = Daily Train Traffic X Average Daily Traffic (vehicles)

Nationwide it is common to use an Exposure Index of 5,000 as a threshold. For an exposure index below 5,000 DM&E will install Level B. Stop signs can be added upgrading the proposed traffic control device to Level C. For an Exposure Index of 5,000 or more DM&E will install Level D. If the Average Daily Traffic count is 2,000 or more DM&E will install Level E. Level F is a noise issue, unrelated to the formula, providing whistle free technology.

Calculating Service Start Up and Future Level of Service

DM&E projects service start up to provide 20 net million tons (20 NMT) of coal traffic annually. This is estimated to be approximately 4 loaded coal trains, 4 returning empty trains plus 3 non-coal trains daily for a total of 11 trains per day. For start up service, therefore, 11 daily trains are used in calculating the Exposure Index.

If in the future coal train traffic increases DM&E will recalculate the Exposure Index using the revised daily train traffic and make appropriate upgrades to the crossing control devices.

For both service start up and all future calculations DM&E will use the Average Daily Traffic as presented in this Agreement.

Brookings, SD

DM&E

Grade Crossing Traffic Control Criteria

Grade Crossing Traffic Control Classifications

Various forms of grade crossing traffic control are used, such as crossbucks, flashing warning lights, or flashing lights with gates. DM&E has categorized 6 (six) different traffic control devices as follows:

Level of Traffic Control	Description
A	No Protection
B	Crossbucks
C	Crossbucks with Stop Signs
D	Flashing Red Lights
E	Flashing Red Lights with Gates
F	"Whistle Free," which includes flashing lights with gates plus additional protection options such as two additional gates to provide four quadrant protection or center highway medians to prevent "drive arounds" by motorists.

Brookings, SD
DM&E

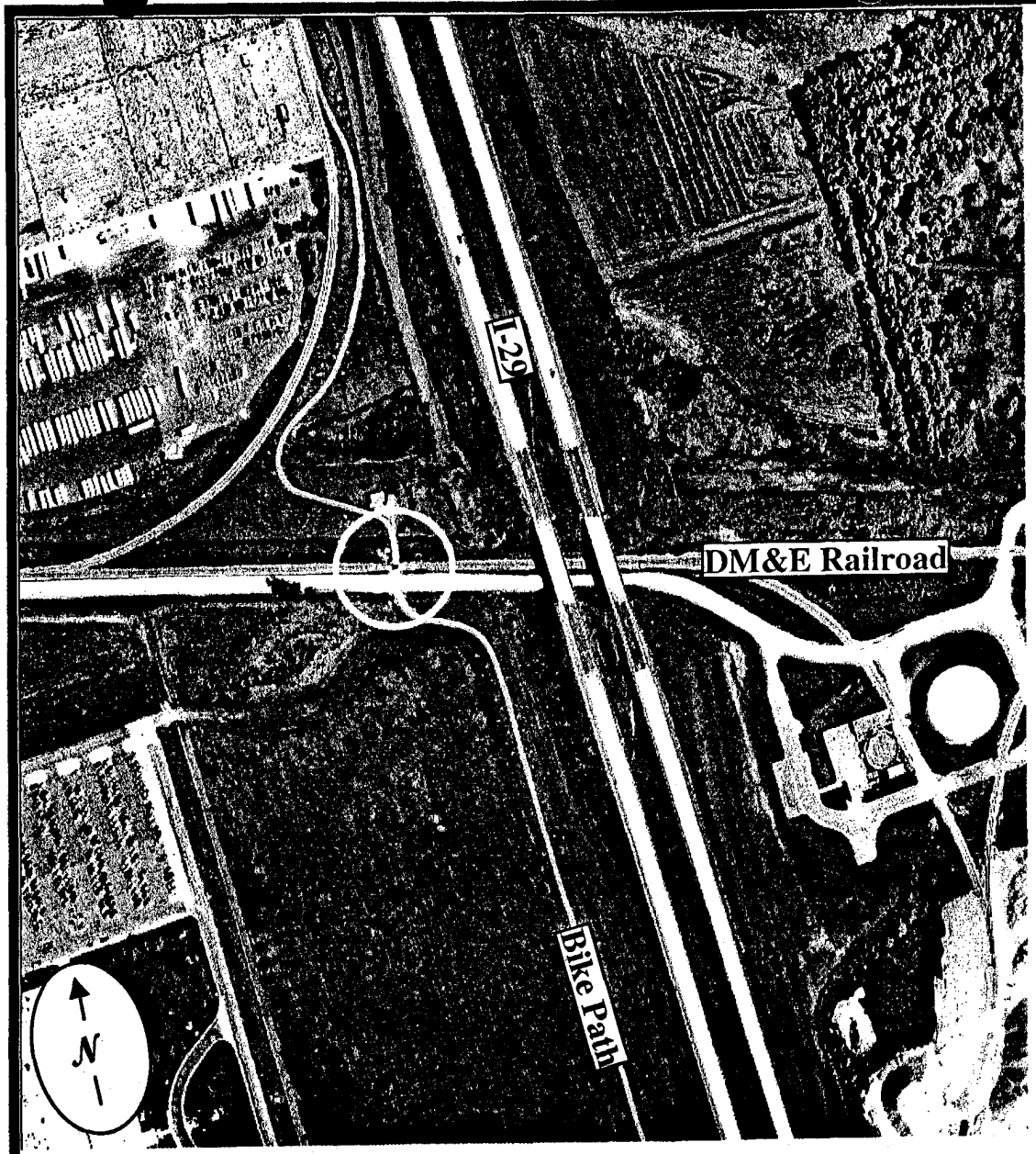
Community Plans
General Items

- Written Agreement Issues - Noise, etc.
- ROW Clean Up
- ROW Vegetation Control

  Especially Noxious Weeds
- Drainage Improvements

  DM&E is not a dike
- Construct Fire Access Roads as required
- Develop Emergency Response Program in coordination with City
- Local Vendor Lists: Local Contractors, Equipment & Supplies, Employment, Motel, Fuel, Restaurants, Hardware, Clothing etc.
- Maintain and protect utility crossings that exist at time of construction

Brookings, SD
DM&E



Location: Bike Path

M.P.: 288.8

ADT: N.A.

Existing Traffic Control: A

Baseline Formula: N.A.

Issues:

Bicycle Crossing: Protection and safety for bicyclists & pedestrians

Analysis:

Install crossbucks with stop sign.

Approach:

At service start up service install Level C, with significant advance warning signs and/or devices.

Brookings, SD

DM&E

Location: 17th Ave.

M.P.: 289.60

ADT: 3820

Existing Traffic Control: D

Baseline Formula:

20	NMT:	E
50	NMT:	E
100	NMT:	E

Issues:

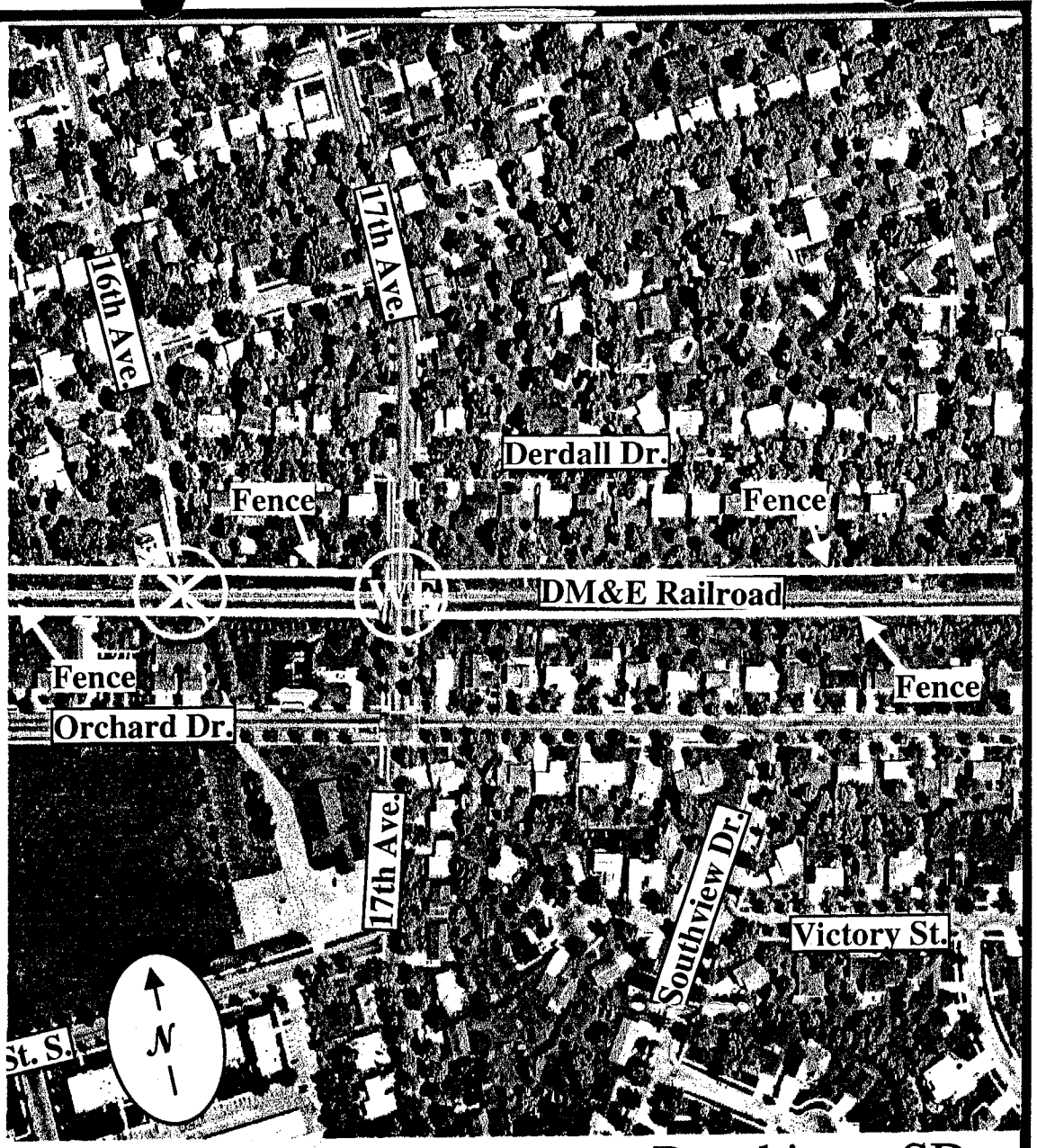
- Gates Requested
- Fencing at back of houses between 6th Ave. & 22nd Ave.
- Whistle Free

Analysis:

- Fence south side of ROW 6th Ave. to 22nd Ave.
- Fence north side of ROW 12th Ave. to 22nd Ave.

Approach:

- At service start up install Level E; install wires & foundations for future upgrade to Level F
- Upgrade to Level F @ 40 NMT
- Construct fence as described above at service start up



Brookings, SD

DM&E

Location: 22nd Ave.
M.P.: 289.30
ADT: 13150
Existing Traffic Control: D

Baseline Formula:

20 NMT: E
50 NMT: E
100 NMT: E

Issues:

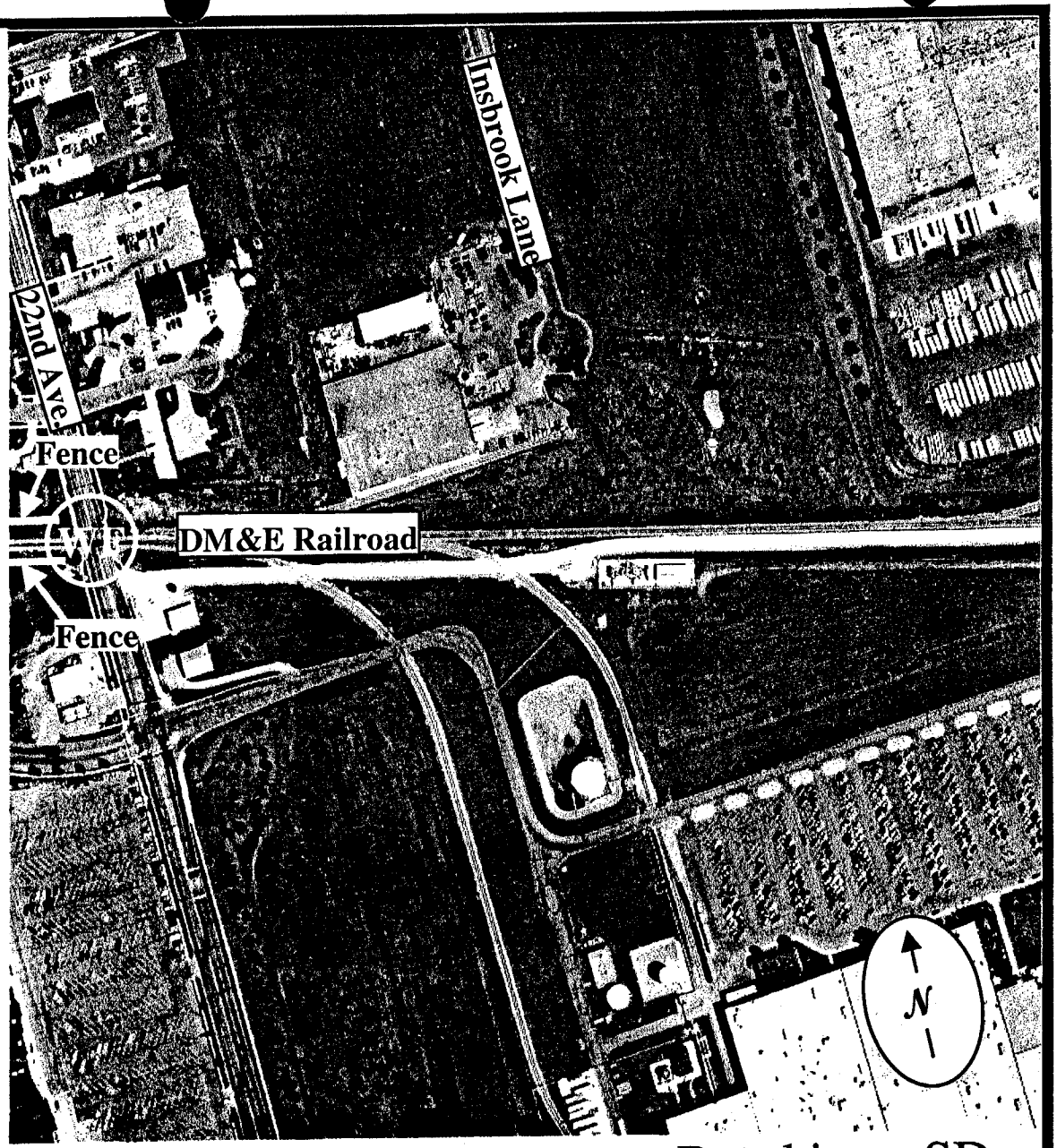
- Gates Requested
- Possible grade separation
- Fencing at back of houses between 6th Ave. & 22nd Ave.
- Whistle Free

Analysis:

- Grade separation at 22nd Ave. Problematic (business and residential impacts)
- Fence south side of ROW 6th Ave. to 22nd Ave.
- Fence north side of ROW 12th Ave. to 22nd Ave.

Approach:

- At service start up install Level E; install wires & foundations for future upgrade to Level F
- Upgrade to Level F @ 40 NMT
- Construct fence as described above at service start up



Brookings, SD

DM&E

Location: 16th Ave. Pedestrian Crossing

M.P.: 289.65

ADT: N/A

Existing Traffic Control: N/A

Issues:

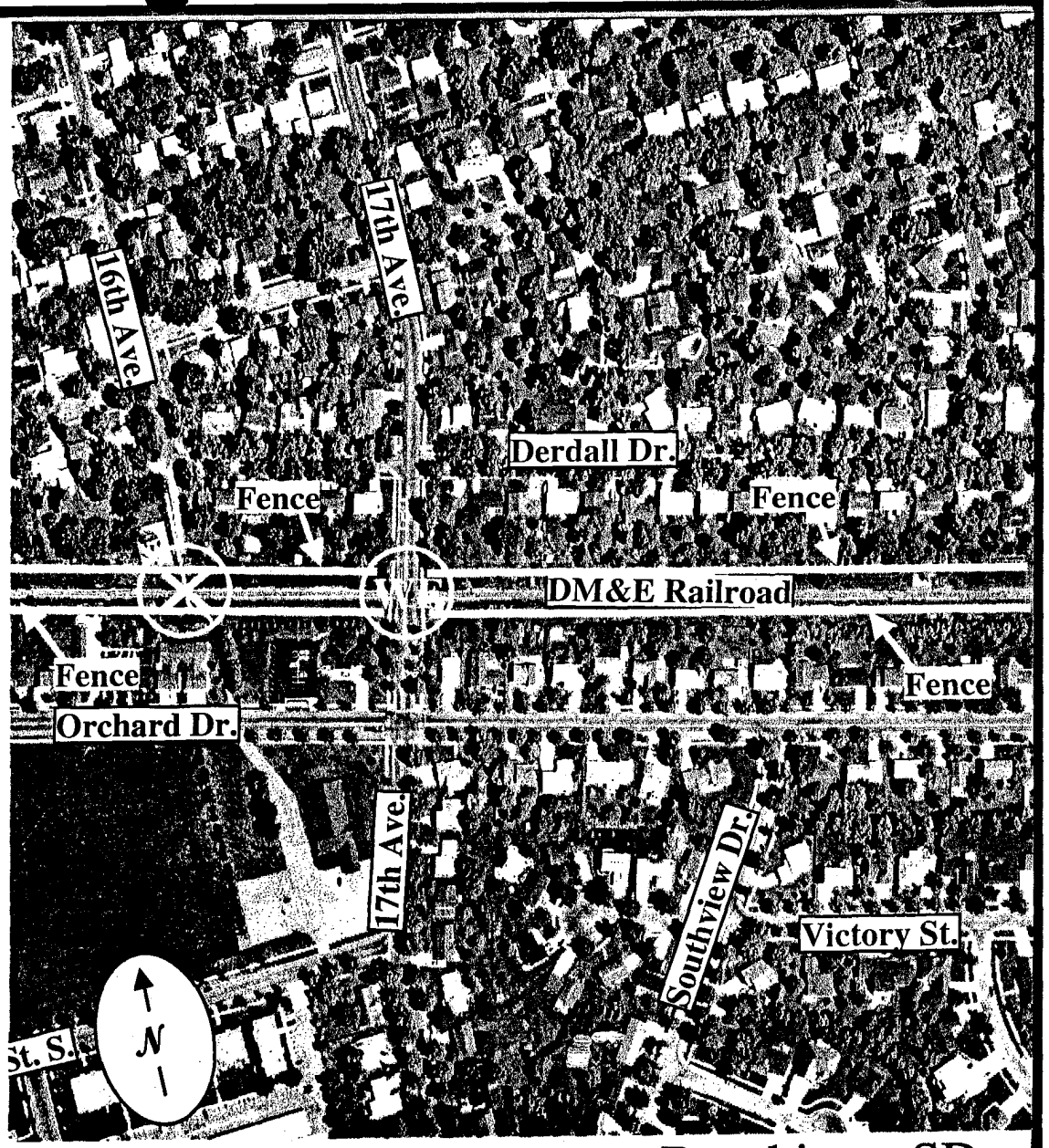
Fencing at back of houses between 6th Ave. & 22nd Ave.

Analysis:

- Crossbucks & stop sign at pedestrian crossing or close crossing
- Requires closure for whistle free at 17th Ave.
- Fence south side of ROW 6th Ave. to 22nd Ave.
- Fence north side of ROW 12th Ave. to 22nd Ave.

