



Minnesota Department of Transportation

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November 30, 2009

HAND DELIVERED

Scott Ek
Project Manager
Minnesota Office of Energy Security
85 7th Place East, Suite 500
St. Paul, MN 55101-7891

Re: In the Matter of the Route Permit Application for a 345 kV Transmission Line
from Brookings County, South Dakota to Hampton, Minnesota
MPUC Docket Number: ET2/TL-08-1474

Dear Mr. Ek:

As requested by the Minnesota Office of Energy Security, the Minnesota Department of Transportation (Mn/DOT) has reviewed the October 20, 2009 Draft Environmental Impact Statement (EIS) for the proposed Brookings to Hampton 345 kV transmission line project.

Both the preferred and alternate routes evaluated in the draft EIS have a number of locations that either cross or run parallel to highways that are part of the state trunk highway system and the National Highway System. Due to the significant magnitude of the impacts on these highways, the enclosed comments provide the background on Mn/DOT's Utility Accommodation Policy. Mn/DOT's policy seeks to permit utilities to occupy portions of the highway rights-of-way where such occupation does not put the safety of the traveling public or highway workers at risk or unduly impair the public's investment in the transportation system. The enclosed comments also provide input on specific impacts associated with the proposed project discussed in the draft EIS.

Mn/DOT appreciates the collaborative process and approach to the development of the draft EIS, and we look forward to continued cooperative efforts on this important project. Should you have any questions about the enclosed comments, please contact me by telephone at 651-366-4791 or by e-mail at dave.seykora@state.mn.us.

Sincerely,

A handwritten signature in black ink, appearing to read "David G. Seykora". The signature is fluid and cursive, with the first name "David" and last name "Seykora" clearly legible.

David G. Seykora
Office of the Chief Counsel

cc: Deborah R. Pile, OES
Laureen Ross McCalib, CapX2020
Michael Barnes, Mn/DOT
Scott Peterson, Mn/DOT
Mukhtar Thakur, Mn/DOT
Val Svensson, Mn/DOT



Minnesota Department of Transportation

Memorandum

Engineering Services Division

395 John Ireland Boulevard

St. Paul, MN 55155-1899

TO: Scott Ek
Minnesota Office of Energy Security

FROM: Mn/DOT

DATE: November 30, 2009

SUBJECT: Review of October 20, 2009 Draft Environmental Impact Statement for the proposed Brookings to Hampton 345 kV transmission line project

On October 20, 2009, the Office of Energy Security (OES) issued a Notice of Availability of Draft Environmental Impact Statement and request for public comments on the draft environmental impact statement (EIS) relating to the route permit application by CapX2020 for a 345 kV line from Brookings County, South Dakota to Hampton, Minnesota. The Minnesota Department of Transportation (Mn/DOT) submits the following comments and recommendations in response to the Notice and request for comments.

Mn/DOT has adopted a formal policy and procedures for accommodation of utilities on the highway rights of way ("Utility Accommodation Policy"). A copy of Mn/DOT's policy can be found at <http://www.dot.state.mn.us/utility/files/pdf/appendix-b.pdf>. The policy is also in the record in this matter as Schedule 19 of the Direct Testimony of Mr. Craig Poorcker.

Mn/DOT's approach to the high voltage transmission lines ("HVTL") involved in the CapX2020 proposal is to work to accommodate these HVTLs within or as near as feasible to the highway rights of way, based on an evaluation of the specific locations to ensure that appropriate clearance is maintained to preserve the safety of the traveling public and highway workers and the effective operation of the highway system now and in the foreseeable future. Mn/DOT's Utility Accommodation Policy seeks to guide the balance between accommodation of utility operations in the highway rights-of-way and preserving the safe and efficient operation of the transportation system.

The provisions of the Utility Accommodation Policy are based on the framework of several interrelated state and federal laws that led to its creation. Therefore these comments will begin with a discussion of the legal and regulatory structure under which the Policy was adopted. These comments will then discuss the types of circumstances and concerns that must be considered when applying the Utility Accommodation Policy to a specific situation as Mn/DOT works to accommodate a utility in a highway right-of-way while preserving the safe and efficient operation of the highway. The comments will provide as much specific information as is possible at this time on locations where the HVTL routes

proposed by CapX2020 in this application either cross or run parallel to the trunk highway system. Finally, these comments will discuss a few specific portions of the draft EIS.

I. Legal Framework Applicable to Mn/DOT's Utility Accommodation Policy

Mn/DOT's policy regarding accommodation of utilities is governed by both federal and state statutes and regulations. These comments will first describe the primary federal laws and then the state laws.

A. Applicable Federal Laws

Certain highways in Minnesota are part of the National Highway System, which is established under 23 U.S.C. §103. The National Highway System and the Dwight D Eisenhower National System of Interstate and Defense Highways (Interstate System) are together known as the Federal-aid System. 23 U.S.C. §103(a). See also 23 CFR Part 470. In addition to the highways on the National Highway System, other highways also receive federal funding. Together, all the highways that receive federal funding are known as "Federal-aid highways." 23 CFR §470.103. The Federal-aid highways in Minnesota that are impacted by the Brookings – Hampton CapX2020 route proposal that would run parallel to the highway include I-35, US 52, US 169, US 71, MN 23, MN19, MN 22, MN 50, MN 67 and MN 68. Other Federal-aid highways that would be crossed by the route proposals include US 75, US 59, MN 271, MN 4, MN 5, MN 15, MN 21, MN 13 and MN 3.

Congress articulated the transportation policy of the United States in 23 U.S.C. §101(b). Among other things, Congress noted that "it is in the national interest to preserve and enhance the surface transportation system to meet the needs of the United States for the 21st Century," that "the current urban and long distance personal travel and freight movement demands have surpassed the original forecasts and travel demand patterns are expected to continue to change," and that "special emphasis should be devoted to providing safe and efficient access for the type and size of commercial and military vehicles that access designated National Highway System intermodal freight terminals." 23 U.S.C. §101(b)(3)(A), (B) and (E).

Federal law requires that "The real property interest acquired for all Federal-aid projects . . . shall be adequate for the construction, operation, and maintenance of the resulting facility and for the protection of both the facility and the traveling public." 23 C.F.R. §710.201(e). In addition, all real property that is part of the Federal-aid highway system must be devoted exclusively to highway purposes unless an alternative use is permitted by federal regulation or the Federal Highway Administration ("FHWA"). This basic proposition is stated in 23 C.F.R. §710.403, which provides:

(a) The [State Transportation Department] must assure that all real property within the boundaries of a federally-aided facility is devoted exclusively to the purposes of that facility and is preserved free of all other public or private alternative uses, unless such alternative uses are permitted by Federal regulation or the FHWA. An alternative use must be consistent with the continued operation, maintenance, and safety of the facility, and such use shall not result in the exposure of the facility's users or others to hazards.

