

City of Wilton



13-474

Box 69
Wilton, Minnesota 56687

December 10, 2013

Public Utilities Commission

In June, a representative from the State of Minnesota and Enbridge Pipeline met with our clerk to bring news of additional pipes needed to bring oil from the North Dakota oil fields to Superior, Wisconsin. They both stated that there would be upgrades to Clearbrook and Deer River. In addition then if that was not sufficient, a new pipe would be added to the existing right of way through the City of Wilton.

Then news of a southern route would be the best choice for the new pipeline. That was not acceptable to many in that area. Now we find new stakes in the eastern part of the City of Wilton and a new map showing another route that could be an option to enable Enbridge to use the power lines corridors. This is not acceptable with the residents of the City of Wilton. We have endured several installations. The last one we held a public hearing receiving objections from the residents. The Enbridge Pipeline Company assured the residents that the new pipes at that time would fill their needs for many years down the road. Now here they are back and opting a new route through the City of Wilton. We will ask you to reject any deviations except through the existing corridor through the City of Wilton. We appreciate that the North Dakota oil has to go somewhere but news yesterday hinted that it was to be shipped by tanker through the Great Lakes that appears to be headed to other countries. As U.S. citizens, we would object to that as well. We need to be vigilant to the environment.

If needed, we could circulate a petition then submit it to show a unified objection from the residents in Wilton to any changes that Enbridge has in its plans.

Thank you for your consideration.

Wilton City Council

Shelly Baker, Mayor Louane Beyer, Clerk Eric Forsyth, Councilmember
Jeffrey Snyder, Councilmember Andrea Haefner, Councilmember, VerNaye
Burford, Treasurer

Louane Beyer, Clerk City of Wilton 218-751-1186 Box 69 Wilton, Mn 56687

Louane Beyer

Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40



June 10, 2014

Larry Hartman
Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul MN 55101

Re: Corrected May 30, 2014 Letter
Extended Comment Period - Application of North Dakota Pipeline Company, LLC for a
Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota
PUC Docket Number: PL-6668/PPL-13-474
ERDB: 20130269

Dear Mr. Hartman:

Please accept the attached resubmittal of the Minnesota Department of Natural Resources (DNR) comment letter dated May 30, 2014 regarding the Application of North Dakota Pipeline Company, LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project. The aerial photograph and map on page 4 has been replaced with an updated map to comply with the security policy of the Pipeline and Hazardous Materials Safety Administration. Please use the enclosed replacement letter in the project record and do not distribute or retain the previous version of this letter. Thank you for your assistance regarding compliance with this security policy and your consideration of our comments.

Sincerely,

A handwritten signature in blue ink that reads "Jamie Schrenzel".

Jamie Schrenzel
Principal Planner
Environmental Review Unit
(651) 259-5115

Enclosure: 1

cc: Scott Ek, Minnesota Public Utilities Commission
Patrice Jensen, Minnesota Pollution Control Agency
Bill Baer, US Army Corps of Engineers
Jeff Gosse, US Fish and Wildlife Service
Sara Ploetz, Enbridge



Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40



May 30, 2014 (Replacement Letter June 10, 2014)

Larry Hartman
Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul MN 55101

Re: Extended Comment Period - Application of North Dakota Pipeline Company, LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota
PUC Docket Number: PL-6668/PPL-13-474
ERDB: 20130269

Dear Mr. Hartman:

The Minnesota Department of Natural Resources (DNR) appreciates the extension of the review period regarding the Pipeline Routing Permit Application for the Sandpiper Pipeline Project. The DNR previously submitted comments dated April 4, 2014. Please consider the following supplemental comments in addition to those submitted April 4, 2014 regarding the Pipeline Routing Permit Application.

Spire Valley AMA and Hatchery

Page 18 of the April 4, 2014 DNR comment letter explains the substantial construction and leak risk concerns regarding crossing Spring Brook in or near the Spire Valley Aquatic Management Area (AMA). As explained in more detail in the April 4, 2014 letter, this area includes a trout stream and a uniquely located, highly valuable, and sensitive fish hatchery. Due to a shallow artesian aquifer, the DNR is concerned that construction in this area may intercept the aquifer, causing a possible loss of flow to the hatchery. As previously described, it is not acceptable for a loss of flow to occur, even for a few hours.

The Spire Valley Aquatic Management Area (AMA) is also federally funded by Dingell-Johnson Sport Fish Restoration funding administered by the United States Fish and Wildlife Service (USFWS). The DNR must receive federal approval prior to issuing a License to Cross Public Lands and Waters for this area and any other state administered land crossing with federal funding. Obtaining a DNR License to Cross Public Lands and Waters in areas requiring federal approval requires a considerably longer review period, as previously described on page 28 of DNR's April 4, 2014 letter. Due to the sensitive nature of this crossing, additional review information may be required compared to other federal approvals, including possibly the need for an Environmental Assessment and the associated process time.

To address concerns regarding the Spire Valley AMA, the DNR met with representatives from the North Dakota Pipeline Company, LLC (NDPC) and discussed information needs and possible solutions. The DNR appreciates the thorough coordination occurring with the project proposer regarding this topic. In order to assess the depth to the aquifer, potential project



impacts, and necessary mitigation measures (including alternative routes) near the Spire Valley AMA; the DNR is working with NDPC to carefully plan geotechnical borings in a manner that will not impact the aquifer. The DNR issues temporary leases for this type of data collection.

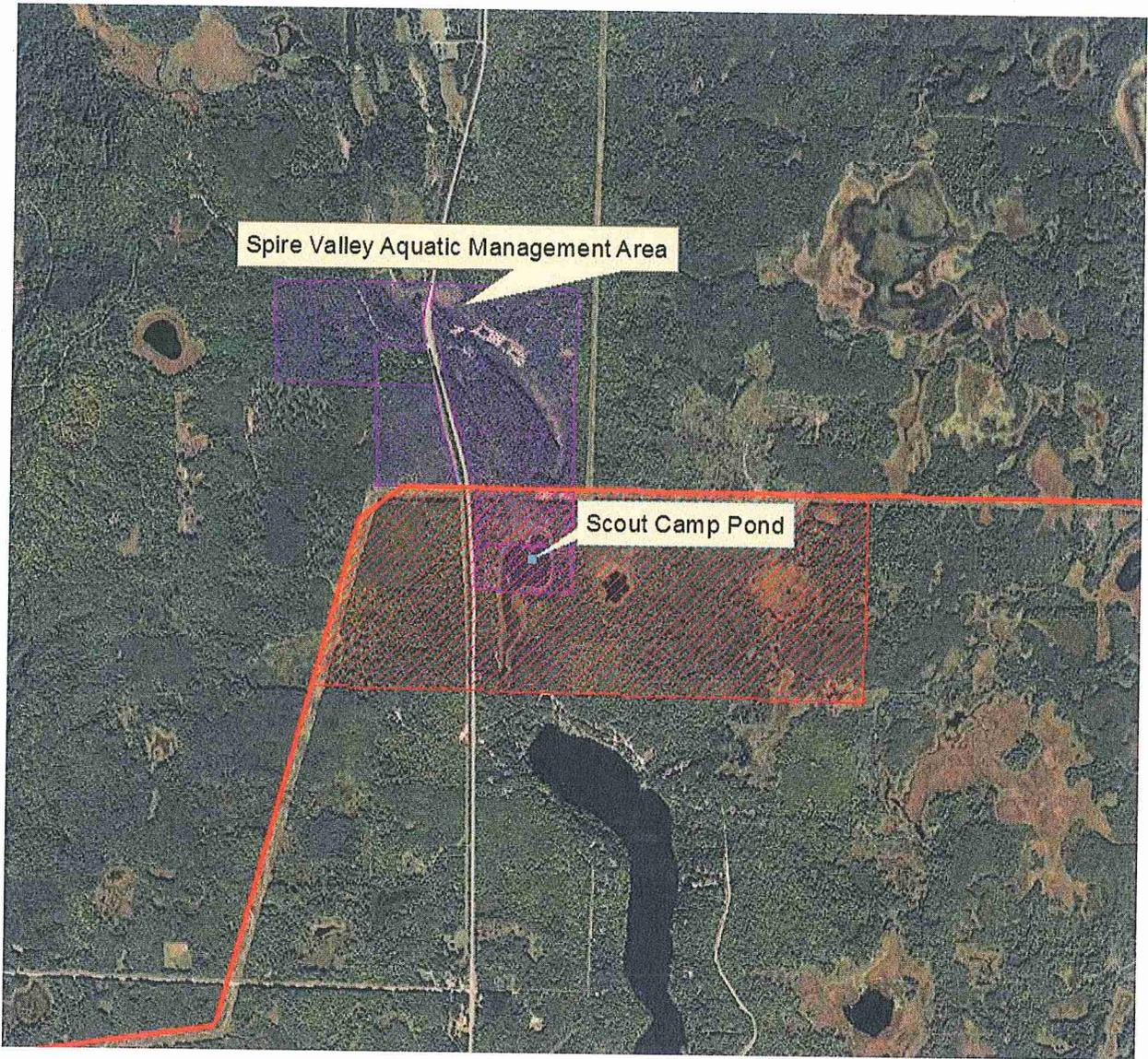
Until more investigation is completed and more engineering options are considered, there is uncertainty about the feasibility of constructing through this area. Therefore, the DNR recommends including the additional routing options described below in the CEA. Routing through this Lake Country region of the state is challenging and many options were considered before recommending route ideas for further analysis. It is important to also thoroughly explore creative engineering solutions through the AMA. For example, the CEA should clarify whether the pipeline could be buried above ground with a tunnel for the trout stream to avoid trenching the trout stream or puncturing the artesian aquifer with horizontal directional drilling.