Approach:

- Close pedestrian crossing at service start up
- Construct fence as described above at service start up
- Fence north and south of ROW across 16th Ave. closed crossing



Brookings, SD

DM&E

Location: 12th Ave. Sidewalk

M.P.: 290.20

ADT: N.A.

Existing Traffic Control: N/A

Issues:

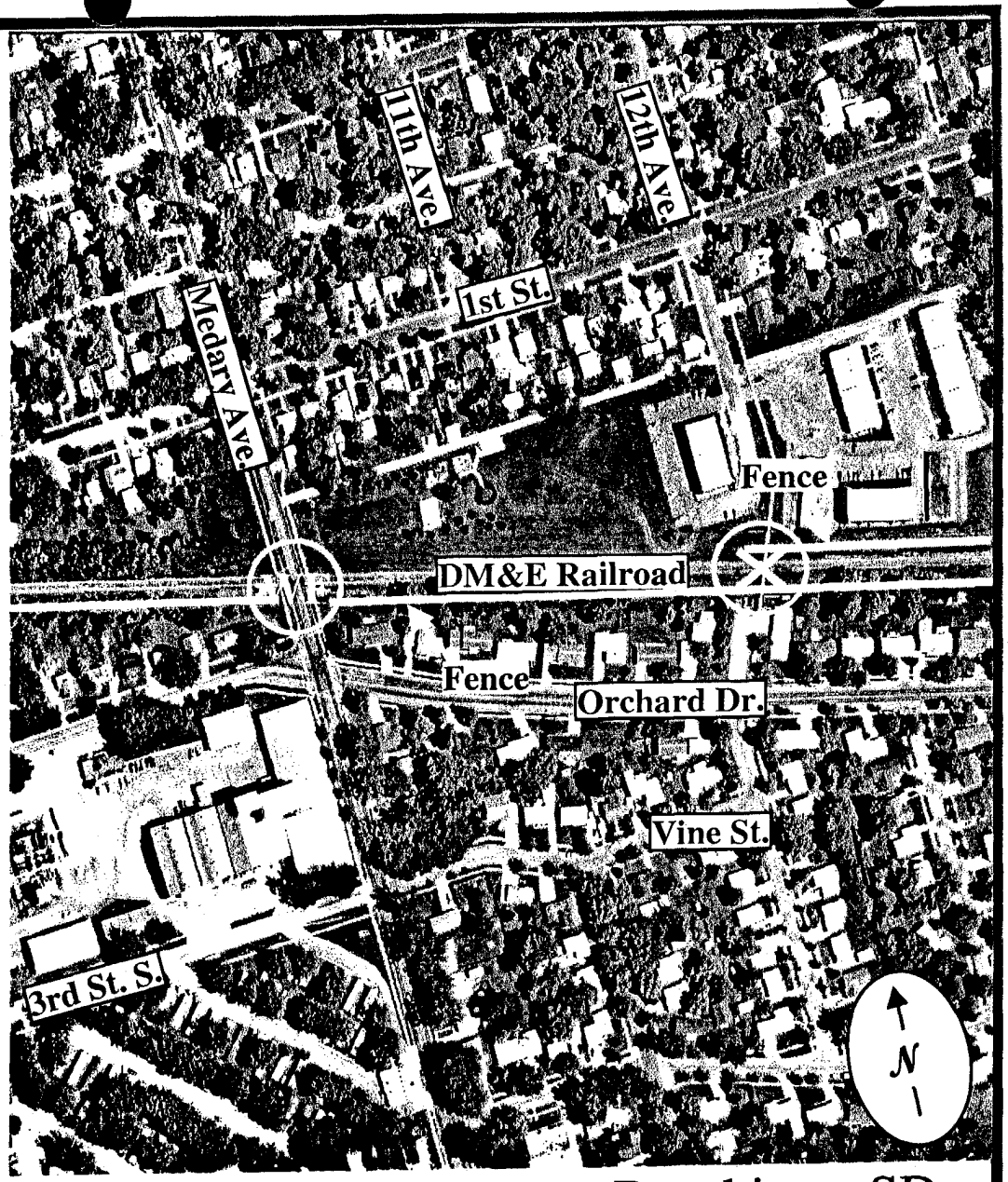
- Consider pedestrian underpass
- Fencing at back of houses between 6th Ave. & 22nd Ave.

Analysis:

- Crossbucks & stop sign at pedestrian crossing or close crossing
- Underpass problematic due to lack of clearance
- Requires closure for whistle free at Medary Ave.
- Fence south side of ROW 6th Ave. to 22nd Ave.
- Fence north side of ROW 12th Ave. to 22nd Ave.

Approach:

- Close pedestrian sidewalk crossing at service start up
- Construct fence as described above at service start up
- Fence north and south of ROW across 12th Ave. closed pedestrian sidewalk crossing



Brookings, SD

DM&E

Location: Medary Ave.

M.P.: 290.30

ADT: 9045

Existing Traffic Control: D

Baseline Formula:

20	NMT:	E
50	NMT:	E
100	NMT:	E

Issues:

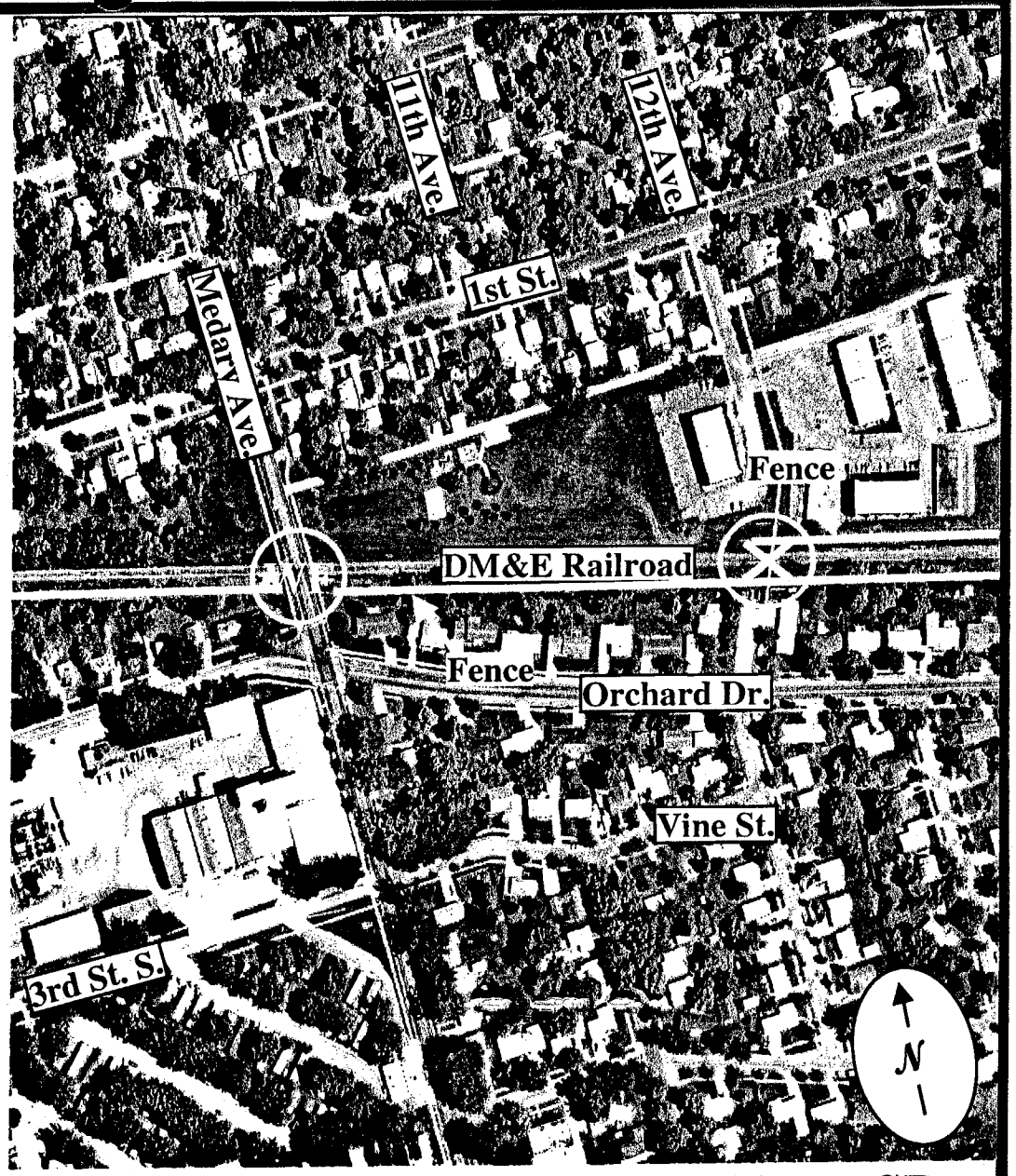
- Maintain city signal pre-emption at Medary Ave. and Orchard Dr.
- Fencing at back of houses between 6th Ave. & 22nd Ave.
- Whistle Free

Analysis:

- Signal to be designed with pre-emption
- Fence south side of ROW 6th Ave. to 22nd Ave.

Approach:

- At service start up install Level E; install wires & foundations for future upgrade to Level F
- Upgrade to Level F @ 40 NMT
- Construct fence as described above at service start up



Brookings, SD

DM&E

Location: 6th Ave. Underpass
M.P.: 290.8
ADT: N.A.
Existing Traffic Control: N.A.

Issues:

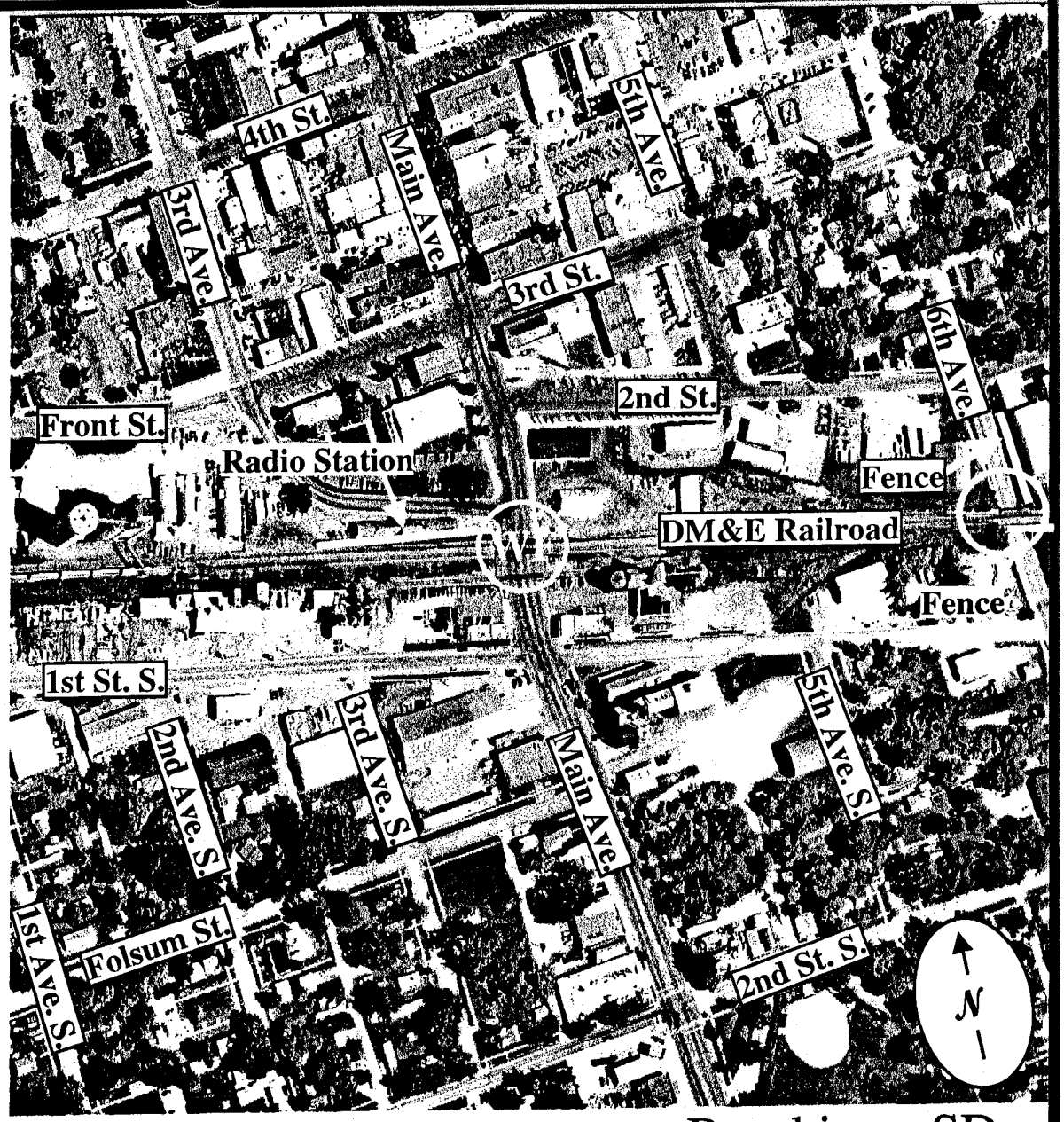
- City would like to improve vertical and horizontal clearance
- Pedestrian traffic uses bridge
- Fencing at back of houses between 6th Ave. & 22nd Ave.

Analysis:

- Investigate superstructure and substructure to maintain and possibly improve clearance
- New location of Middle School changes pedestrian traffic patterns
- Fence south side of ROW 6th Ave. to 22nd Ave.

Approach:

- Maintain or improve clearance as practical
- Construct fence as described above at service start up



Brookings, SD

DM&E

Location: Main Ave.
M.P.: 290.90
ADT: 11060
Existing Traffic Control: D

Baseline Formula:

20 NMT: E
50 NMT: E
100 NMT: E

Issues:

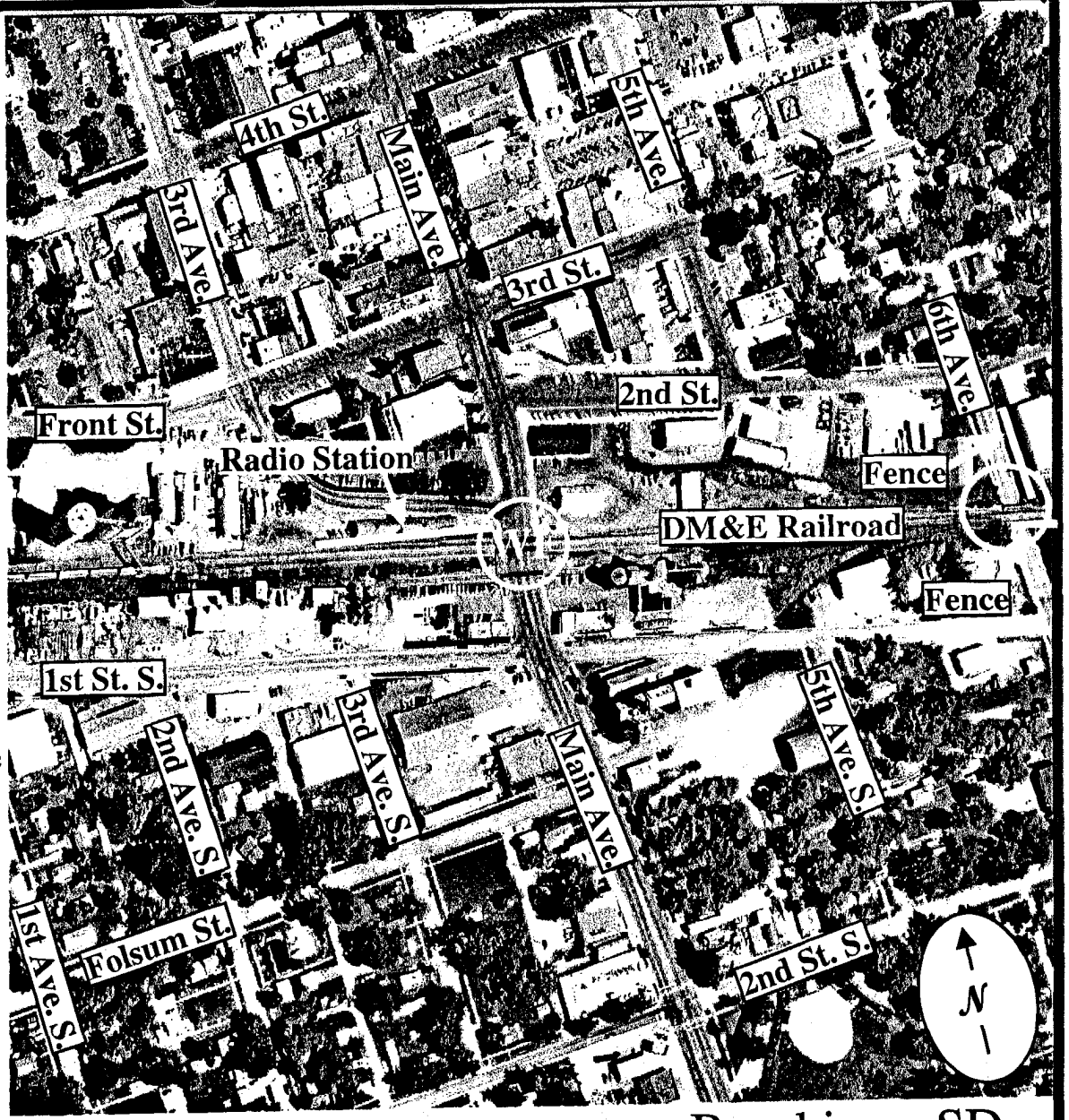
- Consider fence at radio station
- Incoming traffic from 3rd Ave. unable to see traffic control
- Fencing at back of houses between 6th Ave. & 22nd Ave. and along east side of 6th Ave. from existing fence at ROW to +/- 60 feet north.
- Whistle Free

Analysis:

- Design signal system & extend cantilevers to improve sight distance on 3rd Ave.
- Fence south side of ROW 6th Ave. to 22nd Ave.
- Improve fence at radio station

Approach:

- At service start up install Level E; install wires & foundations for future upgrade to Level F
- Upgrade to Level F @ 40 NMT
- Construct/improve fence as described above at service start up



Brookings, SD

DM&E

Location: Western Ave.
M.P.: 291.10
ADT: 3405
Existing Traffic Control: D

Baseline Formula:

