Enbridge Pipelines (Lakehead) L.L.C.
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ENBRIDGE™

June 30, 2009

North Dakota Public Service Commission
Attn: Executive Secretary
600 E Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480
Sent Via: Federal Express

Re: Enbridge Energy, Limited Partnership's 2009 Ten Year Plan Report

Dear Sir/Madam:

Enclosed herewith please find for filing with the North Dakota Public Service Commission an original and 9 copies of the 2009 Ten Year Plan Report submitted on behalf of Enbridge Energy, Limited Partnership. I have also enclosed a CD with the report and exhibits.

If you have any questions regarding this filing, please call Eleanor Duffus, Senior Paralegal at 715-398-4674.

Sincerely,

Dana Gerard

Enclosures

ENBRIDGE ENERGY, LIMITED PARTNERSHIP

TEN YEAR PLAN REPORT

2009

Prepared for submission to the North Dakota Public Service Commission

Section A: Existing Energy Conversion Facilities

1. Enbridge Energy, Limited Partnership (formerly Lakehead Pipe Line Company, Limited Partnership ("Enbridge Energy") is a common carrier engaged in the transportation of liquid hydrocarbons via its pipeline system, which runs from North Dakota to New York. Enbridge Energy is not a utility, does not operate any energy conversion facilities and therefore does not file Federal Energy Regulatory Commission Form No. 67.

2. Not Applicable (See Item 1. above).

Section B: Energy Conversion Facilities Under Construction

1. Not Applicable.

2. Not Applicable.

Section C: Proposed Energy Conversion Facilities on which Construction is Intended Within the Ensuing Five Years

1. Not Applicable.

2. Not Applicable.

3. Not Applicable.

4. Not Applicable.

Section D: Proposed Energy Conversion Facilities During the Next Ten-Year Time Period

1. Not Applicable.

2. Not Applicable.

3. Not Applicable.

Section E: Existing Transmission Facilities (Electric)

1. Not Applicable.

2. Not Applicable.

3. Not Applicable.

Section F: Existing Transmission Facilities (Pipeline)

1. Location of each facility within the state. See Exhibit "A." (2 Parts)

2. Type and Capacity: design specifications of each facility:

a.

Facility	Product Type
18 inch pipeline	Crude Petroleum
26 inch pipeline	Crude Petroleum
34 inch pipeline	Crude Petroleum
20 inch pipeline	Crude Petroleum/Natural Gas Liquid
20 inch pipeline	Crude Petroleum
36 inch pipeline	Crude Petroleum

b.

Facility	Length of Facility (miles)
18 inch pipeline	28
26 inch pipeline	28
34 inch pipeline	28
20 inch pipeline	28
20 inch pipeline	28
36 inch pipeline	28

c.

Facility	Pipe Size
18 inch pipeline	18 inches
26 inch pipeline	26 inches
34 inch pipeline	34 inches
20 inch pipeline	20 inches
20 inch pipeline	20 inches
36 inch pipeline	36 inches

Section F: Existing Transmission Facilities (Pipeline) (cont.)

d.

Facility	Maximum Design Operating Pressure
18 inch pipeline	837 psi
26 inch pipeline	809 psi
34 inch pipeline (16 miles)	757 psi
1997 34" pipeline Replacement (12 miles)	619 psi
20 inch pipeline	1,460 psi
20 inch pipeline	1,260 psi
36 inch pipeline	991 psi

e.

Facility	Maximum Design Flow Rate
18 inch pipeline	191,000 BBLS./Day
26 inch pipeline	491,000 BBLS./Day
34 inch pipeline	559,000 BBLS./Day
20 inch pipeline	263,000 BBLS./Day
20 inch pipeline	206,000 BBLS./Day
36 inch pipeline	884,000 BBLS./Day

f. Compressor or pumping station specifications including type, horsepower, output pressure, and capacity:

Joliette, North Dakota Pump Station:
Operates on the 20-inch pipeline (and 18-inch pipeline as required).
Three units - electric, motor-driven centrifugal pumps with VFD (variable frequency drive) and selectable start and run capabilities:

Unit 1.1: 3,800 horsepower, capacity: 309,000 BBLS. /Day BEP (Best Efficiency Point), in service: January 1987

Unit 1.2: 3,800 horsepower, capacity: 326,000 BBLS. /Day BEP, in service: October 1990

Unit 1.3: 3,800 horsepower, capacity: 326,000 BBLS. /Day BEP, in service: December 1997

The Joliette, ND Pump Station has high discharge shutdown: 1,385 psi.

g.

Facility	Minimum Cover over Pipe
18 inch pipeline	36 inches
26 inch pipeline	36 inches
34 inch pipeline	36 inches
20 inch pipeline	36 inches
20 inch pipeline	36 inches
36 inch pipeline	36 inches

3.

Facility	In Service Date
18 inch pipeline	November 1950
26 inch pipeline (3 miles)	October 1954
26 inch pipeline (25 miles)	September 1956
34 inch pipeline (16 miles)	September 1967
1997 34" pipeline Replacement (12 miles)	October 1, 1997
20 inch pipeline	November 1994
20 inch pipeline*	February 27, 2009
36 inch pipeline	January 15, 1999

*This 20 inch pipeline was constructed by Enbridge Pipelines (Southern Lights) L.L.C. pursuant to approval from the North Dakota Public Service Commission. It was obtained by Enbridge Energy, Limited Partnership as part of a like-kind exchange transaction in 2009 from Enbridge Pipelines (Southern Lights) L.L.C. in exchange for the 18 inch pipeline listed above. Enbridge Energy, Limited Partnership currently leases that 18 inch pipeline from Enbridge Pipelines (Southern Lights) L.L.C.

4. Projected retirement date of any transmission facility within the next ten-year period: None at this time.

Section G: Proposed Transmission Facilities on Which Construction is Intended Within the Ensuing Five Years (Electric)

1. Not Applicable.

2. Not Applicable.

3. Not Applicable.

4. Not Applicable.

Section H: Proposed Transmission Facilities on WhichConstruction is Intended Within the Ensuing Five Years (Pipeline)

1. See Exhibit "B".

2. See Item 1 above.

3. Type and Capacity: design specifications ofthe proposed "Alberta Clipper" pipeline facility:

a.

Facility	Product Type
36 inch pipeline	Crude Petroleum

b.

Facility	Length of Facility (miles)
36 inch pipeline	28

c.

Facility	Pipe Size
36 inch pipeline	36 inches

d.

Facility	Maximum Allowable Operating Pressure
36 inch pipeline	1,313 psi
Facility	Design Temperature
36 inch pipeline	104 degrees F (maximum)
Facility	Maximum Design Flow Rate
36 inch pipeline	500,000 BBLS./Day

e. Enbridge Energy does not have any plans to construct any additional compressor or pumping stations in North Dakota in the next 5 years unless repairs or maintenance require replacement of the existing Joliette Station.

4. Proposed Timetable: Tentative date of corridor identification: Completed
Tentative date of Route identification: Completed
Tentative date of Construction: August 3, 2009
Tentative date of Initial commercial operation: March 31, 2010
Tentative date of 100 percent load factor: Mid 2010

Section I: Proposed Transmission Facilities During the Next Ten-Year Time Period (Electric and Pipeline)

1. Enbridge Energy does not have any additional plans, other than identified above in Section H, to construct additional pipeline facilities in North Dakota in the next 10 years unless repairs or maintenance require replacement.

2. See Item 1 above.

3. See Item 1 above.

Section J: Regional Coordination

1. Not Applicable.

2. Not Applicable.

3. Not Applicable.

4. Not Applicable.

Section K: Environmental Information

1. Attached hereto as Exhibits "C", "D" and "E", respectively, please find the following material:

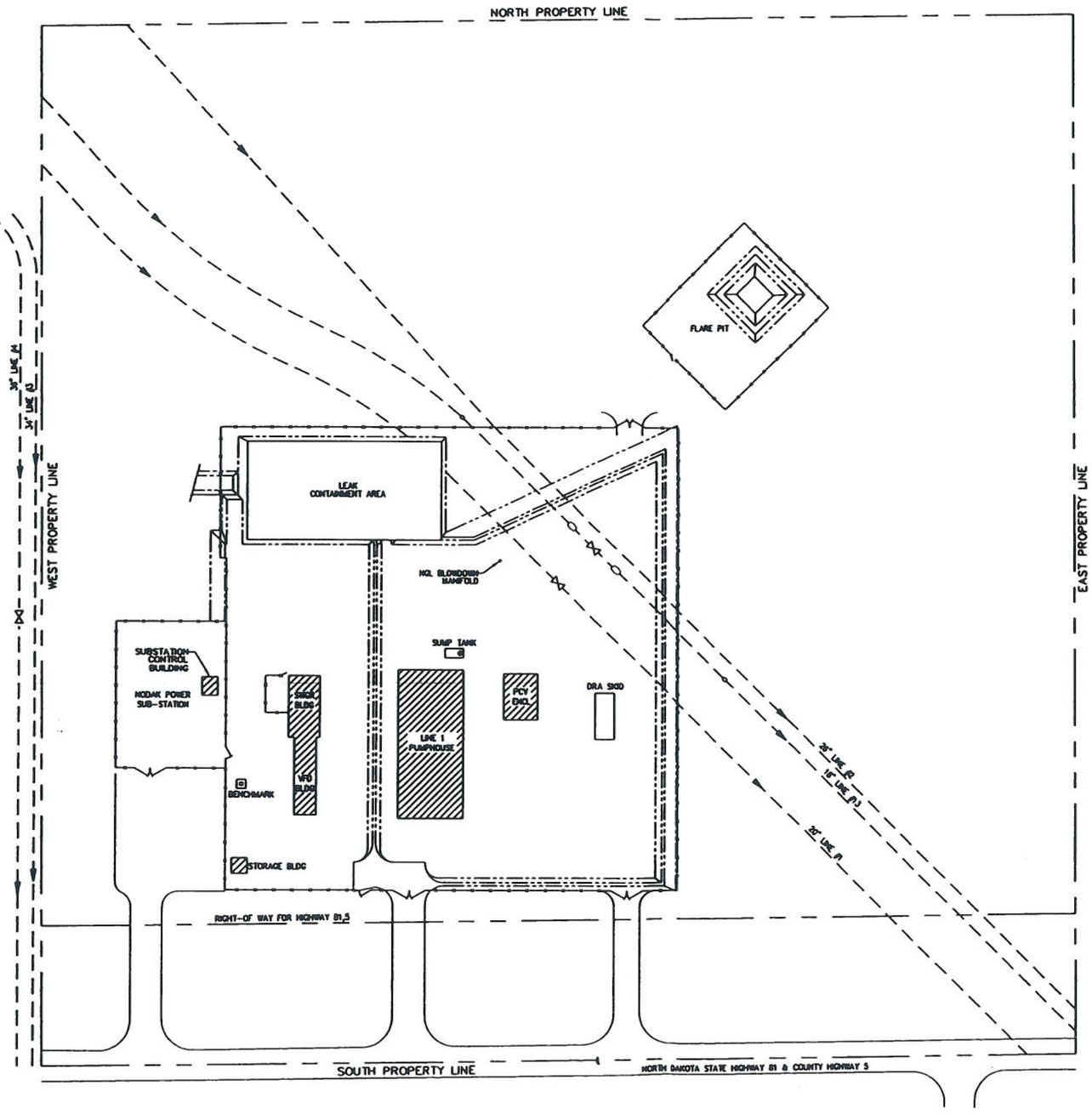
Exhibit C	A copy of Enbridge Energy's Environmental Policy Statement.
Exhibit D	A document entitled "Environmental Protection" which sets forth Enbridge Energy's philosophy and procedures with respect to protection of the environment.
Exhibit E	Parts of Enbridge Energy's Emergency Response Plan.

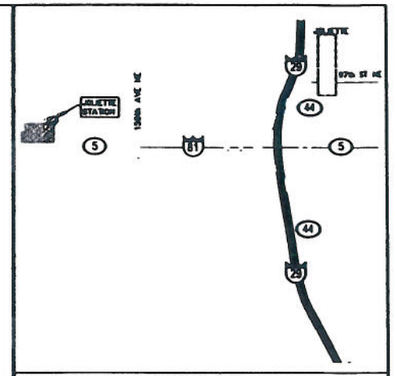
Section L: Projected Demand for Service

1. Not Applicable (no deliveries of liquid hydrocarbons in North Dakota).

2. Not Applicable.

3. Not Applicable.





LOCATION PLAN

PROPERTY DESCRIPTION:

A PARCEL OF LAND BEING THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SOUTHWEST QUARTER OF SECTION 32, T162N, R54W, PEMBINA COUNTY, NORTH DAKOTA.

NO.	REVISION	BY DATE	APPR.
5	REVISED PROPERTY LINE DIST. & REVISED TITLE BLOCK REVISED FENCE LINE PER FIELD INFO.	LSC/OLD 7-30-07	
4	REVISED PER PIPELINE INFO BOOK	JH 5/8/03	PJB

ENBRIDGE

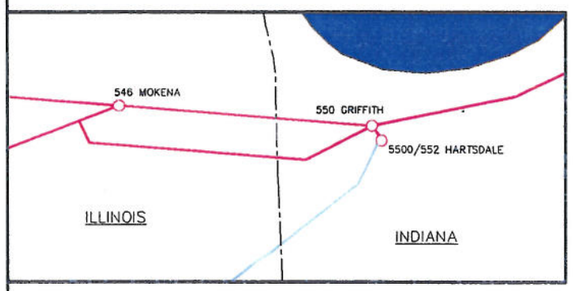
JOLIETTE (ND) STATION

ADMINISTRATIVE PLOT PLAN

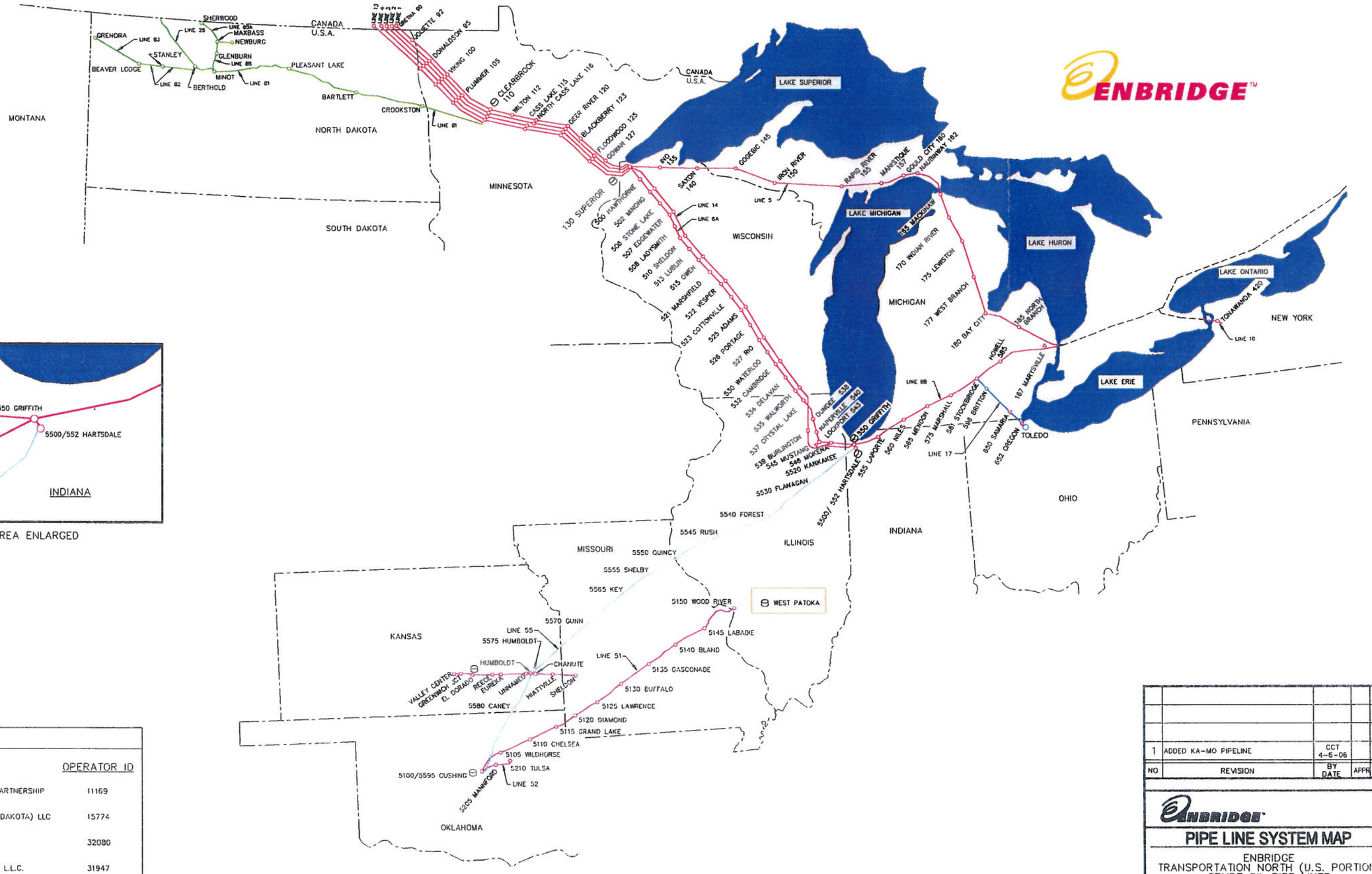
PROJECT:		
SCALE: 1" = 40'-0"	DATE: 10/7/87	DRAWN: DEAN
CHECK: PJB	APPR: DAC	DATE: 5/8/03
APPR:		
APPR:	D-1.2-10217-05-92	

40 0 40 80

GRAPHIC SCALE: 1" = 40'-0"



GRIFFITH/HARTSDALE AREA ENLARGED



LEGEND

PIPELINE NAME	OPERATOR ID
ENBRIDGE ENERGY, LIMITED PARTNERSHIP	11169
ENBRIDGE PIPELINES (NORTH DAKOTA) LLC	15774
CCPS TRANSPORTATION, LLC	32080
ENBRIDGE PIPELINES (OZARK) L.L.C.	31947
ENBRIDGE PIPELINES (TOLEDO) INC.	31448
ENBRIDGE STORAGE (PATOKA) LLC	31948

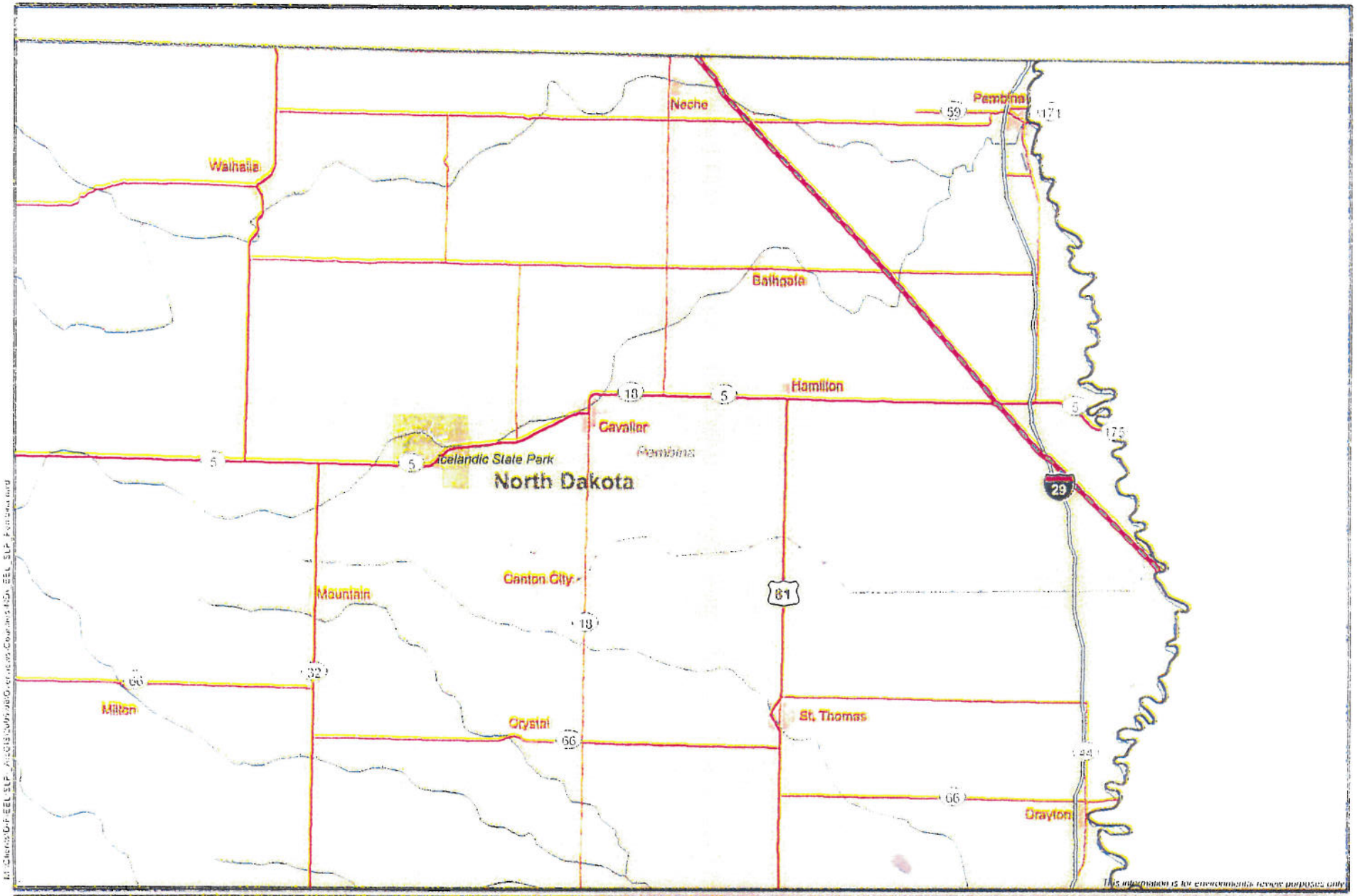
NO	REVISION	BY DATE	APPR
1	ADDED KA-MO PIPELINE	CCT 4-6-06	

ENBRIDGE

PIPE LINE SYSTEM MAP

ENBRIDGE
TRANSPORTATION NORTH (U.S. PORTION)
CRUDE OIL PIPE LINES

PROJECT:		
SCALE: NONE	DATE: 3-2-06	DRAWN: CCT
CHECK:	APPR:	DATE:
APPR:		
APPR:	D-0.5-10288-1-0	


Neche
Pembina
Walhalla
Bathgate
Hamilton
Cavalier
Pembina
Icelandic State Park
North Dakota
Canton City
Mountain
Milton
Crystal
St. Thomas
Grayton
59
171
5
18
29
81
32
66
175
Route
0 1 2 4 6
Miles
ENBRIDGE
Enbridge Energy, Limited Partnership
NATURAL RESOURCE GROUP
This information is for environmental review purposes only.

ENBRIDGE

Environmental Policy

Liquids Pipelines

- The protection of the environment is an integral element in the conduct of company business.
- The company will ensure adverse environmental effects are minimized through careful planning, implementation of effective protection measures, and monitoring of company activities.
- The company will comply with government regulations and standards through internal rules and procedures for environmental protection that will be consistent with industry codes and guidelines.
- The company will minimize consequences of emergency events by ensuring prompt and effective response.
- The company will provide appropriate training to ensure employees understand their responsibility to protect the environment.
- Employees and contractors must follow company environmental rules and procedures, and must carry out work in an environmentally responsible manner at all times.
- The company will provide the public and government with relevant information regarding planned activities, and will actively respond to their concerns.
- Environmental damage resulting from company actions or actions of its contractors will be repaired in a timely and efficient manner.
- Environmental research will be encouraged, supported and undertaken when necessary to improve company environmental protection and reclamation procedures.

Steve Wuori
Executive Vice President
Liquids Pipelines

02-Environmental Protection

Purpose

Environmental inspection and monitoring of the pipeline right-of-way (ROW) and facilities ensures continued compliance with regulatory requirements and protection of personal health and natural resources.

Scope

This tab includes the minimum requirements for environmental monitoring undertaken as part of routine maintenance of the pipeline ROW and facilities.

NOTE: For environmental protection involving any aspect of construction, see the Environmental Guidelines for Construction.

Legislation

Canada

National Energy Board (NEB):

- Onshore Pipeline Regulations (OPR), latest edition

Canadian Environmental Assessment Act
Canadian Environment Protection Act
Migratory Birds Convention Act
Fisheries Act
Canada Water Act
Transportation of Dangerous Goods (TDG) Act
Specifies at Risk Act
Canadian Drinking Water Quality Guidelines

United States

Code of Federal Regulations (CFR), Title 49 - Transportation:

- Part 195—Transportation of Hazardous Liquids by Pipeline
- Part 192—Transportation of Natural and Other Gas by Pipeline

Area contingency plan/regional contingency plan
Clean Air Act
Clean Water Act
Comprehensive Environmental Response Cleanup and Liability Act (CERCLA)
Emergency Planning and Community Right to know Act (EPCRA)
Federal, state and local environmental agency regulations

Federal and state natural resource agencies
National Environmental Policy Act (NEPA)
Oil Pollution Act (OPA)
Safe Drinking Water Act

Related Standards

Corporate

Environmental Guidelines for Construction
Waste Management Plan

Industry

USA — American National Standards Institute (ANSI):

- B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids

CAN — Canadian Council of Ministers of the Environment (CCME):

- Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum Products and Allied Petroleum Products.

CAN — Canadian Standards Association (CSA):

- Z662, Oil and Gas Pipeline Systems, latest edition

Purpose

To identify the pipeline maintenance and repair activities that may require environmental permits, licenses, and approvals before beginning work to ensure regulatory compliance.

Responsibilities

Regions are responsible for:

- assessing the activities that may require regulatory approvals during maintenance planning and preparation
- notifying Safety & Environment of activities that may require environmental permits and approvals
- ensuring compliance with permit conditions

Safety & Environment is responsible for obtaining necessary permits and approvals from appropriate regulatory authorities.

Requirements

Since timing to obtain permits varies by jurisdiction, adequate planning is critical. Apply for licenses, permits, and approvals well in advance. Typical activities that may require environmental permits and or regulatory approvals include:

- disturbing the soil or vegetation offsite
- disturbance in or adjacent to environmentally sensitive areas (e.g., waterbodies, wetlands, cultural resources, endangered species, parks, nesting/denning areas)
- disturbance in county shore land
- hazardous waste generation, storage, and disposal
- herbicide application
- air emissions
- entering any land within regional land claims
- water withdrawals for hydrotests/dewatering
- discharging stormwater, hydrotest water, or other wastewater
- burning materials during fire season

NOTE: For lead times for permits and for a list of government agencies, contact Safety & Environment.

Purpose

Erosion control is necessary to:

- contain excavated soil onsite
- prevent sediment from entering streams, wetlands, lakes, drainage ditches (dry or floating) or other watercourses
- prevent pipe exposure

Guidelines

Soil Erosion

By Wind

To minimize drifting soils and loss of topsoil by wind, in areas prone to wind erosion:

- limit the time between topsoil stripping and final cleanup
- suspend topsoil stripping and backfill operations during high winds
- apply a tackifier to the topsoil pile
- install wind barriers (e.g., slat fences, snow fences)
- spread wood chips or straw crimping
- sow a fast growing ground cover
- walk down tree and shrub debris over exposed soils

By Water

Use temporary erosion control measures (e.g., sandbags, logs or straw bales) on undisturbed pasture or well-sodded right-of-way (ROW) during cleanup.

Use permanent erosion control measures on disturbed steep slopes during restoration, especially if heavy runoff, spring breakup or heavy storms are likely and there is a risk of significant soil erosion:

- construct trench breakers
- install cross ditches and diversion berms
- walk down tree and shrub debris over exposed soils
- armor berms and ditches with logs, polyethylene or sandbags
- install netting or filter cloth
- apply tackifier
- install and stake sod
- hydromulch
- hydroseed, spread straw and crimp
- seed an annual crop of barley, fall rye, or oats
- plant native shrubs or willow cuttings

Stream Bank Erosion

Before working next to watercourses, contact Safety & Environment to ensure necessary approvals are in place.

NOTE: For information on installing berms and ditches and stream bank protection, see the Environmental Guidelines for Construction.

Purpose

To control the growth of brush, trees, and noxious weeds on company property and the right-of-way (ROW) in order to:

- facilitate operating and maintenance activities
- ensure regulatory compliance
- ensure clear visibility and access along the ROW
- maintain good public relations with landowners
- minimize fire hazards

Responsibilities

Regions are responsible for selecting vegetation control methods and for coordinating vegetation control activities.

NOTE: For assistance in evaluating appropriate vegetation control methods, contact Safety & Environment.

Requirements

Scheduling

Plan annual vegetation control early in the year.

Plan and schedule vegetation control to suit local conditions considering wildlife, wetlands, and land usage.

Notification

Notify landowners a minimum of 1–2 weeks before beginning any weed or brush control program, or before applying herbicides on the ROW.

Mechanical Control

Mechanical control of weeds and brush (i.e., physically disrupting plant growth by mowing, cutting, tillage, flooding, mulching, hand pulling, or hoeing) is preferred to chemical control.

Use mechanical control for vegetation adjacent to cultivated agricultural land, and waterbodies (e.g., drainage ditches, streams, creeks, wetlands).

Control brush growth by chipping or mulching.

Minimize clearing next to watercourses and wetlands. Hand cut trees and brush close to the ground (leaving roots intact) and leave a 16 m (50 ft) buffer of undisturbed vegetation between the area of disturbance and the watercourse or wetland.

Cut woody vegetation to just above the ground surface (15 cm [6 in.]), leaving the roots intact.

Do not disturb soils within 16 m (50 ft) of wetlands or waterbodies.

Frequent shallow tillage (10-15 cm [4–6 in.]) is effective for controlling weeds.

Mow sloping lands or soils subject to erosion.

Chemical Control

Herbicides used on the ROW must be applied by licensed applicators.

Over-the-counter nonresidual herbicides (e.g., Roundup) may be used for spot applications only on company property.

NOTE: Spot applications cover an area no larger that $1 m^2$ ($10 ft^2$).

For approval to use herbicides other than non-residual, provide Safety & Environment with the following information:

- product name
- MSDS sheet(s)
- label information
- distributor's name and contact information
- application rate
- herbicidal characteristics (e.g., selective/nonselective, short term/long term residual)
- location of herbicide use

Select a herbicide that will control only those weeds growing on a particular site, and apply it at the minimum rate needed for effective control.

Alternate the use of herbicides to avoid developing resistance to specific herbicides.