Additional Routing Alternatives

Until reviewing the CEA, the DNR *does not* advocate or support one route over another. After reviewing the CEA, the DNR may identify routing with less natural resource impacts to assist with the natural resource element of the routing criteria the PUC considers for a routing decision. We encourage, and look forward to learning from, a comparison of these routing alternatives with a variety of proposed routing alternatives from NDPC, public commenters, organizations, and government agencies to best inform the Pipeline Routing Permit decision.

Spire Valley Route Widening Alternative

The DNR recommends widening the route width to be analyzed in the CEA approximately one half mile to the south along the Preferred Route at the crossing of Spring Brook at the Spire Valley AMA. Routing just south of Scout Camp Pond may help buffer possible hydrologic impacts to the Spire Valley hatchery due to construction activities. Though this would increase greenfield routing and forestry impacts, added flexibility is needed in this area to address substantial fisheries concerns. Note that there is limited geotechnical data currently available in the vicinity of the AMA. It is possible this route width increase may not fully address concerns regarding impacts to the hatchery. More investigation is needed.

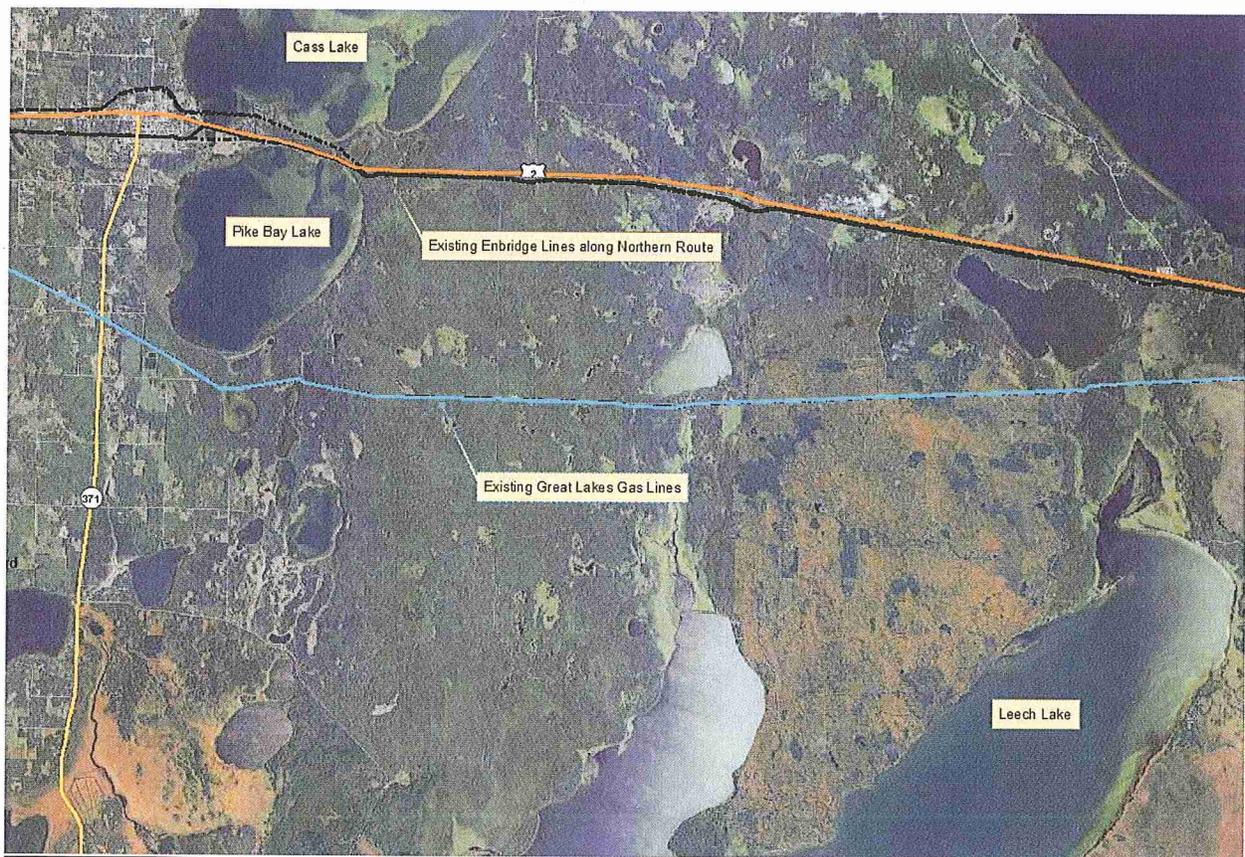


Spire Valley Aquatic Management Area

Scout Camp Pond

Great Lakes Gas Lines Alternative

Page 3 of the April 4, 2014 DNR comment letter recommended analysis of the “Northern Route Alternative” in the CEA. The Northern Route would avoid the Spire Valley hatchery. A nearby corridor of existing Great Lakes Gas pipelines is located in the vicinity of the Northern Route and would also avoid the hatchery and reduce greenfield routing in comparison to the Preferred Route. This corridor would also add flexibility to the project routing process due to its periodic interconnection with the Northern Route corridor, creating various crossover segments for the Public Utilities Commission to consider. The Great Lakes Gas Lines Alternative may avoid some challenges of the Northern Route such as more populated areas and a Superfund site. The DNR recommends analyzing the Great Lakes Gas Lines Alternative corridor in the CEA as depicted in the map below or using other combinations of nearby interconnections.



Third Party Monitoring

Third party environmental construction monitors have been required for previous pipeline and transmission projects. The DNR supports a Pipeline Routing Permit requirement for on-site third party monitors to review construction and restoration activities, considering various overlapping regulations. It has also been helpful when monitors keep agencies regularly updated. For the Sandpiper project the DNR recommends continuing this approach, with the exception of changing the method of hiring and administration of monitors' contracts.

Third party monitor(s) should not be hired by NDPC or Enbridge, but rather by a state agency such as the Public Utilities Commission (PUC) or Department of Commerce (DOC) or as a state contractor for the PUC or DOC. The position may still need to be funded by the project developer. This recommended separation in oversight is intended to increase the reporting and accountability to state agencies. Also, the DNR is concerned that environmental monitoring for a previous pipeline project ended earlier than all restoration activities. We recommend permitting language that would increase state agency direct control of environmental monitors' work assignments, reporting, and duration of monitoring. Note the distinction between PUC required monitors and various agency monitoring efforts related to permits and licenses other than the Pipeline Routing Permit (e.g. License to Cross Public Lands and Waters). This comment applies to PUC required monitors for the line as a whole.

Federally Funded Areas

As discussed above and in the April 4, 2014 DNR letter, when state lands that are federally funded are crossed, additional approval and process time is needed. For additional detail, please see the list below of locations of federally funded parcels associated with the Sandpiper Preferred Route. There may be more locations associated with alternative routes proposed during review of the Pipeline Routine Permit Application.

Crow Wing Chain WMA (9 parcels)

T139 R33 S32 SENW
T 139 R33 S 32 SWNE -also The Nature Conservancy (TNC) easement
T 139 R33 S32 SENE - also TNC easement
T139 R33 S33 SWNW
T139 R33 S33 SENW
T139 R33 S33 SWNE - also TNC easement
T139 R33 S33 SENE - also TNC easement
T139 R33 S33 NWSE - also TNC easement
T139 R33 S33 NESE - also TNC easement

Spire Valley Hatchery (3 parcels)

T139 R26 S10 NESE
T139 R26 S11 NWSW
T139 R26 S33 SWSW

Lawler WMA

T47 R22 S6 NENW (GL03)
T47 R22 S6 NWNE (GL02)
T47 R22 S6 SWNE

Salo WMA (1 parcel)

T47 R22 S2 NESE

Cumulative Impacts

The DNR previously recommended a robust analysis of cumulative impacts in the Comparative Environmental Analysis (CEA). Since the end of the previous comment period, Enbridge has announced a proposal for an additional pipeline, Line 3, along the Sandpiper Preferred Route. This development increases the importance of assessing cumulative impacts of possible future development such as increased corridor usage and work areas along the Preferred Route.