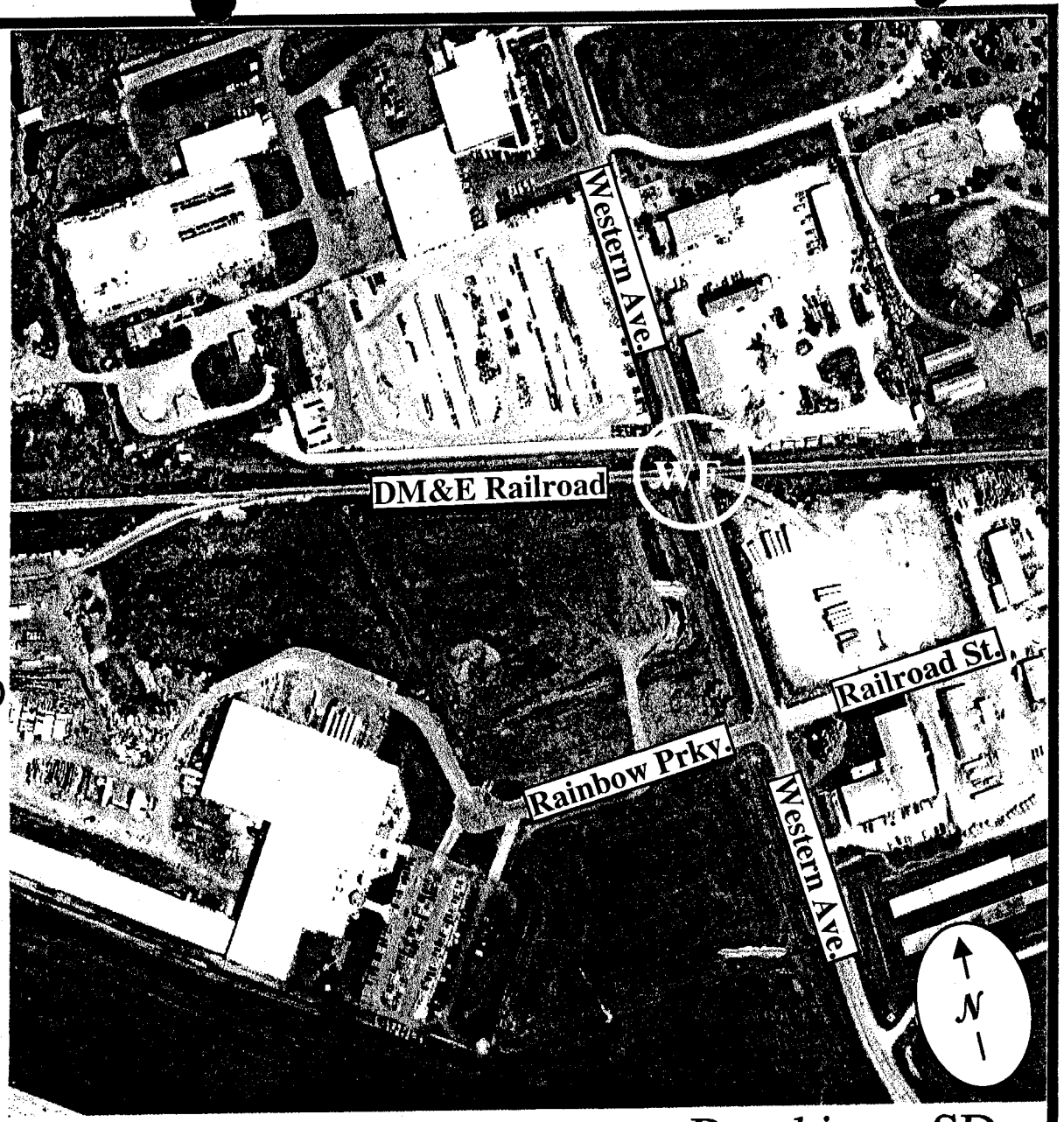
20	NMT:	E
50	NMT:	E
100	NMT:	E

Issues:

Gates are desired

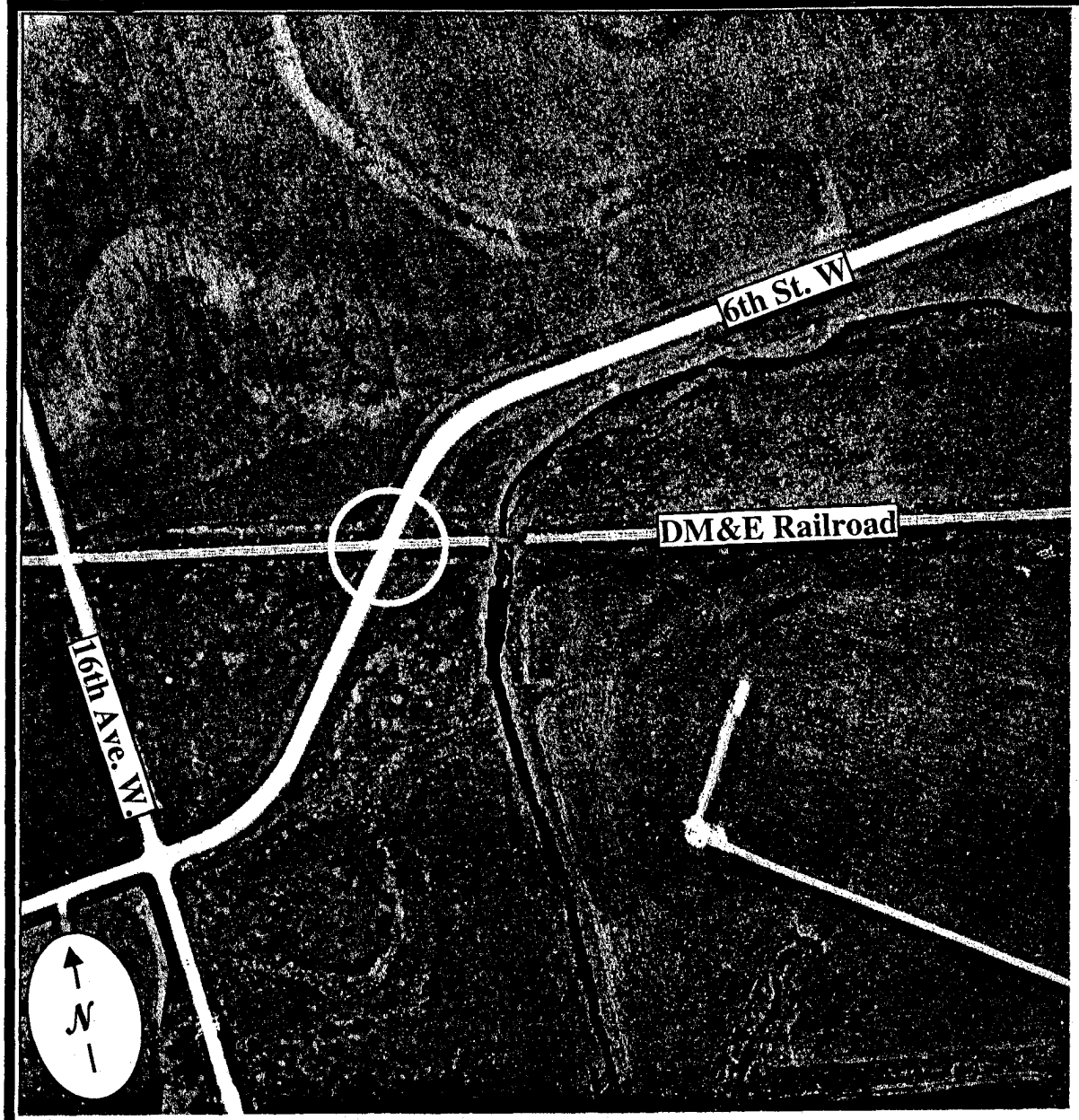
Approach:

- At service start up install Level E
- Upgrade, at DM&E discretion, to a directional whistle or Level F @ 40 NMT



Brookings, SD

DM&E



Location: 6th St. W

M.P.: 292.10

ADT: 206

Existing Traffic Control: B

Baseline Formula:

20	NMT:	B
50	NMT:	B
100	NMT:	D

Approach:

- Upgrade to Level C at service start up
- Upgrade to Level D @ 100 NMT
- City is suggesting Level D @ service start up. DM&E will continue a dialogue consistent with and subject to the overall safety plan.

Brookings, SD

DM&E

APPENDIX 2 TO DM&E COMMUNITY PARTNERSHIP AGREEMENT

This Appendix 2 with its accompanying utility crossing locations map (prepared by the City) is incorporated into the Community Partnership Agreement (hereinafter "Partnership Agreement") between DM&E and the City. This Appendix 2 provides a list of the existing utility crossings of the DM&E right of way within the City that DM&E agrees to protect from the direct effects of the DM&E rail rebuilding project. By "protect" the parties mean that DM&E will design and install appropriate protection for that given utility, and will pay for any subsequent damage caused thereto by ongoing rail operations, provided, however, that DM&E shall not be responsible for damage to said utility within the right of way that is not caused by the construction or operation of the Project. Additionally, this Agreement provides the list of planned or likely future utility crossing sites contemplated by the City, if there are any, along with the design criteria for an appropriate casing or other design feature to provide for such future crossing. For those future utility crossing sites listed herein and cross-referenced on the attached map, DM&E agrees to fund and install the specified casing or other defined design feature.

A. Existing Utility Crossings to be Protected by DM&E, along with the name of the city department (or company), the appropriate official(s) (and their address and telephone number) to whom DM&E should address field coordination issues during Project construction and operation:

1. Water Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

2. Electric Utility Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

3. Sewer Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

4. Gas pipeline Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

5. Telephone line Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

6. Cable or fiber optic Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

7. Other Crossings:

Department _____
Official(s) _____
Address _____
Phone number _____
Crossing points as identified in the attached utility locations map:
(a)
(b)
(c)

B. Future Utility Crossing Sites to be Installed by DM&E, with specification for the type of casing (or other accommodation) requested:

1.

2.

3.

This Appendix 2 to the Partnership Agreement is verified by the parties on this _____ day of _____, 2000.

_____ _____

For DM&E For City

j:\kvs\wp51\city\append2\city.ap2

APPENDIX B

RAILROAD BYPASS FEASIBILITY STUDY
FOR
BROOKINGS, SOUTH DAKOTA

Prepared For

THE CITY COMMISSION

Wayne Hauschild, Mayor

COMMISSIONERS

Samuel Artz — Emil Klavetter
Barb Murra — Zeno Wicks

Ted Kryger, Municipal Finance Officer
Gregg Jongeling, City Engineer

Prepared By

BANNER ASSOCIATES, INC.
CONSULTING ENGINEERS
BROOKINGS, SOUTH DAKOTA

JUNE 4, 1999

#8033

RAILROAD BYPASS FEASIBILITY STUDY FOR BROOKINGS, SOUTH DAKOTA

CHAPTER 1. INTRODUCTION, AUTHORIZATION AND PURPOSE

CHAPTER 2. BYPASS ALTERNATIVES TO EXISTING RAILROAD ALIGNMENT

CHAPTER 3. SELECTED BYPASS ROUTE DESCRIPTION

1. Introduction, Authorization and Purpose

1.1 INTRODUCTION, AUTHORIZATION AND PURPOSE OF STUDY. Banner Associates, Inc. of Brookings, South Dakota was authorized by the Brookings City Commission to study and prepare a report to evaluate whether a feasible and reasonable railroad bypass could be constructed around the City of Brookings. The study was initiated due to public concerns over the railroad improvement project presently being proposed by the Dakota, Minnesota and Eastern Railroad Company (D M & E). As part of this project, the company is proposing to upgrade all of its existing track including the segment presently passing through Brookings and also extend the rail system into the coal fields of the Powder River Basin in Wyoming. The primary goal of this project is to expand the company's service area, develop new markets and improve the company's capacity to carry goods, with an emphasis on coal. To achieve that goal the company will need to increase the number of trains using its rail system and also increase the speed of those trains. Many in the Brookings community have voiced opposition to the plan as it affects the city and the safety of its residents. The Mayor of Brookings appointed a five person Railroad Bypass Advisory Committee to work with Banner to prepare a Brookings bypass proposal for consideration by the Federal Surface Transportation Board during the Environmental Impact Study phase of the project approval process.

1.2 BACKGROUND. The D M & E application before the Surface Transportation Board proposes complete rehabilitation of its existing main line track through the City of Brookings. The D M & E projects that future train traffic could reach 37[1] or more trains per day at a projected goal of 100 million tons of coal per year. Information provided by D M & E indicate these trains would be traveling at speeds of 45 - 49 miles per hour. The figure of 37 trains per day is based upon 17 loaded coal trains east bound, 17 empty coal trains west bound and 3 non-coal trains going in either direction. The present railroad traffic through Brookings consists of an average of 3 trains per day traveling at approximately 10 miles per hour. The proposed increase in the number and speed of trains passing through the middle of the city has raised concerns about the ability of emergency vehicles to get to various parts of the city without untimely delays. The impact of 37 high speed trains per day upon the public safety, vehicular travel, noise, vibration, property values (particularly the 347 residential homes within 300' of the existing railroad right of way), air quality, economic issues and general way of life are also of major concern to the residents of the City of Brookings.

[1] It should be noted that in the D M & E Application for Construction and Operation Authority, STB Finance Docket #33407, there is a discussion about the need for passing sidings at frequent intervals to allow loaded coal trains to pass empty trains unimpeded at nominal speeds of 45 mph. These sidings will be strategically located to provide for 30 minute meets (intervals) for 50 million ton initial operations and 15 minute meets for 100 million ton later operations.

The most important concern the Brookings community has as it addresses the proposed D M & E upgrade plans is the impact on public safety. The major issue in this regard is the potential for train and vehicle collisions at crossings. Exposure is a number or index which can be used to compare safety concerns at railroad crossings. The exposure index equals the number of trains per day times the number of vehicles per day crossing a railroad track. The higher the exposure index, the greater the collision potential between trains and vehicles at crossings where the railroad track and the vehicle road are at the same grade, defined as an "at- grade" crossing. If a road passes above or below the railroad track by means of a bridge, on either the road or the railroad, the exposure is zero and the potential for train and vehicle collisions is zero. Brookings has six at-grade railroad crossings and one grade separation crossing.

2. Bypass Alternatives to Existing Railroad Alignment

2.1 GENERAL DESIGN CRITERIA. Discussions with D M & E project engineers indicate that the design standards for their proposed upgrade establishes maximum vertical profile grades of 1.0 percent and maximum horizontal curves of 1.0 degree. Their criteria has been used in evaluating the alternatives to the reconstruction of the existing railroad alignment.

2.2 ALTERNATIVES. Banner was retained by the City of Brookings to evaluate alternatives to the proposed D M & E upgrade of its existing track alignment. Initially four bypass routes were evaluated, along with two options for lowering the track where it passes through the city. From the initial six alternatives considered, a southern bypass route around Brookings and a northern bypass route were considered worthy of further consideration.

2.3.1 The Southern Bypass Alternative. The southern bypass route around Brookings that has been given further study has a length of 14.2 miles compared to a length of 10.4 miles for the existing alignment when using the same beginning and ending points. New right of way for this route would require approximately 370 acres of land from 38 separate parcels. An estimated 65 acres of wetland would be impacted by the construction of the railroad along this corridor. Much of the southern alignment would be located within a flood plain, resulting in about eight miles of embankment constructed 8 to 12 feet above existing ground. Although the southern route may be considered feasible, it does not appear reasonable when compared to the northern bypass alternative.

2.3.2 Northern Bypass Alternative. The northern bypass route meets the criteria of being both feasible and reasonable when compared to the proposed D M & E upgrade of its existing alignment. The following information describes the route of this proposed bypass and the advantages it offers over the upgrading of the existing alignment.

3. Selected Bypass Route Description

3.1 ROUTE LOCATION. When evaluating bypass routes, the City of Volga, South Dakota located five miles west of Brookings became an added consideration in the selection process. This consideration is addressed later in the report. The proposed bypass route begins one and a half mile west of Volga at an intersecting point on the existing D M & E track one quarter mile north of U. S. Highway 14. The bypass proceeds east for about one mile and then curves northeasterly. The route then curves to the east in a manner that avoids a large cattle feeder operation followed by a second curve to place the alignment adjacent to the section quarter line at a point one half mile north of Volga. The alignment then follows along the north side of section quarter lines for approximately nine miles to a point one half mile east of Interstate Highway I-29 where it then curves southeast. The alignment proceeds southeast approximately four miles and ends with a curve that rejoins the bypass with the existing alignment of the D M & E railroad. The total length of the bypass route is 15.2 miles compared to 13.4 miles of existing railroad between the beginning and ending points of the bypass. Figure 1 shows the proposed alignment of the bypass along with the present railroad alignment.

An existing spur line with a Y intersection on the railroad mainline serves a bulk cement transfer station one mile north of the track. A new Y may be required on the bypass to serve that facility. If a Y was installed, the existing track between the bypass mainline and U.S. Hwy. 14 would be eliminated along with the existing highway crossing.

3.2 LAND USE. The land located along the proposed bypass route is used nearly exclusively for agricultural purposes. There are 9.2 miles of the route that cross agricultural crop land and 6.2 miles that cross pasture or grass land. Within the crop land area is 1.5 miles of property owned by South Dakota State University and utilized for agricultural research. It is anticipated that there would be no change in current adjacent land use as a result of constructing a railroad bypass on this route.

There are 5 residences located within 300 feet of the proposed bypass alignment. A research facility consisting of several wooden barns is located on South Dakota State University property. The proposed alignment would require the removal of these barns. It appears that all other buildings in the vicinity of the route could be avoided.

3.3 HORIZONTAL AND VERTICAL PROFILE. The existing ground profile along the bypass route is well within the design criteria, with one exception. In one 3000 foot segment, the ground elevation changes from 1654 to 1670 and then back to 1650. Within that segment a grade cut will be required with the maximum cut being 18 feet. By performing that cut, 10.4 miles of the bypass could be designed with grades ranging from 0.00 percent to 0.30 percent; 2.8 miles of

the bypass could be designed with grades ranging from 0.30 percent to 0.50 percent and 2.0 miles of the bypass could be designed with grades ranging from 0. 50 percent to 0.70 percent. The bypass route has no physical restriction that would require constructing horizontal curves greater than the maximum 1.0 degree curve established by D M & E as a standard.

3.4 ROAD BED CROSS SECTION AND EARTHWORK. The railroad cross-section to be used by D M & E utilizes a 28 foot subgrade width measured below the aggregate ballast. The cross-section also provides for 10 foot wide ditch sections located a minimum of 6 feet below the top of the rail. Inslopes would be constructed with a rise of 3.0 horizontal to 1.0 vertical. Figure 2 shows the proposed railroad typical cross-section.

Earthwork volumes were calculated by multiplying roadbed cross-sectional areas by the length of various segments and then multiplying that volume by 1.3 to allow a 30 percent embankment shrinkage factor. Because of the flat to gently rolling terrain, balance points between cuts and fills can be obtained within individual segments of one mile or less.

3.5 ROADWAY CROSSINGS AND SIGNALS. The bypass route crosses 10 gravel surfaced roads and 6 bituminous pavement surfaced roads and a 4 lane divided rural interstate highway. The 10 gravel surfaced roads are low traffic routes with traffic counts estimated to be less than 50 vehicles per day. The interstate highway has an ADT of 8,910 vehicles. With a minimum of 37 trains per day, the exposure index for the interstate highway is 329,670. Regardless of the exposure index, federal highway policy will require a grade separation at this intersection. Traffic counts were also obtained for the bituminous surfaced roads and a table of the exposure index for those roads is shown below.

EXPOSURE INDEX FOR ROADWAY CROSSINGS ON THE BYPASS ROUTE

Crossing Location	Present Traffic Count	Projected Train Count	Projected Exposure
County Road 5, North of Volga	1,155	37	42,735
County Road 7, North of U. S. 14	545	37	20,165
County Road 9, North of U. S. 14	750	37	27,750
County Road 77, North of U. S. 14, Bypass	2,345	37	86,765
Landfill Road, North of U. S. 14 Bypass	540	37	19,980
U. S. Highway 14, East of Brookings	2,800	37	103,600

With the exception of Interstate Highway I-29, all road crossings are anticipated to be at-grade crossings. Grade crossing approaches would be constructed and signage or crossing signals installed at each crossing. Approach signs and railroad crossing signs would be installed at each

gravel road crossing. All asphalt surfaced road crossings would be equipped with automatic flashing signal lights and roadway gates.

A separation would be constructed at the intersection of the railroad with I-29. The separation would allow the railroad to remain at grade with the highway elevated to pass over the railroad.