Similarly, 23 C.F.R §1.23 restricts use of the highway right-of-way unless otherwise permitted. This section provides:

(a) Interest to be acquired. The State shall acquire rights-of-way of such nature and extent as are adequate for the construction, operation and maintenance of a project.

(b) Use for highway purposes. Except as provided under paragraph (c) of this section, all real property, including air space, within the right-of-way boundaries of a project shall be devoted exclusively to public highway purposes. No project shall be accepted as complete until this requirement has been satisfied. The State highway department shall be responsible for preserving such right-of-way free of all public and private installations, facilities or encroachments, except (1) those approved under paragraph (c) of this section; (2) those which the Administrator approves as constituting a part of a highway or as necessary for its operation, use or maintenance for public highway purposes and (3) informational sites established and maintained in accordance with Sec. 1.35 of the regulations in this part.

(c) Other use or occupancy. Subject to 23 U.S.C. 111, the temporary or permanent occupancy or use of right-of-way, including air space, for nonhighway purposes and the reservation of subsurface mineral rights within the boundaries of the rights-of-way of Federal-aid highways, may be approved by the Administrator, if he determines that such occupancy, use or reservation is in the public interest and will not impair the highway or interfere with the free and safe flow of traffic thereon.

(Emphasis added.)

Federal law recognizes accommodating the placement of utility facilities as a permissible exception to the general mandate that all of a highway right-of-way, including the air space above the right-of-way, must be used solely for highway purposes. Section 109(l) of Title 23 of the U. S. Code provides:

(1) In determining whether any right-of-way on any Federal-aid highway should be used for accommodating any utility facility, the Secretary shall—

(A) first ascertain the effect such use will have on highway and traffic safety, since in no case shall any use be authorized or otherwise permitted, under this or any other provision of law, which would adversely affect safety;

(B) evaluate the direct and indirect environmental and economic effects of any loss of productive agricultural land or any impairment of the productivity of any agricultural land which would result from the disapproval of the use of such right-of-way for the accommodation of such utility facility; and

(C) consider such environmental and economic effects together with any interference with or impairment of the use of the highway in such right-of-way which would result from the use of such right-of-way for the accommodation of such utility facility.

The U.S. DOT has implemented this statutory directive by adopting the rules relating to accommodation of utilities found at 23 C.F.R. Part 645, Subpart B. These regulations require that each state transportation department submit its policies for accommodating utilities within highway rights of way to the FHWA. 23 C.F.R §645.215(a). See also 23 C.F.R §645.209(c). The FHWA will approve the policy upon determination that it is consistent with federal statutes and regulations, and any changes to the policy are also subject to FHWA approval. 23 C.F.R §645.215(b) and (c). Once a state's policy has been approved by the FHWA, the state transportation department can approve requests by a utility to use or occupy part of the right-of-way of a highway that is part of the Federal-aid highway system if the request is encompassed by that policy. Exceptions to the policy can be granted, but if a state proposes to grant to a utility an exception to its utility accommodation policy, the exception is subject to review and approval by the FHWA. 23 C.F.R § 645.215(d).

B. Applicable Minnesota Laws

Article 14 of the Minnesota Constitution establishes the state trunk highway system. Under Minn: Stat. §161.20, the Commissioner of the Department of Transportation is

charged with the responsibility to carry out the directive of Article 14 to construct, improve and maintain the trunk highway system, and is authorized to acquire property and take other steps necessary to fulfill this responsibility. All of the Federal-aid highways in Minnesota that are impacted by the Brookings – Hampton CapX2020 proposal are part of the trunk highway system.

Minnesota has several statutes relating to use of highway rights-of-way by utilities. Minn. Stat. §222.37, Subd. 1, provides in part:

Any . . . power company . . . may use public roads for the purpose of constructing, using, operating, and maintaining lines . . . for their business, but such lines shall be so located as in no way to interfere with the safety and convenience of ordinary travel along or over the same; and in the construction and maintenance of such line . . . the company shall be subject to all reasonable regulations imposed by the governing body of any county, town or city in which such public road may be.

Minn. Stat. § 161.45 provides additional specifications for utility facilities occupying portions of a trunk highway right-of-way. Section 161.145, Subd. 1 provides in part:

Electric transmission . . . lines . . . which, under the laws of this state or the ordinance of any city, may be constructed, placed or maintained across or along any trunk highway . . . may be so maintained or hereafter constructed only in accordance with such rules as may be prescribed by the commissioner who shall have power to prescribe and enforce reasonable rules with reference to the placing and maintaining along, across, or in any such trunk highway of any of the utilities hereinbefore set forth.

Subdivision 2 of §161.45 specifies the general rule that if the relocation of a utility placed in a trunk highway right-of-way is necessitated by a construction project on the trunk highway, the utility bears the costs associated with the relocation of its facility. However, if a utility facility is located on the Interstate System, then the cost of relocation of such facility is to be paid out of the state trunk highway fund. See Minn. Stat. § 161.46.

Minnesota Rules part 8810.3100 through 8810.3600 contain the rules relating to placement of utility facilities in trunk highway rights of way. Under Section 8810.3300, a utility must obtain a permit for any construction or maintenance work in a trunk highway right-of-way, and special rules apply to interstate highways. Section 8810.3300, Subp. 4 provides in part as follows:

Utilities along the interstate highways shall be located outside the control-of-access lines except as outlined below. Where the control-of-access lines coincide with the right-of-way lines, the utilities shall generally be located on private property. Where the control-of-access lines and right-of-way lines do not coincide, utilities may in general be located in the area between them. All utilities shall be serviced and maintained without access from the ramps, loops, and through traffic roadbeds. Utilities may be serviced from frontage roads and roads other than another interstate highway which cross either over or under the interstate highway. At aerial crossings of an interstate highway, supporting poles may be located on interstate highway right-of-way if they are a minimum of 30 feet beyond the shoulders of all through traffic roadbeds; however, in no event shall they be located in a median unless its width is 80 feet or more. . . .

There may be extreme cases where, under strictly controlled conditions, a utility may be permitted inside the control-of-access lines along an interstate highway. In each case there must be a showing that any other utility location is extremely difficult and unreasonably costly to the utility consumer, that the installation on the right-of-way of the interstate highway will not adversely affect the

design, construction, stability, traffic safety, or operation of the interstate highway and that the utility can be serviced without access from through traffic roadbeds, loops, or ramps.

In addition, Subp. 6 of part 8810.3300 requires that, except for the negligent acts of the state, its agents and employees, the utility shall assume all liability for and save the state harmless from any an all claims arising out of the utility's work and occupation of a portion of the trunk highway right-of-way.

