

# Minnesota Department of Natural Resources

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April 21, 2008

Administrative Law Judge Eric Lipman  
Office of Administrative Hearings  
100 Washington Square, Suite 1700  
Minneapolis, MN 55401-2138

RE: Application for Pipeline Routing Permit for the Alberta Clipper and Southern Lights Diluent Projects.  
PUC Docket NOs PL95/PPL-07-361

Dear Judge Lipman:

Thank you for the opportunity to comment on the Enbridge Pipeline Routing Permits. The Public Hearing Notice states that written comments should focus on the impacts the projects' site preparation, construction, and restoration will have on humans and the environment, and methods to minimize or mitigate those impacts. This letter identifies potential natural resource impacts associated with the projects, and recommends available mitigation and environmental management for inclusion as pipeline routing permit conditions.

## Potential Environmental Impacts

### General Comments

1. *Comment on the "Comparative Environmental Analysis of the Route Alternatives for the Alberta Clipper and Southern Lights Diluent Projects," March 11, 2008. (Referred to below as the Enbridge CEA.)*

DNR sees major problems with this document, and does not feel it is an actual environmental analysis. The CEA lists 15 alternatives that are deviations from the route filed in June 2007. The CEA also includes tables purporting to compare the routes in the first filing with the new proposed routes. There is frequent use of the term "substantially similar" in the comparison tables. DNR has examined many of these tables and the route locations, and have concluded these comparisons, with respect to natural resources, are based on flawed methodology and are essentially completely unreliable. The June filing contained *generic* information about the pipeline corridor, as does the CEA. Only *site-specific information* about natural resources can be used to objectively compare the 15 route alternatives found in the CEA.

This point is actually made in the CEA by Enbridge at Tab 15, page 84 - 85 when discussing the route width expansion for the Mississippi River near MP 986. Enbridge indicates, "If an alternate alignment within the route width is selected, the appropriate environmental surveys will be performed and reported and/or filed with the required agencies and departments as required ... a change in alignment, if any, will be supported by a complete environmental assessment, an approved mitigation plan and approval from all necessary environmental permitting agencies." (page 84.)



The point is that this reasoning applies to all 15 of the route changes, not just the Mississippi River area. We note the numerous problems with these comparisons in our comments on the site-specific sections below.

DNR commented extensively on differing route alternatives in our letter of October 8, 2007, asking for an assessment and comparison of 18 different route choices. Thirteen of these were east of Clearbrook. We have looked at the Enbridge CEA and it does not adequately address the environmental issues in enough detail to accomplish a comparison of the alternatives based on environmental issues, as required by the pipeline regulations.

2. *Lack of information regarding natural resources and potential impacts.*

Enbridge has failed to supply information in a timely manner on this project. The Enbridge corridor east of Clearbrook suffers from a lack of site-specific information suitable for determining route and centerline location, and appropriate mitigation measures.

3. *Site-specific plans need on most river crossings east of Clearbrook.*

The Enbridge pipeline corridor from Clearbrook east to Wisconsin is substantially different from the most of the corridor west of Clearbrook. West of Clearbrook, the terrain is flat in many locations and most of the route is agriculture land. East of Clearbrook, the terrain is steeper, and there are many more locations with sensitive fish, wildlife, and ecological features, rare species and communities close or along the corridor.

Therefore, in most cases, Enbridge should submit a site-specific plan covering the river crossings and adjacent sensitive areas. This segment length will be variable, since river corridors and associated fish and wildlife habitat are variable. The segment should encompass the floodplain, wetlands adjacent to the river, and upland vegetation and wildlife habitat associated with the river corridor. Typically, this would be at least several hundred feet in length and substantially longer in some locations. The site-specific plan should include measures indicating necked-down right way, staging areas used in the crossing, and any plans for clearing woody vegetation adjacent to the river and in wetlands next to the river. These plans should be responsive to the DNR comments made elsewhere regarding protection of habitats adjacent to the river as well as the river itself, and include plans for restoration of woody vegetation.

It should be noted that if Enbridge proposes an HDD crossing, it should also submit an alternative plan for use if there is a failure of the HDD.

4. *Woody buffers along streams.*

DNR explained this proposal in detail in the 2/8/2008 letter to Judge Lipman on the projects east of Clearbrook, and we had consistently commented on this topic on earlier letters on this project. We reiterate our comments on the Enbridge projects east of Clearbrook. Furthermore, Enbridge gave us some information regarding a reaction to our proposal. We have responded to this in some detail, in a letter to PUC staff, and reiterate here as comments on the routes east of Clearbrook.

5. *General comment on state trails and canoe routes.*

There are a number of state trails and canoe routes east of Clearbrook. Site specific plans regarding crossing these features should be submitted to the DNR, that include specific information on how the trail will be affected, detours including estimated time the detour will be in place (including around temporary construction bridges on rivers), and so forth.

6. *Invasive species.*

A major effort is needed to control invasive species in the Enbridge corridor. There is clear evidence that the existing corridor contains major infestations of invasive species. There is good evidence that past practices of not separating topsoil during construction on steep terrain--where deep excavations into subsoil occur during preparation of a level work pad--have led to major infestations of spotted knapweed. This is very evident in Clearwater and western Beltrami counties. Careful attention must be made in developing plans to wash equipment, restrict travel in areas of infestations, careful topsoil separation and replacement, selection of species for re-vegetation, and extension of the monitoring maintenance period to ensure proper return of native species rather than invasives.

7. *Topsoil separation.*

DNR recommends separation of topsoil for the Enbridge project wherever there is excavation into the subsoil. This occurs over the trench and on side-hill areas where a level work pad is constructed, and in any other areas of such excavation. Such a practice results in far better restoration of native vegetation, less invasion by exotic species, less erosion because of greater soil stability, and fewer long-term impacts regarding land productivity.

8. *Pipeline crossings of rivers adjacent to highways and railroads.*

There are a number of locations where the Enbridge route follows existing highway or railroad corridors. Often, unless other factors are at play, these are good locations with respect to natural resource impacts because the areas are sometimes already degraded. One of the exceptions can be a river crossing, because the railroad, highway, and existing pipelines already present can restrict river channels, and therefore may causing active channel modifications as a result. Adding additional pipelines in such locations can add to the problem; installations should be done to prevent this.

9. *Block valves adjacent to rivers.*

The Enbridge plans submitted to us show some rivers not having block valves, and others having only one block valve, or others with the valves located some distance from the river or creek. It is not at all clear whether these are accidental omissions or intentional. Enbridge should provide criteria for locating valves, and justifications for not using valves (if this is the case.)

10. *Motorized trail adjacent to pipeline corridor in eastern Clearwater and western Beltrami Counties.*

As noted in site-specific comments, the easy access to the Enbridge right of way from the existing motorized county trail is causing problems with ATV traffic on the right of way and across sensitive

areas such as stream banks. This problem will need to be addressed during re-vegetation and reclamation, as well as monitoring for some time after pipeline construction.

11. *Construction of two pipelines simultaneously.*

Enbridge proposes to construct both the 20-inch and 36 inch pipelines with overlapping time periods. This raises complex problems regarding environmental regulatory oversight of the project, raises the potential for additional soil and erosion control, and so forth. This heightens the need for oversight in the Route Permit, since no other state agency has oversight authority on the project.

12. *Final determination of the route width and of the final centerline location.*

There are many locations along the various Enbridge route alternatives east of Clearbrook, as well as along the existing corridors, where there are sensitive natural resources. DNR has tried to focus on identifying these locations, and focus our recommendations on obtaining an appropriate environmental analysis at these locations, so that appropriate mitigation can be identified. Modifying the centerline in these areas to reduce or avoid impacts is a very important method of reducing impacts.