3.6 BRIDGES AND DRAINAGE STRUCTURES. The proposed bypass route crosses the Big Sioux River and several other small streams and drainageways. USGS maps were used to identify the location of the various crossings and to estimate crossing sizes. In addition, a survey of bridges located on the existing D M & E route provided information on what type and size structures are in place on that line. The bypass roughly parallels the existing line and a majority of the streams and drainageways are common to both routes. Calculations indicate that the bypass would require a 450 foot bridge over the Big Sioux River, 4 bridges less than 50 feet long, 6 bridges between 50 and 150 feet long and 6 box culverts with openings 10 feet by 10 feet. For cross drainage, it is estimated that an average of 4 - 36 inch diameter reinforced concrete pipe culverts with flared ends would be required per mile of railroad bypass for localized drainage.

3.7 RIGHT OF WAY. It is D M & E's policy when acquiring new right of way to purchase a strip of land 200 feet wide. Because the bypass route crosses nearly level terrain, the railroad bed could easily be constructed within the 200 feet of acquired right of way. One exception would be in an area of cut previously discussed. An additional area of approximately 3 acres would be required to accommodate the back slopes in the cut section. The total area of right of way required for the proposed bypass is estimated to total 370 acres. Of that area, 36 acres is located on land owned by the State of South Dakota. Within the 370 acres is 225 acres that is used to raise crops and 145 acres that is grass land or pasture. Acquisition negotiations would be required on 32 parcels of land along the bypass route. By crossing sections of land along the one quarter line, the impact on individual landowners is minimized. To define property boundaries, and to keep livestock away from the track, all right of way would be fenced. It is assumed that a standard SD Department of Transportation type 3 fence, consisting of 5 strands of barbed wire mounted on wood and steel posts, would be used along the railroad.

3.8 CITY OF VOLGA BYPASS. In considering a bypass around Brookings, the City of Volga should also be taken into account. Volga is located 5 miles west of Brookings and serves as a bedroom community for a large portion of the population who work or attend the university in Brookings. U. S. Highway 14 is located along the north side of the city with the D M & E railroad paralleling it about 50 feet to the south. Although the majority of the city is on the south side of the railroad, several homes and a large mobile home park are on the north side. Essentially all vehicle traffic entering or leaving Volga must cross the railroad. Increasing the train traffic from the present 3 per day to the anticipated 37 trains per day will create a serious safety problem at the rail crossings in Volga, particularly for south bound traffic. Because there is very little

room between the highway and the railroad, vehicles entering Volga often must stop on the highway, exposing themselves to serious rear end collisions. The South Dakota Soybean Plant located on the east edge of Volga has an average of 150 trucks entering their facility daily. East bound trucks on their way to the plant must turn off highway 14 and immediately cross the railroad track. The distance between the highway and the railroad track is less than the length of a semi truck. Therefore, east bound trucks turning south can be stop on the highway during the time a train passes over the crossing.

A city athletic field and park is located 350 feet south of the railroad track. Immediately south of the athletic field is the public school. Children living on the north side of the railroad and a large number of the school buses must cross the tracks daily.

3.9 TURNOUTS AND PASSING SIDINGS. A turnout would be required at each end of the railroad bypass to tie the new alignment to the existing. In addition, two turnouts would be required if a new Y was to be constructed to serve the cement transfer station north and east of Volga. To meet the D M & E's proposed operating plan, passing sidings will need to be provided at frequent intervals. That would be true for either a bypass route or a reconstructed route. Since the two routes are nearly the same length, it is assumed that a passing siding would be the same length for either option. Therefore, no length, location or cost information was included for sidings because the cost of these improvements along either route would be offsetting.

3.10 ENVIRONMENTAL ISSUES.

3.10.1 Wetlands. Copies of the National Wetland Inventory maps, prepared by the United States Department of Interior, were obtained to quantify wetlands along the bypass route. Wetlands impacted by the proposed bypass route amount to approximately 31 acres. If wetlands are destroyed as part of the railroad project, mitigation of land would be required. It is assumed that mitigation would require two acres of new wetland to be developed for each acre of wetland destroyed. Therefore, approximately 62 acres of wetland mitigation would likely be required. A local landowner has volunteered to provide as much wetland mitigation area as required for the proposed bypass.

3.10.2 Noise. Because of the rural location and sparse population along the bypass route, noise is assumed not to be a major environmental issue.

3.10.3 Archaeological. The Big Sioux River valley is known to have been occupied by native Americans throughout history. For that reason, it is likely an archaeological review of any area proposed for a railroad relocation would be required. The study would be conducted by an archaeologist and would probably consist of a records search for

previous documented findings and a walking survey along the proposed route. Any discoveries may need further study, depending upon the significance of the find.

There are no historical structures or any known historical sites located along the proposed bypass route.

3.11 SOCIAL AND ECONOMICAL ISSUES. The operation of a rail line along the proposed bypass route is anticipated to have little social impact. Railroad / road crossings will exist where there were none previously. Such crossings will cause delays in travel, however; with the low traffic volume, the effect on the general public will be small compared to crossings on the existing alignment.

The railroad will eliminate 225 acres of crop land and 145 acres of hay and pasture land spread over 32 parcels of land. The railroad right of way will also divide 19 of the 32 parcels causing inconvenience to those landowners. In three cases the right of way will create an isolated segment of property with no access. For those cases a permanent crossing easement would be required from the railroad to allow landowners access to both sides of the track.

3.12 SAFETY ISSUES. The proposed bypass would reduce the number of potential train / vehicle collisions due to the small number of vehicles traveling on the rural roads compared to the number traveling within the urban areas of Brookings and Volga. Refer to Sections 3.5 and 4.5 "Roadway Crossings and Signals" for Exposure Index Information.

3.13 RETENTION OF EXISTING TRACK. The proposed bypass would be constructed for coal trains and other through traffic that had no need to go to Brookings or Volga. The existing track would be retained to provide service to rail customers located in those cities. Although the track is presently maintained for the current rail traffic, it is assumed that minor annual maintenance improvements would be required to continue use of this segment as a spur.

4. Existing Route Reconstruction Description

4.1 EXISTING ROUTE LOCATION. The point on the D M & E railroad that is common with the starting point of the proposed bypass is approximately 1.5 miles west of Volga, South Dakota. The existing line proceeds south east one half mile where it crosses U. S. Highway 14 and then curves east parallel to the highway. A mile east of Volga the track curves southeast as it heads to Brookings. Beyond Brookings the track continues southeast for about 3 miles where it intersects the point on the east end of the bypass. Figure 1 shows the location of the existing railroad alignment. The total length of this route is 13.4 miles.

4.2 LAND USE. The D M & E railroad essentially cuts the City of Brookings in half. Three public schools are located south of the railroad and two public schools, along with South Dakota State University are located on the north side. The city has a volunteer fire department with members who work and live throughout the city. The main fire station and one substation are on the north side of the track and one substation is on the south side. The 61 bed Brookings hospital, which also houses the city ambulance service, is on the north side. A public park is located at the intersection of the railroad and Medary Avenue. A highly utilized public walking / bicycle path crosses the railroad on the east side of the city. Two major "pedestrian only" crossings, used primarily by school children, are located between Medary Avenue and 17th Avenue. The city's primary commercial district is adjacent to and north of the railroad along Main Avenue. Two shopping malls are located along 22nd Avenue south of the track. An elderly care facility consisting of an 81 bed nursing home, a 28 unit assisted living center and a 22 unit elderly apartment is located on property that abuts the north side of the railroad. A second nursing home with 79 beds is attached to the hospital on the north side of the railroad. There are two additional assisted living facilities on the south side of the track with a combined total of 60 living units. Figure 3 shows the City of Brookings and significant community facilities anticipated to be impacted by the increase of rail traffic from 3 trains per day to 37 or more trains per day. Figure 4 shows similar information for Volga.

In passing through Volga, the railroad right of way abuts residential property occupied by 23 families. There are 34 residences in Volga within 300 feet of the railroad right of way. In Brookings there are 180 residences located immediately adjacent to the railroad property and 347 within 300 feet of the railroad right of way.

4.3 HORIZONTAL AND VERTICAL ALIGNMENT. The existing alignment is generally straight with two large radius curves that are well within the design criteria used by the D M & E. The vertical alignment is generally level and within the design criteria. An exception is the vertical profile of the track as it passes through Brookings. The city is located on a rise and the railroad is laid out to pass over the highest part of the rise. On the west side of the city the grade on the

track is 1.04 percent for approximately 1.4 miles. The track levels off through the central portion of the city and then slopes downward at 1.20 percent for one mile before it again levels off as it continues east.

4.4 ROADBED CROSS SECTION AND EARTHWORK. The existing road bed is of an old design with a subgrade width of 10 to 12 feet. The D M & E intends to widen the subgrade to a design top width of 28 feet. Inslopes would be constructed at 3 feet horizontal to 1 foot vertical. It is assumed that all construction can be restricted within the existing 100 feet of right-of-way but construction easements may be required for special construction situations.

Earthwork volumes were calculated by multiplying the area of the added embankment on each side of the track by the length of the segment and then multiplying the volume by 1.3 to allow for shrinkage. D M & E does not anticipate purchasing additional right of way through this portion of their project and therefore will be constructing its embankment within a 100 feet wide right of way area. There will be very little material within that narrow corridor available for use as embankment material. As a result nearly all embankment material will need to come from borrow sources outside the railroad right of way.

4.5 ROADWAY CROSSINGS AND SIGNALS. The existing railroad alignment crosses U. S. Highway 14 west of Volga and 8 rural gravel roads. In addition, it crosses 4 urban streets in Volga and 5 urban streets in Brookings. A grade separation on interstate highway I-29 accommodates the railroad crossing at that point. With the exception of 10th Street, which is a gravel road on the west side of Brookings, the gravel roads are low traffic routes with traffic counts of less than 50 vehicles per day. The South Dakota Department of Transportation recorded 24 hour traffic numbers for each of the railroad crossings in Brookings. The following table shows traffic counts and the number of exposures for the current railroad traffic and the projected future railroad traffic based on 3 trains and 37 trains minimum, respectively.

EXPOSURE INDEX FOR ROADWAY CROSSINGS ON THE EXISTING RAILROAD ALIGNMENT

Crossing Location	Present Traffic Count	Present Train Count	Present Exposure	Projected Train Count	Projected Exposure
U. S. 14 West of Volga, SD	3,295	3	9,885	37	121,915
10th Street West	206	3	618	37	7,622
Western Avenue	3,405	3	10,215	37	125,985
Main Avenue	11,060	3	33,180	37	409,220
6th Avenue *	1,300	3	0	37	0
Medary Avenue	9,045	3	27,135	37	334,665
17th Avenue	3,820	3	11,460	37	141,340
22nd Avenue	13,150	3	39,450	37	486,550

* The 6th Avenue crossing is a grade separation with the railroad over the street.

U. S. Highway 14 and the rural gravel surfaced crossings are anticipated to be at grade crossings. The crossing for U.S. Highway 14 currently has automatic flashing signal lights. That crossing would be upgraded to provide automatic flashing signal lights and roadway gates. Approach signs and railroad crossing signs would be installed at each gravel road crossing.

At some point, the number of exposures becomes high enough that grade separations should be considered for traffic safety. The state of South Dakota does not currently have minimum standards for grade separations based on an exposure index. In Minnesota grade separations are considered when the exposure index reaches the 300,000 range. For the purpose of this study, an exposure index of 300,000 has been used as the minimum level for which a grade separation should be considered.

Western Avenue and 17th Avenue in Brookings have exposure indexes under 300,000. It is proposed that these two crossings, along with the 4 urban crossings in Volga, be constructed with automatic flashing signal lights and roadway gates. Although Brookings Main Avenue has an exposure index greater than 300,000, it does not appear feasible to construct a grade separation at that location. The 6th Avenue underpass is located two blocks east of Main Avenue and provides unrestricted traffic flow from one side of the railroad to the other. Therefore, the Main Avenue crossing would be constructed with automatic flashing signal lights and roadway gates.

4.5.1 Medary Avenue Underpass. Medary Avenue is one of the primary routes across Brookings as can be seen by the 9,045 ADT and projected exposure index of 334,665. For that reason, it is proposed that a grade separation be constructed at its intersection with the railroad. Because of the existing street profile, an underpass for vehicles is more feasible than a vehicle overpass at the Medary location.

4.5.2 Twenty Second Avenue Overpass. Twenty Second Avenue has the highest railroad crossing traffic count in the city at 13,150 vehicles per day and a projected exposure index of 486,550. It is the primary route for emergency vehicles traveling between the north and south halves of the city. A grade separation is proposed for the intersection of 22nd Avenue with the railroad. The structure would allow vehicle traffic to pass over the railroad at that location.

4.6 PEDESTRIAN CROSSINGS. There is presently three designated pedestrian crossings in Brookings. One is in the vicinity of 12th Avenue, the second in the vicinity of 16th Avenue and the third is on the east edge of Brookings adjacent to the interstate highway. The crossings at 12th Avenue and 16th Avenue are proposed to be eliminated and chain link fence constructed across the public access. The crossing near the interstate highway is on a public walking / bicycle that extends around a large portion of the city. It is proposed that chain link fence be constructed along both sides of the right of way and that flashing lights and gates be installed at the pedestrian crossing.

4.7 BRIDGES AND DRAINAGE STRUCTURES. The existing railroad has 15 structures over rivers and drainageways between the beginning and ending points of the bypass route. Seven bridges are between 60 and 80 feet in length, 6 are between 100 feet and 150 feet long and the Big Sioux River crossing is 430 feet long. All of the structures are of timber construction except for the Big Sioux River crossing where a steel truss bridge spans the main channel. It is assumed that all bridges will be replaced with steel and/or concrete structures with lengths similar to those in place. It is estimated that there are an average of 4 - 36 inch diameter culverts installed per mile of railroad. It is further assumed that one half of the culverts will be replaced and one half will remain in place with extensions added to each end.

4.8 RIGHT OF WAY. It is the intent of D M & E to contain its railroad upgrade within its existing 100 feet of right of way. To define property and prevent access along the railroad right of way, fencing will be installed. In rural areas 5 strand barbed wire fence mounted upon wood and steel posts would be constructed. In the urban areas, 8 feet high chain link fence would be installed along right of way abutting residential property.

4.9 TURNOUTS AND PASSING SIDINGS. A new track turnout would be installed at each location where one now is located. There are 15 turnouts within the segment of railroad being discussed in this report. As discussed in the bypass alternative, no passing sidings are included in this report as part of the reconstruction of the existing railroad.

4.10 ENVIRONMENTAL ISSUES.

4.10.1 Wetlands. Reconstruction of the existing railroad will impact wetlands within existing right of way. Much of the alignment crosses wetlands and widening the subgrade will result in some of those wetlands being eliminated. Wetlands impacted by the railroad upgrade will amount to approximately 17 acres. With the 2 for 1 requirement for mitigation, 34 acres of wetland mitigation would likely be required.

4.10.2 Noise. The increase in noise from 37 trains per day is a serious concern for the residents living along the railroad track.

4.10.3 Archaeological Issues. Since the existing track will be reconstructed within the existing right of way, it is assumed that there would be no significant archaeological issues that would need to be addressed.

4.11 SOCIAL AND ECONOMICAL ISSUES. Increasing rail traffic to 37 trains per day will have a social impact on the Brookings community. Concerns regarding safety and noise have been addresses earlier in the report, but other issues are also present. Traffic will be delayed. Pedestrian crossings will be eliminated. The potential for structural damage due to vibration will increase. There is considerable concern that the value of residential property in the vicinity of the railroad will decrease over time due to the increased rail traffic. The proposed underpass at Medary Avenue and the overpass at 22nd Avenue will require new less convenient access to several businesses and may result in the removal of several homes.

4.12 SAFETY ISSUES. Safety is the primary concern of the communities. Even with the grade separations, gated crossings and other precautions, there is still a danger of a train related accident. Increasing the number of trains from 3 to 37 compounds that danger regardless of the physical barriers in place.

5. Opinion of Probable Project Costs

5.1 COST ESTIMATING CRITERIA. Unit costs were developed for various components of the railroad cost comparisons. The cost per mile of track combines the costs for ballast, rail, ties, plates, spikes and surface leveling. Culverts were calculated using 36 inch diameter reinforced concrete pipe with flared ends. In nearly all cases the costs assigned to the bypass route and the existing upgrade are the same. One exception is for earthwork. On the bypass, the right of way will be 200 feet wide and the embankment can be constructed using conventional earthmoving equipment and utilizing material found within the right of way. For the reconstruction of the existing track, the right of way is 100 feet wide and embankment material will need to come from borrow sources outside the right of way. Trucks and / or rail cars will probably be required to deliver the material to the construction site. Also, embankment construction will be occurring while the line remains in service. Building the embankment on both sides of the rail under traffic will create delays and inefficiencies in the construction process. Therefore, the cost of earthwork for the reconstruction was calculated at a higher rate than that used for constructing the bypass. A second exception is wetland mitigation where a donated site for the required bypass mitigation has reduced the cost from $5,000/acre to $500/acre.

Several sources of information were used to develop the opinions of probable costs for the two options discussed in this study. The South Dakota Department of Transportation , SDDOT, has a Division of Air, Rail and Transit, and personnel from that office were contacted about unit costs for some items. Following each state highway bid opening, the SDDOT publishes a tabulation of bids received for all the projects bid at that time. Banner Associates receives copies of those tabulations, and the information contained therein is useful in estimating future work. Several railroad construction contractors were contacted, and their representatives provided cost information. The firms contacted included: Midwest Railroad Construction from Gillette, WY; Swanson Contracting from Chicago, IL; Railroad Services, Inc. from Lakeville, MN and Dakota Rail Services from Fargo, ND. The engineering staff of the D M & E railroad company were regularly contacted and were provided working documents throughout the development stages for this bypass route. The information from the various sources was reviewed and compiled to form unit costs for the preparation of the opinions of probable costs for each alternate.

The SDDOT right of way department was contacted for information pertaining to land costs. A local real estate firm specializing in agricultural land sales also provided useful information on land prices in the area under consideration. The cost for right of way is assumed to be $5,000 per acre which is several times the probable land value, but includes mitigation costs for severance damages and legal activities that may be required in some cases.

Augustana College in Sioux Falls, SD has an archaeology department that performs archaeological studies for infrastructure projects such as the railroad bypass project. Their staff was contacted and provided cost information for conducting a records search and a walking survey for a proposed railroad alignment project.

The following schedules present the opinion of probable costs for the selected bypass alignment and the reconstruction of the railroad along its present alignment.