Before applying herbicides, (a) obtain approval from the site supervisor, and (b) review the product label and MSDS information.

 USA

Before applying herbicides within the boundaries of native reservations, obtain approval from tribal authorities .

Apply herbicides (e.g., weather conditions, application rate) in accordance with the manufacturer's instructions.

Fire Water Ponds

Contact Safety & Environment for approval to use herbicides/aquacides to control vegetation and algae in fire water ponds.

Botanical Control

Seed grass is recommended as a vegetative cover to control erosion and provide competition for weeds.

Use Canada or U.S. No.1 seed or equivalent to minimize weed content and ensure good germination and healthy growth.

Short grasses are virtually maintenance-free, and are not as much of a fire hazard as taller species.

Physical Control

Use surface cover fabrics (e.g., geotextiles, gravels, concrete, paving) or thermal methods (e.g., controlled burns, flaming, steaming) to protect sites from erosion and to control vegetation growth.

Regional management must approve the use of thermal methods to control vegetation growth.

Noxious Weeds

NOTE: Infestations of noxious weeds are usually identified by local land use authorities or the landowner when notified of upcoming vegetation control activities.

To avoid introducing or to minimize spreading undesirable weed species when working in areas that are or may be affected by invasive noxious vegetation:

- before arriving and leaving the site, ensure equipment is free of soils, vegetation, or debris
- minimize the equipment used, and limit the number of equipment passes through infested areas
- place mats over infested areas to minimize equipment transporting weed or plant material. Before removal from the site, ensure mats are free of vegetation and debris.
- during grading, strip the full ROW width and contain the spoil pile containing noxious weeds to prevent mixing with the surrounding soil during regrading and cleanup

Records

Herbicide Application

Record the type of herbicide, application rate, area of application, and the applicator's certificate number, if applicable, and retain at the facility for a minimum five years.

Purpose

To ensure water is safe for workers, or to provide an alternative source of potable water.

Scope

This standard includes the requirements for monitoring and testing water at facilities that are not connected to a licensed municipal water supply.

Definitions

potable water—water safe for human ingestion and/or absorption (e.g., drinking and/or washing).

Responsibilities

Regions are responsible for coordinating, planning, implementing, and administering water quality testing when:

- an onsite well is used as the water source
- water is hauled from an offsite water source
- facilities have been identified as having a water source with potential or confirmed health hazard to workers

Safety & Environment is responsible for:

- identifying annual potable water testing requirements
- monitoring water quality testing
- analyzing facility water test results
- providing direction to facilities with abnormal test results

Requirements

Hauled Water

If the water source is hauled water:

- ensure the water hauling company is licensed
- confirm that the tank truck is used only for hauling potable water
- confirm that the hauler has a tank decontamination/ disinfection program
- obtain the most recent water test results from the water hauler or from the municipal water supply at the time of delivery, if possible

Test Frequency

Sample and test potable water annually unless more frequent testing is warranted, including:

- change in water clarity, color, odor, or taste
- spill in the vicinity of a water well
- change in the surrounding land use
- change in the water hauling company

At isolated or remote work areas, regions are responsible for determining frequency of sampling and testing potable water.

For water hauled from a licensed municipal supply, obtain source water test results annually from the supply.

For water stored in above and below grade water tanks, sample and test water semi-annually.

Test Parameters

CAN ——— Test potable water for the parameters in Table 1. In addition, test water stored in above and below grade tanks for total coli forms. If the stored water is in a below grade tank, also test for BTEX.

Table 1
Potable Water Quality Parameters—CAN

Water Source	Parameters
well water	• routine potable water: alkalinity (PP and total), bicarbonate, calcium, CO3, chloride, conductivity, fluoride, hardness, OH, ion balance, iron, manganese, nitrate, nitrate plus nitrite, nitrite, pH, potassium, sodium, total dissolved solids, SO4, and turbidity • benzene, toluene, ethyl benzene and xylenes (BTEX) • total and fecal coliform
hauled water from licensed municipal water supply	• total and fecal coliform
hauled water from non-licensed municipal water supply (ENB NW)	• routine potable water • total and fecal coliform

USA ——— At a minimum, test potable water for:

- total coliform bacteria count
- total nitrate
- total petroleum hydrocarbons

NOTE: In the USA, for additional parameters for testing well water, contact the appropriate state regulatory agency. For testing requirements or recommendations on local groundwater conditions, contact the County Health Department.

USA — For new wells, a certified well installer must test the water for all necessary parameters to ensure it is acceptable in accordance with state or local regulations.

Sampling

For hauled water from a licensed municipal supply, take samples from a tap inside the facility.

Obtain sample bottles, analysis request forms, shipping coolers, and sampling instructions from the laboratory conducting the testing.

Follow sampling instructions from the laboratory closely.

Test Results

Laboratory test results will identify samples that exceed acceptable drinking water levels.

When laboratory test results are received, submit a copy to Safety & Environment.

Interim Health Measures

If potable water test results exceed health-based parameters (i.e., high levels of total and/fecal coliforms):

- Post signs indicating that the water source is contaminated and must not be used for drinking, washing hands, dishes, or foods (e.g., fruit). If possible, shut off valves to sink taps and shower stalls.
- Provide alternative potable water source (e.g., bottled water) for drinking, washing, and cooking.
- Check safety equipment used for emergency purposes (e.g., eye wash stations and bottles) and change out water.

- Retest the water source.

- In conjunction with Safety & Environment, investigate to determine the source of contamination.

Before removing interim health measures, retest. If, after retesting, health-based parameters (i.e., total and fecal coliforms) continue to be exceeded, do not use the source as potable water.

Health Investigation

If potable water test results exceed health-based parameters, investigation should be conducted to determine the source of contamination, for example:

- review past records to determine if the abnormal test result has been a recurring problem
- contact local water authority expertise to identify and initiate appropriate actions
- contact appropriate OHS and/or Public Health personnel if required
- investigate possible contamination sources (e.g., spring runoff, septic tanks or systems, old oil spill leak sites, facility or hauler water tank contamination)

Records

Retain laboratory test results and correspondence as follows:

- original at the facility for a minimum of five years
- copy in Safety & Environment

Purpose

Containment structures (e.g., berms, retention ponds) are designed to contain product and to minimize impacts offsite in the event of a release at a facility. This standard includes the requirements for managing and discharging stormwater accumulated in containment structures in a manner that does not adversely affect the environment by releasing pollutants or by causing erosion to receiving lands.

Definitions

stormwater—includes rainwater, snow melt, and surface runoff and drainage.

Responsibilities

Regions are responsible for managing stormwater, including: inspecting, discharging, sampling (if required), and maintaining records.

NOTE: If stormwater is contaminated, contact Environment for assistance with sampling, testing, and analyzing test results.

Requirements

Prevention

To minimize the risk of surface water contamination:

- keep the site clean and orderly
- store hazardous materials in accordance with the Waste Management Plan
- clean up spills immediately and store wastes in appropriate containers in accordance with the Waste Management Plan

Discharging

Discharge stormwater accumulated in containment structures after significant rainfalls or as often as practical to maximize containment capacity in the event of a release at the facility.

Facility stormwater drain valves should be closed at all times, except when actively discharging stormwater.

Permits

Where facilities have existing permits that regulate discharging stormwater offsite, follow all conditions in the permit.

Visual Inspection

Before discharging accumulated stormwater within a containment structure, visually inspect for (a) an oily sheen, or (b) suspended solids and/or foam.

If visual inspection indicates no evidence of contaminated stormwater (i.e., only precipitation is present), (a) follow the conditions specified in the permit/license, where required, to discharge stormwater offsite; otherwise, (b) open the valves to discharge stormwater offsite, ensuring:

- discharge is conducted in a controlled manner using a slow flow rate to prevent soil erosion and damage to streambanks and streambeds of waterbodies
- the discharge valve is closed after the discharge is complete

For containment structures that automatically discharge stormwater, visually inspect the accumulated stormwater weekly.

Sampling

If visual inspection indicates that stormwater may be contaminated, contact Environment for sampling requirements, including: laboratory contacts, sample bottles, custody transfer forms, and sampling procedures.

Records

Canada

For stormwater discharged offsite, record the date, time, estimated amount of water discharged, and confirmation of water quality in a logbook and retain at the facility for 5 yrs.

If laboratory analysis is required before discharging stormwater, record the sample date and laboratory test results in a logbook and retain at the facility for 5 yrs.

For contaminated stormwater, record the date, remediation techniques, and observations in a logbook and retain at the facility for 5 yrs.

ENBRIDGE™

Operating & Maintenance Procedures

Book 7 – Emergency Response
Region Specific

Manual Number: SU-RS-33

Position Title: Safety & Environment Clerk

Location: Superior Region

Regional Specific
- Revision Process
- Revision Request Form
- Revision Record
- Qualified Individual and Region Response Description

Company/Cooperative Equipment Lists
- Enbridge Emergency Response Equipment
- Superior Region Response Equipment
- Station Response Equipment Guidelines
- Winter Spill Equipment
- Water Recovery Equipment
- Twin Ports Mutual Aid
- OSRO's (Oil Spill Response Organization)
- Canadian Cross Border Emergency Response Equipment
- Qualified Individuals Notification
- Emergency Response Trained Personnel

Maps and Reference
- Main Line Valves
- Site Safety Plot Plan
- Pipeline Information
  - Miles of Mainline Pipe
  - Release Alert
- Pipeline System Map
- HCA Overview Map
  - HCA Tables
- Major Response Equipment Staging Areas Map
- Emergency Response Map

Control Points
- Control Point Map Process
- Control Point Map Record

Region Security Plans

Appendix
- Info Summary
  - Operator Identification
  - Response Zone Description
  - Consistency with National and Area Contingency Plans
  - Calculation of Worst Case Discharge
  - Environmentally Sensitive Areas
  - Basis for Determination of Significant and Substantial Harm

Region Specific

Region Specific

ENBRIDGE

Revision Process Flowchart

Revision Process Initiated

(1) by staff submitting a Revision Request form or Lotus Notes request to the Document Controller, or (2) according to the annual review schedule.

↓

Documentation Process Begins

Document Controller begins tracking the revision review process and forwards the review topic to the Subject Matter Expert.

↓

Revision Review

Subject Matter Expert coordinates review with key employees and notifies Document Owner. Obtains approval/denial from the Document Owner for the review recommendations and submits results to the Document Controller.

↓

Implement Revisions

Document Controller records the review results and edits the Region Specific Book 7 as recommended and approved.

↓

Revision Distribution

Document Controller distributes updates to all authorized holders of the Region Specific Book 7.

Responsible Party	Assignment
Document Owner – Mark Willoughby	Approver for changes to Region Specific Book 7
Document Controller - Nori Ferris	Administers revision schedule, document control and manual distribution
Subject Matter Expert - Al Aleknavicius	Coordinates content review and recommends changes

REVISION PROCESS

Enbridge requires a review and update to the regional Emergency Response Plan (ERP) immediately when a substantial change occurs. The following operating condition changes would be cause for a modification:

- Extension of existing pipeline;
- Construction of new pipeline;
- Type of oil transported;
- Worst-Case Discharge;
- Qualified Individual;
- Response Procedures;
- Response Equipment Requirements; or
- Circumstances that may influence full implementation of the ERP.

Annually, as HCA Management Plans are reviewed and HCA maps and tables are updated all maps and worst-case discharge changes will be incorporated into the regional Emergency Response Plans. Review of the O&MP will ensure that the most accurate drawings and references are included in Book 7: Emergency Response.

In the event of a revision requirement before the annual review, a revision request may be submitted for consideration by completing and sending a Revision Request Form to the Manual Custodian of this Plan (Environment & Safety Clerk in the Superior Office). As required of CFR49 §194.121, within thirty days of a revision incorporated into the Emergency Response Plan, Pipeline and Hazardous Materials Safety Administration (PHMSA) will be notified.

The Revision Request Form is examined and when integrated, it is listed on the Annual Revision Sheet with the revisions sent to respective manual holders to update their manuals. The Revision Record within each manual is to be signed and dated whenever a revision is issued.

Revision Request Form

Photocopy this form and return the original to your manual.

Name: _____ Date: _____

Subject Title: _____

Section No.: _____ Subsection No.: _____ Page No.:_____

Date Issued: _____ (printed at top left-hand corner of page)

Existing wording: _____

Proposed wording: _____

Reason for change : _____

Issued: 4/20/07

Submit Request Form to Manual Custodian.

Attn: Environment & Safety Clerk, Superior Office

REVISION RECORD

Use this Revision Record to document the insertion of all revisions. After inserting a revision into your manual, enter the date inserted and your signature. Discard old pages. Detailed supporting documents (Revision Request Form) for each of the revisions are retained in the Superior Region Office.

Revision	Date Requested	Date Inserted	Signature
01		6-5-09	
02			
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Qualified Individual(s)

M. J. Willoughby
Superior Region General Manager, Enbridge (U.S.) Inc.
119 North 25th Street East,
Superior, WI 54880
Business: 715-394-1410
Business FAX: 715-394-1405
24 hr contact: 800-858-5253 via Edmonton Control Center

T.W. Fridel
Chicago Region General Manager, Enbridge (U.S.) Inc.
1500 W. Main Street
Griffith, IN 46319-
Business: 219-922-3133 Ext. 201
Business FAX: 219-922-3128
24 hr. contact: 800-858-5253 via Edmonton Control Center

RESPONSE ZONE DESCRIPTION

The Enbridge Liquids Pipeline System (Lakehead System) consists of four response zones. These response zones represent the regional boundaries designated in the normal operating structure. The response zones include:

- Superior Region
- Chicago Region
- Cushing Region
- Enbridge Pipelines North Dakota

The Superior Region response zone begins at the Canadian border near Neche, North Dakota at M.P. 773.72 and continues across northern Minnesota into Superior Wisconsin at M.P. 1098. This section of response zone includes eight pipelines that transport crude and natural gas liquids. The response zone continues south from M.P. 1098 in Superior WI to M.P. 97.23 with pipelines transporting crude oil products. A 30 inch pipeline originates in Superior WI at M.P. 1098 and transports crude oil and natural gas liquids across northern Wisconsin, the Upper Peninsula of Michigan and into lower Michigan where the response zone ends at M.P. 1544.30. The Superior Region system is comprised of:

- Approximately 2,085 miles of pipeline, with pipe diameters ranging from 18 to 48 inches;
- 29 Pump Stations are located along the pipes;
- The Superior System also includes 42 tanks (33 Tanks at Superior; 9 at Clearbrook). Breakout tanks are located at Superior, WI (6.8 million barrels storage capacity) and Clearbrook, MN (1.3 million barrels storage capacity).

REVISION RECORD

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- **Superior Region**
- Chicago Region
- Cushing Region
- Enbridge Pipelines North Dakota

The Superior Region response zone begins at the Canadian border near Neche, North Dakota and continues across northern Minnesota into Superior, Wisconsin. This section of response zone includes nine pipelines that transport crude oil and natural gas. The response zone continues south of Superior to Ladysmith, WI with pipelines transporting crude oil. A 30-inch pipeline originates in Superior, WI and transports crude oil and natural gas liquids across northern Wisconsin, the Upper Peninsula of Michigan and into lower Michigan. The Superior Region system is comprised of:

- Approximately 2,320 miles of pipeline, with pipe diameters ranging from 18 to 48 inches;
- 29 Pump Stations are located along the pipes;
- The Superior System includes 44 tanks (35 Tanks at Superior; 9 at Clearbrook). Tanks located in Superior, WI have 7.5 million barrels storage capacity and Clearbrook, MN has 1.3 million barrels storage capacity.

Counties included in the Superior Region response zone are:

North Dakota	Minnesota	Wisconsin	Michigan
Pembina	Kittson	Douglas	Cheboygan
	Marshall	Bayfield	Delta
	Red Lake	Washburn	Dickinson
	Polk	Sawyer	Emmet
	Hubbard	Ashland	Gogebic
	Clearwater	Iron	Iron
	Beltrami	Rusk	Mackinac
	Cass		Marquette
	Itasca		Otsego
	Aitkin		Schoolcraft
	St. Louis		
	Carlton		

This response zone includes the following pipelines:

Line	Pipeline Sections	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
LSr (65)	Gretna, Manitoba to Clearbrook, MN	0	716,232	135.7	20"	Crude Oil
1	Gretna, Manitoba to Clearbrook, MN	0	716,232	135.7	20"	Crude Oil & Natural Gas Liquids
1	Clearbrook, MN to Superior, WI	716,232	1,712,883	188.8	18"	Crude Oil & Natural Gas Liquids
2	Gretna, Manitoba to Superior, WI	0	1,712,887	324.4	26"	Crude Oil
3	Gretna, Manitoba to Superior, WI	0	1,712,887	324.4	34"	Crude Oil
4	Gretna, Manitoba to Donaldson, MN	0	168,408	31.9	36"	Crude Oil
4	Donaldson, MN to Viking, MN	168,041	213,109	8.5	48"	Crude Oil
4	Donaldson, MN to Viking, MN	213,461	322,423	20.6	36"	Crude Oil
4	Donaldson, MN to Plummer, MN	320,971	393,021	13.6	48"	Crude Oil
4	Viking, MN to Plummer, MN	394,395	527,703	25.2	36"	Crude Oil
4	Viking, MN to Clearbrook, MN	526,404	545,840	3.7	48"	Crude Oil
4	Plummer, MN to Clearbrook, MN	547,141	647,345	19.0	36"	Crude Oil
4	Plummer, MN to Clearbrook, MN	645,406	716,261	13.4	48"	Crude Oil
4	Clearbrook, MN to Cass Lake, MN Loop	716,411	878,927	30.8	36"	Crude Oil
4	Cass Lake, MN Loop (MP939.87 to MP953.04)	877,981	946,695	13.1	48"	Crude Oil
4	Clearbrook, MN to Deer River MN Loop	946,641	1,059,570	21.4	36"	Crude Oil

Line	Pipeline Sections	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
4	Deer River, MN Loop (MP974.73 to MP995.83)	(127,102)	1,173,196	22.0	48"	Crude Oil
4	Cass Lake, MN to Floodwood, MN Loop	1,173,151	1,306,304	25.2	36"	Crude Oil
4	Floodwood, MN Loop (MP1019.73 to MP1044.33)	1,299,654	(47,009)	24.6	48"	Crude Oil
4	Deer River, MN to Wrenshall, MN Loop	1,429,072	1,512,231	15.7	36"	Crude Oil
4	Wrenshall, MN Loop (MP1060.11 to MP1079.91)	1,512,091	1,616,806	19.8	48"	Crude Oil
4	Wrenshall, MN Loop to Superior, WI	1,616,840	1,712,760	18.2	36"	Crude Oil
13	Gretna, Manitoba to Clearbrook, MN	0	715,074	135.4	18"	Crude Oil
5	Superior, WI to Mackinaw, MI	0	1,993,306	377.5	30"	Crude Oil & Natural Gas
5	Straits of Mackinac East and West (*2)	1,993,306	2,015,016	8.2	20"	Crude Oil & Natural Gas
5	Straits of Mackinac to Lewiston Pump Station MP1544.3	2,015,016	2,378,371	68.8	30"	Crude Oil & Natural Gas
6A	Superior, WI to MP97.23 (Ladysmith, WI)	0	513,368	97.2	34"	Crude Oil
14	Superior, WI to MP97.23 (Ladysmith, WI)	0	512,719	97.1	24"	Crude Oil
61	Superior, WI to MP97.23 (Ladysmith WI)	0	523,170	99.08	42"	Crude Oil

(Number) Diversion Stationing

Counties included in the Superior Region response zone are:

North Dakota	Minnesota	Wisconsin	Michigan
Pembina	Kittson	Douglas	Cheboygan
	Marshall	Bayfield	Delta
	Red Lake	Washburn	Dickinson
	Polk	Sawyer	Emmet
	Clearwater	Ashland	Gogebic
	Beltrami	Iron	Iron
	Cass	Rusk	Mackinac
	Itasca		Marquette
	Aitkin		Otsego
	St. Louis		Schoolcraft
	Carlton		

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(Number) Diversion Stationing

Company/Co-Op Equipment Lists

Enbridge Emergency Response Equipment

Enbridge owns and maintains extensive emergency response equipment throughout its liquid pipeline systems. This equipment is located at all Pipeline Maintenance facilities as well as other strategic locations along the system to ensure a prompt containment and recovery response in the event of a pipeline release. It is the responsibility of each Pipeline Maintenance Supervisor to ensure that the equipment is inventoried annually and restocked as resources are expended.

Further company owned and maintained equipment is stored at each pump station for immediate response until additional resources arrive. These resources are maintained and restocked by the respective site supervisors as needed.

Temporary storage is available via company owned and operated storage tanks throughout the pipeline system. Recovered product can often be off loaded at pump stations and re-injected into the pipeline. Numerous portable storage tanks are included in emergency response equipment inventories and in many areas, the company owns and maintains vacuum recovery trucks. Further details of this storage capacity can be found on the water recovery equipment inventory.

Enbridge has working agreements with Garner Environmental Services Inc. and Bay West to supplement resources in the event of a worst case discharge scenario. Both of these entities are United States Coast Guard (USCG) classified Oil Spill Response Organizations (OSRO's). A copy of the OSRO's equipment inventories are kept on file at each region office.

Numerous other HAZWOPER trained contractors may be utilized for emergency response and their contact information and resources can be found listed by response zone in the Enbridge Emergency Response Directory. Enbridge does not retain equipment inventory lists for all non USCG classified contractors.

Company/Cooperative Equipment Lists

Company-

Other-

Government, Contractors or other Cooperative Resources-

Canadian Cross Border Emergency Response Equipment

SUPERIOR TERMINAL EMERGENCY RESPONSE INVENTORY	
QTY	DESCRIPTION
SUPERIOR TERMINAL- FIRE BARN	
6	Barricades
2	Foam Trailers - 700 Gal. & 500 Gal.
11	Barrels AFFF Foam
13	50 # Pails of Dry Chemical Fire Extinguishing Agent
49	Bundles Sorbent Pads - 100 / Bundle
14	Bags 8" x 10' Sorbent Booms - 40'/Bag
45	2 ½" x 50' Fire Hose
11	Windsocks
SUPERIOR TERMINAL - CONTINGENCY BUILDING	
10	Bags 8" x 10' Sorbent Booms - 40'/Bag
13	Bundles Sorbent Pads - 100/Bundle
4	#2 Shovels
2	Flat Shovels
4	Aluminum Scoop Shovels
1	Sledge Hammer
15	Bundles of 5 Fence Posts
7	50' x 3' Plastic Hose
3	50' x 3' Wire Fence
1	Roll Orange Safety Fence
4	15" x 8' Sorbent Booms
SUPERIOR TERMINAL - MAINTENANCE SHOP	
9	Aluminum Scoop Shovels
4	Rakes
2	Fan Rakes
2	Pitch Forks
2	#2 Shovels
3	Square Shovels
2	Aluminum Square Shovels
3	Squeegees
2	Brooms
7	10 Minute Emergency Escape Packs
SUPERIOR TERMINAL - CONTROL BUILDING	
1	Pair Chest Waders
1	Square Shovel
2	Snow Blade Shovels

SUPERIOR TERMINAL - CONTROL BUILDING cont.

QTY	DESCRIPTION
4	Scrapers
4	Squeegees
5	Aluminum Scoop Shovels
1	100' Rope
3	4" x 20' Suction Hoses
1	Air Mover
	Assorted Sets of Fire Retardant Pants and Shirts
9	Fire Retardant Coveralls
4	Rescue Harnesses
3	Reflective Vest

SUPERIOR TERMINAL - MISCELLANEOUS

6	SCBA Air Packs
	Tank Rescue Equipment - Rigging, Harnesses, Sled, etc.

CLEARBROOK TERMINAL EMERGENCY RESPONSE INVENTORY

CLEARBROOK TERMINAL - MAIN BUILDING

5	Escape Packs
3	30 Minute Scott SCBA's
1	Tank Rescue Equipment
4	Harness'
8	Assorted Fire Retardant Coveralls
30	Tyvek Coveralls
4	Squeegees
4	Snow Shovels
7	Windsocks

CLEARBROOK TERMINAL - UTILITY BUILDING

1	500 Gal. Foam Trailer (Full)
4	Squeegees
2	Aluminum Scoop Shovels
2	Square Shovel
2	Leaf Rakes
1	Garden Rake
1	Sledge Hammer
1	Axe
3	Ice Scrapers
22	2 ½" Fire Hose (50' Rolls)
4	1 ¼" Fire Hose (50' Rolls)
13	50 # Pails of Purple K Fire Extinguisher Agent
1	55 Gal. Barrel of AFFF Foam

CLEARBROOK TERMINAL - UTILITY BUILDING cont.

QTY	DESCRIPTION
4	3" Suction Hose (10' Piece)
6	2" Suction Hose (10' Piece)
6	3" Discharge Hose (50' Rolls)
5	2" Discharge Hose (50' Rolls)
100'	Rope
1	Pressure Washer/Steamer
2	Brooms

CLEARBROOK TERMINAL - NEW COLD STORAGE BUILDING

7	Bags of Sorbent Pads (100/Bag)
28	3"x 8' Sorbent Booms
5	Bags of 8"x 10' Sorbent Booms (40' /Bag)
5	Box of Tyvek Coveralls (25/Box)
1	2" Diaphragm Pump
1	1" Diaphragm Pump
5	2" Suction Hose (10' Piece)
2	2 Pneumatic Air Movers

CLEARBROOK TERMINAL - PRESSURE WASHER BUILDING

3	Squeegees
2	Brooms
1	Pressure Washer/Steamer
1	Generator

CLEARBROOK TERMINAL - OLD COLD STORAGE BUILDING

20	Rolls of Snow Fence (Orange)
40	Fence Posts

CLEARBROOK TERMINAL - LEAK RESPONSE STORAGE PIPE

3	#2 Shovels
4	Rolls of Chicken Wire (50' Roll)
20	Fence Posts
4	Rolls of Snow Fence (Orange)
5	2 ½" Fire Hose (50' Rolls)

CLEARBROOK TERMINAL - MANIFOLD BUILDING

14	2" Suction Hose (10' Piece)
1	Air Mover

CLEARBROOK TERMINAL - METERING BUILDING

QTY	DESCRIPTION
3	Brooms
85	Sorbent Pads

THIEF RIVER FALLS PLM ER INVENTORY

THIEF RIVER FALLS PLM MISCELLANEOUS

6	2" Trash Pumps and Hoses
1	3" Trash Pump and Hose
1	3" Air Pump with Air Fittings and Hose
2	2" Air Pump with Air Fittings and Hose
1	Air Compressor
2	Hydraulic Pumps with Fittings for Power Units - Includes 3' Discharge Ports
6	Aluminum River Anchors
6	2" Air Pumps, 2" & 3" Discharge
1	1800 Gal. Port-a-Storage Tank with Liner
22	3" Hoses
10	2" Hoses
18	Bundles Sorbent Pads - 100 /Bundle
18	Bundles of Sorbent Booms 8" x 40' = 720'
3	Manifolds (Assorted Sizes - 3"x 2", 3"x 3", 2"x 2", 2"x 3")
2	Plastic River Dams
1	Extra Generator & Cords
1	Skimmer Power Pak

THIEF RIVER FALLS PLM COMMAND POST

1	Honda Generator
1	8' Table
8	Chairs
1	Grease Board with Markers & Erasers
1	Company Radio with A/C Converter & Directory
1	Emergency Weather Band Radio
1	Incident Command Chart
1	Site Safety Plot Plan Chart
1	Wind Sock with Mounting Bracket
8	Safety Vests
1	Set Incident Command Vests
3	Post Incident Drug/Alcohol Test Kits
1	TV / VCR Combo
1	Coffee Maker & Supplies
	Operating & Maintenance Manuals
	Safe Work Permit Books

THIEF RIVER FALLS PLM COMMAND POST cont.

QTY	DESCRIPTION
	Emergency Response Directory
	Contractor Handbook
	Minnesota Atlas
	Safety Orientation Video
	Flashlights
	Extra Gloves and Earplugs
	Safety glasses - Dark and Light
	Flare Gun & Cartridges
	Pipeline Strip Maps
	Hard Hats
	Trash Bag
	Caution Tape

THIEF RIVER FALLS PLM BOOM TRAILER INVENTORY

200'	16" Floating Containment Boom
750'	18" Floating Containment Boom
300'	24" Floating Containment Boom
6	Bundles of Sorbent Booms 8" x 40' = 240'
2	8' Oil Skimmers
8	Adjustable Boom Deflectors
5	Anchor Marker Buoys with Connectors
8	Totes of Nylon Rope (Various Lengths - 25', 50', 100', 150'), with Quick Connect Fittings
1	Sledge Hammer
4	Drive in Post Anchors

THIEF RIVER FALLS PLM LEAK TRAILER

1	Metal Stretcher
1	Roll ½" Nylon Rope
1	Roll ¾" Nylon Rope
2	Stop / Slow Signs
1	Roll Plastic Fence
2	Stihl Chainsaws with Ice Blades
2	Quarts Chain Caw Oil
2	Pair Chain Saw Chaps
2	Chain Saw Hard Hats with Ear Muffs and Face Shields Attached
3	Pair Ice Tongs
4	Slotted # 2 Shovels
2	# 2 Shovels
1	Bolt Cutter
1	Axe
1	Post Pounder for Fencing
1	Staple Gun

THIEF RIVER FALLS PLM LEAK TRAILER cont.

