United States
Department of
Agriculture

Forest Service

Eastern
Region

Hiawatha
National Forest

# Environmental Assessment

# Enbridge Pipelines (Lakehead), LLC

# Pipeline Maintenance - Line 5, Milepost 1369

**Hiawatha National Forest**
**Rapid River/Manistique Ranger District**
**Delta County, Michigan**

**Proposed maintenance site as seen from Highway 13**

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# Acronyms

| | |
|---|---|
| ATV | All-Terrain Vehicle |
| BMP | Best Management Practices |
| DOT | U.S. Department of Transportation |
| dbh | diameter at breast height |
| Enbridge | Enbridge Pipelines (Lakehead), L.L.C |
| EIS | Environmental Impact Statement |
| HNF | Hiawatha National Forest |
| MIS | Management Indicator Species |
| MP | Milepost |
| NEPA | National Environmental Policy Act |
| NNIP | Non-native Invasive Plants |
| ORV | Outstandingly Remarkable Values |
| RFSS | Regional Forester Sensitive Species |
| ROW | Right-of-Way |
| SHPO | State Historic Preservation Office |
| USDA | U.S. Department of Agriculture |
| USFS | U.S. Forest Service |

# CHAPTER 1 – PURPOSE AND NEED FOR ACTION

## *1.1 Document Structure*

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- *Chapter 1 – Purpose and Need:* This section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2 – Alternatives, Including the Proposed Action:* This section provides a detailed description of the agency's proposed action, as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides summary tables of the alternatives and of the environmental consequences associated with each alternative.
- *Chapter 3 – Environmental Consequences:* This section describes the environmental effects of implementing the proposed action and other alternatives. The analysis is organized by resource area. Within each section, the affected environment is described first, followed by the effects of each alternative. The No Action Alternative provides the baseline for evaluating and comparing the alternatives, including the proposed action.
- *Chapter 4 – Consultation and Coordination:* This section provides a list of agencies and individuals consulted during the development of the environmental assessment, as well as a list of preparers.
- *Appendices:* The appendices provide detailed information to support the analyses presented in the environmental assessment.

Additional documentation, including detailed analyses of project-area resources may be found in the project planning record located at the Rapid River/Manistique Ranger District Office in Rapid River, Michigan.

## *1.2 Background*

Pipeline maintenance work is planned by Enbridge Pipelines (Lakehead), L.L.C. (Enbridge) at two locations, Mileposts 1369.4668 and 1369.8501 on their Line 5 pipeline. The maintenance locations were identified through Enbridge's pipeline inspection program and are shown below in Figure 1.

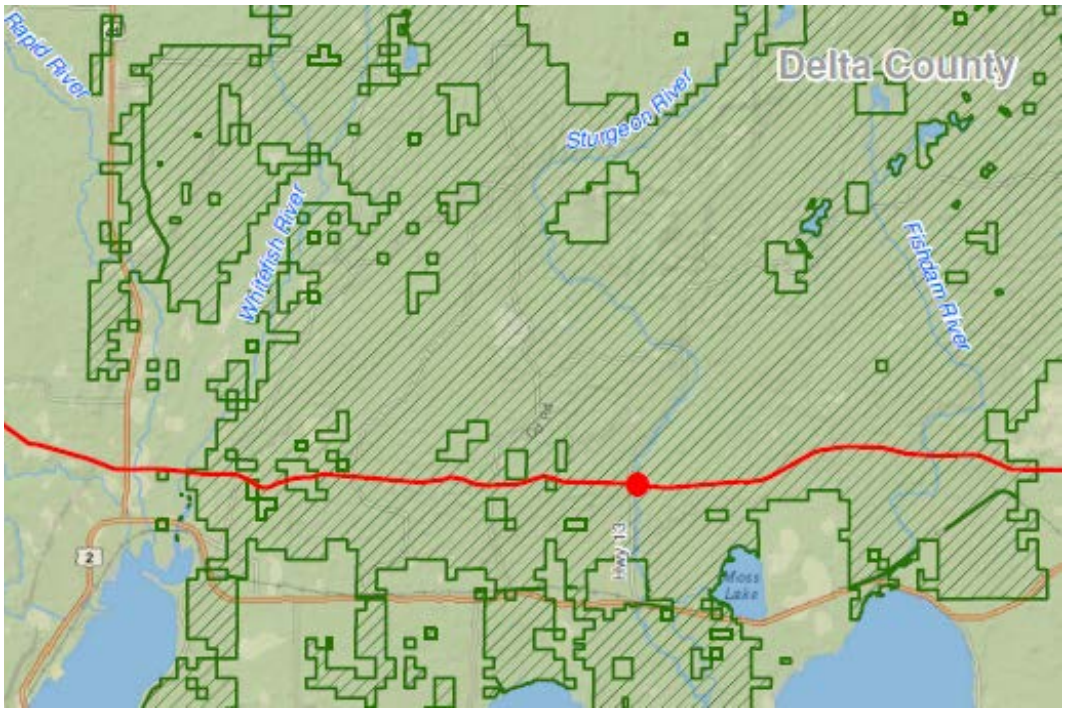


**Figure 1**

The U.S. Forest Service (USFS) special-uses program authorizes activities on USFS land that provide a benefit to the general public and protect public and natural resource values. Construction and operation of utility lines may be authorized through the special uses program. Enbridge operates a petroleum/natural gas liquids pipeline across the Hiawatha National Forest (HNF) under Special Use Authorization CAL 4012-0-1. The pipeline was constructed in the 1950s, and the right-of-way (ROW) has been generally maintained to be partially free of woody vegetation since that time.

## *1.3 Purpose and Need for Proposal*

As part of Enbridge's regular Operations and Maintenance program, pipeline integrity testing is performed with the purpose of identifying pipelines that require visual inspection and, if needed, repair. An internal inspection tool (pig) is sent through the pipeline to collect integrity data and identify potential anomalies.