Rare Species, Features, And Communities

DNR has commented extensively on this topic, including indicating to Enbridge that surveys needed to be done in some locations. DNR has examined the information in various Enbridge documents and finds that important surveys for rare species, including endangered and threatened species, have not yet been completed. In addition, Enbridge has not incorporated existing information or responded to previous comments. We note the following:

1. *Key information regarding route alternatives not available until after the April 21 PUC comment deadline.*

The Minnesota DNR takes the position that destruction of endangered and threatened species protected by Minnesota state law is a significant impact, and, as such, should enter into selection of routes and centerlines for this project if there are differences among such alternatives as far as effects on these rare features. However, as the comments below note, this information will not be available to the DNR until after the PUC comment deadline of April 21, 2008.

2. *State listed endangered and threatened plants in the vicinity of Cass Lake.*

The information in the Enbridge documentation is not adequate for determining pipeline routes and alignments in this area for the following reasons:

As noted in our 10/08/2007 DNR letter to Ms Ferguson, DNR indicated concerns in this area, including pointing out to Enbridge that constructing on the existing corridor through the Cass lake area would involve not only destroying additional populations of such species, but also would likely interfere with a mitigation project that was necessitated by the destruction of populations of threatened and endangered Botrychium species from the last Enbridge project in 2002 (Terrace III. Referred to here as the Botrychium Mitigation Project, which was funded by Enbridge as a condition of obtaining a permit to destroy the populations of these species during the construction of the last project.)

We also indicated to Enbridge and the PUC that we wanted the Great Lakes Gas corridor thoroughly studied to see if it was a better corridor with respect to destruction of rare species and plant communities. Further, in meetings and discussion we made it clear that additional survey work was needed in this area for both corridors.

Enbridge indicated to us in the last few days that this information has only been partially collected. For example, they made available to us a report regarding rare plants prepared for the Chippewa National Forest. This report only covers federal lands. Furthermore, a report prepared for the Botrychium Mitigation Project indicates that several populations of endangered and threatened species are indeed present in the area surveyed for the Chippewa study, which didn't reference or find these populations. As such, more intensive surveys for Botrychium species may be necessary.

Enbridge has indicated to us that another report may be available covering non-Forest Service lands by the end of April.

3. *Rare species issues along the Bena to Ball Club Enbridge corridors.*

Enbridge has only surveyed the route proposed in the June 2007 filing, not the route segment now proposed in Tab 6 of the CEA. The survey that was done did find rare species. Enbridge indicated to us that this work will be done this summer. Until then, it would not be possible to fully compare these two routes to determine which would have the least impact with respect to rare species.

Enbridge may have found a population of a very rare aquatic plant known as *Utricularia gemniscapa*, or Hidden-fruited Bladderwort. This find has not yet been confirmed by examination by a qualified expert; however, pictures submitted to the DNR provide fair evidence that it indeed may have been found. It has only been found in Minnesota in the last 5 years in a handful of locations, and it is being considered for proposed addition to the state's endangered and threatened species.

4. *Great Lakes Gas alternative Route.*

DNR recommended that Enbridge do additional surveys for rare species of the Great Lakes gas alternative route because the Enbridge corridor contained threatened and endangered plant species that would be destroyed by expansion of the corridor, as happened on the Terrace III project. Enbridge has not conducted this survey. DNR has examined the evidence provided to the PUC in the June 2007 filing, and finds the route comparison deficient, in that it didn't even list rare species and habitats as a factor in route selection. This survey needs to be completed.

5. *Enbridge has not submitted requests to the DNR for additional recommendations for addressing rare species and features in new geographic areas.*

Enbridge submitted a request to the DNR in 2006 to provide recommendations as far as content of the DNR Natural Heritage database, and recommendations as to whether additional surveys should be conducted. DNR responded with recommendations in 2006. This request, and the DNR response, was based on Enbridge plans to construct along the existing corridor, as noted in the June 2007 filing. Plans have changed since the June 2007 filing, and the corridor has been expanded. The Natural Heritage Information System (NHIS) needs to be reviewed for all geographic areas that were not covered in the 2006 Natural Heritage letter. Also, given that the original review was completed over

a year ago and that the NHIS is continually updated, the NHIS should be rechecked along the entire route for any additional rare features. Natural Resources Group, the consultant working on this project, has access to the Rare Features Database through a license agreement with the DNR, and they have access to Sites of Biodiversity Significance and Native Plant Communities through the DNR data deli. As such, they can conduct a Natural Heritage review and then submit it to the DNR for concurrence, or they can submit additional Natural Heritage Data Request Forms for the DNR to review.

It appears that eight of the 15 route changes listed and described in the CEA have not yet undergone a Natural Heritage review: Tabs 1, 2, 6, 7, 9, 10, 14, and 15. All of these locations may either involve routes in new locations beyond previously submitted routes, or a substantially wider corridor where Enbridge may be searching for another route location. If so, the analysis won't be valid until there has been sufficient attention paid to occurrences of rare features.

The Fond du Lac alternative is a new green field route 21.4 miles in length described beginning on page 64 of the CEA. DNR does not have much information about this new alternative, which opens up a significant new corridor through large tracts of undisturbed native communities, including Sites of High Biodiversity Significance. Construction of two large-diameter pipelines through this area will permanently alter these communities, fragment large areas, and open the area to invasive species. This alternative route is a substantial change to what was previously proposed and sent out for DNR review. Most of the 21.4 miles goes through county or state forest. Existing forested area would be replaced with an unnatural grassy habitat. Wildlife habitat and timber production will be impacted. The new route will encumber over one-half mile through an active peat mining operation on State Forestry land. This new route will also impact an additional 23,859 feet of NWI-mapped wetlands including at least 5 stands that are designated as ecologically important lowland conifers. These impacts cannot be mitigated. DNR recommends that significant weight be given to these factors in the upcoming environmental impact statement and comparison of routes.

6. *Impact assessment, route selection, and centerline selection with respect to rare species, features and communities.*

As noted in the above comments, key information is missing with respect to these issues, and there has not yet been an adequate impact assessment and comparison of routes and centerlines to determine. The analysis should be done in enough detail to determine which routes and which centerlines avoid or minimize rare features. With respect to threatened and endangered species, for example, Minnesota law requires evidence that all reasonable measures to avoid the impact have been taken before a takings permit can be granted. Therefore, centerline adjustments are a mechanism for avoiding individual populations of these species.

Site Specific Comments.

The comments below are based on information supplied to us by Enbridge in the June 2007 filing, and in the "Comparative Environmental Analysis of the Route Alternatives for the Alberta Clipper and Southern Lights Diluent Projects," March 11, 2008. (Referred to below as the Enbridge CEA.)

1. *Milepost (MP) 914-916. Ruffy Brook and adjacent habitat.*

Enbridge has changed its preferred route from the route proposed in the June 2007 filing. DNR is opposed to part of the new proposed route segment in this area, and believes that the landowner can be satisfied with a much shorter route change than the new route deviation proposed by Enbridge. Enbridge provides a description of the new proposal at Tab 1 in the CEA, and it is referred to as the "Ruffy Brook Crossing and Leonard Alternative." The reasons given are to reduce impacts to human settlement. We are highly concerned with a section of this reroute, and believe a major portion of it will have much higher impacts. We strongly recommend that this proposal be modified. We note the following points in support of our conclusion:

--There are currently two Enbridge corridors through this area, each with two pipelines. The north corridor, the one proposed in the June filing, has the least amount of fish and wildlife habitat, and is the most disturbed area. It has a nearly perpendicular crossing of Ruffy Brook. Enbridge proposes to open a third corridor through an undisturbed wetland, add a third crossing of Ruffy Brook, and cross about 0.8 miles of additional undisturbed naturally vegetated wildlife habitat.