QTY	DESCRIPTION
1	3 in 1 Cutter
1	3" Skimmer with Air Hose and Controls
5	Face Shields with Hard Hat Adapters
8	Sets Rain Gear
10	Rolls Reflective Tape
2	Reflective Vests
1	12V Spotlight
2	AC Trouble Lights
12	Pair Rubber Gloves
8	Pair NGI Sleeves
2	Windsocks with Attachments for Mounting on Leak Trailer
4	Flashing Lights with Holders
6	Safety Belts
6	NGL Aprons
10	Pair Insulated Rubber Gloves
8	Security Barricades
25	Safety Cones
1	Fire Extinguisher -30# Ansul
2	Bundles, Absorbent Pads
1	Eskimo ice auger
36	Decontamination Suits
2	Poly Sprayers for Decon
4	Tubs for Decon
4	55 Gal. Containers with Covers
1	Box of Rags
12	Life Vests - Assorted Sizes (Two Containers)
1	25" Extension Cord
24	"Bird Chasers" - Wildlife Deterrents
1	Aerial Owl Predator
5	Rolls Plastic Sheeting
9	Pairs, Ice Picks of Life
1	Eagle Predator
8	Safety Belts and Ropes
1	First-Aid Kit
2	Fire Blankets
	Assorted Kamlock Fittings
	Assorted Floats
	Assorted Lumber – 2 x 4 x 12, 2 x 6 x 12

BEMIDJI PLM ER INVENTORY

BEMIDJI PLM MISCELLANEOUS

QTY	DESCRIPTION
2	3000 Watt Generator
1	3500 Watt Generator
4	3" Gas Water Pump
2	2" Gas Water Pump
12	2" Electric Water Pump
3	3" Hydraulic Oil Pump
2	3" Air Oil Pump
25	2" X 50' Discharge Water Hose
8	3" x 50' Water Discharge Hose
20	3" x 20' Water Suction Hose
6	2" x 20' Water Suction Hose
22	3" X 20' Oil Suction Hose
13	2" X 20' Oil Suction Hose
24	2" X 8' Oil Sorbent Mini Booms
5	50' Fast Water Boom
20	Pairs of Ice Cleats
7	Rolls of ⅜" Twist Poly Rope 600'/Roll
20	30" Squeegee's
4	Drums for 4' Skimmer
4	Drums for 8' Skimmer
80	8" x 10' Oil Sorbent Boom
24	Bags 17" x 19" Oil Sorbent Pads 100/Bag
2	38" x 144' Oil Sorbent Rolls

BEMIDJI PLM BOOM TRAILER INVENTORY- # 386

200'	Sorbent Boom
500'	Floating Oil Containment Boom
2	Bridge Pier Bridles
8	Boom Couplers
7	Buoy Markers
15	Tow Bridles
4	Life Jackets
1	Windsock
1	First-Aid Kit

BEMIDJI PLM LEAK TRAILER #109

10	Bundles Sorbent Pads - 100/Bundle
200'	Sorbent Boom
2	Scott Air Packs
1	Generator
1	2" Water Pump

BEMIDJI PLM LEAK TRAILER #109

QTY	DESCRIPTION
4	Road Barricades W/Flashing Lights
15	Pair Iceman Boots
15	Pair Hip Boots
2	Fire Extinguishers
1	Axe
1	Sledge Hammer
8	Shovels
1	First-Aid Kit
5	Protective Sleeves
5	Pair Insulated Gloves
10	Sets Fire Retardant Rain Gear
10	Pair Rubber Gloves
5	Face Shields
5	Aprons
7	Respirators
10	Reflective Vests
4	Safety Belts With Tag Lines
2	Fire Blankets
4	Danger Signs
	Incident Command System Vests
2	12-Volt Spot Lights
1	Windsock
	Assortment of Reflective Tape and Caution Tape
15	Pair of Coveralls
7	Winter Coats
1	Winter Bib
1	Roll of Rope
1	Box Scare Balloons For Wildlife
1	Megaphone
1	Stretcher
12	Fence Posts
1	Roll Fence
2	2" Rigid Suction Hose
2	3" Rigid Suction Hoses
1	2" Discharge Hose
1	Chain Saw
1	Scare Eagle for Wildlife
2	3" Diaphragm Pumps
3	Life Vests
3	Sets of Ice Cleats
3	Slow/Stop Signs

BEMIDJI PLM LEAK TRAILER #292

QTY	DESCRIPTION
2	Elastec 8' Skimmers
1	4' Elastec Skimmer
1	Elastec Mini Max Skimmer
1	Sea Ray Skimmer
1	Skim Pack Skimmer
1	Bolt Cutter
1	Sledge Hammer
1	Windsock
1	First-Aid Kit
1	Stretcher
1	Post Pounder
4	20' Lengths of Chain
12	Fence Posts
1	Roll Fencing
1	1800 Gal. Port-a-Tank and Liner
9	Pairs Insulated Rubber Gloves
6	Pairs of Rubber Gloves
6	Rain Coats & Rain Bibs
7	Screw Anchors
1	Flashing Amber Light
1	Spot Light
12	Boom Connectors
6	Pairs-Hip Boots
2	Pairs-Chest Waders
1	Danger Sign
1	No Smoking Sign
20	Ice Picks
1	Fire Blanket
1	Reel of Blue Rope, 500' in 25' Sections With Safety Snaps
1	Reel of Yellow Rope 500' in 50' Sections With Safety Snaps
1	Reel of Green Rope 500' in 100' Sections With Safety Snaps
2	Reels of Orange Rope 750' in 150' Sections with Safety Snaps
2	2"-3" Kamlock Fitting, Male-Female Thread
2	2"-3" Kamlock Fitting, Female-Female Thread
2	2"-3" Kamlock Adapters
2	2" Kamlock Fittings Male Adapter Female Thread
2	2" Kamlock Fittings Female Adapter Female Thread
3	Sets of Skimmer Hose
2	30# Fire Guns (Dry Chemical)
6	Life Jackets
11	Hose Floats
2	Big Aluminum Anchors
5	3" Diameter Floating Hose 10' Long Each

BEMIDJI PLM LEAK TRAILER #292 cont.

QTY	DESCRIPTION
1	3" x 35' Long Hose
1	Axe
3	Shovels
2	2" x 8" x 12' Lumber
7	2" x 4" x 12' Lumber
1	Environment Back Pack

SUPERIOR PLM ER INVENTORY

SUPERIOR PLM BOOM TRAILER INVENTORY

6	Bundles of Sorbent Pads (100/Bundle)
250'	Sorbent Boom
100'	Containment Boom - Small
2100'	Containment Boom - Open Water
700'	Floating Containment Boom w/ Quick Latch Couplings
5	Boom Tow Bridles
4	Fabricated Disk Anchors
4	Danforth Anchors
4	15' Lengths ½" Anchor Chain
29	Assorted Kamlock Fittings
1	Skim-Pak Skimmer
1	Manta Ray Skimmer
10	Pair Steel-Toed Chest Waders
4	Pair Neoprene Gloves
6	USCG Approved Life Vests
4	Shovels
1	Sledge Hammer
1	Bolt Cutter
2	Axe
10	Steel Fence Posts
2	Drive in Fence Post Anchors
5	Screw in Fence Post Anchors
1	Megaphone
1	12 volt Handheld Spotlight
1	Amber 12 Volt Strobe Light
	Assorted Fencing / Chicken Wire
	Assorted 2 x 4 x 12 2 x 6 x 12 Lumber

SUPERIOR PLM MISCELLANEOUS

5	12" Orange Round Water Buoys w/Weights
2	Towable Bridles w/Floats
3	ResQDisc Throwable Floatation w/Rope

SUPERIOR PLM MISCELLANEOUS cont.

QTY	DESCRIPTION
11	Rescue Harnesses
200	Ft. Rope
2	3" Gas Pumps
7	2" Gas Pumps
1	2" Diaphragm Pump
1	3" Air Pump
3	3" Hydraulic Pumps
2	3" Air Diaphragm Pumps
360	Ft. 2" Hose
20	Ft. Floatable 2" Hose
400	Ft. 3" Hose
20	Ft. Floatable 3" Hose
420	Ft. 4" Hose
450	Ft. 6" Hose
5	Personal Floatation Devices

SUPERIOR PLM LEAK TRAILER

7	Bundles Sorbent Pads (100/Bundle)
1	Roll Sorbent Pads
10	Bundles of Sorbent Boom (40'/Bundle)
5	Bags Absorbent Cellulose
150'	Floating Containment Boom
50'	Containment Boom - Small
4	8' Boom Deflectors
1	4' Oil Skimmer
1	8' Oil Skimmer
4	Fire Blankets
2	Wind Socks
7	Pair Insulated Rubber Gloves
13	Pair Rubber NGI Sleeves
15	NGL Aprons
5	Face Shields
6	Nomex Coveralls
1	First-Aid Kit
1	Stretcher
4	Road Barricades
4	Stop / Slow Signs
12	Safety Vests
9	Rolls Caution Tape
12	Amber Flashing Light
17	Safety Cones (Orange)
1	Roll Plastic Fencing

SUPERIOR PLM LEAK TRAILER cont.

QTY	DESCRIPTION
12	Fence Posts
2	Trouble Lights
1	12 Volt Spotlight
1	Box Wildlife Deterrent
1	3" Air Operated Diaphragm Pump
1	3" Hydraulic Pump
3	2" Hard Suction / Discharge Hose
1	2" Discharge Hose
1	2" Female to 3" Male Kamlock Fitting
1	3" Male to 2" Male Kamlock Fitting
4	Heavy Lanyards
2	Miscellaneous Lengths of Heavy Rope
1	Grounding Rod and Cable
1	Bolt Cutter
4	Shovels
1	Axe
1	Roll of Heavy Plastic
2	Rolls of Chicken Wire
1	Winch

IRONWOOD PLM ER INVENTORY

IRONWOOD PLM MISCELLANEOUS

QTY	DESCRIPTION
20	Bundles Sorbent Boom
2	150,000 BTU Heaters
1	Quick Tent
1	Power Ice Auger
1	Hand Auger
1	3500 Watt Generator
1	4000 Watt Generator
2	3" Pumps
3	Bundles Sorbent Pads
3	3" FR Hoses
5	3" Flexible Discharge Hoses
7	2" Flexible Discharge Hoses
20	3" Rigid Hoses
10	2" Rigid Hoses
25	Rolls Orange Fence
2	2" Multi-Quip Pumps
10	Road Barricades
2	Portable Lights
1	Light Plant

IRONWOOD PLM MISCELLANEOUS cont.

QTY	DESCRIPTION
4	Scott Air Paks
500'	Floating Oil Boom w/Quick Latch Couplings (6" Skirt)
12	50' Lengths of 4" Boom w/Couplers and Tow Bridles
8	6" Boom Tow Bridles
12	4" Boom Tow Bridles
5	Sorbent Boom 6" X 10' 4/Bag- 200'
2	Boom Connectors
5	Bales Sorbent Pads 17" X 19" 100/Bale
2	Bales Sorbent Boom 4/Bale
6	Anchors-15 # Danforth
4	Anchors- Fabricated Disk
5	Buoys
1	Elastec Power Unit
1	4' Elastec Drum Skimmer
2	30' Skimmer Hoses
2	3" Metal 45° Fittings
1	3" Air Operated Diaphragm Pump
5	3" X 10' Floating Discharge Hose
1	25' Discharge Hose
1	50' X 2" Discharge Hose
5	Hose Floats
1	1800 Gal. Port-a-Tank and Liner
1	Lot Ropes w/Connectors
6	Safety Belts
2	Safety Belts w/Tail Lines
1	Axe
1	Sledge Hammer
4	Shovels
9	Fire Retardant Rain Gear
7	Body Harness'
1	12 Volt Strobe Light
1	12 Volt Hand Held Spot Light
12	Life Vests
1	Bolt Cutter
1	Lot Rubber Gloves
10	Coveralls
2	Wind Socks
6	Screw in Fence Post Anchors
12	Fence Posts
1	Post Driver
1	Post Hole Digger
1	Hacksaw
2	Hammers

IRONWOOD PLM BOOM TRAILER INVENTORY

QTY	DESCRIPTION
1	Assorted Lumber and Nails
1	1000 Watt Honda Generator
1	Husky Power Saw
1	Stihl Power Saw
1	Lot Bar Oil
1	Stihl Leaf Blower
1	Warn Electric Winch
1	First-Aid Kit
1	NGL Flare Gun
1	Stretcher
3	Wool Blankets
1	Megaphone
3	Pitch Forks
1	50' Drop Cord
1	Fire Blanket
2	Danger Signs
1	Incident Command Chart
1	Case Garbage Bags
1	Bale Rags
1	Lot Tape (Caution and Reflective)
10	Hip and Chest Waders
1	Lot Ice Cleats
3	Pike Poles
19	Picks of Life

ESCANABA PLM ER INVENTORY

500'	Floating Oil Boom w/Quick Latch Couplings (6" Skirt on Boom)
6	50' Lengths of 4" Boom w/ Couplers and Towing Bridles
2	Boom Tow Bridle
2	Oil Sorbent SPC Sweep
6	Sorbent Boom 6"x10' 4/Bag - 240'
1	Sorbent Boom 5"x10' 4/Bag - 40'
7	Bales of Sorbent Pads 17"x19" 100/Bale
2	Bales of Sorbent Boom 4/Bale
4	Anchors -15# -Danforth
4	Anchors - Fabricated Disc.
4	Buoys
1	Skim-Pak Weir Skimmer w/Discharge+Hose+Wand Extension+Screen
1	Manta-Ray Floating Suction Head
1	Elastec Power Unit Motor Manual + Tools
2	3" Metal 45s for Pipe for Skimmer

ESCANABA PLM BOOM TRAILER cont.

QTY	DESCRIPTION
1	3" Air Operated Diaphragm Pump with 3" Kamlocks
2	15' x 3" Floating Discharge Hose
4	15' x 3" Rigid Suction/Discharge Hose
1	3" Discharge Hose
2	50' x 2" Discharge Hose
2	2" Hose Floats
1	1800 gal. Port-a-Tank and Liner
1	50' ½" Rope with Quick Disconnect Fitting
5	25' ½" Rope with Quick Disconnect Fitting
1	Roll with ½" Plastic Rope (¼ roll) (Yellow)
1	¾" Rope
3	25' Ropes for Body Harness
1	Axe
1	Sledge Hammer
4	Shovels
5	Reflective Vests
2	Body Harness
1	Amber 12-Volt Strobe Light
1	Pair of Snorkel Rubber Gloves
1	12-Volt Hand-Held Spotlight
5	Life Vest Type 2
2	Life Vest Type 1
1	Bolt Cutter
9	Pairs of Neoprene Rubber Gloves Long Sleeves
9	Deluxe Safety Vest
1	Roll of Orange Fence
1	Wind Sock
5	Screw in Fence Post Anchors
21	Fence Post
2	Rolls of Fence (Chicken Wire)
2	Rolls of Bailing Wire
4	12' 2x6s
4	12' 2x4s
1	16' Probe
2	3" Male to Female Threads
2	3" Female to Female Threads
4	3" Male to Male Threads
4	3" Female to 2" Male Adaptor
2	3" Male to 2" Female Adaptor
4	2" Male to Male Threads
2	2" Male to Female Threads
2	2" Female to Female Threads

MISCELLANEOUS EMERGENCY RESPONSE EQUIPMENT

1	Power Unit for Skimmers
1	4' Drum Skimmer
1	8' Drum Skimmer
1	20' Section of 3" Suction Hose
2	20' Section of 2" Suction Hose
3	50' Sections of 2" Discharge Hose
1	3" Discharge Hose
4	Hose Floats for 3" Hose
1	3500 Watt Generator
2	36" Chainsaw for Ice Slotting
4	I Gal. Containers of Bar Oil
1	8" Power Ice Auger
1	6" Hand Ice Auger
1	Backpack Blower
18	Ice Picks of Life
1	Portable 12 Volt 3500 lb Winch
9	Rolls of Silt Fence
14	Bales of Sorbent Pads
2	12' Aluminum Pike Poles
1	Bale of Sand Bags
1	Roll of Plastic
5	Pullover Harnesses
1	18" Lund Boat with 50hp Motor & Trailer
2	Oars
6	Life Vests
2	Anchors
1	Telescoping Gaff Hook
1	Hand Held Spot Light
1	Tow Bridle
1	2" Mud Sucker Pump
2	3" Trash Pumps
2	2" Trash Pumps
1	4" Hydraulic Pump
2	2" Electric Pumps

ESCANABA PLM LEAK TRAILER (VAN)

4	25' Wire Rope Slings
4	12' Blue Slings
4	10' Red Slings
4	8' Red Slings
2	6' Red Slings
6	10' Yellow Slings
2	8' Yellow Slings
2	4' Yellow Slings
4	12' Wire Slings with Hooks
2	20' Extension Ladders

ESCANABA PLM LEAK TRAILER (VAN) cont.

QTY	DESCRIPTION
1	Pitch Fork
6	Spade Shovels
1	Post Hole Digger
2	Rakes
2	Axes
1	Pick Axe
5	Assorted Pipe Wrenches
3	12' Crescent Wrenches
1	Metal Probe with Extension
2	150 # Fire Extinguishers
4	30 # Fire Extinguishers
1	Air Spade
1	Jack Hammer/Assorted Bits
4	Journal Jacks with Caps
1	Post Pounder
1	12 # Sledge Hammer
2	Tent Pole Bands with Poles
1	36" Bolt Cutter
1	1 Ton Chainfall
1	3 Ton Com-a-Long
4	Bales of Sorbent Pads -
2	Scott Air Paks
1	Roll of Visqueen Plastic
24	Wooden Lathe
7	Face Shields with Spare Shields
1	Emergency Back Board
1	Air Lifting Bag
2	Bundles of Silt Screen
1	Air Operated Air Mover
1	Loud Speaker
4	½" 20 ft. Jacking Chains
6	Gas Cans
2	20 # Propane Tanks
2	Empty 5 Gal. Pails
	Motor Oil
	Chainsaw Bar and Chain Oil
	Assortment of Alkaline Batteries
	Pocket Penetrometer Soil Tester
	Tool Kit for Chain Saws
	Assortment of Chains and Locks
4	Cans of Marking Paint
	Assorted Wire Brushes
2	Rolls of Duct Tape
	Garbage Bags

ESCANABA PLM LEAK TRAILER (VAN) cont.

QTY	DESCRIPTION
3	Rolls of Caution Tape(Yellow)
	Numerous Assorted Kamlock Fittings (Various Sizes and Threads)
	Assorted Pipe Plugs (Various Sizes)
	Assorted Pipe Adapters (Various Sizes)
	Assorted Pipe Reducers (Various Sizes)
1	25' 110 Volt Trouble Light
1	20 oz. Stanley Claw Hammer
4	No Smoking Signs (Orange and Yellow)
2	48 Quart Coolers
1	Electric Air Mover
10	Flashing Emergency Lights (Orange)
34	6 Volt Batteries
20	Pair of Long Rubber Gloves
9	Pair of Short Rubber Gloves
18	Orange Vests
7	Pair of Yellow Rubber Sleeves
4	Windsocks
4	Stop Signs
2	Fire Blankets
1	12 Volt Spot Light
10	Sets of Rain Gear
4	Safety Belts
3	Safety Belt Tag Lines
4	Pair of Lineman Gloves
3	Hard Hats
8	Pair of Blue Nomex Coveralls
5	Pair of Red NomexCoveralls
1	5 Gal. Water Cooler
1	3 Gal. Water Cooler
1	Coffee Pot
10	Gal. of Purple K-Fire Extinguishing Agent
1	1000 Watt Generator
200	Sand Bags
2	Drain Tubs
2	Extra Air Hose
	Assorted Tent Poles
	Assorted Fence Posts
2	2" Air Pumps for Oil Recovery
2	3" Air Pumps for Oil Recovery

ESCANABA PLM DECON TRAILER/COMMAND POST

	TV / VCR Combo with Safety Orientation Videos
1	UHF Radio - Stamped Unit 1301

ESCANABA PLM DECON TRAILER/COMMAND POST cont.

QTY	DESCRIPTION
1	Marine Radio with Channels List
1	Scanner
5	Jerk and Run Portable Company Radios
2	Hand Held Radios with Chargers
10	Telephones
1	12 Volt Power Supply
1	Clock
4	Power Strips
3	Flashlights
	MSDS Binder
	Decon Trailer Manual
	Superior Region Control Point Maps
	Pipeline Route Sheets
	Site Safety Plot Plan
	Federal and Ship Radio Authorization Papers
1	Easel Tripod with Paper Pad
1	Grease Board/Markers
2	Cork Bulletin Boards
	Miscellaneous Office Supplies
2	Office Chairs
7	Folding Chairs
3	First-Aid Kits
2	Fire Extinguishers
1	Microwave
1	Refrigerator
2	Fire Blankets
1	Windsock
1	Convection Oven
1	Portable Hot Plate
1	Coffee Pot
5	Incident Command Vests

Station Response Equipment Guidelines

Enbridge retains the suggested minimum response materials at each pump station along our pipeline system. This equipment is intended for minor spills or short term containment until additional resources arrive.

(These quantities are suggested minimums – each location is encouraged to add or modify this list based on needs specific to that location).

- 200 feet – 5" Sorbent Boom
- 200 feet – 8" Sorbent Boom
- 2 – Bales Sorbent Pads (17' x19" x 3/16") minimum 100 pads per bale
- 2 – Bales Sorbent Pads (17' x19" x 3/8") minimum 100 pads per bale
- 5 – Bales Sorbent Roll (38" x 144' x 3/8")

IRON RIVER STATION

IRON RIVER STATION BOOM TRAILER INVENTORY

QTY	DESCRIPTION
150'	6" Containment boom
1	Boom Bridle
120'	Sorbent Boom
7	Bundles Sorbent Pads (100 each)
2	Life Jackets
2	FR Reflective Vests
1	Pkg Rubber Gloves
1	Roll Caution Tape
2	Flash-Lites
2	Chest Waders
1	Sledge Hammer
1	Rake
1	Windsock
4	#2 Shovels
1	Hack Saw
1	50' Nylon Rope
1	100' Braided Rope
1	Pike Pole

MANISTIQUE BOOM TRAILER INVENTORY	
QTY	DESCRIPTION
400'	Floating Oil Boom w/Quick Latch Coupling (6" skirt on boom)
4	BoomTow Bridle
5	Sorbent Boom Bales 8"x10' 4/Bale
5	Sorbent Boom Bales 5"x10' 4/Bale
1	Sorbent Pads 17"x19" 200/Bale
1	Sorbent Pads 17"x19" 100/Bale
1	½" Rope 100'
4	½" Ropes 25' with Hooks
6	Shovels
1	
1	Sledge Hammer
2	Claw Hammer
25	Fence Post
3	Row of Fence (Chicken Wire)
1	Culvert
5#	16 Penny Nails
1	Windsock & Pole
2	Row of Baling Wire
2	Flashlights/Batteries
2	Life Jackets
2	Chest Waders (Size 10&12)
1	Electrician Pliers
1	Garbage Bags (Box of 100)
1	Safety Barricade Tape (Yellow)
1	Tin Snips
1	Hacksaw with 6 Blades
2	Reflective Vests
2	Permalon 40'x100' ply 210
6	Neoprene Rubber Gloves
2	Hip Boots (Size 10&12)
1	Telescoping Gaff Hook
10	12' 2X4s
10	12' 2x6s

GOULD CITY STATION

GOULD CITY BOOM TRAILER INVENTORY

300'	Floating Oil Boom w/Quick Latch Coupling (6" Skirt on Boom)
4	Boom Tow Bridle
5	Sorbent Boom Bales 8"x10' 4/Bale
5	Sorbent Boom Bales 5"x10' 4/Bale
1	Sorbent Pads 17"x19" 200/Bale
1	Sorbent Pads 17"x19" 100/Bale
1	½" Rope 100'

GOULD CITY BOOM TRAILER INVENTORY cont.

QTY	DESCRIPTION
4	½" Ropes 25' with Hooks
6	Shovels
1	Rake
1	Sledge Hammer
2	Claw Hammer
25	Fence Post
1	Culvert
5#	16 Penny Nails
1	Windsock & Pole
2	Row of Baling Wire
2	Flashlight/Batteries
2	Life Jackets
2	Chest Waders (Size 10&12)
1	Electrician Pliers
1	Garbage Bags (Box of 100)
1	SafetyBarricade Tape (Yellow)
1	Tin Snip
1	Hacksaw with 6 Blades
2	Reflective Vests
2	Permalon 40'x100' ply 210
6	Neoprene Rubber Gloves
2	Hip Boots (Size 10&12)
1	Telescoping Gaff Hook
10	12' 2x4s
10	12' 2x6s

ST. IGNACE VALVE YARD

ST. IGNACE BOOM TRAILER INVENTORY

1000'	Floating Oil Boom w/Quick Latch Couplings - 16" Skirt on Boom
1	BoomTow Bridle
5	Anchors-with Chains & Rope
5	Buoys Markers with Lights & Ropes & Batteries
2	Bales 40' each 6"x10" Sorbent Boom
2	Bales 40' each 8"x10" Sorbent Boom
1	Bales oil Sorbent Sweep 17"x100"
1 1/2	Bales of Sorbent Pads 17"x18" 100/Bale
1	Bales of Sorbent Rolls 38"x144"
1	3" Air Operator Diaphragm Pump c/w 3" Kamlocks
1	Generator 2500 Watts
4	Life Jackets
1	Gaff Hook
4	Pairs of Hip Boots 2 EA.(Size I 0 & 12)
4	Packs of Slip Protection for Boots

ST. IGNACE BOOM TRAILER INVENTORY cont.

QTY	DESCRIPTION
1	Fast Tank+1 Fast Tank Saddle Assembly
5	Rain Pants
2	Rain Jackets
1	Quick Tank
1	Cover for Tank
4	Shovels
1	Sledge Hammer
1	Hammer
12	Fence Posts
1	Bag of Fence Ties
1	Bag of 16 Penny Nails

MACKINAC STATION

MACKINAC BOOM TRAILER

1000'	Floating Oil Boom w/Quick Latch Couplings (16" Skirt on Boom)
1	Boom Tow Bridle
5	Anchors-with Chains & Rope
5	Buoys Markers with Lights, Ropes & Batteries
2	Bales 40' each 6"x10" Sorbent Boom
2	Bales 40' each 8"x10" Sorbent Boom
2	Bales Oil Sorbent Sweep 17"x100"
2	Bales of Sorbent Pads 17"x18" 100/Bale
1	Bales of SorbentPads 100/Bale 17"x19"
2	Bales of Sorbent Rolls 38"x144"
1	3" Air Operater Diaphragm Pump c/w 3" Kamlocks
1	Generator 2500 Watts
4	Life Jackets
1	Gaft Hook
4	Pairs of Hip Boots 2 EA.(Size I 0 & 12)
4	Packs of Slip Protection for Boots
1	Fast Tank + 1 Fast Tank Saddle Assembly
5	Rain Pants
2	Rain Jackets
1	Quick Tank
1	Cover for Tank
4	Shovels
1	Sledge Hammer
1	Hammer
12	Fence posts
2	Rolls of Baling Wire
1	Bag of Fence Ties
1	Bag of 16 Penny Nails

INDIAN RIVER STATION

INDIAN RIVER BOOM TRAILER INVENTORY

400'	Floating Oil Boom w/Quick Latch Coupling (6" Skirt on Boom)
4	Boom Tow Bridle
5	Sorbent Boom Bales 8"x10' 4/Bale
5	Sorbent Boom Bales 5"x10' 4/Bale
1	Sorbent Pads 17"x19" 200/Bale
1	Sorbent pads 17"x19" 100/Bale
4	1/2" Rope 100'
1	1/2" Ropes 25' with Hooks
6	Shovels
1	Rake
1	Sledge Hammer
2	Claw Hammer
25	Fence Post
3	Row of Fence (Chicken Wire)
1	Culvert
5#	16 Penny Nails
1	Windsock & Pole
2	Row of Baling Wire
2	Flashlight/Batteries
2	Life Jackets
1	Chest Waders (Size 10-12)
1	Electrician Pliers
1	Garbage Bags (Box of 100)
1	Safety Barricade Tape (Yellow)
1	Tin Snip
2	Hacksaw with 6 Blades
2	Reflective Vests
6	Permalon 40'x100' ply 210
2	Neoprene Rubber Gloves
1	Hip Boots (Size 10-12)
10	Telescoping Gaff Hook
10	12' 2x4s
10	12' 2x6s

ENBRIDGE ENERGY WINTER SPILL EMERGENCY RESPONSE EQUIPMENT

WINTER EQUIPMENT	Thief River Falls	Bemidji	Superior	Ironwood	Escanaba
Backpack Leaf Blowers	1	1	2	1	1
Portable Heaters - All	2	2	2	2	2
Power Ice Augers	1	1	1	1	1
Chainsaws	2	2	2	2	1
Winches	1	1	1	1	1
50' Lengths Mini Boom	3	3	3	6	8
Tow Bridles	6	3	3	6	16
Pike Poles	3	3	0	2	3
Pick-of-Life	12	24	5	10	10
3500w - 10000w Generator	1	1	1	1	1
Hydraulic Submersible Pumps	2	1	3	1	1
1 lot Aluminum Camlock Fittings	1	1	1	1	1
25' Length 2" Low Temp Hose	2	2	2	2	2
LWT Hose Floats for 3" Hose	0	0	0	2	0
Hand Ice Augers w/extention	1	1	1	1	1
Hazardous Location Trouble Light	4	4	5	4	3
Ice cleats	6	1	2	12	0
Shelter	0	1	1	1	0

Winter Equipment: Enbridge maintains this equipment for winter/cold weather spill response. It is staged at each Pipeline Maintenance Facility. Due to the seasonal nature of this equipment, it may not be stored in existing response trailers. The Pipeline Supervisor is responsible for the facility will ensure that the equipment is maintained, inventoried and accessible in the event of a winter spill incident.

APRIL 25, 2007 PRIMARY WATER RECOVERY EQUIPMENT	Thief River Falls PLM	Bemidji PLM	Superior PLM	Ironwood PLM	Iron River Station	Escanaba PLM	Manistique Station	Gould City Station	Straits of Mackinaw	Indian River
Boom & Absorbents										
Containment Boom – River (feet)	1250	250	850	600	150	500	400	300		400
Containment Boom – Open Water (feet)		500	2100						2000	
Containment Boom – Small (feet)		200	150	500		300				
Sorbent Boom (feet)	960	400	650	200	120	280	400	400	320	400
Sorbent Pads	1800	3000	1300	750	700	700	300	300	450	300
Sorbent Sweep/Rolls (bales)		2	1			2			6	
Skimmers										
3' Drum Skimmer	1									
4' Drum Skimmer		4	1	1		1				
8' Drum Skimmer	2	2	1			1				
Mini Max Skimmer		1								
Skimmer Power Pak	1			1		1				
Manta Ray			1							
Skim Pak			1							
Pumps										
2" Air Operated + Hoses	8		2	1		2				
3" Air Operated + Hoses	1	2	5	2		2			2	
2" Trash Pump + Hoses	6	2	10	2		2				
3" Trash Pump + Hoses	1	4	5	2		2				
3" Hydraulic Pump + Hoses	2	3	7	1						
4" Hydraulic Pump + Hoses				1		1				
2" Electric Pumps		12	2	2		2				

APRIL 25, 2007 PRIMARY WATER RECOVERY EQUIPMENT	Thief River Falls PLM	Bemidji PLM	Superior PLM	Ironwood PLM	Iron River Station	Escanaba PLM	Manistique Station	Gould City Station	Straits of Mackinaw	Indian River
Storage										
Vacuum Truck – 1500 - 1800 Gal.	1	1	1	1		1				
Portable Storage Tanks (1800 gal)	1	1		1		1				
Tankage Storage		7.2 million barrels at Superior WI					5000 barrels at Gould City MI			
		1.2 million barrels at Clearbrook, MN								
Boats & Motors										
18' Lund w/motor & equipment			1	1		1				
20' Lund Alaskan w/motor & equipment	1	2	1							
12' John Boat		1								
20' Aqua Deck w/inboard & equipment	1									
Response Trailers										
Leak Trailers (van)	1	2	1			1				
Boom Trailer	1	1	2	1	1	1	1	1	2	1
Command Post Trailer	1									
Decontamination/Command Trailer						1				

Twin Ports Mutual Aid Group

The Twin Ports Petroleum Mutual Aid Group (TPPMAG) was formed in 1992 to provide for mutual assistance and cooperation in the control of oil spill emergencies occurring in the general area of Superior, WI and Duluth, MN. A key component of this agreement is the joint ownership of a fully equipped response trailer. The City of Superior, WI Fire Department agrees to store the trailer and transport it to emergency response sites as designated by the member companies and at reasonable cost to the user. The Group agrees to give the City of Superior full authority to use the trailer, equipment and materials as it deems appropriate.