C. Mn/DOT's Utility Accommodation Policy

Mn/DOT has adopted a policy statement regarding the circumstances and methods under which it will grant permits to utilities to occupy a portion of a trunk highway right-of-way. Mn/DOT's Utility Accommodation Policy is in conformance with the federal and state statutes and regulations described above, and is also consistent with the American Association of State Highway and Transportation Official (AASHTO) publications, A Guide for Accommodating Utilities Within Highway Right-of-Way and A Policy on the Accommodation of Utilities Within Freeway Right-of-Way. Mn/DOT's Utility Accommodation Policy has been reviewed and approved by FHWA under 23 CFR §645.215(b). Therefore, with respect to Federal-aid highways, further review by the FHWA is required for Mn/DOT to grant an exception to the general application of the Policy, but FHWA review and approval is not necessary for permits granted within the scope of the Policy.

Mn/DOT's Utility Accommodation Policy recognizes that it is in the public interest for utility facilities to be accommodated on highway rights-of-way when such use does not interfere with the flow of traffic and safe operation of vehicles or otherwise conflict with applicable laws or impair the function of the highway. The Policy applies to all utilities, both public and private. Therefore it speaks in somewhat generic terms to cover as many anticipated situations as possible.

The Policy was developed with integrated sections, and two or more sections usually need to be read together when applying the Policy to the context of a utility accommodation circumstance. Some of the provisions most relevant to the CapX2020 route applications include:

- Part I.F – articulates the general policy of accommodation of utilities;
- Part I.G – contains provisions for granting exceptions to the Policy;
- Part V – addresses the location requirements for utilities occupying a portion of a highway right-of-way that apply to most highways;
- Part VI – contains special rules for utility accommodation requests along freeways;
- Part X – contains specific requirements relating to overhead power and communication lines.

Mn/DOT is expressly required to include in its Utility Accommodation Policy some provisions that apply specifically to freeways. 23 CFR §645.209(c). Freeways are characterized by the fact that they are subject to full control of access – i.e., preference is given to through traffic by restricting areas where any person, including vehicles that use the highway, may enter or leave the freeway. By implementing full control of access, through traffic can safely achieve higher speeds and encounter fewer stoppages or slowdowns of the flow of traffic. On freeways, all crossings at grade are prohibited, and fencing is installed along the right-of-way to prevent other persons (including snowmobilers, bicyclists, walkers, etc.) or animals from entering the freeway right-of-way. Freeways also require special design considerations, such as the wider clear zones adjacent to the roadway due to the higher speeds achieved by through traffic on freeways.

The control of access aspect of freeways is a key consideration underlying the special rules regarding utility accommodation requests on freeways. The Utility Accommodation Policy states: "The installation of new utility facilities shall not be allowed longitudinally within the right of way of any freeway, except in special cases under strictly controlled conditions." Under Utility Accommodation Policy, Section VI.C, the utility seeking to establish that special circumstances exist to justify an installation on a freeway must demonstrate to Mn/DOT's satisfaction the following:

- a. The accommodation will not adversely affect the safety, design, construction, traffic operations, maintenance, or stability of the freeway.
- b. Alternate locations are not available or are cost prohibitive from the standpoint of providing efficient utility services.
- c. The accommodation will not interfere with or impair the present use or future expansion of the freeway.
- d. The location of the utility facility outside of the right of way would result in the loss of productive agricultural land or loss of productivity of agricultural land. In this case, the utility owner must provide information on the direct and indirect environmental and economic effects for evaluation and consideration by the Commissioner of Transportation.
- e. Access for constructing and servicing utility facility will not adversely affect safety and traffic operations or damage any highway facility.

Concurrence by the FHWA is also required before the permit for a longitudinal installation on a freeway can be granted.

II. Overview of Transportation-Related Impacts of HVTLs

The preferred and alternate routes proposed by CapX2020 in this matter either cross over or run parallel to Federal-aid highways in a number of locations. When a route is ultimately selected by the Minnesota Public Utilities Commission (MPUC), a permit from Mn/DOT will be required in any location where the HVTL will occupy any portion of the highway right-of-way. In anticipation of the time when CapX2020 will submit applications for permits after one of the routes is selected, Mn/DOT has engaged in an ongoing dialogue with representatives of CapX2020 and the OES in an effort to identify information that will be needed to assess the permit applications and, to the degree that specificity is possible at this stage of the proceedings, areas where specific concerns will need to be addressed along various potential route scenarios.

Mn/DOT believes these discussions have been beneficial for all three participants. The discussions have been challenging due to the large number of locations where the proposed HVTL route and the trunk highways potentially intersect, the variety of unique circumstances that exist all along each of those potential locations, and the number of unknowns and uncertainties surrounding the selection of the actual locations where the CapX2020 utilities will eventually apply for permits from Mn/DOT.

One of the concepts Mn/DOT has discussed with CapX2020 and OES is the fact that highway rights-of-way do not have a uniform width. The width of the right-of-way, and the distance from the centerline of the roadway to the boundary of the right-of-way, varies from highway to highway, and even from mile to mile along a given highway. The reasons for this variability are many, and include considerations such as the time when the right-of-way was purchased, the topography and geology of the area, the negotiations with the individual landowners from whom the right-of-way was acquired, and the timing and nature of changes and upgrades to the highway that have occurred over the years.

Due to this variability, a uniform policy that an HVTL can safely be located "X" feet or "Y" feet outside the highway right-of-way boundary line generally does not work well. Rather, Mn/DOT's approach is to evaluate the type of activities that regularly occur on and along highways. For purposes of this discussion, we will divide these activities into three groups – (a) traffic that uses a highway, (b) maintenance, repair and related activities and structures associated with the ongoing operation of the highway, and (c) construction activities that are likely to occur in the foreseeable future. These functions or uses of the highway have a height and width in which they take place either along the roadway surface or in the ditches, near bridges, intersections or interchanges where the maintenance and construction activities take place.

Once the zones of these recurring highway activities are identified, a safety buffer zone from the location of the energized wires of the HVTLs must be applied. The Occupational Safety and Health Administration (OSHA) and the National Electric Safety Code (NESC) provide guidance on the safety clearances for activities near various voltages of HVTLs. The OSHA or NESC safety buffer should be applied between the zones of transportation activities and the location of the energized lines.

1. Traffic That Uses a Highway

Minnesota's trunk highways are designed to facilitate both personal travel and the distribution of freight throughout the state. Pursuant to Minn. Stat. §§169.80 and 169.81, vehicles that do not exceed 13 feet 6 inches in height and 8 feet 6 inches in width can be operated on Minnesota's highways without a permit. Vehicles with larger dimensions, excluding farm vehicles, must obtain a permit. Over the past 5 years, Mn/DOT has issued 233,376 permits for oversize vehicles to operate on state trunk highways. These do not include oversize farm machinery (which do not require a permit) nor movements of houses or other buildings such as grain bins. The number of building moves vary between 400 and 600 per year. Of the oversize vehicle permits issued, 73 were for vehicles over 18 feet 5 inches high, with the largest reaching nearly 37 feet high. An example of the type of oversize loads frequently transported over trunk highways are the blades, base sections and nacelles used in constructing wind turbines.