--The Enbridge CEA route comparison (page 4 and 5) makes a number of erroneous claims, as follows:

--It says the new route eliminates two crossings of Ruffy Brook at MP 912.2, while not saying that it adds two crossings at MP 915, which are also two new crossings on new alignment.

--It says the new alignment also a more perpendicular crossing of Ruffy Brook; this is incorrect since the north route proposed in June 2007 crosses Ruffy Brook essentially at a perpendicular crossing.

--The Enbridge CEA claims the following factors in the route comparison are "Substantially Similar" between the June 2007 north route, and the new greenfield route to the south: Natural Environment, Public Waters, Cumulative effects, and extent to which impacts are subject to mitigation through regulatory control and permit conditions. DNR disagrees with this characterization, and contends that the new alignment on a greenfield route is adverse in each of these categories compared with the June 2007 route. For example, aerial photos of this area show what appears to be permanent changes in the Ruffy Brook channel at each of the existing crossings, and clearly show much more undisturbed natural habitat along the proposed greenfield route. The Ruffy Brook crossing with the least impact to natural resources is clearly the north corridor, where it is already disturbed, it is a perpendicular crossing, and adjacent areas of the corridor have much less fish and wildlife habitat present.

--The CEA indicates that the landowner wishes to have the pipelines placed south of the existing pipelines at MP 916. This is east of the Ruffy Brook habitat area, and should be able to be easily achieved by crossovers routinely used elsewhere when there are environmental or habitation restrictions along the existing pipeline corridor.

Enbridge will need to apply for a license to cross Ruffy Brook. We recommend an application be submitted for the June 2007 route along the north corridor rather than the new corridor or the south

corridor. DNR will need a site-specific plan for the route segment for the creek crossing, including the vegetated river corridor, and any staging areas to be used for the crossing. This appears to be about 400 feet long, centered over Ruffy Brook on the north corridor.

2. *MP 922.3 to 922.6, Clearwater River and adjacent areas.*

The river is steeply incised in the surrounding land with bluffs on both sides and a wetland floodplain within the bluffs. The river meanders throughout this floodplain, although it is roughly centered in it. Photographs 1-6 in Attachment 2 cover this area. We have the following comments:

The Clearwater River is a trout stream and a state protected water, with special protections. There is also a tributary within the floodplain that is also a state protected water (See Photographs 1 and 2). These attached photograph indicates there has been permanent changes to the floodplain and to the river channel in this area from the past pipeline construction. These changes include:

- The river channel has been straightened as the pipeline right of way has been widened (See Photograph 1 and 2). This will lead to downstream channel degradation because of increased velocities.
- Woody vegetation has been removed from the river's adjacent floodplain, decreasing wildlife cover.
- Open water channels through the wetland and fill into the wetlands from earlier pipeline construction practices have brought additional changes to the wetland (See Photograph 4).
- Failure to separate topsoil on steep hillsides adjacent to the river corridor has led to invasion of spotted knapweed, and failure of re-vegetation from past pipeline construction (See Photograph 4).
- ATV traffic on the right way of on the steep hillsides is causing extension erosion and gulying that could lead to pipeline integrity problems as well as environmental damage and erosion into wetlands. Slope breakers, important erosion control features placed on the hillsides during the last expansion, are have been severely damaged by this traffic (See Photographs 3 and 4).

The last Enbridge project involved a failure of an HDD at this site because of a frac-out of drilling mud just west of the base of the bluff on the eastern side of the floodplain. (DNR had previously approved a trenched crossing in this location, so the HDD was abandoned.) DNR is concerned about the following in this area:

- Loss of upland habitat on the bluffs as the right of way widens substantially.
- Additional permanent impacts from channel modification as the length of a straightened channel increases.
- Clear evidence that the pipeline right of way is providing a good location for spotted knapweed invasion
- ATV access allowing ATV traffic in wetlands, and contributing to damage to vegetation and soil erosion.

A site-specific plan is needed encompassing the floodplain, bluffs, and any adjacent staging areas needed for construction. The necked down right of way should be indicated that shows minimization of loss of forested areas on the bluffs and floodplain. The plan should include information on topsoil separation, re-vegetation, and so forth. The evidence regarding the past attempt to do an HDD crossing should be reconsidered, given the cumulative impacts that are occurring, to determine if an HDD is feasible. The plan should include methods to restrict ATV access to the ROW from ATV traffic, such as previously used by Enbridge and by Beltrami County in a nearby area (See Photographs 5 and 6, respectively) and using No Trespassing signage.

3. *MP 926.7-927.3, Grant Creek crossing #1.*

This is the first of 4 crossings of Grant Creek. This is a sensitive area with extensive wetlands, some of which are adjacent to the creek. A site-specific plan is needed for a segment approximately 0.3 miles in length, and perhaps longer. The plan should indicate a narrower right of way, and measures to ensure that the right of way length is kept to a minimum, and provide specific erosion control measures.

4. *MP 929.7-927.8, Grant Creek crossing #2.*

This second Grant Creek crossing is adjacent to a railroad grade that is now a motorized trail. There is a "Texas crossing" where Grant Creek crosses the railroad grade, which was constructed during the last Enbridge Terrace III expansion project. This was done for two reasons: 1) The creek channel through the railroad grade was filled with debris, which caused restriction of the channel. This was leading to extensive downstream bank erosion immediately downstream that was threatening the integrity of northern-most existing pipeline. 2) To provide a route for ATV traffic to continue on the railroad grade rather on the Enbridge right of way and Grant Creek streambed.

Impacts at this crossing include:

--The railroad right of way and existing pipelines are contributing to channel changes in Grant Creek, including from channel straightening in this area. The past pipelines have involved placing riprap in the stream, which has resulted in down cutting downstream from the most recent installations and from the riprap.

--This is the site where there has been continual ATV damage to the right of way and riverbanks since the last Enbridge pipeline construction in 2001. The proximity of the site to the adjacent ATV trail is a primary contributing factor at this location. (See Photographs 7 and 8, Attachment 2.)

--The two new pipelines will be constructed in an area close to the next downstream meander. This will likely result in additional downstream channel changes.

--Temporary construction area clearing will involve removal of a strip of trees between the trees and the township road to the south. A portion of this wooded area is forested wetland. The net result will be large loss of wildlife cover in the stream corridor because of the cumulative impacts of the corridors.

--There is significant spring discharge on the west side of the creek. Extensive use of sheet pile was needed in this area during the last pipeline construction in order to install the pipeline. This also led to a large muddy area that attracted ATV traffic. In addition, because of the nature of the material to be excavated, the pipeline separation is likely to be wider than 25 feet west of the creek, adding additional length to the straight section and increasing the right of way width (See Photograph 7, Attachment 2.)

--There is extensive invasion of spotted knapweed in this area. Failure to separate topsoil on past projects appears to be contributing to this problem.

An HDD should be considered in this area because of cumulative impacts that are occurring, and the problems with construction. A site specific plan that addresses the measures included above should be included in the segment from about 350 feet west of the crossing to 250 feet east of the crossing. It should include measures to prevent ATV traffic from reaching the ROW, especially during reclamation and several years after.

5. *MP 933.3 -MP 935.2, especially the portion south of Spike Lane SE to MP934.1.*

This pipeline segment involves Grant Creek crossings #3 and #4. This is a portion of the pipeline route described on page 9-12 of the CEA. Enbridge has changed its preferred route from the route proposed in the June 2007 filing. DNR is opposed to part of the new proposed route segment in this area, and believes that the landowners mentioned can be satisfied with a much shorter route change than the new route deviation proposed by Enbridge.