Member Companies include:

- Enbridge Energy
- Murphy Oil USA, Inc. Superior Refinery
- Conoco Inc.
- Magellan Pipeline
- Murphy Oil USA, Inc Marine Terminal

FOR EMERGENCY DELIVERY OF THE RESPONSE TRAILER

Call the Superior Fire Department at:

715-394-0227 (normal business hours)
715-394-0231 (after hours)

TWIN PORTS MUTUAL AID GROUP EMERGENCY RESPONSE INVENTORY	
QTY	**DESCRIPTION**
1	Spare Trailer Tire
3	18 # Boxes Fiberperl Absorbent
2	Rolls Absorbent - 144'
4	Boxes Tharco Absorbent Pellets
5	Bundles Absorbent Pads - 100 / bundle
2	Anchors - 43 #
1	Axe
5	50' Sections of Containment Boom
1	Section of 25' Containment Boom
1	Portable Generator
1	100' 12 Gauge Extension Cord
14	Steel Fence Posts
1	Fence Post Driver
2	Fire Extinguishers 30 # (Dry Chemical)
1	First- Aid Kit
1	Flashlight
1	Gas can for Generator
1	Plastic Boat Gas Tank
1	Can Adhesive Glue
	Miscellaneous Hardware
3	Pair Steel Toed Hip Waders
4	Life Jackets
2	Portable Light Towers
1	Portable Light
6	Non-Conducting Pads
2	Wooden Boat Oars
1	25 Horsepower Outboard Motor
2	Pitchforks
1	Box Plastic Sheeting
2	Metal Rakes
1	Leaf Rake
12	Various Lengths of Nylon Rope
1	50' Length of Nylon Rope
1	Spool of Nylon Rope
2	Scoop Shovels
3	Spade Shovels
1	Square shovel
1	12 # Sledge Hammer
4	Boxes Sorbaid
1	12 Volt 100,000 Candlepower Handheld Spotlight

TWIN PORTS MUTUAL AID GROUP EMERGENCY RESPONSE INVENTORY cont.

QTY	DESCRIPTION
24	Tent Stakes
1	Tool Box with Assorted Hand Tools
1	Bag Gloves
1	Bag Response Suits
1	16' Alumaweld Boat
	Tow Bridles
	Water Buoys
	Barricade Tape – (Yellow Caution & Red Danger)

SPECIALTY CONTRACTOR CONTACTS

BAY WEST

Bay West is an established Coast Guard classified OSRO (Oil Spill Response Organization) responding out of Minneapolis, Minnesota, that provides 24-hour emergency spill response. Their services include cleanup, removal and the remediation of oil spill sites as well as environmental investigations and assessments.

Bay West has an extensive inventory of emergency response equipment, HAZMAT and HAZWOPER trained personnel, and an experienced support staff to respond to various types
of spill scenarios.

Enbridge has retained Bay West by means of an Emergency Response retainer to supplement internal resources in the event of a pipeline incident. Copies of their inventory and equipment lists can be obtained through Enbridge Energy's Superior Regional Office.

Bay West
5 Empire Drive
St. Paul, MN 55103
(651) 291-0456
1-800-279-0456 (24 hrs.)
www.baywest.com/emergency.htm*

GARNER ENVIRONMENTAL SERVICES INC.

Garner Environmental Services is a full service environmental and emergency response company based near Houston, TX. Numerous locations and away teams, allows response in a timely manner to any situation upon notification.

Enbridge has contracted with Garner to provide personnel, equipment, and expertise in the event of a **WORST CASE DISCHARGE** situation where timeliness is critical and additional resources are needed. The Master Service agreement is located in the Superior Regional Office. Copies of inventory and equipment lists can be obtained through the Region Offices.

Garner should only be contacted from the Qualified Individual (QI) level or higher. The QI may wish to confer with senior management or the crisis management team prior to enlisting Garner's services.

Garner Environmental Services Inc.
1717 W 13th St.
Deer Park, TX 77536
(281) 930-1200
1-800-424-1716 (24 hrs)
www.garner-es.com/documentsdown.html

*Current emergency response equipment lists for these OSRO's are kept on file in the region office and can be found at their respective websites.

CANADIAN CROSS BORDER EMERGENCY RESPONSE EQUIPMENT

Enbridge recognizes that there may be circumstances where additional resources are required for emergency response in our operating areas along the U.S / Canadian border. In these situations, agreements have been reached to allow equipment and manpower to cross the border to respond. These agreements have been discussed and cleared with both the U.S. and Canadian Customs offices. Equipment and manpower lists have been provided to these entities as a reference in the event a cross border crossing becomes necessary.

This Canadian area is included in this cross border agreement with the Superior Region:

Gretna, Manitoba

GRETNA MOBILE EQUIPMENT EMERGENCY RESPONSE INVENTORY	
QTY	**DESCRIPTION**
1	½ Ton 4X4 Pickup Truck
1	1-Ton 4X4 Extend-a-Cab
1	Picker Truck-Fassi 17 ton
1	Welding 1-TonTruck
1	3/4 Ton 4 X 4 Pickup Truck
1	CM-1 Jet Boat
1	GF -1 Jet Boat
1	Boat Trailer
1	Boat Trailer
1	Oil Spill Trailer
1	Emergency Equipment Trailer
1	Lighting Plant
1	Arne's Tandem Trailer
1	Cat Skid Steer
1	Skid Steer Trailer

GRETNA EMERGENCY RESPONSE TRAILER INVENTORY- UNIT 38903	
1	2003 Chevrolet 1500 Silverado Extended Cab(VIN.# 2GCEK19T531277318)
1	Motorola MCX100 Mobile Telephone (Serial #484PKY4434)
1	Motorola MCX100 Private Company Radio (Serial #428PQS5142)
1	Motorola Cellular Plus Telephone (Serial #8189B0632)
1	Flare Pistol
1	Box of Flares for Flare Pistol.

GRETNA UNIT 38903 cont.

QTY	DESCRIPTION
1	BX-82 Gas Detector (Serial #GX-1108-HSD)
1	Safe Work Permit Book
1	District #2 System Map Atlas
1	Pembina Valley Telephone Book
1	100' Tape Measure
1	50' Tape Measure
1	16' Tape Measure
1	25" Tape Measure
1	Western/Central Emergency Response Directory
1	Nylon Tow Rope / Clevises
2	Flashlights. (Lantern Style)
2	Fire Blankets
1	First Aid Kit
1	District #2 Route Sheets
1	Set of Booster Cables
1	Box of Ear Plugs
1	Set of Binoculars
1	Hardhat
1	Pressure Gauge- Serial #801
1	Container of Safety Supplies such as Gloves, Safety Glasses,
2	Pairs of Safety Glasses
1	Pipeline Information Book
1	Landowner Information Book
1	Regina Telephone Book
1	Manitoba Telephone Book
1	Emergency Border Crossing Manual
1	Oil Spill Control Point Book
1	Western Operations Emergency Call Down List Booklet
2	Lakehead Safe Work Permit Books
1	Lens Cleaning Kit
1	Westward Travel Tool Kit
1	⅜" Socket Set / Sockets
1	Box of Emergency Road Flares
1	Spotlight
1	Air Horn
1	Yellow Emergency Flashing Light
1	Laerdal Pocket Face Mark
1	5 # General Fire Extinguisher (Serial #H648373C)
1	Flange Installation Quality Control Form
4	Pairs of Work Gloves

GRETNA EMERGENCY RESPONSE TRAILER INVENTORY- UNIT A351	
QTY	**DESCRIPTION**
1	2000 Ford F-350 1 Ton Truck (VIN # 1FDWX37F7YEC63078)
1	Motorola 2-way Radio (Serial #428ATUT161)
1	TMX Gas Detector with Spare Battery (Serial # 9407075-293)
1	TMX Charger (Serial # 941Z083-006)
1	Flare Pistol (Serial # 66823)
1	Box (8) Flare Cartridges
1	Motorola Permanent CellP
1	External Rotating Amber Light
1	36" Aluminum Pipe Wrench
2	24" Aluminum Pipe Wrenches
2	18" Aluminum Pipe Wrenches
2	12" Aluminum Pipe Wrenches
2	Ball Peen Hammers
1	Claw Hammer
1	⅜" Drive Socket Set
1	Set Metric Open-End Wrenches (6 mm – 24mm)
1	Set Standard Open-End Wrenches (¼" – 1 ¼")
1	½" Drive Socket Set
2	Pry Bars
1	Set (3) Rolling Pry Bars
2	10" Vise Grips
1	12" Chain Vise Grip
3	10" Pliers
2	7" Pliers
2	7" Needle Nose Pliers
1	7" Wire Cutter
1	Tin Snip
1	Set Internal and External Snap Ring Pliers
4	Phillips Screwdrivers
3	Robertson Screwdrivers
5	Flat Screwdrivers
2	Sets Folding Allan Wrenches
1	Set Regular Allan Wrenches
1	15" Crescent Wrench
1	12" Crescent Wrench
1	10" Crescent Wrench
1	8" Crescent Wrench
1	6" Crescent Wrench
1	Hack Saw (2 spare Blades)
4	Half Bastard Round Files

GRETNA UNIT A351 cont.

QTY	DESCRIPTION		
3	Flat Files		
3	Rat Tail Files		
Assortment of:	Banana Knives	Electrical Tape	Teflon Tape
	Wire Brushes	Tape Measures	Awls
	Utility Knives	Tube Pipe Sealant	
1	Roll Chalk-line		
1	Battery Post Cleaner		
1	Utility Magnet		
1	Utility Claw		
1	5 Gal. Gas Can	1 – 5-Gal. Diesel Can	
1	12 # Sledge		
2	Spades		
1	District 2 System Map Atlas		
1	District 2 Route Map		
1	District 2 Landowners Book		
1	Emergency Preparedness Book		
1	Local Pipeline Information Book		
1	Telephone Book		
4	Safety Shields		
2	Safety Shields		
2	Safety Shields Hardware		
1	Box CAA Survival Kit		
1	Full Body Harness.		
2	Shock Absorbers		
2	Lanyards		
2	Tag Line		
2	Lock-out Locks		
2	Lock-out Clevises		
2	Lengths Lock- out Chain		
1	Pair Gloves		
1	Snap-in Tool Box		
4	Pressure Gauges		
	Assortment of Air Fittings		
1	Micro Cassette Recorder		
2	Reflective Vests		
1	Skid Pick		
1	Pick		
1	Probe		
1	Tag Line		
1	⅜" Tie-down Chain		
1	⅜" Load Boomer		

GRETNA UNIT A351 cont.

QTY	DESCRIPTION
1	2' Level
1	5" Vent Hose
	Rags
2	Liters Motor Oil
2	Cans Penetrating Oil
1	2 Gal. - Antifreeze
2	2" Ratchet Tie-downs
2	Hydraulic Journal Jacks
1	Emerpac Hydraulic Jack with 4" Head
1	¾" Socket Set
2	Pig Tails
2	Probe Lite Stands
2	Flood Lights
4	Clear Deck Lights
1	1 ½- Ton Come-Along
1	Rear Deck Box (Assorted Pipe Fittings)
1	Rear Deck Box (Tow Rope and Booster Cables)
1	Wisk Broom
1	100' Tapes
1	Ice Scraper
2	Explosion Proof Flashlights
1	First-Aid Kit
2	6' x 5' Fire Blanket
1	Spotlight
1	Box of Emergency Road Flares
1	Safe Work Permit Book
1	Flange Installation Quality Control Form

GRETNA EMERGENCY RESPONSE INVENTORY- UNIT 35203

1	2004 Kenworth T 800 Tandem (VIN # 1NKDLUOX74J973128)
1	2003 Fassi F530 XP Hydraulic Crane with Wireless Remote Control.
1	Motorola 2- Way Radio / Accessories
1	Motorola 650 Flip Cell Phone/ Accessories
1	Industrial Scientific Gas Detector (Serial # 9407075-292)
1	Windsock
1	Set of Roadside Flares
4	RED 30 minute Emergency Flares
4	Wheel Chocks
1	Full Body Harness
1	Fall Arrest Lanyard

GRETNA UNIT 35203 cont.

QTY	DESCRIPTION
1	Shock Absorber
1	Survival Kit
1	Flare Gun (Serial # 66816)
1	Box Flares (10)
1	6 Volt Flashlight
1	Fire Blanket
2	Fire Extinguishers 30 # (Ansul) (Serial # KW 514283 , Serial # KW 514284)
1	First-Aid Kit (Safety Center)
2	30' Tag Lines
1	Hardhat Mounted Face-Shield (Clear)
1	Lardal Pocket Mask
2	CPR Protectors
4	Dust Masks
4	Pair Latex Disposable Gloves
1	Reflective Vest
2	Beacon Lights
1	Nut Driver Set of 7, ¼" to ½"
1	¾" Drive Air Impact Wrench Ingersol Rand (Serial A01J13264)
1	Set of 10, ¾" Impact Sockets 3/16" to 1 5/16"
2	12" Rigid Pipe Wrench
1	18" Rigid Pipe Wrench
2	24" Rigid Pipe Wrench
1	36" Rigid Pipe Wrench
1	Set of 16, SK Flat Wrenches ¼" To 1 ¼"
1	Set of 16, Westward Metric Flat Wrenches 7mm to mm
1	Westward ¼" DR Socket Set
1	Proto ⅜" DR Socket Set
1	Proto ½" DR Socket Set
1	Westward ½" DR Deep Socket Set
1	6" Proto Crescent Wrench
1	8" Proto Crescent Wrench
1	10" Proto Crescent Wrench
1	12" Proto Crescent Wrench
1	15" Proto Crescent Wrench
3	Ball Peen Hammers
3	Pairs of Channel Lock Pliers
1	Set of 9, SK ½" DR Allen Head Wrenches 5/32" to ⅝"
1	Proto Hex Key Set of 11, ¼" to ⅜"
1	Hex Key Set of 9, 5/64" to ¼"
1	Hex Key Set of 7, 2mm to 8mm
1	½" DR to ¾" DR Adaptor

GRETNA UNIT 35203 cont.

QTY	DESCRIPTION
1	½" DR to ⅜" Dr Adaptor
2	Wire Brushes
9	Assorted Steel Files
1	Battery Post Cleaner
	Assortment of Punches and Chisels
2	Pinch Bars
1	6" Vise Grip Pliers
2	8" Vise Grip Pliers
3	10" Vise Grip Pliers
2	6" Pliers
2	8" Pliers
4	Side Cutter Pliers
1	6" Needle Nose Pliers
1	8" Needle Nose Pliers
1	Hacksaw with 4 Spare Blades
	Assorted Screw Drivers
2	Pair Tin Snips
1	Pair External Retaining Ring Pliers
1	Pair Internal Retaining Ring Pliers
3	Utility Knives
4	Scrapers
1	Magnetic Stick
1	100' Tape Measure
1	Chalk Line
1	2' Carpenter Level
1	Torpedo Level
1	Carpenter Square
2	Sets of ⅜" Chain Spreaders
1	2"- 6' Lift-all Sling
2	2" -10' Lift-all Slings
2	2"- 4' Lift-all Slings
2	3" -10' Lift-all Slings
4	8' Tuflex Slings
4	6' Tuflex Slings
4	10' Tuflex Slings
2	14' Tuflex Slings
2	26"x 26" Wooden Outrigger Pads
2	22"x 22" Wooden Outrigger Pads
2	20" Aluminum Outrigger Pads
1	Plastic Tool Box With 2 - Danger Wide Load Signs & 4 Orange Flags
1	Pin On Steel Push Pole Receiver
1	Plastic Tool Box with an Assortment of Eye Bolts ¼" to 1 ¼"

GRETNA UNIT 35203 cont.

QTY	DESCRIPTION
1	Plastic Tool Box with an Assortment of Shackles ⅜" to 1"
2	16' Lengths System 7 ⅜" Load Chain with Hooks
4	11' Lengths System 7 ⅜" Load Chain with Hooks
6	Load Binders
2	Spare ⅜" Load Chain Hooks
1	3' Steel Snipe
2	3" Ratchet Tie- Down Straps
6	2" Ratchet Tie- Down Straps
1	1 ½ -Ton Columbus McKinnon Com-a-long
1	8-Ton Hydraulic Jack
1	15-Ton Journal Jack
1	30-Ton Enerpac Hydraulic Pump with Jack Head
2	Detachable Tow Hooks
1	50' Rapid Reel of ⅜" Air Hose
2	Spare ¾" THOR Couplers
2	Spare ¼" by ⅜" Male Air Fittings
2	Spare ¼" by ⅜" Female Air Fittings
1	¼" Air Chuck
1	¼" Air Gun
1	Tire Pressure Gauge
1	¾" Thor Coupler to ¼" Male Air Fitting Adaptor
1	¾" Thor Coupler to ¼" Female Air Fitting Adaptor
4	¾" Aero-Quip HYD Quick Couplers
1	¾" Drill Adapter
1	7/8" Drill Adapter
1	1" Drill Adapter
2	Valve Stem Shear Pins
	Assortment of Roll Pins, Cotter Pins, Snap Rings, Electrical Crimp Fittings
8	⅜" Latch Kits
1	O-Ring Kit
1	O-Ring Repair Kit
2	Spade Shovels
1	8 # Sledge Hammer
1	10 # Sledge Hammer
1	Skid Pick
1	Long Pry Bar
2	Short Pry Bars
1	Fiber Glass Probe
1	Set of Booster Cables
2	20' Power Cords
1	25 # Propane Bottle with Hose, Regulator, Torch , & Striker

GRETNA UNIT 35203 cont.

QTY	DESCRIPTION
1	5 Gal. Gas Can
1	5 Gal. Diesel Can
1	3 Gal. Rubberized Pail
1	6" Nylon Tow Rope
1	Waterloo Tool Chest
1	Proto Tool Chest
1	Large Frame Mounted Tool Locker
2	Custom Made Deck Tool Boxes
1	Electrical Pig Tail Adapter
	Assortment of Plastic Ties
	Assortment of Fuses
1	Bug Screen
1	Winter Front
1	Box of Assorted Drill Bits
1	Grease Gun & 2 Tubes of Grease
1	4 Liter Jug of Motor Oil
1	Box of Rags
	Assortment of Spray Cans, Penetrating Oil, WD-40, Cleaners
	Pipe Thread Sealant
	Assortment Of Pipeline Info Books, Manuals & Maps
	Teflon Tape & Emery Cloth
2	2000-PSI Pressure Gauges
1	½" Ball Valve
1	¾" Ball Valve
1	1" Ball Valve
1	2" Ball Valve
	Assortment of 2" & 3" Male & Female Kamlock Fittings
	Assortment of Threaded Fittings, Pipe Nipples , Bushings ¼" to 2"

GRETNA EMERGENCY RESPONSE INVENTORY
UNIT 319

1	Fire Extinguishers 30# (Ansul & Redline)
1	Miller Pipe Pro-Welder
1	Motorola Radio
1	Motorola Flip – Cell Phone. Hands Free
1	Motorola Receiver Type
1	Flare Pistol
1	Box of Flares
1	Revolving Amber Light
1	Industrial Scientific Gas Monitor TMX412
1	Industrial Scientific Personal Gas Monitor (Serial #0207492-261)
2	Safe Work Permit Books

GRETNA UNIT 319 cont.

QTY	DESCRIPTION
1	Enbridge Welding Manual
2	Greenlee Volt/Amp meters
1	F.N. Bell Gauss/Tesla Meter 4048
1	Bushnell Binoculars
1	Spare Motorcraft Fuel Filter
1	Orange Flashlight
1	Hydraulic Jack
1	3' x 8' Sheet x ½" Plywood
1	Aluminum Deck
2	5" Makita Angle Grinders
1	7 Drawers International Toolbox
5	Blue Plastic Rod Guard Containers
1	2' Aluminum Level
1	2' Magnetic Level (Yellow)
1	4' Magnetic Level (Yellow)
2	Large Oxygen Bottles
3	2' Carpenter Squares
1	Large Acetylene Bottle
1	Set of Oxygen – Acetylene Regulators
1	Hack Saw
1	25' Brica Tape Measure
1	16' Brica Tape Measure
1	100' Stanley Tape Measure
1	Aluminum spool with 50' Oxygen-Acetylene Hose
1	Welding Helmet
1	Leather Welding Coat
1	12 # Sledge Hammer
1	Face Shield
1	Piece Screwdriver Set (Fuller)
1	21 Piece Flat Wrench Set (S – K) Standard
1	8" Crescent (Proto)
1	10" Crescent (Proto)
1	15 Piece Set of Punches (Proto)
1	22 Piece Set Flat Wrenches (Westward) Metric
1	24 Piece Set Westward Sockets ⅜" Drive
1	24 Piece Set Westward Sockets ½" Drive
6	Vise Grips
1	Stanley Line Level
13	Pipeline Wedges – Brass
3	Pliers
1	Stanley 100' Tape Measure

GRETNA UNIT 319 cont.

QTY	DESCRIPTION
2	Clipping Hammers
3	Wing Wraps for Line Level
4	Ball Peen Hammers
4	Large Pliers
1	Tin Snips
1	Snap ring Pliers
1	Needle nose Pliers
2	Side Cutters
6	Pipeline Files
1	Claw Hammer
1	Piece Rigid Pipe Wrench Set
1	Pipe Line-up Dogs
1	Victor Cutting Torch
1	6' Aluminum Step Ladder
1	4' Mud Board
1	8" Vise
1	Magnetic Grinder Stand
1	30 # Propane Bottle
1	Hiab 130 Picker
1	Tiger Torch
1	Galvanized Milk Pail
6	Beveling Bands (10" – 48" CRC-Evens)
2	Victor Beveling Torches
1	Beveling Machine (Cranler & Remote)
3	Aluminum Spools (Lead, Ground & Remote Cables)
1	CAA First-Aid Kit
1	Set of Fire Blankets
1	Set of Booster Cables
1	Spare Stinger & Whip
1	1 Ton Strap
1	25' – 220 amps. Extension Cord
1	Enbridge Right-of-Way Maps Package
1	Halogen Portable Work Lamp
1	Arc-Air Stinger
4	110 Amps. Extension Cords
1	6' x 1" Sling
1	Set of Spreader Chains
16	11 # Boxes of Liquid Air Welding Rods
1	50 # Box of Lincoln Welding Rods
1	Plate Clamp
1	Large Shackle
1	Set of Drill Bits (29 Piece)
4	Spare Face Shield Lenses

GRETNA UNIT 319 cont.

QTY	DESCRIPTION
3	Pairs of Spare Work Gloves
1	O-ring Kit
1	Black & Decker 1 ½" Die Grinder
6	Valve Adapters
1	Spare Tweco Stinger
2	Spare Tweco Connectors
2	20' Chains
1	15 Ton Sleeve Jack
1	5 Ton Hydraulic Jack
2	4' Aluminum Yard Sticks
3	Wire Brushes
4	Utility Knives
3	Scrapers
1	Ridged Laser Level (Torpedo)
2	Torpedo Levels
1	0 – 6 Calipers
1	Compass
2	Combination Squares
2	12" Square
1	Curve-O-Mark Center Finder
2	Boxes of clear welding Helmet Lenses
1	20 Piece Set of ¼" Letter Stamps
7	Piece Pry Bar Set
5	1" Ratchet Straps
1	2" Ratchet Straps
1	2' Pro Smart Level
1	20 Piece Set of ¾" Drive Sockets (Proto)
1	Box of Walter Zip Cuts
1	Box of Walter Pipeline Wheels
2	Walter Buffing Wheels
1	Emergency Road Flare Kit
1	Set of Welding Gloves
2	Curve-O-Mark Wrap-Around
1	⅜" Makita Drill
1	½" Makita Drill
1	Portable Halogen Work Lamp
1	Heat Demon (Portable Heater)
1	6 Drawers International Tool Box
1	In Cab First-Aid Kit
1	50 # Pioneer Rod Oven
4	Boomers

Qualified Individuals Notification

As per the National Preparedness for Response Exercise Program (PREP) guidelines, a Qualified Individual (QI) notification drill is performed four times per year (quarterly). During these quarterly drills, contact is made from the Control Center via telephone, radio, or pager to the Qualified Individual or their designate in the Superior Region to ensure they can be reached to carry out their duties in the event of a spill response emergency. Confirmation of receipt of the contact must be made by the QI back to the Control Center to validate the drill.

Documentation for these drills is filed in the Control Center and in the Superior Region Office.

M. J. Willoughby
Superior Region General Manager, Enbridge (U.S.) Inc.
119 North 25th Street East,
Superior, WI 54880
Business: 715-394-1410
Business FAX: 715-394-1405
24 hr contact: 800-858-5253 via Edmonton Control Center

Emergency Response Trained Personnel

Enbridge employees are trained for emergency response according to the OSHA 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. Depending on their job classification, employees receive training in first responder awareness, first responder operations, hazardous material technicians, hazardous material specialists, incident commander, support and clerical staff. Employees receive an 8 hour annual refresher as required by the standard.

As per the National Preparedness for Response Exercise Program (PREP) guidelines, company initiated tabletop exercises, equipment deployment exercises, and unannounced deployment exercises are performed and documented annually. Company personnel also participate in industry led emergency response exercises as well as local exercises throughout our system.

The following chart reflects the number of annually HAZWOPER trained Enbridge employees by response zone:

Superior Region Response Zone	Chicago Region Response Zone	Cushing Region Response Zone	Enbridge Pipelines North Dakota Response Zone
110	112	60	40

In addition, internal response resources are supplemented by contract staff supplied by pre determined agreements with Oil Spill Response Organizations (OSRO's) and other local contractors. In many instances these resources are response zone specific and contact information is listed in the Enbridge Emergency Response Directory.

