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**BEFORE THE STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE PUBLIC UTILITIES COMMISSION**

In the Matter of the Application of the Route
Permit Application for a High Voltage
Transmission Line Route Permit for the
Hiawatha Transmission Project

**POST-HEARING BRIEF OF THE
MIDTOWN GREENWAY COALITION**

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INTRODUCTION

The Midtown Greenway Coalition (“MGC”) respectfully submits this Post-Hearing Brief (“Brief”) to the Administrative Law Judge (“ALJ”) to advocate for selection of a transmission line route, substation sites and layout and various mitigation measures pertaining to the Hiawatha Project. Although MGC appreciates the statements in Applicant Xcel Energy’s Brief that any of its proposed Route A alignments, overhead or underground, or the Route D underground alternative could be a feasible and prudent alternative for consideration, MGC does not share this equanimity regarding routing results. MGC and the community organizations on its board have strongly held positions regarding transmission line routing, substation site selection, mitigation measures and allocation of underground transmission costs to the entire Northern States Power rate base, rather than the local community. MGC has also submitted Proposed Findings of Fact, Conclusions of Law and Recommendations (“MGC Proposed Findings”) to the ALJ in support of our positions.

Xcel Energy’s Hiawatha Project proposes two new 115 kV transmission lines between two new substations in the Phillips neighborhoods of South Minneapolis. This Project is unique, since it is the only high voltage power line since the 1950’s proposed by Xcel Energy as an overhead transmission facility in an area of comparable high population density. The compact urban fabric places dozens of properties within the “fall zone” of power line towers, hundreds of homes within 25 feet of transmission line routes and residents in upstairs apartments in proximity to magnetic fields more than ten times the level of concern in epidemiological literature as well as in proximity to noise and aesthetic impacts.

Xcel’s preferred route, which has developed to include two underground alignments as well as the initial overhead route, would be located along the Midtown Greenway, the entire corridor of which has been designated on the National Register of Historic Places (“NRHP”) as the Chicago Milwaukee and St. Paul Railroad Grade Separation Historic District (“Grade Separation Historic District”). In addition to its designation as a historic resource, protected as a natural resource under the Minnesota Environmental Rights Act (“MERA”) and the Minnesota Environmental Partnership Act (“MEPA”), the Midtown Greenway corridor is Minnesota’s busiest bikeway, a unique resource for bicycle transportation, recreation and tourism, an amenity critical for neighborhood revitalization, a future location of transit already devoted to that public

purpose by the Hennepin County Regional Rail Authority (“HCRRA”) and an area containing a series of historical bridges which will require replacement or substantial rehabilitation within the next few years.

Significantly, the Hiawatha Project proposes to serve load throughout a broad area of South Minneapolis extending north to Interstate 94, east to the Mississippi River west to the chain of lakes and south to Highway 62, while concentrating any adverse impacts of construction and operation of transmission lines and substations in perhaps the most racially and culturally diverse neighborhood in the State. Adverse impacts in the Project Area would be disproportionately experienced by minority and low-income communities, creating environmental injustice as well as concerns under applicable routing criteria.

Another anomaly of the Hiawatha Project is that Xcel Energy is seeking cost allocation from the local community if an underground transmission line route is selected. No legal precedent, rate book structure or experience with underground transmission lines in the urban area supports burdening a local community with a disproportionate share of a network transmission facility required according to application of Minnesota statutes and rules.

The final singularity of the Hiawatha Project is that hearings in the routing process had closed before the Legislature and Governor finalized a new law requiring a certificate of need (“CON”) for the Project. Cross-examination in these routing proceedings has identified gaps in the information available to evaluate need, while determinations in the upcoming CON proceeding may affect the appropriateness of substation sites and footprints as well as whether the Hiawatha Project, as a whole should be approved.

In these proceedings, the MGC seeks the following outcomes regarding route selection, substation site selection and mitigation of the impacts of the Hiawatha Project:

- A. Should the Public Utilities Commission (“Commission”) determine in the CON proceeding that the high voltage transmission lines proposed by Xcel Energy are needed, transmission line Route D underground on East 28th Street should be selected, with an alignment as close to the center of the street as feasible.
- B. The Route D underground transmission line should be identified as a standard facility, and incremental costs of undergrounding should neither be separately identified nor charged to any subset of customers other than Xcel Energy’s general Midwest rate base.
- C. Should the Commission determine that the need to accommodate future additional transformers at the Hiawatha Project substations is not established, the Hiawatha substation should be sited on the G-4 site and conditions below pertaining to

displacement of green space and trail opportunities need not apply.

- D. Should the Commission determine in the CON proceeding that the substation configurations proposed by Xcel Energy are needed, the Midtown North and the Hiawatha West sites should be selected under the following conditions:
1. The Midtown substation will be designed in conformance with the HCRRA Guidelines for the Grade Separation Historic District and the Applicant will enter into a memorandum of agreement with the HCRRA regarding protection of historic resources of the Historic District and adjacent historic properties.
 2. Xcel Energy shall construct a pedestrian promenade on the northern rim of the Greenway adjacent to the Midtown substation along with appropriate landscaping and lighting consistent with the Midtown Greenway Land Use and Development Plan and shall ensure continuing use of this property for a pedestrian promenade.
 3. The Hiawatha substation will be a high-profile design oriented on the Hiawatha West site as illustrated in Exhibit 169B, providing at least 170 feet of distance from substation walls to the Midtown Greenway trails on the north and sufficient distance from Hiawatha Avenue on the east to construct a bicycle/pedestrian path with appropriate setbacks.
 4. Xcel Energy shall replace and restore community green space and plantings north of the Hiawatha substation to the Midtown Greenway trails, designed in accordance with the Midtown Greenway Coalition and affected community organizations, and shall ensure continuing use of this property for community green space.
 5. Xcel Energy shall secure replacement green space along the Midtown Greenway for any green space unavoidably lost as a result of the Hiawatha West substation footprint, in consultation with the Midtown Greenway Coalition and affected community organizations.
 6. Xcel Energy shall construct a bicycle/pedestrian trail extension from the Midtown Greenway to Lake Street on the Hiawatha West site immediately east of Hiawatha Avenue and shall ensure continuing use of this property for trail purposes.
 7. Xcel Energy will design the Midtown and the Hiawatha substations, including height of walls, design and articulation of walls, landscaping, lighting and noise attenuation using a process that includes City of Minneapolis staff review, review and input by the Midtown Greenway Coalition and affected community organizations, and employment of an artist to mitigate impacts of the substation on users of the Midtown Greenway and the surrounding residents, businesses, historic resources and users of trails and/or transit.
 8. Xcel Energy will investigate concerns raised by intervening parties regarding distribution equipment reliability deficits in the Phillips neighborhoods and repair or

replace any equipment found by Xcel to be deficient.

In support of these proposed recommendations, MGC submits the entirety of our Proposed Findings and argues the following in this Brief:

- Need for the transmission lines and substations proposed in this docket has not been established and will be evaluated in a separate proceeding.
- The Midtown Greenway and Phillips neighborhoods, where Xcel Energy proposes to locate the Hiawatha Project transmission lines and substations, are unique settings.
- There is no feasible and prudent overhead transmission route for the Hiawatha Project consistent with MERA, MEPA, routing criteria, eminent domain laws and environmental justice.
- Route D underground beneath East 28th Street would avoid impacts on historic resources and minimize impacts on human settlement and public services as compared to any Route A alignment underground along the Midtown Greenway.
- Underground Route D is a standard facility, for which all costs must be charged to the general Xcel Energy Midwest rate base consistent with applicable law, rates, precedent and environmental justice.
- The Midtown and Hiawatha substations proposed by Xcel Energy have the potential to impair historic resources, displace public uses and create adverse impacts on human settlement, land use, natural resources, and environmental justice.
- If the CON proceeding establishes no need to accommodate additional transformers and distribution circuits at Project substations, the G-4 site is a feasible and prudent site for the Hiawatha substation that would minimize its adverse impacts.
- If the CON proceeding establishes a need to accommodate additional transformers and distribution circuits as proposed by Xcel Energy, the Midtown North and Hiawatha West site are suitable sites if conditions are imposed pertaining to footprint and orientation, protection of historic resources, transportation amenities, restoration and replacement of green space and design to minimize impacts on land use, human settlement and natural resources.

The central question in these routing proceedings was framed by Commissioner Peter McLaughlin, Hennepin County's elected representative in the Project Area:

Think of the freeway system as the key example of the latter part of -- latter half of the 20th Century, and you think about where freeways were located and who bore the burden of those freeway -- that infrastructure investment. The burden was borne in city after city and in our region by -- primarily by lower-income neighborhoods and people of color. If you think of the freeway in South Minneapolis, it went through the heart of the African

American community in South Minneapolis. . .

And so the concern here is that this putting in high-density infrastructure through, once again, a low-income neighborhood, [a] neighborhood with large numbers of people of color, would be a repetition of that pattern of investment -- I believe that would be a mistake. We're trying to attract investment to this neighborhood. . . putting high tension wires would get in the way of that effort, of that very effort, and would be a repeat of the patterns of the 20th Century.¹

The Midtown Greenway Coalition requests that the ALJ and the Commission protect the Midtown Greenway and surrounding communities and ensure that past mistakes and injustice in constructing infrastructure are not repeated.

DISCUSSION

I. NEED FOR THE HIAWATHA PROJECT HAS NOT BEEN ESTABLISHED.

A. Alternatives to Transmission

Whether or not the proposed Hiawatha Project 115 kV high voltage transmission lines are needed will be evaluated in a certificate of need (CON) proceeding pursuant to recent legislation.² It is anticipated that in a CON proceeding there will be a more detailed and rigorous review of the Applicant's studies of need.³

The need for the proposed transmission lines and the availability of alternatives, including load management and distributed energy will not be determined in this routing docket. However, this proceeding has demonstrated gaps in Applicant's information pertaining to demand deficits and alternatives. MGC would request that the Applicant and the Commission take note of information missing from this record and ascertain that such information will be obtained before the upcoming more rigorous CON proceeding.

Although the Hiawatha transmission investments were proposed to meet a demand deficit based on the 2006 summer peak, there was surprisingly little information available from which it could be determined if demand side management or distributed generation might more effectively or economically address that deficit.

In the entire Application, there was only one page of information on the potential for

¹ McLaughlin 9 Vol. pp. 156-157.

² See Ch. 361, Sec. 19, Minnesota Session Laws 2010.

³ Schedin 10 Vol., p. 62.

conservation or demand side management to address peak capacity needs in the South Minneapolis Focused Study Area.⁴ Xcel Energy did not have information on the duration of peak loads⁵ or information on the number or percentage of summer peak megawatts attributable to air conditioning.⁶

Although system-wide Xcel Energy achieves about 1,000 megawatts in savings from peak load shaving out of a total demand of just under 9,000 megawatts (more than 11 percent of system-wide peak demand)⁷ no information was provided from which one could evaluate whether peak load shaving programs could meet summer peak demand in South Minneapolis. The Application did not have conservation or peak shaving usage specific to the South Minneapolis Focused Study Area,⁸ and Xcel Energy could not explain for the customers within the Focused Study Area how much energy was saved through programs such as the Saver Switch program,⁹ let alone the potential for additional savings.

Xcel Energy did not consider the potential for any new or additional conservation programs¹⁰ and acknowledged that conservation proposed for the Phillips neighborhood was an existing program being repackaged and “reinformationed” out to citizens.¹¹ Xcel acknowledged that the Company had not attempted to ascertain, once a deficit at peak had been identified, whether any combination of conservation and load management, distributed generation or energy storage could address the deficit.¹²

B. Need for Substation Size, Type and Configuration

In addition to evaluating need for the transmission proposed for the Hiawatha Project, upcoming CON proceedings will review questions of size, type, alternative system configurations and voltage.¹³ The CON proceeding will review reasonable alternatives and

⁴ Mirzayi 1 Vol., p. 81.

⁵ Zima 6 Vol., pp. 116-117

⁶ Zima 5 Vol., pp. 147-148; Ex. 168 (Xcel Resp to MGC IR 24)

⁷ Mirzayi 1 Vol., pp. 120-121.

⁸ Zima 5 Vol., p. 146.

⁹ Zima 5 Vol., p. 152; Mirzayi 1 Vol., pp. 80-81

¹⁰ Mirzayi 1 Vol., p. 87.

¹¹ Asah 2 Vol., p. 216.

¹² Zima 5 Vol., pp. 141-142.

¹³ Minn. Stat. §21E.02, Subd. 2 (2009).

suitable modifications to the facilities proposed for the Hiawatha Project,¹⁴ including the substations.¹⁵

The assumptions on which Xcel Energy's substation designs and footprints were based became clear in the evidentiary hearings. The Hiawatha Project was proposed by Xcel based on a determination by distribution planners that the South Minneapolis Focused Study Area has a deficit of 55 MW based on 2006 summer peak conditions at an N-1 contingency.¹⁶ The two initial transformers with which the Hiawatha Project will be built – 50 MVA at Hiawatha and 70 MVA at Midtown – will provide an additional 120 megawatts of load-serving support in the South Minneapolis Focused Study Area.¹⁷

Although the initial construction will provide more than twice the deficit in capacity found by Xcel Energy, Xcel's Midtown substation size and configuration were designed to accommodate an additional 115 kV transmission line tie-in, as well as an additional 70 MVA transformer and feeder lines.¹⁸ Xcel's proposed Hiawatha substation size and configuration were designed to accommodate a potential future additional transmission line tie-in, as well as two additional 50 MVA transformers and additional feeder lines.¹⁹

Xcel has no current plans to add a second transformer to the Midtown substation.²⁰ However, the Midtown North substation footprint that encroaches upon the Midtown Greenway Grade Separation Historic District is based on a design that accommodates a second transmission line tie-in and transformer.

Xcel Energy also has no current plans to install the second or third 50 MVA transformers in the Hiawatha substation,²¹ and cannot project either the date by which additional transformers would be installed or the level of customer load that would necessitate installation of an additional transformer at the Hiawatha substation.²²

¹⁴ Minn. R. 7849.0120, Subparts B, C. (2009).

¹⁵ Minn. R. 7849.0260, Subpart B(4) (2009).

¹⁶ Zima 5 Vol., p. 170; Ex. 1B, Appendix D-2, p. 10, Appendix D3, p. 27 (Application).

¹⁷ Zima 5 Vol., p. 182. See also Ex. 1A, pp. 13, 26 (Application).

¹⁸ Ex. 1A, p. 41 (Application); McNelly 5 Vol., p. 114.

¹⁹ Ex. 1A, p. 41 (Application); McNelly 5 Vol. pp. 26, 114.

²⁰ McNelly 5 Vol., p. 114.

²¹ McNelly 5 Vol., p. 114.

²² Zima 5 Vol., p. 178, ll. 16-25.

Xcel Energy's conclusion that the G-4 alternative substation site is not feasible due to poor accessibility of distribution feeders is based on an "ultimate" system design of three transformers and 15 distribution feeders.²³ Initially, there would be 5 feeders, not 15 at the Hiawatha site.²⁴ There is no date by which Xcel Energy predicts that that ultimate expansion to 15 feeders and three transformers is going to take place. This expansion depends on predictions of load growth.²⁵

The CON proceeding now required by the Legislature could determine that the size and configuration of the Hiawatha Project substations should not be based on the "ultimate" system design with a total of five transformers. If such a determination were made configurations for both the Midtown and Hiawatha substations may have smaller footprints, and the G-4 alternative site for the Hiawatha substation may be feasible.

II. THE MIDTOWN GREENWAY AND THE HIAWATHA PROJECT AREA NEIGHBORHOODS ARE UNIQUE.

A. Midtown Greenway

The Midtown Greenway is a unique transportation resource. The Greenway is a 5.5-mile-long biking and walking trail through an old railroad corridor that runs east to west across Minneapolis parallel to, and for the most part one block north of, Lake Street. The Greenway connects with other trails around the Minneapolis Chain of Lakes near the City's western border, and with a bikeway on the West River Road along the Mississippi River to the east.²⁶

The Greenway is lit at night, plowed in the winter, and open all day every day. Greenway trails are in use year round, and the Greenway is Minnesota's busiest bikeway.²⁷ Detector loops under the trail pavement in 2008 identified about 4,000 bicycle users per day,²⁸ more travel than about two-thirds of the total Minneapolis roadway system.²⁹ In May 2010, *Bicycling Magazine* named Minneapolis the number one bicycling city in the United States, in part due to the

²³ Zima 12 Vol., pp. 174.

²⁴ Zima 12 Vol., p. 198.

²⁵ Zima 12 Vol., pp. 198-199.

²⁶ Ex. 36, p. 6 (Springer Direct).

²⁷ Ex. 36, p. 6 (Springer Direct).

²⁸ Springer 7 Vol., pp. 174-176.

²⁹ Ex. 36, p. 11 (Springer Direct).

influence of the Midtown Greenway on bicycle use and bicycle culture.³⁰

The Midtown Greenway also serves a unique function as a treasured linear park³¹ in the midst of a dense urban neighborhood with few other amenities. Members of the public testified at the public hearing on April 5, 2010 that the Greenway is “precious,”³² and that “people are very attached to this Greenway.”³³ Pam Barnard, who lives a block from the Greenway on 37th Avenue summarized,

Just generally I would say that the Greenway is really a gem. It should be considered, you know, as a park just as the lakes are and the other parks, and Minnehaha Park. I think that they should be protected and honored, and I think it contributes to the health of the city and the population.³⁴

Perhaps most important, the Greenway represents the transformation of a blighted and dangerous inner city to a thriving and desirable community. Hennepin County Commission Peter McLaughlin explained that when the *New York Times* printed an article in 1995 that called Minneapolis “Murderapolis” and prominently named the Phillips neighborhood, civic, neighborhood and business leaders came together to form a partnership to change the perception and reality of crime, deterioration and disinvestment.³⁵ Creation of the Midtown Greenway was part of the vision for neighborhood renewal:

[I]f you went in the Greenway in 1998 you were always -- or '97 or '99, the first warning you got was to make sure your tetanus shots were up to date because there was glass, there were mattresses. It was a mess. . . . And the idea was to try to create an urban amenity that would be -- that would live up to the hundred-year-old plans in the City of Minneapolis to connect the Minneapolis chain of lakes to the Mississippi River through south central Minneapolis. . . . Creating the walking and hiking path was another part. And creating a transit connection that could -- with which these other activities, the hiking, biking, and the green plantings, could coexist was the vision.³⁶

Public investment in the Midtown Greenway has included \$10.3 million of HCRRA

³⁰ Springer 7 Vol., p. 179; Ex. 183, p. 2 (Mogush Supplemental Direct).

³¹ See FEIS, Figure 5.4-1; Pub. Hearing Tr., Councilmember Cam Gordon Testimony, p. 42 (April 5, 2010).

³² Pub. Hearing Tr., Avigdor Edminster Testimony, p. 33 (April 5, 2010).

³³ Pub. Hearing Tr., Matthew Norton Testimony, p. 136 (April 5, 2010).

³⁴ Pub. Hearing Tr., Pam Barnard Testimony, p. 37 (April 5, 2010).

³⁵ McLaughlin 9 Vol., pp. 145-146.

³⁶ McLaughlin 9 Vol., p. 151, l. 21 – 152, l. 19. See photographic record of redevelopment in Ex. 39 (Photos of Greenway Development).

funds for land acquisition, approximately \$18.5 million in Hennepin County funds, federal grants under the ISTEA program, federal direct appropriations and City and State funds for trail engineering and construction and \$7.2 million for land acquisition and construction the trail entrance at 10th Avenue serving Midtown Exchange. There are also ongoing investments by the City of Minneapolis and Hennepin County for improvements of pavement, lights and vegetation and for maintenance and security.³⁷ Public and community plans for the Greenway include overlooks on adjacent land for viewing platforms, walking paths on the rim of the Greenway, public green space adjacent to the Greenway, public art, connections to nearby business nodes, and residential development with greater density.³⁸

B. Project Area Neighborhoods

The proposed project area for the Hiawatha Project is unique, both due to density and due to the vulnerability of environmental justice communities to any adverse impacts of the project. Xcel Energy acknowledges that for the Hiawatha Project “the population density in our proposed project area or the Phillips neighborhood is greater than the example we've given here. And, in fact, it's greater than anyplace we've constructed a new transmission line in recent history”³⁹ and that “this would be a unique project in terms of the fact that it would be constructed in such a densely populated area.”⁴⁰

The 11 neighborhoods and communities that could be affected by the project were analyzed in the FEIS as the Environmental Justice Study Area. More than 50 percent of the Environmental Justice Study Area were members of a racial minority at the most recent census, and the percentage of the minority population within this Area exceeded the state percentage by over 20 percentage points.⁴¹

The Phillips neighborhood,⁴² in which Routes A1, A2, A3, B, D and substantial portions of Route C are located, is yet more unique in terms of population density and environmental

³⁷ Ex. 36, p. 9 (Springer Direct).

³⁸ Ex. 36, p. 11-12 (Springer Direct); Ex. 40, Executive Summary (Midtown Greenway Land Use and Development Plan).

³⁹ Asah 1 Vol., pp. 225-226.

⁴⁰ Asah 2 Vol., p. 85.

⁴¹ FEIS, p. 236.

⁴² The term “Phillips neighborhood” is used to include several neighborhoods, including West Phillips, Midtown Phillips, East Phillips and Ventura Village.

justice concerns. According to the 2000 census, there were 19,805 persons in Phillips, reflecting a 15 percent increase over the preceding 10 years.⁴³ Phillips has a population density of more than 8,900 people per square mile, 40 percent of whom are children.⁴⁴

Phillips is nearly 70 percent non-European Caucasian and is one of the most diverse communities in the State⁴⁵ exceeding the State minority percentage by far more than 50 percent.⁴⁶ The percentage of people living in poverty the Phillips Neighborhoods (32.8 percent in the most recent census) is persistently higher than in the City of Minneapolis and exceeds the state percentage by more than 20 percentage points.⁴⁷

III. STATUTES, RULES AND POLICIES FOR TRANSMISSION LINE ROUTING PROTECT NATURAL RESOURCES, REQUIRE MINIMIZING HUMAN AND ENVIRONMENTAL IMPACTS AND SUPPORT ENVIRONMENTAL JUSTICE.

A. MEPA and MERA

A route permit may only be issued in keeping with the Minnesota Environmental Policy Act (“MEPA”) and the Minnesota Environmental Rights Act (“MERA”).⁴⁸ MEPA and MERA constrain the approval of action impairing state natural resources where there are feasible and prudent alternatives. MEPA states:

No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct.⁴⁹

Similarly, MERA provides:

In any such administrative, licensing, or other similar proceedings, the agency shall

⁴³ Ex. 221 (Phillips General Demographics)

⁴⁴ Rep. Clark Letter, p. 2, eDocket Document No. 20105-50442-01 (May 10, 2010).

⁴⁵ Pass 11 Vol., pp. 152-153; FEIS, p. 247.