Resource Agency Coordination

Representatives from the Minnesota Pollution Control Agency, United States Army Corps of Engineers and DNR have met during the review periods for the Sandpiper Application for a Pipeline Routing Permit. The DNR has also met with the Department of Commerce and the United States Fish and Wildlife Service. The DNR appreciates this coordination and supports the efforts of state and federal resource agencies to encourage analysis of topics including accessing various routes in the event of a leak, leak risk analysis, and reducing impacts to wetlands, lakes and streams.

Thank you for the opportunity to provide comments regarding the Sandpiper Pipeline Project. Please contact me with any questions or to set up meetings regarding DNR application input during the preparation of the CEA.

Sincerely,



Jamie Schrenzel
Principal Planner
Environmental Review Unit
(651) 259-5115

cc: Scott Ek, Minnesota Public Utilities Commission
Patrice Jensen, Minnesota Pollution Control Agency
Bill Baer, US Army Corps of Engineers
Jeff Gosse, US Fish and Wildlife Service
Sara Ploetz, Enbridge



Minnesota Pollution Control Agency

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June 24, 2014

Mr. Larry B. Hartman
Environmental Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: Enbridge Sandpiper Pipeline Project - North Dakota Pipeline Company LLC
Pipeline Routing Permit Application, MPUC Docket No. PL-6668/PPL-13-474
Replacement May 30, 2014 Letter with Maps

Dear Mr. Hartman:

On April 14, 2014, the Minnesota Public Utilities Commission (PUC) extended the comment period in the matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project (Sandpiper) in Minnesota. This letter appends the Minnesota Pollution Control Agency (MPCA) letter on this subject, which was submitted to you on April 4, 2014.

We understand the topics open for comment include alternate routes, human and environmental impacts to be studied in the Comparative Environmental Analysis (CEA), and whether any specific methods or mitigation exist to address these impacts that should be studied in the CEA. MPCA's additional comments on these topics include:

- Inspection and monitoring
- Additional items for evaluation in the CEA
- Watershed Restoration and Protection Strategy
- Carbon footprint
- Environmental justice
- Alternate route analysis
- Cumulative impacts

Inspection and Monitoring

On April 16, 2014, Enbridge, doing business as North Dakota Pipeline Company LLC, submitted a proposal to the MPCA regarding independent/third-party environmental monitors for the proposed Sandpiper project. MPCA does not agree that Enbridge should be hiring and directing these inspectors/monitors, but rather that they report directly to a state agency with jurisdiction over the project. The MPCA requests that the PUC require that another agency directly hire independent inspection and monitoring contractors and/or temporary staff to conduct this work under MPCA oversight to be funded by Enbridge.

The structure, work plan, and cost of a monitoring and inspection plan should be determined while the CEA is being prepared. The MPCA and Minnesota Department of Natural Resources (MDNR) staff, who have been working collaboratively on the Sandpiper project, are willing to participate with Enbridge and

participating agencies to develop the appropriate information and mechanism. The mechanisms for this would be worked out among the parties. The payment of the state's reasonable costs should be a provision of the PUC's route permit issued to Enbridge.

Additional Items for Evaluation in the CEA

The MPCA requests that Enbridge complete a Phase I Environmental Assessment (Phase I) of the selected pipeline construction corridor in accordance with the All Appropriate Inquiry (AAI) standard as per the National Environmental Policy Act (NEPA), Title 40, Code of Federal Regulations Part 312. The Phase I is conducted to research and review potential locations of existing/historic dumps, hazardous waste sites, and other environmental concerns. If areas of environmental concern are identified in association with construction of the pipeline, Enbridge should be required to prepare work plans to describe how solid/hazardous waste/contaminated soil and groundwater will be investigated prior to construction, and how impacted areas will be dealt with in accordance with state and local regulations.

MPCA requests that the CEA include a detailed risk assessment regarding the potential for leaks to occur, how much oil might be released, and how this could affect groundwater, surface water, aquatic life, and others. The hydrogeology of the pipeline corridor area should be studied to determine potential fate and transport of a release, and potential vapor intrusion issues if a release occurs in close proximity to human habitation.

Watershed Restoration and Protection Strategy

In 2006, the Minnesota Legislature passed the Clean Water Legacy Act, which required the MPCA to develop an approach to comprehensively monitor and assess the waters of the state every 10 years, and provided one-time funding for that effort. In order to provide long term, consistent funding for Minnesota's clean water efforts, on November 4, 2008, Minnesota's voters passed the Clean Water Land and Legacy Amendment (Legacy Amendment) to the Minnesota Constitution to, in part, protect and restore lakes, rivers, streams, and groundwater. The Amendment imposed three-eighths of one percent sales tax to fund the effort for 25 years. Subsequently, in 2013, the Clean Water Accountability Act was passed by the Minnesota Legislature. This new law requires the MPCA to develop watershed restoration and protection strategies (WRAPS) for each of the state's 81 major watershed units, which correspond to the 8-digit hydrologic unit codes (HUCs). WRAPS include the monitoring and assessment information, as well as land use-based models that demonstrate the source of the highest contributors of pollutants in each watershed. This information is then used to develop strategies to either protect waters that meet water quality standards or restore waters that do not meet standards.

The WRAPS is a collaborative effort that involves the MPCA, the MDNR, the Board of Water and Soil Resources, the Department of Health, the Department of Agriculture, local soil and water conservation districts, watershed districts, the University of Minnesota, industry and business organizations, and the private citizens of Minnesota. WRAPS components are: monitoring and assessment of hydrology and the chemical and biological constituents of water quality, a stressor identification process, total maximum daily loads (TMDLs) and restoration plans for impaired waters, protection strategies for waters that currently meet standards, and a civic engagement process to assist stakeholders with implementing protection and restoration strategies.

While not yet completed, WRAPS are in process in the following major watersheds that the Sandpiper proposal will cross, also identified by the corresponding eight-digit HUCs:

- Grand Marais Creek HUC 09020306
- Red Lake River HUC 09020303
- Clearwater River HUC 09020305
- Mississippi – Headwaters HUC 07010101
- Crow Wing River HUC 07010106
- Pine River HUC 07010105
- Mississippi – Grand Rapids HUC 07010103
- Kettle River HUC 07030003
- St. Louis River HUC 04010201
- Nemadji River HUC 04010301

One of the first tenets of any protection strategy is to avoid impacts where possible. The Sandpiper proposal is not consistent with the protection strategies that are currently in development for these WRAPS, due to the large number of high quality surface waters that lie along the path of the proposed route. Enbridge should participate in stakeholder groups for these WRAPS. Stakeholder groups provide a forum for engaged citizens and interested groups to develop implementation strategies to restore and protect each watershed. The CEA should review and consider how to integrate the strategies into the proposal, or find alternate routes that have less potential for impacting surface and groundwater.

Carbon Footprint – Greenhouse Gas Emissions

The MPCA is concerned about the carbon footprint of a project. The Minnesota Legislature established greenhouse gas (GHG) reduction goals in the Next Generation Energy Act (Minn. Stat. 216H.02). The goals of the Next Generation Energy Act are to reduce greenhouse gas emissions by 15 percent below 2005 levels by 2015, and 80 percent by 2050. Greenhouse gases, upon release to the atmosphere, warm the atmosphere and surface of the planet, and lead to alterations in the earth's climate. The GHG emissions measured and reported in Minnesota include carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), sulfur hexafluoride (SF₆), and two classes of compounds known collectively as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). These GHG emissions result from fuel combustion, the calcination of limestone, the degradation of organic (peats) and mineral soils, permanent land clearing and forest harvesting, and a variety of other sources. Pertaining to this project, source types include stationary and mobile source combustion from construction equipment, emissions from venting, and wetland and forest disruptions.

To track progress with the Next Generation Energy Act reduction goals, the CEA should evaluate the GHG emissions from the project and the impact these emissions may have on the attainment of the state's GHG reduction goals. Alternatives and options to reduce GHG emissions or to offset/mitigate GHG emissions should also be identified in the CEA. In addition, the CEA should evaluate the GHG impacts if this project is not built – specifically, if oil is transported by rail or truck instead of by pipeline.