Maps & References

Maps & References

Main Line Valves

Site Safety Plot Plan

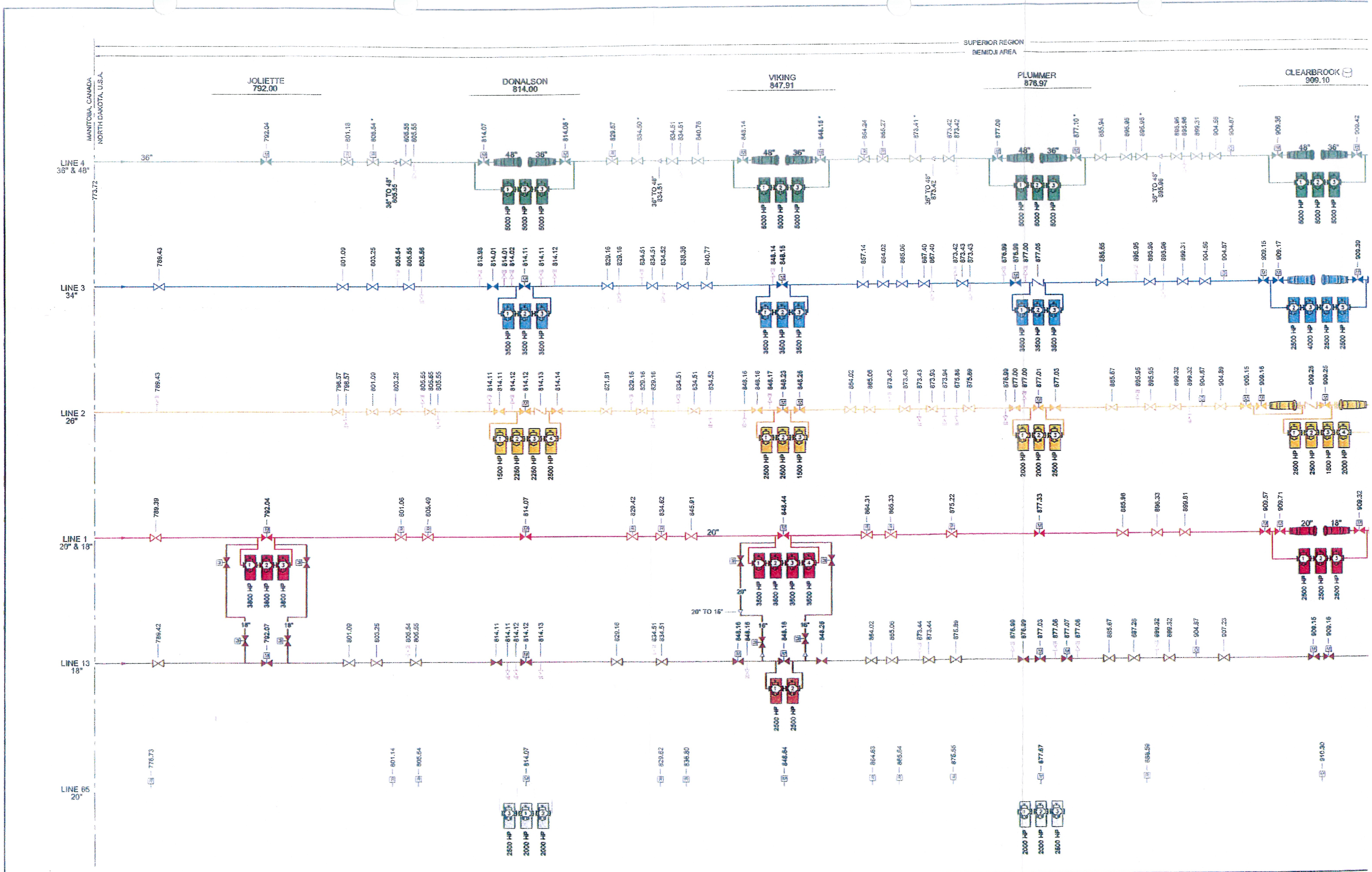
Pipeline Information
- Miles of Mainline Pipe
- Release Alert

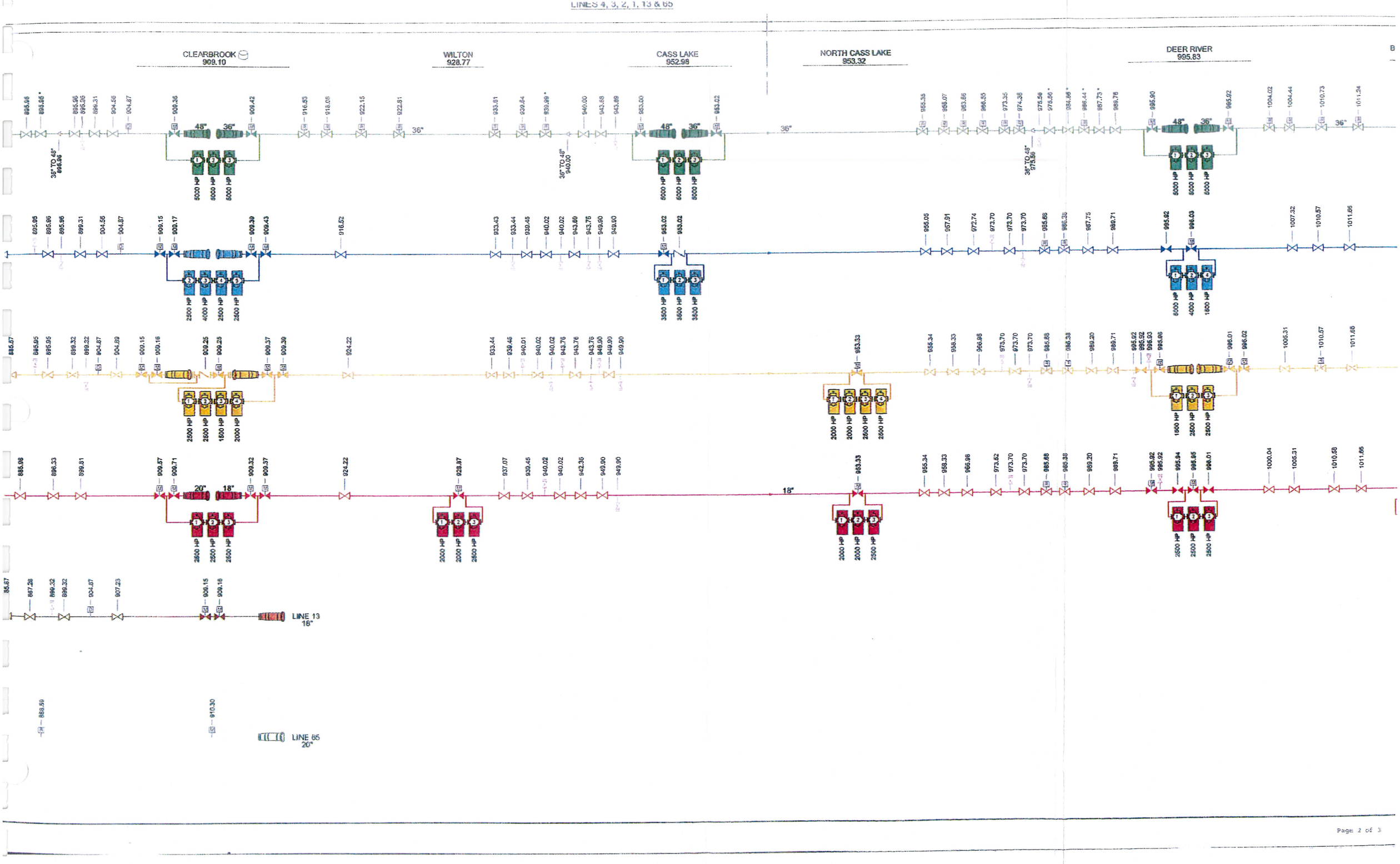
Pipeline System Map

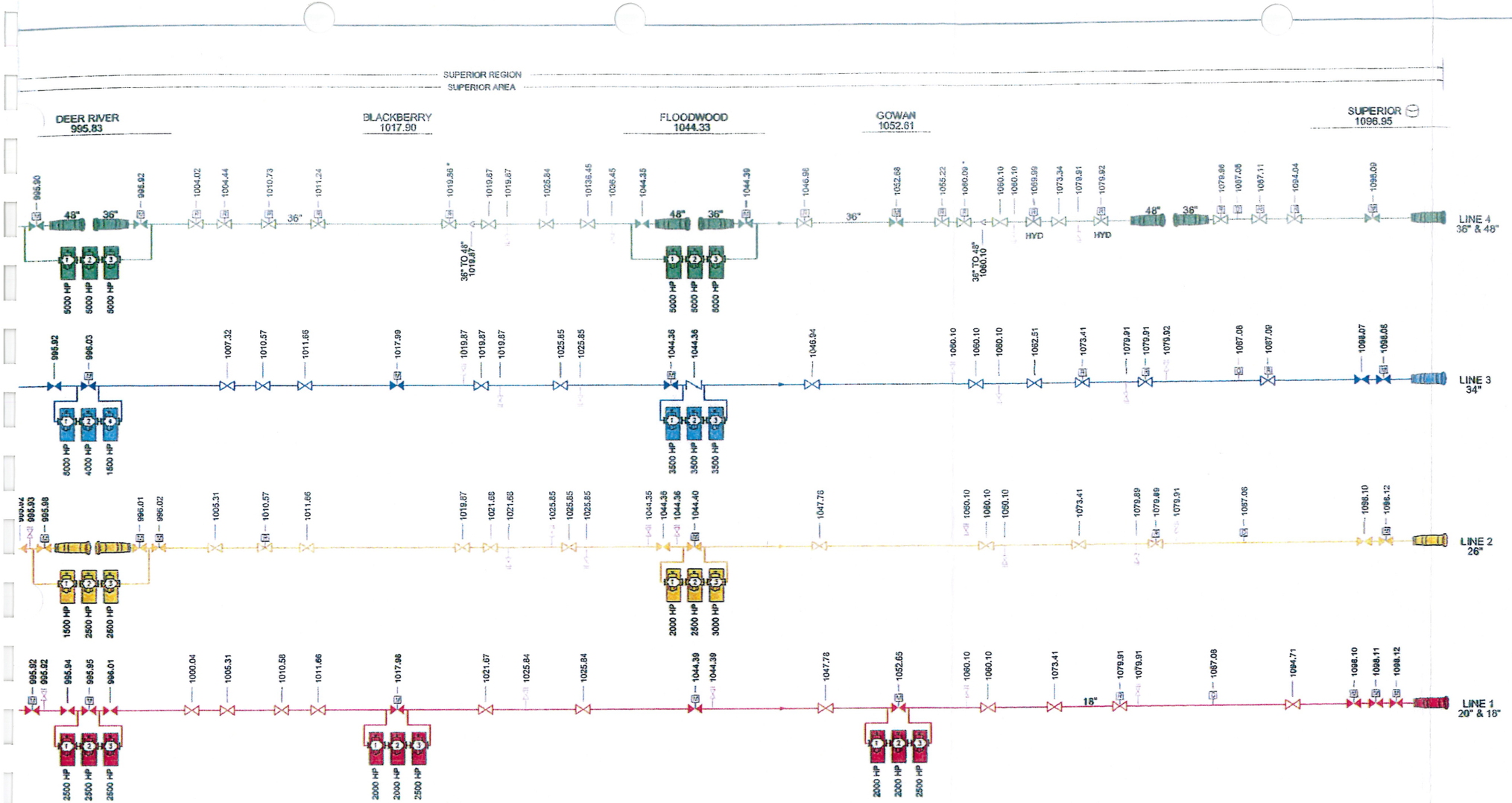
HCA Overview Map
- HCA Tables

Equipment Staging Area Map

Emergency Response Map


SUPERIOR REGION
BEMIDJI AREA
MANITOBA, CANADA
NORTH DAKOTA, U.S.A.
773.72
JOLIETTE
792.00
DONALSON
814.00
VIKING
847.91
PLUMMER
876.97
CLEARBROOK
909.10
LINE 4
36" & 48"
LINE 3
34"
LINE 2
26"
LINE 1
20" & 18"
LINE 13
18"
LINE 65
20"


CLEARBROOK
909.10
WILTON
928.77
CASS LAKE
952.98
NORTH CASS LAKE
953.32
DEER RIVER
995.83
48"
36"
5000 HP
5000 HP
5000 HP
36" TO 48"
895.96
36" TO 48"
940.00
36" TO 48"
975.56
2500 HP
4000 HP
2500 HP
2500 HP
3500 HP
3500 HP
3500 HP
5000 HP
4000 HP
1500 HP
2500 HP
2500 HP
1500 HP
2000 HP
2000 HP
2500 HP
2500 HP
1500 HP
2500 HP
2500 HP
20"
18"
2500 HP
2500 HP
2500 HP
2000 HP
2000 HP
2500 HP
2000 HP
2000 HP
2500 HP
2500 HP
2500 HP
2500 HP
LINE 13
18"
LINE 65
20"



LEGEND

- REMOTE OPERATED VALV
- MOTOR OPERATED VALVE WITHIN STATION
- HAND OPERATED VALVE
- HAND OPERATED VALVE WITHIN STATION
- CHECK VALVE
- STATION PUMP
- TANKAGE
- DENSITOMETER LOCATIO
- CROSSOVER VALVE (A.I.P
- LINE 4
- LINE 3
- LINE 2
- LINE 1
- LINE 13
- LINE 65

AREA CLASSIFICATION

- STATION LIMITS

NOTES:
DUE TO THE COMPLEXITY OF STATION PIPING, NOT ALL TAKE-OFFS OR STATION VALVES WITHIN A STATION SHOW UP ON THIS DRAWING. FOR FURTHER DETAILS WITHIN THE STATION, SEE THE RESPECTIVE STATION GENERAL PIPING PLAN.

MILE POST/VALVE NUMBER MAY HAVE BEEN ADJUSTED TO FIT FIELD CONDITIONS AND DO NOT REFLECT EXACT STATIONING.

NOTE:
* = ADJUSTED MILE POST

REPLACES DRAWING'S

D-3.7-14139---0
D-3.7-14140---0
D-3.7-14141---0
D-2.7-06191---0
D-04-10155---0

NO.	REVISION	BY DATE	APPR
3	COMBINED REPLACED DWG'S (NOTED), ADDED LINE 65 & REV'D/AS-BUILT INFO	JSL 5-06-09	SD
2	REVISED LINE 1 VALVE #834.61 TO #834.62	MKS 8-6-07	KWS
1	CORRECTED PUMP STATION FROM LINE 13 TO LINE 1	MKS 4-13-07	KWS

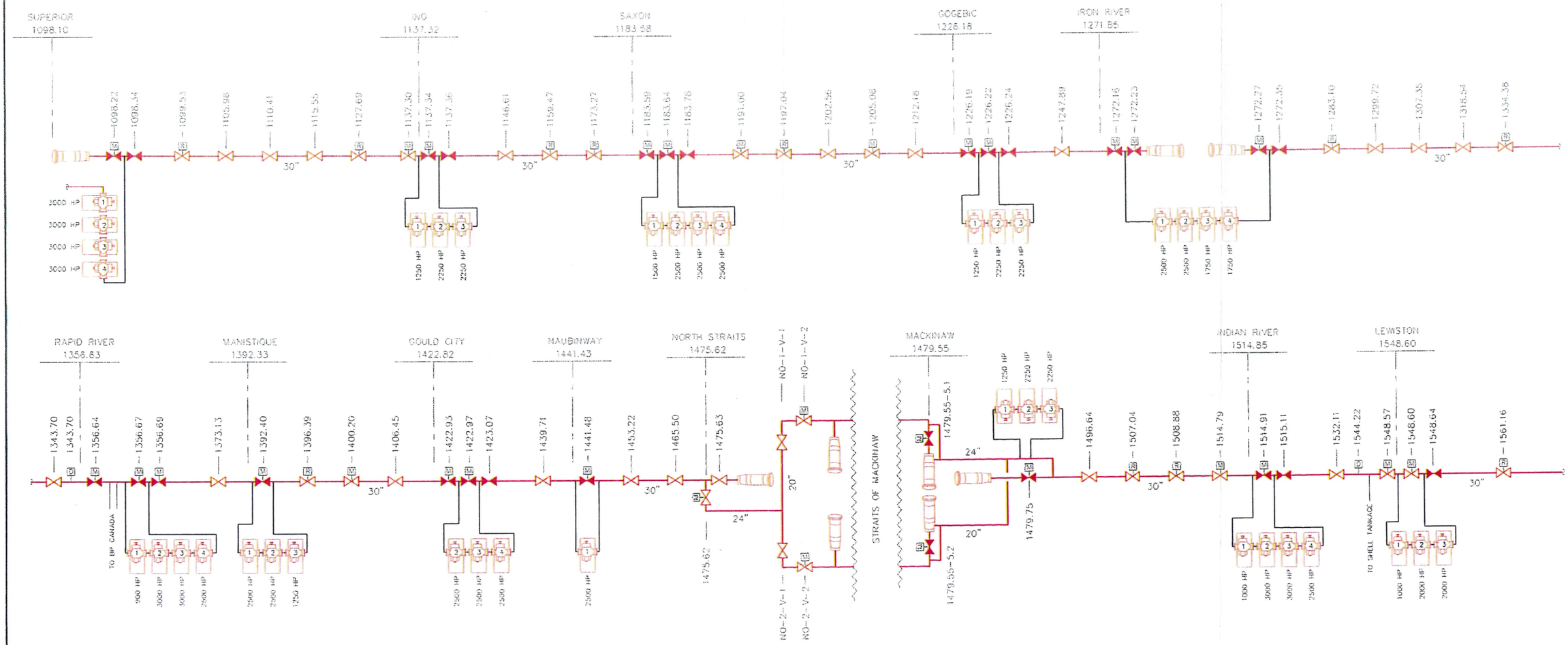
ENBRIDGE™

GRETNA TO SUPERIOR SYS

BEMIDJI & SUPERIOR AREA
LINES: 1, 2, 3, 4, 13, 65
MAINLINE SCHEMATIC DIAGRAM

PROJECT:		
SCALE: NONE	DATE: 1-22-07	DRAWN: MKS
CHECK: KWS	APPR:	DATE:
APPR:		
APPR: SD	D-3.7-14138	

LINE 5



REPLACES DWG. D-3.7-6198--0

LEGEND

- DENSITOMETER LOCATION
- REMOTE OPERATED VALVE
- MOTOR OPERATED VALVE WITHIN STATION
- HAND OPERATED VALVE
- HAND OPERATED VALVE WITHIN STATION
- STATION PUMP
- SCRAPER TRAP

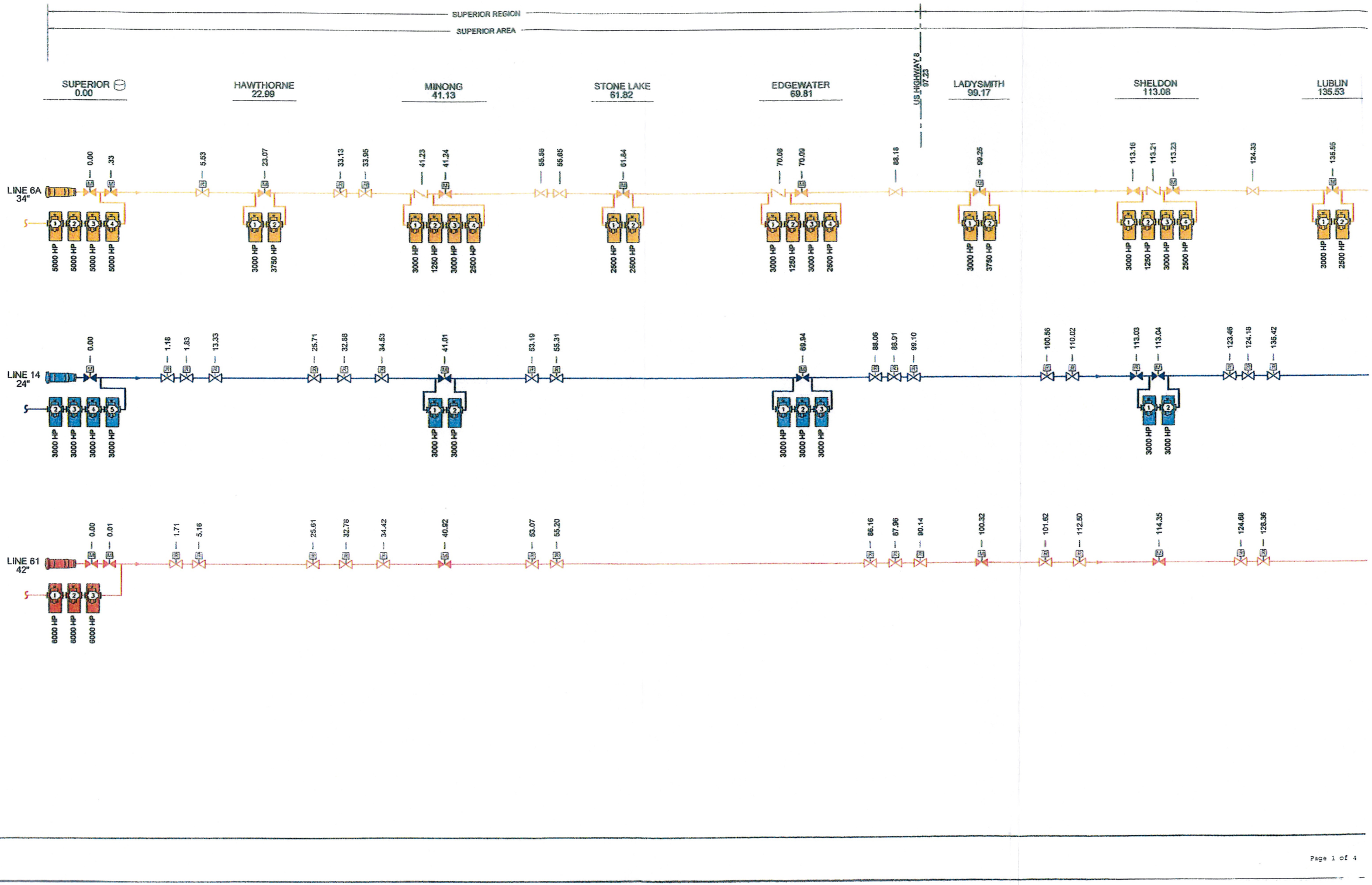
NO	REVISION	BY	DATE	APP'D
2	CORRECTED UNIT HP AT GOULD CITY, MACKINAW & LEWISTON	JT	12/3/07	KWS
1	CHANGE CHECK VALVE TO GATE VALVE @ 1548.60 PLM REPORT(EC2005-025)	MKS	4/27/07	KWS

ENBRIDGE

SUPERIOR REGION
SUPERIOR AREA
LINE 5
LOCATION OF MAINLINE VALVES
SCHEMATIC DIAGRAM

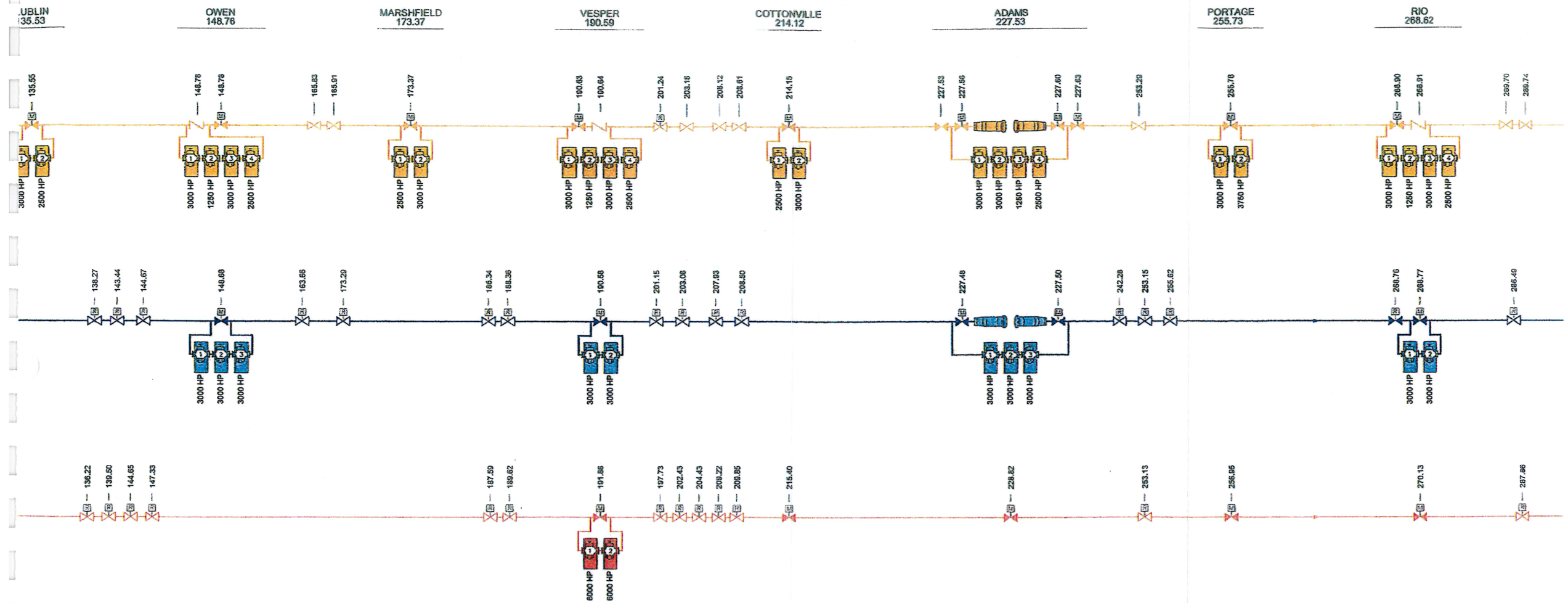
PROJECT:		
SCALE: NTS	DATE: 1-18-07	DRAWN: MKS
CHECK: KWS	APPR: _	DATE: _
APPR: _		
APPR: _		

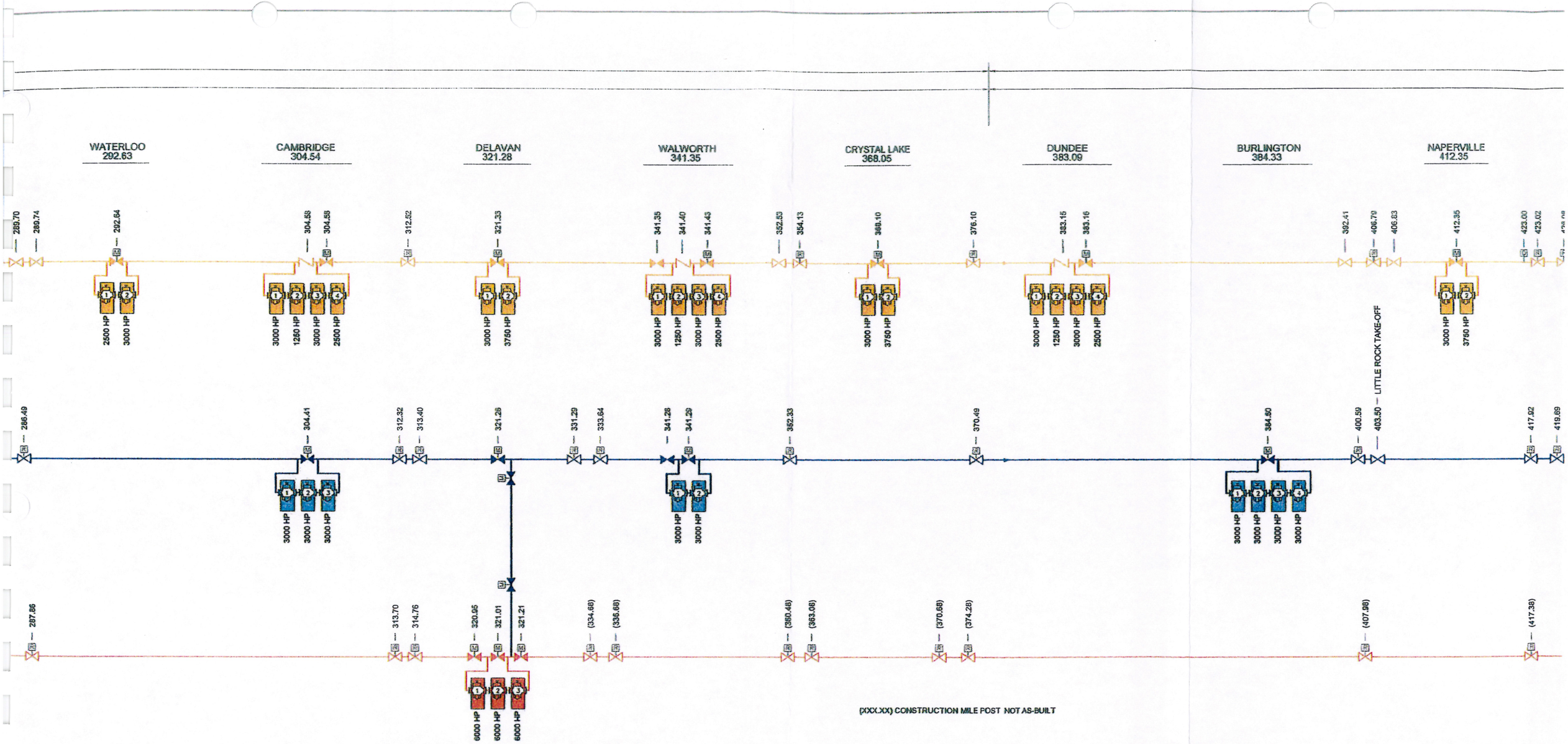
D-3.7-14144-2-0

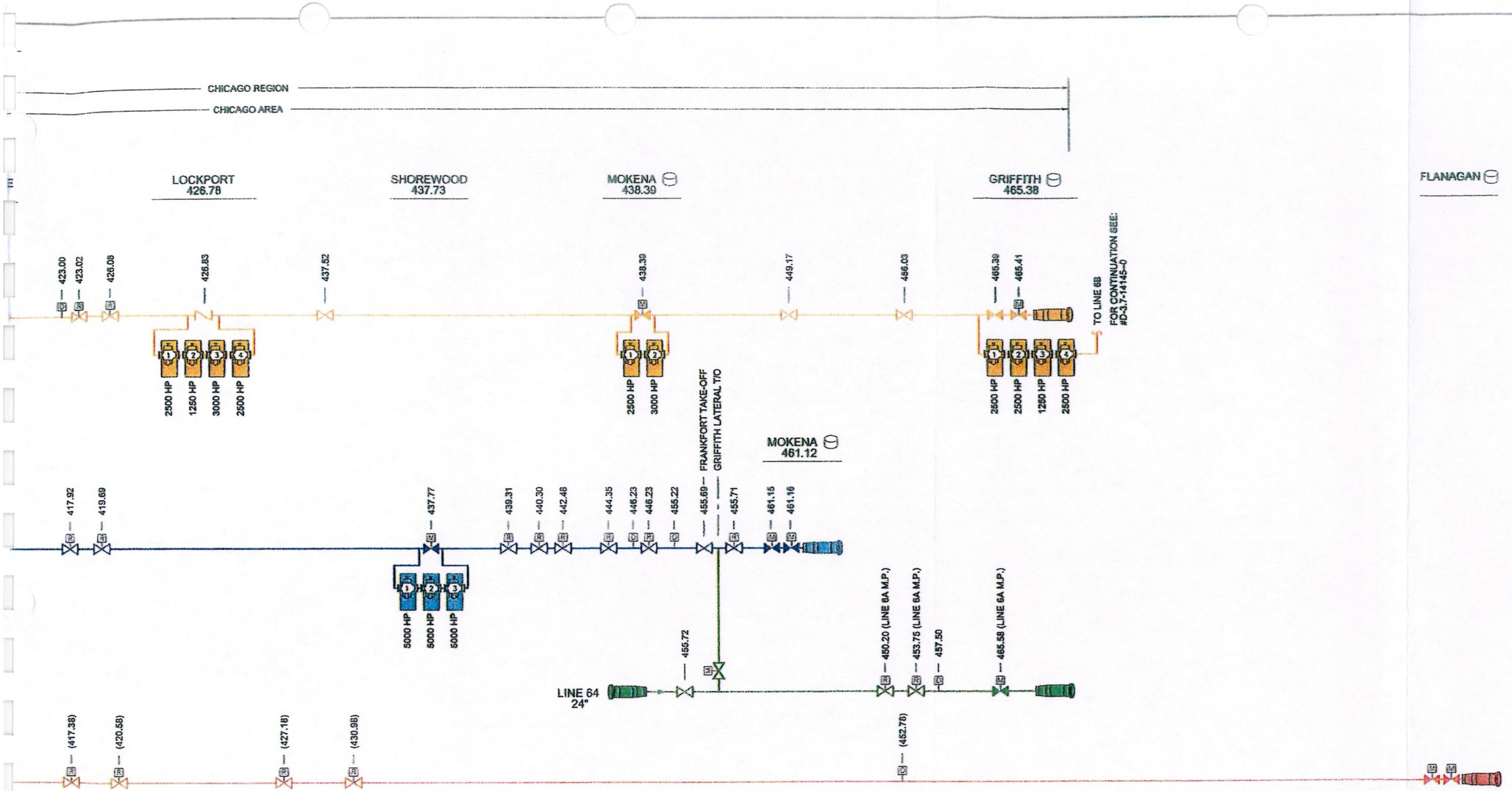

SUPERIOR REGION
SUPERIOR AREA
SUPERIOR
0.00
HAWTHORNE
22.99
MINONG
41.13
STONE LAKE
61.82
EDGEWATER
69.81
US HIGHWAY 8
97.23
LADYSMITH
99.17
SHELDON
113.08
LUBLIN
135.53
LINE 6A
34"
0.00
.33
5.63
23.07
33.13
33.95
41.23
41.24
55.58
55.65
61.84
70.08
70.09
88.18
99.25
113.16
113.21
113.23
124.33
135.55
5000 HP
5000 HP
5000 HP
5000 HP
3000 HP
3750 HP
3000 HP
1250 HP
3000 HP
2500 HP
2500 HP
2500 HP
3000 HP
1250 HP
3000 HP
2500 HP
3000 HP
3750 HP
3000 HP
1250 HP
3000 HP
2500 HP
3000 HP
2500 HP
LINE 14
24"
0.00
1.16
1.83
13.33
25.71
32.88
34.53
41.01
53.19
55.31
69.84
88.06
88.91
99.10
100.56
110.02
113.03
113.04
123.46
124.18
135.42
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
LINE 61
42"
0.00
0.01
1.71
5.16
25.61
32.78
34.42
40.82
53.07
55.20
86.16
87.96
90.14
100.32
101.62
112.50
114.35
124.68
126.36
6000 HP
6000 HP
6000 HP

CHICAGO REGION

FORT ATKINSON AREA




WATERLOO
292.63
CAMBRIDGE
304.54
DELAVAN
321.28
WALWORTH
341.35
CRYSTAL LAKE
368.05
DUNDEE
383.09
BURLINGTON
384.33
NAPERVILLE
412.35
289.70
289.74
292.64
2500 HP
3000 HP
304.58
304.58
312.82
3000 HP
1280 HP
3000 HP
2800 HP
321.33
3000 HP
3750 HP
341.35
341.40
341.45
3000 HP
1280 HP
3000 HP
2500 HP
352.53
354.13
368.10
376.10
3000 HP
3750 HP
383.15
383.16
3000 HP
1280 HP
3000 HP
2500 HP
392.41
406.70
406.83
412.35
423.00
423.02
3000 HP
3750 HP
LITTLE ROCK TAKE-OFF
286.49
304.41
312.32
313.40
321.26
331.29
333.64
341.26
341.29
352.33
370.49
384.50
400.59
403.50
417.92
419.69
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
3000 HP
287.86
313.70
314.76
320.95
321.01
321.21
(334.69)
(335.69)
(360.48)
(363.08)
(370.68)
(374.28)
(407.98)
(417.38)
6000 HP
6000 HP
6000 HP
(XXX.XX) CONSTRUCTION MILE POST NOT AS-BUILT



(XXX.XX) CONSTRUCTION MILE POST NOT AS-BUILT

LEGEND

- REMOTE OPERATED VALVE
- REMOTE OPERATED VALVE WITHIN STATION
- MOTOR OPERATED VALVE WITHIN STATION
- HAND OPERATED VALVE
- HAND OPERATED VALVE WITHIN STATION
- CHECK VALVE
- STATION PUMP
- TANKAGE
- DENSITOMETER LOCATION
- LINE 6A
- LINE 14
- LINE 61
- LINE 64

AREA CLASSIFICATION

- STATION LIMITS

NOTES:

DUE TO THE COMPLEXITY OF STATION PIPING, NOT ALL TAKE-OFFS OR STATION VALVES WITHIN A STATION SHOW UP ON THIS DRAWING. FOR FURTHER DETAILS WITHIN THE STATION, SEE THE RESPECTIVE STATION GENERAL PIPING PLAN.