In addition to freight and building moves, other traffic on the roadway portion of trunk highways includes such activities as snowplows, which operate on both the roadway and the shoulder. Snowplows are about 13 feet tall, and when their boxes are raised to distribute sand and salt, their height can reach as high as 18 feet. The relative size of snowplows on a typical highway surface is depicted in the drawing enclosed as Attachment 1.

2. Maintenance, Repair and Operational Activities

In addition to the zone associated with vehicles traveling on a highway, there is another zone associated with maintenance and operational activities alongside the roadways. Examples of maintenance activities performed by highway workers, and the types of equipment commonly associated with those activities, include the following:

- guardrail and fence installation and repairs, using augers, loaders and skidsteers (which commonly have raised buckets for pulling posts, etc.).
- vegetation control, using mowers, bucket trucks for tree trimming, and equipment for applying herbicides.
- cleaning ditches, culverts and drains, using backhoes and excavators of various sizes that have boom arms that are used to scoop dirt and vegetation and deposit it into a dump truck that will be parked along side the highway. Mn/DOT's larger ditch dredging equipment has a horizontal reach as long as 60 feet and a vertical operating dimension of up to 47 feet.

- bridge inspections, using snoopers which have articulating arms that can lift a worker out over the side and then underneath the bridge structure.
- vehicular accidents on highways often require special equipment to retrieve vehicles and repair damage. For example, when large vehicles such as trucks or buses run off the road or go down large ditches or into wetlands, large equipment with booms or winches may be used to pull them out.

Occasionally there is a need for immediate medical transport from roadside locations due to accidents and illnesses. For these situations there are a number of air medical helicopters stationed throughout Minnesota that will land in the roadside environment. These aircraft require clear approach and departure paths as well as an area large enough for the helicopter to land. Given the dimensions of the helicopters used in Minnesota, an area with a diameter of 90 feet should be considered the minimum requirement for landing. There should be two approaches to this area from different directions separated by an arc of at least 90° so that the aircraft can land and take off without a tailwind. Powerlines can be a particularly difficult obstruction for helicopter landings at night. The lines themselves are nearly invisible to the pilot, who must use the presence of poles as evidence that the lines exist. Most helicopters operating in this environment have line cutters installed on the aircraft to cut powerlines they encounter. Even so, helicopter crashes occur when powerlines get entangled in their rotor system or landing gear.

Mn/DOT also maintains a number of structures alongside highways necessary for the safe and efficient operation of the highway, each of which requires periodic installation, maintenance and repair work. Examples of these structures include:

- road signs. The largest signs tend to be on freeways. Signs that extend out over the travel portion of a freeway must have 17.33 feet of clearance to the bottom of the sign, and the top of such signs can be 30.5 feet tall and may require boom trucks, bucket trucks or cranes to install or maintain such signs. Roadside guide signs along freeways can reach 13 feet tall and tend to be located as far out in the clear zone as practical.
- light posts, traffic control signals and poles for traffic monitoring cameras exist at various locations along highways, and range in height from 20 to 50 feet.
- high mast light towers are used along some freeways, and range in height from 100 to 140 feet.
- noise walls, which can be up to 20 feet high, are becoming increasingly common along freeways.

The relative size of some of these structures on a typical highway surface is depicted in the drawing enclosed as Attachment 2.

Another type of physical item located along highways is snow fences, either structural or living. Some snow fences are in the highway right-of-way, and others are placed by agreement with adjoining landowners and may be 150 feet off the highway right-of-way. Mn/DOT is usually able to work out arrangements with a utility owner regarding height and placement of vegetation used as a living snow fence in locations where a utility is placed. If living snow fences owned by Mn/DOT need to be removed or relocated to accommodate a utility placement, compensation for the removed vegetation is usually required as a condition for issuance of the permit.

3. Future Construction Activities

Mn/DOT continually evaluates the future needs for the trunk highway system and has construction projects in varying stages of development. Some have been designed and funded and are ready for construction. Others have been identified as needed or are anticipated due to development trends but have not yet been funded. The types of

construction projects Mn/DOT performs that could impact the location of a HVTL range from relatively minor changes to the width of a highway to major reconstruction projects. Examples of such construction projects might include:

- widening a roadway by addition of travel lanes or turn lanes, installation of a roundabout, or widening a shoulder area;
- rebuilding a highway in a way that changes the location or grade of a roadway; and
- addition of an overpass or interchange on a freeway or other highway.

In addition to changes in the configuration of a highway, consideration must be given to the equipment used during the construction process. Construction projects often involve the use of large excavators and cranes similar in size to the equipment described above which Mn/DOT uses for its maintenance activities. The equipment used in bridge work is especially large, usually requiring cranes with long booms to lift material into place. The equipment used on construction projects also need to be refueled at the job site, which requires consideration of the safety precautions necessary for this procedure.

The activities associated with vehicular traffic using the roadway surface have a zone in which they typically occur. The lighter shaded area above the roadway surface in the drawing enclosed as Attachment 1 depicts the zone or area in which vehicular traffic on the roadway may operate. The zone within which the activities associated with maintenance work take place is depicted by the darker shaded area on the drawing enclosed as Attachment 3.

The drawings enclosed as Attachments 1, 2 and 3 do not depict a specific location on a specific highway. Rather, they are illustrative of the zones or areas on any given highway where transportation-related activities may take place. In addition to these zones of activities, Mn/DOT will also consider factors such as the width of the right-of-way, the topography of the land and the geometry of the roadway in a specific location when deciding whether to grant a permit to a utility to occupy a portion of the highway right-of-way in that location.

III. Brookings to Hampton Route Proposals

In applying its Utility Accommodation Policy to a permit application, Mn/DOT must evaluate each pole location individually in relation to the topography of the land, the geometry of the roadway, the width of the highway right-of-way, the design of the HVTL structures, and other factors. Given the variability of these factors and the large number of potential locations, Mn/DOT is not able to provide specific answers at this time about whether it can grant permits for the potential locations where the various route proposals intersect with highway rights-of-way. As referenced earlier, Mn/DOT's approach to the CapX2020 proposal is to work to accommodate these HVTLs within or as near as feasible to the highway rights of way, based on an evaluation of the specific locations to ensure that appropriate clearance is maintained to preserve the safety of the traveling public and highway workers and the effective operation of the highway system now and in the foreseeable future.

To the degree that specificity is possible at this stage in the process, Mn/DOT will provide additional information about a few of the locations proposed in the routes involved in the CapX2020 application.

A. Highway Crossing Locations Proposed by CapX2020

The Applicant's preferred and alternate route proposals contain over 30 locations where the proposed HVTLs would cross over a trunk highway, as distinguished from circumstances where it would run parallel to the highway.