Environmental Justice

The MPCA works to incorporate environmental justice principles into its projects. Environmental Justice (EJ) involves assuring the fair treatment and meaningful involvement of all persons, regardless of race or income when making environmental decisions. Fair treatment means that no group of people should

bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. Meaningful involvement means: people have an opportunity to participate in decisions about activities that may affect their health and the environment in which they live; the public's contribution can influence the regulatory agency's decision; their concerns will be considered in the decision making process; and, decision makers seek out and facilitate the involvement of those potentially affected.

The proposed route of the Sandpiper Pipeline and other alternate routes may directly affect low income and minority populations. If a pipeline leak or break occurs, adverse impacts could occur in both surface and subsurface drinking water supplies, areas with stands of wild rice important to local Tribes and tribal members, cropland areas, impaired waters, and wildlife management areas among other types of environmental, social and economic impacts. If the Northern route or other alternate routes are chosen, the Sandpiper Pipeline may affect tribal lands.

The CEA should include consideration of EJ issues. The CEA should look at how pipeline construction and operation, and potential problems during each of these phases, may cause disproportionate impacts on low-income or minority populations. In addition, local, state, and federal agencies should engage residents to assure that they are aware of opportunities to participate in the process and understand how their comments and concerns are incorporated into the final draft CEA.

Alternate Route Analysis

The MPCA staff's analysis of the proposed Sandpiper route shows many water body crossings for which there would be very difficult or no access downstream of the crossing to clean up spills in the event of a crude oil release. The lack of possible access to these areas by people and equipment necessary to clean up spills increases the likelihood that an incident could result in significant long-term environmental damage. A failure to account for these possibilities is considered to be a substantial flaw with the currently proposed Sandpiper route.

There are many variables that could be examined when considering the potential for environmental damage in the event of a release. These include: soil types, wetland types, sensitive or endangered species, proximity to aquifers, hydrology, forest types, state park boundaries, proximity to human populations, proximity to areas with stands of wild rice, connectivity of surface waters, and others. However, for purposes of providing a simpler and effective comparison between alternative route proposals that is both visual and quantifiable (within certain limitations that will be discussed in this letter), MPCA staff has elected to compare the routes based on access to potential leak sites for purposes of containment of spills and possible clean up.

To minimize variables and subjectivity for this analysis, MPCA staff opted to identify, using ArcGIS technology, water body crossings that had neither road or traversable upland features within 250 feet of flowages of water (heavily forested areas are not considered for this purpose to be traversable, as trees would have to be removed before equipment could be brought in), or portions of larger wetland complexes that fell within a 2,000 foot buffer of the point where the proposed pipeline route was to cross a stream, lake, or wetland. The 250-foot distance from access point to flowage is somewhat arbitrary. MPCA staff conferred with contractors and engineers who specialize in road construction, and most felt that in a best-case scenario, with aggregate and equipment available, a 250-foot road into a bog or wetland would be constructed within 24 hours. Thus, for purposes of this analysis, MPCA staff

assumed that it is possible to build an access road to reach areas where containment of a spill might be accomplished before the spilled product covers an area large enough that cleanup would be highly destructive to a sensitive environment, or impossible. Similarly, there is no regulatory basis for choosing the 2,000 foot buffer distance, other than it is a significant distance for oil impacts to occur over any surface water and easy to apply consistently statewide. It is a distance that for most people would be easy to visualize, yet small enough to create a fair comparison between routes. These numbers provide a basis for comparisons between routes and have little significance beyond that. However, if these criteria are used consistently for all proposed routes, it does provide a basis to compare the potential for each route to cause considerable environmental damage in the event of a release.

There are some factors to consider that fall beyond the scope of this comparison. For example, the water crossings proposed for the Sandpiper route are frequently streams or flowages with connectivity to other water bodies downstream. By contrast, water body crossings on the Northern route frequently involve very large wetland complexes rather than smaller, faster moving flowages. The area needed to access might be much greater, but the oil may move more slowly in such areas. Counting becomes a bit more difficult here as well, because it is difficult to establish criteria for counting "crossings" that is comparable to the different features observed in the Sandpiper route. In most cases, MDNR catchment flow lines were used to distinguish one crossing point from another.

In any case, the method used as a basis for comparison by MPCA staff does provide quantifiable data to analyze the proposed routes from a meaningful perspective: Which route proposals pose the greatest risk to create destructive and expensive containment and cleanup operations in the event of a spill?

MPCA staff compared four proposed routes in their entirety (see Figure A below). The four proposed routes that were compared were (1) The currently proposed Sandpiper route; (2) The "Northern" route, used by Enbridge for previous projects and which has been suggested as an alternative by other entities; (3) The "Alternative 3" route which was identified as a possible alternative by MPCA staff; and (4) The southern "Alternative 4" route which exits the state at the Iowa border and would be required to tie into the Enbridge infrastructure either in another state, or to circle around outside of Minnesota to end at the Superior Terminal. The fourth route was suggested as an alternative by a citizen group.

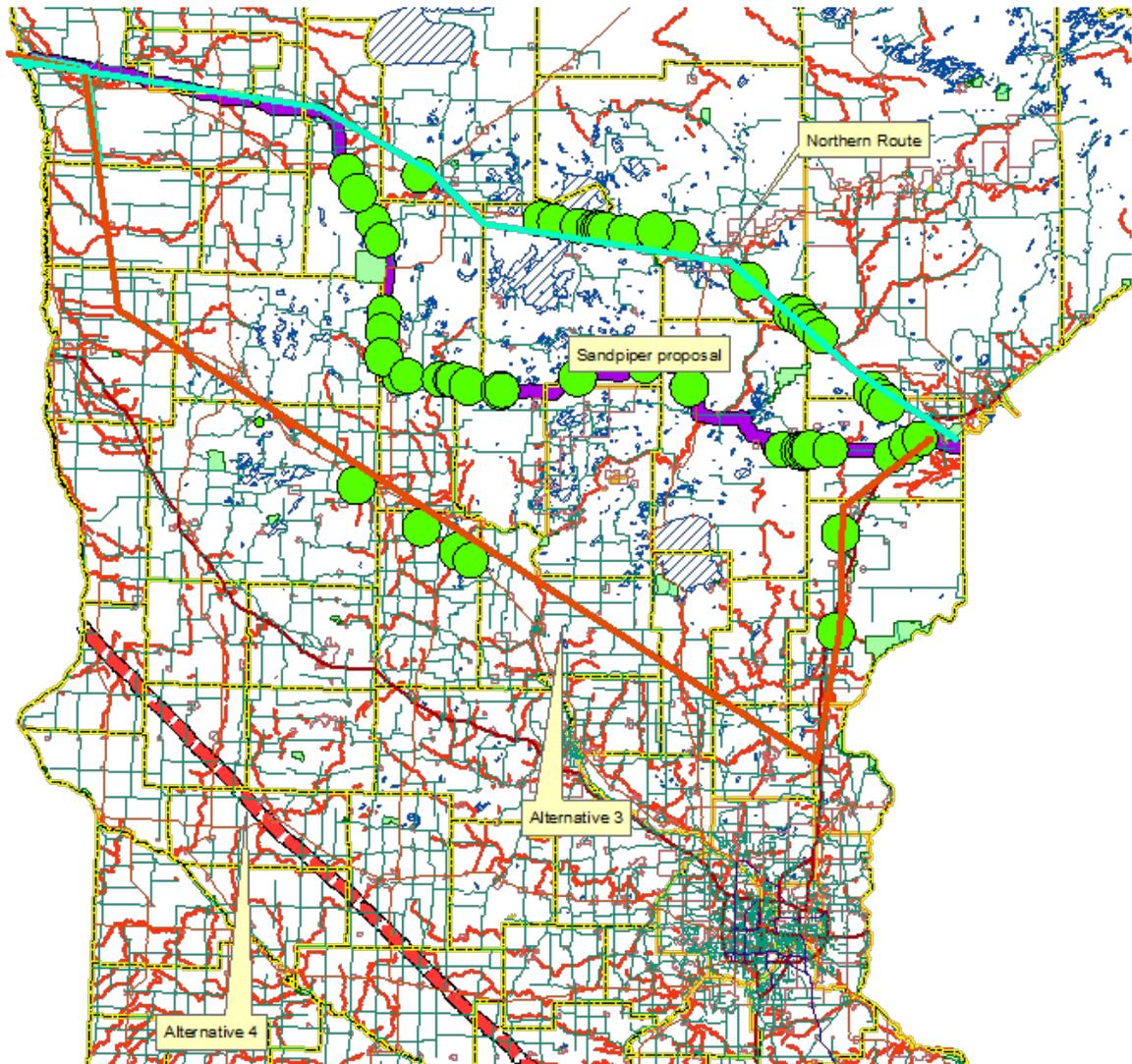


Figure A-The green circles mark points where MPCA staff have identified access concerns. Approximate locations of the four primarily examined proposals are also identified.