MILE POST/VALVE NUMBER MAY HAVE BEEN ADJUSTED TO FIT FIELD CONDITIONS AND DO NOT REFLECT EXACT STATIONING.

PROVISIONAL ONLY 04/27/09

REPLACES DRAWING'S

D-3.7-14143--0 D-3.7-15013--0 D-3.7-15014--0	D-3.7-06201--0 D-3.7-12462--0 D-0.4-10200--0 D-0.4-10242--0

NO	REVISION	BY DATE	APPR
2	COMBINED REPLACED DWG'S (NOTED), ADDED LINE 61 & REVID/AS-BUILT INFO	JSL 4-27-09	SD
1	REVISED AS PER FRANKFORT & SHOREWOOD ADDITION	JSL 10-8-08	SD

ENBRIDGE

SUPERIOR SOUTH SYSTEMS

SUPERIOR, FORT ATKINSON & CHICAGO AREAS
LINES 6A, 14, 61 & 64
MAINLINE SCHEMATIC DIAGRAM

PROJECT:		
SCALE: NONE	DATE: 1-29-07	DRAWN: MKS
CHECK: KKS	APPR:	DATE:
APPR:		
APPR: SD	D-3.7-14142-02-0	

ENBRIDGE ENERGY
SITE SAFETY PLAN

LEAK LOCATION_____ SITE # (if more than one)_____ DATE_____

SITE MAP

(Identify Incident Location and Evacuation Routes)

(Identify on Env. Sensitivity map or other)

(Check Requirements for Each) (Identify Hot, Warm, & Cold Zone Boundaries)

Hot Zone Requirements

- Min. 24 hrs training (I.D.) ☐
- Fire Retardant Clothing ☐
- Oil Resistant Clothing ☐
- Respiratory Protection; ☐
  - S.C.B.A. ☐
  - Air Purifying Respirator ☐
- Proper PPE ☐

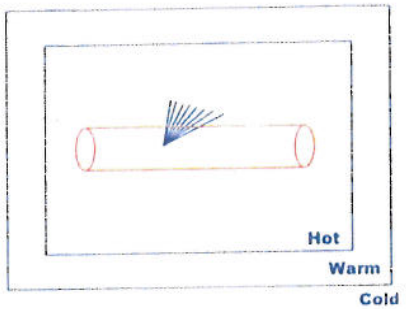
Other _____

Warm Zone Requirements

- Min. 8 hrs training (I.D.) ☐
- Fire Retardant Clothing ☐
- Oil Resistant Clothing ☐
- Respiratory Protection; ☐
  - S.C.B.A. ☐
  - Air Purifying Respirator ☐
- Proper PPE ☐

Other _____

Insert distances, directions, or landmarks for each zone



Emergency Medical Facility

(Identify Route of Travel)

Phone#:_____

Address:_____

Contact Person(if any)_____

(Post City, County or Env Sensitivity map and show Route)

	Yes	No
Emergency Response Directory on Site? (Review Notification of Government Agencies pages) (Review Notification Chart Page) (Review Reporting Procedures pages) (Review Safety Equipment/Leak List Procedures)	☐	☐
Material Safety Data Sheets (MSDS) Available? (Review Emergency Response Directory pages) (Locate Sheets from Suppliers)	☐	☐
Emergency Evacuation Routes & Means of Communication Established?	☐	☐
Risk Assesment of Site Conducted?	☐	☐
Book 7 Emergency Response Plan on Site?	☐	☐
Environmental Sensitivity Maps Available?	☐	☐
Book 2 Safety on Site?	☐	☐
Book 3 Pipeline Facilities on Site?	☐	☐

Monitoring Log Checklist

(Circle one or Both)

A. Continuous B. Periodic

1. Date/Time/Temp/Location/Wind Direction
2. Name of person/s conducting test
3. Type of instrument/s used
4. Calibration dates, persons name
5. Types of hazards to be testing or sampling
6. Record conditions and/or instrument reading
7. Other conditions as appropriate

(Keep a copy of daily log)

NOTE: ENSURE WINDSOCK IS DEPLOYED

Date: _____ Time: _____

(Please write down name/s)

Name of Incident Commander

Name of Slote Supervisor

Name of Site Safety Person/s

Name of Contractor/s at Site	Number of Employees at site	Initial Briefing Yes	Initial Briefing No

Update is required at shift or personnel changes

Revised sheets should be kept at Command Post for reference and retention

Revised 11-25-03

Miles of Mainline Pipe

ENBRIDGE ENERGY, LIMITED PARTERSHIP - Lakehead

Location	*Active Miles*	*Inactive Miles*	*HCA Miles (Unlapped)*
U.S. Border to Superior	**1,573**		**473**
20" Line 1 (U.S. Border to Clearbrook)-CO and NGL	135.7		41
18" Line 1 (Clearbrook to Superior) – CO and NGL	189.8		115
26" Line 2	324.5		95
34" Line 3	324.2		100
36"/48" Line 4 (U.S. Border to Clearbrook) 36"	136.0		20
36"/48" Line 4 (Clearbrook to Superior) 36"	191.0		82
18" Line 13 (U.S. Border to Clearbrook)	135.5		20
20" LSr (U.S. Border to Clearbrook)	136.0		
Superior to Sarnia (Canadian Border)	**642**		**295**
30" Line 5 – CO and NGL	642.3		295
Superior to Griffith	**1280**		**349**
34" Line 6A	465.4		164
24" Line 14	461.2		96
24" Line 64	26.1		26
42" Line 61 (Superior to Flanagan)	461.9		58
34" Griffith Hartsdale Transfer (TL 1)	0.6		0.6
36" Griffith Hartsdale Interconnect (GFHT 2)	0.8		0.8
36" Griffith Hartsdale Interconnect (GFHT 3)	0.8		0.8
Superior Terminal Pipe	0.3		0.3
Mokena 1	0.6		0.6
Mokena 2	0.6		0.6
Mustang	0.8		0.8
Griffith to Sarnia (Canadian Border)	**286**	**103**	**146**
30" Line 6B	285.9		128
30" Loops		103.2	18
Marysville	0.2		0.2
Buffalo Extension	**23**		**23**
12/20" Line 10	23.3		23
Enbridge Energy, Limited Partnership – Total Miles	**3,943**	**103**	**1,286**

ENBRIDGE - Affiliated Entities

Location	Active Miles	Inactive Miles	HCA Miles (Unlapped)
Enbridge Pipelines (North Dakota) LLC	**800**	**95**	**49**
6", 10", 12", and 16"	545.6		48
6", 8" Gathering Lines	117.7		
12" Line 26 (Lignite to Berthold)- Stanley to Plaza Field		95.2	1
Unregulated Gathering Lines	136.2		
Enbridge Pipelines (Toledo) Inc.	**88**		**38**
16" Line 17 (Stockbridge to Freedom Junction)	35.2		7
16" Line 17 (Freedom Junction to Toledo)	52.8		31
Samaria	0.2		0.2
Enbridge Pipelines (Ozark) L.L.C.	**484**	**32**	**260**
22" Line 51	433.5		224
10" Line 52 (intra-state)	47.1		29
10" Kamo		32	5
16" El Dorado – North	1.9		1
16" El Dorado – South	1.9		1
CCPS Transportation, LLC	**660**	**7**	**218**
22" Line 62 (Hartsdale to Flanagan)	75.1		27
22" Line 55 (Flanagan to Key)	251.4		47
24" Line 55 (Key to Cushing)	331.1		141
Cushing Seaway	0.1		0
Cushing Teppco H	0.7		0
Cushing Amoco 20"	0.4		0
Cushing Amoco 30"	0.5		0
Cushing Teppco Central	0.5		0
Cushing Teppco South	0.4		0
16" Monee		6.6	3
Mustang Pipeline Partners	**1**		**1**
24" Mustang Pipeline	0.8		1
Enbridge Pipelines (Illinois) LLC – (Luxor)		**117**	**23**
WPL #1 and WPL #3 (Patoka to Heyworth)		117.0	23
Enbridge Storage (Patoka) L.L.C.	0	0	0
This entity has tankage only, no pipeline miles			
Enbridge (affiliated entities) Total Miles	**2,033**	**251**	**589**
Enbridge Total Miles	**5,976**	**354**	**1,875**

Enbridge Pipelines - RELEASE ALERT

DATE: 05-Mar-2007 09:03

RELEASE INFORMATION

A failure in the pipeline system which results in:

- ☐ Loss of 5 gallons or more of liquid OR
- ☐ Escape of more than 5 barrels NGL to atmosphere OR
- ☐ Unintentional explosion or fire OR
- ☐ Death of any person OR
- ☐ Bodily harm that resulted in medical treatment – loss of consciousness – modified work – or necessity to carry the person from the scene OR
- ☐ Estimated property damage exceeding $50000 (including repair & cleanup) OR
- ☐ Pollution of a water body (river/stream/wetland/reservoir) including <5 gallon release indicated by a "sheen on water" OR
- ☐ Reportability to a state agency OR
- ☐ Contaminated soil left in place OR
- ☐ Any other event that the Region Manager deems significant for internal awareness but not external reporting purposes.

A. List all Federal, State, County, or Local Regulatory or Governmental Agencies that have been notified:

List Telephone report NRC Report Number.....
NRC Report Date .....

B. Date of Incident (MM/DD/YY): .....
Time of Incident (MST): .....

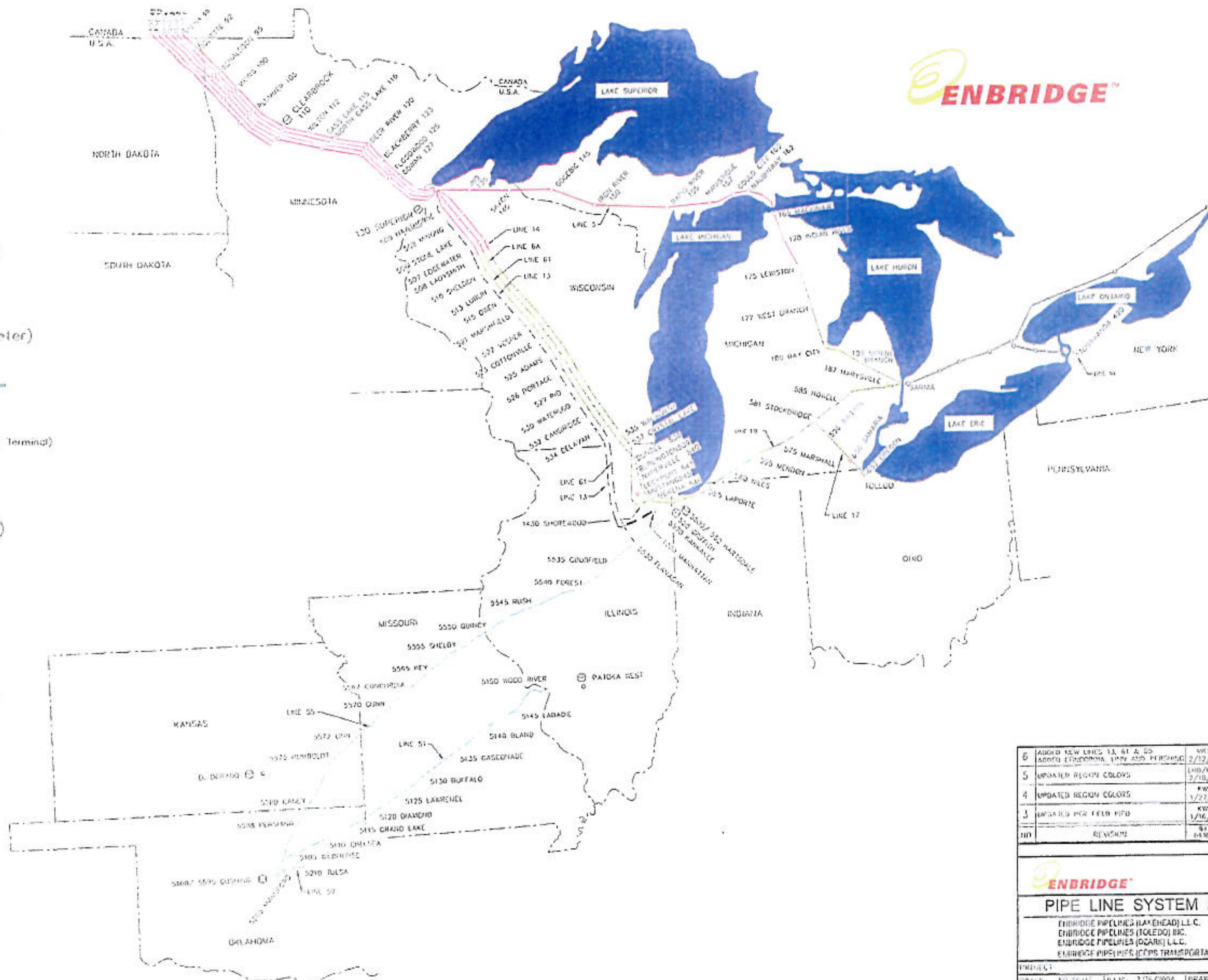
C. Location .....
Region:..... Not Specified
Station:.....
State:.....
Service (Line No):.....
Mile Post: .....

D. Commodity Type Released:.....
Crude Type .....
Preliminary estimate of barrels released:.....

E. Other people to include in distribution of Release Alert:

F. Description of Incident: (Include significant Environmental, Safety, Public Affairs, Regulatory, or Financial concerns)

Site State:
Site County:
Site City:



SUPERIOR REGION

U.S. BORDER (Gretna) to SUPERIOR
- LINE 1 - 20" & 18"
- LINE 2 - 26"
- LINE 3 - 34"
- LINE 4 - 36"/48"
- LINE 13 - 18" (To Clearbrook Terminal)
- LINE 65 - 20" (To Clearbrook Terminal))

SUPERIOR to MP. 97.23 (US HWY. 8)
- LINE 6A - 34"
- LINE 14 - 24"
- LINE 61 - 42"
- LINE 13 - 20"

SUPERIOR to MP. 1544.25 (Densitometer)
- LINE 5 - 30"

CHICAGO REGION

MP. 97.23 to GRIFFITH
- LINE 6A - 34"
- LINE 14 - 24" (Mokena)
- LINE 64 - 24" (Griffith Lateral Take-off to Griffith Terminal)
- LINE 61 - 42"
- LINE 13 - 20" (Manhattan to Superior)

GRIFFITH to U.S. BORDER (Sarnia)
- LINE 6B - 30"

MP. 1544.25 to U.S. BORDER (Sarnia)
- LINE 5 - 30"

BUFFALO EXTENSION
- LINE 10 - 12" & 20"

ENBRIDGE PIPELINES (TOLEDO) INC.
- LINE 17 - 16"

HARTSDALE to IN./ IL. Border
- LINE 55 - 22"

CUSHING REGION

CUSHING to WOOD RIVER
- LINE 51 - 22"

CUSHING to TULSA
- LINE 52 - 10"

IN./ IL. Border to CUSHING
- LINE 55 - 22" & 24"

- Metering Facility
- Non-Operational
- Planned for construction 2009 (Streator to Manhattan)

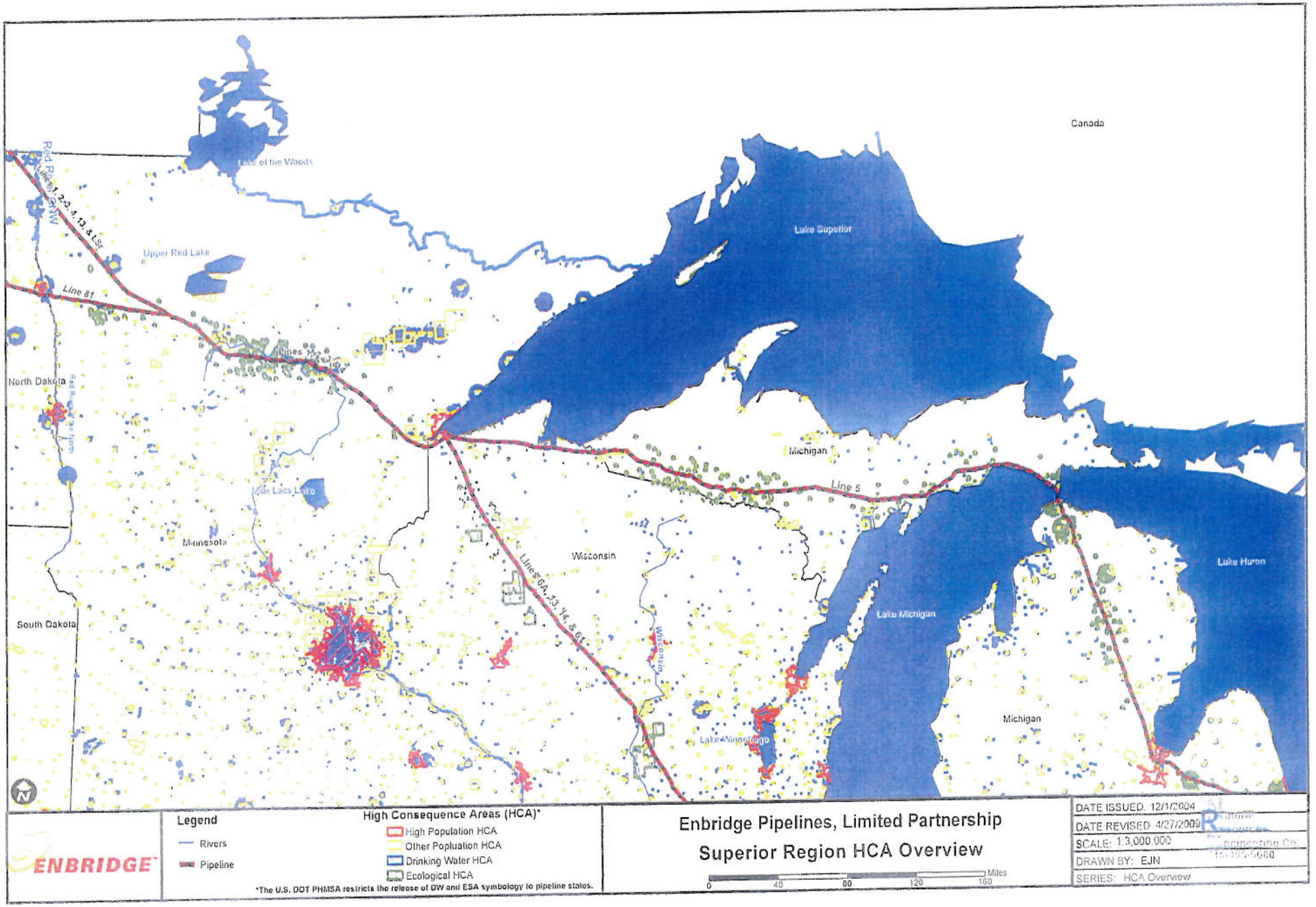
NO	REVISION	BY DATE	APPR	
6	ADDED NEW LINES 13, 61 & 65 ADDED ETHIOPORIA, LIMA AND PERSHING	MKS 2/12/09		
5	UPDATED REGION COLORS	LHB/MKS 2/10/06	KWS	
4	UPDATED REGION COLORS	KWS 1/27/06	-	
3	UPDATED PER FIELD INFO	KWS 1/16/06	-	

ENBRIDGE

PIPE LINE SYSTEM MAP

ENBRIDGE PIPELINES (LAKEHEAD) L.L.C.
ENBRIDGE PIPELINES (TOLEDO) INC.
ENBRIDGE PIPELINES (OZARK) L.L.C.
ENBRIDGE PIPELINES (CCPS TRANSPORTATION) L.L.C.

PROJECT:			
SCALE: NO SCALE	DATE: 7/15/2004	DRAWN: KWS	
CHECK:	APPR:	DATE:	
APPR:	D-0.5-10255-6-0		
APPR:			


Canada
Lake of the Woods
Red River
Lines 1, 2, 3, 4, 13, & 1Sr
Upper Red Lake
Line 81
Lines 1
North Dakota
Mille Lacs Lake
Minnesota
South Dakota
Lake Superior
Michigan
Line 5
Wisconsin
Lines 6A, 13, 14, & 61
Lake Michigan
Lake Huron
Michigan
Lake Winnebago
ENBRIDGE
Legend
Rivers
Pipeline
High Consequence Areas (HCA)*
High Population HCA
Other Popluation HCA
Drinking Water HCA
Ecological HCA
*The U.S. DOT PHMSA restricts the release of DW and ESA symbology to pipeline states.
Enbridge Pipelines, Limited Partnership
Superior Region HCA Overview
0
40
80
120
160
Miles
DATE ISSUED: 12/1/2004
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ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
U.S. Border to Clearbrook 20" (0 - 716,232)									
1	20-inch	4,145	27,315			4.39	777	Pembina River	U.S. DW / Pembina River
1	20-inch	64,824	66,774			0.37	786	Tongue River	Enbridge DW / Tongue River
1	20-inch	137,469	140,291			0.53	800	Red River	Enbridge ESA / Red River
1	20-inch	137,469	140,291			0.53	800	Red River	Enbridge CNW / Red River
1	20-inch	142,072	148,218			1.16	801	Red River	Enbridge CNW / Red River
1	20-inch	142,072	148,218			1.16	801	Red River	Enbridge ESA / Red River
1	20-inch	155,168	158,248			0.58	803	Red River	Enbridge CNW / Red River
1	20-inch	155,168	158,248			0.58	803	Red River	Enbridge ESA / Red River
1	20-inch	447,666	452,196			0.86	859	Thief River Falls	U.S. DW / Thief River Falls
1	20-inch	454,346	460,231			1.11	860	Thief River Falls	U.S. DW / Thief River Falls
1	20-inch	462,431	468,573			1.16	862	Thief River Falls	U.S. DW / Thief River Falls
1	20-inch	472,541	476,591			0.77	864	Thief River Falls	U.S. ESA / Thief River Falls
1	20-inch	472,788	475,268			0.47	863	Thief River Falls	U.S. DW / Thief River Falls
1	20-inch	478,204	481,275			0.58	865	St. Hilaire	Enbridge DW / St. Hilaire
1	20-inch	537,116	543,682			1.24	876	Plummer	U.S. DW / Plummer
1	20-inch	594,572	599,371			0.91	887	Oklee	Enbridge DW / Oklee
1	20-inch	688,310	691,010			0.51	904	Lost River	Enbridge DW / Lost River
1	20-inch	715,914	716,232			0.06	909	Clearbrook	Enbridge DW / Clearbrook
Clearbrook to Superior 18" (716,232 - 1,712,883)									
1	18-inch	716,232	717,555			0.25	909	Clearbrook	Enbridge DW / Clearbrook
1	18-inch	782,637	791,281			1.64	923	Buzzle Lake	U.S. ESA / Buzzle Lake
1	18-inch	793,524	804,430			2.07	925	Pinewood	U.S. ESA / Pinewood
1	18-inch	828,908	838,066			1.73	932	Wilton	U.S. ESA / Wilton
1	18-inch	864,826	881,559			3.17	939	Lake Irving	U.S. ESA / Lake Irving
1	18-inch	880,614	886,199			1.06	941	Bemidji (South)	U.S. DW / Bemidji (South)
1	18-inch	907,714	919,514			2.23	947	Necktie River	U.S. DW / Necktie River
1	18-inch	913,114	922,090			1.70	948	Midge Lake	U.S. ESA / Midge Lake

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Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
Clearbrook to Superior 18" (716,232 - 1,712,883) cont.									
1	18-inch	913,114	926,749			2.58	948	Midge Lake	U.S. ESA / Midge Lake
1	18-inch	976,614	991,265			2.77	960	Cass Lake	U.S. ESA / Cass Lake
1	18-inch	1,003,365	1,006,965			0.68	964	Sucker Lakes	U.S. ESA / Sucker Lakes
1	18-inch	1,018,434	1,030,664			2.32	968	Portage Lake	U.S. ESA / Portage Lake
1	18-inch	1,038,085	1,046,003			1.50	971	Portage Lake East	U.S. ESA / Portage Lake East
1	18-inch	1,051,554	1,062,863			2.14	974	Bena	U.S. ESA / Bena
1	18-inch	1,060,563	1,072,813			2.32	976	Bena	U.S. ESA / Bena
1	18-inch	1,083,003	1,094,503			2.18	980	Nushka Lake	U.S. ESA / Nushka Lake
1	18-inch	1,099,513	1,101,323			0.34	982	Nushka Lake	U.S. ESA / Nushka Lake
1	18-inch	1,110,854	1,123,169			2.33	985	Mississippi River	U.S. ESA / Mississippi River
1	18-inch	1,119,200	1,122,419			0.61	986	Mississippi River	U.S. ESA / Mississippi River
1	18-inch	1,119,200	1,122,419			0.61	986	Mississippi River	Enbridge CNW / Mississippi River
1	18-inch	1,124,569	1,141,065			3.12	988	Ball Club Lake	U.S. ESA / Ball Club Lake
1	18-inch	1,137,218	1,140,718			0.66	989	Mississippi River	Enbridge CNW / Mississippi River
1	18-inch	1,161,336	1,174,037			2.41	995	Deer River	U.S. ESA / Deer River
1	18-inch	1,181,637	1,183,137			0.28	998	White Oak Lake	U.S. ESA / White Oak Lake
1	18-inch	1,203,442	1,209,395			1.13	1,002	Blackwater Lake	Enbridge DW / Blackwater Lake
1	18-inch	1,226,486	1,247,677	3,899	25,080	4.01	1,008	Grand Rapids	Enbridge DW / Grand Rapids
1	18-inch	1,250,319	1,252,419			0.40	1,011	La Prairie	Enbridge DW / La Prairie
1	18-inch	1,586,344	1,587,825			0.28	1,074	Twin Lakes	Enbridge DW / Twin Lakes
1	18-inch	1,610,869	1,612,369			0.28	1,079	Wrenshall	Enbridge DW / Wrenshall
1	18-inch	1,667,493	1,676,697			1.74	1,090	Oliver	U.S. ESA / Oliver
1	18-inch	1,684,273	1,687,523			0.62	1,093	Pokegama	Enbridge DW / Pokegama
1	18-inch	1,711,356	1,712,883			0.29	1,098	Superior	U.S. CNW / Superior Harbor
1	18-inch	1,706,480	1,712,883			1.21	1,098	Superior	U.S. DW / Superior

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UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
U.S. Border to Clearbrook (0 - 715,072)									
2	26-inch	4,145	27,315			4.39	777	Pembina River	U.S. DW / Pembina River
2	26-inch	64,266	67,266			0.57	786	Tongue River	Enbridge DW / Tongue River
2	26-inch	134,107	150,452			3.10	801	Red River	Enbridge CNW / Red River
2	26-inch	134,107	150,452			3.10	801	Red River	Enbridge ESA / Red River
2	26-inch	154,265	159,302			0.95	803	Red River	Enbridge CNW / Red River
2	26-inch	154,265	159,302			0.95	803	Red River	Enbridge ESA / Red River
2	26-inch	445,865	450,850			0.94	859	Thief River Falls	U.S. DW / Thief River Falls
2	26-inch	452,876	459,197			1.20	860	Thief River Falls	U.S. DW / Thief River Falls
2	26-inch	460,097	467,660			1.43	862	Thief River Falls	U.S. DW / Thief River Falls
2	26-inch	469,557	475,507			1.13	863	Thief River Falls	U.S. ESA / Thief River Falls
2	26-inch	471,327	473,807			0.47	863	Thief River Falls	U.S. DW / Thief River Falls
2	26-inch	475,657	481,087			1.03	864	St. Hilaire	Enbridge DW / St. Hilaire
2	26-inch	535,540	542,206			1.26	876	Plummer	U.S. DW / Plummer
2	26-inch	589,579	597,377	1,150		1.50	886	Oklee	U.S. OPA / Oklee
2	26-inch	591,914	597,377	3,619		1.03	886	Oklee	Enbridge DW / Oklee
2	26-inch	686,379	689,079			0.51	904	Lost River	Enbridge DW / Lost River
Clearbrook to Deer River (715,072 - 1,163,393 (855 - diversion))									
2	26-inch	713,532	715,382			0.35	909	Clearbrook	Enbridge DW / Clearbrook
2	26-inch	782,637	791,281			1.64	923	Buzzle Lake	U.S. ESA / Buzzle Lake
2	26-inch	793,524	804,430			2.07	925	Pinewood	U.S. ESA / Pinewood
2	26-inch	828,908	838,066			1.73	932	Wilton	U.S. ESA / Wilton
2	26-inch	864,696	881,559			3.19	939	Lake Irving	U.S. ESA / Lake Irving
2	26-inch	864,910	867,210			0.44	938	Bemidji	U.S. DW / Bemidji
2	26-inch	880,614	886,199			1.06	941	Bemidji (South)	U.S. DW / Bemidji (South)
2	26-inch	907,714	919,514			2.23	947	Necktie River	U.S. DW / Necktie River
2	26-inch	913,114	922,390			1.76	948	Midge Lake	U.S. ESA / Midge Lake
2	26-inch	913,114	926,749			2.58	948	Midge Lake	U.S. ESA / Midge Lake