⁴⁶ See FEIS, p. 236, Table 5.5-2.

⁴⁷ FEIS, pp. 240-241.

⁴⁸ Minn. R. 7850.4000 (2009).

⁴⁹ Minn. Stat. § 116D.04, subd. 6 (2009).

consider the alleged impairment, pollution, or destruction of the air, water, land, or other natural resources located within the state and no conduct shall be authorized or approved which does, or is likely to have such effect so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land, and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct.⁵⁰

High voltage transmission lines are subject to both MEPA and the MERA under Minnesota Supreme Court cases *PEER v. MEQB*⁵¹ and *No Power Line, Inc. v. MEQC*.⁵² Once it has been shown that a high voltage transmission line is likely to result in impairment of natural resources, approval is only justified if the state agency demonstrates that no feasible and prudent alternative exists to the project consistent with the public health, safety and welfare.⁵³ Economic considerations alone shall not justify pollution, impairment or destruction of the state's natural resources⁵⁴ and, "The burden of demonstrating that there is no prudent and feasible alternative is on the permit applicant." *MCEA v. MPCA*.⁵⁵

Historical resources listed on the National Register of Historic Places are "natural resources" under the protection of MERA pursuant to *State by Powderly v. Erickson*,⁵⁶ and *State by Archabal v. Cty. of Hennepin*.⁵⁷ Where a building is not specifically listed by the NRHP, criteria used to determine NRHP listing, such as the quality of architecture, local importance, integrity of location, design, setting, materials, workmanship, feeling and association and embodiment of a type or period, are factors reviewed to determine if a historic resource is protected under MERA.⁵⁸

⁵⁰ Minn. Stat. § 116B.09, subd. 2 (2009).

⁵¹ *People for Env'tl. Enlightenment and Responsibility ("PEER"), Inc. v. Minn. Env'tl. Quality Bd.* ("MEQB"), 266 N.W.2d 858, 864 (Minn. 1978)

⁵² *No Power Line v. Minn. Env'tl. Quality Council ("MEQC")*, 262 N.W.2d 312, 323-324 (Minn. 1977)

⁵³ *PEER v. MEQB, supra*, 266 N.W.2d at 867.

⁵⁴ Minn. Stat. § 116D.04, Subd. 6 (MEPA) and Minn. Stat. § 116B.09, Subd. 2 (MERA).

⁵⁵ *Minn. Ctr. for Env'tl. Advocacy ("MCEA") v. Minn. Pollution Control Agency ("MPCA")*, 696 N.W. 2d 95, 102 (Minn. App. 2005).

⁵⁶ *State by Powderly v. Erickson*, 285 N.W.2d 84, 87-88 (Minn. 1979)

⁵⁷ *State by Archabal v. Cty. of Hennepin*, 495 N.W.2d 416, 421 (Minn. 1993).

⁵⁸ *State by Powderly v. Erickson, supra*, 285 N.W. 2d at 88; *State by Archabal v. Cty. of Hennepin*, 495 N.W.2d at 421.

In the *Archabal* case, Minnesota’s Historic Preservation Officer brought a declaratory judgment action under MERA seeking to permanently enjoin Hennepin County from "demolishing, destroying or otherwise altering" the Minneapolis National Guard Armory in order to build a jail convenient to downtown courts. The trial court determined that there was no violation of MERA or zoning regulations, and the Minnesota Supreme Court reversed this decision.

The central issue on which the Court focused is whether the County could legally destroy a resource otherwise protected under MERA because there were no feasible and prudent alternatives to its destruction.⁵⁹ The Court cited the *Powderly* case in holding that “protection of natural resources is to be given paramount consideration.”⁶⁰ The Court ruled that there is “an extremely high standard” for a defendant to meet in responding a prima facie case under MERA; in the absence of “unusual or extraordinary factors,” conduct impairing protected historical resources cannot be permitted if there is a feasible and prudent alternative.⁶¹ Even if a proposed project “may be more convenient, indeed may be more efficient” than the alternatives, it is still not justified under MERA.⁶²

Federal rules interpreting the National Environmental Policy Act (“NEPA”), upon which Minnesota statutes are based, describe the “significance” of impacts in relationship to context and intensity.⁶³ The context for impacts is site-specific, so that significance depends on effects in that locale, rather than more broadly in the world.⁶⁴ The intensity or severity of impact includes consideration of “proximity to historic or cultural resources,”⁶⁵ “[t]he degree to which the effects on the quality of the human environment are likely to be highly controversial,”⁶⁶ and “[t]he degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.”⁶⁷ Each of these federal rule

⁵⁹ *State by Archabal v. Cty. of Hennepin*, 495 N.W.2d at 422.

⁶⁰ *Id.*, at 422 citing *State by Powderly v. Erickson, supra*, 285 N.W. 2d at 88.

⁶¹ *Id.*, at 423.

⁶² *Id.*, at 426.

⁶³ 40 C.F.R. 1508.27.

⁶⁴ 40 C.F.R. 1508.27(a).

⁶⁵ 40 C.F.R. 1508.27(b)(3).

⁶⁶ 40 C.F.R. 1508.27(b)(4).

⁶⁷ 40 C.F.R. 1508.27(b)(8).

criteria for context and intensity suggest that impairment of the Midtown Greenway Grade Separation Historic District and other historic resources in the Project Area are likely to be significant under environmental protection laws such as MEPA and MERA.

Where conduct under administrative permit or approval is likely to impair natural resources, both MEPA and MERA provide that, “Economic considerations alone shall not justify such conduct.”⁶⁸ It is clearly established that an alternative power line route may be required to mitigate impacts to the natural environment or to unique land uses even where another route may be less expensive. *PEER v. MEQB*.⁶⁹ The costs of locating and designing a route required to comply with environmental laws are indistinguishable from other project costs.

B. Routing Criteria

No route permit may be issued in violation of the standards and criteria established in Minnesota Statutes and rules adopted by the Commission. In addition to consistency with the requirements of MERA and MEPA, the proposed facility must be consistent with state goals to conserve resources, minimize environmental impacts, and minimize human settlement and other land use conflicts.⁷⁰ Minnesota Statutes⁷¹ provide the following routing considerations:

Subd. 7. Considerations in designating sites and routes. (a) The commission's site and route permit determinations must be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.

(b) To facilitate the study, research, evaluation, and designation of sites and routes, the commission shall be guided by, but not limited to, the following considerations:

- (1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants and high-voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;
- (2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
- (3) evaluation of the effects of new electric power generation and transmission

⁶⁸ Minn. Stat. §§ 116D.04, Subd. 6 (MEPA); 116B.09, Subd. 2 (MERA).

⁶⁹ *PEER v. MEQB*, 266 N.W.2d 858 (Minn. 1978).

⁷⁰ Minn. R. 7850.4000 (2009).

⁷¹ Minn. Stat. § 216E.03, Subd. 7 (2009).

- technologies and systems related to power plants designed to minimize adverse environmental effects;
- (4) evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
 - (5) analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
 - (6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
 - (7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;
 - (8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
 - (9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
 - (10) evaluation of the future needs for additional high-voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
 - (11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and
 - (12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.

Factors considered to determine transmission line routing under Minnesota Rules⁷² are as follows:

- In determining whether to issue a permit for a large electric power generating plant or a high voltage transmission line, the commission shall consider the following:
- A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
 - B. effects on public health and safety;
 - C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
 - D. effects on archaeological and historic resources;
 - E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;
 - F. effects on rare and unique natural resources;
 - G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
 - H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
 - I. use of existing large electric power generating plant sites;
 - J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;

⁷² Minn. R. 7850.4100 (2009).

- K. electrical system reliability;
- L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;
- M. adverse human and natural environmental effects which cannot be avoided; and
- N. irreversible and irretrievable commitments of resources.

Minnesota rules provide not only for the selection of the transmission line route and substations that impose the fewest adverse human and environmental impacts but that the Commission impose conditions supported by the record⁷³ to minimize adverse effects and compliance with statutes and rules.

C. Environmental Justice

Executive Order 12,898 requires federal actions to address potential environmental justice impacts by directing federal agencies to “identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority or low-income populations.”⁷⁴ The State Legislature has defined the specific community in which the Hiawatha Project would be located as an environmental justice community, precluding issuance of certain permits to a facility in this area “without analyzing and considering the cumulative levels and effects of past and current environmental pollution from all sources on the environment and residents.”⁷⁵ Although the Hiawatha Project requires a different permit than is described in this statute, the Applicant recognizes that the Project Area is a minority and low income community designated as a cumulative impact area for environmental and health impacts.⁷⁶

The Minnesota Pollution Control Agency and the Minnesota Department of Transportation (Mn/DOT) have adopted environmental justice policies.⁷⁷ Mn/DOT’s

⁷³ Minn. R. 4600, Subp. 1 (2009).

⁷⁴ Exec. Order No. 12,898, 59 Fed. Reg. 7,629 (Feb. 11, 1994).

⁷⁵ Minn. Stat. § 116.07, Subd. 4a (2009).

⁷⁶ Asah 2 Vol., pp. 176-177.

⁷⁷ Minnesota Pollution Control Agency, *Environmental Justice Principles and Practices*, Apr. 30, 2008, available to download at <http://www.pca.state.mn.us/index.php/about-mpca/assistance/mpca-and-environmental-justice.html> (“MPCA Environmental Justice Principles”); Minnesota Department of Transportation, *HPDP /Scoping /Subject Guidance Minnesota Department of Transportation Environmental Justice*, available at <http://dotapp7.dot.state.mn.us/edms/download?docId=614585> (“Mn/DOT Environmental Justice Guidance”)

Environmental Justice Guidance is broadly applicable to *all* projects and activities that “affect human health or the environment and which are undertaken or approved by DOT.”⁷⁸ This policy may be directly applicable, since both permits and purchase of property from Mn/DOT would be required for the Hiawatha Project.

Mn/DOT’s Guidance defines disproportionately high and adverse effect on minority and/or low income populations to include an adverse effect that “(1) is predominately borne by a minority population and/or a low-income population, or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.”⁷⁹ Adverse effects under this Minnesota policy include health, environmental, social and economic effects, destruction or disruption of man-made or natural resources, destruction or diminution of aesthetic values and disruption of a community’s economic vitality.⁸⁰

The Final Environmental Impact Statement (“FEIS”) in these proceedings conducts an environmental justice analysis of the Hiawatha Project. Although the Applicant attempts in its Brief to limit the scope of environmental justice analysis,⁸¹ environmental justice effects of the Hiawatha Project under federal and state policies and as analyzed by the FEIS include displacement of homes and businesses, loss of scenic resources and loss of economic resources as well as health effects.⁸² The FEIS noted that the following could also be adverse environmental justice impacts of the Hiawatha Project: aesthetic changes within the areas that are predominately home to minority and low income populations; interference of an overhead route with the visual nature of the Midtown Greenway multi-modal path which local residents would interact with more frequently than those living outside of the Phillips community; and impacts on potential businesses that may perceive the transmission lines and substations as a disadvantage and may not locate in the Phillips community.⁸³

Mr. William Storm further testified on behalf of the Office of Energy Security (“OES”)

⁷⁸ Mn/DOT Environmental Justice Guidance, p. 5.

⁷⁹ *Id.*

⁸⁰ *Id.*, pp.4-5

⁸¹ Applicant’s Post-Trial Brief, p. 83.

⁸² FEIS, p. 245.

⁸³ FEIS, p. 21, Table ES-1.

that any of the following could be an environmental justice adverse effect: if location of an overhead transmission route on the Midtown Greenway would reduce investment in housing for the Phillips Neighborhood;⁸⁴ if fall zones for transmission structures reduced the opportunity for FHA-insured mortgages for homes in the Phillips Neighborhoods;⁸⁵ or if an overhead transmission line impaired scenic resources along the Greenway.⁸⁶

It is undisputed that adverse effects of the Hiawatha Project will be experienced predominantly by an environmental justice community. Transmission route and substation alternatives for the Project are located in areas where the minority population exceeds 50 percent and the percentage of low income person generally exceeds the state level by 20 percentage points. These groups would be affected more often than other non-minority and non-low income property owners.⁸⁷

Although effects of the Hiawatha Project would be disproportionately born by minority and low-income persons, benefits go to larger community. The Hiawatha Project would expand capacity to the entire South Minneapolis Focused Study Area⁸⁸ and is intended to address not just the area immediately surrounding the proposed transmission project, but the entire South Minneapolis Focused Study Area.⁸⁹ The reliability risk under N-1 single contingency to which the Project responds affects 33 of the 39 distribution circuits throughout South Minneapolis.⁹⁰

Applicant's witnesses have acknowledged that the burdens imposed by the project will be imposed on the Phillips neighborhoods, not on the other neighborhoods that might also benefit from the project.⁹¹ The broader benefit area for the Hiawatha Project includes many neighborhoods where people have higher incomes than the people who will live with impacts of a proposed overhead line in the project area,⁹² including neighborhoods such as Lowry Hill,

⁸⁴ Storm 12 Vol., p 142.

⁸⁵ Storm 12 Vol., p. 142-143

⁸⁶ Storm 12 Vol., p. 143

⁸⁷ FEIS, p. 21, Table ES-1, p. 264.

⁸⁸ FEIS, p. 36.

⁸⁹ Mirzayi 1 Vol., pp, 76-77; Asah 2 Vol., p. 41; Zima 5 Vol., p. 164.

⁹⁰ Zima 5 Vol., pp. 159-169; Ex. 1B, Appendix D. 3, p. 32 (Application).

⁹¹ Asah 2 Vol., p. 41-42.

⁹² Berkholtz 8 Vol., p. 185.

Lowry East, East Harriet, Kingfield, Tangletown, Lynnhurst, Kenny, Windom, Diamond Lake, and possibly areas of Kenwood and Bryn-Mawr.⁹³

In addition to addressing disproportionate impacts on minority and low-income communities, environmental justice policies at both the federal⁹⁴ and state⁹⁵ level call for “meaningful involvement” of all people regardless of race, color, national origin or income in the development, implementation and enforcement of laws, regulations and policies pertaining to the environment. The Minnesota Pollution Control Agency explains that “meaningful involvement” means not only that potentially affected community members have an appropriate opportunity to participate in decisions about a proposed activity that will affect their health or environment, but that “the concerns of all participants involved will be considered in the decision making process” and that “the public’s contribution can influence the regulatory agency’s decision.”⁹⁶

IV. THERE IS NO FEASIBLE AND PRUDENT OVERHEAD ROUTE.

A. Overhead Routes A1, B, C and E2 Have Unacceptable Impacts on Human Settlement.

Overhead Routes A1, B, C and E2 have unacceptable impacts on human settlement under statutes and rules requiring that route selection for high voltage transmission lines minimize impacts on human settlement. Effects of particular concern include displacement and proximity to homes and buildings, socioeconomic effects, land use conflicts, effects on public services such as transportation and transit, effects on recreation and tourism associated with the Midtown Greenway, and aesthetics and noise effects related to the density of residences, including multi-story residences, in close proximity to any overhead transmission line.

Throughout Minnesota, Xcel has identified only three segments of 115 kV transmission routed overhead in urban neighborhoods with a population equal to or greater than the project

⁹³ Berkholtz 9 Vol., pp. 39-40.

⁹⁴ U.S. Environmental Protection Agency, Environmental Justice, web page available at <http://www.epa.gov/compliance/environmentaljustice/index.html>

⁹⁵ MPCA Environmental Justice Principles, *supra*.

⁹⁶ MPCA, MPCA and Environmental Justice, *Definition of Environmental Justice*, available at <http://www.pca.state.mn.us/index.php/about-mpca/assistance/mpca-and-environmental-justice.html> (“MPCA Definition of Environmental Justice”).

area. None have been constructed since the 1950's.⁹⁷

1. Displacement and Proximity

Route E2 is anticipated to cause the displacement of 63 structures, including apartment buildings and homes.⁹⁸ Route E2 is clearly not feasible and prudent under statutory and rule criteria.

It is possible that Routes B and C may require displacement of buildings for right-of-way.⁹⁹ Due to narrow sidewalks and lack of setbacks, some buildings along Routes B and C could be within 12 to 13 feet from the conductor cable.¹⁰⁰ Since the conductor would be cantilevered from 8 to 9 feet over the street,¹⁰¹ this would place some buildings within a few feet of transmission line poles for Routes B and C. Whether or not this proximity for a single-circuit transmission structures technically violates National Electric Safety Code (“NESC”) standards,¹⁰² it is unprecedented and unacceptable.

Overhead route alternatives B and C would place many sensitive uses in close proximity to transmission lines, including South High School, the YWCA, the Children’s Center at Abbott Northwestern Hospital and several other schools and child care facilities.¹⁰³ Route A1, as well as routes B and C, would place hundreds of homes within 25 feet of an overhead high voltage transmission line. There would be 245 dwelling units within 0 to 25 feet from Route A1, 335 dwelling units within 0 to 25 feet from Route B and 206 dwelling units within 0 to 25 feet from Route C.¹⁰⁴

Overhead routes for the Hiawatha Project would also place residential, commercial and other buildings, such as day care and hospital facilities, within the “fall zone” of transmission line structures, measured as a radius around each transmission tower. Based on transmission tower locations proposed by Xcel Energy, properties within the fall zone of Hiawatha Project

⁹⁷ Ex. 52 (Xcel Resp. to MGC IR 6); Asah 1 Vol. pp. 157-159.

⁹⁸ Ex. 10 at Schedule 3, p. 1 (Asah Direct).

⁹⁹ Gallay 4 Vol. pp. 49-50.

¹⁰⁰ Asah 7 Vol. pp. 90-91.

¹⁰¹ Ex. 172 (Pole Structure ROW & NESC Code Illustrations).

¹⁰² See Ex. 172, p. 4 (Pole Structure ROW & NESC Code Illustrations).

¹⁰³ FEIS, p. 94; Asah 2 Vol., pp. 139-140.

¹⁰⁴ Ex. 49, Table 1 (Xcel Resp. to MGC IR 3); Asah 1 Vol., pp. 161-162.

routes are as follows:¹⁰⁵

Transmission Line Route	Distance Feet	Residential Structures	Residential/ Commercial	Place of Worship	Daycare Centers	Cemeteries	Hospitals	Commercial	Mixed Use	Total Structures
Route A1	75	7	0	0	0	1	0	9	0	17
	115	17	1	1	0	1	0	21	0	41
Route B	75	70	4	3	0	0	0	14	1	92
	115	146	5	4	1	0	0	20	1	117
Route C	75	101	2	6	0	0	1	10	1	121
	115	204	4	7	1	0	1	23	1	241
Route D	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	115	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Route E2	75	54	1	0	0	0	0	10	0	67
	115	76	1	0	0	0	0	10	0	90

In addition to a potential public safety risk, the location of property within the fall zone of high voltage transmission towers would have significant socioeconomic impacts to the project area.

2. Socioeconomic Effects

Significant economic reinvestment in the Phillips neighborhood has taken place over the past decade, creating a potential for the revitalization and stability envisioned by civic, neighborhood and business leaders in the troubled 1990’s. Overhead transmission Routes A1, B and C threaten this fragile recovery by creating depressed investment zones and in some cases “no investment” zones¹⁰⁶ as a result of transmission tower fall zone barriers to financing and developer reluctance to invest funds in proximity to overhead transmission lines. In less densely settled or more economically secure neighborhoods, these socioeconomic impacts might be manageable, but, given the level of investment and loss at stake, Overhead Routes A1, B and C would create unacceptable levels of socioeconomic impacts in the Hiawatha Project area.

From 2000 to 2009, a total of 272 nonresidential building permits valued at over \$382 million were issued by the City of Minneapolis for investments along the Midtown Greenway corridor, including the Midtown Exchange and related developments (approximately \$147

¹⁰⁵ FEIS, p. 93, Table 5.1-1, Properties in Proximity to Overhead Transmission Lines. Headings clarified to reflect footnotes.

¹⁰⁶ Ex. 102, p. 10 (McLaughlin Direct). See also Pub. Hearing Tr., Councilmember Elizabeth Glidden Testimony, p. 64 (April 5, 2010) regarding “redlining an entire area of the city.”

million) Abbott Northwestern expansion (approximately \$106 million); Wells Fargo Campus (approximately \$29 million).¹⁰⁷

In addition, during the past ten years, 66 residential building permits valued at over \$58 million were issued along the Greenway corridor.¹⁰⁸ The Midtown Phillips Neighborhood Association, Inc. helped bring almost \$98 million worth of new housing into the area,¹⁰⁹ and home ownership increased from roughly 30 percent ten years ago to about 55 percent.¹¹⁰

Overhead transmission Routes A1, B and C would adversely effect housing development within the fall zone of transmission structures since Federal Housing Administration (“FHA”) guidelines, as specified in the Housing and Urban Development (“HUD”) Handbook, prohibit mortgage support for homes in the fall zone of high voltage transmission towers or support structures.¹¹¹ The HUD handbook states that if a project is within the fall zone of a transmission structure the HUD assessor is to stop the appraisal and the project will not be moving forward with financing.¹¹²

Investors, builders, developers, and others financing new construction or substantial rehabilitation of multifamily housing projects are insured under HUD’s Section 207, Section 221(d)(3) and Section 221(d)(4) programs. HUD-backed financing plays a role in the vast majority of higher density residential and mixed-use development projects in the metro region.¹¹³ Steve Cramer, Executive Director of Project for Pride in Living (“PPL”), and former Executive Director of the Minneapolis Community Development Agency and Director of the Hennepin County Department of Housing, Community Works and Transit¹¹⁴ testified that HUD and FHA financing are fundamentally important to the development of affordable rental or affordable ownership housing in a neighborhood such as the project area.¹¹⁵

Mr. Cramer also testified that the availability of FHA-insured mortgages is also important for individual buyers, because down payments are less than for a conventional mortgage and

¹⁰⁷ FEIS, p. 206; Ex. 185 (City of Minneapolis – Major Projects Data); Berkholtz 8 Vol., p. 157.

¹⁰⁸ Berkholtz 8 Vol., pp. 200-201.

¹⁰⁹ Heyer 11 Vol., p 119.

¹¹⁰ Heyer 11 Vol., p. 122.

¹¹¹ FEIS, p. 224.

¹¹² Berkholtz 8 Vol., p. 198.

¹¹³ FEIS, p. 224.

¹¹⁴ Ex. 117, pp. 1-2 (Cramer Direct).