Highway crossings generally do not pose insurmountable difficulties in issuing a permit. Mn/DOT routinely grants such permits to a variety of types of utilities. These permits usually have conditions associated with them, such as placement of the poles so that they do not become a physical obstruction that might be struck by an errant vehicle or block the visibility of traffic. Mn/DOT also does not permit utilities to run diagonally across intersections, and prefers that crossings occur as close to right angles as possible. Under Section V.G.5 of the Utility Accommodation Policy, special handling may be required for crossings of scenic byways. Mn/DOT has a long history of working with utilities, including the members of CapX2020, to establish appropriate conditions in locations where the utility seeks to cross a trunk highway. With CapX2020, Mn/DOT does not anticipate encountering such difficulties that there would be locations where it would be unable to grant permits, with appropriate conditions, for the highway crossings proposed in this matter.

B. Locations Parallel to Highway Rights of Way Proposed by CapX2020

As proposed by CapX2020, the preferred route has four locations where the proposed HVTL would run parallel to the trunk highway rights of way. The alternate route has seven additional locations where the proposed HVTL would run parallel to the trunk highway rights of way. In addition, the draft EIS evaluates many variations of the proposed routes that were identified in the scoping process. These additional variations on the routes have nine locations where the proposed HVTLs might run parallel to a highway right-of-way.

The locations Mn/DOT has identified where CapX2020 might, depending on which route is ultimately selected, construct a HVTL that runs parallel to a trunk highway include the following:

- Preferred Route – US Highway 169. The preferred route proposed by CapX2020 would cross the Minnesota River just north of Le Sueur and then enter the US Highway 169 right-of-way near the interchange on the east side of the river. The proposed line would run on the north side of Highway 169 for about a mile and then cross the highway just south of the Minnesota River Valley Safety Rest Area and proceed through the wooded area to get to St. Thomas Road.
- Variation 4P-04 on Preferred Route – US Highway 169. Route Alternative 4P-04 runs along US Highway 169 for about 1.6 miles near Le Sueur from a point near where MN Highway 93 intersects with Highway 169 to a point where it rejoins the proposed preferred route near the interchange on the east side of the Minnesota River. Mn/DOT understands that there has been some discussion by others of the possibility of using the Highway 169 bridge as part of this route variation.
- Variation 4B-05 on Preferred Route – US Highway 169. Route Variation 4B-05 follows the preferred route until it reaches the rest area on US Highway 169 and then continues east for about 9.6 miles on Highway 169 until it reaches the point where the proposed alternate route crosses Highway 169.
- Preferred Route – MN Highway 50. As proposed by CapX2020, the preferred route would run parallel to MN Highway 50 for a little more than two miles just east of the Hampton substation location.
- Preferred Route – MN Highway 19. As proposed by CapX2020, the preferred route would run parallel to MN Highway 19 for about three miles between Gibbon and Winthrop in Sibley County.
- Variation 3P-06 on Preferred Route – MN Highway 19. Route Variation 3P-06 makes an adjustment to the preferred route that would add a segment of about one mile that would run parallel to MN Highway 19 between Marshall and Vesta in

Redwood County. In the testimony of Craig Poorker, CapX2020 adopted this variation as a modification of their preferred route.

- Variation 4P-02 on Preferred Route – MN Highway 19. Route Variation 4P-02 makes an adjustment to the preferred route that would add a segment of about four miles that would run parallel to MN Highway 19 just west of Fairfax.
- Variation 4P-05 on Preferred Route – MN Highway 22. Route Variation 4P-05 makes an adjustment to the preferred route that would add a segment of about a half a mile that would run parallel to MN Highway 22 south of Gaylord.
- Both Preferred and Alternate Route – MN Highway 52. CapX2020 proposes to construct a new substation near US Highway 52 north of Hampton. Under the preferred route proposal, the HVTL would run alongside Highway 52 for less than a half mile south of the new substation. Under the alternate route proposal, the HVTL would continue further alongside Highway 52 to a point about 2 miles south of the new substation, where it would cross Highway 52 and head in a southwesterly direction.
- Alternate Route – I-35. The alternate route proposed by CapX2020 would join I-35 at 57th Street W. in Rice County and run north parallel to I-35 for approximately 6.75 miles to the Lake Marion substation. The proposed alignment is on the east side of I-35 for most of this segment of the route.
- Variation 5P-03 on Preferred Route – I-35. Route Variation 5P-03 makes an adjustment to the preferred route that would add a segment of about a 1.7 miles that would run parallel to I-35 from the 250th Street interchange to the Lake Marion substation. This stretch of the freeway is also part of the proposed alternate route, except it would run on the west side of I-35 rather than on the east side of I-35.
- Variation 6P-01 and Variation 6P-04 on Preferred Route – I-35. Both Route Variation 6P-01 and Route Variation 6P-04 make an adjustment to the preferred route that would add a segment of about a 2.8 miles that would run parallel to I-35 just north of the Lake Marion substation. This route would run on the west side of I-35.
- Alternate Route – MN Highway 19. The alternate route proposed by CapX2020 would run parallel to MN Highway 19 for about a mile just to the north of Lonsdale.
- Alternate Route – MN Highway 25. The alternate route proposed by CapX2020 would run parallel to MN Highway 25 for about a mile just to the west of Belle Plaine.
- Alternate Route – MN Highway 22. The alternate route proposed by CapX2020 would run parallel to MN Highway 22 for about a mile north of Gaylord.
- Alternate Route – MN Highway 19/67. The alternate route proposed by CapX2020 would run parallel to MN Highway 19/67 for about 4.5 miles west of Redwood Falls.
- Variation 1A-02 and 1A-03 on Alternate Route – MN Highway 19. Route Variation 1A-02 and Route Variation 1A-03, which are variations of the alternate route, both include a segment that would take the applicant's HVTL along MN Highway 19 for about 3.5 miles just west of Marshall.
- Alternate Route – MN Highway 68. The alternate route proposed by CapX2020 would run parallel to MN Highway 68 for about 2 miles north of Milroy.
- Alternate Route – MN Highway 23. The alternate route proposed by CapX2020 would run parallel to MN Highway 23 for about 2 miles north of Hanley Falls.
- Variation 2B-01 on Alternate Route – MN Highway 23. Route Alternative 2B-01, which is a variation of the alternate route, includes a segment of about 10.5 miles that would run along MN Highway 23 from a point west of Cottonwood to Granite Falls.

C. Additional Information of Several Specific Areas

Although Mn/DOT cannot at this time state with specificity where permits might be granted for each of the locations listed above, there are a few situations where some additional information can be provided that would assist in the development of the EIS.