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Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
Clearbrook to Deer River (715,072 - 1,163,393 (855 - diversion)) cont.									
2	26-inch	976,614	991,265			2.77	960	Cass Lake	U.S. ESA / Cass Lake
2	26-inch	1,003,185	1,007,480			0.81	964	Sucker Lakes	U.S. ESA / Sucker Lakes
2	26-inch	1,017,814	1,031,064			2.51	968	Portage Lake	U.S. ESA / Portage Lake
2	26-inch	1,037,285	1,046,303			1.71	971	Portage Lake	U.S. ESA / Portage Lake
2	26-inch	1,051,203	1,062,863			2.21	974	Bena	U.S. ESA / Bena
2	26-inch	1,060,563	1,073,363			2.42	976	Bena	U.S. ESA / Bena
2	26-inch	1,082,363	1,101,561			3.64	981	Nushka Lake	U.S. ESA / Nushka Lake
2	26-inch	1,110,603	1,123,169			2.38	985	Mississippi River	U.S. ESA / Mississippi River
2	26-inch	1,117,052	1,123,169			1.16	986	Mississippi River	U.S. ESA / Mississippi River
2	26-inch	1,117,052	1,123,169			1.16	986	Mississippi River	Enbridge CNW / Mississippi River
2	26-inch	1,124,019	1,137,552			2.56	988	Ball Club	U.S. ESA / Ball Club
2	26-inch	1,137,118	1,140,718			0.68	989	Mississippi River	Enbridge CNW / Mississippi River
2	26-inch	1,161,336	1,163,393		855	0.39	994	Deer River	U.S. ESA / Deer River
2	26-inch	1,163,393	1,174,926	855		2.18	995	Deer River	U.S. ESA / Deer River
2	26-inch	1,181,537	1,184,137			0.49	998	White Oak Lake	U.S. ESA / White Oak Lake
2	26-inch	1,203,442	1,209,395			1.13	1,002	Blackwater Lake	Enbridge DW / Blackwater Lake
2	26-inch	1,225,900	1,244,449			3.51	1,008	Grand Rapids	Enbridge DW / Grand Rapids
2	26-inch	1,246,763	1,250,263			0.66	1,010	Grand Rapids	Enbridge DW / Grand Rapids
2	26-inch	1,252,082	1,253,992			0.36	1,011	La Prairie	Enbridge DW / La Prairie
2	26-inch	1,315,745	1,317,595			0.35	1,023	McGuire Lake	U.S. ESA / McGuire Lake
Deer River to Superior (1,163,393 (855 - diversion) - 1,712,887)									
2	26-inch	1,585,752	1,588,804			0.58	1,074	Twin Lakes	Enbridge DW / Twin Lakes
2	26-inch	1,610,869	1,612,369			0.28	1,079	Wrenshall	Enbridge DW / Wrenshall
2	26-inch	1,665,783	1,676,893			2.10	1,090	Oliver	U.S. ESA / Oliver
2	26-inch	1,683,623	1,688,423			0.91	1,093	Pokegama	Enbridge DW / Pokegama
2	26-inch	1,700,500	1,712,887			2.35	1,097	Superior	U.S. DW / Superior
2	26-inch	1,711,256	1,712,887			0.31	1,098	Superior	U.S. CNW/ Superior Harbor

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UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
						Crude Oil:			
U.S. Border to Clearbrook (0-715,082)									
3	34-inch	4,125	28,134			4.55	777	Pembina River	U.S. DW / Pembina River
3	34-inch	63,966	67,666			0.70	786	Tongue River	Enbridge DW / Tongue River
3	34-inch	136,958	160,152	54,427		4.39	802	Red River	Enbridge CNW / Red River
3	34-inch	136,958	160,152	54,427		4.39	802	Red River	Enbridge ESA / Red River
3	34-inch	445,865	450,850			0.94	859	Thief River Falls	U.S. DW / Thief River Falls
3	34-inch	452,276	468,707			3.11	861	Thief River Falls	U.S. DW / Thief River Falls
3	34-inch	468,707	476,007			1.38	863	Thief River Falls	U.S. ESA / Thief River Falls
3	34-inch	470,507	474,807			0.81	863	Thief River Falls	U.S. DW / Thief River Falls
3	34-inch	475,481	482,103			1.25	864	St. Hillaire	Enbridge DW / St. Hillaire
3	34-inch	535,540	542,206			1.26	876	Plummer	U.S. DW / Plummer
3	34-inch	591,941	597,843	3,790		1.12	886	Oklee	Enbridge DW / Oklee
3	34-inch	686,379	689,079			0.51	904	Lost River	Enbridge DW / Lost River
3	34-inch	713,634	715,082			0.27	909	Clearbrook	Enbridge DW / Clearbrook
Clearbrook to Superior (715,082-1,712,752)									
3	34-inch	715,082	715,482			0.08	909	Clearbrook	Enbridge DW / Clearbrook
3	34-inch	782,284	791,280			1.70	923	Buzzle Lake	U.S. ESA / Buzzle Lake
3	34-inch	793,832	804,862			2.09	925	Pinewood	U.S. ESA / Pinewood
3	34-inch	827,668	838,122			1.98	931	Wilton	U.S. ESA / Wilton
3	34-inch	864,026	867,910			0.74	938	Bemidji	U.S. DW / Bemidji
3	34-inch	864,446	882,435			3.41	939	Lake Irving	U.S. ESA / Lake Irving
3	34-inch	880,314	886,639			1.20	941	Bemidji (South)	U.S. DW / Bemidji (South)
3	34-inch	907,714	919,954			2.32	947	Necktie River	U.S. DW / Necktie River
3	34-inch	913,114	922,778			1.83	948	Midge Lake	U.S. ESA / Midge Lake
3	34-inch	913,114	927,787			2.78	948	Midge Lake	U.S. ESA / Midge Lake
3	34-inch	951,246	954,446	12,653	15,853	0.61	954	Cass Lake	Enbridge DW / Cass Lake
3	34-inch	976,614	991,104			2.74	960	Cass Lake	U.S. ESA / Cass Lake
3	34-inch	1,002,535	1,008,034			1.04	964	Sucker Lakes	U.S. ESA / Sucker Lakes

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UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
						Crude Oil:			
Clearbrook to Superior (715,082-1,712,752) cont.									
3	34-inch	1,017,964	1,045,820			5.28	969	Portage Lake	U.S. ESA / Portage Lake
3	34-inch	1,050,927	1,063,463			2.37	974	Bena	U.S. ESA / Bena
3	34-inch	1,060,563	1,073,413			2.43	976	Bena	U.S. ESA / Bena
3	34-inch	1,082,613	1,102,113			3.69	981	Nushka Lake	U.S. ESA / Nushka Lake
3	34-inch	1,110,754	1,123,419			2.40	985	Mississippi River	U.S. ESA / Mississippi River
3	34-inch	1,116,895	1,124,368			1.42	986	Mississippi River	Enbridge CNW / Mississippi River
3	34-inch	1,116,895	1,124,368			1.42	986	Ball Club Lake	U.S. ESA / Ball Club Lake
3	34-inch	1,124,719	1,141,338			3.15	988	Ball Club Lake	U.S. ESA / Ball Club Lake
3	34-inch	1,137,028	1,140,328			0.63	989	Mississippi River	Enbridge CNW / Mississippi River
3	34-inch	1,160,666	1,172,943		10,405	2.33	995	Deer River	U.S. ESA / Deer River
3	34-inch	1,172,732	1,189,452	20,194	26,914	1.27	997	Stevens Lake	U.S. ESA / Stevens Lake
3	34-inch	1,225,900	1,244,749			3.57	1,008	Grand Rapids	Enbridge DW / Grand Rapids
3	34-inch	1,246,349	1,250,562			0.80	1,010	Grand Rapids	Enbridge DW / Grand Rapids
3	34-inch	1,251,062	1,256,170			0.97	1,011	La Prairie	Enbridge DW / La Prairie
3	34-inch	1,315,395	1,317,390			0.38	1,023	McGuire Lake	U.S. ESA / McGuire Lake
3	34-inch	1,586,375	1,588,035			0.31	1,074	Twin Lakes	Enbridge DW / Twin Lakes
3	34-inch	1,610,844	1,612,144			0.25	1,079	Wrenshall	Enbridge DW / Wrenshall
3	34-inch	1,666,043	1,677,347			2.14	1,090	Oliver	U.S. ESA / Oliver
3	34-inch	1,683,423	1,687,873			0.84	1,093	Pokegama	Enbridge DW / Pokegama
3	34-inch	1,700,700	1,712,752			2.28	1,097	Superior	U.S. DW / Superior
3	34-inch	1,711,256	1,712,752			0.28	1,098	Superior	U.S. CNW / Superior Harbor

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UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
U.S. Border to Donaldson 36" (0-168,408)									
4	36-inch	4,145	27,815			4.48	777	Pembina River	U.S. DW / Pembina River
4	36-inch	63,980	67,880			0.74	786	Tongue River	Enbridge DW / Tongue River
4	36-inch	137,519	149,631			2.29	801	Red River	Enbridge CNW / Red River
4	36-inch	137,519	149,631			2.29	801	Red River	Enbridge ESA / Red River
4	36-inch	154,601	159,231			0.88	803	Red River	Enbridge CNW / Red River
4	36-inch	154,601	159,231			0.88	803	Red River	Enbridge ESA / Red River
U.S. Border to Donaldson 48" (168,041-212,348)									
Donaldson to Viking 48" (212,348 - 213,109)									
Donaldson to Viking 36" (213,461-322,423)									
Donaldson to Viking 48" (320,971-392,075)									
Viking to Plummer 48" (392,075-393,021)									
Viking to Plummer 36" (394,395-527,703)									
4	36-inch	446,456	450,776			0.82	859	Thief River Falls	U.S. DW / Thief River Falls
4	36-inch	453,970	459,960			1.13	860	Thief River Falls	U.S. DW / Thief River Falls
4	36-inch	461,730	468,960			1.37	862	Thief River Falls	U.S. DW / Thief River Falls
4	36-inch	471,280	475,957			0.89	863	Thief River Falls	U.S. ESA / Thief River Falls
4	36-inch	472,477	475,170			0.51	863	Thief River Falls	U.S. DW / Thief River Falls
4	36-inch	477,065	482,438			1.02	865	St. Hillaire	Enbridge DW / St. Hillaire
Viking to Plummer 48" (526,404-545,165)									
4	48-inch	534,740	542,636			1.50	876	Plummer	U.S. DW / Plummer
Plummer to Clearbrook 48" (545,165 - 545,840)									
Plummer to Clearbrook 36" (547,141-647,345)									
4	36-inch	594,325	599,308			0.94	887	Oklee	Enbridge DW / Oklee

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UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
Plummer to Clearbrook 48" (645,406-716,261)									
4	48-inch	684,430	689,580			0.98	904	Lost River	Enbridge DW / Lost River
4	48-inch	711,406	712,706			0.25	909	Clearbrook	Enbridge DW / Clearbrook
4	48-inch	713,456	715,930			0.47	909	Clearbrook	Enbridge DW / Clearbrook
Clearbrook to Cass Lake 36" (716,411-878,927)									
4	36-inch	782,710	791,996			1.76	923	Buzzle Lake	U.S. ESA / Buzzle Lake
4	36-inch	794,600	805,249			2.02	925	Pinewood	U.S. ESA / Pinewood
4	36-inch	829,674	839,385			1.84	932	Wilton	U.S. ESA / Wilton
4	36-inch	865,247	878,927			2.59	939	Lake Irving	U.S. ESA / Lake Irving
4	36-inch	865,547	868,197			0.50	938	Bemidji	U.S. DW / Bemidji
Clearbrook to Cass Lake 48" (877,981-946,695)									
4	48-inch	877,981	882,229			0.80	940	Lake Marquette	U.S. ESA / Lake Marquette
4	48-inch	880,559	886,739			1.17	941	Bemidji (South)	U.S. DW / Bemidji (South)
4	48-inch	912,527	922,578	9,214		1.90	947	Midge Lake	U.S. ESA / Midge Lake
4	48-inch	912,527	928,052	9,214		2.94	948	Midge Lake	U.S. ESA / Midge Lake
Clearbrook to Cass Lake 36" (946,641-946,717)									
Cass Lake to Deer River 36" (946,717-1,059,570)									
4	36-inch	951,092	954,455			0.64	954	Cass Lake	Enbridge DW / Cass Lake
4	36-inch	973,739	989,639			3.01	960	Cass Lake	U.S. ESA / Cass Lake
4	36-inch	1,000,388	1,005,253			0.92	964	Sucker Lakes	U.S. ESA / Sucker Lakes
4	36-inch	1,015,913	1,029,060			2.49	967	Portage Lake	U.S. ESA / Portage Lake
4	36-inch	1,035,426	1,043,677			1.56	971	Portage Lake East	U.S. ESA / Portage Lake East
4	36-inch	1,048,687	1,059,570			2.06	973	Bena	U.S. ESA / Bena
**Please note that the 36-inch pipeline south of Bena used to be diversion stationing but no longer is									
Cass Lake to Deer River 48" (127,102 (diversion)-1,173,196)									
4	48-inch	1,065,695	1,071,770	127,102	133,177	1.15	976	Bena	U.S. ESA / Bena
4	48-inch	1,069,620	1,080,479	131,027	141,886	2.06	977	Bena	U.S. ESA / Bena
4	48-inch	1,082,681	1,101,781	152,550	171,650	3.62	981	Nushka Lake	U.S. ESA / Nushka Lake

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
Cass Lake to Deer River 48" (127,102 (diversion)-1,173,196) cont.									
4	48-inch	1,110,872	1,123,496	180,741	193,365	2.39	985	Mississippi River	U.S. ESA / Mississippi River
4	48-inch	1,119,906	1,125,502	189,775	195,371	1.06	986	Mississippi River	Enbridge CNW / Mississippi River
4	48-inch	1,119,906	1,125,502	189,775	195,371	1.06	986	Mississippi River	U.S. ESA / Mississippi River
4	48-inch	1,124,546	1,142,950	194,415		3.49	988	Mississippi River	U.S. ESA / Mississippi River
4	48-inch	1,136,945	1,141,450			0.85	989	Mississippi River	Enbridge CNW / Mississippi River
4	48-inch	1,161,177	1,173,196		8,336	2.28	995	Deer River	U.S. ESA / Deer River
Cass Lake to Deer River 36" (1,173,151-1,173,232)									
4	36-inch	1,173,151	1,174,863			0.32	996	Deer River	U.S. ESA / Deer River
Deer River to Floodwood 36" (1,173,232-1,306,304)									
4	36-inch	1,184,485	1,190,378			1.12	999	Stevens Lake	U.S. ESA / Stevens Lake
4	36-inch	1,227,508	1,248,604			4.00	1,008	Grand Rapids	Enbridge DW / Grand Rapids
4	36-inch	1,251,006	1,253,856			0.54	1,011	Prairie River	Enbridge DW / La Prairie
4	36-inch	1,260,626	1,261,626			0.19	1,013	Prairie River	Enbridge DW / La Prairie
Deer River to Floodwood 48" (1,299,654-1,428,994 (47,009 - diversion))									
4	48-inch	1,313,945	1,317,895			0.75	1,023	McGuire Lake	U.S. ESA / McGuire Lake
Deer River to Floodwood 36" (1,429,072-1,429,145)									
Floodwood to Wrenshall 36" (1,429,145-1,512,231)									
Floodwood to Wrenshall 48" (1,512,091-1,616,806)									
4	48-inch	1,583,773	1,588,476	2,892		0.89	1,074	Twin Lakes	Enbridge DW / Twin Lakes
4	48-inch	1,609,569	1,614,530			0.94	1,079	Wrenshall	Enbridge DW / Wrenshall
Floodwood to Wrenshall 36" (1,616,840-1,617,041)									
Wrenshall to Superior 36" (1,617,041-1,712,760)									
4	36-inch	1,675,317	1,676,817			0.28	1,091	Oliver	U.S. ESA / Oliver
4	36-inch	1,684,401	1,687,701			0.63	1,093	Pokegama	Enbridge DW / Pokegama
4	36-inch	1,700,286	1,712,760			2.36	1,097	Superior	U.S. DW / Superior

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
Superior to Iron River (0 - 919,037)									
5	30-inch	0	6,810			1.29	1,099	Nemadji River	U.S. CNW / Superior Harbor
5	30-inch	0	40,366			7.65	1,102	Superior	U.S. DW / Superior
5	30-inch	7,100	8,821			0.33	1,100	Superior	U.S. DW / Superior
5	30-inch	18,307	21,307			0.57	1,102	Superior	U.S. DW / Superior
5	30-inch	16,661	19,541			0.55	1,102	Bear Creek	U.S. ESA / Bear Creek
5	30-inch	64,700	66,450			0.33	1,111	Hanson Creek	U.S. ESA / Hanson Creek
5	30-inch	147,672	151,600			0.74	1,126	Oulu	U.S. DW / Oulu
5	30-inch	253,634	263,064			1.79	1,147	Pine Creek Tributaries	U.S. ESA / Pine Creek Trib.
5	30-inch	253,634	263,064			1.79	1,147	Pine Creek Tributaries	U.S. ESA / Pine Creek Trib.
5	30-inch	267,488	278,081			2.01	1,150	North Fish Creek Tributary	U.S. DW / N. Fish Creek Trib.
5	30-inch	273,858	276,905			0.58	1,150	Fish Creek	U.S. ESA / Fish Creek
5	30-inch	286,667	291,058			0.83	1,153	South Fish Creek	U.S. DW / South Fish Creek
5	30-inch	298,782	303,387			0.87	1,155	Ashland	U.S. DW / Ashland
5	30-inch	305,637	310,600			0.94	1,156	Ashland	U.S. DW / Ashland
5	30-inch	312,500	331,791			3.65	1,159	Ashland	U.S. DW / Ashland
5	30-inch	306,317	309,469			0.60	1,156	Ashland Harbor	U.S. CNW / Lake Superior
5	30-inch	418,500	419,938			0.27	1,177	Saxon Harbor	U.S. CNW / Saxon Harbor
5	30-inch	418,500	419,938			0.27	1,177	Saxon Harbor	U.S. ESA / Saxon Harbor
5	30-inch	481,036	482,827			0.34	1,189	Montreal River	U.S. DW / Montreal River
5	30-inch	489,451	491,211			0.33	1,191	Welch Creek	U.S. DW / Welch Creek
5	30-inch	502,387	505,598			0.61	1,194	Siemens Creek	U.S. DW / Siemens Creek
5	30-inch	502,387	505,598			0.61	1,194	Siemens Creek	U.S. DW / Siemens Creek
5	30-inch	521,858	541,805			3.78	1,199	Black River	Enbridge DW / Black River
5	30-inch	659,900	666,070			1.17	1,224	Slate River	U.S. ESA / Slate River
5	30-inch	735,413	738,071			0.50	1,238	M.B. Ontonagon River	U.S. ESA / M.B. Ontonagon River
5	30-inch	742,000	745,820			0.72	1,239	M.B. Ontonagon River	U.S. ESA / M.B. Ontonagon River
5	30-inch	752,503	758,594			1.15	1,241	Watersmeet	U.S. DW / Watersmeet

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
Superior to Iron River (0 - 919,037) cont.									
5	30-inch	770,114	773,664			0.67	1,244	Duck Creek	U.S. ESA / Duck Creek
5	30-inch	770,114	773,664			0.67	1,244	Watersmeet	U.S. DW / Watersmeet
5	30-inch	847,863	860,133			2.32	1,260	Golden Lake	U.S. ESA / Golden Lake
5	30-inch	886,450	889,470			0.57	1,266	Beechwood	U.S. DW / Beechwood
5	30-inch	897,427	907,991			2.00	1,269	South Branch Iron River	U.S. DW / South Branch Iron River
5	30-inch	911,189	919,037			1.49	1,271	Mineral Hills	U.S. DW / Mineral Hills
5	30-inch	914,843	919,037			0.79	1,272	Mineral Hills	Enbridge DW / Mineral Hills
Iron River to North Straits (919,037 - 1,993,306)									
5	30-inch	1,012,800	1,015,858			0.58	1,290	Paint River	U.S. ESA / Paint River
5	30-inch	1,034,740	1,039,934			0.98	1,295	Michigamme River	U.S. ESA / Michigamme River
5	30-inch	1,046,855	1,053,411			1.24	1,297	Parks Creek	U.S. ESA / Parks Creek
5	30-inch	1,136,684	1,147,220			2.00	1,314	Pickerel Lake	U.S. ESA / Pickerel Lake
5	30-inch	1,278,132	1,286,994			1.68	1,341	Escanaba River	U.S. ESA / Escanaba River
5	30-inch	1,355,603	1,362,437			1.29	1,355	Rapid River	U.S. DW / Rapid River
5	30-inch	1,364,712	1,367,527			0.53	1,357	Rapid River	U.S. DW / Rapid River
5	30-inch	1,552,804	1,567,188			2.72	1,394	Manistique	Enbridge DW / Manistique
5	30-inch	1,568,558	1,572,244			0.70	1,396	Manistique	U.S. ESA / Manistique
5	30-inch	1,654,586	1,660,111			1.05	1,412	Blaney Park	U.S. DW / Blaney Park
5	30-inch	1,749,210	1,752,370			0.60	1,430	Engadine	U.S. DW / Engadine
5	30-inch	1,752,801	1,755,251			0.46	1,430	Lower Millecoquins R.	U.S. ESA / Lower Millecoquins River
5	30-inch	1,771,514	1,775,654			0.78	1,434	Lower Millecoquins R.	U.S. ESA / Lower Millecoquins River
5	30-inch	1,783,181	1,785,431			0.43	1,436	West Mile Creek	U.S. ESA / West Mile Creek
5	30-inch	1,783,181	1,785,431			0.43	1,436	West Mile Creek	U.S. ESA / West Mile Creek
5	30-inch	1,783,181	1,785,431			0.43	1,436	West Mile Creek	U.S. ESA / West Mile Creek
5	30-inch	1,786,370	1,790,409			0.76	1,437	East Mile Creek	U.S. ESA / East Mile Creek
5	30-inch	1,786,370	1,790,409			0.76	1,437	East Mile Creek	U.S. ESA / East Mile Creek
5	30-inch	1,786,370	1,790,409			0.76	1,437	East Mile Creek	U.S. ESA / East Mile Creek

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
					Crude Oil:				
Iron River to North Straits (919,037 - 1,993,306) cont.									
5	30-inch	1,799,948	1,803,150			0.61	1,439	Peters Creek	U.S. ESA / Peters Creek
5	30-inch	1,799,948	1,803,150			0.61	1,439	Peters Creek	U.S. ESA / Peters Creek
5	30-inch	1,805,121	1,807,000			0.36	1,440	Black River Tributary	U.S. ESA / Black River Tributary
5	30-inch	1,805,121	1,807,000			0.36	1,440	Black River Tributary	U.S. ESA / Black River Tributary
5	30-inch	1,810,100	1,812,394			0.43	1,441	Borgstrom Creek	U.S. ESA / Borgstrom Creek
5	30-inch	1,810,100	1,812,394			0.43	1,441	Borgstrom Creek	U.S. ESA / Borgstrom Creek
5	30-inch	1,815,230	1,817,380			0.41	1,442	East Branch Black Creek	U.S. ESA / East Branch Black Creek
5	30-inch	1,815,230	1,817,380			0.41	1,442	East Branch Black Creek	U.S. ESA / East Branch Black Creek
5	30-inch	1,823,680	1,825,930			0.43	1,444	Hog Island Creek	U.S. ESA / Hog Island Creek
5	30-inch	1,823,680	1,825,930			0.43	1,444	Hog Island Creek	U.S. ESA / Hog Island Creek
5	30-inch	1,823,680	1,825,930			0.43	1,444	Hog Island Creek	U.S. ESA / Hog Island Creek
5	30-inch	1,828,586	1,830,120			0.29	1,445	Davenport Creek	U.S. ESA / Davenport Creek
5	30-inch	1,869,864	1,872,834			0.56	1,453	Cut River	U.S. ESA / Cut River
5	30-inch	1,894,089	1,902,082			1.51	1,458	Brevort	U.S. ESA / Brevort
5	30-inch	1,914,601	1,919,887			1.00	1,461	Brevort River	U.S. ESA / Brevort River
5	30-inch	1,915,001	1,936,157			4.01	1,463	Brevort River	U.S. ESA / Brevort River
5	30-inch	1,926,252	1,936,157			1.88	1,464	Brevort River	U.S. ESA / Brevort River
5	30-inch	1,938,625	1,953,246			2.77	1,467	Point Aux Chenes	U.S. ESA / Port Aux Chenes
5	30-inch	1,942,114	1,953,246			2.11	1,467	Point Aux Chenes	U.S. ESA / Point Aux Chenes
5	30-inch	1,944,589	1,953,246			1.64	1,467	Point Aux Chenes River	U.S. ESA / Point Aux Chenes River
5	30-inch	1,958,812	1,962,612			0.72	1,469	Kitchens Creek	U.S. ESA / Kitchens Creek
5	30-inch	1,958,812	1,962,612			0.72	1,469	Kitchens Creek	U.S. ESA / Kitchens Creek
5	30-inch	1,958,812	1,962,612			0.72	1,469	Kitchens Creek	U.S. ESA / Kitchens Creek
5	30-inch	1,990,444	1,993,306			0.54	1,475	Point La Barbe	U.S. ESA / Point La Barbe
5	30-inch	1,990,444	1,993,306			0.54	1,475	Point La Barbe	U.S. ESA / Point La Barbe
5	30-inch	1,991,316	1,993,306			0.38	1,475	Mackinac Straits	U.S. CNW / Mackinac Straits
5	30-inch	1,991,316	1,993,306			0.38	1,475	Point La Barbe	U.S. ESA / Point La Barbe

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
North Straits to Mackinaw - Straits of Mackinac East (1,993,306 - 2,015,016)									
5	20-inch	1,993,306	1,995,006			0.32	1,476	Point La Barbe	U.S. ESA / Point La Barbe
5	20-inch	1,993,306	1,996,006			0.51	1,476	Point La Barbe	U.S. ESA / Point La Barbe
5	20-inch	1,993,306	1,996,006			0.51	1,476	Point La Barbe	U.S. ESA / Point La Barbe
5	20-inch	1,993,306	2,014,331			3.98	1,478	Mackinac Straits	U.S. CNW / Mackinac Straits
5	20-inch	1,996,006	2,012,731			3.17	1,478	Straits of Mackinac	Enbridge ESA / Straits of Mackinac
5	20-inch	2,012,731	2,015,016			0.43	1,480	Mackinaw City	U.S. ESA / Mackinaw City
5	20-inch	2,014,614	2,015,016			0.08	1,480	Mackinaw City	U.S. ESA / Mackinaw City
North Straits to Mackinaw - Straits of Mackinac West (1,993,306 - 2,015,016)									
5	20-inch	1,993,306	1,995,006			0.32	1,476	Point La Barbe	U.S. ESA / Point La Barbe
5	20-inch	1,993,306	1,996,006			0.51	1,476	Point La Barbe	U.S. ESA / Point La Barbe
5	20-inch	1,993,306	1,996,006			0.51	1,476	Point La Barbe	U.S. ESA / Point La Barbe
5	20-inch	1,993,306	2,014,331			3.98	1,478	Mackinac Straits	U.S. CNW / Mackinac Straits
5	20-inch	1,996,006	2,012,731			3.17	1,478	Straits of Mackinac	Enbridge ESA / Straits of Mackinac
5	20-inch	2,012,731	2,015,016			0.43	1,480	Mackinaw City	U.S. ESA / Mackinaw City
5	20-inch	2,014,614	2,015,016			0.08	1,480	Mackinaw City	U.S. ESA / Mackinaw City

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
Superior to Adams (0 - 1,201,518)									
6A	34-inch	0	1,350			0.26	0	Nemadji River	U.S. CNW / Lake Superior
6A	34-inch	0	13,124			2.49	1	Superior	U.S. DW / Superior
6A	34-inch	13,597	20,679			1.34	3	Bluff Creek	U.S. DW / Superior
6A	34-inch	138,219	143,106			0.93	27	Solon Springs	U.S. DW / Solon Springs
6A	34-inch	174,497	178,256			0.71	33	St. Croix River	U.S. ESA / St. Croix River
6A	34-inch	174,497	178,256			0.71	33	St. Croix River	U.S. ESA / St. Croix River
6A	34-inch	179,272	184,111			0.92	34	Eau Claire River	U.S. ESA / Eau Claire River
6A	34-inch	179,272	184,111			0.92	34	Eau Claire River	U.S. ESA / Eau Claire River
6A	34-inch	203,019	204,927			0.36	39	Red Lake	U.S. ESA / Red Lake
6A	34-inch	214,050	217,731			0.70	41	Totagatic River	U.S. ESA / Totagatic River
6A	34-inch	214,050	217,731			0.70	41	Totagatic River	U.S. ESA / Totagatic River
6A	34-inch	353,845	355,795			0.37	67	Ham Lake	U.S. ESA / Ham Lake
6A	34-inch	423,304	426,901			0.68	81	Exeland	U.S. DW / Exeland
6A	34-inch	435,988	437,938			0.37	83	Exeland	U.S. DW / Exeland
6A	34-inch	464,614	470,684			1.15	89	Chippewa River	U.S. ESA / Chippewa River
6A	34-inch	464,614	470,684			1.15	89	Chippewa River	U.S. ESA / Chippewa River
6A	34-inch	464,614	470,684			1.15	89	Chippewa River	U.S. ESA / Chippewa River
6A	34-inch	476,862	502,422			4.84	93	Thornapple	U.S. ESA / Thornapple
6A	34-inch	505,033	507,317			0.43	96	Thornapple	U.S. ESA / Thornapple