¹¹⁵ Cramer 10 Vol., pp. 71, 72.

terms are generally more favorable for low- and moderate-income people.¹¹⁶ Without FHA-insured mortgages, many low- and moderate-income home-buyers in the project area would be priced out of the mortgage market.¹¹⁷

The case of the Longfellow Station Apartments, located within the fall zone of the existing overhead transmission line on Hiawatha Avenue at 38th Street, was discussed at length on the record. Although the Longfellow Station project raised other issues of concern as well, HUD clearly concluded that the proximity of the transmission lines was “not acceptable” under HUD Compliance Standards.¹¹⁸ Despite Xcel’s assurance letter stating that transmission line facilities were constructed according to all applicable codes and requirements,¹¹⁹ HUD persisted in stating that a waiver from HUD Headquarters would be required for the location of high voltage power lines, among other issues¹²⁰ and that it was “doubtful” that HUD would find the site acceptable.¹²¹ But for HUD funding, the Longfellow Station project will not proceed.¹²²

Commissioner Peter McLaughlin, who worked on the Longfellow Station project,¹²³ explained that even if a waiver may in some cases be obtainable, having to obtain a waiver from the Washington HUD office in order for a development to proceed “is clearly a detriment to investment.” Commissioner McLaughlin testified, “Uncertainty is the enemy of investment by developers” and that “in the current marketplace, having HUD insurance is almost surely essential.”¹²⁴

A study was sponsored by Hennepin County reaching out to the real estate community in the area of Hiawatha and Minnehaha Avenues near the existing Xcel Energy overhead 115 kV line to discuss the redevelopment potential of various parcels. In that study, Commissioner McLaughlin testified, Xcel’s overhead transmission wires were identified as “an impediment to full-scale, robust development.”¹²⁵

Midtown Greenway Coalition Executive Director, Tim Springer, contacted four

¹¹⁶ Cramer 10 Vol., p. 69.

¹¹⁷ Cramer 10 Vol., p. 71, ll. 19-25.

¹¹⁸ Ex. 10, Schedule 8, HUD June 24, 2009 Letter, p. 2 (Asah Direct).

¹¹⁹ Asah 2 Vol., p. 178.

¹²⁰ Ex. 187, p. 5 (HUD Letter, March 25, 2010).

¹²¹ Ex. 187, p. 1 (HUD Letter, January 15, 2010).

¹²² Berkholtz 8 Vol., p. 162.

¹²³ McLaughlin 9 Vol., p. 149.

¹²⁴ McLaughlin 9 Vol., p. 150, ll. 14-25.

¹²⁵ McLaughlin 9 Vol., pp. 148-149.

developers with experience on existing or planned projects on the Midtown Greenway.¹²⁶ Each of these developers¹²⁷ expressed concerns that an overhead transmission line on the Greenway would affect new or existing development, including the following:

“[I]f high voltage power lines were to be located adjacent to these properties (or any other potential development sites) it would likely cause us to rethink trying to create \$60 million in new development on the sites, and have an adverse effect on the marketability of the existing developments.”¹²⁸

“As a developer, we would be reluctant to redevelop property along the Midtown Greenway if there were aerial high voltage transmissions lines, as their presence would pose a significant risk of obtaining tenants or buyers of the end product, whether it is office space, apartments, condos, or otherwise. People have a real aversion to the aesthetics of high voltage wires as well as significant concerns about the long term health impacts of being located immediately adjacent the wires.”¹²⁹

Mr. Cramer testified regarding his experience with efforts to market the 57-unit Midtown Exchange Condos developed by PPL. Real estate agents reported that the potential that an overhead transmission line may be built on the Greenway has posed a barrier to condominium sales.¹³⁰ In Mr. Cramer’s opinion, Route A1 would have a detrimental effect on Midtown Exchange condominium project.¹³¹

Carol Pass, a full-time volunteer with the East Phillips Improvement Coalition, explained that EPIC’s development of a parcel owned in partnership with another non-profit at 2845 Bloomington on the Greenway shoulder was on hold, awaiting resolution of the transmission routing.¹³² The CEO of an architectural firm who has worked with developers in the Phillips neighborhoods wrote that “overhead high voltage power lines will severely damage future prospects for development investments anywhere near by.”¹³³ No witness for any party offered testimony that development in the project area would not be adversely impacted if an overhead transmission route were selected for the Hiawatha Project.

¹²⁶ Springer 7 Vol., p. 157.

¹²⁷ Springer 7 Vol., p. 156.

¹²⁸ Ex. 46, p. 1 (Developer Email from Brent Rogers, February 3, 2010).

¹²⁹ Ex. 46, p. 2 (Developer Email from Stuart Ackerberg, February 4, 2010).

¹³⁰ Cramer 10 Vol., p. 74.

¹³¹ Cramer 10 Vol., p. 76.

¹³² Pass 11 Vol., pp. 147-149; Ex. 220 (Photo of 2845 Bloomington).

¹³³ Ex. 149, Schedule 12, Letter of Dean Dovolis dated February 18, 2010 (Pass Direct)

Transmission lines may also decrease the market value of a residential property as a result of concern about possible health effects from electric or magnetic fields (EMF); potential noise and visual unattractiveness of the transmission line; and potential interference with existing operations or foreclosure of present or future land uses.¹³⁴ In the project area, there is a particular concern about property value loss, because a home may be a family's only asset.¹³⁵

3. Conflicts with Zoning and Planning

Overhead Routes A1, B and C conflict with land use planning and zoning in the project area calling for replacement of industrial uses along the Midtown Greenway corridor with higher density residential use. Route A1 also conflicts with specific plans adopted by the City of Minneapolis for land use and infrastructure along 29th Street and with local ordinances. These land conflicts would be avoided with an underground route, consistent with rule criteria.

The Midtown Greenway Land Use and Development Plan and the Phillips West Master Land Use Plan call for increased high-density residential development along the Greenway.¹³⁶ Recent zoning changes adopted by the Minneapolis City Council reflect policy in the Phillips West Master Plan calling for a phase-out of industrial uses along the Greenway in the Phillips West neighborhood.¹³⁷

The FEIS identified various ways in which overhead Routes A1, B and C would be inconsistent with land use planning and zoning in the project area: transmission lines may create an industrial appearance in residential area; visual intrusions may discourage planned residential or higher density development; overhead power lines are inconsistent with pedestrian friendly and pedestrian scale development; impacts of overhead transmission lines on property values and federal financing may negatively impact planned residential development; and the combination of these factors may discourage high density residential development.¹³⁸ Route alignments A2 and A3 and Route D would be consistent with City and small area plans recommending the removal of industrial uses along the Midtown Greenway and the development of this area as a

¹³⁴ FEIS, p. 223.

¹³⁵ Pass 11 Vol., pp. 144-145.

¹³⁶ Mogush 8 Vol., pp. 110-11; Ex. 40 (Midtown Greenway Land Use Plan); Ex. 86 (Phillips West Master Land Use Plan).

¹³⁷ Mogush 8 Vol., p. 141.

¹³⁸ FEIS, pp. 18-19, Table ES-1; pp. 139-140.

community resource.¹³⁹

Route A1 specifically conflicts with Midtown Greenway Land Use and Development Plan, which envisions re-establishment of 29th Street as a continuous pedestrian realm, with a walkway, a planted boulevard and a pedestrian promenade overlooking the Midtown Greenway, along with additional access points, including ramps and stairs, to increase the connection between businesses, residents and the Greenway.¹⁴⁰ Inconsistent with this Plan, Route A1 would prohibit future realignment and reconstruction of 29th Street and associated sidewalks.¹⁴¹

Minneapolis Community Planning Manager Karin Berkholtz testified that routing the Hiawatha Project transmission lines underground on 28th Street is consistent with the City's long-term plans and articulated policy¹⁴² and with City ordinances.¹⁴³

4. Impacts on Public Services – Transportation and Transit

Conflicts with transportation also demonstrate that Route E2 is neither feasible nor prudent. Route E2 is likely to occupy a portion of freeway right-of-way, requiring an exception to federal rules and the concurrence of the Federal Highway Administration. Since the location of E2 would significantly impact future maintenance and construction on bridges over and under the freeway, it is highly unlikely that the exception to rules would be forthcoming or that the Route could be permitted.¹⁴⁴

Overhead Routes B and C would adversely impact sidewalk infrastructure, pedestrian transportation, pedestrian safety and pedestrian access to bus transit. Due to the width of the transmission structures at the base (36 to 58 inches depending on type), placement at driveway, alley or street intersections could obscure sight-lines and cause safety concerns.¹⁴⁵ Routes B and C, which are both located on bus routes, could include transmission pole locations that adversely affect bus stop locations either by obscuring visibility or reducing sidewalk width.¹⁴⁶

¹³⁹ FEIS, pp. 140-141.

¹⁴⁰ Ex. 36, p. 16 (Springer Direct)

¹⁴¹ FEIS, p. 26, Table ES-1.

¹⁴² Mogush 8 Vol., p. 142.

¹⁴³ Berkholtz 8 Vol., pp. 173-174, referencing Chapter 99, Minneapolis Code of Ordinances.

¹⁴⁴ Ex. 228, pp. 12-13 (Revised Mn/DOT DEIS Comment Letter).

¹⁴⁵ FEIS, p. 26, Table ES-1.

¹⁴⁶ FEIS, p. 26, Table ES-1.

Xcel proposes to place transmission structures for Routes B and C on boulevard space. Where there is no boulevard space, poles would be in the sidewalk area.¹⁴⁷ Xcel has not evaluated whether impingement on the sidewalk by poles would conflict with Americans with Disabilities Act (“ADA”) requirements.¹⁴⁸ It is likely that Routes B and C would present an unacceptable interference with public sidewalks, pedestrian access and pedestrian safety.

Xcel Energy’s preferred overhead transmission route, Route A1 along the Midtown Greenway would create unacceptable adverse impacts on public services, including future public transit, and would conflict with reconstruction of as many as 11 historic bridges over the Greenway, all of which are reaching the end of their useful lives.

Although the decision has not been made as to the type of transit, it is very likely that some form of rail transit, whether light rail or streetcars, will be implemented along the Midtown Greenway.¹⁴⁹ The FEIS concluded with respect to Route A1, “Any transmission structures in the Midtown Greenway could either impair available right of way width to the degree that a double-track system may not be viable, impair efficient operation of a transit system, or preclude construction of a rail transit system altogether.”¹⁵⁰

Xcel Energy witnesses have testified that the Hiawatha Project could be designed and constructed along route A1 to avoid physical conflicts with light rail or trolley plans provided sufficient detail regarding the design of these facilities were available during the design of the proposed project.¹⁵¹ However, it is undisputed that the requisite level of detail is not available at this time.¹⁵² Only conceptual work has been done for transit, and no detailed design work.¹⁵³ Evaluation of conflicts between transit and utilities could only be done in the preliminary design phase, which would come after scoping to determine the type of transit.¹⁵⁴ No representative of the city, county or community has indicated to Xcel that this level of detail could be available by the time that the Hiawatha project is propose to be built and constructed.¹⁵⁵ Hennepin County

¹⁴⁷ Gallay 4 Vol., p. 23.

¹⁴⁸ Gallay 13 Vol., pp. 36-37.

¹⁴⁹ McLaughlin 9 Vol., p. 138; Michalko 9 Vol., p. 122.

¹⁵⁰ FEIS, p. 26, Table ES-1.

¹⁵¹ Asah 1 Vol., p. 210.

¹⁵² Asah 1 Vol., p. 210.

¹⁵³ Michalko 9 Vol., p. 68.

¹⁵⁴ Michalko 9 Vol., pp. 76-77.

¹⁵⁵ Asah 1 Vol., p. 211-212.

Senior Administrative Manager Dean Michalko, a registered civil engineer, testified that it would be “extremely difficult” not knowing the mode of transit, to design something today for Route A1 that would allow flexibility for future transit.¹⁵⁶

Foundations for Route A1 overhead structures are likely to conflict with construction required for future transit. If the transit line were located on the southern portion of the Midtown Greenway corridor, foundations for Route A1 overhead transmission line structures are likely to be adjacent to where retaining walls are needed and could lose stability during and maybe even after construction.¹⁵⁷ Conflicts are also likely to be posed at transit stations, which require more right-of-way due to the need for vertical circulation such as elevators or stairs.¹⁵⁸

Overhead Route A1 would also conflict with the replacement or reconstruction of historic bridges across the Midtown Greenway. Engineers who studied the historic bridges in depth have found structural problems with almost every historic bridge along the Greenway.¹⁵⁹ Mr. Michalko testified that most of the bridges that currently go over the Midtown Greenway are 100 years old and will need repair and replacement,¹⁶⁰ including 11 bridges along Route A.¹⁶¹ Within the Route A project area, the useful life of the Cedar Avenue Bridge is less than 4 years and the useful life of the Columbus Avenue Bridge is less than 8 years.¹⁶²

Replacement of a historic bridge over the Greenway requires aerial space for a crane, as shown in a photograph of the Park Avenue bridge replacement provided by the MGC.¹⁶³ The most common deconstruction and construction process to replace a historic bridge uses a crane on the embankment above to demolish and remove the bridge and to do much of the work of construction.¹⁶⁴ With Route A1 overhead lines, Mr. Michalko testified that it would be much

¹⁵⁶ Michalko 9 Vol., p. 91.

¹⁵⁷ Michalko 9 Vol., pp. 87-88.

¹⁵⁸ Michalko 9 Vol., pp. 115-116.

¹⁵⁹ Ex. 43, p. 3 (Historic Bridge Study).

¹⁶⁰ Michalko 9 Vol., p. 73.

¹⁶¹ Michalko 9 Vol., pp. 114-115, identifying in Ex. 44 (Midtown Greenway Photographs). 17th Avenue (p. 9); 16th Avenue (p. 10) Bloomington Avenue (p. 11); 15th Avenue (p. 12); 14th Avenue (p. 13); 13th Avenue (p. 14); 12th Avenue (p. 15); 11th Avenue (p. 16) 10th Avenue (p. 17); Columbus Avenue (p. 21); and Oakland Avenue (p. 23).

¹⁶² Ex. 43, p. 2 (Historic Bridge Study).

¹⁶³ Ex. 51 (Bridge Reconstruction Photo); Michalko 9 Vol., p. 108.

¹⁶⁴ Michalko 9 Vol., pp. 73, 108

more difficult, if not impossible in some situations, to deconstruct and reconstruct bridges over the Greenway.¹⁶⁵

Although Xcel suggested that de-energizing an overhead Route A1 transmission line would minimize this conflict, Mn/DOT witness Dave Seykora explained that even if an overhead transmission line were to be de-energized, there could still be physical conflicts with the use of the large equipment used in bridge work construction depending upon the location of the poles and the wires.¹⁶⁶ Mr. Seykora explained that de-energizing lines is itself problematic. De-energizing lines, particularly those that are critical to service needs, usually has a long lead time,¹⁶⁷ and if there is a situation such as bad weather during the time planned for shut-off the process must start all over and work might be delayed for weeks or months for the preparation process.¹⁶⁸

5. Impacts on Recreation and Tourism

Overhead Routes B, C and A1 would impact recreation and tourism along the Midtown Greenway. The FEIS and the Midtown Greenway Coalition noted adverse effects on recreation and trail usage, while public testimony underscored that impacts to recreation from overhead transmission on the Greenway, like those to any other park, are unacceptable.

Route A1 extends along and crosses the Midtown Greenway and Routes B and C both include overhead transmission poles and wires on the Greenway.¹⁶⁹ The points at which Route B¹⁷⁰ and Route C enter the Midtown North substation also would place transmission poles right at the edge of the Greenway.¹⁷¹

The FEIS identified adverse short-term impacts on recreation in the Greenway resulting from construction of Routes A, B or C, noting that Greenway users would have find alternate routes or access points and that construction-related noise and dust would impact the quality of the recreational experience.¹⁷² Over the long-term,

¹⁶⁵ Michalko 9 Vol., p. 74.

¹⁶⁶ Seykora 12 Vol., pp. 17-18.

¹⁶⁷ Seykora 12 Vol., p. 44.

¹⁶⁸ Seykora 12 Vol., p. 45.

¹⁶⁹ Ex. 2A-D, 3A-H, 4A-I (Route Maps)

¹⁷⁰ Gallay 4 Vol., pp. 129-130

¹⁷¹ Gallay 4 Vol., pp. 130-131.

¹⁷² FEIS, p. 22, Table ES-1.

The overhead lines would pose an aesthetic impact to recreation in the Greenway. . . Alignment A1 would cross over the Greenway twice and the steel pole structures located along the Greenway, whether on top of the trench or along the bike path, would be visible to the Greenway users. . . The presence of transmission line structures may have a negative effect on the overall experience, perception and sentiment associated with using the Greenway. The presence of high voltage transmission lines may also affect the use of the Greenway trails due to the perception of health risks associated with the lines.¹⁷³

MGC Executive Director Tim Springer, an avid cyclist with years of experience working with the Greenway and trail riders testified, “An overhead power line on the Midtown Greenway would have a negative impact on the aesthetic quality of trail users’ experiences and is likely to decrease the popularity of the trail. Real and perceived concern about electric and magnetic fields could negatively impact trail use.”¹⁷⁴ Mr. Springer received comments of many people who said that they would use the trail less if an overhead transmission line were built.¹⁷⁵

Members of the public perceive that an overhead transmission line along the Greenway would create unacceptable impacts on transportation and recreation. Leslie Everett, a 61-year-old long-term cyclist who came from St. Paul to testify, stated:

I bike all over the Twin Cities, as many of us do, and we were pleased when the greenway was put in as a linear park. . . I do not feel that they should have overhead high-power lines along that greenway any more than we should have them along Minnehaha Parkway or Lake Calhoun. This is for both aesthetics purposes and for public safety purposes, and let me explain.

There’s safety in numbers in bicyclists. If you reduce the aesthetics, you reduce the numbers of bikers on the greenway, the safety in numbers would go away, and that’s important to me as I bike home at night. So I’d appreciate if you kept the high-voltage power lines off of that greenway.¹⁷⁶

6. Aesthetic Impacts and Noise

All overhead power lines create adverse effects pertaining to aesthetics and noise. What is singular about the Hiawatha Project is the proximity of overhead Routes A1, B and C to sensitive uses and homes, exacerbating the impacts on human settlement resulting from overhead transmission.

Routes B and C would create adverse aesthetic impacts to nearby houses of worship, the

¹⁷³ FEIS, p. 314; see also p. 22, Table ES-1.

¹⁷⁴ Ex. 36, p. 16 (Springer Direct)

¹⁷⁵ Springer 7 Vol., p. 155.

¹⁷⁶ Pub. Hearing Tr., Leslie Everett Testimony, pp. 30-31 (April 5, 2010).

medical campus setting of Abbott-Northwestern, the historic American Swedish Institute and adjacent mansions and early century multi-family buildings.¹⁷⁷ As explained previously, each of these routes and Route A1 in particular, would create aesthetic impacts on the Midtown Greenway recreational trails.

Proximity to structures and population density determines the extent of aesthetic and noise impacts from overhead transmission. The experience of residents living near an overhead route in the Phillips neighborhoods would not be comparable to the photographs used by Xcel Energy to illustrate transmission lines in residential neighborhoods.¹⁷⁸ All of the developments illustrated by Xcel were of much lower density than Phillips, none of the properties were closer than 75 feet to the nearest conductor and transmission lines generally went to back of buildings not to their front façade.¹⁷⁹

In the Hiawatha Project area, Routes A1, B and C each have more than two hundred dwelling units within 25 feet of the transmission line route. Route A1 would have 439 dwelling units within 100 feet of the route.¹⁸⁰ The project area currently has many multi-family buildings and its zoning for higher residential density will encourage more multi-story dwellings. Given proximity to the overhead routes and multi-story apartments, a resident could look out a third-story window and see a high voltage power line conductor just 20-30 feet away.¹⁸¹

Shirley Heyer, a long-term advocate for the Midtown Phillips neighborhood summarized community perception that impacts on human settlement from overhead Hiawatha Project routes are unacceptable, “What impact this has with putting the high voltage transmission lines aboveground is disastrous. You know, visual impact, aesthetics, the danger of the fall area and so on, the only route our neighborhood has even suggested was underground along East 28th.”¹⁸²

B. Impairment of Historic and Natural Resources

1. Historic Resources

Overhead Routes B, C and A1 would impact historic resources protected as “natural

¹⁷⁷ FEIS, p. 23, Table ES-1.

¹⁷⁸ Ex. 198 (Photographs).

¹⁷⁹ Mina 11 Vol., pp. 86-87.

¹⁸⁰ Ex. 49, Table 1 (Xcel Resp. to MGC IR 3); Asah 1 Vol., pp. 161-162.

¹⁸¹ Mains 11 Vol., p. 83

¹⁸² Heyer 11 Vol., p. 125, l. 24 – p. 126, l. 4.

resources” under MEPA and MERA. According to Xcel’s own expert witness, Route A1, the route preferred by Xcel Energy in its Application, would create a certain and unmitigable adverse effect on the Midtown Greenway Grade Separation Historic District, a historic resource listed with the National Register of Historic Places (“NRHP”). Under MEPA, MERA and applicable case law, since there are feasible and prudent underground alternatives for the Hiawatha Project, none of the overhead routes, and particularly Route A1, can be selected consistent with Minnesota Rule 7850.4000, which requires that route selection be consistent with MEPA and MERA.

The Midtown Greenway trench is a historic district listed on the NRHP as the Chicago, Milwaukee & St. Paul Railroad Grade Separation Historic District (“Grade Separation Historic District”) and is an historic resource under MERA.¹⁸³ Routes B and C and Route A could impact protected historical resources, including properties and places listed on the NRHP. Only Route D provides a feasible and prudent alternative with no potential impacts on historical resources.

Xcel Energy expert witness William Stark¹⁸⁴ and the FEIS¹⁸⁵ provide the following information on historic resources potentially impacted by Hiawatha Project route alternatives:

Name	NRHP Listed	NRHP Eligible	800 List
Route A (Overhead alignment A1 and underground alignments A2 & A3)	8	4	3
Route B	9	5	11
Route C	7	5	10
Route D	0	0	0

Route B would parallel the NRHP-listed¹⁸⁶ American Swedish Institute on two sides create both physical and aesthetic impacts on this NRHP historic resource.¹⁸⁷ Route B would also have visual impacts on the NRHP-eligible Zinsmaster Baking Company building.¹⁸⁸ Route C has a pole location opposite the historic Zinsmaster building.¹⁸⁹ Both Route B and Route C have

¹⁸³ Stark 3 Vol., pp. 15-16; Ex. 15, Schedule 10, Cultural Resources Assessment, p.18 (Stark Surrebuttal).

¹⁸⁴ Ex. 13, p. 6 (Stark Direct).

¹⁸⁵ FEIS, p. 160.

¹⁸⁶ Ex. 45, p. 3 (Xcel Resp. to MGC IR 15).

¹⁸⁷ Asah 2 Vol. p. 120; Byers 8 Vol., pp. 95-96;

¹⁸⁸ Asah 2 Vol., p. 125; NRHP eligibility in Ex. 45, p. 2 (Xcel Resp. to MGC IR 15).