Enbridge provides a description of the new proposal at Tab 2 in the CEA, and it is referred to as the "Wilton Reroute Alternative." The reasons given are to reduce impacts to three residences. We are highly concerned with a section of this reroute, and believe a major portion of it will have much higher impacts. For the following reasons, we strongly recommend that this proposal be modified.

--The June 2007 filing indicated that the preferred location was north of Spike Lane and the BN railroad grade. Now, Enbridge is proposing to open a new and lengthy corridor with a new crossing of Grant Creek in a large wetland south of these roads.

--The existing Enbridge corridor proposed for the June 2007 filing follows other corridors, such as roads and railroads. Fisheries and wildlife habitats are already at least somewhat compromised in these areas because of cumulative impacts and fragmentation of habitats. On the contrary, the proposed corridor south of Spike Lane crosses a large block of undisturbed and valuable fish and wildlife habitat, including extensive wetlands (See Photographs 9 and 10). Retention of such habitats in the growing urban area around Bemidji is important.

--The Enbridge CEA route comparison (page 9 and 10) makes a number of erroneous claims, as follows:

--The Enbridge CEA claims the following factors in the route comparison are "Substantially Similar" between the June 2007 north route, and the new greenfield route to the south of Spike Lane: Natural Environment, Public Waters, Cumulative effects, and extent to which impacts are subject to mitigation through regulatory control and permit conditions. DNR strongly disagrees

with this characterization, and contends that the new alignment on a greenfield route is adverse in each of these categories compared with the June 2007 route. This is clearly demonstrated on aerial photos and even a cursory look in the field (See Photographs 9 and 10, Attachment 2.)

--The CEA indicates that three fewer landowners are affected by selection of the new proposal. DNR believes there are other alternatives that could be investigated to reduce impacts to residences. This may involve additional crossovers of the existing pipeline, but that might also reduce the length of the pipeline. In addition, crossovers are routinely used elsewhere when there are environmental or habitation restrictions along the existing pipeline corridor.

Enbridge will need to apply licenses to cross two locations of Grant Creek. At this time, Enbridge has not supplied sufficient information for us to determine if the proposed location is justified; in fact, as noted here, this proposal has a high impact to natural resources as compared to the June 2007 filing. We recommend that Enbridge:

--Search for and examine a route that does not open a large new corridor across an undamaged natural wetland and Grant Creek section south of Spike Lane.

--If Enbridge were to continue to propose this route, to supply a detailed route comparison from immediately south of US 2 (About MP932.6) to MP 935.3 using much more accurate information regarding the natural environment than was evidenced in the CEA. DNR will be asking for this comparison during a review of the Grant Creek crossing proposals. DNR will need a site specific plan for the route segments for the creek crossing, including the vegetated river corridor, surrounding wetlands, and any staging areas to be used for the crossing.

6. *MP 939.7. Mississippi River Crossing.*

Enbridge should use an HDD crossing technique at the Mississippi River.

7. *MP 945.2 to 948.2. Necktie River area.*

Part of this area is subject to a route revision after the June 2007 filing. (See Tab 5 of the CEA.) We accept the reasons for the change. Our concerns have to do with the area where the pipeline corridor is close to the Necktie River and its adjacent wetlands. The area of concern is from just west of Steamboat Road (MP 946.2) to MP 948.2. Note the following:

--The Necktie is a trout stream with natural reproduction of brook trout in some locations, including just downstream of the crossing location (see Photograph 11.). Any tributaries of the Necktie are also protected waters. The June 2007 filing indicated three tributaries of the Necktie being crossed in this area. These locations are not identified.

--A site-specific plan should be prepared through this area that specifically takes care to address sediment and erosion control to prevent sediment from entering any tributaries of the Necktie.

--A detailed plan should be prepared showing staging areas and adjacent activities for the Necktie Crossing itself.

--Block valves are needed on either side of the Necktie. None are shown on the information supplied to us.

8. *MP 956.7 to 958.4. Pike Bay Area.*

Enbridge proposes to place two new pipelines between an existing line and the BN railroad, which closely follows the shoreline of Pike Bay of Cass Lake from about MP 956.9 to 957.9. This will result in the additional cumulative impact from clearing of additional trees and woody vegetation to the shoreline area. Mitigation measures should include replanting the temporary construction area with trees and shrubs.

9. *MP 964.1 to MP 964.5. Upper Sucker Lake crossing.*

A site-specific plan is needed for this route segment, including plans to neck down the right of way, and move staging areas out of wetlands that contain shrubs and trees.

10. *MP 968.1 to MP 968.3. Waterway to Portage Lake.*

A site-specific plan is needed in this area indicating methods to prevent erosion and sediment from reaching the lake. It is unclear why there are no block valves in this area.

11. *MP 970.5 to MP 972.3. Portage Lake Residence Alternative.*

This is an expansion of the width of the route discussed at Tab 14 of the CRA. Enbridge does not propose to revise the alignment of the corridor at this time, but evidently may do so at some time in the future. Enbridge has not gathered information on this expanded corridor, nor submitted additional requests for us to supply Natural Heritage data and recommendations in this expanded corridor. Therefore, the table comparing impacts of the June 1997 filing with this new proposal is meaningless with respect to all categories regarding natural resource impacts.

12. *MP 978.1 to MP 988.2, Bena to Ball Club Alternative.*

This is a route modification from the June 2007 filing. It is discussed in Tab 6 of the CEA. As noted in the comment below concerning rare and endangered species and communities, there are rare species known at some locations in these corridors, and surveys have not yet been completed. Therefore, there is not enough information to determine which of these routes would be preferable based on natural resources.

13. *MP 984.7 to MP 988.2, Mississippi River Crossing area.*

This is discussed at Tab 15 in the CEA. The route width is expanded in this area. In addition, Enbridge is proposing a change in the crossing location, since the June filing indicated a preference for the route following the single Enbridge corridor offset about 700 feet from the northern corridor, which contains three existing pipelines. The current proposal is to follow the northern alignment. It is unclear which alignment is the best with respect to natural resource impacts, as noted in General comment #1 above.

DNR recommends an HDD for this crossing for both pipelines at this location.

14. *Other Water Body Crossings requiring site-specific plans.*

As part of License to Cross Public Waters, DNR requires site-specific information on the following waterbody crossings:

- MP 986: Mississippi River
- MP 989.5: Ball Club River
- MP 993: unnamed tributary to White Oak Lake
- MP 995: Deer River
- MP 1004: Bass Brook
- MP 1010: Prairie River
- MP 1016: unnamed tributary
- MP 1022 and 1023: Shallow Lake
- MP 1024: Swan River
- MP 1026: unnamed tributary between Bog Lake and Reed Lake
- MP 1034: unnamed tributary

**Available Mitigation**

**Enbridge Environmental Mitigation Plan**

The Enbridge Environmental Mitigation Plan (EMP) is a key document stating general mitigation measures to be used on the project. It is not yet completed, and key points remain unresolved. DNR comments on defects in this plan include the following, but are not limited to them, since Enbridge has yet to submit their unfinished plans and to respond to previous points raised by the DNR.

1. *General comments.*

We had indicated to Enbridge that they should review the environmental plans for the MinnCan project, since they had already gone through the Minnesota regulatory process, and since it was also a large-diameter pipeline project. We based this on an initial review of the Enbridge EMP submitted with the June 2007 filing, which indicated many aspects were outdated and deficient based on current practices. Based on our review of the revised EMP, Enbridge has updated some of its plan from their original plan (which was essentially the same one they used 8-10 years ago on previous projects) by incorporating some measures, *but not others*. This puts the EMP entirely in the purview of the PUC, since Enbridge has rejected our proposals, and DNR has no authority to require most of the mitigation measures in our License to cross public lands and waters.