5.1.1 OPINION OF PROBABLE COSTS

SELECTED NORTH BYPASS ROUTE AROUND BROOKINGS, SD

ITEM NO.	DESCRIPTION	UNITS	QUANTITIES	UNIT PRICE	TOTAL
1	Clearing	Miles	15.2	$5,000.00	$76,000.00
2	Earthwork	Cu. Yds.	1,100,000	$2.00	$2,200,000.00
3	New Track (rail; ties; ballast)	Miles	15.2	$680,000.00	$10,336,000.00
4	High Speed Turnout	Each	2	$100,000.00	$200,000.00
5	Low Speed Turnout	Each	2	$50,000.00	$100,000.00
6	Turnout Controllers	Each	2	$120,000.00	$240,000.00
7	Pipe Culverts	L. F.	5,000	$80.00	$400,000.00
8	Bridges (10 Structures)	L. F.	1,100	$3,000.00	$3,300,000.00
9	Big Sioux River Bridge	L. F.	450	$3,000.00	$1,350,000.00
10	Box Culverts	Each	6	$60,000.00	$360,000.00
11	Interstate Hwy. Overpass	Each	1	$2,600,000.00	$2,600,000.00
12	Grade Crossing - Paved	Each	6	$60,000.00	$360,000.00
13	Grade Crossing - Gravel	Each	10	$25,000.00	$250,000.00
14	Signal Lights w/ Arms	Each	6	$120,000.00	$720,000.00
15	Crossbucks w/ Signage	Each	10	$2,000.00	$20,000.00
16	Barbed Wire Fence	Miles	30.4	$9,000.00	$273,600.00
17	Topsoil and Seeding	Acres	340	$800.00	$272,000.00
18	Right of Way	Acres	370	$5,000.00	$1,850,000.00
19	Building Relocation	Lump Sum	Lump Sum	$250,000.00	$250,000.00
20	Archaeological Review	Lump Sum	Lump Sum	$20,000.00	$20,000.00
21	Wetland Mitigation	Acres	62	$500.00	$31,000.00
22	Upgrade of existing track (For use as spur line)	Miles	13.4	$75,000.00	$1,005,000.00
	Construction				$26,213,600.00
	Contingencies, Engineering and Administration				$9,175,000.00
	Opinion of Probable Project Cost				$35,388,600.00
	Cost Per Mile				$2,328,200.00

5.1.2 OPINION OF PROBABLE COSTS

RECONSTRUCTION OF RAILROAD ALONG EXISTING ALIGNMENT

ITEM NO.	DESCRIPTION	UNITS	QUANTITIES	UNIT PRICE	TOTAL
1	Clearing	Miles	13.4	$2,500.00	$33,500.00
2	Earthwork	Cu. Yds.	116,000	$5.00	$580,000.00
3	Reconstruct Track	Miles	13.4	$500,000.00	$6,700,000.00
4	Low Speed Turnout	Each	15	$50,000.00	$750,000.00
5	Pipe Culverts	L. F.	1,900	$80.00	$152,000.00
6	Bridges (14 Structures)	L. F.	1,200	$3,000.00	$3,600,000.00
7	Big Sioux River Bridge	L. F.	450	$3,000.00	$1,350,000.00
8	Medary Underpass	Each	1	$1,150,000.00	$1,150,000.00
9	22nd Avenue Overpass	Each	1	$1,500,000.00	$1,500,000.00
10	Grade Crossing - Paved	Each	9	$60,000.00	$540,000.00
11	Grade Crossing - Gravel	Each	8	$25,000.00	$200,000.00
12	Grade Crossing (Pedestrian / Bike Path)	Each	1	$50,000.00	$50,000.00
13	Signal Lights w/ Arms (Main Street - Brookings)	Each Each	1	$200,000.00	$200,000.00
14	Signal Lights w/ Arms	Each	6	$120,000.00	$720,000.00
15	Barbed Wire Fence	Miles	20.8	$9,000.00	$187,200.00
16	8 Ft. Chain Link Fence	Miles	4	$80,000.00	$320,000.00
17	Topsoil and Seeding	Acres	96	$800.00	$76,800.00
18	Right of Way (For the Grade Separations)	Parcels	12	$200,000.00	$2,400,000.00
19	Wetland Mitigation	Acres	34	$5,000.00	$170,000.00
20	Utilities Relocation	Lump Sum	Lump Sum	$200,000.00	$200,000.00

Construction	$20,879,500.00
Contingencies, Engineering and Administration	$7,307,825.00
Opinion of Probable Project Cost	$28,187,325.00
Cost Per Mile	$2,103,530.00

6. Conclusions

The proposed upgrade of the Dakota Minnesota and Eastern Railroad to transport coal through the City of Brookings will have a significant negative impact upon the community. Increasing rail traffic from 3 trains traveling at 10 miles per hour to 37 trains traveling at 45 to 49 miles per hour will expose vehicles and pedestrians to serious safety hazards when in the vicinity of the railroad track. Exposure indexes increase from a present range of 618 to 39,450 to a projected range of 7,622 to 486,550. The exposure index is based upon current vehicle counts, which will continue to increase every year. The 37 trains per day is considered a minimum number for transporting 100 million tons of coal per year. Increases in train traffic beyond that number would also increase the exposure index.

Brookings is a growing community with residential development taking place primarily south of the railroad. As this growth continues, more of the population will be crossing the railroad on its way to and from school, work and other community functions. In addition to safety concerns, the 12 fold increase in trains passing through Brookings will be detrimental to the environment, property values, convenience and quality of life.

The bypass impacts 15.2 miles of rural land that is not currently crossed by a railroad. Nearly all of the land is used for agricultural purposes; however, nearly 40 percent is of marginal quality or poorly located for farming operations. Much of that land is low and wet and suitable only for prairie grass hay.

Although the selected bypass route is about 2 miles longer and has a marginally higher construction cost, it provides effective mitigation for a majority of the above concerns. It also provides benefits to the D M & E operations. The bypass around Brookings and Volga circumvents 70 percent of the population of Brookings County. The bypass route can be constructed with a flatter vertical profile than the current alignment through Brookings which would offset any increased operational costs for the railroad company due to the longer route. The 200 foot right of way on the bypass will provide flexibility to the D M & E if future sidings are required.

The bypass will provide a high speed through traffic route for coal trains. By maintaining the present track for a spur line, local rail service can be continued. With the present railroad operation, switching to and from sidings often requires cars be temporarily stored on the mainline. Increasing mainline traffic would not allow such actions. Constructing a bypass would provide more flexibility and less delays in switching cars at rail customer sidings.

The selected bypass rail route is a feasible and reasonable alternative to reconstructing the existing alignment. The 1.8 mile difference in length is insignificant when viewed with the overall project scope in mind. The marginal increase in added cost for a bypass is more than offset by the increase in safety to 70 percent of Brookings County's population. The difference in construction costs for the railroad may be reduced in the future by savings in the construction cost of proposed sidings.

7. Recommendations

It has been shown that the selected bypass route is a feasible and reasonable alternative to the reconstruction of the existing railroad alignment through Brookings and Volga, South Dakota. The Brookings City Commission recommends to the Federal Surface Transportation Board that the bypass around the city of Brookings be incorporated as one of the requirements for upgrading the Dakota Minnesota and Eastern railroad.

8. Executive Summary

Summarized below is a listing of advantages and disadvantages of the proposed railroad bypass that could be constructed around the City of Brookings as a part of Dakota, Minnesota and Eastern Railroad Company's railroad improvement project. Also shown is a listing of advantages and disadvantages of upgrading the existing railroad track along its current alignment through the City of Brookings.

8.1 SELECTED BYPASS ROUTE.

Disadvantages:

1. This route would require the purchase of new right of way.
2. The overall construction cost of the proposed bypass is marginally higher.
3. The proposed bypass route is approximately 1.8 miles longer.
4. The longer route may reflect slightly higher operating costs although this has not been documented to date.
5. This route will impact homeowners and other property owners not currently affected.
6. There would be a larger quantity of wetlands to mitigate.
7. There would be some additional costs to upgrade the current alignment to maintain it as a spur to service existing customers.

Advantages:

1. The proposed route would bypass 60-70% of Brookings County's population.
2. The bypass would provide an improved gradeline with no sections having a grade greater than 0.70%.
3. The proposed bypass would eliminate large increases in train traffic at urban intersections with high average daily traffic counts.
4. Improved safety for pedestrians and drivers would be possible if the coal train traffic was bypassed.
5. There would be no appreciable change in train noise and air quality along the current railroad alignment.
6. The ability of emergency vehicles to get to various parts of the City would not be negatively affected with the bypass.
7. There should be no appreciable negative economic impact on property values of the many homeowners adjacent to the existing railroad alignment if the anticipated increase in rail traffic is bypassed.
8. The concern over increased vibration and potential structural damage to building foundations along the current route would be negated with a bypass.
9. A spur crossing of Highway 14 to serve the new cement storage facility could be eliminated.
10. Construction of new trackage for the proposed coal train traffic would be easier along the new route compared to upgrading the existing route under traffic.

11. The wider right of way width on the bypass would lend itself better to future bypass siding construction.
12. Land for wetland mitigation along the proposed bypass would be donated by a local landowner.
13. The bypass reduces the exposure index at several critical crossings in Volga and the entrance to the South Dakota Soy Bean Plant just east of Volga.
14. The bypass would eliminate the need to close two highly utilized pedestrian crossings in the City of Brookings.
15. Current traffic interruptions in Brookings and Volga from train passage would not change with the proposed bypass.
16. The present rail service to local businesses involves switching to and from sidings and often requires cars to be temporarily stored on the mainline. This mode of operation could continue with the bypass.
17. Future growth south of the current tracks in Brookings would not be negatively impacted with a bypass as proposed.
18. No additional property would have to be acquired within the City if a bypass was constructed.
19. The construction of the proposed bypass could create business opportunities for D M & E in the form of future industrial expansion both in the Brookings and Volga area.
20. A bypass would allow the coal trains to maintain higher speeds than normally permitted through urban areas.

8.2 EXISTING ROUTE RECONSTRUCTION.

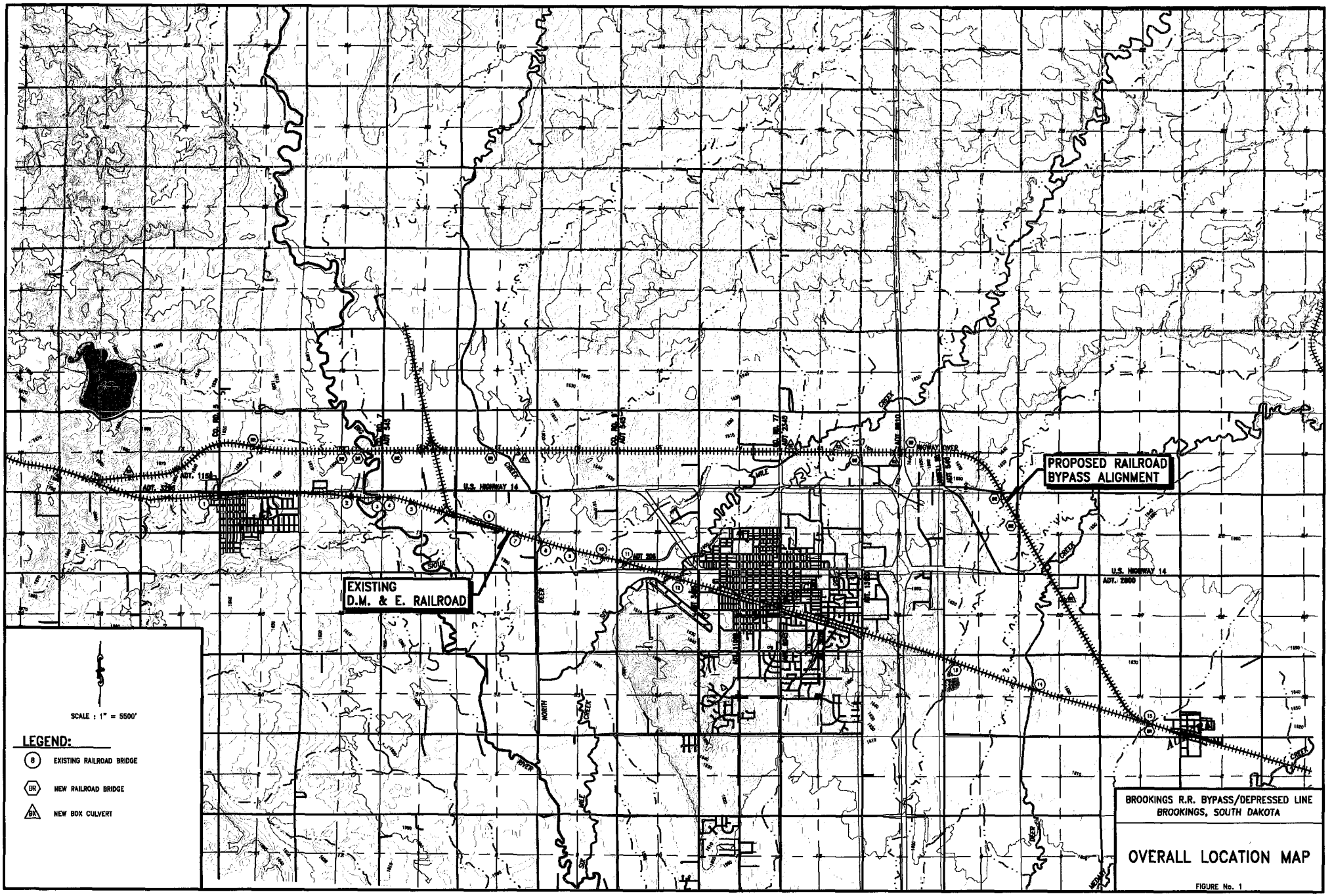
Advantages:

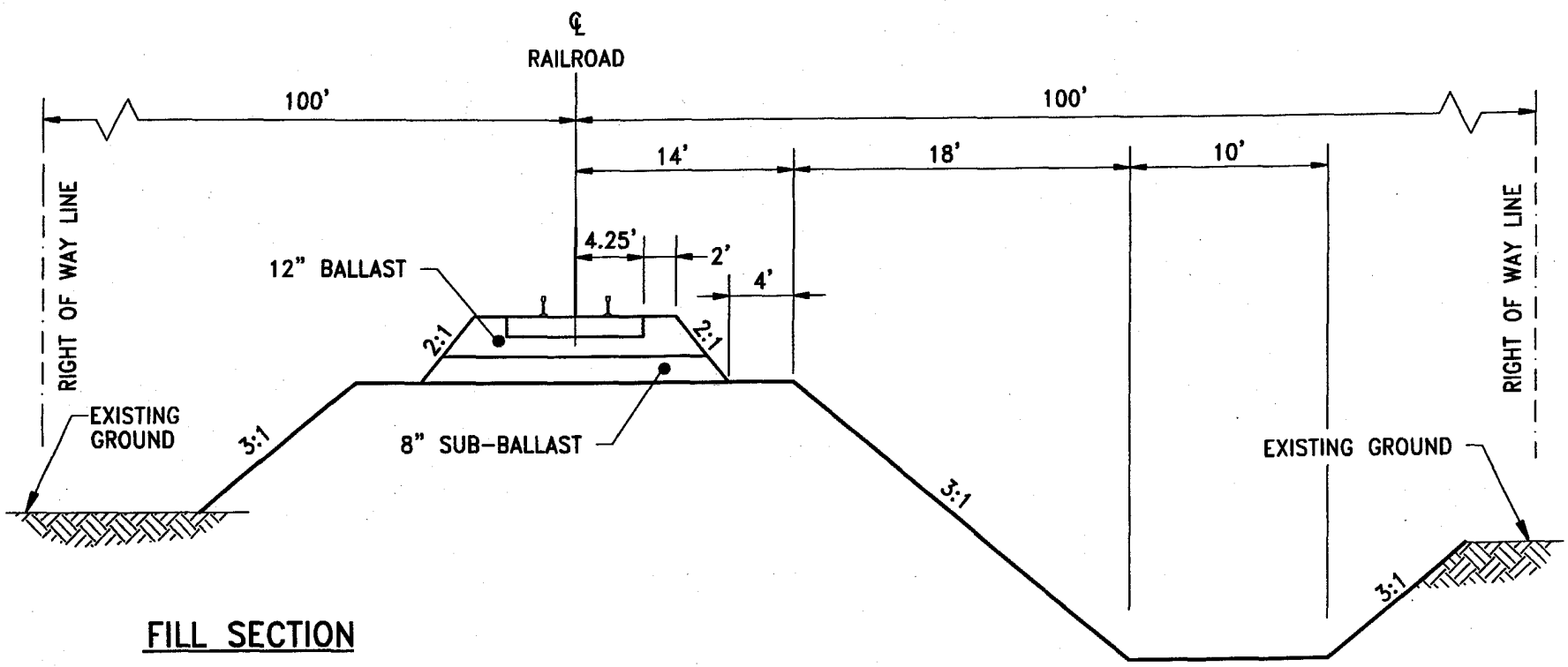
1. No additional right of way would have to be purchased except possibly for future siding construction.
2. The construction cost is less than a bypass.
3. The existing route is approximately 1.8 miles shorter.
4. Operating costs may be slightly lower but this has yet to be documented.
5. Minimal additional costs would be incurred to maintain service to existing customers.

Disadvantages:

1. The increased rail traffic would affect in some way 60-70% of Brookings County's population.
2. The existing gradeline exceeds D M & E's design criteria of 1.00% maximum grade for approximately 2.4 miles.
3. The additional rail traffic would increase the exposure index at major urban intersections to a level where grade separations should be considered where feasible.
4. The ability of emergency vehicles to get to various parts of the City would be compromised unless grade separations were provided at key locations.
5. The increased noise and vibration and decrease in air quality would have a negative impact on property values adjacent to the existing alignment.

6. The existing spur line crossing U.S. Highway 14 between Volga and Brookings to serve customers to the north would have to remain.
7. Construction under continued operation would be inconvenient and expensive.
8. Additional wetlands impacted by construction upgrade work would have to be mitigated.
9. Two highly utilized pedestrian crossings in the City of Brookings would have to be closed.
10. Service to existing customers would be more difficult and less timely.
11. Future growth south of the tracks in Brookings might be negatively impacted.
12. If grade separations are constructed where justified by exposure index values, several property owners would have to be relocated, streets would have to be closed and new entrances to several businesses would have to be identified and constructed.
13. Increased rail traffic would cause considerable delay and general traffic interruption for the traveling public.
14. Additional right of way may need to be acquired to construct any future passing sidings.
15. Numerous property owners would be negatively affected by construction activities that would occur essentially in their back yards.