¹⁸⁹ Asah 2 Vol., p. 132.

overhead power line impacts on the NRHP-listed Midtown Greenway.¹⁹⁰

Mr. Stark testified that visual effects of Route A1 on historic resources are not a potential adverse effect but a certainty.¹⁹¹ Mr. Stark testified that the height of the poles for the Hiawatha project would be out of character with the Midtown Greenway Grade Separation historic district.¹⁹² Pole placement or changes in pole materials could reduce, but would not eliminate and might not even minimize impacts of overhead lines and 75 to 115 foot tall poles.¹⁹³ Mr. Stark acknowledged that the only way to eliminate indirect visual adverse impacts on historic resources from overhead routes would be to run the line underground.¹⁹⁴

Hennepin County expert witness Greg Mathis concurred that pole placement could help mitigate visual impacts on specific historic buildings, but could not mitigate impacts on the Grade Separation Historic District, since key views within the district are linear.¹⁹⁵ The overall size and scale of the proposed transmission poles, whatever material is used, would be incompatible with the District.¹⁹⁶

The FEIS concluded that structures for Route A1 would compromise the integrity of setting, feeling, and association and result in an adverse effect to views from the historic property.¹⁹⁷ As indicated by the documentation in the NRHP nomination form, the visual intrusion would be inconsistent with the intent of the original construction of the Midtown Greenway Grade Separation Historic District.¹⁹⁸

The visual intrusion and incompatibility of overhead transmission lines on the Midtown Greenway are likely to be considered a significant effect in terms of context and intensity. It is highly probable that a Minnesota court would hold that an underground route for the Hiawatha Project is a feasible and prudent alternative to Routes A1, B or C to protect NRHP-listed historic resources of the State, particularly since both MEPA and MERA explicitly provide that economic considerations alone shall not justify pollution, impairment or destruction of the state's

¹⁹⁰ Asah 2 Vol., p. 133; *see* Ex. 3D (Route Maps, Route B) and Ex. 4G (Route Maps, Route C).

¹⁹¹ Stark 3 Vol., p. 23.

¹⁹² Stark 3 Vol., p. 29.

¹⁹³ Stark 3 Vol., p. 50.

¹⁹⁴ Stark 3 Vol., p. 51.

¹⁹⁵ Mathis 10 Vol., p. 100.

¹⁹⁶ Mathis 10 Vol., p.101.

¹⁹⁷ FEIS, p. 180.

¹⁹⁸ FEIS, p. 181.

natural resources.¹⁹⁹ On this basis alone, Route A1 must be rejected as neither a feasible nor a prudent route for the Hiawatha Project.

2. Additional Environmental Resources

Review of the record demonstrates that impacts to flora from MGC preferred Route D can be addressed by a route alignment near the center of East 28th Street to prevent destruction of boulevard trees. Additional environmental factors, such as impacts to air quality, water quality, fauna and rare and unique species neither preclude construction of the Hiawatha Project nor assist in the selection of an appropriate route alternative.

C. Public Health and Safety

Minnesota's statutory criteria for transmission route selection, pursuant to expressly require the consideration of the effects of electric and magnetic fields on public health and welfare.²⁰⁰ In the case of the Hiawatha Project, where hundreds of South Minneapolis children are likely to live within 25 feet of an overhead transmission route, and where multi-story dwellings increase the proximity of living space to the conductors and multiply the level of magnetic field exposure, selecting an overhead route would be incautious and, perhaps, imprudent.

The World Health Organization ("WHO") has evaluated scientific evidence of the relationship between chronic low-intensity exposures, such as those from power lines and adverse health effects. The detailed WHO Report released in 2007 stated, "Scientific evidence suggesting that everyday, chronic low-intensity (above 0.3 - 0.4 μ T) power-frequency magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia." However, based on laboratory evidence and mechanistic evidence that failed to demonstrate causation, WHO concluded "on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern."²⁰¹

¹⁹⁹ Minn. Stat. § 116D.04, Subd.6 (MEPA); Minn. Stat. 116B.09, Subd. 2 (MERA).

²⁰⁰ Minn. Stat. 216E.03, Subd. 7(b)(1) (2009).

²⁰¹ WHO Report, *Environmental Health Criteria 238, Extremely Low Frequency Fields*, 2007, pp. 11-12 at pp. 19-20, Rep. Clark Letter & Attachments, eDocket Document No. 20105-50442-01 (May 10, 2010) ("2007 WHO Report")

Epidemiological studies have consistently shown an association between magnetic fields above 3 to 4 milligauss and childhood leukemia.²⁰² The WHO analyzed the potential that chance or a confounding problem in the analysis resulted in the association, but did not find this criticism valid.²⁰³ Although expert panels and agencies have not yet identified any mechanism establishing a cause and effect relationship between exposure to low-intensity magnetic fields and adverse health effects, the FEIS noted that hypotheses have existed and continue to be researched.²⁰⁴ The FEIS summarized testimony by Dr. David Carpenter:

Dr. David O. Carpenter, during the recent public hearing proceedings for the proposed 345 kV transmission line from Brookings County, South Dakota to Hampton, Minnesota, provided pre-filed direct testimony regarding his findings on health effects associated with EMF. Dr. Carpenter is a public health physician and Director of the Institute for Health and the Environment at the University of Albany, SUNY. He researched and wrote a document titled, *Setting Prudent Public Health Policy for Electromagnetic Field Exposures*. Carpenter concludes “there is strong scientific evidence that exposure to magnetic fields from power lines greater than 4 mG [milligauss] is associated with an elevated risk of childhood leukemia” and that some studies have indicated that there is scientific evidence to suggest that exposures above 2 mG could increase leukemia risks. Carpenter goes on to suggest that “lifetime exposure to magnetic fields in excess of 2 mG is associated with an increased risk of neurodegenerative diseases in adults, including Alzheimer’s disease and amyotrophic lateral sclerosis (ALS).” (Carpenter, 2008)

Additionally, during his recent testimony on the proposed 345 kV HVTL in response to whether EMF similar to power line exposure can affect biological tissue, he states the following (Carpenter, 2010):

Any one of these actions [actions that alter cell tissue] might be responsible for the carcinogenic and/or neurodegenerative actions of EMFs. As with many environmental agents, however, assuming that only one mechanism of action exists would be a mistake, particularly where more than one disease is involved. It is more likely that multiple mechanisms of action would contribute to disease.²⁰⁵

The WHO Report noted that many countries have adopted regulatory standards, such as the International Commission on Non-Ionizing Radiation Protection (“ICNIRP”) standard of 833

²⁰² Ahlbom, A, *et al.*, *A Pooled Analysis of Magnetic Fields and Childhood Leukaemia*, British Journal of Cancer (2000), 83(5), 692-698, pp. 58- 65 and Greenland, S. *et al.*, *A Pooled Analysis of Magnetic Fields, Wire Codes and Childhood Leukemia*, Epidemiology (November 2000), Vol. 11, No. 6, 624-634, pp. 66-76, Rep. Clark Letter & Attachments, eDocket Document No. 20105-50442-01 (May 10, 2010).

²⁰³ 2007 WHO Report, *supra*, p. 355 at p. 3, p. 35, Rep. Clark Letter & Attachments, eDocket Document No. 20105-50442-01 (May 10, 2010).

²⁰⁴ FEIS, p. 276.

²⁰⁵ FEIS, pp. 276-277; see also Ex. 47 (Dr. David Carpenter Testimony).

milligauss that based on acute biological effects of magnetic fields that can have adverse health consequences.²⁰⁶ In addition, several countries have more stringent regulations regarding electric and magnetic field strengths in proximity to schools, hospitals, and other sensitive receptors.²⁰⁷ The WHO has reported that Israel limits chronic magnetic field exposures to 10 milligauss, the Netherlands limits magnetic fields to 4 milligauss near places where children spend significant amount of time and some local California ordinances limit magnetic fields to 2 to 4 milligauss.²⁰⁸

Xcel Energy predicts magnetic fields in milligauss (3 milligauss is equivalent to 0.3 microTesla).²⁰⁹ Magnetic fields are a function of current; if current in a power line increases over time as load grows, magnetic fields would also increase.²¹⁰ Xcel Energy expects that load will grow in the area to be served by the Hiawatha Project, with corresponding increases in current and magnetic fields.²¹¹

Magnetic fields are also a function of the distance from the transmission line.²¹² Unlike electric fields, magnetic fields are not easily shielded or weakened by objects or materials.²¹³ In these proceedings, Xcel Energy calculated magnetic fields for single circuit and double circuit overhead designs, adding the factor of moving vertically from the standard measurement one meter above ground to various elevations up to 20 meters above ground.²¹⁴

The FEIS calculated peak magnetic field strength for each of the overhead routes at a distance of 25 feet, determining that the maximum magnetic field for Routes B and C would be 123.14 mG at a height 16 meters above the ground, while the maximum magnetic field for Route A1 would be 108.04 mG at 12 meters above the ground.²¹⁵

Average current conditions would more likely reflect chronic, everyday exposures

²⁰⁶ 2007 WHO Report, *supra*, p. 11 at p. 19, Rep. Clark Letter & Attachments, eDocket Document No. 20105-50442-01 (May 10, 2010).

²⁰⁷ FEIS, p. 279.

²⁰⁸ 2007 WHO Report, *supra*, p. 355 at p. 4, pp. 44-45, Rep. Clark Letter & Attachments, eDocket Document No. 20105-50442-01 (May 10, 2010).

²⁰⁹ Gallay 3 Vol., p. 105.

²¹⁰ Gallay 3 Vol., pp. 105-106.

²¹¹ Gallay 3 Vol., pp. 107, 108.

²¹² Gallay 3 Vol., p. 109.

²¹³ FEIS, p. 274.

²¹⁴ Gallay 13 Vol., p. 16. See Ex. 246 (Electric and Magnetic Field Calculations - Overhead); Ex. 48A, Table 3, Electric and Magnetic Field Calculations (Xcel Resp. to MGC IR 30).

²¹⁵ FEIS, p. 289.

described in the epidemiological literature and the WHO Report. Magnetic fields at average currents estimated by Xcel Energy 25 feet from the proposed overhead transmission route for the Hiawatha Project are as follows:²¹⁶

Overhead Route	Condition/ Current	Distance Proposed Centerline	Magnetic Fields (mG) at Distance from Ground					
			1 meter (3.28 ft)	4 meter (13.12 ft)	6 meter (19.68 ft)	8 meter (26.24 ft)	10 meter (32.8 ft)	12 meter (39.36 ft)
Route A1	Average 138 Amps	25'	13.82	26.15	40.37	55.31	63.22	64.63
		25'	13.66	26	40.29	55.39	63.44	64.82
Route B/ Route C	Average/ 138 Amps	25'	7.63	6.41	7.57	8.86	10.18	11.39
		25'	16.54	11.59	16.23	23.93	36.89	55.03

It is likely that hundreds of South Minneapolis families will be chronically exposed to magnetic fields at these levels, since there are 245 dwellings within 25 feet of Route A1, 335 dwelling units within 25 feet of Route B and 206 dwelling units within 25 feet of Route C.²¹⁷ A high percentage of them are likely to be children.

The WHO has noted that average magnetic field exposures above 0.3 microTesla (equivalent to 3 milligauss) are very rare.²¹⁸ However, if Route A1 were to be selected, persons living on the second or third floor (from 6 to 10 meters above the ground) of a dwelling within 25 feet of the project would be exposed day in and day out to magnetic fields ten to fifteen times the level of concern identified by the WHO, by Dr. Carpenter and in the epidemiological literature associating transmission lines with childhood leukemia. Precaution and even simple prudence would suggest that this exposure creates a sufficient risk that it should be avoided if there is a feasible alternative.

Magnetic fields from transmission lines are reduced in underground applications due to phase cancellation from the geometry of the conductors.²¹⁹ Magnetic fields decrease far more quickly for the underground alternatives than for overhead lines.²²⁰ By fifteen feet away from the proposed centerline of either Route A underground or Route D, magnetic fields drop to approximately one milligauss,²²¹ which is generally understood to be a background level.²²²

²¹⁶ Ex. 246 (Electric and Magnetic Field Calculations – Overhead).

²¹⁷ Ex. 49, Table 1 (Xcel Resp. to MGC IR 3); Asah 1 Vol., pp. 161-162.

²¹⁸ Rep. Clark Letter, p. 3 eDocket Document No. 20105-50442-01 (May 10, 2010).

²¹⁹ Gallay 3 Vol., p. 128.

²²⁰ Gallay 3 Vol., p. 125.

²²¹ Gallay 3 Vol., pp. 125-126.

²²² See e.g. Ex. 47, p. 8 (Carpenter Direct) reporting research using 1mG as a control group.

In addition to creating magnetic fields elevated far beyond WHO levels of concern, overhead transmission routes would create electric fields, with the potential for shocks from induced voltage and serious injury or death to persons entering power line right-of-way, whether for construction or to attempt vandalism or theft.²²³ Underground routes for the Hiawatha Project would contain electric fields within the duct banks completely shielding electric fields at all distances from the transmission lines.²²⁴

Representative Karen Clark, a nurse with extensive environmental health policy experience and the representative for the Phillips neighborhood, asked that precaution be exercised to prevent an overhead transmission line in the Phillips community:

Even if it is not practical to change all existing power lines to reduce risks of magnetic field exposures, precaution and environmental justice must prevent new power lines such as the Hiawatha Project from begin routed overhead in close proximity to homes in a community already experiencing the cumulative impacts of environmental injustice. The Phillips community is a racially diverse and low-income community with a very high proportion of children, infants and pregnant women. This community is particularly vulnerable to health problems due to the impacts of lead, arsenic, air emissions and multiple triggers for asthma. Our Phillips community cannot afford to become another experiment in environmental health risk.²²⁵

D. Environmental Justice

Mitigating the potential environmental injustice of disproportionate adverse impacts of the Hiawatha Project on minority and low-income communities means nothing more and nothing less than mitigating adverse effects of the project on human settlement, public health and the environment.

As discussed previously, environmental justice effects of an overhead route for the Hiawatha Project would include not only the risk of adverse health effects from elevated magnetic fields, but displacement of homes, reduced investment in housing as a result of fall zones, impacts on housing or business investment due to developer reluctance to invest near overhead transmission lines, interference of an overhead route with transit or infrastructure serving the local community, interference of an overhead route with the visual nature of the

²²³ FEIS, pp. 281,294.

²²⁴ Ex. 18, p. 3 (Gallay Direct); Gallay 3 Vol. p. 90.

²²⁵ Rep. Clark Letter & Attachments, p. 4, eDocket Document No. 20105-50442-01 (May 10, 2010).

Midtown Greenway multi-modal path which local residents interact with more frequently than those living outside of the Phillips community, aesthetic changes and noise within the areas that are predominately home to minority and low income population and reduction of historic resources that add character and amenities to the Phillips community.

The only effective way to avoid environmental injustice to minority and low-income residents of the Environmental Justice Study Area and the Phillips community is to reject all overhead routes for the Hiawatha Project. Representative Clark requested this remedy, based on her experience and training in environmental justice:

Based on my professional training and experience, it is my opinion that the Hiawatha Project must be routed underground in order to avoid serious and cumulative environmental injustice to the residents of the Phillips neighborhoods where the 115 kV power line would be located. The Phillips neighborhoods have a very dense population of more than 8,900 people per square mile, which is unlike other areas where overhead 115 kV transmission lines have been routed during the past 50 years. The particular overhead routes proposed for the power line, whether on the rim of the Midtown Greenway or on 26th, 28th and 31st residential streets would be located exceedingly close to residential development, including multi-family dwellings as well as single-family homes.²²⁶

E. Reliability

The criterion in Minnesota Rules requiring consideration of reliability also weighs against considering an overhead route for the Hiawatha Project, particularly Route A1, to be a reasonable and prudent alternative.

In general, underground transmission proposed for the Hiawatha Project is more reliable than overhead lines, with a mean time between failures of underground lines approximately three times longer than for overhead cables.²²⁷ Underground lines are also more reliable in the case of a tornado or severe weather.²²⁸ Xcel Energy has had no outages or failures related to underground dielectric cable, such as that proposed for the project.²²⁹

Although Xcel Energy has raised questions about the time it might take to repair an underground cable were one ever to fail, industry-wide average repair times of three weeks are

²²⁶ Rep. Clark Letter & Attachments, p. 2, eDocket Document No. 20105-50442-01 (May 10, 2010).

²²⁷ Gally 3 Vol., p. 180; Ex. 160, p. 1 (Xcel Resp. to MGC IR 8)

²²⁸ Gally 3 Vol., pp. 195-196; Schedin 10 Vol., pp. 44-45.

²²⁹ Gally 3 Vol., p. 143-144, 146; Gally 4 Vol., pp. 38-39, 41; Ex. 160, p. 3 (Xcel Resp. to MGC IR 8).

based on older, oil-filled underground cables and are not applicable to the solid dielectric cable that would be used in the Hiawatha Project and is easier to repair.²³⁰ For the underground cable that would be used in the Hiawatha Project, the task of removing the damaged cable would take one to two days and the pulling in of the new cable, a day.²³¹

Larry Schedin, a Hennepin County witness who worked for NSP for 18 years, testified that utilities share equipment in a pool to be used during emergencies, so that if one utility has an outage, they can quickly get a piece of spare equipment in and replace it. Mr. Schedin suggested that Xcel could keep a reserve supply of cable available, either in their own warehouse or in their utility pool.²³² With a reserve supply available, Xcel Energy would only have to pull out the faulted section between two manholes, insert and splice in a new cable, a process that would take no more than 3 to 5 days.²³³

In addition to the general increase in reliability from underground transmission lines, Mr. Schedin testified that overhead route A1, which provides a double circuit on a single structure and no other electric source for the Midtown substation would not meet recommended reliability criteria, since proper procedure for power flow outage studies requires consideration of a double circuit overhead line as a single element for purposes of contingencies.²³⁴ Both circuits could be taken out with severe weather, particularly in a dense residential and commercial neighborhood where high winds could raise large amounts of debris.²³⁵

Although North American Electric Reliability Corporation (“NERC”) standards would not apply to a radial line to the Midtown substation, Mr. Schedin testified that this is not a reason for accepting construction with an inappropriate level of reliability. To do so would be saying that local customers served by the Midtown substation are less important than network customers in the grid to which NERC standards apply.²³⁶ Mr. Schedin proposed an underground alternative along either Route A or Route D to provide superior reliability.²³⁷

An additional reliability issue was raised by intervenor Little Earth of United Tribes in

²³⁰ Gallay 3 Vol., pp. 180-182, 187.

²³¹ Gallay 3 Vol., p. 139.

²³² Schedin 10 Vol., p. 53

²³³ Schedin 10 Vol., p. 26.

²³⁴ Ex. 109, p. 8 (Schedin Direct).

²³⁵ Schedin 9 Vol., p. 192.

²³⁶ Schedin 10 Vol., p. 44.

²³⁷ Ex. 109, p. 5 (Schedin Direct).

testimony filed in February 2010 suggesting that parts of the distribution in the Phillips neighborhoods were deficient and unreliable.²³⁸ Xcel Energy witness Scott Zima testified that he did not know if anyone from Xcel had responded to the concerns raised by Little Earth.²³⁹ Mr. Zima testified further that Xcel Energy has an infrared camera which can detect places with excessive heat – whether on a transformer, an overhead wire, a distribution feeder circuit or a tap circuit – identify if there is a problem, find where the problems are and fix them before they cause an outage.²⁴⁰ Xcel could use this device driving in a vehicle through the project area.²⁴¹ Without prejudging whether or not there are deficiencies in the distribution system or tap circuits serving Little Earth, MGC believes that it would be appropriate if the Hiawatha Project is approved, to request Xcel to conduct an investigation in areas identified by Little Earth and to remedy any distribution system deficiencies thus identified.

F. Eminent Domain

The Commission may lack authority to issue a route permit for overhead Route A1, the route preferred by Xcel Energy in their Application. Statutes and case law pertaining to eminent domain provide yet a further basis to conclude that Route A1 is neither feasible nor prudent.

As Hennepin County Commissioners explained in comments on the Draft EIS, unlike placement in public road right-of-way where Xcel Energy has certain statutory rights of use,²⁴² there are no statutory rights for an electric power company to use an HCRRA rail and transit corridor, such as the Midtown Greenway, for high voltage transmission lines.²⁴³

The possession, occupation, ownership, and enjoyment of land by public agencies, such as the HCRRA, as well as the functions of a public service corporation, are public purposes.²⁴⁴ Rather than creating a hierarchy where electric public service corporation purposes preempt those of municipal governments, Minnesota statutes permit municipalities to acquire the property

²³⁸ Ex. 203, p. 3 (Ellis Direct);

²³⁹ Zima 12 Vol., pp. 200-201.

²⁴⁰ Zima 12 Vol., p. 204

²⁴¹ Zima 12 Vol., p. 204.

²⁴² Minn. Stat. § 222.37, Subd. 1 (2009).

²⁴³ Ex. 143, p. 70, Memo of Cmnr. McLaughlin and Stenglein (Public Written Comments Received on DEIS)

²⁴⁴ Minn. Stat. §117.025, Subd. 11 (2009).

of a public utility by eminent domain,²⁴⁵ while statutory condemnation rights for public service corporations pertain only to private property.²⁴⁶

Minnesota precedent precludes eminent domain for a power line that is inconsistent with a prior public use or even a proposed future public use. A power line may be “substantially inconsistent” with the operation of a public use as a matter of law.²⁴⁷ In the case of *Minnesota Power & Light v. State*, the Minnesota Supreme Court dismissed the power company’s petition to condemn a power line easement over state-owned lands, holding that lands held for a specified governmental purpose or trust, whether or not in use, cannot be subject to eminent domain absent express legislative authorization.²⁴⁸

More recent cases have held that even a governmental entity to which the power of eminent domain has been granted does not have authority to condemn property that is already devoted to a public use.²⁴⁹ In *Matter of City of Shakopee*,²⁵⁰ the Minnesota Supreme Court reversed a district court’s grant of condemnation authority to the City of Shakopee for streets that would conflict with the Metropolitan Waste Control Commission’s (“MWCC”) proposed future use of the property for sludge disposal. The Court noted that statutes provide no express authority for condemnation of MWCC public property and that a “mere showing of convenience and lessening of expense” is insufficient to permit eminent domain in conflict with a prior public purpose where “absolute necessity” to condemn land has not been proven.²⁵¹

The Midtown Greenway is presently used for the public purpose of bicycle and pedestrian transportation and recreation. Moreover, the primary purpose for which the HCRRA owns the Greenway is to preserve the corridor for future rail transit purposes.²⁵²

The HCRRA has already determined as an official body that Xcel Energy’s proposed Route A1 overhead transmission line would conflict with these public purposes. In a resolution adopted on June 2, 2009, it was formally resolved that the HCRRA “opposes placement of

²⁴⁵ Minn. Stat. §216B.47 (2009).

²⁴⁶ Minn. Stat. § 301B.02 (2009).

²⁴⁷ *Minnesota Power & Light Co. v. State*, 177 Minn. 343, 225 N.W. 164 (1929), cited in *Matter of City of Shakopee*, 295 N.W. 2d 495, 499 (Minn. 1980)

²⁴⁸ *Minnesota Power & Light Co. v. State*, *supra*, 225 N.W. at 164-165.