1. US Highway 169

US Highway 169 near Le Sueur is a high volume Interregional Corridor. On the preferred route and route variations 4P-04 and 4B-05, the HVTL is proposed to run parallel to Highway 169 between the Minnesota River and the Minnesota River Valley Safety Rest Area. The proposed route would run through a scenic easement area located near the rest area adjacent to Highway 169. The rest area is located one mile north of Le Sueur and occupies a portion of an 8.67 acre plot of land purchased by the State for scenic purposes. See Minn. Stat. §§ 160.81 and 173.04. In addition, scenic easements extend along the highway to the west of the rest area, and along a portion of County Road 28 down the slope from the rest area. Mn/DOT located the rest area at this site to take advantage of the site's scenic qualities. The proposed route for the HVTL would run through the scenic area and between the rest area and the scenic view in the primary viewshed from the rest area lobby. It appears that removal of significant mature woodland vegetation would be required to construct the HVTL along the proposed route.

The federal regulation governing scenic easements appears to restrict Mn/DOT's ability to grant a permit to CapX2020 for this location. The regulation, 23 CFR §645.209(h), provides:

Scenic areas. New utility installations, including those needed for highway purposes, such as for highway lighting or to serve a weigh station, rest area or recreation area, are not permitted on highway right-of-way or other lands which are acquired or improved with Federal-aid or direct Federal highway funds and are located within or adjacent to areas of scenic enhancement and natural beauty. Such areas include public park and recreational lands, wildlife and waterfowl refuges, historic sites as described in 23 U.S.C. 138, scenic strips, overlooks, rest areas and landscaped areas. The State transportation department may permit exceptions provided the following conditions are met:

(1) New underground or aerial installations may be permitted only when they do not require extensive removal or alteration of trees or terrain features visible to the highway user or impair the aesthetic quality of the lands being traversed.

(2) Aerial installations may be permitted only when:

(i) Other locations are not available or are unusually difficult and costly, or are less desirable from the standpoint of aesthetic quality,

(ii) Placement underground is not technically feasible or is unreasonably costly, and

(iii) The proposed installation will be made at a location, and will employ suitable designs and materials, which give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self-supporting armless, single-pole construction with vertical configuration of conductors and cable.

(3) For new utility installations within freeways, the provisions of paragraph (c) of this section must also be satisfied.

Mn/DOT understands that to grant a permit for this location, the conditions specified in both subparts (1) and (2) of 23 CFR §645.209(h) would need to be met. Based on its review of the scenic area, Mn/DOT has not seen a route that would not require extensive removal or alteration of trees in the scenic area. Therefore, it believes it would be unable to issue a permit in this location.

Also relating to US Highway 169, Mn/DOT understands that there has been some discussion of the possibility of using the Highway 169 bridge as part of this route variation. Attaching a high voltage line of the size involved in this proposal would fall outside Mn/DOT's Utility Accommodation Policy. Section VII.A.12 of the Policy addresses high voltage transmission lines attached to bridge structures and states that installations of greater than 35 kV are not permitted except in extraordinary circumstances. Mn/DOT has concerns about the safety of attaching a 345 kV line to the bridge structure and has no data to show that the applicants could satisfy the criteria for obtaining an exception to the Policy.

If the HVTL were located adjacent to the bridge, sufficient clearance would need to be maintained to enable workers on bridge inspection units, known as "snoopers," to safely perform their work. Snoopers have arms with two articulation points that swing out over the side of a bridge and enable the workers to closely inspect the underside of the bridge. Snooper arms require 50 feet of clearance from the side of the bridge to perform their job. Any energized transmission lines would need to be located far enough from the side of the bridge to give the workers sufficient clearance to perform their work safely.

2. US Highway 52

US Highway 52 is an Interregional Corridor connecting the Twin Cities to the high growth area of Rochester, and it carries high volumes of traffic. Segments of Highway 52 have been reconstructed to convert portions of the highway to controlled access freeway standards. The pace of development along this Interregional Corridor has led to calls to upgrade the highway to improve the safety and capacity of the highway. Although an upgrade of the entire corridor to freeway standards is not in Mn/DOT's 10-year planning horizon, the upgrade of portions of Highway 52 to controlled access freeway standards is expected to continue. Due to the anticipated growth of this Interregional Corridor, Mn/DOT prefers that any utility crossings or longitudinal placements meet freeway standards so that future roadway upgrades are not constrained and that the HVTL lines do not need to be relocated to accommodate a highway construction project.

In the Hampton area, a frontage road/access closure project is being planned for fiscal years 2011/2102 to transition this segment to a controlled access area. This work is being coordinated with Dakota County's construction of ramps and loops at the existing overpass of CSAH 47, thus converting the overpass to a full interchange at this location. Any HVTL poles would need to be placed outside the area of the new interchange.

3. Highway I-35

The alternate route proposed by CapX2020 would run for approximately 6.75 miles along I-35 from 57th Street W. in Rice County to the Lake Marion substation. The proposed alignment is on the east side of I-35 for most of this segment of the route. Much of the right-of-way owned by Mn/DOT on the east side of I-35 and south of the interchange at 250th Street is about 130 feet from the centerline of the northbound roadway in this area. The terrain has rolling hills, and in many locations the ground is higher than the roadway surface. In locations where the right-of-way is relatively wide and there is high ground running along the freeway, Mn/DOT anticipates that it would be able to accommodate placement of the HVTL poles within a few feet of its right-of-way boundary. Along the segment of the freeway north of the 250th Street interchange to the Lake Marion substation, the right-of-way extends about 100 feet from the centerline of the northbound roadway, and the ground at the right-of-way line is frequently lower than the roadway surface. In circumstances such as these, it appears that the utility poles would need to be located some distance away from the right-of-way boundary. The distance would depend on the configuration of the HVTL poles as well as the topography of the area and the width of the right-of-way.

The New Market Safety Rest Area is located on the west side of I-35 near the midpoint of this segment. Mn/DOT would not be able to grant a permit to run through the rest area if an alignment on the west side of the freeway were being proposed. An alignment on the east side of I-35, however, would not impinge on the operation of this rest area. Therefore, the same considerations would apply in this location as in other portions of the proposed route along I-35.

There is an interchange on I-35 at 260th Street E. Mn/DOT would not grant permits to run through the middle of an interchange such as this. Rather, the HVTL would need to be located outside the exit and entrance ramps. There are light poles located in this interchange. With a bridge crossing the interstate freeway at this location, considerations of the type of equipment needed to inspect, repair and rebuild bridges are applicable to this area.

4. Other Highway Locations

Mn/DOT's letter of April 30, 2009 identified several locations where projects such as resurfacing are being planned on the locations identified in the routes proposed by the applicants. As construction plans get updated, similar projects could be added in the future to these locations as well as the locations added as variations in the draft EIS. In addition, Mn/DOT's right-of-way has varying widths in these locations. Depending on the configuration of the poles, the proximity of the poles to the right-of-way boundary, the topography of the location, and whether other utilities have already been placed in a proposed location, the HVTL could impact construction projects, travel on the highway, or maintenance operations in the ditch. Mn/DOT anticipates working closely with the applicants to determine the locations where the HVTL lines can be accommodated along highway rights-of-way. Mn/DOT will be guided by the key considerations of (1) whether the safety of the traveling public or highway workers would be compromised, and (2) whether a particular location would compromise future plans for highway construction, maintenance or repair.