PROPOSED RAILROAD BYPASS ALIGNMENT
EXISTING D.M. & E. RAILROAD
U.S. HIGHWAY 14
ADT. 2300
ADT. 1150
ADT. 2300
SCALE : 1" = 5500'
LEGEND:
EXISTING RAILROAD BRIDGE
NEW RAILROAD BRIDGE
NEW BOX CULVERT
BROOKINGS R.R. BYPASS/DEPRESSED LINE
BROOKINGS, SOUTH DAKOTA
OVERALL LOCATION MAP
FIGURE No. 1

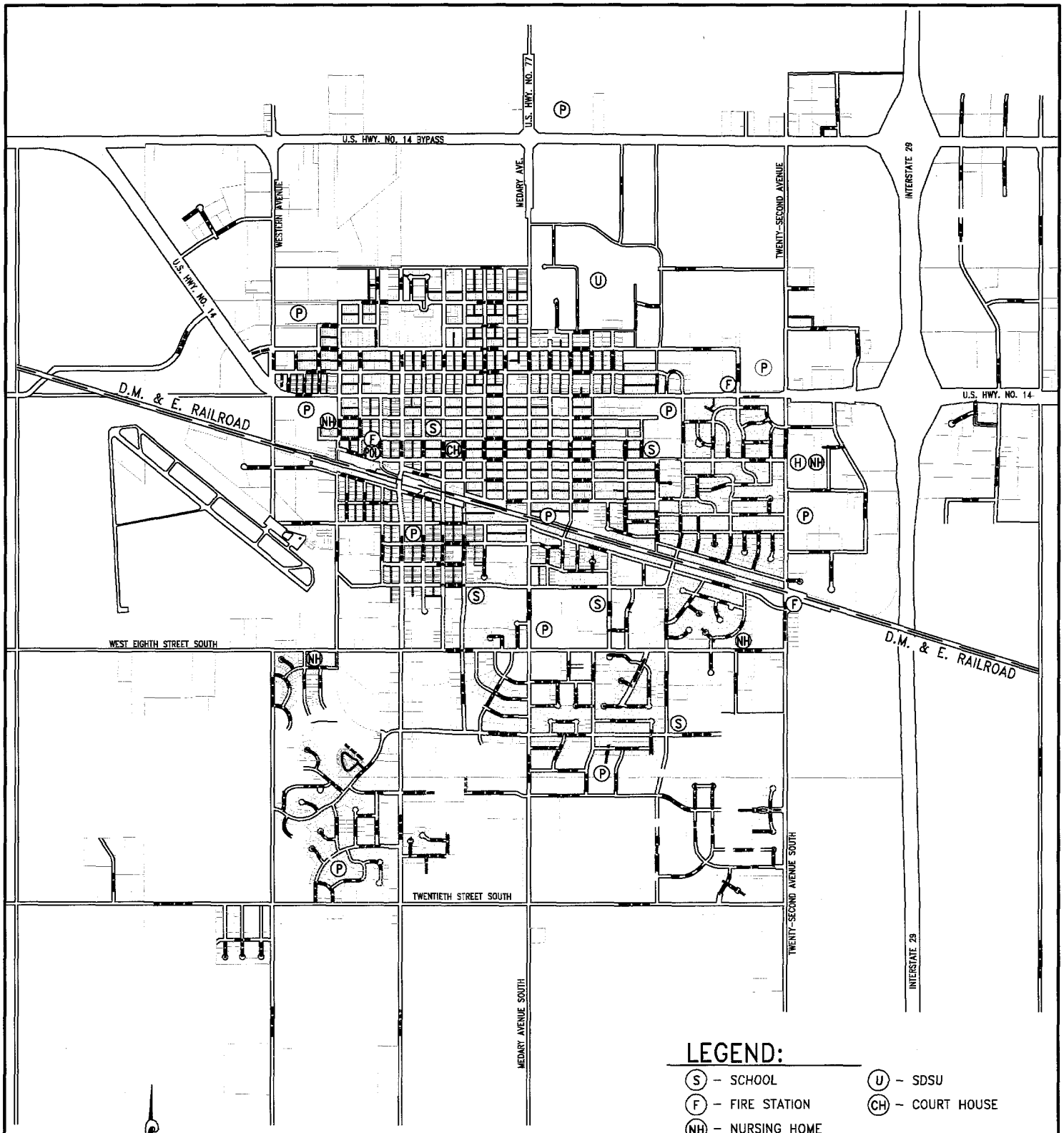


PROPOSED TYPICAL RURAL RAILROAD SECTION

BROOKINGS R.R. BYPASS/DEPRESSED LINE
BROOKINGS, SOUTH DAKOTA

PROPOSED TYPICAL RURAL RAILROAD SECTION

FIGURE No. 2



LEGEND:

- (S) – SCHOOL
- (F) – FIRE STATION
- (NH) – NURSING HOME
- (P) – PARK
- (H) – HOSPITAL
- (POL) – POLICE STATION
- (U) – SDSU
- (CH) – COURT HOUSE

CITY OF

BROOKINGS

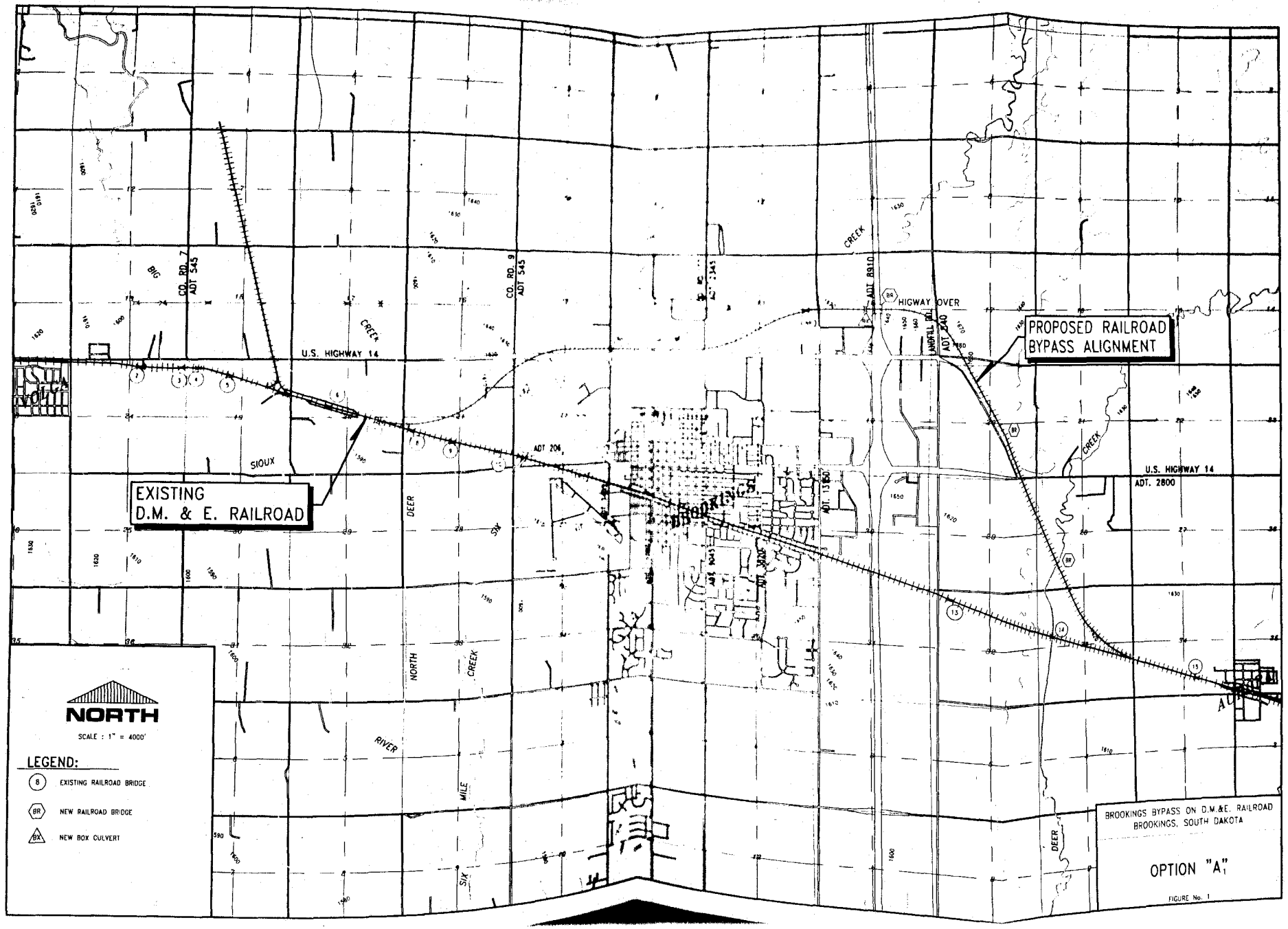
SOUTH DAKOTA

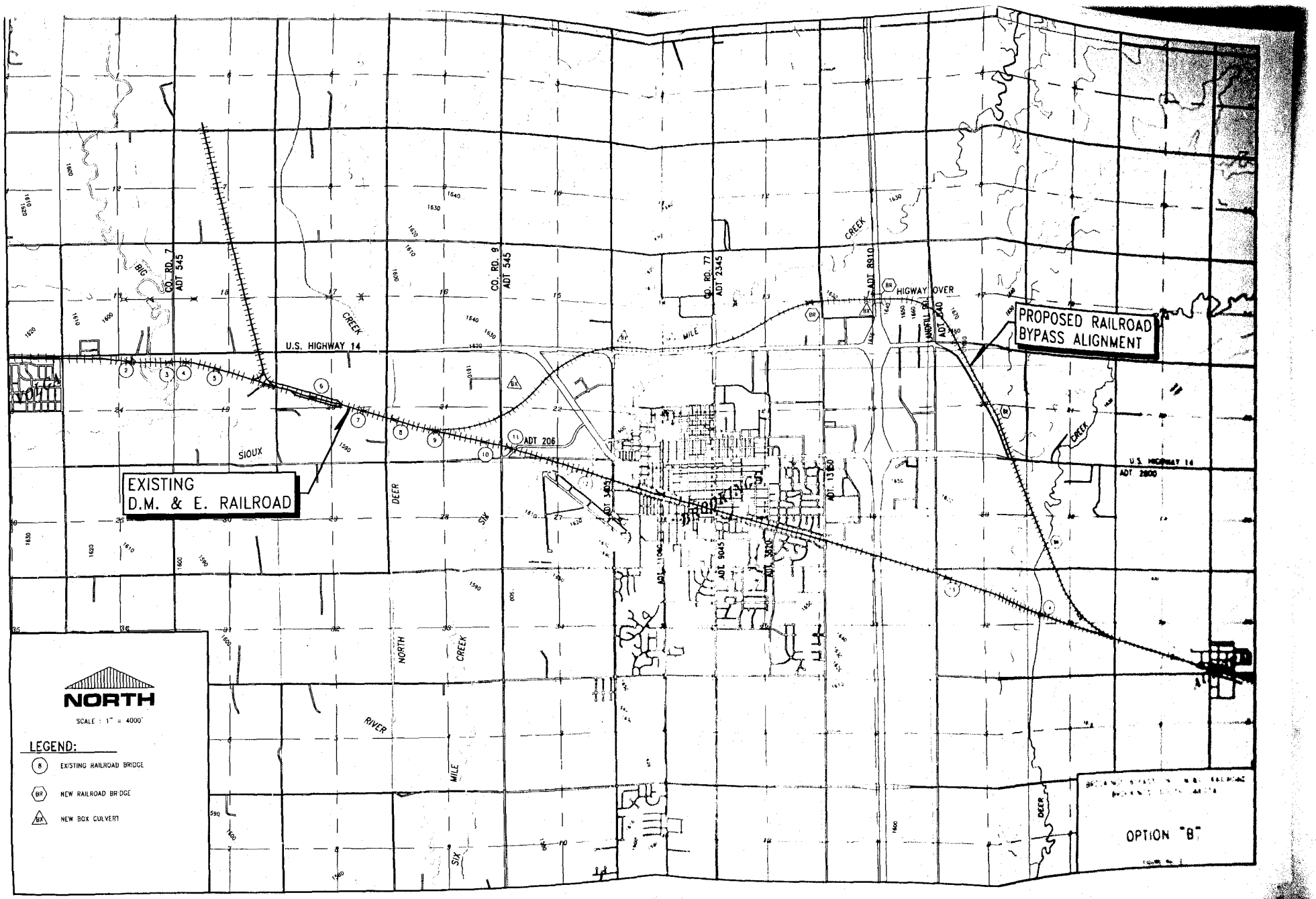
BROOKINGS R.R. BYPASS/DEPRESSED LINE
BROOKINGS, SOUTH DAKOTA

CITY MAP OF BROOKINGS

FIGURE No. 3

APPENDIX C


PROPOSED RAILROAD BYPASS ALIGNMENT
EXISTING D.M. & E. RAILROAD
U.S. HIGHWAY 14
U.S. HIGHWAY 14 ADT. 2800
HIGWAY OVER
CO. RD. 7 ADT 545
CO. RD. 9 ADT 545
ADT 8910
ADT 2400
ADT 206
ADT 13500
BIG SIOUX RIVER
DEER CREEK
SIX MILE CREEK
NORTH
NORTH
SCALE : 1" = 4000'
LEGEND:
8 EXISTING RAILROAD BRIDGE
8R NEW RAILROAD BRIDGE
8X NEW BOX CULVERT
BROOKINGS BYPASS ON D.M.&E. RAILROAD
BROOKINGS, SOUTH DAKOTA
OPTION "A1"
FIGURE No. 1



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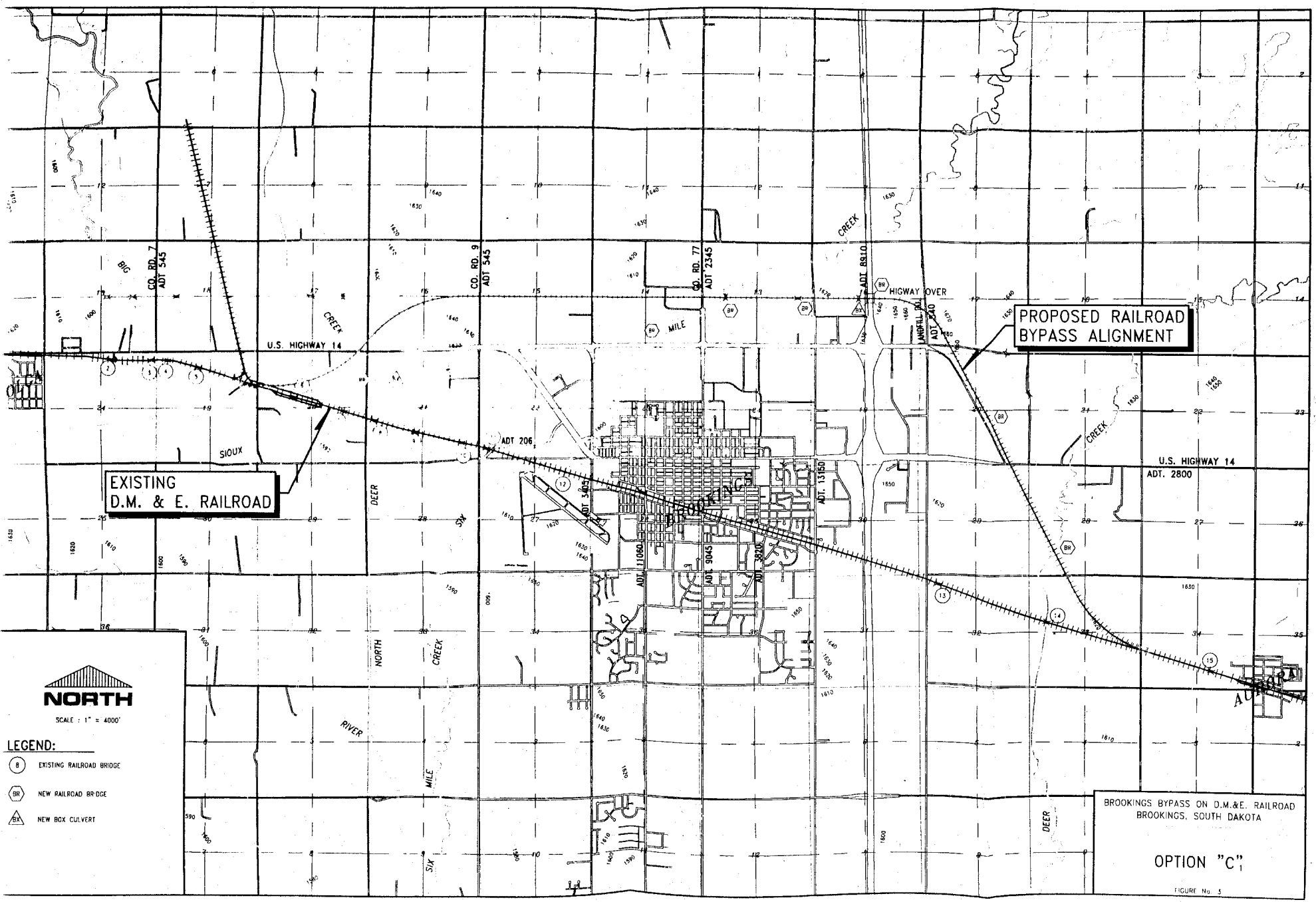
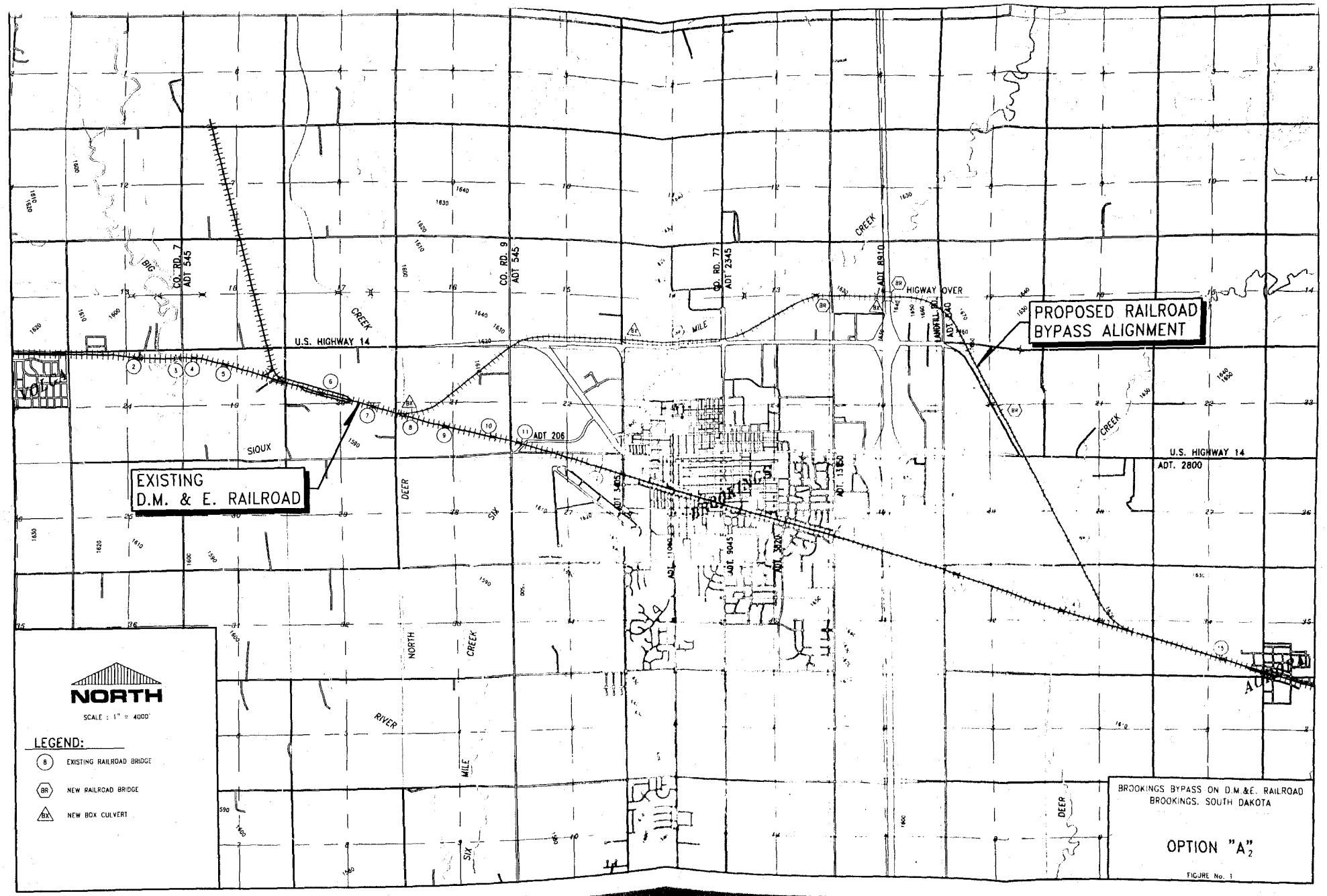

PROPOSED RAILROAD BYPASS ALIGNMENT
EXISTING D.M. & E. RAILROAD
U.S. HIGHWAY 14
ADT. 2800
HIGWAY OVER
CO. RD. 7 ADT 545
CO. RD. 9 ADT 545
CO. RD. 77 ADT 2345
ADT 8910
ADT 2340
ADT 206
ADT 13150
ADT 11060
ADT 9045
ADT 3820
BIG SIOUX RIVER
DEER CREEK
SIX MILE CREEK
NORTH CREEK
NORTH
SCALE : 1" = 4000'
LEGEND:
EXISTING RAILROAD BRIDGE
NEW RAILROAD BRIDGE
NEW BOX CULVERT
BROOKINGS BYPASS ON D.M.&E. RAILROAD
BROOKINGS, SOUTH DAKOTA
OPTION "C"1
FIGURE No. 5