The DNR has submitted specific and generic comments in related to the EMP in our previous 5-6 comments on the project since our first comments dated September 24th, 2007 (on the Department of State environmental assessment. Some of this information has still not yet been incorporated into the EMP.

2. *Recommendations for revisions of the EMP and other Enbridge mitigation plans.*

The Route Permit needs to allow changes to be made in the plan up to the last minute, based on our review as well as others, with the oversight and involvement of the PUC on the issues.

--Woody buffers. Woody buffers within riparian corridors are not included in the EMP. Our proposals need to be incorporated into the plan as a separate section. Our proposal included restrictions on clearing of woody vegetation for various temporary uses as well as replanting across the ROW.

--Noxious weeds. (EMP Section 1.13, page 9).

This section does not recognize that separation and replacement of topsoil is crucial to the control of the spread of noxious weeds. Minnesota native plant species are adapted to situations where there was high quality topsoil in most locations. Not separating topsoil over the trench and in locations where there is side-hill cutting in hilly terrain results in prime conditions for invasion of species such as spotted knapweed.

Add to this section, or another appropriate section of the EMP as appropriate and reference it in this section: "Topsoil will be separated and replaced in areas where subsoil is excavated, such as over the trench or when the level work space is constructed in hilly terrain."

--PUC jurisdiction during construction. (EMP Section 2.0, page 10).

The introduction to this section is telling, in that it notes that contractors may want changes in any of the river crossing methods. It says that contractors will consult with Enbridge on crossing methods, which will then consult with "appropriate regulatory agencies." As noted, DNR only has jurisdiction below the OHW; so who is the appropriate agency? The Route Permit should either retain this authority or delegate it to the DNR.

--Extra Workspace (EWS), (EMP Section 2.4, page 11).

This was a problem on the last Enbridge project, and was a continuing problem on the MinnCan project. In fact, on the MinnCan project, there were forested areas next to rivers that were cleared for EWS that were then never used. In addition, the language in this section of the EMP does not fit commitments Enbridge has made to the DNR regarding not removing timber, floodplain and river corridor woody vegetation. It needs to be changed as follows:

Add to this section: 1) "Woody vegetation in the river floodplain and adjacent river corridor shall not be cleared for the purpose of EWS unless approved by the PUC or delegate." and/or 2) "EWS that contain forested areas shall be not be cleared as part of the original clearing operation but shall be cleared only as needed when final crossing plans are determined and agreed to by the contractor except as approved by the PUC or delegate."

--Temporary bridges, EMP page 11-12.

This section says that temporary bridges will not be used for drainage ditches, intermittent streams, and "other non-fisheries waters" unless required by permit. This means that equipment will routinely be driving through these areas, which may be carrying runoff water to public waters a short distance downstream, and impacting fish and wildlife habitat. In many cases the DNR has no jurisdiction at these locations. This is a problem, and should be changed to: "Equipment bridges shall be used on watercourses--including small watercourses such as ditches and intermittent streams-- where there is a potential for runoff or rain events to carry sediment downstream from equipment crossing the watercourse. Rocked "Texas crossings" may be appropriate in some locations, based on review by the appropriate state environmental inspectors."

The statement on page 12 about minimizing soil is not good enough. It should say that "Bridges and approaches should be designed and maintained to prevent soil from entering the water body, and soil removed from the bridge on a regular basis."

--Streambank re-vegetation, EMP page 27, section 7.3.2.

Rock riprap seems to be a preferred method. In most cases, we will not want this, and prefer using woody vegetation. In addition, there is the jurisdictional problem, in that this is partially above the OHW in some cases. The language should be changed to indicate that woody vegetation is the preferred bank restoration technique.

--Off-Road Vehicle barriers and fences.

This measure is not adequate with respect to protection of streams. We have current evidence of severe damage from OHV use in the Enbridge ROW to streambank and hillsides next to streams and wetlands. Enbridge is not repairing this damage, and is not making attempts to prevent it. We have previously recommended that Enbridge use the new state law regarding protection of critical facilities passed since 9/11. It indicates that Enbridge can post its right of way and warn off people with no trespassing signs. This provision should be added to the EMP. In fact, at the Clearwater River crossing west of Bemidji, ATVs are using the ROW right next to the block valve and fenced area, where there is potential for vandalism. Under the new state law, this is clearly a facility where no trespassing signs and markings could help contribute to protection of the facility as well as the natural resources present.

--Major plans not yet available.

The Invasive Species Plan, Re-vegetation Plan, and Protected Species Plans/Protocol are not yet available for review. DNR requests an opportunity to review these plans before finalization.

--Winter Construction. (EMP Section 8, page 30).

Some winter construction practices can be an important means of reducing impacts. However, winter conditions can also cause problems, such as topsoil separation and other methods. Recommended mitigation measures include the following.

Standard construction plans should be developed to deal with winter construction in both uplands, and wetlands since permitting delays are possible, forcing construction into winter.

Methods of topsoil separation and replacement in winter should be addressed.

Provisions concerning erosion control and restoration, since it cannot be accomplished during the winter. Of high importance is ensuring the erosion control crews are present during snowmelt and runoff to repair damage and react to information unavailable because of snow cover during construction

Consideration should be given to phased Route Permitting because of the environmental benefits of doing some construction practices under frozen conditions. The PUC should retain authority to require Enbridge to respond with modification of plans when there are unexpected and substantial problems that may contribute to preventable damage to natural resources..

--Drilling Mud Containment Plan.

Drilling mud releases in winter on the other pipeline projects were a major problem to address. They are by nature events that can rapidly get out of hand. Large amounts of drilling mud can reach rivers, wetlands, and other sensitive natural resource features unless an appropriate response plan is in place that works under all construction conditions.

Problems on the other projects included questions about who was responsible for responding to a frac-out. (The General contractor, or the HDD contractor?) Another problem was that equipment for a fast response was not present during the HDD. A third and very significant problem was that frac-outs were difficult to detect in rivers under snow and ice conditions. In addition, containment methods such as pumping escaped drilling mud off-site was difficult because of freezing up of equipment, and because of unsafe conditions due to unpredictable ice depths in winter. Shutdowns to deal with frac-outs or other environmental problems under cold conditions can exacerbate difficulties with the HDD.

DNR recommends Enbridge include the following provisions in the drilling mud containment plan:

- Clear authority as to which contractor is responsible for immediate containment
- Sufficient containment equipment needs to be available as soon as the HDD commences.
- HDDs under ice and snow cover in wetlands, lakes, and rivers should either be prohibited or a detailed detection and response plans for winter construction should be required.

--Re-vegetation and seed mixes.

All sites where there are open soils after the pipeline work is completed need to be properly re-vegetated and reclaimed. Therefore we recommend the following:

- The Mn/DOT seedling Manual of 2007, native grasses and forbs recommendations shall be the default if not specified elsewhere.
- All locations where the soil has been disturbed need to have the natural contours restored and seeded as soon as possible.
- These sites need to be seeded with local-origin native seed in a mix of cool and warm season species that fill all rooting zones and are appropriate to the native plant community disturbed. The mix will be certified weed-free and put together in species percentages reflective of the site. The species in the mix will be compatible and not allelopathic towards each other.
- In most locations it will be desirable to have a cover crop spread with the native seed mix. This cover crop must consist of fast growing, short-lived, non-aggressive or invasive annuals which have no known germinating or growth inhibiting (allelopathic) properties towards the natives of the area. Use a mix of winter wheat and slender wheatgrass in the autumn and substitute oats for the winter wheat in the spring plantings, or use Regreen. Rye, another commonly used cover crop species should not be used.

--All erosion control and mulch materials must be certified weed-free, be biodegradable, and contain no seed stalks of noxious plants or weeds, as defined by the Mn Dept of Ag.