²⁴⁹ *Fayal v. City of Eveleth*, 587 N.W. 2d 524, 528 (Minn. Ct. App. 1999).

²⁵⁰ *Matter of City of Shakopee*, 295 N.W. 2d 495 (Minn. 1980).

²⁵¹ *Id.*, at 500-501.

²⁵² McLaughlin 9 Vol., pp. 137-138.

overhead high voltage lines on its Midtown Greenway property as incompatible with the public uses for which the Midtown Greenway and Chicago Milwaukee Grade Separation Historic District have been dedicated.”²⁵³ Under applicable law, HCRRA Midtown Greenway property is not available for consideration of the Route A1 overhead transmission line route.

V. ROUTE D IS A SUPERIOR UNDERGROUND ROUTE TO SUPPORT ENVIRONMENTAL JUSTICE AND MINIMIZE IMPACTS ON HISTORIC RESOURCES, TRANSIT, PUBLIC SERVICES AND THE MIDTOWN GREENWAY.

A. Environmental Justice

As discussed previously, environmental justice calls for “meaningful involvement” of diverse communities in decision-making as well as avoiding disproportionate adverse impacts on minority and low-income communities. “Meaningful involvement” means not only that potentially affected community members have the chance to attend meetings, but that “the concerns of all participants involved will be considered in the decision making process” and that “the public’s contribution can influence the regulatory agency’s decision.”²⁵⁴

In addition to strenuously opposing any overhead route, the communities within the project area overwhelmingly prefer an underground route beneath East 28th Street to potential underground routes on the Midtown Greenway:

- Phillips West Neighborhood Organization adopted a resolution on April 2, 2009 opposing the Hiawatha Project route on the Midtown Greenway, whether overhead or underground. PWNO further resolved that its preferred route “is along East 28th Street, underground, and down the middle of the roadway, so the high voltage transmission lines are as distant as possible from adjacent residents,”²⁵⁵
- Midtown Phillips Neighborhood Association, Inc. adopted a motion on January 13, 2009 stating that members “strongly desire” that lines be placed underground, preferably under 28th Street, due to concerns about the beauty of the community and the health to children;²⁵⁶
- East Phillips Improvement Coalition adopted a resolution on February 19, 2009 stating that they opposed all above ground routes and if the need for the Hiawatha Project could not be met through alternatives, the lines should be placed under 28th Street or on the

²⁵³ Ex. 8 at Schedule 3, Resolutions, pp. 70-71 (Mirzayi Direct).

²⁵⁴ MPCA Definition of Environmental Justice, *supra*.

²⁵⁵ Ex. 8 at Schedule 3, pp. 24-28 (Mirzayi Direct); Mirzayi 1 Vol., pp. 60-61.

²⁵⁶ Ex. 8 at Schedule 3, p. 31 (Mirzayi Direct); Mirzayi 1 Vol., pp. 61-62.

south shoulder of the Greenway.²⁵⁷ EPIC later modified this position, concluding that the power lines, if constructed at all, must be at the center of 28th Street at a suitable depth.²⁵⁸

- Longfellow Community Council adopted resolutions on February 24, 2009 and March 19, 2009 stating that if the Hiawatha project is determined to be needed after analysis of alternatives to abate or supply electricity, the LCC's preferred route is underground below 28th Street East.²⁵⁹
- Seward Neighborhood Group has passed resolutions regarding the Hiawatha Project,²⁶⁰ and has concluded that Route D, underground on 28th Street East is the only route that the SNG considers to be feasible and prudent.²⁶¹ SNG has concerns regarding either overhead or underground routes on the Midtown Greenway.²⁶²
- Little Earth of United Tribes has concluded that no overhead route for the Project through any of the surrounding communities is acceptable and that the least objectionable route is Route D, underground on 28th Street.²⁶³
- Corcoran Neighborhood Organization adopted a resolution on April 1, 2009 opposing the Hiawatha project on the Midtown Greenway.²⁶⁴
- The Midtown Greenway Coalition enacted resolutions on December 3, 2008 and January 22, 2009 opposing a Hiawatha route on Greenway, either overhead or underground,²⁶⁵ and has concluded that the most acceptable route, if need is established, would be underground in the center of 28th Street East.²⁶⁶

Individual residents potentially impacted by the transmission line testified at the public hearing in opposition to overhead transmission lines on the Midtown Greenway and in support of an underground route on 28th Street, if it is determined that the transmission lines are needed. Patrick Cabello Hasel, a South Minneapolis resident and co-pastor of a church located on 28th Street and 15th Avenue testified:

If a line needs to happen, we would – I, I'm speaking for myself, I would be in favor of going underground under 28th Street, even though that would mean disruption, our church is right on the corner of 28th Street, I'd rather put up with the disruption for a period of time rather than destruction of all these other components of health.²⁶⁷

²⁵⁷ Petition to Intervene, eDocket No. 20101-46215-03 (January 19, 2010).

²⁵⁸ Ex. 149, p. 15 (Pass Direct).

²⁵⁹ Ex. 8 at Schedule 3, pp. 13-16 (Mirzayi Direct); Mirzayi 1 Vol., pp. 56-57.

²⁶⁰ Ex. 209, p. 3 (Mains Direct)

²⁶¹ Ex. 209, p. 6 (Mains Direct)

²⁶² Ex. 209, pp. 7-8 (Mains Direct).

²⁶³ Ex. 203, pp. 2-3 (Ellis Direct)

²⁶⁴ Ex. 8 at Schedule 3, p. 17 (Mirzayi Direct); Mirzayi 1 Vol., pp. 57-58.

²⁶⁵ Ex. 8 at Schedule 3, pp 20-22 (Mirzayi Direct); Mirzayi 1 Vol., pp. 59-60.

²⁶⁶ Ex. 36, pp. 28-29 (Springer Direct).

²⁶⁷ Pub. Hearing Tr., Patrick Cabello Hasel Testimony, p. 91 (April 5, 2010).

Environmental justice requires that weight be given to the positions and concerns of the affected community.

B. Historic Resources

Alternative underground route A2 along the southern shoulder of the Midtown Greenway or alternative route A3 within the Greenway trench, directly under and to the north of the bicycle and pedestrian trails,²⁶⁸ would create a significant risk of impairment to historic resources, which alternative Route D would avoid.

Xcel Energy witness William Stark testified that route alignments A2 and A3 have the potential to directly impact historic retaining walls and fences along the NRHP-listed Grade Separation Historic District²⁶⁹ and would have the potential for adverse effects on the NRHP-listed Sears building and the historic Zinsmaster building as a result of vibrations created during construction.²⁷⁰

Mr. Stark concluded that all alignments of Route A would have an adverse effect or the potential for an adverse effect on historical resources:

Q: And am I correct in understanding that you concluded alignment A1 would have an adverse effect due to the visual effects on views from and of the historic district?

A: That's correct.

Q: And that alignment A2 would have a potential for adverse effects due to vibratory effects on bridges and also potential adverse effects due to possible direct effects on retaining walls or other minor features depending on final design?

A: Yes.

Q: And am I correct that alignment A3, which is another underground route, would have a potential for adverse effect due to vibratory effects on bridges?

A: Yes.

Q: Would you agree that your analysis identify – has identified either an adverse effect or a potential for adverse effects on historical resources from any of the three alignments proposed for Xcel's route A?

A: Yes.²⁷¹

Route D is the only route for the Hiawatha Project that has no impact or potential impact

²⁶⁸ Ex. 2A-2D (Route Maps).

²⁶⁹ Stark 3 Vol., p. 18; Ex. 15, Schedule 10, Cultural Resources Assessment, p.96 (Stark Surrebuttal).

²⁷⁰ Stark 3 Vol., pp. 21, 23; NRHP listing in Ex. 15, Schedule 10, Cultural Resources Assessment, p. 18 (Stark Surrebuttal).

²⁷¹ Stark 3 Vol., p. 26, l. 24 – p. 27, l. 18.

on historic resources.²⁷² The segment of East 28th Street within the Route D project area isn't included in any federal, state or locally-designated historic district²⁷³ and has no historic properties.²⁷⁴ There are no previously documented or known archeological resources underneath East 28th Street that would be impacted by digging up the street for Route D.²⁷⁵ Placing the lines underground on East 28th Street would take them out of National Register Historic Districts and eliminate negative impacts on historic properties.²⁷⁶

Rae Lynn Asah, Xcel Energy's routing lead for the Hiawatha Project, agreed that Route D would avoid impacts on an historic district while there would be some historic impact along Route A, no matter which alignment was chosen.²⁷⁷ In keeping with MEPA and MERA, Route D is a feasible and prudent alternative to any alignment along Route A and should be selected to prevent impairment of historic resources.

C. Transit and Infrastructure

All routes along the Midtown Greenway, including underground alignments A2 and A3 would create conflicts with future rail transit and transit stations and with replacement of historic bridge infrastructure. Route D would avoid these conflicts with public services and transportation.

The FEIS recognized that both underground routes A2 and A3 pose conflicts with future plans for light rail transit within the Greenway.²⁷⁸ Hennepin County registered civil engineer Dean Michalko testified that underground lines may interfere with transit line construction, depending on the type of transit that's selected, the location within the trench that it's constructed, and the methodology that's used for construction.²⁷⁹

Although Mr. Michalko believes that a Route A3 underground alignment on the northern portion of the trails has less potential to require relocation than the A1 and A2 routes,²⁸⁰ he also

²⁷² Stark 3 Vol., p. 17; Ex. 13, p. 6 (Stark Direct).

²⁷³ Mathis 10 Vol., p. 84.

²⁷⁴ Byers 8 Vol., pp. 79-80.

²⁷⁵ Bielakowski 3 Vol., pp. 79-80.

²⁷⁶ Byers 8 Vol., p. 79.

²⁷⁷ Asah 2 Vol., p. 44.

²⁷⁸ FEIS, p. 421.

²⁷⁹ Michalko 9 Vol., p. 74

²⁸⁰ Michalko 9 Vol., pp. 94-95.

testified that a project located along A3 could still require relocation of the transmission line in some portions of the route.²⁸¹

Mr. Michalko explained that the current thinking is that future transit would occupy the southern portion of the Greenway. However, the HCRRA can't state for certain that there won't be portions of the project area where rail transit will need to be located in the center or on the northern side of the trench area of the Midtown Greenway.²⁸² In narrow stretches of the corridor, although the southerly slope would be excavated for transit, it is likely that the trails would also have to be modified and pushed north.²⁸³ In these narrow areas, a transmission line located 30 inches beneath the trails²⁸⁴ might also be disrupted or displaced.

The right-of-way required for transit is greater at transit stations than at other locations, due to the need for platforms and vertical circulators. Construction of transit stations could require a change in the alignment or relocation of the bicycle or pedestrian trails at various places along the Greenway in the project area.²⁸⁵ The HCRRA retains the ability to cancel the city's permit for trails in the Midtown Greenway trench so that if a transit project were to conflict with the existing bike trail, the trail could be either modified or in severe case relocated.²⁸⁶

Xcel Energy transmission engineer Ben Gallay testified that either Route A2 or A3 could be constructed under transit stations provided sufficient details of the station designs were available including the foundation depths, details of underground infrastructure, location of stations, size of stations and depths of stations.²⁸⁷ Xcel would want to know these before the final design of the underground duct system, which would be by the end of 2011 or the beginning of 2012.²⁸⁸

However, neither the design nor even the location of transit stations will be known by Mr. Gallay's proposed deadline. Station locations may vary depending on the type of transit used, and on land use, development and traffic patterns. If these change in the future, transit

²⁸¹ Michalko 9 Vol., p. 103

²⁸² Michalko 9 Vol., pp. 102-103.

²⁸³ Michalko 9 Vol., pp. 105-107.

²⁸⁴ Ex. 1A, p. 56 (Application).

²⁸⁵ McLaughlin 9 Vol., p. 142; Michalko 9 Vol., pp. 115-117.

²⁸⁶ Michalko 9 Vol., p. 104.

²⁸⁷ Gallay 3 Vol., pp. 146-148.

²⁸⁸ Gallay 3 Vol., p. 148. Dates reflect the certificate of need process.

station plans will also change.²⁸⁹ Different studies have recommended different transit station locations,²⁹⁰ and one can't predict what will happen in the future regarding station locations.²⁹¹

Conceptual drawings of a transit station adopted as part of the City-approved plans show that a transit station could occupy the full Greenway embankment or even additional land.²⁹² If such a design were to be adopted, underground transmission along either Midtown Greenway alignment, A2 or A3 could conflict with transit station construction.

If it were necessary to remove and relocate underground transmission, the costs to do so would be roughly equivalent to the initial installation cost²⁹³ and the time it would take to relocate the transmission line would be similar to that needed to build the line new.²⁹⁴

In addition to potential physical conflicts with construction, Mr. Gallay testified that if an underground route along the Greenway were selected, any future rail or trolley system that the HCRRA might construct would have to be designed to be compatible with underground transmission in the Greenway.²⁹⁵ Typical railway or trolley systems are based on direct current, which impacts the sheath of a dielectric cable unless mitigation measures are used, such as galvanic protection systems or drain circuit board.²⁹⁶ Mr. Gallay did not know the cost of a system to make a rail system compatible with transmission or who would bear the costs of such a system.²⁹⁷

Routing underground transmission along the Midtown Greenway has the potential to increase future costs, either to ratepayers or to HCRRA taxpayers if portions of the underground transmission lines need to be relocated and reinstalled and when rail transit must be designed compatible with existing high voltage transmission. None of the costs for routing alternatives provided in this record include any estimates of these future costs.

²⁸⁹ Michalko 9 Vol., p. 93.

²⁹⁰ Springer 7 Vol., pp. 136-137.

²⁹¹ Michalko 9 Vol., pp. 101-102.

²⁹² Springer 7 Vol., pp. 160-161; Ex. 40, p. 32 (Midtown Greenway Land Use and Development Plan).

²⁹³ Gallay 3 Vol., p. 156.

²⁹⁴ Gallay 3 Vol., p. 157.

²⁹⁵ Gallay 3 Vol., p. 149; Ex. 18, p. 16 and Schedule 14, Xcel Resp. to Mpls. IR 17 (Gallay Direct).

²⁹⁶ Gallay 3 Vol., pp. 150-151.

²⁹⁷ Gallay 3 Vol., pp. 152-153.

In addition to potential conflicts with transit infrastructure, underground Routes A2 and A3 would pose almost certain conflicts with the replacement or reconstruction of historic bridges across the Midtown Greenway. As illustrated in the photograph from recent reconstruction of the Park Avenue bridge, replacing a historic bridge across the Greenway requires extensive excavation near bridge abutments as well as the aerial space previously discussed.²⁹⁸

Mr. Michalko testified that replacement of historic bridges along the Greenway could create conflicts with proposed underground transmission routes A2 and A3.²⁹⁹ Excavation to replace a bridge like the Columbus Avenue bridge could be in the vicinity of 10 feet below grade and 10 to 12 feet south of the bridge abutment. Going up the slope, excavation could come further longitudinally along the trail probably 20 feet on either side of the wing walls (retaining walls along the bridge abutments).³⁰⁰

Photographs of the Midtown Greenway project area demonstrate that the Greenway corridor is quite narrow and, at many points, trails are very close to the bridge abutments, with little space in the trench or on the banks of the trench for construction.³⁰¹ The Cedar Avenue bridge area typifies a narrow configuration of the Greenway that lasts for approximately six blocks within the project area.³⁰² Greenway trails are also particularly close to bridge abutments and retaining walls at the 14th Avenue, Chicago Avenue, Columbus Avenue and Oakland Avenue bridges.³⁰³ As discussed previously, the Cedar Avenue and Columbus Avenue bridges will soon reach the end of their useful lives and, in total, 11 historic bridges over the Greenway in the project area are deteriorated and likely to need replacement or substantial reconstruction.

In addition to conflicts with transit, transit stations and bridge replacement, alignments along Routes A2 or A3 could impact bicycle and pedestrian transportation. Alignment A3, in particular, could disrupt pedestrian and bicycle facilities during construction.³⁰⁴ Both alignments A2 and A3 may limit future access points to the Midtown Greenway if construction of those access points requires excavation where duct banks would be located.³⁰⁵

²⁹⁸ Ex. 51 (Bridge Reconstruction Photo).

²⁹⁹ Michalko 9 Vol., pp. 113-114.

³⁰⁰ Michalko 9 Vol., pp. 129-130.

³⁰¹ Ex. 36, p. 14 (Springer Direct); Ex. 44 (Midtown Greenway Photos).

³⁰² Springer 7 Vol., pp. 113-114.

³⁰³ Springer 7 Vol., pp. 119-120.

³⁰⁴ FEIS, p. 26, ES-1, p. 403.

³⁰⁵ FEIS, p. 26, ES-1, p. 403.

Route D underground beneath East 28th Street eliminates conflicts with rail transit lines, transit stations, bridge infrastructure reconstruction and pedestrian and bicycle transportation. There are no plans to put rail transit along East 28th Street in the project area.³⁰⁶ Minneapolis Superintendent of Environmental Engineering, Paul Ogren, confirmed that East 28th Street is going to stay in its present configuration.³⁰⁷

Automobile traffic impacts of Route D can be minimized, since East 28th Street has at least three traffic lanes and parking lanes that come and go during rush hours. If a lane were closed temporarily for construction of Route D underground, there would still be lanes available for vehicular traffic.³⁰⁸

Route D transmission lines can also be constructed to be compatible with existing infrastructure.³⁰⁹ Typically, Minneapolis City water and gas lines are seven to nine feet deep or more -- enough below the surface not to be a concern for underground transmission construction.³¹⁰ A three-block portion of East 28th Street between 10th Avenue and 13th Avenue has a sanitary sewer in the center of the street about 10 feet deep, and there's also a sewer between Hiawatha and 20th Street, further south of the curb line.³¹¹ With a curb-to-curb distance of approximately 80 feet,³¹² East 28th Street has ample room to accommodate a 10-foot transmission duct bank as well as existing infrastructure.

Route D is a feasible and practical underground alternative for the Hiawatha Project, which poses the fewest conflicts with public transit, transportation and infrastructure and, thus, minimizes impacts on human settlement as required under statutory and rule criteria.

D. Protection of the Midtown Greenway

Route D should also be selected simply because it is the only underground alternative that protects the Midtown Greenway, a unique public and community resource.

³⁰⁶ Michalko 9 Vol., p. 99.

³⁰⁷ Ogren 8 Vol., p. 13.

³⁰⁸ Ogren 8 Vol., p. 18.

³⁰⁹ Gallay 3 Vol., p. 159; Ex. 19, p. 7 (Gallay Rebuttal). It should be noted that there are underground utilities in the Greenway as well, running both north/south across the corridor and longitudinally within the corridor. Michalko 9 Vol., p. 75.

³¹⁰ Gallay 3 Vol., p. 125-126.

³¹¹ Ogren 7 Vol., p. 216.

³¹² Asah 13 Vol., p. 103.

The FEIS noted that construction of any Route A alignment would limit access in areas where construction was taking place and that construction-related noise and dust would impact the quality of the recreational experience along the Greenway.³¹³ The FEIS also identified potential long-term impacts on recreation, explaining that any maintenance or repair of the lines would create additional aesthetic impacts through the presence of equipment and workers in the Greenway area.³¹⁴

However, this discussion of impacts doesn't capture the significance of the Midtown Greenway or the reasons why its disruption should be avoided. The Greenway Master Plan predicted the value of this resource:

As a first stage of transportation development, a two-way recreational and commuting bicycle facility will be developed within the corridor. The Greenway will also create opportunities for open space, public art and connections to neighborhood amenities and other recreational opportunities. The Midtown Greenway will also be a community resource, providing a sense of place that strengthens community identity and community pride, as well as promoting conservation and improving the visual environment. It will provide a connecting link to neighborhood parks, schools and open spaces along its route. The Midtown Greenway has the potential to regenerate adjacent neighborhoods and spur new economic development along its rim and nearby Lake Street.³¹⁵

The record in these proceedings demonstrates that the Greenway has lived up to this promise, becoming a well-used and much-loved resource and a catalyst for hundreds of millions of dollars in economic and community investment. Compared to this value, impacts of Route D are trivial. Asked how many conventional streets there are in Minneapolis, Mr. Ogren testified that he did not know the number, "But I can tell you that it's approximately 1,000 miles of street."³¹⁶ The route selection choice is clear.

E. Conditions to Minimize Impacts of Route D

Route D underground on East 28th Street avoids impairment of historic resources protected under MEPA and MERA minimizes human, land use, public health and environmental impacts under statutory and route criteria and minimizes impacts on environmental justice. The

³¹³ FEIS, p. 22, Table ES-1.

³¹⁴ FEIS, p. 314; see also p. 22, Table ES-1.

³¹⁵ Ex. 37, pp. 1-1 to 1-2 (Greenway Master Plan); Ex. 36, p. 8 (Springer Direct).

³¹⁶ Ogren 8 Vol., p. 12.

Midtown Greenway Coalition recommends two conditions on this route to further reduce potential human and environmental impacts. The MGC recommends that the alignment for the route be placed as close to the center of the street as is feasible and that the conductor that minimizes magnetic fields above the duct bank be selected.

Xcel Energy witnesses appear to have stated a preference to place the route alignment for Route D as close to the curb and to homes as is possible.³¹⁷ Xcel's proposed distance from the center of the ducts to the curb is from 5 to 10 feet.³¹⁸ Since the duct bank is 10 feet wide,³¹⁹ under Xcel's proposed alignment, the edge of the duct bank would be from 0 to 5 feet from the curb.

Since sidewalks on East 28th Street in the project are between 3 to 6 feet wide and boulevards are from 2 to 4 feet wide,³²⁰ with Xcel's proposed alignment, there could be 69 dwelling units within 25 feet of the underground transmission line.³²¹ This level of proximity to homes is unnecessary and contrary to Minnesota Health Department principles of prudent avoidance. The average width of East 28th Street is a little over 80 feet.³²² If Route D were aligned near the center of East 28th Street, there would be no dwellings within 25 feet of the underground line.³²³ The FEIS recommends, if Route D is constructed, that an alternative alignment closer to the center of East 28th Street would result in the transmission line being farther from residential homes and children.³²⁴

The initial Route D alignment analyzed by Xcel Energy at the northern edge of East 28th Street³²⁵ could result in loss of 43 trees. There would be no trees lost if Route D were aligned in the center of the street.³²⁶ The FEIS also recommended, if Route D is constructed, that an alternative alignment as close to the center of E 28th Street as feasible would eliminate potential

³¹⁷ Asah 13 Vol., pp. 100, 102.

³¹⁸ Asah 13 Vol., p. 77.

³¹⁹ Ex. 1A, p. 56 (Application).

³²⁰ Asah 13 Vol., p. 78.

³²¹ Ex. 247, Revised Table 1 (Xcel Resp. to MGC IR 3).

³²² Asah 13 Vol., p. 103.

³²³ Ex. 247, Table 1, p. 3 (Xcel Resp. to MGC IR 3).

³²⁴ FEIS, p. 424, Table 6-3.