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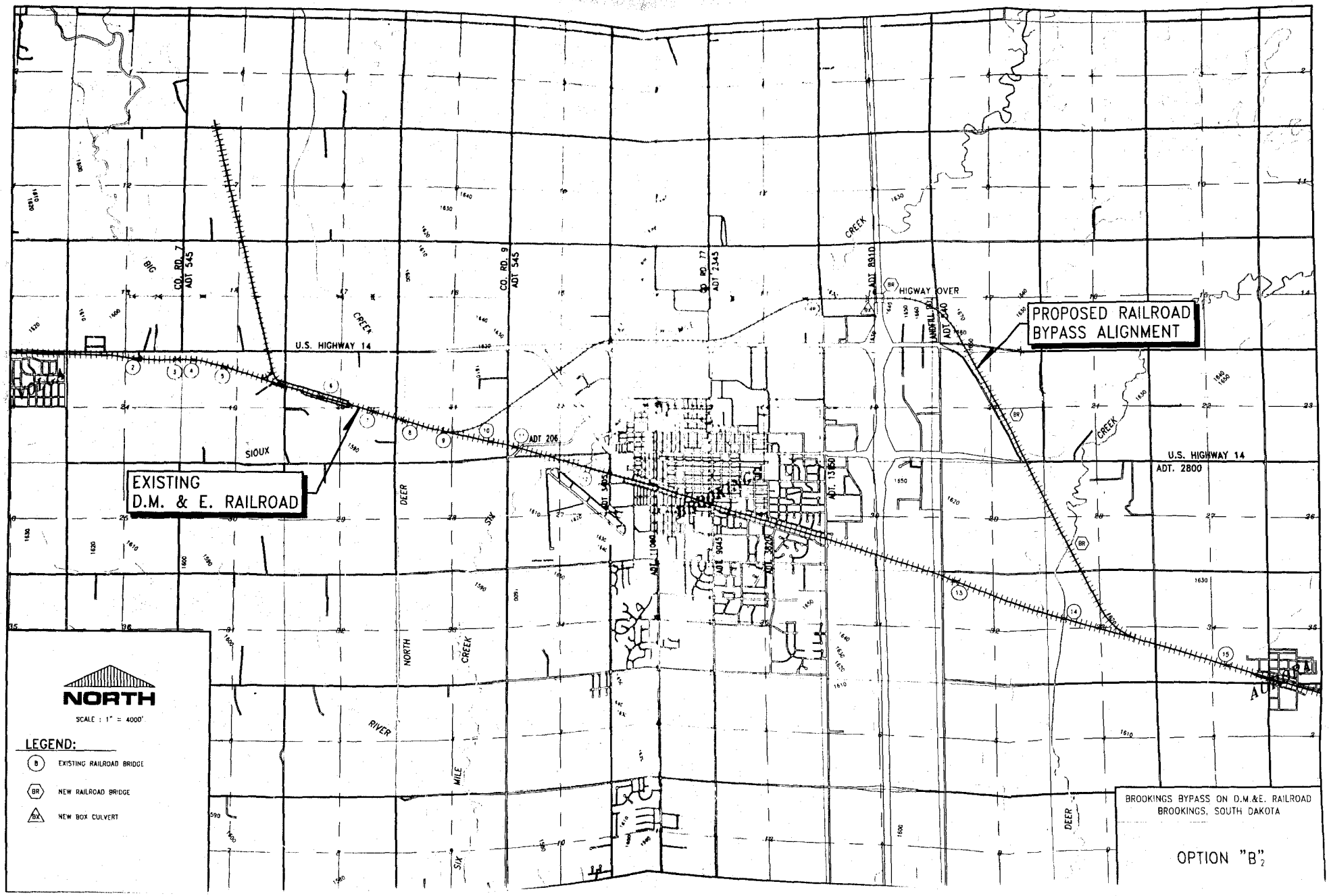

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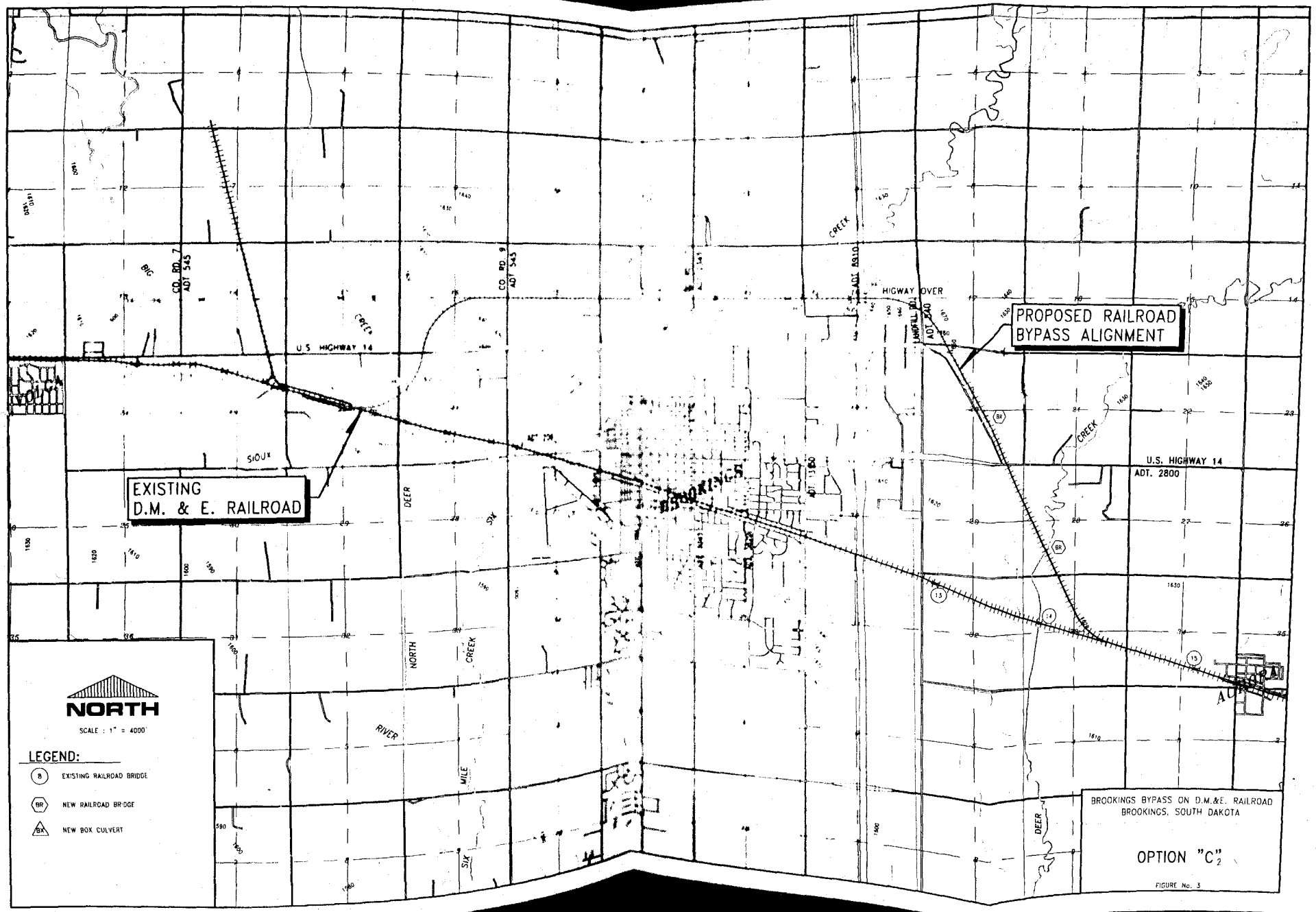

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APPENDIX D

Memorandum

To: Dennis Micko, Banner Associates
From: Charlie DeWeese, Parsons Transportation Group
Date: February 23, 2001
Subject: Comments Regarding Noise Impacts: In-City Alternatives, Brookings, SD

This memorandum responds to your request for our review and analysis of the DM&E coal train DEIS information relating to noise generation and impact in relation to the City of Brookings, SD.

Background

The Dakota, Minnesota and Eastern Railroad (DM&E) has proposed[1] to rebuild approximately 600 miles of their existing line and build 263-miles of new railroad to transport large volumes of coal from the Powder River Basin to the Mississippi River. DM&E anticipates that annual coal tonnage will initially be 40 million net tons and may increase to 100 million net tons over a six year period after the construction and reconstruction are complete. In the first year, DM&E will need the ability to move eight loaded trains per day (with a corresponding eight empty coal car trains per day) 363 days per year. Transporting 100 million net tons annually will require 2.5 times as many coal trains, or up to 40 trains per day. Wayfreight trains operating from intermediate points on the line will provide service to local freight rail customers. For Brookings, the wayfreight would serve customers between Tracy, MN and Lake Preston, SD.

Brookings has serious concerns about the adverse impacts that DM&E's coal trains would have on the City and its residents. As a result, Brookings has proposed that a railroad bypass be constructed around the City similar to the U S Highway 14 bypass so that Brookings would not suffer the significant impacts of through traffic.

Operational Impacts of the Proposed Bypass

William R. Otter, Director of Rail Operations for Frederic R. Harris (now Harris/DMJM) has outlined the proposed operation of the DM&E after the improvements are completed in a Verified Statement. He explains that one manifest train would operate in each direction and would need to use the existing route through Brookings so that the manifest trains could stop at the Sioux Valley Yard to pick up and set out cars for the Brookings Wayfreight. The proposed bypass in the revised Banner Associates report, Alternative B-4A, leaves the current alignment of the DM&E east of the Sioux Valley

[1] DM&E Application for Construction and Operation Authority, Exhibit D - Operating Plan

Yard. The proposed B-4A Bypass route does not impact the *"...long lead which connects the cement plant north of U S Highway 14..."* and eliminates the need for the manifest train to use the route through Brookings.

DM&E has identified[2] the need for a passing siding between Mile Posts 291.2 and 296.8. The existing Western Avenue grade crossing of the DM&E main track is located at MilePost 291.10[3]. Construction of the proposed B-4A Bypass would not limit the ability of DM&E to construct the passing siding. Since the two routes are nearly the same length, it is assumed that a passing siding would be approximately the same length and located at approximately the same place for either option.

Noise Impacts

Review of the methodology used to determine impacts on Brookings resulting from the DM&E plans in the DEIS indicates that the calculations understate the number of persons and structures impacted by noise from the trains, and the level of those impacts. Specifically, the number of persons adversely impacted by the noises from train operation, both whistle and wayside train noise would be greater than is stated in the DEIS because of information relating to two key assumptions. The time-of-day distribution of trains will not be uniform; and the number of trains will likely be greater.

Predicting the daily distribution of train traffic depends on a number of factors. DM&E plans up to four daily maintenance windows of six hours each. Typically, railroad track maintenance is performed in daylight hours, for reasons relating to productivity, safety, and to avoid noise intrusion to adjacent landowners and users. This approach follows from the discussion in Appendix F to the Draft Environmental Statement (DEIS) which explains the computation of Day-Night equivalent sound level (L_{dn}). L_{dn} is the measure used to determine the impact of the noise of train operation on nearby persons. Included in the explanation of the computation is the statement that *"...a train passing by between 10 PM and 7 AM is equivalent to ten of the same events during daytime hours."*

Tables FA-1 through FA-7 inclusive in Appendix F indicate that the total number of trains during the day are divided proportionally between "daytime" hours, 7 AM to 10 PM and "nighttime" hours, 10 PM to 7 AM. This assumption is inconsistent with the planned maintenance window concept. It is essentially certain that the maintenance windows will force more trains to operate at nighttime.This will have the effect of increasing the

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[2] Siding Locations Attachment C to the DM&E August 12, 1999 V. Ruston – STB Letter,
[3] USDOT – AAR Crossing Inventory Information as of 2/6/01. Crossing Number 197482X

calculated values of L_{dn}, which will make the distance of the 65 dBA and 70 dBA L_{dn} contours from the track greater than shown in Tables FA-1 through FA-7.

Second, Table F-5 in Appendix F shows that the Existing Number of Trains between Arlington and Brookings is 8, and between Brookings and Tracy is 10. For these same two segments, the number of trains for the 20 million net tons scenario is 11, an increase of 3 or 1. Similarly, the number of trains for the 50 million net ton alternative is 21 and the number of trains for the 100 million net ton alternative is 37These assumed numbers appear to be inconsistent with the operating plan. The Operating Plan[4] calls for 8 loaded (and therefore 8 empty) trains per day for 363 days per year to handle 40 million net tons. If the existing number of trains is correct, then handling 20 million net tons will add 8 trains per day to the 8 or 10 currently operated for a total of 16 or 18, not 11. If the Existing Number of Trains is not correct, then it establishes a higher existing condition calculation and thus minimizes the impact of the project.

The headway (time interval) between trains in each direction is initially planned to be one hour. This is consistent with the announced siding locations, with spacing about 17 to 18 miles. As traffic increases, that one-hour headway will be decreased, and the construction of additional sidings will be required. Taking the assumptions in the DM&E Operating Plan[5] at face value, 37 trains per day operating in an 18 hour day (6 hours is needed for the maintenance window) results in a train about every 29 minutes. This could produce 18 or 19 trains during the nine-hour "nighttime" period between 10 PM and 7 AM if the "daytime" maintenance window assumption applied. Estimates based on the calculations in the DEIS[6] indicate that this could have the effect of increasing the L_{dn} by at least one decibel. Doubling distance from the source only decreases noise by 4.5 dBA. This 1 dBA increase is potentially significant.

The following Table, which is abstracted from Tables 4.9-3 through 4.9-8 in Chapter 4 of the DEIS and uses the assumptions previously discussed, summarizes our assessment of the accurate noise-distance impacts from a 100 MNT coal train operation.

[4] DM&E Application for Construction and Operation Authority, Exhibit D - Operating Plan
[5] DM&E Application for Construction and Operation Authority, Exhibit D - Operating Plan
[6] Powder River Basin Expansion Project, DEIS, Appendix F – Noise and Vibration, pages F-7-8

Table 1 Noise Impacts in Brookings, SD for 37 daily trains for 100 MNT Annually			
Metric	**No-Build (DEIS B-1)**	**No ByPass (DEIS B-2)**	**ByPass (DEIS B-4)**
Number of Noise Sensitive Receptors at 65 dBA L_{dn}	421	1,900	25
Number of Noise Sensitive Receptors at 70 dBA Ldn	295	1,098	14
Distance to 65 Ldn for Wayside Noise (feet)	150*	420	420
Distance to 65 Ldn for Crossing Noise (feet)	800-930*	2,230	2,230

*For the 8 or 10 current daily trains shown in Table F-6 of Appendix F of the DEIS between Brookings and Arlington or Brookings and Tracy respectively

Where the distance to the 65 and 70 Ldn contours is great, the noise levels at the right-of-way line, essentially 100 feet through Brookings, will be significant. In a study performed for the City of Mankato, MN, sound walls were considered as mitigation. That study concluded that a 15-foot high sound wall had the potential to reduce a post project contour of 400 feet to 135 feet. Extrapolating implies that the sound walls reduce sound about 8 dBA, depending on many circumstances, including the distance the sound wall is from the track, relative height of the track and the receptors, etc. If crossing noise (train whistles) can be completely eliminated, sound wall mitigation may be sufficient. However, where the contours are over 2,000 feet from the track, the noise at the right-of-way line may be as high as 79 to 80 dBA, a level in excess of that found acceptable, even when sound walls are installed. For example, the Mankato study cites the Federal Housing Administration standards that noise levels above 70 to 75 dBA are "normally unacceptable." Openings in sound walls for pedestrian crossings, street crossings, etc. will also reduce sound wall effectiveness. Given that potential standard, sound insulation of residences within 400 to 800 feet of the track may be needed to achieve acceptable levels.

Grade Crossings

The safety situation with respect to the grade crossings in Brookings could also be markedly changed by the proposed bypass as summarized in Table 2. The traffic levels on the crossings have been estimated in the DEIS about 25% lower than estimates used in the Banner Associates report. The lower ADT's, joined with the inconsistent train counts cited above, leads to the conclusion that the change in estimated accident frequency is also significantly understated.

Table 2
Estimated Changes in Grade Crossing Accidents

Crossing	Brookings ADT[7]	DEIS ADT	DEIS Estimated Pre-Construction Annual Accident Frequency[8]	DEIS Estimated Post-Construction Annual Accident Frequency[9]	Percent Change
10th Street West	206	30	.006	.016	160%
Western Avenue	3,405	2,630	.026	.044	69%
Main Avenue	11,060	7,988	.048	.066	37%
Medary Avenue	9,045	6,440	.037	.054	46%
17th Avenue	3,820	3,025	.030	.046	53%
22nd Avenue	13,150	12,703	.180	.225	25%
Totals	40,686	32,816	.327	.451	38%

The grade crossings in Brookings are closely spaced. Table 3 below graphically shows that, with two small exceptions, trains will be sounding their whistles for grade crossings almost continuously while the locomotive is moving through Brookings. Thus, the crossing noise contours shown in Table 1 must be considered in assessing the impacts. The wayside noise will only apply as the rear end of the train passes after the locomotives have moved through the last crossing.

[7] Banner Associates Report
[8] DEIS Appendix H, Table 4-SD-H43
[9] DEIS Appendix H, Table 4-SD-H44

Table 3
Spacing of Grade Crossings in Brookings, SD

Grade Crossings	E**	Mile Post	W**
		291.30	
	v	291.35	
	v	291.30	
	v	291.25	
	v	291.20	
	v	291.15	
Western Avenue	v	**291.10**	^
	v	291.05	^
	v	291.00	^
	v	290.95	^
Main Avenue	v	**290.90**	^
		290.85	^
Private Crossing		290.80	^
		290.75	^
		290.70	^
		290.65	^
Private Crossing		290.60	
	v	290.55	
	v	290.50	
	v	290.45	
	v	290.40	
	v	290.35	
Medary Avenue	v	**290.30**	^
		290.25	^
		290.20	^
		290.15	^
		290.10	^
		290.05	^
		290.00	
	v	289.95	
	v	289.90	
	v	289.85	
Pedestrian Crossing	v	289.80	
	v	289.75	
17th Avenue South	v	**289.70**	^
		289.65	^
		289.60	^
	v	289.55	^
	v	289.50	^
	v	289.45	^
	v	289.40	
	v	289.35	
22nd Avenue	v	**289.30**	^
		289.25	^
Private Crossing		289.20	^
		289.15	^
Private Crossing		289.10	^
		289.05	^
Private Crossing		289.00	

** Indicates the approximate location where Eastbound and Westbound trains must begin sounding the locomotive whistle to properly warn traffic approaching the grade crossing.

Mitigation Recommendations

Given the serious impacts from noise and grade crossing safety, the most appropriate mitigation for the existing route through Brookings would be to shield persons from the noise of the trains, and to construct sufficient grade separations to reduce the noise impact from trains whistling.

To place the need for mitigation in Brookings in context we considered two recent previous STB applications. In the Canadian National/Illinois Central Acquisition there was an increase in the noise-sensitive receptors within the L_{dn} 65-dBA contour of 137%, from 171 to 405. In the Acquisition of Conrail by CSX and Norfolk Southern, on the three most critical line segments in Cleveland, train movements increased in the range of 34 to 40 trains per day, and the number of affected receptors increased from 200 to 1,151. In Brookings the number of affected receptors increases from 421 to 1,900, a 272 percent change.

In these earlier proceedings, the Section of Environmental Analysis (SEA) of the Surface Transportation Board (STB) has recommended that grade crossing whistle noise be mitigated through the imposition of "quiet zones" in accordance with the Federal Railroad Administration's (FRA) program under development. Following an unsuccessful effort in Florida to ban train whistles, Congress passed the Swift Rail Act in 1994 requiring use of locomotive whistles at all grade crossings, but gave the FRA the authority to grant exceptions. FRA has issued a DEIS and a Notice of Proposed Rulemaking (NRPM) on the matter. In commenting on the NRPM, the National Transportation Safety Board (NTSB) observed that locomotive whistles were not loud enough to be heard in some vehicles under some conditions. FRA is some time from a final rule on quiet zones, and the overall future of quiet zones, given the history, is completely unknown.