Mitigation of loss of woody vegetation adjacent to river corridors and woody buffers along streams and other water bodies

1. *Summary of potential impacts and previously proposed mitigation measures.*

As noted in each of our previous comments to the PUC, DoS, and COE (most recently in the 2/8/2008 DNR comment to ALJ Eric Lipmann) we have a high degree of concern with the denuding of woody vegetation in the ever-widening Enbridge pipeline corridor. This vegetation, as specifically noted in the comments, is established in Minnesota shoreline regulations and Best Management Practices as being of high significance. As we documented, these impacts become more serious as the corridor widens with multiple pipelines. (*Note: We refer to this zone in these comments as the "woody buffer zone."*)

As mitigation for the impacts, DNR proposed in the 2/8/2008 letter to Judge Lipmann six specific measures to apply to prevention and reduction of impacts, and mitigation of impact, to woody buffer zones at river crossings. The first measure was planting, retaining, or allowing re-growth of a 50-150 foot wide brushy or forested woody buffer zone across the new construction as well as the existing pipeline corridor. Other proposals included measures to further reduce the amount of existing woody vegetation next to rivers that was removed by construction, and exploration of alternative inspection measures. We indicated that the specific width of the woody buffer zone within the 50-150 foot range be determined during the DNR review of the license to cross public waters. Several proposals had to do with retaining woody vegetation as much as possible during construction, including keeping the Extra Temporary Work Space out of the area next to rivers and streams.

2. *Enbridge proposals.*

Enbridge has partially responded to us regarding our previous comments on this topic. Although they have not provided a point-by-point response to the six specific mitigation proposals, some of their proposals directly address specific items of our proposed mitigation. The Enbridge proposals are as follows, as based on a 2/21/2008 email and a videoconference held with them on March 24, 2008:

--Permanent woody buffers.

The Enbridge proposal is to plant a 25-foot wide woody buffer (shallow-rooted native shrubs) adjacent to the water body across the new construction area, as well as the currently existing pipelines in the pipeline corridor, if the pipes are buried sufficiently deep to allow growth of such vegetation. An exception would be a gap in the woody buffer zone 10 feet wide centered over the pipe. (See enclosed diagram submitted to us by Enbridge.)

In discussions and in the email, Enbridge indicated that industry practice is to remove woody vegetation from pipeline rights of way not only for inspection purposes but because roots of woody vegetation can damage pipelines. They indicated the pipeline wasn't buried as deeply under the bank and floodplain as under the river and therefore the 25-foot width was selected to prevent root damage.

(See diagram, "Minimum Pipe Depth Boundary" and "X" indicating concerns about roots reaching the pipe on the attached diagram.)

Enbridge indicated they were looking for native shrubs that would be suitable, including that they would not grow very high. One species under consideration was American Yew. They asked for suggestions from the DNR, and indicated they would work with the DNR on additional site-specific considerations.

--Protection during construction.

Enbridge submitted additional proposals regarding clearing during construction of the new lines, summarized as follows. Only the proposals directly related to mitigation of loss of woody vegetation adjacent to water bodies are included here:

--For HDD crossings, there would be no clearing above the HDD

--For non-HDD crossings, during construction, the proposal is to temporarily maintain a 20-foot riparian buffer instead of the 10-foot buffer until 24 hours before installation of the pipeline, and to change it to allow no clearing in this buffer instead of limited clearing, as proposed in their Environmental Management Plan (EMP),

--The standard 100-foot construction ROW would be necked down to 75 feet 50 feet from the edge of the water body (seen enclosed diagram.)

--Extra Temporary Work Space (ETWS.)

Enbridge has submitted some site-specific plans for water body crossings, and these indicate a variable but substantial setback of ETWS from water bodies to avoid clearing of woody vegetation adjacent to the water body. (This pertains to our comment "b" on page 6 of the DNR 2/8/2008 comment letter.)

### 3. DNR response

We appreciate that Enbridge has responded with a proposal to partially mitigate for permanent loss of woody vegetation along rivers and other water bodies, including the current proposal and the existing right of way. As they have noted to us, this is a significant change in past industry practice. However, we do have specific comments on their proposal, as follows:

--Permanent woody buffers with respect to pipeline right of way inspection.

DNR fully accepts the need for pipeline right of way inspection. We ask that an objective appraisal of a comparison of the benefits of our mitigation proposal compared with an examination of the whether there are any additional risks, and if there are other means to inspect riverbanks and warn off those who might damage pipelines next to rivers. According to information presented to the DNR, aerial pipeline inspection is primarily aimed at second-party activities in the pipeline corridor, since this is the most common cause of pipeline leaks and ruptures. (*Note: Such ruptures and leaks are usually serious and normally detected by sensitive pressure monitoring mechanisms, and pipelines are immediately shut down.*) Automatic block valves are located on each side of rivers to reduce spill

amounts. We do not think the DNR proposed mitigation measure would substantially interfere with aerial detection of uninformed third-party activities since it is such a small area, and activities should still be visible.

In addition, pipelines already have special measures at rivers: block valves. We urge the addition of other measures, as noted in our comments. In addition, for example, a new law allows pipeline companies to prohibit access to pipeline rights of way, and mark them with no trespassing signs (M.S. 609.6055; with a landowner being an exception.) Companies now often put up signs at river crossings indicating the location of the line. Adding an informative sign with the addition of "No trespassing" on the landward side of the woody buffer--noting a clause about the private landowner--should be explored for its value in reducing both second-party encroachment, and protection of riverbank buffers.

DNR has documented that an environmentally-damaging instance of trespass by motorized Off Highway Vehicles in the Enbridge right of way west of Bemidji. These motorized vehicles accessed the right of way, and drove through and across the river and adjacent wetlands, causing delays of riverbank reclamation, sedimentation of aquatic habitats, and so forth. (See Attachment.) An adequate woody buffer zone, and this proposed marking method would therefore have multiple benefits in such a location.

Pipeline companies and the Office of Pipeline Safety have also informed DNR that aerial inspections are aimed secondarily at detecting very small leaks that cannot be detected by pressure drops. It is contended that the leaks can be detected if the leak kills vegetation, and that woody vegetation needs to be removed from the right of way so that these small leaks can be found.

We believe our reasoning refutes these contentions. First, first example, adoption of a zone 100 feet wide across the new and existing corridor would only affect 0.3 percent or less of the total right of way west of Clearbrook. Secondly, we also would ask how many small leaks undetected by pressure drops have been observed by aerial reconnaissance, and note that the recent pipeline accident near Clearbrook began with detection of a very small leak by ground inspection. Thirdly, a small leak is just as likely to kill woody vegetation as grasses. Often the first signs of stress occur at the tops of trees and brush. Aerial detection of stream bank leaks based on dead or stressed vegetation leaks might actually be easier for woody vegetation as for grasses. If one uses an approach based on comparative risks, therefore, we do not feel this proposed mitigation measure results in an increase.

--DNR jurisdiction in the proposed woody buffer zone.

As noted above, DNR does not have jurisdiction above the OHW at rivers. Therefore, the woody buffer zone we have proposed is outside of DNR jurisdiction. We recommend that the requirements to maintain and/or restore the buffer zone be a requirement of the COE 404 permit, PUC Route Permit, and Department of State mitigation package in the Record of Decision. There are two places to address this mitigation measure in permitting and approval of the proposed pipelines:

--Specific requirements for standard crossings should be included in the approved Enbridge EMP wherever there is an existing woody buffer present.

--There are places where the DNR requires site-specific crossing plans to account for the sensitivity of the site. In addition, there are sites where it is unclear or complicated to determine exactly where the OHW is with respect to a particular existing woody buffer zone. Our 2/8/2008 letter to the PUC indicated "The width of this zone should be determined during the DNR review of the license to cross for these rivers." (page 6, enclosed.) Our intent was for the PUC to indicate in its Route Permit that this determination was to be made by the DNR, since there is no jurisdiction in the DNR license to do so. The location of this zone would be similar to the zone for standard crossings, and, while it would be subject to "fine-tuning" during the license review, it would not be a specific condition of the license.