There is a need to visually inspect and repair, if necessary, two sections of Enbridge's Line 5 (30" diameter) pipeline located in HNF. These locations were identified during integrity testing. The maintenance activity enables Enbridge to maintain their assets and minimizes larger more expensive repairs as well as minimizes the potential for petroleum and natural gas liquids releases and contamination.

The maintenance activities and project need are being completed as required by U.S. Department of Transportation (DOT) regulations 49 CFR Part 195.452 on Integrity Management. This proposal responds to several goals outlined in the 2006 HNF Plan and are presented below:

**Land Use Management**
Goal 1 (page 2-21 of the 2006 HNF Plan): Provide and maintain special use permits in accordance with resource management direction and to meet identified Forest and public needs.

Goal 2 (page 2-21 of the 2006 HNF Plan): Provide for utility transmission corridors and communication sites in accordance with resource management direction and to meet identified Forest and public needs.

## *1.4 Proposed Action*

To meet the purpose and need, the Forest Service proposes to issue a temporary special use permit for the excavation, inspection, and if needed, repair, of the Enbridge Line 5 petroleum/natural gas liquids pipeline MPs 1369.6448 and 1369.8501. All maintenance work would be performed by Enbridge contractors within the 60-foot pipeline ROW for work at MP 1369.8501 with the exception of a portion of the temporary workspace at MP 1369.6448 is located outside of the ROW. Access to the sites would be via the ROW directly off Highway 13. The entire workspace would be restored by reseeding and replanting as soon as possible after backfilling.

The proposed work schedule is for maintenance work to begin in spring or summer of 2013. The maintenance effort would be active for three to four weeks and include the following activities:

- 1-2 weeks to clear trees, lay timber mats, install erosion control devices
- 1-2 weeks to execute excavation and maintenance at each maintenance location
- 1 week to demobilize and conduct restoration

The proposed action is described in detail in Section 2.2.1. See also Appendix A.

## *1.5 Decision Framework*

The Rapid River/Manistique District Ranger will make the following decisions based on the interdisciplinary analysis.

- Will the proposed actions result in a significant impact, requiring the completion of an environmental impact statement (EIS)? If an EIS is not needed, the responsible official will issue a decision notice and finding of no significant impact. The decision notice will describe the selected alternative and the rationale for the selection of that alternative.
- Do the proposed activities and alternatives respond to the issues, implement Forest Plan direction, and meet the purpose and need for the project?

- Should the proposed action, portions of the proposed action (modified), or the no action alternative be selected?

- If an action alternative is selected, what mitigation measure(s) and monitoring will be required during implementation?

## *1.6 Public Involvement*

Information was submitted to the Forest Service in May, 2012 (File Code 2720) regarding work at MP 1369.8501 and a scoping letter regarding the maintenance activity at this location was published on May 16, 2012. In September, 2012 work at MP 1369.6448 was added by Enbridge's pipeline inspection program to this maintenance activity and due to its proximity it was incorporated into the scope of work. The USFS provided another opportunity to comment on the newly defined project, which included both maintenance sites, with a new scoping letter on December 20, 2012. A legal notice was published in the Daily Press of Escanaba, Michigan on December 27, 2012. The proposal was provided to interested parties through a second scoping letter which requested comment from December 27, 2012 to January, 27, 2013. The scoping letter was mailed to thirty-two parties and one letter was returned by the post office. Comments received during the initial May 16th scoping were considered along with any new comments in response to this effort. The updated proposal was listed on the HNF NEPA projects webpage on December 20, 2012 and in the Schedule of Proposed Actions on the same date.

Using comments from the public, the interdisciplinary team developed a list of issues to address.

## *1.7 Issues*

Comments from the public were used to formulate issues concerning the proposed action. The Forest Service separated the issues into two groups: relevant and non-relevant issues. Relevant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-relevant issues were identified as those: 1) beyond the scope of the proposed action; 2) already decided by law, regulation, policy, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; 4) conjectural or not supported by scientific or factual evidence. The Council for Environmental Quality NEPA regulations requires this delineation in section 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…"

The Forest Service identified the following relevant issues based on the one comment received:

- Sediment-laden run-off entering the Sturgeon River

- Introduction of non-native invasive plants (NNIP)

- Tree-clearing and associated visual impacts

# CHAPTER 2 – ALTERNATIVES, INCLUDING THE PROPOSED ACTION

## *2.1 Introduction*

This chapter describes and compares the alternatives considered for the Enbridge Pipeline Line 5 MPs 1369.6448 and 1369.8501 maintenance projects. This section also presents the Proposed Action and No Action alternatives in comparative form, sharply defining the differences between each and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental effects of implementing each alternative.

## *2.2 Alternatives Considered in Detail*

The Forest Service is required to analyze a no action alternative. The following section describes in detail the proposed action and no action alternative.

### 2.2.1 Proposed Action

The proposed action includes excavation, inspection, and if needed, repairs of the Enbridge petroleum/natural gas liquids pipeline. The proposed action also includes restoration of the ROW and associated workspace. The excavation at MPs 1369.6448 will be approximately 30 to 35 feet wide, 60 to 70 feet long, and up to 10 feet deep; up to 910 cubic yards of soil will be excavated, temporarily stored, and backfilled. A portion of the extra workspace, used for parking and storing equipment will be located outside the existing ROW. The excavation at Milepost 1369.8501 will be approximately 25 to 40 feet wide, 50 to 60 feet long, and 8 feet deep; up to 700 cubic yards of soil will be excavated, temporarily stored, and backfilled. Equipment used would include a backhoe or similar excavator, and trucks to transport personnel, equipment and soil. Dewatering would be needed in order to successfully complete the maintenance work at both MPs discharge would be directed to straw bale dewatering structures in upland infiltration locations. No dewatered discharge or resultant runoff would be discharged directly into the Sturgeon River.