³²⁵ The record has reflected some confusion as to whether Xcel's proposed Route D alignment was under the northern edge of the street or the northern sidewalk. Asah 13 Vol., pp. 76-77.

³²⁶ Asah 1 Vol., pp. 168-169; Ex. 54, pp. 1, 7-10 (Xcel Resp to MGC IR 17).

impacts to trees located along sidewalks and boulevards.³²⁷

Xcel Energy's post-hearing suggestion that the Commission authorize use of the 3000 kcmil conductor for underground construction³²⁸ is inconsistent with Xcel's statements about the conductor selection to minimize magnetic fields.

Xcel Energy has acknowledged that for Hiawatha Project underground transmission routes, either a 3000 kcmil conductor or a 1250 kcmil conductor would be feasible and prudent.³²⁹ The 1250 kcmil conductor has two conductors for each of the three phases, which can be arranged to cancel out propagation of magnetic fields, resulting in a lower magnetic field reading than the 3000 kcmil conductor, which has one conductor for each phase.³³⁰

As acknowledged by Xcel transmission engineer Ben Gally, ³³¹ and demonstrated in Xcel's projections,³³² magnetic fields for the 3000 kcmil are higher above and near the underground duct than for the 1250 kcmil conductor.

Xcel Energy stated in discovery that "conductor size, spacing, and orientation would be selected to produce the lowest possible values of magnetic fields."³³³ The diameter of the 1250 kcmil conductor is more compact than the 3000 kcmil conductor, so space for installation would not appear to be a constraint.³³⁴ Absent evidence of justification, none of which was offered in this record, MGC would propose that a 1250 kcmil conductor be approved for Route D if the Hiawatha Project is certified.

Under MEPA and MERA, applicable statutes and rules for transmission selection, eminent domain laws and environmental justice policies, Route D aligned as close to the center of East 28th Street as practical is the most feasible and prudent alternative to minimize human, land use, environmental, public health and environmental justice impacts of the Hiawatha Project transmission line.

³²⁷ FEIS, p. 29, Table ES-2, p. 359.

³²⁸ Xcel Energy Proposed Findings, #96

³²⁹ Gally 3 Vol., p. 114-115.

³³⁰ Gally 3 Vol., p. 116.

³³¹ Ex. 48A, Table 3 Electric and Magnetic Field Calculations (Xcel Resp. to MGC IR 30); Gally 3 Vol., p. 115.

³³² Data from Ex. 48A, Table 3 Electric and Magnetic Field Calculations (Xcel Resp. to MGC IR 30).

³³³ Ex. 48, p. 2 (Xcel Resp. to MGC IR 30)

³³⁴ Ex. 48, p. 5 (Xcel Resp. to MGC IR 30)

VI. ALL COSTS FOR UNDERGROUND ROUTE D MUST BE CHARGED TO XCEL ENERGY'S GENERAL MIDWEST RATE BASE CONSISTENT WITH APPLICABLE LAW, RATES, PRECEDENT AND ENVIRONMENTAL JUSTICE.

Every rate set by the Commission must be “just and reasonable” and “shall not be unreasonably preferential, unreasonably prejudicial, or discriminatory.”³³⁵ Any doubt as to reasonableness should be resolved in favor of the consumer.³³⁶ Although the Commission may change rates applicable to a class of customers or to a class of facilities, the Commission has no statutory authority to impose rates on a specific set of customers inconsistent with generally applicable rates and tariffs.

The Commission has set rates generally applicable to city requested distribution facilities.³³⁷ However, the special facilities surcharge was based on the Commission’s recognition of a city’s police power to order distribution facilities underground and Xcel Energy’s right to seek incremental costs for special distribution facilities from ratepayers whose municipalities required them.³³⁸ The city-requested facility surcharge rider applies only to distribution facilities.³³⁹

There is no authority under law for the Commission to apply any sort of special tariff to underground transmission lines selected in order to comply with Minnesota statutes, rules and policies, which require compliance with MEPA and MERA, minimization of human, land use and environmental impacts, safety and reliability. In the case of the Hiawatha Project, there is no feasible and prudent overhead transmission route. An underground route is a standard facility which must be charged to Xcel Energy’s Midwest general rate base in compliance with statutes, precedent, approved rates and environmental justice.

Any route ordered by the Commission applying routing criteria becomes a standard

³³⁵ Minn. Stat. § 216B.03 (2009).

³³⁶ Minn. Stat. § 216B.03 (2009).

³³⁷ Order Approving Xcel’s City Requested Facilities Surcharge Rider with Modifications and Requiring Compliance Filing, *In the Matter of the Petition for Approval of a City Requested Facilities Surcharge Rider and Miscellaneous Tariff Charges*, Docket No. E-002/M-99-799 (September 21, 2001).

³³⁸ Order Approving Supplemental Revised Compliance Filing as Edited, p. 2, *In the Matter of the Petition for Approval of a City Requested Facilities Surcharge Rider and Miscellaneous Tariff Charges*, Docket No. E-002/M-99-799 (November 6, 2002)

³³⁹ Lehman 6 Vol., pp. 195-196.

facility.³⁴⁰ For example, when the Commission orders a lengthened route to avoid a sensitive environmental feature, the cost for that additional line length is part of the approved project and is considered a standard facility.³⁴¹ The preference of local governments or the opinion of a community group does not affect how standard facilities would be dealt with from a cost recovery standpoint.³⁴² If a facility is standard, there is no other cost recovery system other than the generalized rate basing of costs.³⁴³

The Minnesota Electric Rate Book, defines standard facilities to include “those facilities whose design or location constitute the reasonable and prudent least cost alternative that is consistent with the existing electric system configuration who meet the needs of the Company's customers and will maintain system reliability and performance under the circumstances.”³⁴⁴

If underground installation would be a good utility practice due to local conditions, underground construction would be standard construction and the project would not be subject to a surcharge.³⁴⁵ Factors to be considered in determining if an underground installation is a standard facility could include fall zones in proximity to buildings,³⁴⁶ company norms and standards pertaining to building facilities in other areas of equivalent population density,³⁴⁷ historical designations,³⁴⁸ recent and planned housing and economic investments in the project corridor,³⁴⁹ and projections for transit and transit stations along the Greenway.³⁵⁰

When there is no viable overhead route, what would otherwise be considered non-standard is considered a standard facility for rate-making purposes.³⁵¹ It is industry standard to construct transmission lines underground in a downtown urban environment.³⁵² The underground 115 kV transmission lines built by Xcel Energy in downtown Minneapolis and from Fifth Street to the Aldrich substation, Fifth Street to the Riverside substation, Fifth Street to the Main Street

³⁴⁰ Lehman 6 Vol., pp. 204-205.

³⁴¹ Lehman 6 Vol., p. 182.

³⁴² Lehman 6 Vol., p. 179.

³⁴³ Lehman 6 Vol., p. 176.

³⁴⁴ Ex. 27, Schedule 2 Minnesota Electric Rate Book, p. 2, section 5.3(A)(5)(Lehman Direct).

³⁴⁵ Lehman 6 Vol., pp. 200-201.

³⁴⁶ Lehman 6 Vol., p 184.

³⁴⁷ Lehman 6 Vol., p. 186.

³⁴⁸ Lehman 6 Vol., pp. 188-189.

³⁴⁹ Lehman 6 Vol., p. 189.

³⁵⁰ Lehman 6 Vol., p. 189.

³⁵¹ Lehman 7 Vol., p. 42 ll.18-23.

³⁵² Asah 2 Vol., p. 34.

substation, and in Elliot Park are standard facilities included in Xcel Energy's standard rates.³⁵³ They have been implicitly approved by the Commission in standard rates and are being recovered.³⁵⁴

The Midwest ISO would categorize the Hiawatha Project as network service and would charge the upgrade to all Midwest ISO customers within the NSP pricing zone.³⁵⁵ The NSP pricing zone is similar to Xcel Energy's/NSP's Midwest service territory, which includes customers in Minnesota, Wisconsin, South Dakota, North Dakota and Michigan.³⁵⁶

Hennepin County witness Larry Schedin testified that underground facilities for the Hiawatha Project should be treated as standard facilities based on NSP's general rules and regulations;³⁵⁷ that underground construction through high-density residential neighborhoods should be considered standard based on the practice of undergrounding in the Cedar Riverside area³⁵⁸ and the technological advance of cross-linked polyethylene cable;³⁵⁹ that underground facilities for this project are the reasonable and prudent least cost alternative³⁶⁰ and that any excess costs for underground lines should not be assessed on a special basis.³⁶¹

Xcel Energy has not sought cost recovery from any local community for the incremental cost difference between overhead and underground transmission lines for the 12 miles of underground transmission that Xcel already has in Minnesota.³⁶² There are no examples of any underground transmission facilities in the Minneapolis-St. Paul Metropolitan Area that have been treated as special facilities.³⁶³ Xcel Energy does not consider the undergrounding of transmission for the Hiawatha Project to be a "special" facility.³⁶⁴

The FEIS discussed cost allocation as an environmental justice concern, suggesting that if an underground transmission route alternative is chosen incremental costs of undergrounding the

³⁵³ Lehman 7 Vol., pp. 14-15; Lehman 6 Vol., p. 180.

³⁵⁴ Lehman 7 Vol., p. 44.

³⁵⁵ Ex. 109, pp. 11-12 (Schedin Direct); Lehman 7 Vol., pp. 19-20.

³⁵⁶ Lehman 7 Vol., p. 20-21.

³⁵⁷ Schedin 10 Vol., p. 17.

³⁵⁸ Schedin 10 Vol., pp. 18-19.

³⁵⁹ Schedin 10 Vol., p. 19, ll. 20-23.

³⁶⁰ Schedin 10 Vol., p. 18.

³⁶¹ Schedin 10 Vol., p. 27.

³⁶² Lehman 6 Vol., pp. 192-193; Asah 2 Vol., pp. 33-34, 171-172; Ex. 55, p. 5 (Xcel Resp. to MGC IR 26)

³⁶³ Lehman 7 Vol. p. 18, l. 25 to p. 19, l. 6.

³⁶⁴ Lehman 7 Vol., p. 50, ll. 5-14.

transmission line among a larger base of ratepayers would reduce the potential economic hardship on ratepayers in the Project Area.³⁶⁵

Under applicable law, promulgated rates, precedent and practice and the specific facts of the Hiawatha Project as detailed in the preceding sections, Route D underground is a standard facility, the costs for which should be recovered from the entire Xcel Energy/NSP Midwest area rate base. Any other outcome would be discriminatory and unjust.

VII. HIAWATHA PROJECT SUBSTATIONS CREATE ADVERSE EFFECTS ON HUMAN SETTLEMENT, LAND USE, NATURAL RESOURCES AND ENVIRONMENTAL JUSTICE.

A. Adverse Effects of Aboveground Substations

Any aboveground substation has the potential to adversely impact human settlement, land use and the environment as a result of aesthetic impacts from design of the building, site and lighting, noise from transformers and fans, visual effects that discourage some businesses which view the substations as a visual intrusion,³⁶⁶ risks to public safety from vandalism and perceptions of crime due to graffiti.

Aesthetic impacts of substations are both subjective and context-dependent. An industrial building lacking windows or pedestrian activity may be aesthetically compatible with an industrial warehouse district, but not with a residential or pedestrian-overlay area. Xcel Energy's renditions of an aboveground Hiawatha West substation are provided in the FEIS in Figures 5.8-7 to 5.8-8 and 5.8-14 to 5.8-17, although no view is provided from the vantage point of the Midtown Greenway trails. Xcel Energy's renditions of an aboveground Midtown North substation are provided in the FEIS in 5.8-18 to 5.8-21. Even if transmission lines were routed underground, the scale of substations would include equipment that is 57 feet tall.³⁶⁷

Although some noise at an electrical substation is generated by cooling fans, the power transformer is the primary element that produces noise, which results from steel core vibration.³⁶⁸ Transformers proposed by Xcel Energy are about 18 feet tall,³⁶⁹ would have a sound

³⁶⁵ FEIS, p. 28, Table ES-2, p. 269, p. 424, Table 6-3.

³⁶⁶ FEIS, p. 21, Table ES-1, pp. 226, 227.

³⁶⁷ McNelly 5 Vol., p. 36.

³⁶⁸ McNelly 5 Vol., pp. 44-45.

³⁶⁹ McNelly 5 Vol., p. 51.

level of 69 decibels³⁷⁰ and could produce audible noise slightly above background levels depending upon weather conditions and their design.³⁷¹

An electrical substation can present an attractive nuisance in a residential neighborhood or mixed-use area, due to construction of a building that is vacant except for its dangerous high voltage equipment. Vandalism to substations or entry for theft of copper and scrap metal could create a risk of serious injury or death to persons engaged in the activity as well as compromising the high voltage equipment.³⁷² Walls surrounding the proposed substations could provide an area available for unauthorized graffiti in the Project Area, indirectly effecting perceptions of safety and increases in graffiti-related crimes.³⁷³ Xcel Energy's existing substation site in the Phillips neighborhood contains cement rubble and graffiti.³⁷⁴

Although Xcel Energy predicted that magnetic fields 25 feet from the wall of the Hiawatha substation would not exceed 2.02 milligauss and that magnetic fields near the Midtown substation, would range from 0.02 to 8.87 milligauss at 10 feet and from 0.01 to 1.21 milligauss at 25 feet,³⁷⁵ these predictions are lower than actual magnetic fields measured outside other Xcel Energy substations. Actual magnetic fields measured 25 feet from the wall or fence at the West River Road substation and at Elliot Park substation, which are similar in design to the proposed Hiawatha and Midtown substations, reached 4.5 milligauss and 5.3 milligauss, respectively.³⁷⁶

Given the demographics of the surrounding communities, as discussed previously with respect to transmission alternatives, any adverse effects of aboveground Hiawatha Project substations will be disproportionately experienced by minority and low-income communities.³⁷⁷ The Hiawatha Project substations, as well as the transmission routes, are located in areas where the minority population exceeds 50 percent and the percentage of low-income populations generally exceeds the state level by 20 percentage points.³⁷⁸ Both the construction and operation of substations result in a disproportionate adverse impact because the proposed locations are

³⁷⁰ Asah 2 Vol., p. 19.

³⁷¹ FEIS, p. 25, ES-1, p. 145.

³⁷² FEIS, p. 295; Gallay 3 Vol., p. 98.

³⁷³ FEIS, p. 295.

³⁷⁴ Ex. 164A and 164B (Xcel Energy Photos of Midtown North Substation Site).

³⁷⁵ Ex. 155, p. 2 (Xcel Resp. to MGC IR 32).

³⁷⁶ Gallay 3 Vol., pp. 134-135; Ex. p. 3 (Xcel Resp. to MGC IR 32).

³⁷⁷ FEIS, p. 265.

³⁷⁸ FEIS, p. 12.

within areas that are predominately home to minority and low-income populations.³⁷⁹

The FEIS suggested that locating the substations underground would reduce adverse effects, including the perceived and/or real impact to socioeconomic factors and property values,³⁸⁰ aesthetics,³⁸¹ recreation and tourism,³⁸² and, thus, effects to environmental justice.³⁸³ No estimate was provided of the costs of constructing the Midtown North substation underground. Xcel Energy estimated the costs of constructing the Hiawatha Substation underground at \$86 million, as compared to an aboveground cost of \$14.27 million.³⁸⁴ Xcel also suggested underground construction of a substation in Anaheim, California³⁸⁵, which cost \$19.5 million to build,³⁸⁶ was not comparable due to the differing size, voltage and topography of the Hiawatha substation.³⁸⁷

Absent construction of an underground substation, mitigation of impacts on human settlement and the environment in site selection, construction and operation of the proposed Hiawatha Project substations is not only required by MEPA, MERA and statutory and rule criteria for route and substation site selection, but in order to minimize environmental injustice.

B. Adverse Effects of Midtown North and Hiawatha West Substation Sites.

1. Effects on Adjacent Land Use

In addition to adverse effects common to any aboveground substation, the Midtown North and Hiawatha West substation sites proposed by Xcel Energy for the Hiawatha Project pose particular challenges.

The Midtown North site has an unusual degree of proximity to homes and the Hiawatha West site would place a substation adjacent to Hiawatha Commons, a multi-family residence for low-wage working people.

Xcel Energy is proposing to purchase and demolish a vacant triplex in order to construct

³⁷⁹ FEIS, p. 21, Table ES-1.

³⁸⁰ FEIS, p. 28, Table ES-2; p. 424, Table 6-3.

³⁸¹ FEIS, p. 29, Table ES-2.

³⁸² FEIS, p. 425, Table 6-3.

³⁸³ FEIS, p. 265.

³⁸⁴ Ex. 20, p. 13 and Schedule 7, Sargent & Lundy Report (McNelly Direct); Ex. 18, p. 11 (Gallay Direct); FEIS, p. 54.

³⁸⁵ Ex. 67, p. 4 (Xcel Resp. to MGC IR 27); Asah 5 Vol., pp. 26-27.

³⁸⁶ Ex. 66 (T&DW, Anaheim Substation Design).

³⁸⁷ Asah 5 Vol., pp. 28-29; pp. 109-111.

the Midtown North substation,³⁸⁸ but is not considering purchasing or displacing any additional homes for the Midtown North substation.³⁸⁹ There would be 6 remaining residential dwellings from 0 to 25 feet of the proposed Midtown North substation and 67 dwelling units within 200 feet of the proposed Midtown North substation.³⁹⁰ Xcel Energy is unaware of any other Xcel substations within 25 feet of homes.³⁹¹ The closest resident to the Merriam Park substation discussed in a recent article where a resident complained of noise, is between 50 to 100 feet away.³⁹²

The proposed Hiawatha West substation is located adjacent to Hiawatha Commons, a fully-occupied multi-family residential project for low-income wage earners planned with assistance of the City of Minneapolis to take advantage of its proximity to transit.³⁹³ Hiawatha Commons is located to the immediate southeast of the Hiawatha West site and the proposed substation would be visible from its windows.³⁹⁴

Both substation sites abut the Midtown Greenway, a critical public transportation and recreation amenity for the community, the City and the region as well as an NRHP-listed historic resource. Aesthetics along the Greenway are critical to its use and enjoyment for transportation, tourism and recreation.

2. Inconsistency with Planning and Zoning

Both of Xcel Energy's proposed substation sites create inconsistencies with underlying planning and zoning – the Midtown North substation would construct a new industrial use in an area zoned for high-density residential development,³⁹⁵ and the Hiawatha West substation would construct a building with no human activity on site, no interaction with streets, sidewalks or pedestrians and no potential for transit users in an area governed by both a pedestrian-oriented overlay and a transit-station overlay.

On April 2, 2010, the Minneapolis City Council approved changes to the Minneapolis

³⁸⁸ Asah 1 Vol., p. 167.

³⁸⁹ Asah 7 Vol., p. 76.

³⁹⁰ Ex. 155, Attachment 1 (Xcel Resp. to MGC IR 32); Asah 1 Vol., pp. 165-166, 202.

³⁹¹ Asah 1 Vol., p. 166.

³⁹² Asah 2 Vol., p. 22.

³⁹³ Berkholtz 9 Vol., p. 23.

³⁹⁴ Ex. 174 top photo showing green space and Hiawatha Commons (Photos of Hiawatha West Plantings April 2010)

³⁹⁵ FEIS, p. 18, Table ES-1.

Zoning Code in the Hiawatha Project area,³⁹⁶ which rezoned the Midtown North substation site, which was partially residential and partially light industrial, so that the entire site is now multiple-family high-density residential zoning (R5).³⁹⁷ These zoning changes reflect policy in the Phillips West Master Land Use Plan,³⁹⁸ adopted by the City Council in July of 2009 as part of the City's Comprehensive Plan,³⁹⁹ which supports the phase-out of industrial uses along the Greenway in the Phillips West neighborhood.⁴⁰⁰ R5 is a multifamily residential district that would not permit construction of a new industrial use.⁴⁰¹ Use of the Midtown North substation location may be inconsistent with future residential development in an R5 zone.⁴⁰²

All proposed Hiawatha substation sites are industrial zoning,⁴⁰³ but the Hiawatha West site is partially contained in a pedestrian-oriented overlay district.⁴⁰⁴ The pedestrian-oriented zoning overlay reflects that this area is intended to become pedestrian-friendly⁴⁰⁵ and may place additional restrictions on uses otherwise permitted under the base zoning.⁴⁰⁶

Minneapolis Pedestrian Oriented Overlay Districts are “established to preserve and encourage the pedestrian character of commercial areas and to promote street life and activity by regulating building orientation and design” as well as prohibiting certain automobile-oriented uses.⁴⁰⁷ Design requirements for Minneapolis Pedestrian Oriented Overlay Districts include placement of buildings to reinforce the street wall, maximize natural surveillance and pedestrian circulation⁴⁰⁸ and provision of at least 40 percent windows on the first floor of any non-residential building facade facing a public street or sidewalk.⁴⁰⁹

Xcel Energy's renditions of the Hiawatha West contain no windows. More

³⁹⁶ Mogush 8 Vol., p. 118.

³⁹⁷ Mogush 8 Vol., p. 124; Ex. 235, p. 6 (Existing Zoning Study Maps); Ex. 236, pp. 6-7 (Adopted Zoning Changes Maps); Ex. 239 (Midtown Greenway Rezoning Study).

³⁹⁸ Ex. 86, p. 35 (Phillips West Master Land Use Plan).

³⁹⁹ Ex. 72 (Minneapolis Comprehensive Plan).

⁴⁰⁰ Mogush 8 Vol., p. 141.

⁴⁰¹ Mogush 8 Vol., p. 130.

⁴⁰² FEIS, p. 146.

⁴⁰³ Mogush 12 Vol. 60.

⁴⁰⁴ FEIS, p. 103; Mogush 12 Vol., p. 64; Ex. 237 (Adopted Overlay Zoning Change Map).

⁴⁰⁵ FEIS, pp. 128, 141.

⁴⁰⁶ Mogush 12 Vol., p. 76; *see also* Minneapolis City Code, Ch. 551.30.

⁴⁰⁷ Minneapolis City Code, Ch. 551.60.

⁴⁰⁸ Minneapolis City Code, Ch. 551.110.

⁴⁰⁹ Minneapolis City Code, Ch. 551.120(a).

fundamentally, an electric substation, which is vacant most of the time, can neither provide natural surveillance (the “eyes on the street” concept to enhance public safety) nor promote street life and activity to enhance the pedestrian realm.

The Hiawatha West substation site is also partially covered by the Lake Street/Midtown LRT Station Overlay District, which places additional regulations within the Pedestrian Oriented Overlay District.⁴¹⁰ Transit-oriented development is intended to take advantage of the amenity provided by transit. It has characteristics such as higher housing densities, mixed land use and improvements to the public realm, such as green spaces to make the area around the station more attractive as a place to live.⁴¹¹ Minneapolis regulations for the Lake Street/Midtown LRT Station area set a 1.0 Floor Area Ratio and prohibit uses that function primarily as unoccupied buildings, such as self-storage and warehousing over 30,000 square feet in size.⁴¹²

From a transit-oriented development standpoint, an electric substation which has neither employees nor customers on site, is equivalent to a self-storage or warehousing usage, but for the presence of more dangerous equipment. The proposed Hiawatha West substation would be inconsistent with both the Pedestrian Oriented Overlay and the Lake Street/Midtown LRT Station Overlay District.