--Comments on Enbridge's proposal for a permanent woody buffer across the new and existing pipeline corridor.

As noted above, the DNR appreciates that the Enbridge proposal is a change of existing industry practice. However, as written, if the vegetation contemplated is American Yew, or a similar low-growing plant, it will not achieve the desired goal. We have the following points and recommendations.

--While we appreciate that there are circumstances where tree roots are likely to damage pipelines, woody vegetation adjacent to streams in most cases grows in areas of a high water table. There are no woody species in Minnesota that maintain roots any appreciable distance into the water table during the growing season. Therefore, based on the next two points, this should not be a limitation on the width of the woody buffer zone for most streams if it is of the 50-foot width we recommend in the next point.

--The proposed woody buffer of 25 feet is too narrow. We recommend that it be a minimum of 50 feet in the standard plans in the EMP, with potential to be somewhat larger based on-site specific factors. We indicated in our 2/8/2008 comments that the zone to be considered be 50-150 feet in width. The Natural Resource Conservation Service (NRCS) Practice Standard for a Riparian Forest Buffer (Code 391) is enclosed. This recommends a minimum distance of 35 feet (Zone 1), with an indication of an additional 65 feet depending on site characteristics (Zone 2.)

--We recommend that the pipeline burial depth under the stream be extended somewhat farther into the floodplain in areas of more intermittent streams with drier floodplains, if there are concerns about root damage. On streams with higher flows, high water table will mean tree roots will be shallow. Enbridge indicated a concern with deep trenches meaning larger spoil storage locations. This may be a concern at certain locations; however, we feel the need for adequate buffers outweighs this concern. The distance involved would be less than 25 feet, and would be in drier soils with more trench stability, since if it was wetter soils, the woody vegetation to be planted is shallow rooted, and no extra depth would be required.

--The American Yew would not be an appropriate species for a woody buffer zone planting. First, it would not achieve the desired goal of an establishment of a proper woody buffer zone, since it is a low-growing plant that would not achieve a major purpose. Secondly, it is heavily browsed by deer, and so would not be a successful planting, and would not persist. Thirdly, it would not be ecologically appropriate west of Bemidji.

--We recommend that the species selected meet the following criteria, and a starting point is the NRCS Code 391 document we have enclosed:

--The species achieve a minimum height of 20 feet.

--Native species appropriate for the vegetation zone in which the pipeline occurs (from west to east in Minnesota) be used.

--Species selected be ones that have been successfully used elsewhere for re-establishment of woody buffers along river corridors.

--We do not feel it is necessary to keep a 10-foot strip over the pipeline through the woody buffer zone permanently cleared. The Office of Pipeline Safety indicates to us that inspection is required, not the type of inspection. Our reasoning on this is explained further in the above comments with respect to corridor inspection.

--Based on our experience with pipeline companies with developing the details of site-specific plans, we feel it is likely that small adjustments of the woody buffer zone width can be made based on site specific details. These can be incorporated into the Enbridge right of way plan and profile sheets used during construction.

-- Extra Temporary Work Space (ETWS).

This term refers to extra temporary space needed for construction in certain locations, such as roads, river crossings, or restricted areas. These have been problematic on other large-diameter pipeline construction projects because final locations are either changed or determined by the contractor after permitting and approvals are completed. Additionally, sometimes the reason they are needed is because of an environmentally sensitive area, such as a river or wetlands adjacent to rivers. Examples of issues that have come up in the past are when floodplain forest or forested wetlands are proposed to be used for ETWS. DNR regards this as a long-term, but avoidable impact in most cases. Enbridge has submitted some draft site-specific plans to us about river crossings, and have moved this locations away from sensitive areas in these cases. We recommend that this be a practice written in as a mitigation measure.

### **Environmental Management**

With respect with direct ability to protect important natural resources impacted by these projects, the DNR has very limited authority do so under its own jurisdiction. The DNR administers licenses to cross state lands and public waters. In the cases of state waters and wetlands, this jurisdiction is generally limited to the area below the Ordinary High Water (OHW.) DNR's license authority generally does not extend to floodplains and wetlands adjacent to rivers and streams but above the OHW, or to the forested upland fringes next to these important natural resources. For example, DNR has calculated that it has direct jurisdiction on only 0.38 percent of the linear feet of pipeline between North Dakota and Clearbrook, and only 0.19 percent of the route concerns rivers. (2,011 feet and 1,083 feet of the 107.3 mile route; respectively. There are no state lands along that section of the pipeline route.)

To put this into perspective, there is much more than 2,000 feet of wildlife habitat along this 107-mile segment. East of Clearbrook, the same calculations would hold, except there is proportionally much more

Judge Lipman

04/21/08

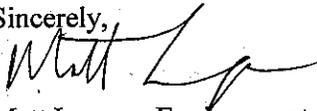
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wildlife and ecologically significant areas along the pipeline because there is much less farmland, and many more wetlands, forest, and so forth.

The Route Permit is the proper regulatory vehicle for addressing impacts and mitigation along the Enbridge corridor and centerline, and for providing oversight authority during construction as well as coordination among federal and state agencies.

Thank you for the opportunity to submit comments into the Hearing record. Please contact me with any questions regarding this letter.

Sincerely,



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Environmental Review Unit  
Division of Ecological Services  
(651) 259-5115

c: Steve Colvin, Mike Carroll, Criag Engwall, Larry Hartman – DOC, Elizabeth Orlando – U.S. Dept. of State, Paul Meneghini – Enbridge, Tim Anderson – NRG

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ATTACHMENTS

**ATTACHMENT 2**  
**Portions of Enbridge Pipeline Corridors**  
**Department of Natural Resources Comments of April 21, 2008**

- Photo 1. Clearwater River Crossings, Beltrami County, a designated trout stream. Indicates long-term changes in the floodplain and river channels. Photo 6 was taken on Nelson Dam Road in the upper right corner of this photo. Milepost 922.6.
- Photo 2. Close-up of the Clearwater River Crossing, Beltrami County.
- Photo 3. ATV traffic up and down Clearwater River bluffs through slope-breakers constructed to prevent erosion on Terrace III project.
- Photo 4. Clearwater River floodplain indicating permanent changes to wetlands from the existing corridor as well as slope erosion and sparse re-vegetation from Terrace III. Top of bluff is about 60 feet above the Floodplain.
- Photo 5. Clearwater River, bottom of east bluff. Cement barriers used to impede ATV access to the right of way after an access road was recently constructed for pipeline repair.
- Photo 6. Site is adjacent to Clearwater River by railroad grade, which is now a motorized OHV recreational trail. Boulders placed at base of slope to impede ATV off-trail use.
- Photo 7. Grant Creek pipeline corridor crossing at approximately MP 929.8. OHV trail is on railroad grade.
- Photo 8. Close-up of Grant Creek pipeline corridor looking north toward OHV trail on railroad grade, indicating OHV off-trail destruction of stream banks and vegetation.
- Photo 9. New corridor proposed through undisturbed natural area and new Grant Creek crossing, a revision of the June 2007 filing. Approximately MP 932.5 through MP935.3.
- Photo 10. Close-up view of new Grant Creek crossing and corridor, portion of Photo 9 area.
- Photo 11. Enbridge crossing of Necktie River, a designated trout stream indicating brook trout spawning habitat adjacent to the crossing, MP 927.