Access to the site would use the existing ROW directly off Highway 13. In advance of the work, Enbridge will coordinate with the Delta County Road Commission on using the road for access and hauling. Signage and flagging will be installed on Highway 13 during maintenance activities to alert other drivers to proceed with caution. Personal vehicles of Enbridge contractors will not be parked along Highway 13. All of the activities associated with the work except for a portion of the extra workspace (used for parking and storing equipment) at Milepost 1369.6448 will be located within the existing ROW. To minimize congestion along the highway, single trailer logging trucks will be used. A log and timber mat landing area would be put in place and a limited amount of gravel would be used for leveling purposes. The gravel would be placed on geotextile fabric to facilitate clean-up. Mats and equipment would be off-loaded from trucks staged on the mats; additionally logging trucks would be loaded while staged on the mats. Tree limbs and brush would be trimmed to accommodate the mat loading area. To minimize visual impacts, trees and vegetation closest to Highway 13 would be left intact, to the extent possible. Shrubs and brush would be cleared to allow access to the project area.

From 100 feet east of Highway 13 to the work area, the access road would be 25 feet wide, from the center of the pipeline 5 feet would be cleared south of the pipeline and 20 feet north of the pipeline.

The ROW would be restored as soon as possible, after backfilling. A re-vegetation plan approved by the HNF will be implemented. Permanent re-vegetation would involve preparing the seedbed and seeding disturbed areas. Specific seed mixes, application rates and seeding dates would be coordinated with the HNF West Unit Plan ecologist.

According to the 2006 HNF Forest Plan, Outstandingly Remarkable Values (ORV) identified for the Sturgeon River include:

- Hydrologic – presence and formation of oxbow formations in lower reaches
- Ecological/Botanical – southern floodplain forests with species uncommon in northern Michigan
- Heritage Resources – historic and archaeological sites
- Wildlife – habitat quality, species diversity, game species, and Regional Forester Sensitive Species

**Mitigation Measures**
The following mitigation measures were specifically developed as part of the Proposed Action to protect the ORV's and resources present in the project area.

**Heritage Resources:**
Should artifacts or bones be discovered during the project, work at the site will stop and the SHPO will be notified immediately.

**Sediment Control:**
Erosion control measures, such as silt fencing and straw bales, would be installed as detailed in Appendix A prior to soil disturbance. The map in Appendix A presents the work site layout, surrounding features and the conceptual installation of erosion control structures. Adjustments may be made to address actual field conditions during the project.

**NNIP:**
To reduce the potential for introduction or spread of NNIP, construction equipment will be cleaned before being brought on HNF managed lands. Enbridge Contractors would establish an equipment and mat cleaning area off the forest for cleaning and inspection prior to use on the proposed project. Enbridge would provide training on the identification and removal of invasive plant species to appropriate personnel to facilitate awareness of NNIP and help prevent inadvertent spreading. Enbridge would take measures so that construction equipment is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Cleaning will involve removing soil, seeds, vegetative matter, or other debris from equipment tracks and/or other parts. Cleaning methods would include high-pressure water, compressed air, and manual brushing or other means to remove soil and debris.

Reed Canary grass is present on the pipeline ROW. Therefore, Enbridge will coordinate with HNF to either remove and/or minimize the spread of invasive plants by manual and/or mechanical methods prior to this project work. Additional measures would include:

- Invasive plants found from the Forest Highway 13 access point along the ROW will be removed, avoided, or crossed after construction mats have been placed over the affected area, as well as other measures to minimize the spread,

- Straw and straw bales (not hay) will be used for mulch, sediment barriers, and dewatering devices, and

- Native seed, weed free oats will be used for temporary and permanent re-vegetation.

**Visuals/Recreation:**
A Visual Mitigation Plan was prepared for this project and would include the following restoration elements:

- A re-vegetation plan approved by the HNF will be implemented.
- Due to the close proximity (300 feet) of the maintenance work to the Flowing Well Campground, a flyer (developed by Enbridge and approved by the USFS) will be posted at the campground bulletin board that describes the purpose of the work and the schedule. This will enable campers and other users to make alternate plans in the event that the maintenance project is too disruptive.
- Any trees that are dropped into the Sturgeon River will be removed.

### 2.2.2 Alternative 1 – No Action
Under the No Action Alternative, the USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 MPs 1369.6448 and 1369.8501.

## *2.3 Comparison of Alternatives*
Information in the following tables is focused on the activities associated with each alternative (section 2.3.1) and the effects of implementing each alternative (section 2.3.2).

### 2.3.1 Comparison of Activities
The table below presents a comparison of activities associated with the Proposed Action and No Action Alternative.

**Table 2.3.1 – Alternatives Comparison of Activities**

| Proposed Action | | | | No Action Alternative |
|---|---|---|---|---|
| **Area of Impact** | **MP 1369.6448** | **MP 1369.8501** | **Total** | **0** |
| Excavation and work space wetland | 0.10 acre (4,500 $ft^2$) | Not applicable | 0.10 acre (4,500 $ft^2$) | 0 |
| Excavation and work space in pine forest | 0.27 acre (11,850 $ft^2$) | 0.31 acre (13,800 $ft^2$) | 0.59 acre (25,650 $ft^2$) | 0 |
| Work space in aspen/birch/fir forest | 0.04 acre (1,800 $ft^2$) | 0.04 acre (1,600 $ft^2$) | 0.08 acre (3,400 $ft^2$) | 0 |
| Access through wetlands | Not applicable | 0.02 acre (800 $ft^2$) | 0.02 acre (800 $ft^2$) | 0 |
| Access through aspen/birch/fir forest | Not applicable | 0.32 acre (14,150 $ft^2$) | 0.32 acre (14,150 $ft^2$) | 0 |
| Access through pine forest | 0.05 acre (2,300 $ft^2$) | 0.1 acre (4,150 $ft^2$) | 0.15 acre (6,450 $ft^2$) | 0 |
| Total | | | **1.26 acre (64,950 $ft^2$)** | **0** |

## 2.3.2 Comparison of Effects

The table below presents a comparison of effects associated with the Proposed Action and No Action Alternative.