3. Interference with Planned Public Transportation Infrastructure

Both of Xcel energy’s preferred substations could also displace planned public use related to the Midtown Greenway trails. The Midtown North substation could preclude the construction of a planned pedestrian promenade on the rim of the Greenway and the Hiawatha West substation could preclude planned construction of an extension of the bicycle/pedestrian trails from the Greenway to Lake Street.

An important objective of the City of Minneapolis Midtown Greenway Land Use and Development Plan is the development of a premier public edge along both sides of the Greenway, including a more pedestrian and bicycle-friendly 29th Street and public promenades.⁴¹³ The Phillips West Master Land Use Plan, also adopted by the City, includes a

⁴¹⁰ Ex. 237 (Adopted Overlay Zoning Change Map); Minneapolis City Code, Ch. 551.175.

⁴¹¹ Mogush 8 Vol., pp. 132-133

⁴¹² Minneapolis City Code, Ch. 551.175.

⁴¹³ Ex. 40, p. 5 (Midtown Greenway Land Use and Development Plan).

plan for a pedestrian walkway on the Greenway between Portland Avenue and Chicago.⁴¹⁴ This promenade and pedestrian walkway to access the Midtown Greenway are specifically planned for the Midtown North substation location.⁴¹⁵

Specific plans for this pedestrian promenade have been adopted by the Phillips West Neighborhood Organization in 2008, and approved in concept by the Midtown Community Works Partnership.⁴¹⁶ The promenade would follow the northern rim of the Greenway, both to provide access where there otherwise would be only private space⁴¹⁷ and to provide eyes on the Midtown Greenway to enhance safety for Greenway users.⁴¹⁸

Construction of the Midtown North substation could constrain development of the planned Midtown Greenway pedestrian promenade.⁴¹⁹ Not only could the substation prevent public access to the Greenway from Oakland to Portland, but the lack of human activity at the site compounded with the lack of a pedestrian promenade could increase safety risks for Greenway users.

Xcel Energy's proposed Hiawatha West substation also has the potential to interfere with planned public infrastructure critical to the Midtown Greenway trails. The Seward and Longfellow Greenway Area Land Use and Pre-Development Study approved by the City of Minneapolis in 2007, has made extension of the Greenway pedestrian and bicycle trails along the east side of Hiawatha to link to the Lake Street light-rail station a high priority.⁴²⁰

Xcel Energy acknowledges that the City of Minneapolis and community groups would like to see the extension of the Midtown Greenway bike path to Lake Street on the east side of Hiawatha.⁴²¹ Mr. Seykora testified that from 20 to 32 feet would be needed for paths and setbacks to provide an extension of the Greenway trails to Lake Street along Hiawatha.⁴²² The low-profile substation proposed by Xcel Energy for the Hiawatha West site in the Application

⁴¹⁴ Asah 7 Vol., p. 56.

⁴¹⁵ FEIS, p. 144.

⁴¹⁶ Springer 7 Vol., pp. 101-102; Ex. 175 (Renderings of Pedestrian Promenade).

⁴¹⁷ Mogush 8 Vol., p. 136.

⁴¹⁸ McLaughlin 9 Vol., pp. 144-145.

⁴¹⁹ FEIS, p. 26, Table ES-1.

⁴²⁰ FEIS, pp. 130, 132-133.

⁴²¹ Seykora 11 Vol., p. 205.

⁴²² Seykora 11 Vol., p. 207.

could preclude construction of a leg of the Greenway trail to connect to Lake Street.⁴²³

4. Midtown North: Direct Conflict with Protected Historic Resources

Construction of the Midtown North substation also presents a serious conflict with the Grade Separation Historic District. As currently proposed, the substation design would encroach upon character-defining features of the Historic District, in violation of the HCRRA Guidelines for the District and, potentially, in conflict with the requirements of MEPA and MERA.

Xcel Energy's property at the Midtown North substation extends into the Midtown Greenway all the way down to the northernmost paved surface of the Greenway bicycle trail.⁴²⁴ Xcel's proposed design for the Midtown North substation would alter the berming and the grade separation between the trails in the Greenway trench by extending the site and building a retaining wall.⁴²⁵ Xcel hasn't determined the precise height or the length of the proposed retaining wall for its Midtown North substation.⁴²⁶

Neither the boundaries, the characteristics or the restrictions placed on the Grade Separation Historic District were taken into account when Xcel Energy evaluated which substation property to select or where and how on the property the substation equipment would be situated.⁴²⁷

Xcel Energy's expert witness, William Stark, acknowledged that the grade separation, lineal trench, depth and width of the trench, volunteer vegetation, and slopes of the trench are character-defining features of the Grade Separation Historic District.⁴²⁸ The retaining walls and earthen berms are part of the character of the trench and are historically significant.⁴²⁹ Senior Architectural Historian and Preservation Planner, Greg Mathis, testified on behalf of Hennepin County:

Q: In your opinion how important is the depth, width, and slope of the lineal trench itself

⁴²³ Ex. 36, p. 30 (Springer Direct); *see* Ex. 1B, Appendix B.7 (Application).

⁴²⁴ Asah 2 Vol., pp. 156, 167-168.

⁴²⁵ McNelly 5 Vol., p. 41, l. 23 - p. 42, l. 5. *See* existing trench berm in Ex. 15, Schedule 10, Cultural Assessment Report, p. 72, Figure 52 (Stark Surrebuttal) and simulated view of Midtown North substation in FEIS, Figure 5.8-18.

⁴²⁶ McNelly Vol. 5, p. 82.

⁴²⁷ McNelly 5 Vol., pp. 122, l. 25 – 123, l. 8.

⁴²⁸ Ex. 15, Schedule 10, Cultural Assessment Report, pp. 77, 80 (Stark Surrebuttal).

⁴²⁹ Stark 3 Vol., p. 44; Byers 8 Vol., pp. 81-82; Mathis 10 Vol., pp. 80-81; *see also* Ex. 15, Schedule 10, Cultural Assessment Report, p. 86 (Stark Surrebuttal).

to the historic nature of the Chicago, Milwaukee & St. Paul District?

A: It's very important. It helps define the overall historic character in terms of design and feeling. And it affects -- if you lose that, you end up losing -- the district loses its ability to convey its significance.

Q: What is the consequence if a district loses its ability to convey significance?

A: It could lose its historic designation.⁴³⁰

The Minneapolis Comprehensive Plan provides for the preservation, maintenance, and designation of historic resources within the city. Resources are to be protected from modifications that are not sensitive to their historic significance; new construction should be compatible with existing historic fabric; and new developments should seek to retain historic elements rather than removing them.⁴³¹

In 2006, the HCRRA completed the *Cultural Landscape Management and Treatment Guidelines for the Chicago Milwaukee and St. Paul Grade Separation Historic District of the Midtown Corridor, Minneapolis, Minnesota* (“*HCRRA Guidelines*”) in an “effort to prevent irrevocable damage to the character-defining features of the district.”⁴³² Largely based on the Secretary of the Interior’s Standards and Guidelines for Historic Preservation, these *HCRRA Guidelines* provide specific application to the historic district’s character-defining features by specifying recommended and not recommended treatments.⁴³³

The *HCRRA Guidelines* recommend retaining the graded slopes of the trench.⁴³⁴ If Xcel Energy were to adjust the slope of the trench at the Midtown substation site and install a retaining wall, that would not be consistent with retaining the graded slopes.⁴³⁵ The *HCRRA Guidelines* also recommend against adding new structures or buildings so that the definition and linear nature of the grade separation is lost.⁴³⁶

The FEIS and Xcel’s expert witness, Mr. Stark, concurred that if impacts to the sloped berm are not avoided through substation design, this would represent a direct impact on the Grade Separation Historic District as a result of the construction of the Midtown North

⁴³⁰ Mathis 10 Vol., p. 88 ll. 1-12.

⁴³¹ FEIS, p. 161, citing Ex. 72, Policy 8.1 (Minneapolis Plan for Sustainable Growth).

⁴³² Ex. 15, Schedule 10, Cultural Assessment Report, p. 76 (Stark Surrebuttal). The *HCRRA Guidelines* are contained in Ex. 13, Schedule 6 (Stark Direct).

⁴³³ Ex. 15, Schedule 10, Cultural Assessment Report, p. 76 (Stark Surrebuttal); Mathis 10 Vol., pp. 85-86.

⁴³⁴ Ex. 15, Schedule 10, Cultural Assessment Report, p. 80 (Stark Surrebuttal).

⁴³⁵ McNelly 5 Vol., pp. 118, l. 25-119, l. 9.

⁴³⁶ Mathis 10 Vol., p. 89, citing Ex. 13, Schedule 6, p. 18, *HCRRA Guidelines* (Stark Direct).

substation.⁴³⁷

It is important to minimize indirect visual effects on historical properties as well as direct effects.⁴³⁸ A high profile substation on the Midtown North site would have indirect visual impacts on the Zinsmaster Baking Company and the Grade Separation Historic District.⁴³⁹ Hennepin County witness Mr. Mathis testified that building out into the Midtown Greenway trench for the Midtown Substation would have significant direct and indirect effects on the Grade Separation Historic District:

It would compromise the entirety of the district in terms of its physical integrity of materials by removing historic fabric, which is the grade itself . . . And as far as indirect, there would also be significant visual effects because it would change the overall feeling of the historic district by, again, changing those spaces.⁴⁴⁰

5. Hiawatha West: Displacement of Public Green Space and Plantings

The low-profile Hiawatha West substation proposed by Xcel Energy in its Routing Application⁴⁴¹ would displace green space that represents a long-term planned strategy for public investment in economic redevelopment, transit and transportation amenities, recreation and urban reforestation. The proposed low-profile Hiawatha West substation would engulf most of the site where plantings were done by the community in 2009.⁴⁴² As noted in the FEIS, up to 250 newly planted trees and shrubs may need to be removed, which would be inconsistent with incorporating additional green space along the Greenway and with the creation of a pedestrian-oriented district in the area.⁴⁴³

The concept of plantings along the Greenway began over ten years ago, with the idea of creating an urban amenity that would live up to hundred-year-old plans in the City of Minneapolis to connect the Minneapolis chain of lakes to the Mississippi River through south central Minneapolis.⁴⁴⁴ Business leaders, community groups and elected officials put together private resources from corporations, public funds from Hennepin County and Mn/DOT and

⁴³⁷ FEIS, p. 19, Table ES-1, p. 187; Stark 3 Vol., p. 73.

⁴³⁸ Stark 3 Vol., pp. 47-48.

⁴³⁹ Stark 3 Vol., p. 18.

⁴⁴⁰ Mathis 10 Vol., p. 81, ll.8-21.

⁴⁴¹ Ex. 1B, Figure B.7 (Application)

⁴⁴² Ex. 173 (Aerial with Location of Plantings on Hiawatha West Site); Springer 7 Vol., p. 99.

⁴⁴³ FEIS, pp. 143-144, p. 18, Table ES-1.

⁴⁴⁴ McLaughlin 9 Vol., p. 152.

volunteers organized from neighborhoods, corporations and governmental units to plant 2,000 trees and hundreds of shrubs along the length of the Greenway.⁴⁴⁵

The chronology of the green space and plantings on the Hiawatha West site began in 2001 with publication of the East End Revival Plan, which identified the area as a future community green space.⁴⁴⁶ In 2004, the Seward Longfellow Greenway Area Land Use and Predevelopment Study identified the need for additional trees and green space, “industrial park reforestation” on the site.⁴⁴⁷

In 2006, the Conceptual Landscape for the Midtown Greenway Phase III identified the Hiawatha West site as a “gateway greenspace” and the Longfellow Community Council authorized money under its Revitalization Plan – Phase II to promote the area around the Hiawatha West site as a “brownfields to greenfields” area.⁴⁴⁸ The Seward and Longfellow Greenway Area Land Use and Pre-Development Study, approved by City on Feb. 9, 2007 called for “Industrial Park Reforestation” including the location for the Hiawatha West substations.⁴⁴⁹

In 2007, the Sabo Bridge was opened, connecting the Hiawatha West area up to the Midtown Greenway. Right after the bridge opened, community planning for the Hiawatha area green space began.⁴⁵⁰ On Arbor Day in April 2008, 234 trees and shrubs were planted immediately north of the Greenway.⁴⁵¹ And on Arbor Day 2009, the area where the Hiawatha West site is proposed was planted with 258 trees and shrubs.⁴⁵²

Mn/DOT’s Community Roadside Landscaping Partnership Program uses trunk highway funds for the purpose of improving landscape, aesthetics and safety of highways by having the roadsides maintained in an attractive manner.⁴⁵³ Plantings north of the Greenway and south of the Greenway on the Hiawatha West site were done under Mn/DOT’s Landscape Partnership

⁴⁴⁵ McLaughlin 9 Vol., p. 153.

⁴⁴⁶ Ex. 204 (Green Space Chronology); Hart 11 Vol., p. 52; FEIS, p. 136.

⁴⁴⁷ Ex. 204 (Green Space Chronology); Hart 11 Vol., pp. 52-53; FEIS, p.132.

⁴⁴⁸ Ex. 204 (Green Space Chronology); Hart 11 Vol., p. 53.

⁴⁴⁹ FEIS, p. 132.

⁴⁵⁰ Ex. 204 (Green Space Chronology); Hart 11 Vol., p. 53.

⁴⁵¹ Ex. 204 (Green Space Chronology); Hart 11 Vol., p. 53; Ex. 42, p. 1 (Hiawatha Green Space Plans).

⁴⁵² Ex. 204 (Green Space Chronology); Hart 11 Vol., p. 53; Ex. 42, p. 2 (Hiawatha Green Space Plans).

⁴⁵³ Seykora 11 Vol., p. 195; Ex. 233 (Mn/DOT Web Site, Landscape Partnership Program).

Program,⁴⁵⁴ available to communities working with volunteers to fund landscape improvements on trunk highway land owned by Mn/DOT.⁴⁵⁵

The Hiawatha area planting project was large enough to involve two years of work. Hennepin County applied for and was granted funds from Mn/DOT in two pieces – one application in 2007 for planting in the spring of 2008 and a second application in 2008, for planting in 2009.⁴⁵⁶ MnDOT encumbered \$30,000 for the 2009 plantings, and actual payment by Mn/DOT for plant materials was about \$28,000.⁴⁵⁷ Total costs were \$57,766 for the 2008 planting and \$64,639 for the 2009 planting on the Hiawatha West site, including an estimate for volunteer time.⁴⁵⁸ Approximately \$60,000 of the 2009 cost was for plant material and design,⁴⁵⁹ and funds were raised from business donations and local governments as well as from Mn/DOT.⁴⁶⁰ Plantings on the Hiawatha West site are maintained through HCRRRA contracts with Sentenced to Serve and Twin Cities Tree Trust.⁴⁶¹

Both the 2008 and the 2009 agreements with Mn/DOT for funding through the Community Roadside Landscape Partnership Program contain provisions allowing the state to terminate the agreement upon notice.⁴⁶² Mn/DOT's standard practice is to maintain full ownership and grant a permit rather than a property right such as an easement.⁴⁶³ The Midtown Greenway trails on the east side of Hiawatha Avenue in the Project Area⁴⁶⁴ are on Mn/DOT property for which the City of Minneapolis has a permit subject to cancellation, rather than a property ownership interest.⁴⁶⁵ The fact that the City has only a permit subject to cancellation doesn't mean that the Midtown Greenway doesn't serve an important public transportation

⁴⁵⁴ Seykora 11 Vol., p. 178-180; FEIS, pp. 113-114.

⁴⁵⁵ Seykora 11 Vol., p. 198; Ex. 233 (Mn/DOT Web Site, Landscape Partnership Program).

⁴⁵⁶ Seykora 11 Vol., pp. 179-180, 194-195.

⁴⁵⁷ Seykora 11 Vol., p. 199; Ex. 230 (Mn/DOT Agreement 2009 Planting)

⁴⁵⁸ Hart 11 Vol., pp. 53-54; Ex. 205 (2008 and 2009 Planting Budget).

⁴⁵⁹ Hart 11 Vol., p. 64.

⁴⁶⁰ Hart 11 Vol., pp. 64-65.

⁴⁶¹ Springer 7 Vol., p. 135.

⁴⁶² Ex. 230, p. 8 (Mn/DOT Agreement 2009 Planting); Ex. 231, pp. 7-8 (Mn/DOT Agreement 2008 Planting).

⁴⁶³ Seykora 11 Vol., p. 193.

⁴⁶⁴ Visible as blue lines on Ex. 171 (Aerial of Mn/DOT Property Ownership); Seykora 11 Vol., p. 192.

⁴⁶⁵ Seykora 11 Vol., pp. 192-193.

purpose⁴⁶⁶ and, similarly, should not demean the importance of the Hiawatha West green space.

The Hiawatha West plantings funded by MnDOT serve as an amenity for the Midtown Greenway to encourage bicycle and pedestrian use and also as an amenity for the Hiawatha Avenue trunk highway.⁴⁶⁷ Based on his experience and the location of Zimmer Davis business on the Greenway, President Tom Davis agreed that the presence of attractive plantings and green space adjacent to the Greenway enhances the recreational value of the trail.⁴⁶⁸

The plantings are significant to the Phillips, Seward and Longfellow communities and as a gateway coming across the Sabo Bridge.⁴⁶⁹ They are viewed as an extension of the Greenway, and removal of vegetation from this green space would create aesthetic impacts for Greenway users.⁴⁷⁰ Tim Springer, Executive Director of the Midtown Greenway Coalition explained the importance of the green space for transportation, recreation, tourism and economic vitality:

That site is at the nexus of Minnesota's two most important alternate transportation features, the Hiawatha LRT line and the Midtown Greenway as a bikeway, its only rail transit line and its busiest bikeway. And it's viewed by transit users when they for the very first time get their view of the downtown skyline when riding from the airport. It is at the base of the beautiful iconic \$5.2 million Sabo Bridge up at the Greenway. There are a lot of things coming together there, and so we see them all as working together synergistically. And so I truly believe that there is an indirect positive impact of open space at the Hiawatha West site on the tax base in Minneapolis.⁴⁷¹

Xcel Energy made no calculation for relocation or restoration of the plantings currently on the Hiawatha West site and has not included costs for relocation or restoration in its cost estimates.⁴⁷²

VIII. CON PROCEEDINGS MAY INFLUENCE SUBSTATION SIZE, SO THAT G-4 IS A FEASIBLE AND PRUDENT ALTERNATIVE FOR THE HIAWATHA SUBSTATION.

⁴⁶⁶ Seykora 11 Vol., pp. 193-194.

⁴⁶⁷ Seykora 11 Vol., p. 200. See Ex. 174 (Photos of Hiawatha West Plantings April 2010), showing views looking east from Hiawatha at the top and from near the Zimmer Davis site on the bottom, as explained by Springer 7 Vol., pp. 100-101.

⁴⁶⁸ Davis 11 Vol., p. 30.

⁴⁶⁹ McLaughlin 9 Vol., pp. 154-155; Asah 1 Vol., p. 192.

⁴⁷⁰ FEIS, p. 319.

⁴⁷¹ Springer 7 Vol., pp. 191, l. 23 -192, l. 11.

⁴⁷² McNelly 5 Vol., pp. 69-70; Ex. 165 (Xcel Energy Estimates of Relocation Costs).

A. Midtown Substation

Although the Midtown Greenway Coalition has serious concerns about potential adverse effects of a substation at the Midtown North site, including impacts on the residential character of the immediate neighborhood and the aesthetics and appeal of adjacent Greenway trails,⁴⁷³ the MGC has proposed no alternative location for the facility. MGC has suggested a number of conditions to minimize the impacts of the proposed Midtown North site on the residential neighborhood, the Midtown Greenway, pedestrian infrastructure and the character-defining features of the Grade Separation Historic District.

Should the CON proceeding determine that need for a second future 70 MVA transformer is not established, accommodating the substation footprint on the Midtown North site without impacting the Grade Separation Historic District and building the planned pedestrian promenade on the northern rim of the Greenway adjacent to the substation will be more easily achieved. Additional landscaping amenities could also be provided.

B. Hiawatha Substation

Neither the Midtown Greenway Coalition nor any of the 17 neighborhood groups of which it is comprised advocate the location of the Hiawatha substation on either the Crew2 site or the Zimmer Davis site.⁴⁷⁴ The MGC and the most closely affected neighborhoods (Longfellow Community Council,⁴⁷⁵ Seward Neighborhood Group,⁴⁷⁶ East Phillips Improvement Coalition,⁴⁷⁷ and Midtown Phillips Neighborhood Association, Inc.⁴⁷⁸) support an alternative Hiawatha substation location on the site where Xcel Energy's prior substation is located, identified in this record as G-4.

This routing proceeding has provided no opportunity to challenge Xcel Energy's claimed need for a substation sufficient to accommodate three possible future 50 MVA transformers and 15 possible future feeder lines. If the CON proceedings find that a Hiawatha substation need not accommodate all of these facilities, MGC proposes that the substation should be located on the

⁴⁷³ Ex. 36, p. 31 (Springer Direct).

⁴⁷⁴ Springer 7 Vol., p. 183.

⁴⁷⁵ Hart 11 Vol., p. 56.

⁴⁷⁶ Ex. 209, p. 10 (Mains Direct).

⁴⁷⁷ Pass 11 Vol., p. 136.

⁴⁷⁸ Heyer 11 Vol., p. 126.

G-4 site.

The G-4 site includes an abandoned Xcel Energy substation, a portion of land that is vacant and unused,⁴⁷⁹ and land owned by Mn/DOT and leased to the Metropolitan Council for parking.⁴⁸⁰ Use of the parking lot has been limited, and neither Mn/DOT nor the Met Council opposes the use of G-4 as a substation site.⁴⁸¹ The Met Council has no plans for use of the G-4 site, and Mn/DOT considers it to be available for purchase.⁴⁸²

The G-4 site evaluated by Xcel Energy and in the FEIS did not include adjacent property owned by the Soo Line Railroad.⁴⁸³ According to Xcel Energy, the minimum width required for a substation on the G-4 site is 180 feet and the G-4 site is 153 feet wide, without considering adjacent railroad property.⁴⁸⁴ The G-4 site is, thus, approximately 30 feet too narrow to meet Xcel's minimum requirements for the Hiawatha substation.⁴⁸⁵

Xcel Energy believes that the Soo Line Railroad rail lines adjacent to the G-4 site are operated by the railroad as active rail lines,⁴⁸⁶ while neighborhood observers believe they are infrequently used.⁴⁸⁷ It is unclear on this record whether the Soo Line Railroad would be willing to sell a portion of its property adjacent to the G-4 site,⁴⁸⁸ making the G-4 site feasible for the proposed Hiawatha substation.