Any water body crossing, especially streams, rivers, or flowages of any kind that can carry oil downstream, pose the risk of creating large scale environmental damage in the event of a release. If possible, it is best to avoid crossing surface waters altogether with oil pipelines in order to minimize this risk. However, if a water body, bog or otherwise sensitive area is to be crossed, then serious consideration should be given to whether the site can be accessed quickly in the event of a release to contain the product, minimize migration of product into surface waters, soils and groundwater, and perform clean-up operations. In situations where roads have to be constructed to access a spill, the act of constructing the road, excavating and clearing vegetation can all exacerbate the damage that the spill itself created. Additionally, placement of flow control valves in strategic locations along/near sensitive areas may help to minimize backflow of product out of a fractured line into those areas.

A difficulty with aerial photograph analysis as opposed to field surveying of water crossings is that it is difficult to determine whether a stream or wetland is permanently, seasonally, or intermittently flooded. MPCA staff relied on National Wetland Inventory maps to identify wetland types, which will to

some extent help to determine the likelihood of the wetland having open water at the time of a leak, which would allow transport of released oil to occur more quickly, or merely be in a state of saturated soil, which would result in easier and faster containment and cleanup of a spill. The results of the MPCA staff analysis are as follows:

Sandpiper Route

The proposed Sandpiper route crosses 28 water bodies for which there is no access for possible containment within 2,000 linear feet downstream of the proposed pipe crossing. Of these 28 water body crossings, one is a stream to lake system, 12 are wetland complexes, 10 are streams that flow to wetland systems, and five are streams that flow to areas with stands of wild rice. Below is a list of the water body crossings for this route option, followed by example Figures B and C:

NAME of ROUTE	TOWNSHIP NAME	LOCATION (TWP/RNG/SEC)	LOCATION of AREA
Sandpiper Route	Mahtowa	T47 R18W S8	Moose Horn River
Sandpiper Route	Salo	T47 R22W S1	Headwaters Sandy River
Sandpiper Route	Salo	T47 R22W S2	Headwaters Sandy River
Sandpiper Route	Automba	T47 R21W S6	West Branch River
Sandpiper Route	Salo	T47 R22W S6	Headwaters Sandy River
Sandpiper Route	Automba	T47 R21W S6	West Branch River
Sandpiper Route	Automba	T47 R21W S1	Heikkila Creek-Kettle River
Sandpiper Route	Atkinson	T48 R18W S36	Blackhoof River
Sandpiper Route	Copley	T147 R37W S34	Walker Brook
Sandpiper Route	Moose Creek	T146 R36W S29	Upper Rice Lake-Wild Rice River
Sandpiper Route	Bull Moose	T138 R31W S12	Headwaters South Fork Pine River
Sandpiper Route	Bull Moose	T138 R31W S11	Headwaters South Fork Pine River
Sandpiper Route	Bull Moose	T138 R31W S11	Headwaters South Fork Pine River
Sandpiper Route	Arago	T141 R35W S17	Hay Creek
Sandpiper Route	Northwest Aitkin	T50 R26W S22	White Elk Creek
Sandpiper Route	McKinley	T138 R32W S3	Goose Lake-Big Swamp Creek
Sandpiper Route	McKinley	T138 R32W S4	Goose Lake-Big Swamp Creek
Sandpiper Route	Crow Wing Lake	T139 R33W S36	Burgen Lake
Sandpiper Route	Crow Wing Lake	T139 R33W S36	Burgen Lake
Sandpiper Route	Crow Wing Lake	T139 R33W S33	Town of Huntersville-Crow Wing River
Sandpiper Route	Straight River	T139 R35W S36	Blueberry Lake-Shell River
Sandpiper Route	Blind Lake	T139 R28W S26	Arrowhead Lake
Sandpiper Route	Hubbard	T139 R34W S31	Shell River
Sandpiper Route	Beulah	T139 R25W S9	Moose River
Sandpiper Route	Straight River	T139 R35W S6	Straight River
Sandpiper Route	Bear Creek	T145 R36W S35	Gill Lake-Mississippi River
Sandpiper Route	Todd	T140 R35W S6	Fishhook Lake
Sandpiper Route	Lake Hattie	T144 R35W S19	LaSalle Lake-Mississippi River

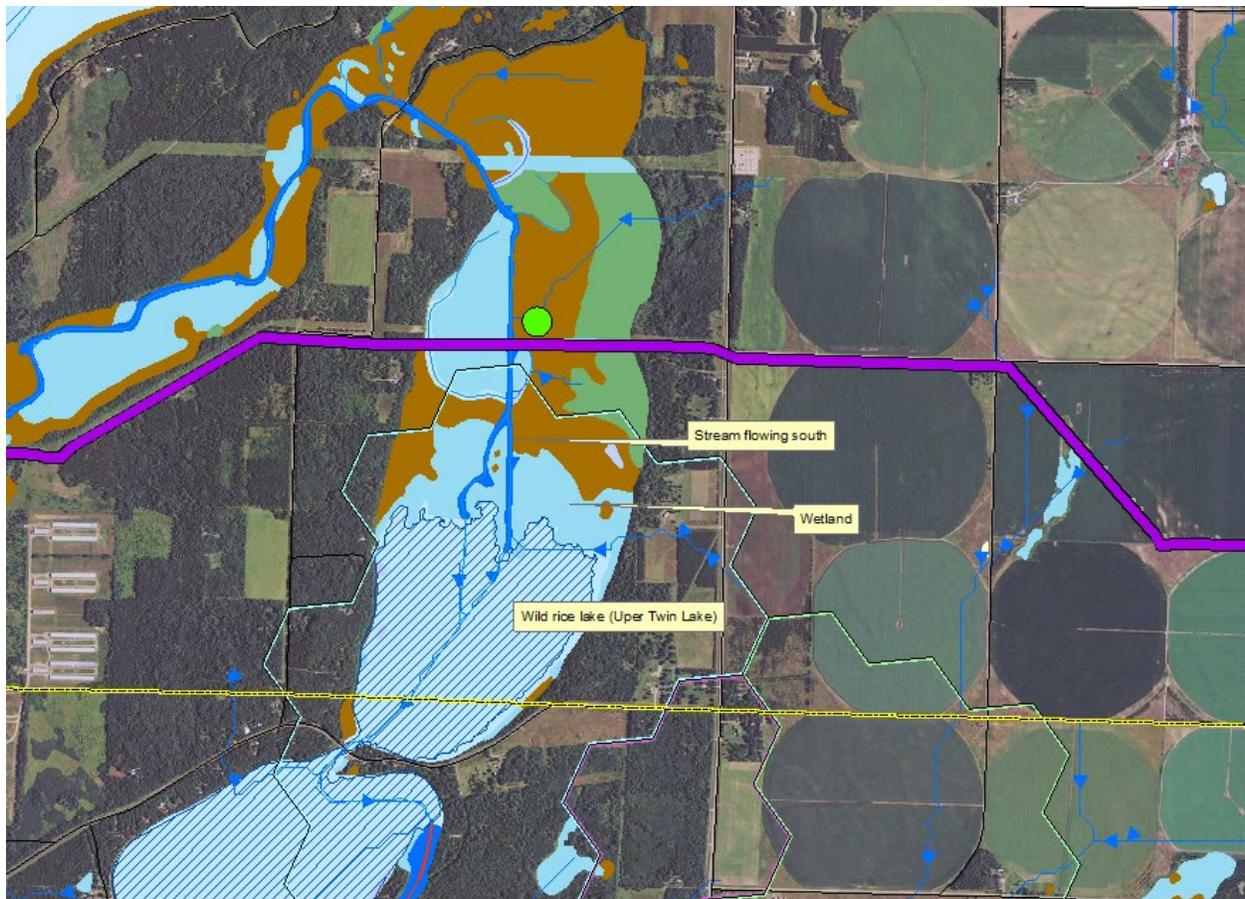


Figure B - This shows an example of a proposed crossing point over surface water that flows south (see arrows on dark blue flowage line) through a wetland complex and into a wild rice lake (the Twin Lakes near Menahga and Park Rapids, MN). However, to determine accessibility, the wetland identification layer must be turned off so that land features can be examined as in Figure C below. The purple line is the proposed Sandpiper route. (Scale 1:24,001)