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9

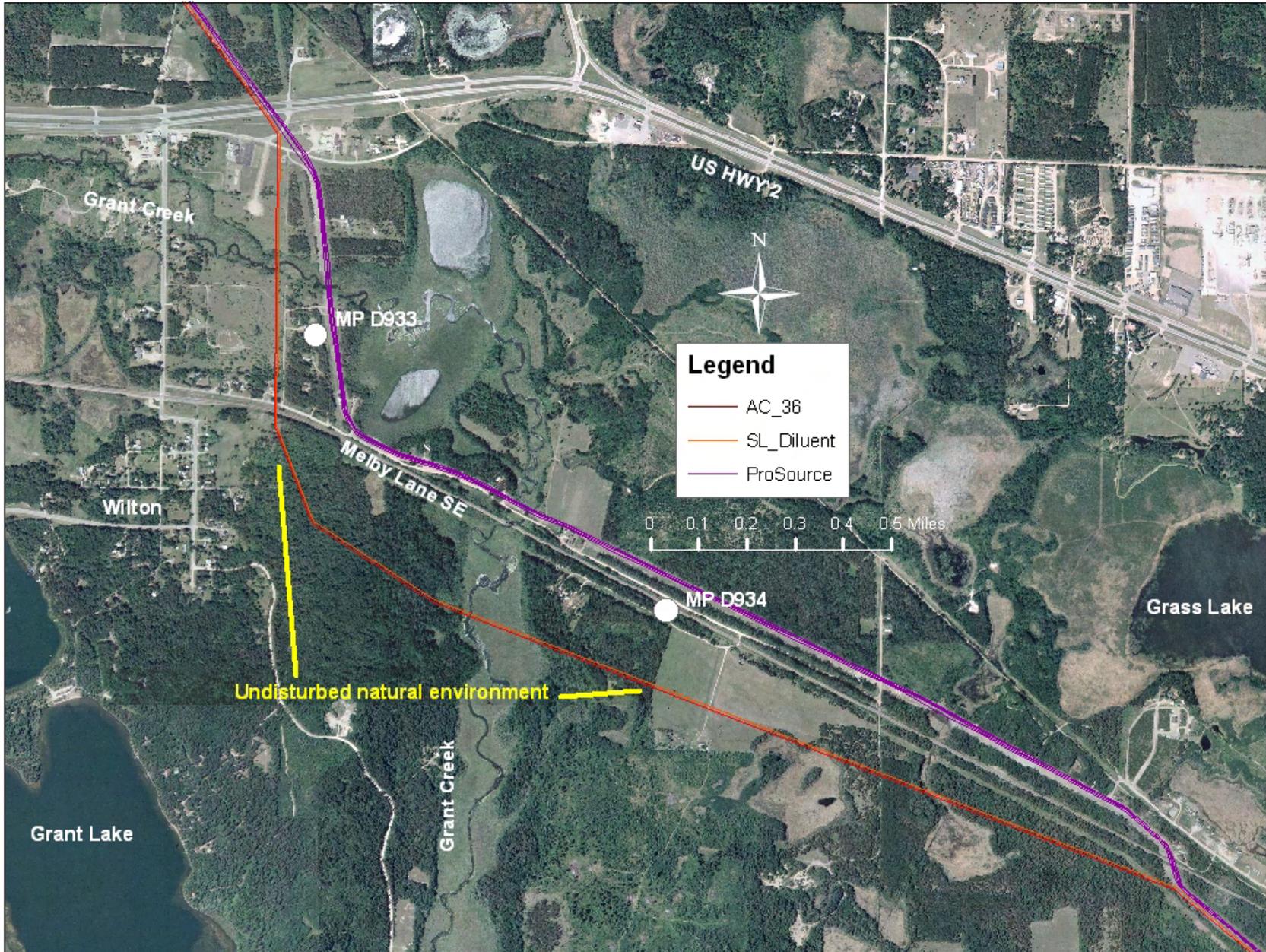


Photo 10

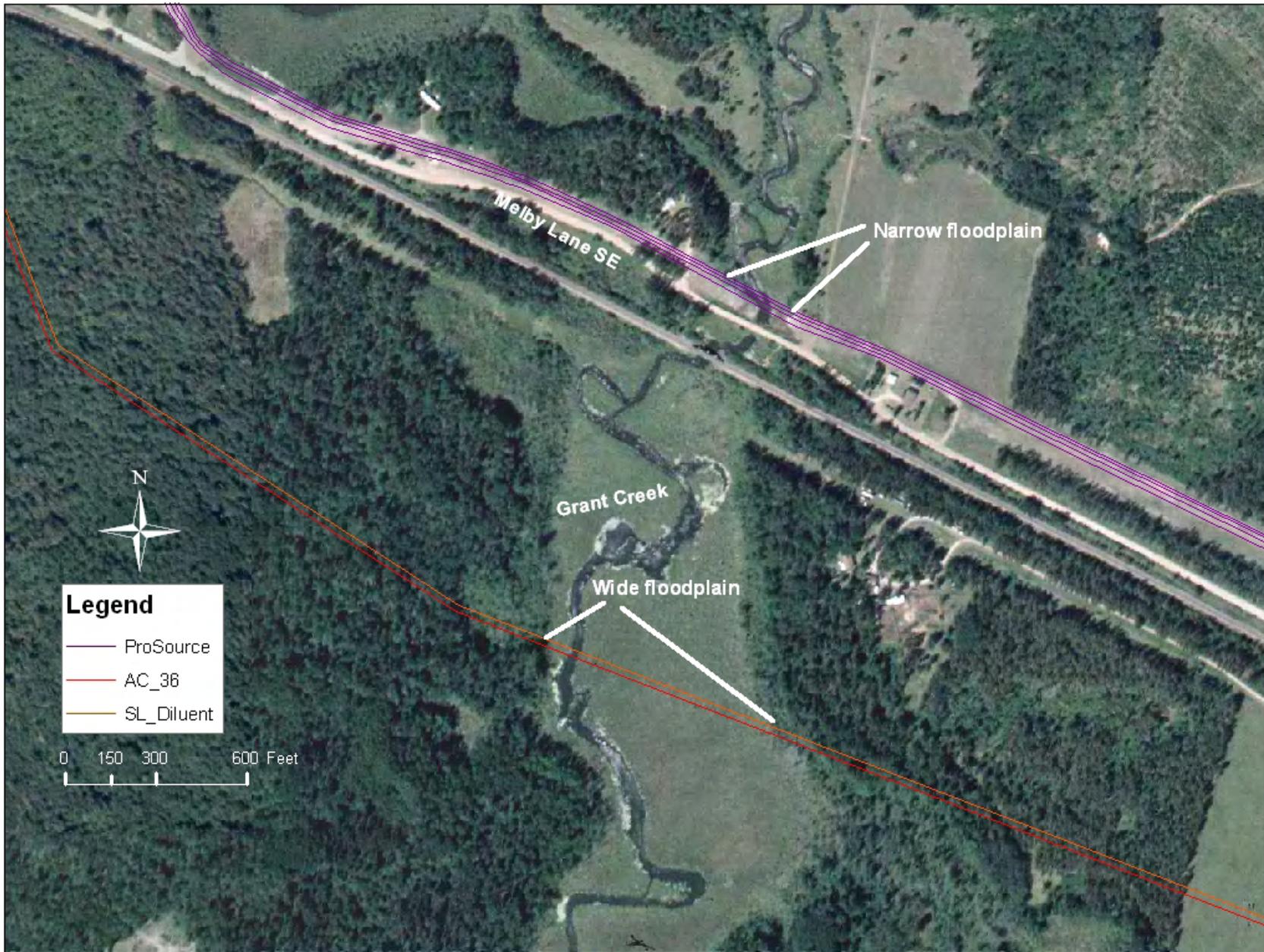


Photo 11