**Table 2.3.2 Alternatives Comparison of Effects**

| Resource | Proposed Action | Alternative 1 (No Action) |
|---|---|---|
| Water Quality | No in-river work. No effect to hydrology or watersheds. Water quality will be maintained by preventing sediment run-off with mitigation measures and BMP's. | No direct effect but potential for contamination resulting from pipeline release in long-term. |
| Non-Native Invasive Plants | Reed Canary Grass is present on the pipeline ROW. To avoid the spread of NNIP, the project will be implemented with BMP's. | No direct effect but potential for larger response project with larger impacts in the future. |
| Visual Quality | Minimal and visual quality will be restored using visual mitigation measures. | No direct effect but potential for larger project with larger impacts in the future. |

# CHAPTER 3 – ENVIRONMENTAL CONSEQUENCES

## *3.1 Introduction*

This chapter describes aspects of the physical, biological, social, and economic environments likely to be affected by the proposed action and alternatives. It also discloses the direct, indirect, and cumulative effects that would result from implementing any of the alternatives. Together, these descriptions form the scientific and analytical basis for the comparison of effects in Chapter 2.

## *3.2 Past, Present, and Reasonably Foreseeable Future Actions*

The spatial bounds of analysis for this project area are defined as the project work within the ROW, the small area of project work outside the ROW (log and timber mat landing area adjacent Highway 13, excavation work area for 1369.6448) and the WSR segment one mile up and down river of the project area. The temporal bounds of analysis are defined as spring through summer of 2013. The maintenance activities would begin once all permits and permissions have been obtained. The maintenance effort would be active for three to four weeks. Restoration activities will take place in the once the maintenance is complete and be completed in the summer through the fall.

The project area is within a nationally designated Wild and Scenic River corridor along the Sturgeon River. The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Sturgeon River was designated as a Wild and Scenic River with passage of the Michigan Scenic Rivers Act of 1991. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development.

The ORV for this reach of the Sturgeon River are:

- Hydrological – presence and formation of oxbow formations in lower reaches
- Ecological/Botanical-southern floodplain forest with species uncommon in northern Michigan
- Heritage Resources – historic and archaeological sites
- Wildlife- habitat quality, species diversity, fame species, and Regional Forester Sensitive Species

The resources associated with these ORV's are detailed individually by resource category throughout this chapter.

Characteristics and features of the project area are not unique but rather common to the area and HNF. The majority of the project is located in upland areas with the exception of two small wetlands. The uplands are comprised of a pine and an aspen/birch/fir deciduous complex. An alder swamp shrub carr wetland is found near the west end of the project area close to Highway 13. At the east end of the project area, near a bend in the river, there is a floodplain forest wetland. The canopy above the project area is discontinuous as no trees are present over the pipeline ROW.

The Council on Environmental Quality has defined 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 actions" (40 CFR 1508.7). The proposed project will not permanently impact wildlife, vegetation, soils, water, or recreation; and subsequently will not contribute to any cumulative effects The project will temporarily impact the scenic quality of the area as described in section 3.12.1 Affected Environment.

## *3.3 Soils*

### 3.3.1 Affected Environment

The project area consists of the Sturgeon River, its riparian area and adjacent uplands. The topography is typically gently rolling with slopes ranging from 2 percent to 15 percent. It is within the glacial drainage way, outwash plain and lake plain landforms. The soils in the corridor are commonly sandy but include finer textures in some areas that are remnants of a glacial drainage feature. (USDA 2006a).

The Natural Resources Conservation Service (NRCS) has mapped soils in the area of the proposed pipeline work. Most of the mapped soils along the proposed access route and excavation are identified as "Ad" (Alluvial land). This soil is not described other than very poorly drained and frequently flooded with slopes of 0-2 percent. The soil texture is likely to be sandy because the surrounding soils are predominantly described as sands. A small sliver of land east of Highway 13 at the beginning of the access route is mapped as "Rc" (Roscommon mucky sand). Roscommon mucky sand is a very poorly drained dark grey to brown mucky sand usually found on a 1 percent slope in a forested area.

### 3.3.2 Environmental Consequences

**Proposed Action**

The area of excavation at both the Mileposts 1369.6448 and 1369.8501 will be limited in size and approximately 20,100 $ft^2$ or 0.45 acre. Equipment used will include a backhoe or similar excavator. Topsoil, and subsoil will be excavated, segregated, and temporarily stockpiled into separate piles adjacent the excavation site. The proposed work for each excavation is expected to last 7-10 days. Upon completion of the maintenance work, the subsoil will be replaced, and then the topsoil, and will be stabilized.

Erosion control measures, such as silt fencing and straw bales, will be installed as needed, prior to soil disturbance to minimize the potential for erosion and sediment loss. Stockpiles can be covered with plastic to prevent sediment loss in the event of storms. No resultant sediment will be discharged directly into the Sturgeon River. The ground will be returned to a pre-construction grade and stabilized with reseeding and erosion control blanket/mulch as quickly as possible following completion of the maintenance activity to prevent erosion and sediment loss.

The proposed work is temporary and the work area will be restored quickly. There would be no expected direct or indirect effects to soils and consequently no cumulative effects to soils.