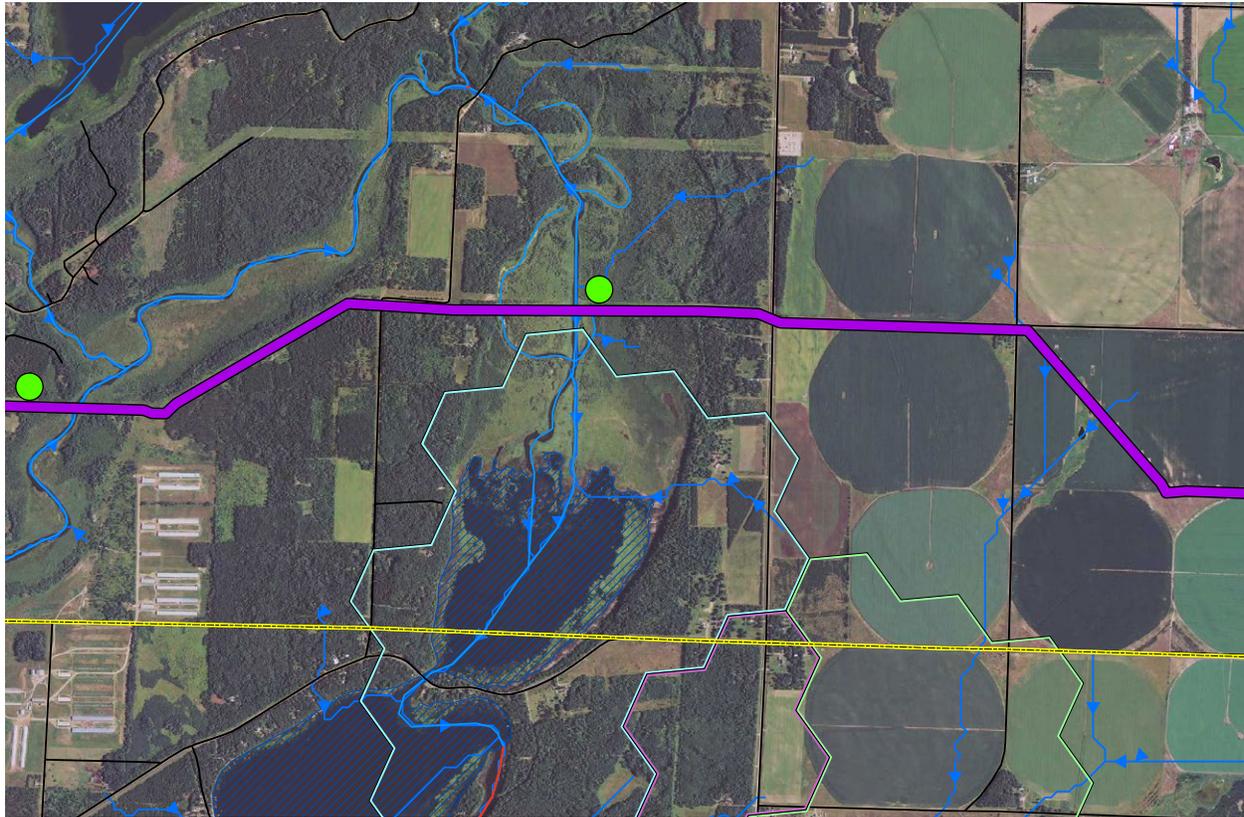


Figure C-Here, the wetland layer is turned off so that the landscape can be examined for accessibility. In this instance, there are no roads or open farmland to bring containment or clean-up equipment within 1,500 feet of the flowage that would potentially deliver leaked crude oil into the upper most of the Twin Lakes. The curvy black line between the lakes is a road, and the first good point of access. This road is 6,700 feet from the pipeline crossing, although it is possible that boats or barges could access the lake from the farm fields to the right (east) or the road (black line) to the left and contain a spill within the lake. (Scale 1:24,001)

Hill Route

The "Hill route alternative," suggested by the MDNR as a way to avoid features of concern, would not differ from the proposed Sandpiper route based on the criteria discussed here.

Northern Route

The Northern route, which parallels the path of the Alberta Clipper project, crosses 20 water bodies for which there is no access within 2,000 feet downstream of the location where crossings would occur if the route were followed. Along the Northern route, water bodies without access to potential leak sites within 2,000 feet include one stream that flows to a lake, 14 wetland complexes, five stream/wetland systems, and two streams or wetlands that flow to areas with stands of wild rice or wetlands. Below is a list of the water body crossings for this route option, followed by example Figures D and E:

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NAME of ROUTE	TOWNSHIP NAME	LOCATION (TWP/RNG/SEC)	LOCATION of AREA
Northern Route	Pot Shot Lake	T52 R21W S8	Floodwood River
Northern Route	Northeast Aitkin	T52 R22W S1	West Branch Floodwood River
Northern Route	Wawina	T53 R22W S27	West Branch Floodwood River
Northern Route	Deer Lake	T56 R26W S29	Mississippi River
Northern Route	Bowstring Lake	T144 R26W S3	Little Winnibigoshish Lake-Miss. River
Northern Route	Morse	T145 R25W S35	White Oak Lake-Mississippi River
Northern Route	North Cass	T145 R27W S35	Sixmile Brook
Northern Route	North Cass	T145 R27W S34	Sixmile Brook
Northern Route	North Cass	T145 R27W S34	Sixmile Brook
Northern Route	North Cass	T145 R27W S33	Sixmile Brook
Northern Route	North Cass	T145 R28W S26	Sixmile Brook
Northern Route	Wawina	T53 R22W S28	West Branch Floodwood River
Northern Route	Blackberry	T54 R24W S13	Blueberry Lake-Mississippi River
Northern Route	North Cass	T145 R29W S24	Portage Creek
Northern Route	North Cass	T145 R29W S20	Portage Creek
Northern Route	Wilton	T147 R34W S34	Grant Creek
Northern Route	Pot Shot Lake	T52 R21W S22	Floodwood River
Northern Route	Perch Lake	T49 R18W S7	Perch Lake
Northern Route	North Carlton	T49 R19W S1	Stoney Brook
Northern Route	Arrowhead	T50 R19W S27	Bog Lake



Figure D-With NWI wetland layer turned on, one can see wetland extending well beyond the 2,000 foot buffer at this crossing along the "Northern" route. The purple is bog, the green is forested wetland. In Figure E below the wetland layer is turned off so that accessibility to a potential leak here can be determined. (Scale 1:24,001)



Figure E- With the wetland identifying layers turned off, one can see that there are no roads or upland areas from which to access potential leak sites at this crossing. There is a possible access point identified to the southwest of the pipeline crossing, but containment equipment would have to be strung across over 3,000 feet of wetland as it flows into the lake to contain all of a release as it flows to the south. (Scale 1:24,001)

Alternative 3 Route

The Alternative 3 route corridor, which was referenced earlier in the letter, begins at the same western point that both the Sandpiper and Northern routes do; however, roughly 20 miles west of the North Dakota border it veers south and follows an existing (possibly abandoned) pipeline south and then southwest to roughly five miles west of North Branch, Minnesota, where it then follows another corridor in a northerly direction, where it eventually intersects with the proposed Sandpiper route just west of Superior, Wisconsin. This route has 7 water body crossings with no access within 2,000 feet downstream of the pipe crossing; however, these water bodies are often smaller wetland complexes than are seen on either the Sandpiper route or the Northern route. These crossings without access within 2,000 feet

include two wetland complexes, four stream/wetland systems, and one area with stands of wild rice. Below is a list of the water body crossings for this route option, followed by example Figures F and G:

NAME of ROUTE	TOWNSHIP NAME	LOCATION (TWP/RNG/SEC)	LOCATION of AREA
Alternate Route 3	Mission Creek	T40 R21W S12	Mission Creek
Alternate Route 3	Fawn Lake	T132 R32W S34	Lower Turtle Creek
Alternate Route 3	Fawn Lake	T132 R32W S19	Fish Trap Creek
Alternate Route 3	Kettle River	T44 R20W S8	City of Willow River-Kettle River
Alternate Route 3	Bartlett	T133 R34W S23	Moran Creek
Alternate Route 3	Compton	T134 R36W S5	Deer Creek-Leaf River
Alternate Route 3	Twin Lakes	T48 R17W S21	Blackhoof River