III. **Specific Comments on Matters Discussed in Draft EIS**

Throughout the draft EIS, the document uses the word "minimizing" to refer to impact of the HVTL and the word "sharing" to refer to the relationship of the HVTL right-of-way to other rights-of-way that may exist. We suggest alternate terminology would better reflect the dynamics of each situation. Where the draft EIS uses the term "minimizing" to describe the process of balancing the interests involved, we believe the term "limiting" such impacts would more accurately reflect the result of balancing the competing land use, human settlement and environmental interests.

Where the draft EIS uses the term "sharing" to refer to using a portion of a highway right-of-way, we believe the term "occupying" more accurately reflects the reality of the situation. As discussed earlier in these comments, the rights-of-way managed by Mn/DOT have been acquired for and dedicated to highway purposes. The state and federal governments have made significant investments to acquire and maintain highway rights-of-way. When a utility such as a HVTL obtains a permit from Mn/DOT to use a portion of a highway right of way, the presence of that utility limits or prevents the area so occupied from being used for other purposes. For example, the occupation of an area by a utility under a permit granted by Mn/DOT may hinder or prevent Mn/DOT from adding a lane or an interchange near that location. The term "sharing" of existing rights-of-way implicitly suggests that there is no cost or impacts associated with such a placement of a HVTL. The reality is that there are costs incurred in each such circumstance.

Section 1.0, Summary: The draft EIS notes that a variety of issues that are critical to a final route decision were evaluated. Mn/DOT believes the list of factors evaluated should be amended to include impacts on the transportation system as one of the issues to be considered.

Section 4.4, Right-of-Way Requirements: On page 4-3, the draft EIS states: "When the transmission line parallels roads, railroads, or other transmission lines, a less wide ROW is needed." This statement should be revised to more accurately describe the full dynamics of the situation. An HVTL that runs parallel to a road or railroad will still occupy the same amount of right-of-way. The right-of-way needed by the transmission line may be acquired from a transportation landowner, and the owner of the transmission line may incur lower cost by using an existing right-of-way, but the impacts on the owner of the existing transportation right-of-way can be as significant as the impacts on other landowners along the route. The terminology in this section tends to overlook the impacts of the proposed HVTL route on the owners of existing rights-of-way rather than identifying and evaluating those impacts in the same manner as other potential land use, human settlement and environmental impacts.

The discussion in Section 4.4 of the draft EIS about Mn/DOT's Utility Accommodation Policy raises the question of what circumstances constitute an occupation of a highway right-of-way that triggers the requirement to obtain a permit from Mn/DOT. The answer is readily apparent when a pole is proposed to be installed entirely inside the highway right-of-way boundary. Likewise, it is apparent that a davit arm of a pole that extends out over the highway right-of-way occupies a portion of the right-of-way even if the pole itself is a few feet outside the boundary. In circumstances involving a freeway, concurrence by the FHWA would be required prior to issuance of a permit for these types of installations.

The third situation, one which received much discussion by CapX2020, OES and Mn/DOT, is whether lines that sway in the wind (known as "blowout") and occupy air space within the highway right-of-way on an intermittent basis, require a permit from Mn/DOT. Page 4.4 of the draft EIS contains the statement: "Any placement within 75 feet of the trunk highway or interstate ROW would require a permit from the DOT." Mn/DOT agrees with this statement, which recognizes that the intermittent occupation of highway right-of-way associated with blowout of HVTLs does require a permit.

While a permit is required for such a circumstance, Mn/DOT intends to apply its policy in a prudent manner consistent with the approach described earlier in these comments. Mn/DOT understands from discussions with CapX2020 that some HVTL design adjustments may be possible in some circumstances that would minimize the amount of blowout or mitigate its impact on highway operations. Mn/DOT anticipates that it and CapX2020 will evaluate the proposed location for each pole in close proximity to a trunk highway along the designated route to determine where the blowout of the lines over highway right-of-way may occur, and where it may be feasible for Mn/DOT to issue a permit to accommodate such blowout on the highway right-of-way.

Section 4.5, Design Options to Accommodate Future Expansion: The draft EIS notes that portions of the 345 kV transmission line will be constructed using double-circuit capable poles, but with only one circuit initially installed. The reason for installing double-circuit capable poles is to facilitate stringing a second circuit when conditions justify a second circuit in the future. Given the expectation that a second circuit will eventually need to be installed, the poles should be evaluated as if they were to be constructed as double-circuited when considering the potential impact on transportation functions of a highway. That is, when evaluating the proximity of the energized line to the highway operations, both circuits should be evaluated even if only the line on the opposite side of the pole from the highway right-of-way will initially be constructed.

Section 4.7, Aerial Crossing of River: As discussed earlier, attaching a high voltage line of the size involved in this proposal to the Highway 169 bridge at Le Sueur would fall outside Mn/DOT's Utility Accommodation Policy. Section VII.A.12 of the Policy addresses high voltage transmission lines attached to bridge structures and states that installations of greater than 35 kV are not permitted except in extraordinary circumstances. Mn/DOT has concerns about the safety of attaching a 345 kV line to the bridge structure and has no data to show that the applicants could satisfy the criteria for obtaining an exception to the Policy.

Section 6.1.5, Tree Groves/Windbreaks: One of the functions of vegetation planted as a windbreak is to serve as a living snow fence. Off-road plantings help trap snow as it blows across fields, piling it up before it reaches a road. Depending on the location of the transmission line, it could have an impact on the size, placement and function of living snow fences. It would be useful to note the height of vegetation that would be permitted to remain in the HVTL right-of-way.

Section 6.2.3, Induced Voltage/Current: The draft EIS notes the possibility of fuel ignition if vehicles are refueled under a power line. During highway construction and maintenance projects, Mn/DOT frequently refuels vehicles in the field. In addition, accidents in which vehicles carrying large amounts of fuel go far off the roadway into ditches are not uncommon. Some such incidents involve spillage of large amounts of fuel. The EIS should provide more information about the nature and extent of dangers associated with fuels near high voltage transmission lines.

Section 6.9.1, Roadways: Table 6.9.1 lists "No" permanent impacts to road infrastructure. As discussed above, depending on the placement of the HVTL the aerial location of the wires could have a permanent impact on the use of a highway. Additional impact on a highway may occur around the base of the HVTL poles. In areas where the elevation of the roadway is significantly different than the surrounding topography, the utility may need to construct access roads or paths to get maintenance equipment to the poles, and may need to reshape the land to establish flat maintenance landings on which to position its maintenance equipment. The size of the utility's maintenance landings could require regrading the drainage slopes near the highway, tree removal, and construction of retaining structures in the highway right-of-way. If the impact in a specific location is severe, Mn/DOT may have to deny a permit for that location. Under its Utility Accommodation Policy, Mn/DOT may grant a permit despite the fact that the HVTL will have impacts on the highway, and it may require conditions that the owner of the HVTL must comply with as part of the granting of a permit.