Brookings needs mitigation that will surely cure the serious impacts. Grade separations at 22nd Avenue, 17th Avenue, and Medary Avenue could reduce the noise impact from the train whistles and enhance safety.

The following mitigation measures are recommended.

1. DM&E shall reduce the impact of noise from increased train traffic through Brookings by a combination of sound walls, grade separations, and residential sound insulation programs.
2. DM&E shall install 15-foot sound walls along both sides of the track between 6th Street and 22nd Avenue.

3. DM&E shall construct grade separations at 22nd Avenue, 17th Avenue, and Medary Avenue.
4. DM&E shall provide active grade crossing warning devices at the pedestrian crossings.
5. Where sound walls must have openings, such as for pedestrian crossings, roadway crossings, etc., DM&E must fund the installation of residential sound insulation to reduce interior noise to an appropriate level, say 65 dBA.

APPENDIX E

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Memorandum

To: Michael Williams, City Manager, City of Brookings, SD

From: Steven J. Britzman, City Attorney, City of Brookings, SD

Date: February 23, 2001

Re: Supplemental Alternative Discussion and Impact Assessment [DM & E Coal Train Routing] for Brookings, South Dakota

Analysis

1. Opinion of City Attorney concerning the Banner Report

I have reviewed the "Supplemental Alternative Discussion and Impact Assessment", prepared by Banner Associates, Inc. (hereafter referred to as the "Banner Report") which has been submitted to the City of Brookings for consideration. As the City Attorney for the City of Brookings, it is my responsibility to provide to you and the Brookings City Council an Opinion based upon my analysis of the Banner Report that the Report is factually accurate, that estimates and assumptions appear to be correct and that the recommendations can be implemented in accordance with applicable law. I have reviewed the DEIS analysis of the Brookings Bypass, pages 4.9-1 through 4.9-49, and as you recall, I submitted a detailed Memorandum to you on February 7, 2001, which included a synopsis of each section of the DEIS pertaining to the Brookings Bypass. I have attended all of the public hearings held by the Brookings City Council during the past year concerning the proposed DM & E expansion. Accordingly, I believe I am prepared to render an Opinion to you and to the Brookings City Council as outlined above.

In my opinion, the Banner Report is factually accurate and the assumptions and estimates appear to be appropriate and valid. The Banner Report recommends an "Alternative B4-A Bypass" for the City of Brookings, which would entail the acquisition of land from private landowners both within the City and outside the limits of the city. South Dakota law would permit the acquisition of land needed for the Bypass, as more fully discussed below. The B4-A Bypass, if constructed in accordance with the recommendations contained in the Banner Report, would also comply with South Dakota environmental protection laws. Finally, the necessary real property for Alternative B-4A can be acquired by purchase or condemnation in the manner provided by South Dakota Codified Law 49-16A-78, which is set forth below.

2. Issues pertaining to Implementation of Alternative B4-A, including the recommended preference of implementation by DM & E of B4-A Bypass Alternative

The City of Brookings, unlike some municipalities, has never designed, constructed or operated any form of bus or rail transportation system. The B4-A Bypass Alternative, if constructed by the City, would constitute a project which would require the City to duplicate many of the design and construction procedures which DM & E would utilize in the design and construction of the remainder of its expansion project. The City's lack of experience, and in particular, its lack of engineering staff, would increase the risk of construction difficulties. The only realistic alternative for the City would entail hiring a consulting firm at prevailing market rates to do all of the engineering and construction management. This alternative would certainly be necessary to ensure proper planning and construction, but it would certainly not be cost-effective. Clearly, it would be preferable and far more cost-effective for DM & E to construct the Bypass. Because, in part, of the substantial benefit the City would receive as a result of the construction of the Bypass, the City must agree to devote substantial staff assistance to DM & E in the financing and construction of the Bypass.

I recommend that the City Council consider whether the City should offer to construct the Bypass or whether it is preferable for DM & E to construct the Bypass, with the cooperation and assistance of the City. The City Council's preference in this regard should be set forth in a Resolution, which also contemplates an agreement between the City and DM & E, to assign and perform responsibilities in the financing, design and construction of the Bypass.

3. Discussion of financial contributions from DM & E, the State of South Dakota and other Sources

The Banner Report contains an Opinion of Probable Project Cost for the construction of the Bypass. The Cost of the Bypass is estimated to be $26 million dollars. The DEIS requests discussion about ways to share the costs associated with the construction of the Bypass. The City of Brookings has previously agreed to contribute $4 million toward the cost of constructing the Bypass. In addition, I understand the State of South Dakota is willing to contribute $4.3 million which would be used primarily for Interstate 29 overpass construction costs for the proposed Bypass. The City's share could be financed with general obligation bonds provided that the issue does not result in debt exceeding the statutory debt limits.

However, the issuance of such debt would be subject to voter approval, and therefore the City Council must consider the amount of financing the voters of the City of Brookings would likely approve for the Bypass construction.

The Banner Report concludes that the cost to mitigate impacts from the reconstruction and use of the existing in-city route (Alternative B-2) would equal or exceed the cost of Bypass construction. On balance, DM & E would reduce its overall construction costs if it accepts contributions from the City and State of South Dakota to help defray the cost of Bypass construction.

Furthermore, I believe the City of Brookings could further assist DM & E finance the construction of the Bypass through loans and grants provided by the Railroad Rehabilitation and Improvement Financing Program (RRIF). I understand that the purpose of RRIF is "to provide direct loans and loan guarantees to State and local governments, government sponsored authorities and corporations, railroads, and joint ventures that include at least one railroad." (Source: 49 CFR 260). Financial assistance provided through the RRIF can be used for (1) acquision, improvement or rehabilitation of intermodal or rail equipment or facilities (including tracks, components of tracks, bridges, yards, buildings, and shops, (2) refinancing outstanding debt incurred for these purposes, or (3) development or establishment of new intermodal or railroad facilities. Indeed, under the law, not less than $1 billion is to be available for projects benefiting freight railroads other than Class I carriers.

I believe, based upon my many years of experience with the Brookings City Attorney's office, that the City Council recognizes that as a public entity, the City of Brookings can be very instrumental in coordinating the financing for the Bypass. As a public entity, the City qualifies as a grant or loan applicant and has the capability to prepare and submit proper applications for financing the proposed bypass. Annual audits and statutory controls assure Federal agencies that grant and loan funds are properly administered by South Dakota municipalities. The foregoing fiscal protections lend security to grant and loan programs and constitute a valuable resource which often goes unrecognized. The City of Brookings should pledge its efforts to use its unique status to apply for financing under RRIF. If it does so, when considered with its financial contribution of $4 million, it will have more than met its obligation to share in financing the bypass.

4. Review of possible establishment of Regional Railroad Authority under South Dakota Law

In order to receive various types of State and Federal financial assistance for railroad and highway construction projects, it is necessary to be or to be performing work for a "public entity". The City could consider creating a public entity to perform this role. South Dakota law provides the statutory procedures to create a public entity—a Regional Railroad Authority--which may satisfy these objectives. South Dakota enacted the "Regional Railroad Authorities Act" in 1978. Under this law, two or more political subdivisions may form a Regional Authority. A political subdivision is defined as a county, municipality or other body politic of the state. A Regional Authority is formed

by the execution of an Agreement which is authorized by resolution of the governing body of each subdivision.

A Regional Rail Authority may do the following:

(1) Lend or donate money to the authority;
(2) Provide that all or a portion of the taxes or funds available to the subdivision for railroad purposes, be transferred or paid directly to the authority;
(3) Cause water, sewer or drainage facilities, or any other facilities which it is authorized to provide, to be furnished adjacent to or in connection with such railroads or facilities;
(4) Dedicate, sell, convey, or lease any of its interest in any property, or grant easements, licenses, or any other rights or privileges therein to the authority;
(5) Furnish, dedicate, close, pave, install, grade, regrade, plan or replan streets, roads, roadways and walks from established streets or roads to such railroad facilities;
(6) Aid and cooperate with the authority in the planning, undertaking, construction, or operation of railroad facilities;
(7) Enter into agreements with the authority regarding action to be taken by the subdivision pursuant to the provisions of this section.
Source: SDCL 49-17A-14

A Regional Authority may also execute contracts and other instruments and take action as may be necessary to carry out the purposes of the chapter, and may exercise "such powers as are necessary or incidental to carry out the purposes of this chapter". In addition, a Regional Authority may:

> plan, establish, acquire, develop, construct, purchase, enlarge, improve, maintain, equip, operate, regulate, and protect its railroads, and railroad facilities used or useful in the operation of the railroad. For such purposes an authority may acquire by purchase, gift, devise, lease, condemnation real or personal property or any interest therein.

A Regional Authority may acquire real property by condemnation and the exercise of the power of eminent domain (SDCL 49-17A-18) and all land used by or on behalf of the authority is declared to be acquired for public governmental purposes and as a matter of public necessity. Any property acquired by an authority is exempt from taxation.

The Regional Authority may accept, disburse and expend Federal and State moneys and other moneys, public or private, made available by grant or loan or both.

A Regional Authority may also issue tax exempt bonds (or notes) payable out of the revenues or funds of the authority. The bonds may additionally be secured by a pledge of

any grant, subsidy or contribution from any public agency, or other person, or a pledge of revenue, income or funds from any source whatsoever.

Contractual Arrangements of the Regional Authority

A Regional Authority may also enter into contracts, leases, and other arrangements for such term as the authority may determine with any persons:

(1) Granting the privilege of using or improving the railroad or any portion or facility or space for commercial purposes;

(2) Conferring the privilege of supplying goods, commodities, things, services, or facilities along the railroad;

(3) Making available services to be furnished by the authority or its agents.

In each case the authority may establish the terms and conditions and fix the charges, rentals, or fees for the privileges or services, which shall be reasonable and uniform for the same class of privilege or service. Finally, except as may be limited by the terms and conditions of any grant, loan or agreement, the Regional Authority may by contract, lease, or otherwise grant, for such consideration and term as it may determine, to any person the privilege of operating or using any railroad or railroad facilities or property, owned or controlled by the authority. South Dakota Codified Law 49-17A-37

Based upon the immediately preceding statute, it would appear a Railroad Authority could be formed by the City to provide assistance to DM & E in the financing and construction of the Brookings Bypass.

5. Analysis of DM & E condemnation authority and procedure for Brookings Bypass Alternative

South Dakota law clearly provides authority for DM & E to acquire the real property necessary for the Bypass by purchase or condemnation. The South Dakota Statute authorizing such appropriation of land is set forth below:

49-16A-78. *Entries upon land - Appropriation of land - Purposes of appropriation.

Each railroad authorized to construct, operate, or maintain a road within this state may enter upon any land for the purpose of examining and surveying its road, and may take, hold, and appropriate so much real property as may be necessary for the location, construction, and convenient use of its road, including all necessary grounds for buildings, stations, workshops, depots, machine shops, switches, sidetracks, snow defenses, and water stations. It may take all materials for the construction of the road and its appurtenances, and the right of way over adjacent land sufficient to enable the railroad to construct and repair its road. The railroad may obtain the right to such real property by purchase or condemnation in the manner provided by law.

6. Other potential legal problems or issues associated with Bypass construction

I have reviewed the project and the Bypass Alternative thoroughly and consulted with numerous people. I do not think there are any of the State or local legal problems or issues associated with or which would prevent the construction of the B-4A Bypass as depicted in the Banner Report.

APPENDIX F

MITIGATION PLAN
BROOKINGS, SOUTH DAKOTA

I. Introduction.

This Plan responds to the request of the Surface Transportation Board (STB) set forth in the Draft Environmental Impact Statement (DEIS) for the DM&E coal train proposal to provide a specific list of mitigation elements for consideration and adoption by the STB in the event that the coal trains are allowed to use the reconstructed and upgraded In-City Route (B-2) through Brookings, South Dakota. The DEIS states, and the city believes, that the existing route through town would have significant adverse impacts to noise sensitive and vibration receptors that would be difficult to mitigate effectively. Therefore, the City of Brookings is totally opposed to the use of the In-City Route by DM&E for coal train traffic. The submission of this plan is not in any sense intended as support for or acceptance of the use of the B-2 route for the coal train at Brookings, South Dakota. It is intended to constitute our submission of the minimum mitigation necessary.

II. General Provisions.

2.01 Construction Timing. Mitigation improvements must be constructed and completed prior to the utilization of the In-City Route for coal train movement.

2.02 Financing and Construction Responsibility. DM&E, and/or its successors and assigns shall be responsible for the conduct and implementation of the construction of all improvements and their maintenance and shall be responsible for financing the cost of all improvements and mitigation measures. The City shall not contribute to the cost of implementing any mitigation measures and shall be indemnified and held harmless incident to the construction and operation of the mitigation measures.

2.03 Utility Protection. DM&E shall be responsible for all work and costs involved in protecting existing City utility crossings. DM&E shall also be responsible for providing casings or other safety and conveyance elements for future City utility crossings as depicted or proposed pursuant to the City's utility plans.

2.04 Rail Reconstruction Plan. DM&E shall construct and properly maintain tracks and rail beds to reduce noise and vibration and other adverse impacts. A Rail Reconstruction/Renovation Plan shall be submitted to the City for review and comment at least 180 days prior to the commencement of construction activity.

2.05 Vibration Mitigation. DM&E shall be responsible for installing vibration brakes and other vibration attenuation devices. These enhancements shall be described in the Rail Reconstruction Plan.

2.06 Mitigation Implementation Plan. DM&E shall develop an Implementation Plan with specific construction drawings for the implementation of the Mitigation Plan elements. This Plan shall be submitted to the City at the same time as the Rail Reconstruction Plan has been submitted and at least 180 days prior to implementation of any mitigation. Incident to the preparation and submission of the Plan, the City and DM&E shall meet with major shippers along the rail corridor to determine future shipping needs and necessary adjustments and the location of mitigative measures that are necessary to maintain current and future service levels.

2.07 Traffic Plan. DM&E working with the City shall develop a traffic management plan designed to address/mitigate traffic impacts resulting from coal train movement. The plan is intended to improve traffic flows within the City through operational planning, track design, signage and use of available technology and other resources. The plan may include grade separations in addition to those specified herein should it be determined that such improvements are warranted by traffic and safety considerations.

2.08 Whistle Free. The designation of whistle free in the Mitigation Plan shall mean that the intersection is permanently improved to provide acceptable whistle free status under Federal Railroad Administration guidelines.

2.09 Surface Water Drainage. The DM&E working with the City shall prepare a surface water management plan for the road bed as it extends through the City. This Plan shall be submitted to the City for review and comment at least 180 days prior to commencement of construction. The Plan shall be compatible with existing City storm sewer facilities. The Plan shall assure adequate drainage to the rail bed and shall correct any deficiencies that may currently exist or that may develop incident to the reconstruction.

2.10 Mitigation Implementation Procedure. DM&E shall appoint a community liaison who will meet with City representatives relating to plans for the implementation of the Mitigation Plan. Community liaison will be authorized to respond to concerns of the City and affected property owners during the construction of the project and Mitigation Plan.

The City shall establish a Rail Reconstruction and Mitigation Implementation committee. The RRMI Committee shall begin meeting immediately following determination of the utilization of the B-2 alternative and shall meet periodically thereafter both internally and with DM&E representatives to review, modify, provide comments to the Brookings City Council re the Rail Reconstruction/Renovation Plan, the Mitigation Implementation Plan, Traffic Plan and the Surface Water Management Plan.

DM&E shall meet with City representatives as identified and at locations specified by the City to address and resolve any outstanding issues associated

with the Implementation Plan or the construction or operation of the project and/or Mitigation Plan.

Any disputes between the City and DM&E regarding the resolution of an outstanding issue shall be associated with the implementation of the Mitigation Plan and/or railroad operation shall be submitted to the Surface Transportation Board for resolution assistance and enforcement prior to the commencement of litigation.

2.11 Property Purchase. The DM&E shall acquire via negotiated purchase and/or condemnation all properties proximate to the reconstructed In-City line rail corridor which will be structurally damaged by the passage of the maximum number of coal trains and/or which cannot be retrofitted to the degree necessary to avoid continued violation of applicable state and federal noise quality standards. The City shall prepare a specific noise and vibration acquisition plan for submission to the DM&E within 90 days following the selection of the B-2 corridor route. The plan shall list those properties that need to be acquired.

Preliminarily, the following properties are those which have been determined to be acquired by the DM&E:

- 6 structures within 100' of the existing rail line as noted in Table 4.9-9 of the DEIS

2.12 The determination of whether properties need to be acquired shall be based on the following:

- Damaging effects of noise and vibration.
- Physical necessity to enable rail or mitigation improvements.
- Structural physical degradation associated with construction or improvement of the rail corridor or construction of mitigation measures.
- Degradation attributable to the construction of transportation and/or mitigation improvements including but not limited to coal and grade separations, street re-routing, street closure, access modifications and access closure.
- Other substantial negative impacts which become apparent during construction and implementation of the mitigation measures.

2.13 Noise Mitigation. The City shall develop a noise mitigation plan to specifically identify noise mitigation measures which must be implemented in the event of the selection of the B-2 corridor plan. The plan shall identify those homes and businesses which can be and must be retrofitted to minimize adverse impacts from

noise and/or vibrations. DM&E shall be responsible for retrofitting the residences and businesses as identified in the plan.

Preliminarily the following properties need to be retrofitted to address adverse noise impacts:

- 475 structures adjacent to the existing rail line

2.14 Fugitive Coal Dust Mitigation. DM&E working with the City shall prepare a Fugitive Coal Dust Management/Mitigation Plan. The plan shall be submitted to the City for review and comment at least 180 days prior to commencement of construction. The plan shall assure that any significant negative impact resulting from fugitive coal dust will be properly and adequately mitigated.

III. Specific Mitigation Measures.

3.01 I-29 Bypass/Pedestrian Crossing. Place cross buck and stop sign protection approximately 200 feet west of I-29 and provide advance warning signage and/or other advance warning devices suitable for pedestrian or bike traffic.

3.02 22nd Avenue Crossing. Construct grade separation with the street going over the railroad tracks.

3.03 Sound Wall. Construct and install 15 foot high sound walls along both sides of the track between 6th Street and 22nd Avenue.

3.04 17th Avenue. Construct a grade separation with the street going underneath the rail line.

3.05 Medary Avenue Crossing. Construct grade separation at this crossing with the street going underneath the rail line.

3.06 6th Avenue underpass. Make all necessary clearance improvements to this underpass.

3.07 Main Avenue Crossing. Upgrade this crossing to include gates and flashing lights. Design the site for whistle free status and pre-wire the site for any necessary whistle free technology (full gates and lights). Install any necessary foundations for the gate pedestals sufficient for the implementation of whistle free standards. DM&E to fund the additional gates or other requirements for whistle free status on achievement of 40 million net tons of coal traffic.

3.08 Western Avenue Crossing. Upgrade to include gates and flashing lights upon achievement of 40 million net tons of coal traffic. DM&E shall at its option either (a) install a directional whistle, or (b) upon enactment of a City ordinance

directing whistle free status, fund the additional gates or other requirements to achieve implementation of whistle free status.

3.09 6th Street West Crossing. Upgrade to include cross bucks and stop sign.

3.10 Pedestrian Crossings at 12th Avenue and 16th Avenue. DM&E shall provide active grade crossing warning devices at these intersections.

3.11 Chain Link Security Fence.