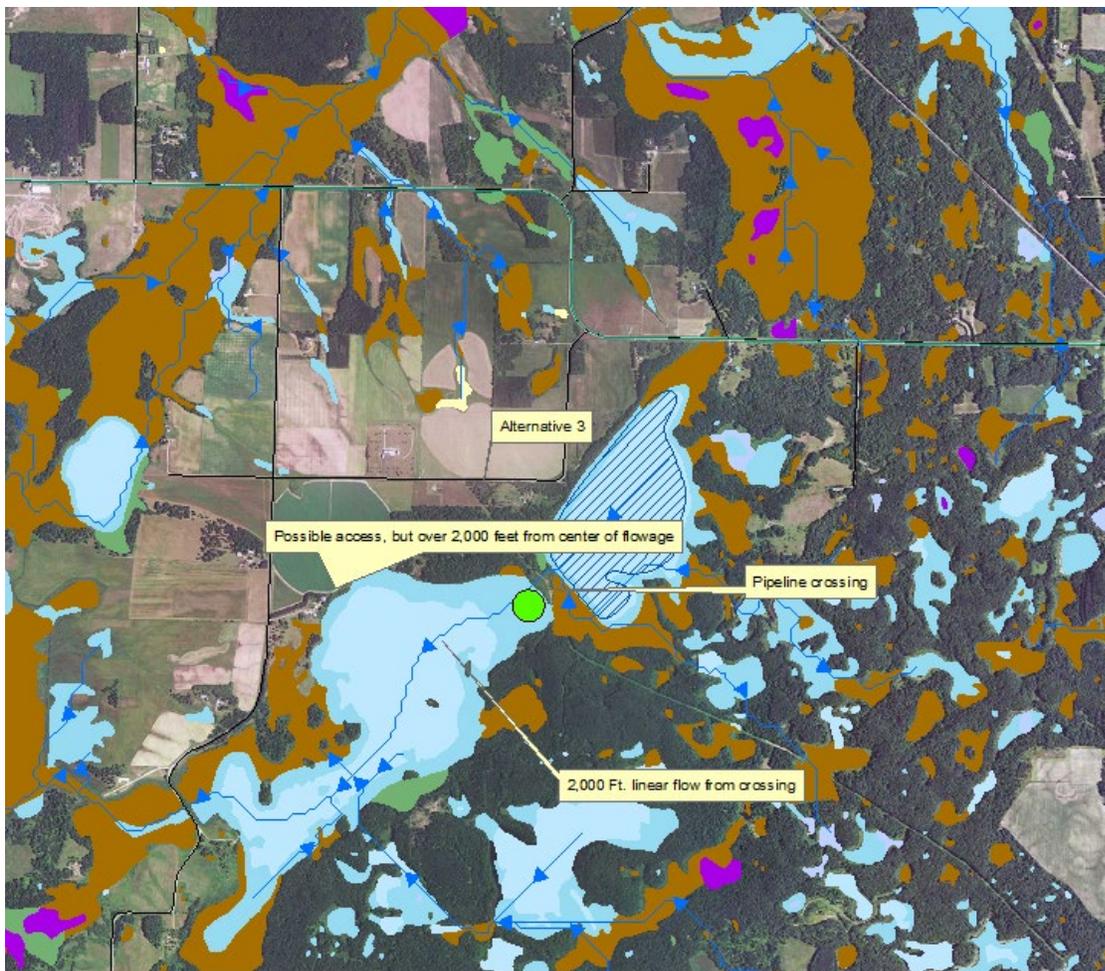


Figure F - Wetland layer identifies an open water wetland south of the pipe crossing that would likely receive oil from a leak. Wetland layer turned off in Figure G below. (Scale 1:24,001)

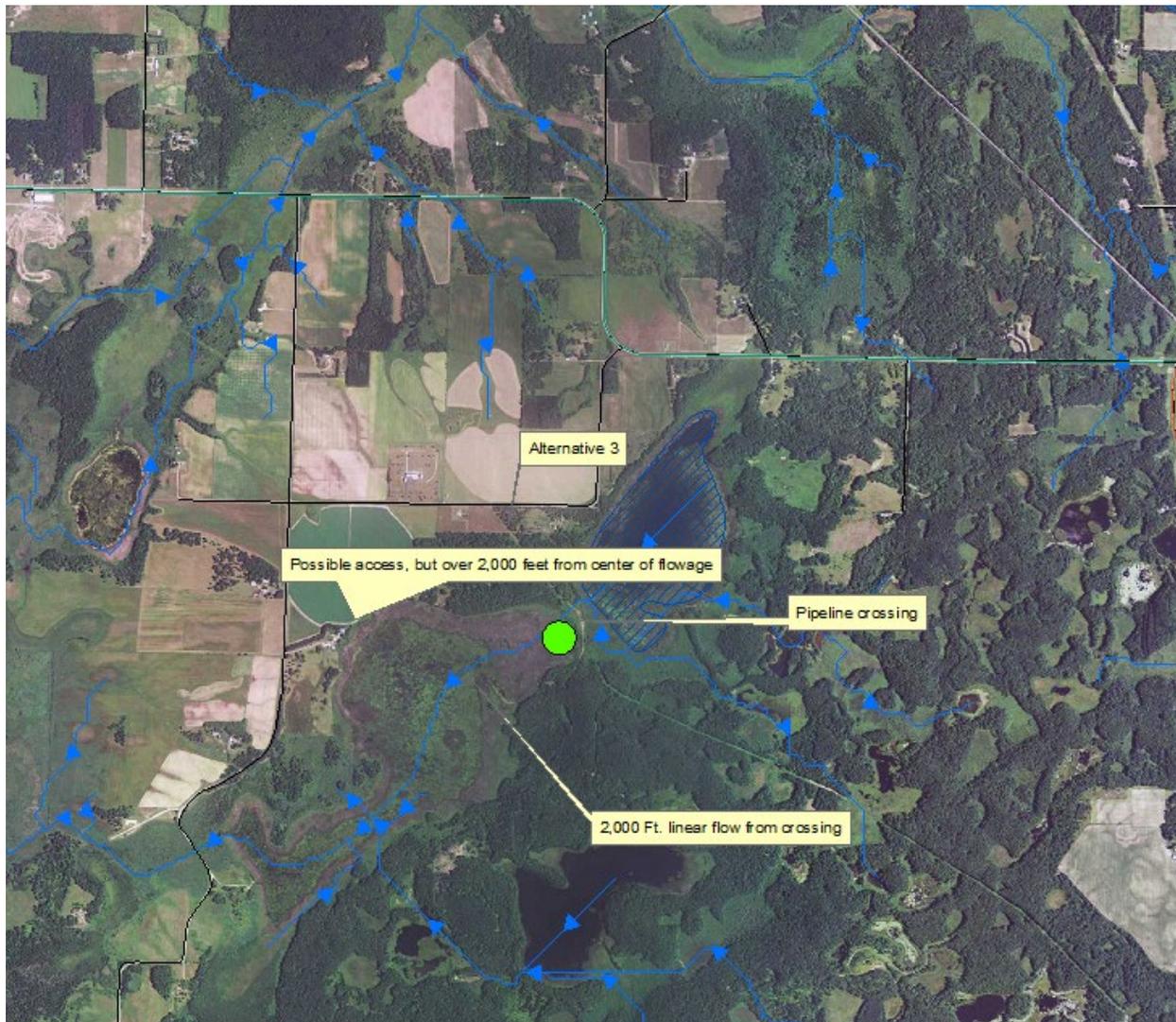


Figure G-With wetland layer turned off, one can see that the nearest access to the main stem of the flowage is roughly 2,000 feet to the west. If the wetland is traversable by boat or barge, which is possible given the wetland type (Type 3/5 shallow marsh and open water) then it is possible that access to material could be gained within the 2,000 foot buffer here. (Scale 1:24,001)

Alternative 4 Route

The Alternative 4 corridor enters the state in Traverse County just west of Wheaton, Minnesota, and runs to a southeast bearing until it exits the state south of Austin, Minnesota. A pipeline along this route would cross no water bodies lacking access within 2,000 feet of a potential leak site in surface water. There are very few water bodies crossed by this route in general over the proposed route.

National Hydrography Dataset

Even if access issues are taken out of the equation, the proposed Sandpiper route does not fare well in comparisons with alternative proposals based on examination of the National Hydrography Dataset

(NHD) layer. Using the NHD layer, the proposed Sandpiper route would cross 20 water bodies, the Northern route would cross 10, the Alternative 3 route would cross 12, and the Alternative 4 route would cross 1 water body within the state of Minnesota. The NHD layer obviously does not identify all water bodies that are being crossed; however, it does identify water bodies that are part of a connected network of surface waters which may also be a good gauge of potential environmental impact if an incident were to occur.