**No Action Alternative**
The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for a large-scale maintenance activity and/or contamination resulting from a pipeline release in the long-term. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.4 Hydrology/Watershed/Water Quality*

### 3.4.1 Affected Environment
The project area is defined as the project work within the pipeline ROW, the small area of project work outside the ROW (log and timber mat landing area adjacent Highway 13, excavation work area for 1369.6448) and the Wild and Scenic River segment one mile up and down river of the project area. The Sturgeon River is classified as a Wild and Scenic River. It is required by the Wild and Scenic Rivers Act that all management activities within the wild and scenic river corridor will protect or enhance the ORV's (river values) identified for the river corridor. (USDA, 2006a) One of the ORV's is Hydrological for the presence and formation of oxbow formations in lower reaches.

In general, water quality in the project area currently meets or exceeds the standards set by the Michigan Water Resources Commission. The amount of sand transported by the river is in equilibrium with the ability of the river to move it. A healthy and diverse riparian plant community maintains stable river banks and provides thermal cover to the riparian system. (USDA, 2006a)

The Sturgeon River is in a state of dynamic equilibrium with continuing natural erosional and depositional processes at the local scale. Natural changes in the stream channel occur, resulting in eroding streambanks which provide habitat for those species dependent on such disturbance, and keep the energy of the river in balance with its gradient and channel morphology. (USDA, 2006a)

### 3.4.2 Environmental Consequences

**Proposed Action**
The proposed work will not occur in the river channel and will not affect the ability of the channel to change course, re-occupy any former segment, inundate the floodplain, affect flood storage, or change the amount, timing or pattern of channel flow. Silt fencing and straw bales as detailed in the Proposed Action description in Section 2.2.1 will be installed prior to any soil disturbance to protect water quality. There would be no direct or indirect effects to hydrology, the watershed or water quality and consequently no cumulative effects.

**No Action Alternative**
The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for a large-scale maintenance activity and/or contamination resulting from a pipeline release in the long-term. The No Action alternative is not

consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.5 Wetlands*

### 3.5.1 Affected Environment

The project area is upland, with the exception of a floodplain forest area adjacent the Sturgeon River and an alder swamp shrub carr wetland found near the western edge of the project area. Please refer to Appendix A.

### 3.5.2 Environmental Consequences

**Proposed Action**

Impacts to wetlands would be temporary. A total of 0.1 acres or 4,500 $ft^2$ would be excavated and or used for workspace in an alder swamp. The excavation and workspace would be restored to existing conditions. For purpose of access, timber mats will be placed along the temporary access road and work areas as needed to minimize soil compaction and disturbance. A total of 0.02 acre or 800 $ft^2$ of wetlands would be crossed for access. There would be no direct or indirect effects to wetlands and consequently no cumulative effects to wetlands.

**No Action Alternative**

The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for a large-scale maintenance activity and/or contamination resulting from a pipeline release in the long-term. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.6 Vegetation*

### 3.6.1 Affected Environment

The HNF is largely a second growth forest as a result of logging and burning around the end of 19th century. Fire control and planting took place in the 1930s and 1940s by the USFS and the Civilian Conservation Corps. The result is a forest of mostly uniform age classes, with little within-stand diversity or structure. (USDA, 2006b)

The upland portions of the project area consist of red pine forest and aspen/birch/fir forest. Red pine forests are dominated by red pines, approximately 8-14 inches in diameter at breast height (dbh), creating approximately 50 percent canopy cover. The pines are generally uniformly spaced approximately 6 feet apart, although mortality creates occasional larger spacing. The forest subcanopy is comprised primarily of balsam fir saplings, 2-5 inches dbh, creating approximately 50-75 percent canopy cover. The aspen/birch/forest is dominated by aspen, 6-10 inches dbh, and balsam fir as described above. Paper birch occurs sporadically.

The wetland portions of the project area consist of alder swamp and a small length of floodplain forest along the Sturgeon River.

### 3.6.2 Environmental Consequences

**Proposed Action**
The Proposed Action would result in the following estimated area of impact to the vegetation communities in the project area:

Red Pine – 32,100 $ft^2$ or 0.74 acre
Aspen/Birch/Fir – 17,550 $ft^2$ 0.40 acre
Alder Swamp – 5,300 $ft^2$ or 0.12 acre

As presented in the Proposed Action discussion, Section 2.2.1, the ROW would be restored as soon as possible after backfilling. Whenever possible, balsam trees and other hardwood trees that are small and would not be cut for timber would be dug up and preserved such that they could be re-planted and used for site restoration to promote the return of native vegetation. Sturgeon River edge areas would be restored by planting reclaimed balsam trees to decrease sight line to work area. Reclaiming trees will only be possible if the project takes place during the growing season and not the winter. Erosion control structures would be removed after new growth has been established. Permanent re-vegetation would involve preparing the seedbed and seeding disturbed areas. Specific seed mixes, application rates and seeding dates would be coordinated with the HNF Botanist.

**No Action Alternative**
The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 MP 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for a large-scale maintenance activity with more impacts.

## *3.7 Non-Native Invasive Plants*

### 3.7.1 Affected Environment

NNIP include aquatic and terrestrial plants which have the potential to cause a variety of negative impacts to terrestrial and aquatic ecosystems on the HNF. Because they lack pathogens and predators, some plants have become persistent, aggressive invaders of disturbed habitats and native plant communities. They may become the dominant component of vegetation, thus reducing native plant diversity and impacting wildlife habitat.

Disturbances, such as roads, trails and utility corridors provide excellent habitat for most NNIP. Inventory of non-native invasive species has been completed in most areas of the Enbridge and Great Lakes gas corridors as well as the other project areas on the West Unit. The vast majority of NNIP populations on the HNF occur on roadsides, utility corridors, Great Lakes Shorelines, gravel pits, parking areas and other disturbed areas. (USDA, 2006b) Small populations of reed canary grass (*Phalaris arundinacea*) are present, particularly in moist locations. Other NNIP species are primarily only found along the roadside at Highway 13.