Section 6.9.1 includes some discussion of roadway expansion plans and safety requirements as impacts on the highway system. The section should also address the topics of maintenance and repair activities and oversize loads/freight and commercial vehicle operations, which are discussed above in these comments.

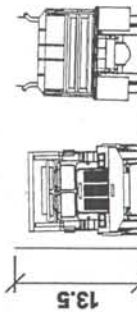
Section 6.10, Recreation: The paragraph on River Crossings/Scenic Byways mentions the Minnesota River Valley National Scenic Byway. The project also crosses and will have visual impacts on another scenic byway, the Highway 75 – King of Trails Minnesota Scenic Byway near Ivanhoe. The impact on Highway 75 – King of Trails Scenic Byway is noted in Section 7.1.4.10 on page 7-19 of the draft EIS. Mn/DOT had anticipated that Sections 7.1.4.10 and 7.3.4.10 of the draft EIS would provide information about a dialogue with the groups that sponsored these scenic byways about the impact that a HTVL crossing may have on the factors that led to the highway's designation as a scenic byway, and the potential for minimizing the impact on the scenic byways.

Sections 7.1.4.9, 7.2.4.9, 7.3.4.9, 7.4.4.9, 7.5.4.9 and 7.6.4.9: These sections address anticipated impacts to the transportation system and state that impacts to roads are expected to be limited to the temporary impacts associated with HVTL construction

activities. As discussed elsewhere in these comments, depending on the width of the highway right-of-way and the proximity of the HVTL to the roadway, there could be permanent impacts on the highway system associated with the HVTL's occupation of a portion of a highway right-of-way. Mn/DOT has been working with CapX2020 to identify the nature, extent and locations of those impacts in an effort to find ways to limit or avoid those impacts. The EIS should recognize the existence and nature of impacts discussed in these comments.

Sections 7.4.4.7 and 7.4.4.9: These sections should include discussion of the scenic easement along US Highway 169.

R/W



13.5

R/W

Note:
When a Mn/DOT plow has the dump up for sanding the height can be up to 18 feet.

Typical Cross Section



Vehicles

Attachment - 1

Overhead Freeway 40ft Light (Typical)

Top of OH Sign
up to 30.5 feet max.

Overhead Sign Structure

Up to 20 feet (Typical)

Noise Wall

40'-0"

17.33

R/W

R/W

Typical Cross Section

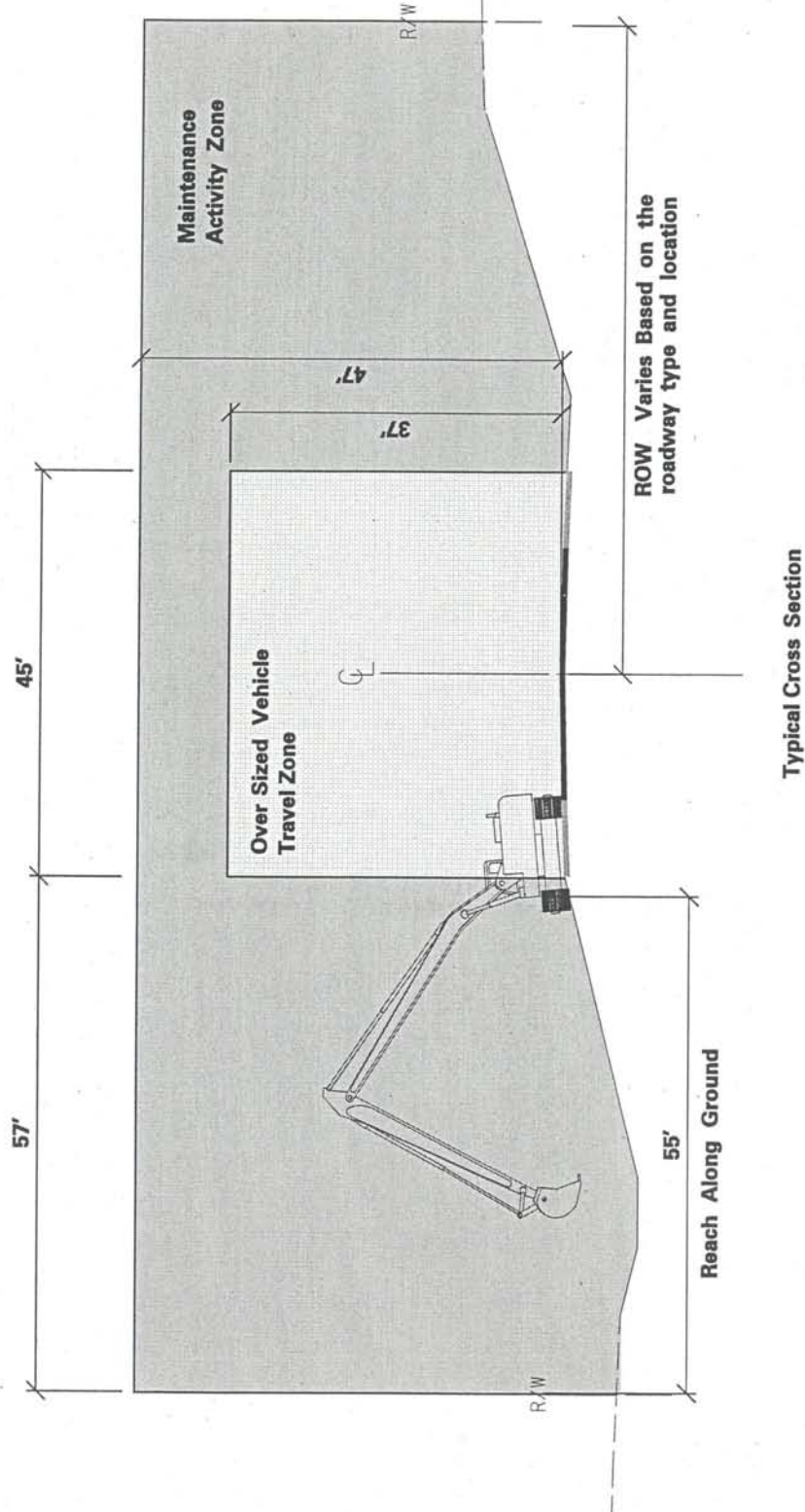


MnDOT Structure Examples

Attachment - 2

Note:

All Zones vary based
on roadway types
and locations



MnDOT Restriction Zone Examples

Attachment - 3