Notably, the two routes in this analysis that crossed the fewest water bodies and put water resources at the lowest risk for environmental damage both aligned away from the Clearbrook terminal. Perhaps the most problematic aspect of the design of this proposed route is the continued expansion of terminal capacity at the Clearbrook location. Any pipelines that are built to transport material out of the Clearbrook terminal are forced to enter the largest concentration of lakes, streams, and open-water wetlands in the state. Any route proposed out of Clearbrook, either south or east will cross dense expanses of open waters. A northern to eastern route from Clearbrook would cross massive wetland complexes and areas with stands of wild rice. If future, new terminals, were to be constructed in western Polk (could collect from Canada or North Dakota), Kittson (could collect from Canada or North Dakota) or even Clay counties (North Dakota) the creation a route proposal that avoids the greatest concentration of surface waters becomes feasible.

Summary of Route Analysis

There are numerous pipeline corridors that currently exist in Minnesota. Of those, there are several that cross far fewer water bodies and have better potential for access in the event of a release than the current Sandpiper proposal. MPCA staff examined three existing corridors in addition to the proposed Sandpiper route. While performing risk assessment, the current use of the corridors in question should also be considered, as much of the proposed Sandpiper route follows a corridor in which three other oil pipelines currently exist. Thus, not just one pipeline would be crossing sensitive water bodies with limited access, but four. The likelihood of an incident in which crude oil product is released is thus greater than what a single pipeline would entail. This is also true of the Northern route, in which numerous pipelines carrying crude oil exist. What has happened in the past with regard to location of pipeline routes is from this perspective unfortunate; MPCA staff believes that past routes have crossed too many water bodies in inaccessible areas, and the risk of large-scale impact as a result of a release incident is significant and ongoing. As this analysis shows, options posing a lesser risk to surface waters may be available.

Of the four possible routes that MPCA staff has examined, the proposed Sandpiper route and the previously followed Northern route show a significantly higher potential for environmental damage than either the Alternative 3 or Alternative 4 routes. It is also possible that an as-yet unexplored route could also score well relative to the Sandpiper proposal. The analysis of the Alternative 4 route is incomplete in that possible impacts outside of the Minnesota state boundaries were not looked at, so the surface waters avoided or protected by this route are only located in Minnesota per this analysis. It is also acknowledged that the MPCA staff analysis focused on the potential water quality and natural resource aspects of the project and not on other types of resources or land uses.

Nevertheless, the criteria adopted for this analysis show a clear difference in potential risk to surface waters between the Sandpiper proposal and other possible routes, and that in the event of a significant

oil release, the Sandpiper route proposal has a significantly greater potential for large-scale environmental damage than other route proposals.

It is important to note that the construction of accesses through sensitive "no access" areas as a preventative measure can also create environmental hazards and damages and cannot be assumed to be an acceptable remedy. Rather, route proposals put forth now and in the future should take these factors into consideration and avoid continuing to cross surface waters at these locations. The minimization of surface water crossings in any location should become a priority for consideration when planning a route to construct a pipeline.

Cumulative Impacts

The NEPA, Title 40, C.F.R. 1508.7, defines cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

The cumulative impacts review in the CEA should include current and proposed transmission line corridors, highway construction, water delivery systems, landfills, railroads, power generations plants, feedlots, and mine and mineral extraction sites which have the potential to interact with the proposed project. The CEA should also review the potential for significant cumulative effects related to past, present and future projects in the Duluth/Superior area involving increased transmission, storage, processing or refining activities, including the expansion of the Calumet Superior Refining facility in Superior, Wisconsin, or transportation of oil, fuels or products refined or manufactured from oil. Areas in which such impacts could occur include air quality in Duluth and the surrounding area in Minnesota, water quality as related to new or increased discharges or shipping activities, and transportation whether by truck, rail or ships.

The CEA should identify the impacts of past incidents associated with pipeline construction and operation, past incidents involving two or more associated utility lines, accidents or emergencies which may arise due to an unforeseen chain of events during the operational life of the pipeline, and effects within the project limits, and local and regional effects. Cumulative impacts may occur to:

- Human activities, such as recreation, agriculture and loss of prime farmland
- Wildlife including migratory birds and aquatic species
- Habitat and alterations to terrestrial vegetation
- Endangered species
- Air quality, including dust (particulate matter) and visual impacts
- Land values
- Watersheds
- Local and state socioeconomics

According to data provided by the Pipeline and Hazardous Materials Safety Administration (PHMSA), to date, there are 2,408 miles of crude oil pipeline in the state of Minnesota. More are planned within the next few years. Much of this infrastructure exists in corridors shared by several other pipelines carrying liquefied petroleum gas, natural gas, diluent for tar sands oil, refined petroleum product and other

hazardous materials. In total, there are 10,475 miles of pipeline through the state. According to PHMSA, over the last 20 years, there has been an average of 14 spills from pipelines per year in Minnesota, an average of 1,812 barrels of hazardous liquids spilled per year in Minnesota, an average of 1,093 net barrels lost per year in Minnesota, and an average of \$3,135,572 of property damage annually in Minnesota. Five lives have been lost as a result of pipeline incidents.

The MPCA has numerous concerns about the number of pipelines planned to use the same corridors. With each water body crossed by a pipeline carrying crude oil, the risk of a major incident increases. A cursory review of the PHMSA web site identifies apparent causes of pipeline failure to include: incorrect operation, equipment failure, internal and external corrosion, third party damage (excavation), construction damage, material failure (pipe, fitting, weld), weld leak, and other unknown causes. For example, at the site of the Enbridge pipeline release in Marshall, Michigan, the National Transportation Safety Board found "that deficiencies in Enbridge's integrity management (IM) program contributed to the release of hazardous liquid..." (Federal Register, Volume 79, No. 87, Tuesday, May 6, 2014 (25990 – 25994)). See also Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release, Marshall, Michigan, July 25, 2010 (NTSB/PAR-12/01, PB2012-916501). Ultimately, the perspective should not be if a pipeline fails, but how will a release be mitigated when a failure occurs and at any given location (and the environmental susceptibility of that area to a release).

As explained above, MPCA examination of the proposed Sandpiper route and the previously used Northern route (Alberta Clipper) shows that significantly more open water bodies are crossed by the pipelines in these corridors than alternative routes. Far more of these crossings have no available access within a 2,000 foot buffer, meaning that release incidents are more likely to impact surface waters within that 2,000 buffer. Both the Sandpiper and Alberta Clipper routes are corridors for numerous crude oil pipelines; consequently, these routes are more vulnerable and less able to properly mitigate damage to aquatic environments. Whereas oil does travel through soils and overland, it travels significantly farther in aquatic environments.

Pipeline construction will involve soil excavation, vegetation removal, the crossing of water bodies, and the alteration or loss of wildlife habitat. These activities and the creation of new corridors can result in forest fragmentation affecting numerous species of wildlife that require expanses of undisturbed forest. Wetland perches may be broken causing alteration of natural hydrology in wetland areas, and stream geomorphology can be altered by damaging banks or stirring up stream bottoms. Herbicides used to control vegetation in pipeline corridors may adversely affect pollinators, particularly honeybees, resulting in hidden impacts that are difficult to trace, but nonetheless exist.

The construction, operation, maintenance, incidents and repairs associated with crude oil pipelines have been accompanied by significant environmental impacts. With more proposals in the works, more cumulative impacts can be expected to occur. Therefore, concerted effort is needed to take a close look at and carefully analyze the creation of common routes and corridors for pipeline projects where the risks of impacts to the environmental and human health can be minimized. The routes that have been used in the past pose substantial risks as noted above. Continuing to open more corridors will increase these risks and impacts. The MPCA would support and participate in a joint effort by state agencies to begin examining the feasibility of such a corridor, both for the purpose of expediting approval of future proposals and minimizing the potential for environmental impacts. A fresh look at the routing of energy transportation projects from a larger and more comprehensive perspective has the potential to make a

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significant contribution to streamlining the review and permitting processes as well as preventing and minimizing cumulative impacts.

Conclusion

It is requested that the comments provided in this letter and MPCA's letter dated April 4, 2014, be entered into the record to be addressed in the Draft CEA. We continue to look forward to assisting the Department of Commerce, as desired, during the preparation of the CEA for this project and its subsequent review upon its release. Through this process, the MPCA seeks to obtain further additional information to facilitate the MPCA staff review of the Project, well in advance of the time a decisions on the required MPCA authorizations are needed to commence construction. Ultimately, it is the responsibility of North Dakota Pipeline Company LLC to secure any required permits and to comply with any requisite permit conditions. If you have any questions, please contact me at 651-757-2465.

Sincerely,



Patrice Jensen
Planner Principal
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PJ:bt

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