### 3.7.2 Environmental Consequences

**Proposed Action**
Disturbed areas will be revegetated with tree saplings and/or native groundcover vegetation, appropriate for the HNF. The revegetation will help prevent the establishment or expansion of NNIP in the project area. The Proposed Action would not result in any negative effects from NNIP; therefore, there would be no direct or indirect effects to NNIP and consequently no cumulative effects.

**No Action Alternative**
The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for a large-scale maintenance activity with more impacts.

## *3.8 Threatened, Endangered, and Sensitive Species*

### 3.8.1 Affected Environment
The project is located near the Sturgeon River. The upland portions of the project area consist of pine forest and aspen/birch/fir forest. The wetland portions of the project area consist of alder swamp and a small length of floodplain forest along the river. Work will be conducted in upland forest and alder swamp locations, and no work will occur within the river.

The pipeline corridor is the predominant existing disturbance in the project area. Natural disturbances characteristic of a dry pine forest, alder thicket, or floodplain forest may also occur in habitats adjacent to the ROW in or near the project area. Non-native invasive plants (NNIP) are uncommon in the project area.

**Occurrence of Federally Listed and Regional Forester Sensitive Species (RFSS)**
The only federally listed animal with potential habitat adjacent to the project is Canada lynx. No lynx have been found during annual track surveys on the West Unit of the Hiawatha National Forest. Thus, lynx would be unlikely to occur in the project area. The project area contains suitable habitat for lynx, based on forest types and age classes, but it is extremely unlikely lynx would be denning along a pipeline ROW. The project will not impact road density or forest habitat known to be used by lynx

Wildlife RFSS mentioned in the 2006 HNF Forest Plan for this area (Management Area 8.4.4, Sturgeon River Wild and Scenic River) include gray wolf, bald eagle, American marten, black-backed woodpecker, and wood turtle. The Michigan Natural Features Inventory lists lake sturgeon (state threatened) within one mile of the project area (USDA, 2006a). There are no RFSS wildlife occurrences in the vicinity of the project area. However, suitable habitat exists for RFSS gray wolf, bald eagle, osprey, American marten, black-backed woodpecker, and wood turtle.

The Michigan Natural Heritage Program database was queried on April 18, 2012. No federally listed plant species are known to be present, and no suitable habitat for federally listed plants is present. There are no known RFSS occurrences in the vicinity of the project area. Meander surveys for RFSS and potential habitat were conducted onsite during June 2012. No RFSS or other protected species were found during the surveys.

### 3.8.2 Environmental Consequences

**Proposed Action**
Biological Evaluations were prepared for flora and fauna for the proposed action. Refer to those documents for additional details of the assessment of impacts to threatened and endangered species and RFSS.

**Effect on Federally Listed Endangered or Threatened Wildlife**
A “no effect” determination was made (refer to faunal biological evaluation) for Canada lynx due to the extreme unlikelihood of encountering lynx during the project, and its preferred habitat will not be impacted.

**Effect on RFSS Wildlife**
Although no RFSS wildlife are known from the project site, the potential impact to RFSS wildlife was evaluated by consideration of the distribution and habitat requirements for all HNF RFSS identified in the management area. A determination of *“no impact”* was made for bald eagle. A determination of *“May impact individuals but not likely to cause a trend to federal listing or a loss of viability”* was made for gray wolf, American marten, black-backed woodpecker, and wood turtle

**Effect on Federally Listed Endangered or Threatened Plant Species**
A “no effect” determination was made (refer to botanical biological evaluation) for federally listed species of plants based on absence and lack of any suitable habitat being present.

**Effect on RFSS Plants**
Although no RFSS plants are known from the project area, the potential impact to RFSS plants was evaluated by consideration of the distribution and habitat requirements for all HNF RFSS. Based on vegetation and landcover in the project area, plant species are categorized into one of three groups:

- Without suitable habitat: species whose presence has not been documented and which do not have suitable habitat in the project activity areas. Typically these species occupy barrens, wetlands, conifer swamps, streams, lakes, or rocky shores where no project activities are proposed.
- Occupied habitat: species whose presence has been documented within the project boundary. These species may or may not occur within proposed actions.
- Unoccupied habitat: species whose presence has not been reported but which have suitable habitat in the project activity areas.

Without suitable habitat: Most RFSS plants evaluated do not have suitable habitat present in the project area and/or are not known to occur in the West Unit of the Hiawatha National Forest. Therefore, the proposed project is determined to have no impact on these species.

Occupied habitat: There are no known RFSS occurrences at the project location, so there are no species in the occupied habitat category.

Unoccupied habitat: Vascular plants identified as having potentially suitable habitat in the project area, but for which no occurrences are known include Blunt-lobed grapefern

(*Botrychium oneidense*); Fir clubmoss (*Huperzia selago*); Butternut (*Juglans cinerea*); and Veiny meadow rue (*Thalictrum venulosum*).

Direct and indirect effects of the proposed project include:

- Impacts to above-ground vegetation from heavy equipment traveling the ROW.
- Clearing forested and alder swamp for work areas, access, and excavation.
- Excavation of soil from two locations on the pipeline ROW. The soil will be replaced, and the area would be re-seeded after completion of the project.
- Inadvertent introduction of invasive species via construction equipment.

Although no RFSS plants are known to occur in the project area, suitable habitat is present for several. Species most likely to be impacted by this project are those typically found in disturbed areas, such as roadsides. If any RFSS species are present, the project could directly and/or indirectly impact individuals through accidental trampling, soil disturbance, canopy opening, introduction of invasive species, or disruption of nesting. While individuals may be impacted, the proposed project is unlikely to lead towards a loss or decreased viability of populations or contribute to listing any of the species as federally threatened or endangered. Therefore a *"May impact individuals but not likely to cause a trend to federal listing or a loss of viability"* determination was made for RFSS with suitable un-occupied habitat occurring in the project area.