If certificate of need proceedings determine that the Hiawatha substation need not accommodate the "ultimate" design of three transformers and 15 feeder lines, the G-4 site could be feasible, with or without purchase of adjacent railroad property.

Seward Neighborhood Group President, Sheldon Mains, has testified that G-4 would be an ideal substation site from a land use perspective: it has limited access and would not be suitable for retail development, office development or residential use, so a substation is its

⁴⁷⁹ Mains 11 Vol., p. 109.

⁴⁸⁰ Ex. 228, p. 11 (Revised Mn/DOT DEIS Comment Letter); Seykora 11 Vol., pp. 182.

⁴⁸¹ Seykora 11 Vol., p. 182; Ex. 232 (Seykora Cover Email, B. Lamb Letter April 26, 2010).

⁴⁸² Seykora 11 Vol., pp. 183,189.

⁴⁸³ FEIS, pp. 46, 432.

⁴⁸⁴ McNelly 5 Vol., p. 86; Ex. 209, p. 10 (Mains Direct).

⁴⁸⁵ Mains 11 Vol., p. 114.

⁴⁸⁶ Asah 13 Vol., p. 98.

⁴⁸⁷ Mains 11 Vol., pp. 93, 96. Ex. 209, p. 10 (Mains Direct).

⁴⁸⁸ See Ex. 209, p. 11 (Mains Direct) stating that the Soo Line Railroad had not considered the sale of property for the G-4 site and McNelly 5 Vol., p. 13 stating a belief that the Soo Line Railroad indicated to someone at Xcel that they were not interested in moving the rail. Neither testimony directly addresses the question of willingness to sell a strip of land for a substation.

highest and best use in planning terms.⁴⁸⁹ The G-4 site does not abut the Midtown Greenway, there is no adjacent residential use, and neither trees nor community green space would be displaced if a substation were to be constructed on this site.

IX. CONDITIONS ARE REQUIRED FOR THE MIDTOWN NORTH AND HIAWATHA WEST SUBSTATIONS IN KEEPING WITH MEPA AND MERA, AND TO MINIMIZE HUMAN, LAND USE, ENVIRONMENTAL AND ENVIRONMENTAL JUSTICE IMPACTS.

A. Midtown North – Protect Historic Resources and Provide Planned Transportation Infrastructure

This record, including the testimony of Xcel Energy’s witnesses, has established a *prima facie* case that construction of the Midtown North substation as proposed by Xcel would impair historic resources protected under MERA and MEPA, through direct as well as indirect impacts on character-defining features of the NRHP-listed Grade Separation Historic District.

Evidence in this record is insufficient to demonstrate the lack of a feasible and prudent design to avoid these impacts. Xcel has stated that the minimum walled footprint for the Midtown North substation is approximately 145 feet by 228 feet⁴⁹⁰ but the record contains little information regarding this substation layout or the size of the Midtown North parcel. In addition, the record neither demonstrates the need for a layout sufficient to accommodate a second future 70 MVA transformer nor depicts the size and configuration of a substation that would contain the single transformer with which the Midtown substation would be built.

Given these gaps in the record, MGC will not assume that Xcel Energy cannot build a substation on the Midtown North site in keeping with MEPA, MERA and the Grade Separation Historic District. MGC would recommend that the Commission follow the suggestion in the FEIS that Xcel Energy work with the HCRRA to ensure that the design for the Midtown North substation conforms to *HCRRA Guidelines* for the Grade Separation Historic District. Development of a memorandum of agreement (MOA) with the HCRRA could address issues such as the documentation of the existing conditions, corridor restoration, vegetation restoration plans, and effects to elements within the historic district.⁴⁹¹ In addition to addressing direct

⁴⁸⁹ Mains 11 Vol., pp. 101-102.

⁴⁹⁰ Ex. 64, p. 5 (Xcel Resp. to MGC IR 2).

⁴⁹¹ FEIS, p. 189.

effects on the trench, the HCRRA could review the design of screening walls for the Midtown North substation taking into consideration HCRRA Guidelines and the district's character in order to mitigate and minimize adverse effects.⁴⁹²

In testimony and in its Post-Hearing Brief, Xcel Energy has committed to designing the Midtown North substation to support the planned promenade and pedestrian walkway adjacent to the substation on the north side of the Midtown Greenway.⁴⁹³ The promenade would be at grade level on the north rim of the Midtown Greenway.⁴⁹⁴

Given that the promenade location is on Xcel Energy property and the fact that substation construction creates additional barriers to access and safety which the promenade would address, MGC believes that Xcel Energy should construct the promenade consistent with City and neighborhood plans as well as with the historic district and should then provide a public entity – either the City or the HCRRA – with an easement to ensure the promenade's continuing public use.

B. Hiawatha West – Reduce Displacement of Green Space and Trees, Provide Planned Transportation Infrastructure

If the Hiawatha West substation site is selected, the MGC and affected community groups in Longfellow, Seward and Phillips support a high-profile design as depicted in Xcel Energy's Ex. 169B, preservation and restoration of green space between the substation and the Greenway, replacement of any lost green space in another site along the Greenway, and construction of a trail extension to Lake Street on the east side of Hiawatha Avenue.

A high-profile design oriented as in Ex. 169B would markedly reduce aesthetic impacts on the Greenway trails and would permit preservation or restoration of much of the green space and plantings on the Hiawatha West site. As compared to the low-profile design in the Application or the high-profile layout in Ex. 169A, the design and orientation in Ex. 169B would also increase the distance from the Hiawatha West substation wall to Hiawatha Commons

⁴⁹² Stark 3 Vol., pp. 24-25.

⁴⁹³ Ex. 20, p. 9, ll. 23-24 (McNelly Direct); McNelly 5 Vol., p. 62; Asah 2 Vol., p. 156; Asah 7 Vol., p. 59, ll.5-8; FEIS, p. 145; Xcel Energy Post-Hearing Brief, p. 21.

⁴⁹⁴ Asah 2 Vol., p. 169.

housing.⁴⁹⁵

Xcel Energy has acknowledged that either a high-profile or low-profile substation on the Hiawatha West site would support the 50 MVA transformer with which the substation would be constructed and two additional possible future 50 MVA transformers.⁴⁹⁶ There are no performance differences between the high profile design depicted in Exhibits 169A, 169B and 169C and a low-profile substation.⁴⁹⁷ The fenced or walled footprint for a high-profile design for the Hiawatha substation is approximately 233 feet by 261 feet,⁴⁹⁸ two-thirds the size of the low-profile design that Xcel Energy initially proposed for the Hiawatha West site.⁴⁹⁹

Other than footprint size, the primary difference between a high-profile and a low-profile design is that although both structures have a similar total height, a high-profile design has are more structures that are taller.⁵⁰⁰ Labor costs to construct a high-profile station are slightly higher, but they are usually offset by the footprint savings of site grading and, in this case, the smaller diameter of the wall.⁵⁰¹

For the MGC and affected community groups, both the high-profile design and the particular layout on the Hiawatha West site are critical to achieve the objective of minimizing impacts on the Greenway trails and on the green space that would be displaced by the substation. Eric Hart, a long-time volunteer on the Longfellow Community Council (LCC) with a Masters Degree in Urban Planning, testified that the Ex. 169A layout is unacceptable to the LCC due to proximity of substation walls to the Midtown Greenway trail; it is not an improvement from the initial low-profile plan.⁵⁰² The Ex. 169C layout is inferior to Ex. 169B, since it displaces more green space; it would require more replacement green space off site. Ex. 169B is the best of the three layouts.⁵⁰³

Mr. Mains testified on behalf of the Seward Neighborhood Group that, if a Hiawatha

⁴⁹⁵ Ex. 1B, Appendix B.7 (Application) and Ex. 169A, 169B and 169C (Hiawatha High-Profile Design Layouts). Layouts in Ex. 169B and 169C place the substation about the same distance from Hiawatha Commons. McNelly 6 Vol. pp. 110-111.

⁴⁹⁶ McNelly 5 Vol., p. 26.

⁴⁹⁷ McNelly 6 Vol., p. 107.

⁴⁹⁸ Ex. 64, p. 4 (Xcel Resp. to MGC IR 2); McNelly 5 Vol., pp. 14-15.

⁴⁹⁹ McNelly 6 Vol., pp. 100-101; *see also* Ex. 64, p. 3 (Xcel Resp. to MGC IR 2).

⁵⁰⁰ McNelly 5 Vol., p. 15; McNelly Vol. 6, p. 107.

⁵⁰¹ McNelly 6 Vol., pp. 105-106.

⁵⁰² Hart 11 Vol., p. 57.

⁵⁰³ Hart 11 Vol., pp. 57-58.

West location were selected, the layout should be as far south and east as possible, as in Ex. 169B and that the substation should be located to allow an extension of the Greenway trail to Lake Street.⁵⁰⁴

The layout in Ex. 169B has the substation set back to the farthest south location; at its closest point the substation wall would be approximately 175 feet from the Greenway and at the “Y” of the trail, the distance from the Greenway is approximately 220 feet.⁵⁰⁵ The layout in Ex. 169C is approximately half that distance from the Greenway trails.⁵⁰⁶

Xcel Energy’s routing lead, Ms. Asah, testified that Xcel would prefer the layout in Ex. 169C, since the site is only on Mn/DOT land and does not include railroad property.⁵⁰⁷ However, Mn/DOT’s witness testified that all of the high-profile layouts (Ex. 169A, 169B and 169C) include some property not owned by Mn/DOT.⁵⁰⁸ Xcel Energy agrees that the layout in 169B is feasible, but may shift a bit further to the north if setbacks from the railway need to be adjusted.⁵⁰⁹

Even with the proposed high-profile design and smaller footprint, Xcel Energy is requesting a site for its Hiawatha West substation that extends from the Greenway on the north and nearly to Hiawatha on the west.⁵¹⁰ Xcel’s requested site includes Mn/DOT property, Soo Line or CP Railroad property and Zimmer-Davis property.⁵¹¹

Xcel’s continuing request for the entire Hiawatha West site puts both the restoration of community green space and plans for extension of the Greenway trails to Lake Street in jeopardy. MGC proposes that Xcel construct the Greenway trail extension to Lake Street on the western edge of the Hiawatha West site and provide a public entity – either the City or the HCRRA – with an easement to preserve its future public use. MGC further proposes that green space and plantings between the substation wall and the Greenway trails be restored and replanted, including the affected communities in the design process. Again, an easement to an

⁵⁰⁴ Ex. 209, pp. 11-12 (Mains Direct).

⁵⁰⁵ McNelly 6 Vol., p. 101; Ex. 169B (Hiawatha High-Profile Design Layouts).

⁵⁰⁶ Ex. 169B, 169C (Hiawatha High-Profile Design Layouts).

⁵⁰⁷ Asah 7 Vol., p. 63.

⁵⁰⁸ Seykora 11 Vol., pp. 175-176.

⁵⁰⁹ McNelly 6 Vol., p. 103.

⁵¹⁰ Asah 13 Vol., pp. 98-99. Xcel is requesting the entire Hiawatha West site depicted on Ex. 2A (Route Maps), Asah 13 Vol., pp. 71-72.

⁵¹¹ Asah 13 Vol. pp. 93-94.

appropriate public entity would ensure preservation of the restored community green space.

MGC and the closely affected communities acknowledge that, even with a high-profile design and the Ex. 169B site orientation, some of the community green space on the Hiawatha West site will be unavoidably lost. MGC joins in the recommendation of the Longfellow Community Council that any lost green space be replaced with an equal amount of green space nearby along the Midtown Greenway⁵¹² and that Xcel Energy should be responsible for this mitigation.⁵¹³

Mr. Hart testified that an example of suitable replacement green space could be a portion of the Metro Produce industrial parking lot, on the south side of the Midtown Greenway about 5 blocks east of Hiawatha Avenue.⁵¹⁴ The Metro Produce site was identified as the “NoLo” site in previous plans to provide green space along the Greenway.⁵¹⁵

Although Mn/DOT initially proposed that property could be conveyed to Xcel Energy for a substation through a political subdivision such as the City of Minneapolis,⁵¹⁶ Mn/DOT has since reconsidered this proposal and has stricken this language.⁵¹⁷ It is not at all clear that the governing statute⁵¹⁸ would permit transfer of public property for use by a private corporation without a public auction or sealed bid process. Under the terms of the statute, a conveyance and quitclaim to any political subdivision or agency of the state can only be for “public purposes.”⁵¹⁹

Although further research on this topic may be needed, it is suggested that the development of a Greenway trail extension and the restoration of community green space are public purposes sufficient to allow a political subdivision to participate in the conveyance of the Hiawatha West substation.

C. Design to Minimize Human, Land Use and Environmental Impacts

Xcel Energy’s proposals for enclosure and design of the Midtown North and Hiawatha West substations are insufficient to mitigate aesthetic and noise impacts on the surrounding

⁵¹² Hart 11 Vol., pp. 58-59.

⁵¹³ Hart 11 Vol., p. 62.

⁵¹⁴ Hart 11 Vol., p. 59; Ex. 207 (Aerial Photo of Metro Produce site).

⁵¹⁵ Hart 11 Vol., p. 59; Ex. 118, Schedule 3 (Hart Direct).

⁵¹⁶ Ex. 147, p. 11 (Mn/DOT DEIS Comment Letter)

⁵¹⁷ Ex. 228, p. 11 (Revised Mn/DOT DEIS Comment Letter); Seykora 11 Vol., p. 167.

⁵¹⁸ Minn. Stat. § 161.44 (2009).

⁵¹⁹ Minn. Stat. § 161.44, Subd. 1 (2009).

neighborhoods and the users of the Midtown Greenway trail, light rail transit and Sabo Bridge from which views of the substations would figure prominently. The MGC would suggest minimum standards for design, in keeping with the FEIS and testimony at hearings and use of a process including City design review and community involvement to ensure that adverse impacts of substations are minimized.

Xcel Energy's current proposal for the Midtown North substation has 20-foot prefabricated walls on four sides,⁵²⁰ a solid wooden gate,⁵²¹ sound absorbing panels to ensure compliance with city and state noise regulations,⁵²² and a 34-foot electrical equipment enclosure to provide shielding from the humming sound of the transformer.⁵²³ However, substation equipment up to 57 feet tall would visibly protrude above the Midtown North 20-foot wall.⁵²⁴ Xcel did not evaluate making walls higher than 20 feet to further reduce noise⁵²⁵ or to reduce aesthetic impacts.⁵²⁶

Xcel Energy is proposing a prefabricated wall on four sides of the Hiawatha station and a chain link gate.⁵²⁷ The noise study conducted for the Midtown substation did not evaluate noise impacts from the proposed Hiawatha substation.⁵²⁸ Noise-limiting features proposed for the Midtown site, including sound-absorbing materials for the walls, an added wall adjacent to the transformers with sound-absorption material and rubber matting under the substation transformers,⁵²⁹ have not been considered for the Hiawatha substation.⁵³⁰

With a high-profile substation, Xcel Energy would propose a 20-foot wall.⁵³¹ Xcel has not considered either a higher wall or partial excavation of the Hiawatha West site in order to reduce the visual impact of the taller elements of the substation.⁵³²

⁵²⁰ McNelly 5 Vol., p. 39; FEIS, p. 321.

⁵²¹ McNelly 5 Vol., p. 39.

⁵²² FEIS, p. 321.

⁵²³ Asah 2 Vol., p. 16.

⁵²⁴ McNelly 5 Vol., p. 39, ll. 21-24.

⁵²⁵ Asah 2 Vol., p. 26.

⁵²⁶ Asah 7 Vol., p. 76.

⁵²⁷ McNelly 5 Vol. pp. 32-33.

⁵²⁸ Asah 2 Vol., p. 16.

⁵²⁹ McNelly 5 Vol., pp. 124-125.

⁵³⁰ McNelly 5 Vol., pp. 128-129.

⁵³¹ McNelly 6 Vol., p. 101.

⁵³² McNelly 5 Vol., pp. 36-37.

The FEIS and community intervenors proposed a number of additional recommendations for mitigation of the adverse impacts of Hiawatha Project substations applicable to both the Midtown and Hiawatha substations. The FEIS suggested that substations be constructed with architecturally designed perimeter walls, the surrounding area landscaped and any exterior lighting for security use down shielding lights to minimize the potential for light pollution and the industrial appearance of the substation after dark.⁵³³ Architectural designed substation walls could be appropriate to the Project Area, considering various alternative designs⁵³⁴ and could complement the existing character of historical resources, such as the Grade Separation Historic District and the Zinsmaster Building.⁵³⁵

The FEIS proposed that, to further mitigate the impact of the Hiawatha Substation, landscaping treatment would break up the massing of the walls and blend the site with the area immediately north that has just received landscape enhancements.⁵³⁶ To further mitigate the impact of the Midtown Substation, landscaping could be provided on all sides of the walls, especially walls facing residential properties.⁵³⁷

The FEIS suggested that fences be changed to wooden materials that have more of an architectural character while still achieving needed access and security⁵³⁸ and supported noise reduction measures such as sound absorbing panels,⁵³⁹ wooden gates and an additional interior substation wall.⁵⁴⁰ The FEIS proposed, to address adverse impacts on the community from graffiti and vandalism, that removal of graffiti from substations and equipment could be required as part of scheduled maintenance.⁵⁴¹ The FEIS also proposed, to further reduce the potential aesthetic impact of substation walls, that community artists or community organizations could be

⁵³³ FEIS, p. 29, Table ES-2; p. 425, Table 6-3.

⁵³⁴ FEIS, p. 345. Alternative designs in the record include the Con Edison substation in Bronx, New York, Ex. 65 (Con Ed Substation Design Article) and Ex. 21, Schedule 8 (McNelly Rebuttal).

⁵³⁵ FEIS, p. 189.

⁵³⁶ FEIS, p. 346

⁵³⁷ FEIS, p. 346.

⁵³⁸ FEIS, p. 346.

⁵³⁹ FEIS, p. 30, Table ES-2; see also McNelly 5 Vol., p. 46.

⁵⁴⁰ FEIS, pp. 387-388

⁵⁴¹ FEIS, p. 300.

allowed to assist in the design of the substation walls or select/create exterior public art.⁵⁴²

Longfellow Community Council (LCC) adopted a resolution regarding design to mitigate impacts of the Hiawatha substation, including a provision that high voltage transmission lines and feeder lines must be undergrounded at least a block away from the substation.⁵⁴³ Xcel confirmed that it would be feasible to bring the existing 115 kV transmission line along Hiawatha Avenue underground where it breaks off from Hiawatha Avenue so that it would enter the substation from underground.⁵⁴⁴

The LCC resolution also proposed that the visual appearance of the substation must be aesthetically pleasing, preferably including recess of the substation below grade with berming and necessarily involving an artist and community involvement process from the start of the design process; that walls must border all sides and must be made graffiti resistant through vegetation on the walls or other aesthetically pleasing means; that native plantings and landscaping must be provided on all sides of the substation consistent with the Midtown Greenway Phase III Conceptual Landscape Plan; and noise must be mitigated so as not to disturb nearby residents of Hiawatha Commons.⁵⁴⁵

The City of Minneapolis recommended that Xcel Energy work closely with City development and review staff on how the substations could be designed so that they don't detract from the surrounding community and that this process include community engagement.⁵⁴⁶ The City would expect reimbursement from Xcel Energy for costs in design review and facilitating community engagement.⁵⁴⁷ Xcel Energy routing lead, Ms. Asah, testified that Xcel would be willing to meet with the City and with neighborhood organizations or the Midtown Greenway Coalition invited by the City to review options for design prior to submitting a plan and design to the OES.⁵⁴⁸ In addition to specific provisions to protect historic resources, replace green space and provide planned infrastructure, the MGC believes that mitigation of the impacts of Hiawatha Project substations requires a design review process involving the City and community to

⁵⁴² FEIS, p. 346; *see also* Ex. 36, p. 31 (Springer Direct); Ex. 206 (Longfellow Mitigation Resolution).

⁵⁴³ Ex. 206 (Longfellow Mitigation Resolution); Hart 11 Vol., pp. 54-55.

⁵⁴⁴ Asah 7 Vol., p. 68.

⁵⁴⁵ Ex. 206 (Longfellow Mitigation Resolution); Hart 11 Vol., pp. 55-56.

⁵⁴⁶ Berkholtz 8 Vol., pp 206-209.

⁵⁴⁷ Berkholtz 8 Vol., p. 209.

⁵⁴⁸ Asah 7 Vol., pp. 60-61.

address concerns such as wall height, wall design, landscaping and berming, lighting, noise mitigation and maintenance.

CONCLUSION

The Hiawatha Project may represent an unusual outcome, but it is not a difficult case. The law and the record overwhelmingly support the relief requested by the Midtown Greenway Coalition. On the basis of the preceding Brief, the MGC Proposed Findings, applicable law and the record in its entirety MGC respectfully repeats our request for the following outcomes:

- A. Should the Commission determine that the transmission lines proposed by Xcel Energy are needed, transmission line Route D underground on East 28th Street should be selected, with an alignment as close to the center of the street as feasible.
- B. The Route D underground transmission line should be identified as a standard facility, and incremental costs of undergrounding should neither be separately identified nor charged to any subset of customers other than Xcel Energy's general Midwest rate base.
- C. Should the Commission determine that the need to accommodate future additional transformers at the Hiawatha Project substations is not established, the Hiawatha substation should be sited on the G-4 site and conditions below pertaining to green space restoration/replacement and trail extension need not apply.
- D. Should the Commission determine in the CON proceeding that the substation configurations proposed by Xcel Energy are needed, the Midtown North and the Hiawatha West sites should be selected under conditions (specified in more detail in the Introduction to this Brief) to ensure:
 1. Construction of the Midtown North substation in compliance with HCRRA Guidelines for the Grade Separation Historic District;
 2. Construction by Xcel Energy of a pedestrian promenade on the northern rim of the Greenway adjacent to the Midtown North substation;
 3. Conformance of the Hiawatha West substation with the footprint and orientation in Exhibit 169B;
 4. Restoration by Xcel Energy of community green space and plantings from north of the Hiawatha substation walls to the Midtown Greenway trails;
 5. Replacement by Xcel Energy of any unavoidably lost green space with suitable green space along the Greenway;

6. Construction by Xcel Energy of a trail extension from the Midtown Greenway to Lake Street on the Hiawatha West site;
7. Design by Xcel Energy of the Midtown and the Hiawatha substations, landscaping and lighting to mitigate impacts using a process that employs an artist and includes City of Minneapolis design review and review by the MGC and affected communities;
8. Investigation by Xcel Energy of distribution reliability deficits raised by Little Earth and repair or replacement of any equipment found to be deficient.

The Midtown Greenway Coalition has greatly appreciated the opportunity to participate in this matter and the consideration that all parties, including Xcel Energy, have extended to members of the public and community representatives throughout these proceedings.

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Respectfully submitted:

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