A variety of forest management activities may affect RFSS species. Relatively few element occurrences are known in the West Unit of the HNF. The cumulative effects of this project, when combined with other activities on the forest, are not anticipated to have adverse impacts on RFSS species. Refer to the fauna and botanical biological evaluations for the complete list of RFSS wildlife plants and potential impacts.

**No Action Alternative**

The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for contamination/exposure resulting from a pipeline release in the long-term and/or a large-scale maintenance activity with more impacts. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.9 Management Indicator Species*

### 3.9.1 Affected Environment

Management Indicator Species (MIS) are species whose population changes are thought to indicate the effects of management activities or their wildlife species with similar habitat requirements. There are three terrestrial MIS for the HNF: sharp-tailed grouse, ruffed grouse, and American marten. Sharp-tailed grouse prefer early successional habitats with a mixture of cover types (pine barrens, burned forest areas, and non-forested wetlands). Ruffed grouse occur in many different forest types but tend to prefer deciduous and mixed forest types. Quaking and bigtooth aspen forests support larger populations of ruffed grouse, and recently clear-cut or burned aspen forest provide protective ruffed grouse cover. American marten represent and utilize mature northern hardwood forests and conifer forests. Brook trout is the only fish on the HNF designated as MIS. Its known habitat is coldwater streams. (USDA, 2006a)

### 3.9.2 Environmental Consequences

**Proposed Action**

Impacts associated with the Proposed Action are largely temporary and small in size. No MIS will be negatively affected by the Proposed Action; therefore, there would be no direct or indirect effects to MIS and consequently no cumulative effects.

**No Action Alternative**

The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for contamination/exposure resulting from a pipeline release in the long-term and/or a large-scale maintenance activity with more impacts. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.10 Fisheries and Aquatic Habitat*

### 3.10.1 Affected Environment

The Sturgeon River provides quality habitat for anadromous salmonids and resident trout populations that are maintained through natural reproduction and stocking. Healthy aquatic invertebrate populations, spawning areas and pools and habitat diversity to support all components of the aquatic ecosystem are present. Large woody debris is common in the river providing channel stability, structure and habitat complexity that enhances aquatic and riparian habitats. (USDA, 2006a)

### 3.10.2 Environmental Consequences

**Proposed Action**
No alterations will occur to river biological processes such as fish spawning or needs of amphibians and mollusks. The project will not impact the river; therefore, there would be no direct or indirect effects to spawning or needs of amphibians and mollusks, consequently no cumulative effects. Silt fencing and straw bales will be used to control runoff from the work area to protect river water quality.

**No Action Alternative**
The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for contamination/exposure resulting from a pipeline release in the long-term and/or a large-scale maintenance activity with more impacts. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.11 Recreation*

### 3.11.1 Affected Environment
The Flowing Well Campground and other dispersed sites along the Sturgeon River provide opportunities for day use and overnight camping within the river corridor. The Moss Lake Single Track Motorcycle Trail is located less than one mile away and many off-road enthusiasts camp at Flowing Well and ride their motorcycles along Highway 13 to the trail head, passing directly by the project location.

The Nahma Grade Snowmobile Trail spur to Nahma Junction can also be found immediately west of Highway 13, across from the project location. Although many ATV riders illegally ride the trail during the summer months, ATV riders can legally ride on the shoulder of Highway 13 to access the Forest. Highway 13 is a popular thoroughfare that provides access into the Forest from businesses and residences in the Nahma and Nahma Junction.

Dispersed sites, with some sites accessible only by water or trail, provide visitors with a more primitive, isolated camping experience. Fishing within the Sturgeon River corridor is a popular recreational activity. Much of the river offers a quality, self-sustaining fishery for anadromous salmonids and resident trout. Canoeing on the Sturgeon River occurs but is infrequent and only practical during high water conditions in the early spring and possibly in the fall, following significant rain events. (USDA, 2006a).

### 3.11.2 Environmental Consequences

**Proposed Action**
Illegal ATV intrusions to the river should be prevented by implementing a re-vegetation plan approved by the HNF. It is expected that ATVs will continue to utilize Forest Highway 13 enroute to the Moss Lake Trail and points further north; the re-vegetation plan should provide concealment of the cleared corridor. Although the pipeline ROW is near the Flowing Well campground (300 feet), the proposed work, as it is limited in both size and duration, would not interfere with use of the campground, or with other recreational opportunities in the long term. The noise from the construction activities may be heard by the campground users in the short-term; however, a flyer posted on the bulletin board at Flowing Well will provide campers and other day users details of the project and the schedule. This will enable campers and day users to reschedule their activities when the work is completed, if the noise from the construction activities is too disruptive. There should be no affect to use on the Nahma Grade Trail; although, ATV traffic utilizing the shoulder of Forest Highway 13 may be stopped for a brief period while equipment is accessing the site.

**No Action Alternative**
The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 MPs 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for contamination/exposure resulting from a pipeline release in the long-term and/or a large-scale maintenance activity with more impacts. If the pipeline maintenance work is not completed the potential for a release would be greater. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

Under this alternative there would be little or no chance that illegal ATV use will become established in the corridor. There is currently no evidence of illegal ATVE use on the corridor between Forest Highway 13 and the Sturgeon River.

## *3.12 Visual Quality*

### 3.12.1 Affected Environment
Viewsheds along the Sturgeon River are very confined due to the heavy stream bank vegetation. Consequently, the natural-appearing characteristics of the landscape dominate. Visitors experience minimal evidence of human development in the scenic segment and slightly more human development and modification of the landscape in the recreational segment. Visitors continue to see some eroded streambanks as the natural erosion process continues. Stabilized streambanks are revegetated and blend in with the surrounding landscape. (USDA, 2006a). The project area is located within a recreation reach of the river.

The upland portions of the project area consist of red pine forest and aspen/birch/fir forest. Red pine forests are dominated by red pines, approximately 8-14 inches in diameter at breast height (dbh), creating approximately 50 percent canopy cover. The pines are generally uniformly spaced approximately 6 feet apart, although mortality creates occasional larger spacing. The forest subcanopy is comprised primarily of

balsam fir saplings, 2-5 inches dbh, creating approximately 50-75 percent canopy cover. The aspen/birch/forest is dominated by aspen, 6-10 inches dbh, and balsam fir as described above. Paper birch occurs sporadically.

The wetland portions of the project area consist of alder swamp and a small length of floodplain forest along the Sturgeon River.

According to the 2006 HNF Forest Plan FEIS, there is no forest-wide desired condition for the scenic (visual) resource at this location. Generally, Visual Quality Objectives (VQO) were assigned to key travel corridors (i.e. Highway 13), shorelines, wild and scenic river corridors, ecologically sensitive areas and areas where scenic integrity is high. (USDA, 2006b)

### 3.12.2 Environmental Consequences

**Proposed Action**
The proposed project will slightly and temporarily alter the visual appearance of the forest in the immediate vicinity of the excavation and pipeline ROW. There is currently no access road visible from Forest Highway 13 to the Sturgeon River along the existing ROW. There should be minimal change in the appearance as viewed by passersby traveling on Forest Highway 13 as a re-vegetation plan approved by the HNF will be implemented. There should also be no illegal ATV trails created to the river, which would create an unnatural contrast to the otherwise heavily vegetated road corridor. By placing gravel on geotextile fabric where the ROW intersects Forest Highway 13, the light colored gravel can be entirely removed and will not contrast with the greenery of the remaining vegetation; therefore, not calling attention to the cleared ROW further to the east.

River users should not notice the linear opening above them as they paddle through the corridor as a re-vegetation plan approved by the HNF will be implemented.

In the short-term the sandy bank below the maintenance location will likely see foot traffic and newly-exposed lightly colored sand, which may call river users' attention to the work above them. Additionally, the noise from the construction activities will be heard by the river users in the short-term. By implementing the re-vegetation plan approved by the HNF it will be unlikely that an illegal ATV trail will be created between Forest Highway 13 and the Sturgeon River and increased foot traffic is not expected.

**No Action Alternative**
Under this alternative there will be no change to the visual resource along the river or to the Forest Highway 13 corridor. There would be no access road to the pipeline ROW and little or no chance that illegal ATV use would become established along the ROW. There is currently no evidence of illegal ATV use on the corridor between the highway and the Sturgeon River. Similarly, there would be no change in the vegetation along the Sturgeon River; river users would likely pass through the pipeline ROW unaware of the presence of the utility corridor.

The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity

increases the potential for contamination/exposure resulting from a pipeline release in the long-term and/or a large-scale maintenance activity with more impacts. If the No Action alternative was selected the potential for a pipeline release would be greater. The No Action alternative is not consistent with the Wild and Scenic Rivers, watershed management and land use management goals in the 2006 HNF Plan listed in Section 1.3 of this document.

## *3.13 Heritage Resources*

### 3.13.1 Affected Environment

Traditional sites used by Native Americans on federal and ceded lands are managed consistent with forest policy. Treaty rights are maintained. The Forest Service and the Tribes work cooperatively to assure that the outstandingly remarkable values of the river are protected. The Sturgeon River retains a high level of cultural significance for local residents. Individuals, groups and communities maintain traditions and strong ties to the river and its setting. (USDA, 2006a).

An area of potential effect (APE) was defined and surveyed for heritage resources in 1994. No heritage resources were identified within the APE for this project.

### 3.13.2 Environmental Consequences

**Proposed Action**

No heritage resources would be directly or indirectly affected by this project; therefore, there would be no direct or indirect effects to heritage resources and consequently no cumulative effects. The Michigan State Historic Preservation Office (SHPO) was consulted and on May 16, 2012 provided a determination that no historic properties would be affected within the area of potential effects. A copy of this letter of determination can be found in Appendix A.

**No Action Alternative**

The USFS would not issue the temporary special use permit and no pipeline maintenance activities would be implemented at Line 5 Mileposts 1369.6448 and 1369.8501. Forgoing the opportunity to conduct this preventative maintenance activity increases the potential for a large-scale maintenance activity with more impacts in the future.

# CHAPTER 4 – CONSULTATION AND COORDINATION

The Forest Service consulted the following agencies, tribes, and individuals.

## *4.1 Agencies Consulted*

Delta County Board of Commissioners

## *4.2 Special Interests*

Upper Peninsula Environmental Coalition
The Nature Conservancy
Superior Watershed Partnership
Sierra Club

## *4.3 List of Preparers*

Julianne M. Hanson
Daniel DeJoode
Emily Jurgens

The following USFS staff were consulted with, were members of the interdisciplinary team, and/or provided technical review of the document:

Scott Maki, GIS Specialist, Enbridge SUP Coordinator/EA Team Leader

Anne Davy, NEPA Coordinator

Anne Okonek, Recreation Planner

Brenda Rebitzke, West Zone NEPA Planner

Colin Nugent, Civil Engineer

Deb LeBlanc, Westside Plant Ecologist

Eric Drake, Forest Archeologist

Greg Gardner, West Zone Engineer

Jim Gries, Soils / Watershed / Landscape Ecology

Mark Sommer, West Zone Hydrologist

Matt Cole, Wildlife Biologist

Tracy Anderson, Timber Management Assistant

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