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
U.S. Border to Clearbrook (0 - 715,074)									
13	18-inch	4,145	13,095			1.70	775	Pembina River	U.S. DW / Pembina River
13	18-inch	15,710	27,515			2.24	778	Pembina River	U.S. DW / Pembina River
13	18-inch	65,016	66,916			0.36	786	Tongue River	Enbridge DW / Tongue River
13	18-inch	137,469	149,292			2.24	801	Red River	Enbridge CNW / Red River
13	18-inch	137,469	149,292			2.24	801	Red River	Enbridge ESA / Red River
13	18-inch	155,672	159,572			0.74	804	Red River	Enbridge CNW / Red River
13	18-inch	155,672	159,572			0.74	804	Red River	Enbridge ESA / Red River
13	18-inch	446,306	450,850			0.86	859	Thief River Falls	U.S. DW / Thief River Falls
13	18-inch	452,876	458,658			1.10	860	Thief River Falls	U.S. DW / Thief River Falls
13	18-inch	460,808	467,428			1.25	862	Thief River Falls	U.S. DW / Thief River Falls
13	18-inch	470,607	475,122			0.86	863	Thief River Falls	U.S. ESA / Thief River Falls
13	18-inch	471,557	474,607			0.58	863	Thief River Falls	U.S. DW / Thief River Falls
13	18-inch	476,431	481,118			0.89	864	St. Hillaire	Enbridge DW / St. Hillaire
13	18-inch	535,540	542,206			1.26	876	Plummer	U.S. DW / Plummer
13	18-inch	592,836	597,086	4,466		0.80	886	Oklee	Enbridge DW / Oklee
13	18-inch	686,550	688,350			0.34	904	Lost River	Enbridge DW / Lost River
13	18-inch	713,706	715,074			0.26	909	Clearbrook	Enbridge DW / Clearbrook

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
Superior to Adams (0 - 425,027)									
14	24-inch	0	2,100			0.40	0	Nemadji River	U.S. CNW / Lake Superior
14	24-inch	0	11,559			2.19	1	Superior	U.S. DW / Superior
14	24-inch	12,322	18,639			1.20	3	Superior	U.S. DW / Superior
14	24-inch	137,163	141,724			0.86	26	Solon Springs	U.S. DW / Solon Springs
14	24-inch	173,944	176,971			0.57	33	St. Croix River	U.S. ESA / St. Croix River
14	24-inch	173,944	176,971			0.57	33	St. Croix River	U.S. ESA / St. Croix River
14	24-inch	177,815	182,755			0.94	34	Eau Claire River	U.S. ESA / Eau Claire River
14	24-inch	177,815	182,755			0.94	34	Eau Claire River	U.S. ESA / Eau Claire River
14	24-inch	212,624	216,124			0.66	41	Totagatic River	U.S. ESA / Totagatic River
14	24-inch	212,624	216,124			0.66	41	Totagatic River	U.S. ESA / Totagatic River
14	24-inch	353,278	355,189			0.36	67	Ham Lake	U.S. ESA / Ham Lake
14	24-inch	422,877	425,027			0.41	80	Exeland	U.S. DW / Exeland

ENBRIDGE

Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil:									
Superior to Delavan (0-1,703,457)									
61	42-inch	0	11,312			2.14	1	Superior	U.S. DW / Superior
61	42-inch	11,809	18,410			1.25	3	Superior	U.S. DW / Superior
61	42-inch	136,160	141,389			0.99	26	Solon Springs	U.S. DW / Solon Springs
61	42-inch	173,146	182,639			1.80	34	Gordon	U.S. ESA / Gordon
61	42-inch	173,146	182,639			1.80	34	Gordon	U.S. ESA / Gordon
61	42-inch	201,212	203,536			0.44	38	Wascott	U.S. ESA / Wascott
61	42-inch	212,417	216,134			0.70	41	Totagatic River	U.S. ESA / Totagatic River
61	42-inch	212,417	216,134			0.70	41	Totagatic River	U.S. ESA / Totagatic River
61	42-inch	352,716	354,806			0.40	67	Sand Lake	U.S. ESA / Sand Lake
61	42-inch	428,629	433,524			0.93	82	Exeland	U.S. DW / Exeland
61	42-inch	441,265	443,848			0.49	84	Exeland	U.S. DW / Exeland
61	42-inch	470,976	476,234			1.00	90	Thornapple	U.S. ESA / Thornapple
61	42-inch	470,976	476,234			1.00	90	Thornapple	U.S. ESA / Thornapple
61	42-inch	470,976	476,234			1.00	90	Thornapple	U.S. ESA / Thornapple
61	42-inch	483,394	507,065			4.48	94	Thornapple	U.S. ESA / Thornapple
61	42-inch	511,334	513,322			0.38	97	Thornapple	U.S. ESA / Thornapple

ENBRIDGE

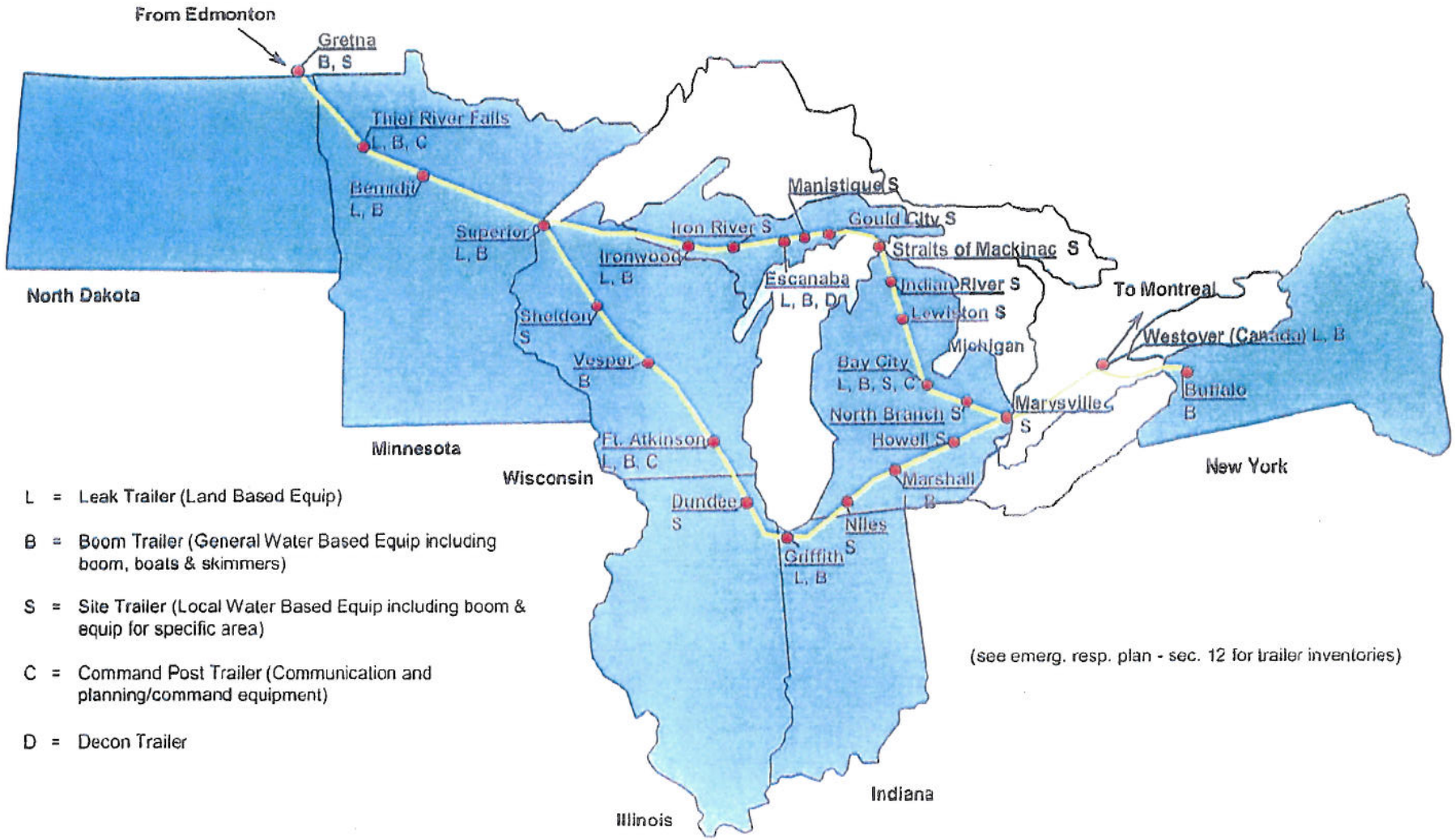
Superior Region Response Zone - Drinking Water (DW), Environmentally Sensitive Areas (ESA) and Commercially Navigable Waterways (CNW)

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING - TRANSPORT IMPACT

Line	Diameter	Begin Stationing	End Stationing	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	Approximate Milepost	Approximate Location	High Consequence Area
Crude Oil									
Gretna to Clearbrook (0 - 721,150)									
LSr	20-inch	4,030	12,940			1.69	2	Neche	U.S. DW / Neche
LSr	20-inch	13,290	15,170			0.36	3	Neche	U.S. DW / Neche
LSr	20-inch	15,890	26,600			2.03	4	Neche	U.S. DW / Neche
LSr	20-inch	64,960	66,510			0.29	12	Pembina	Enbridge DW / Pembina
LSr	20-inch	144,460	146,290			0.35	28	Red River of the North	Enbridge CNW / Red River of the North
LSr	20-inch	144,460	146,290			0.35	28	Red River of the North	Enbridge ESA / Red River of the North
LSr	20-inch	146,940	149,170			0.42	28	Red River of the North	Enbridge CNW / Red River of the North
LSr	20-inch	146,940	149,170			0.42	28	Red River of the North	Enbridge ESA / Red River of the North
LSr	20-inch	155,920	159,000			0.58	30	Red River of the North	Enbridge CNW / Red River of the North
LSr	20-inch	155,920	159,000			0.58	30	Red River of the North	Enbridge ESA / Red River of the North
LSr	20-inch	449,550	453,680			0.78	86	Thief River Falls	U.S. DW / Thief River Falls
LSr	20-inch	456,010	461,990			1.13	87	Thief River Falls	U.S. DW / Thief River Falls
LSr	20-inch	464,140	470,570			1.22	89	Thief River Falls	U.S. DW / Thief River Falls
LSr	20-inch	474,350	477,600			0.62	90	Thief River Falls	U.S. ESA / Thief River Falls
LSr	20-inch	474,800	477,100			0.44	90	Thief River Falls	U.S. DW / Thief River Falls
LSr	20-inch	479,880	483,860			0.75	91	St. Hillaire	Enbridge DW / St. Hillaire
LSr	20-inch	538,830	540,390			0.3	102	Plummer	U.S. DW / Plummer
LSr	20-inch	541,640	544,940			0.63	103	Plummer	U.S. DW / Plummer
LSr	20-inch	596,390	599,920			0.67	113	Oklee	Enbridge DW / Oklee
LSr	20-inch	692,580	694,230			0.31	131	Gonvick	Enbridge DW / Gonvick
LSr	20-inch	720,030	721,150			0.21	136	Clearbrook	Enbridge DW / Clearbrook

Enbridge Energy Limited Partnership

Major Response Equipment Staging Areas



L = Leak Trailer (Land Based Equip)

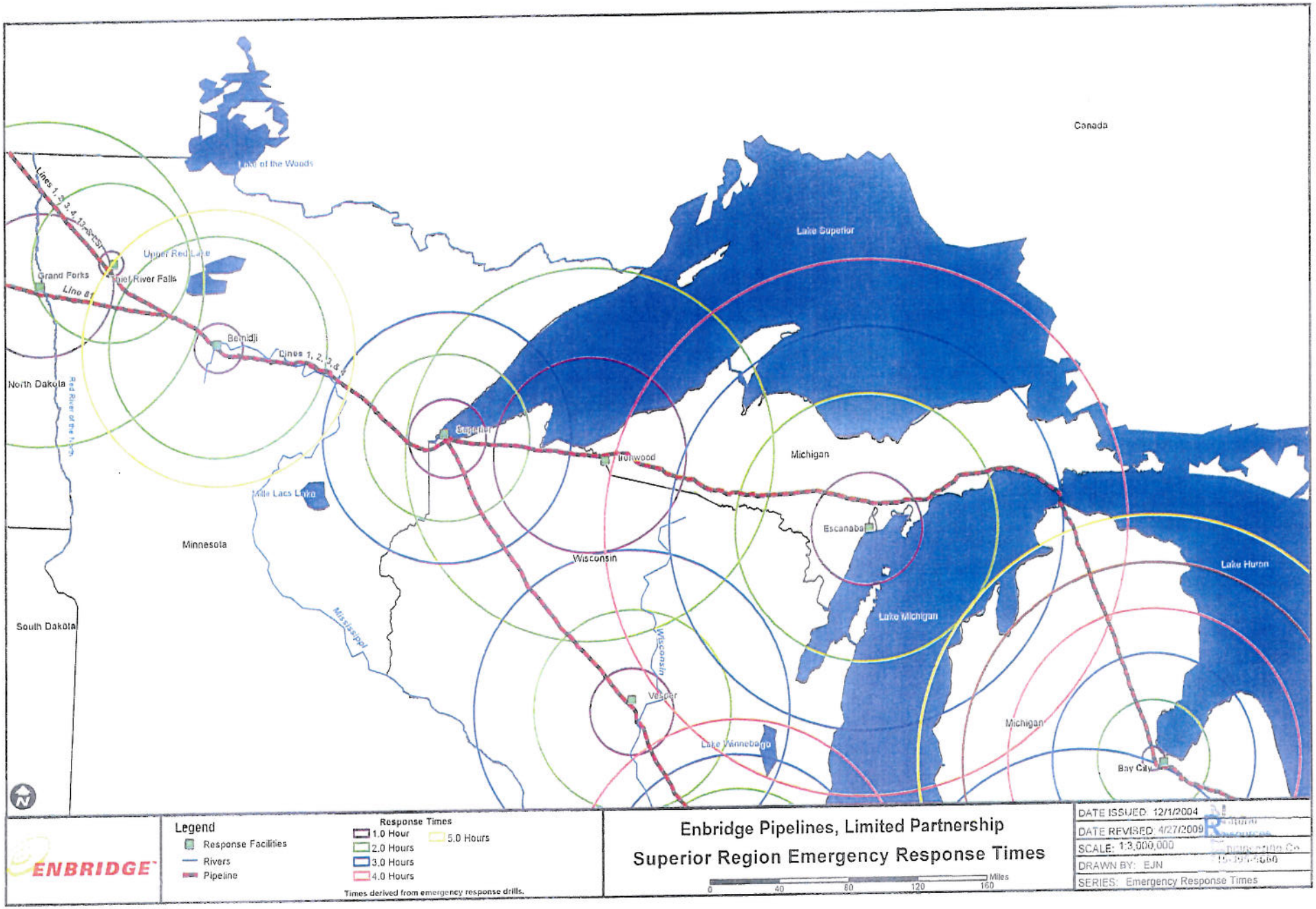
B = Boom Trailer (General Water Based Equip including boom, boats & skimmers)

S = Site Trailer (Local Water Based Equip including boom & equip for specific area)

C = Command Post Trailer (Communication and planning/command equipment)

D = Decon Trailer

(see emerg. resp. plan - sec. 12 for trailer inventories)


Canada
Lake of the Woods
Lake Superior
Upper Red Lake
Grand Forks
Thief River Falls
Line 81
Lines 1, 2, 3, 4, 13, 14, 67, 81
Bemidji
Lines 1, 2, 3, 4, 5
North Dakota
Red River of the North
Superior
Ironwood
Michigan
Mille Lacs Lake
Minnesota
Wisconsin
Escanaba
Lake Huron
Lake Michigan
South Dakota
Mississippi
Wisconsin
Vesper
Lake Winnebago
Michigan
Bay City
N
ENBRIDGE
Legend
Response Facilities
Rivers
Pipeline
Response Times
1.0 Hour
2.0 Hours
3.0 Hours
4.0 Hours
5.0 Hours
Times derived from emergency response drills.
Enbridge Pipelines, Limited Partnership
Superior Region Emergency Response Times
0 40 80 120 160 Miles
DATE ISSUED: 12/1/2004
DATE REVISED: 4/27/2009
SCALE: 1:3,000,000
DRAWN BY: EJN
SERIES: Emergency Response Times

Control Point Maps

CONTROL POINTS

Control Point Map Process
Control Point Map Record

CONTROL POINT MAPPING

Enbridge Transportation North Liquids System

As part of an emergency response readiness program, Enbridge has developed Control Point Map sets to be used as a tool for training, during spill response activities, and communications. Information gathered on other projects (High Consequence Area analysis, river bank stabilizations, etc...) is used in conjunction with relevant pre-existing information, data from governmental agencies such as the U.S. Army Corps of Engineers and the U.S. Geological Survey. Aerial and ground confirmation of the control points is performed as a means to field truth the data. Efficiency and control point mapping enhancements are made by qualified emergency response personnel.

Refer to Book 7: Emergency Response for criteria relevant to Control Point Mapping procedures

Attached is a list of the Control Point Maps significant to this region. Full sets of Control Point Maps are retained in Enbridge Region Offices, along with holders of Book 7 Emergency Response.

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Region Security Plan

Purpose

The security procedures in this tab are specific to Superior Region. For information applicable to all sites at all times, see Book 7: Emergency Response, 01-02-04, General Site Security Standards, 03-02-05, Security Threat Condition Levels and 03-02-08, Bomb and Security Threats. For contact lists, see the Superior Region Emergency Response Directory.

In accordance with pipeline security guidance provided by the Pipeline and Hazardous Materials Safety Adminsstration (PHMSA), the following two locations in Superior Region have been identified as "critical facilities".

Superior (WI) Terminal
Clearbrook (MN) Terminal

All other locations within Superior Region do not meet the PHMSA/OPS thresholds for being designated critical. Accordingly this document is divided into two sections. The first section outlines security measures to be taken within Superior Region at its critical facilities. The second section outlines security measures to be taken at all other facilities within Superior Region.

All information in the Superior Region Security Response Plan must be reviewed annually.

Threat Condition Levels

Level	Critical Facilities: Clearbrook/Superior Terminals
Low (Green)	***Signage*** Post signs at the main gate directing visitors to the check-in location and to designated parking areas. Post "No Trespassing" signs every 100 – 150 ft along the perimeter fencing and at each gate.

	Access Control
	Electric gates will serve as access control.
	• Employees will use scan cards that will record time, date, and access card number at the time of entering.
	• Visitors will use speaker phone to gain access. On site employees will ensure that the visitor:
	  ◦ Has a legitimate business purpose for being at the facility (verify with intended on-site company personal that a visitor is expected).
	  ◦ Shows a photo ID if visitor is unknown. If no ID is available, confirm identity of visitor with on-site personnel.
	  ◦ Is aware of site specific safety information.
	
	Area site supervisors or designates must be aware of the whereabouts of contractors working at the facility at all times.

	Vehicle Control Vehicles must be parked in areas designated by signage.
	Fences/Gates The perimeter of the facility must be fenced. Gates must be locked or secured in the closed position at all times. The integrity of fences and gates must be maintained at all times. All stations under construction will maintain proper fencing at the height of existing fence. Vegetation growth must be controlled on the interior and exterior of the fencing to the extent possible (e.g. Non-company property).
	Keys and Padlocks Spare keys and padlocks must be stored in a locked box maintained by the Supervisor or designate. All spare keys must be signed in/out with the Supervisor or designate using a log sheet kept with the locked box. All staff will be issued one key and spares will be controlled with a sign-out sheet maintained by the Supervisor or designate. Only the Region Manager has the authority to acquire additional keys. Contractors may be issued keys only with approval from the Regional Manager or designate. The Region Accountant is responsible for distributing and tracking keys in the Region. Supervisor or designates are responsible to ensure any keys issued are returned when an employee is transferred or leaves the company or when a contractor completes their work.
	Lighting Building and perimeter lighting must be functional at all times, with perimeter lighting directed toward the fence line.
	Cameras and Alarms Cameras installed at the four locations within the Superior Terminal and the main gate at the Clearbrook Terminal must be adequately maintained.

Level	Critical Facilities: Clearbrook/Superior Terminals
	Monitoring Employee will make rounds, which includes driving the perimeter of the terminal and checking within pump rooms, at least twice per shift. Quarterly site security inspections must be completed using the Safety Inspection form (for more information, see Book 2: Safety, 01-03-01, Completing Safety Inspections).
	Employee Awareness Unless they are of immediate concern, security issues should be identified and documented at local monthly EH&S meetings. Items of immediate concern should be brought to Management's immediate attention. Safety coordinators are responsible to ensure all company security standards and procedures are reviewed annually with employees. Employees must be aware of vehicles frequently driving by or parking along roadways adjacent to company facilities, including: • Clearbrook: County Road # 49 and township road north of station. • Superior: Bardon Avenue, East 21st Street, and 31st Avenue. Secure sensitive company information (e.g., route sheets, employee information) in locked filing cabinets, desk drawers or office outside regular working hours. Shred discarded sensitive company information
	Communications Test and maintain communication systems (e.g., cellular phones, radio systems) as part of emergency response exercises (see Book 7: Emergency Response, 01-02-01, Training and Exercises). As part of public awareness, provide security awareness information to landowners along the right-of-way and to emergency response organizations.
Guarded (Blue)	**All of above:** Regional Manager is responsible to notify areas when the threat level changes.
Elevated (Yellow)	**All of above, PLUS:** ***Access Control*** Tours of the facilities must be approved by the General Manager. Unknown visitors must be escorted by an employee at all time.
	Monitoring Employees will make rounds, which include driving the perimeter of the terminal and checking within pump rooms, at least three times per shift. Employees must perform undocumented weekly inspections of buildings (including those that are not regularly used); storage areas, tanks and perimeter fencing (alter days and times).
	Communications Area site supervisors or designates are responsible to establish contact with local law enforcement to discuss changes in threat condition levels, company security standards and procedures, sharing of resources, and to provide quarterly updates. Consider arranging site visits.
	Employee Awareness Area site supervisors or designates are responsible to immediately notify employees when threat condition levels change (e.g., emails, bulletin board), and review all company security standards and procedures pertaining to the new threat level. In addition, safety coordinators are responsible to ensure all company security standards and procedures are reviewed quarterly with employees.

Level	Critical Facilities: Clearbrook/Superior Terminals
High (Orange)	All of above, PLUS: ***Access Control*** Upon entry into the facility, security must ensure the visitor (including office employees visiting field locations) : • Signs in at the designated guard house • Records vehicle description/license number • Shows photo ID An outside security service will be utilized to man the front gates and be responsible for the preceding bullets. Restrict access through main gates only. At Superior, the guard house at the main gate will be used as a checkpoint. Visitors must be escorted within the terminal after initial check-in. At Clearbrook, a checkpoint will be established outside of the main gate. Visitors must be escorted within the terminal after initial check-in. During construction, contractor identities should be verified by inspector before entry. Request police to assist with securing access to the facility. For example, extra patrols on the following: • Clearbrook: County Road # 49 and township road north of station • Superior: Bardon Ave, East 21st St, and 31st Ave access to back gate Tours of the facilities will be postponed during Orange and Red Alert Levels.
	Vehicle Control Use a 24-hour security service to monitor and inspect all vehicles entering the main gate, including cargo areas, undercarriage, glove box and any area where dangerous items could be concealed. All vehicles will be routed through the main gate. All other perimeter gates will be shut down to traffic. Move vehicles to a central parking area away from equipment/buildings as specified by the site supervisor or designate (where possible, at least 30 yds from critical buildings, tanks and equipment).
	Lighting If necessary, install temporary lighting at all gates to ensure all areas are adequately lit.
	Security Officers PerMar Security will be used for outside security services for Superior Terminal. They can be reached at 1-715-297-1466 (Brian Thacker) or 1-715-848-4932 (Tami Artz). Professional and Trustworthy Security of Park Rapids, MN will be used for outside security services for Clearbrook Terminal. They are on retainer and can be reached at 1-866-887-8790. The contact is Dwight Patterson. Review site security standards and procedures with the security service weekly.
	Monitoring Employees must perform undocumented inspections of buildings (including those that are not regularly used), storage areas, and tank areas at least once per day. This is over and above normal rounds, which include driving the perimeter of the terminal and checking pump rooms, at least three times per shift. Monitor media (television, radio and internet) and company communications for status changes, additional instructions or information. Area site supervisors or designates are responsible to coordinate all employee travel (e.g., remote job sites). Maintain scheduled contact with employees at remote locations. Request police to increase the frequency of patrols.
	Employee Awareness Area site supervisors or designates are responsible to immediately notify employees when threat condition levels change (e.g., emails, bulletin board), and review all company security standards and procedures pertaining to the new threat level.

Level	Critical Facilities: Clearbrook/Superior Terminals
High (Orange)	***Communication*** Area site supervisors will keep an open line of communication with local law enforcement concerning our protective measures. ***General*** All security response activities must be logged. Review all contract maintenance and capital project work, and consider canceling or delaying non-essential work.
Severe (Red)	All of above, PLUS: ***Access Control*** Regional management must establish contact with ETN Crisis Management Center and ETN Incident Screening Committee in Edmonton. Prepare for shut down or evacuate facilities as identified or directed by senior management. Restrict access to area staff unless approved in advance by regional management. Assign employees 24 hours to assist with access control and monitoring the facility. All facility tours will be canceled.
	Vehicle Control Restrict vehicle access to employees and emergency vehicles only.
	General Lock doors at all times. Suspend all maintenance and capital project work involving contractors.

Level	Non-Critical Facilities: Pump Stations, Remote Valve Sites, ROW, PLM Shops and Offices
Low (Green)	***Signage*** Post signs identifying company emergency contact information on each side of the perimeter fencing. Post "No Trespassing" signs every 100 – 150 ft along the perimeter fencing and at the main gate. Along the right-of-way, post warning signs in accordance with Book 3: Pipeline Facilities, 03-02-03, Right-Of-Way Signs.
	Access Control Upon entry to the site, an employee must review site-specific safety information with visitors. This does not apply at shops and offices. For the Superior Office, outside regular working hours, the alarms at the main doors are monitored by Arrowhead Security. For the Bemidji Office, outside regular working hours, the alarms at the main doors are monitored by Bonded Lock and Alarm. The first/last employee to enter/leave the facility at the start/end of the day is responsible to enter the security code to enable the alarms.
	Vehicle Control Vehicles must be parked in designated areas.
	Buildings/Gates/Fences/Mainline Valves The perimeter of the facility must be fenced. Stations under construction will maintain proper fencing around station at the height of existing fence. This does not apply for Offices. Gates must be locked or secured in the closed position when facility is unattended. The integrity of fences and gates must be maintained at all times. Vegetation growth must be controlled on the exterior perimeter of the fencing. Buildings must be locked when employees are offsite. Mainline valves must be chained and locked at all times.
	Keys and Padlocks Spare keys and padlocks must be stored in a locked box maintained by the Supervisor or designate. All spare keys must be signed in/out with the Supervisor or designate using a log sheet kept with the locked box. All staff will be issued one key and spares will be controlled with a sign-out sheet maintained by the Supervisor or designate. Only the Region Manager has the authority to acquire additional keys. Contractors may be issued keys only with approval from the Regional Manager or designate. The Region Accountant is responsible for distributing and tracking keys in the Region. Supervisor or designates are responsible to ensure any keys issued are returned when an employee is transferred or leaves the company or when a contractor completes their work.
	Lighting Facility and perimeter lighting must be functional at all times, with perimeter lighting directed toward the fence line.
	Monitoring Quarterly site security inspections must be completed using the Safety Inspection form (for more information, see Book 2: Safety, 01-03-01, Completing Safety Inspections).
	Employee Awareness Unless they are of immediate concern, security issues should be identified and documented at each local EH&S monthly meeting. Items of immediate concern should be brought to management's immediate attention. Safety coordinators are responsible to ensure all company security standards and procedures are reviewed annually with employees. Secure sensitive company information (e.g., route sheets, employee information) in locked filing cabinets, desk drawers or office outside regular working hours. Shred discarded sensitive company information.

Level	Non-Critical Facilities: Pump Stations, Remote Valve Sites, ROW, PLM Shops and Offices
Low (Green)	***Communications*** Test and maintain communication systems (e.g., cellular phones, radio systems) as part of emergency response exercises (see Book 7: Emergency Response, 01-02-01, Training and Exercises).
Guarded (Blue)	**All of above:** Regional Manager is responsible to notify areas when the threat level changes.
Elevated (Yellow)	**All of above, PLUS:** ***Access Control*** Visitors must be checked in by an employee and escorted when possible. This does not apply to shops and offices.
	Monitoring Employees must complete weekly site inspections of manned and unmanned pump stations, including valves; buildings and perimeter fencing (alter days and times).
	Employee Awareness Area site supervisors or designates are responsible to immediately notify employees when threat condition levels change (e.g., emails, bulletin board), and review all company security standards and procedures. In addition, safety coordinators are responsible to ensure all company security standards and procedures are reviewed quarterly with employees.
High (Orange)	**All of above, PLUS:** ***Access Control*** No visitors or contractors are permitted without approval from the regional manager. This does not apply to offices and PLM shops.
	Vehicle Control Restrict vehicle access to employees and emergency vehicles only. No visitor or contractor vehicles are permitted without approval from the regional manager. This does not apply to offices and PLM shops.
	Security Officers Regional management must assess need for 24-hour security services on a site-specific basis.
	Monitoring Employees must complete site inspections of all manned and unmanned pump stations to include valves, buildings and perimeter fencing, at least twice per week. All valve sites, densitometers and other remote facilities will be inspected once per week. This includes all manual valves. Inspect for tampering and condition of locking devices. In consultation with Aviation and Operation Services, increase frequency of Aerial Patrols to weekly. Maintain scheduled contact with employee(s) at remote locations. Request police to increase the frequency of patrols.

Level	Non-Critical Facilities: Pump Stations, Remote Valve Sites, ROW, PLM Shops and Offices
High (Orange)	***Employee Awareness*** Area site supervisors or designates are responsible to immediately notify employees when threat condition levels change (e.g., emails, bulletin board), and review all company security standards and procedures. In addition, area site supervisors or designates are responsible to ensure all company security standards and procedures are reviewed weekly with employees.
	Communications Area site supervisors or designates will keep an open line of communication with local law enforcement concerning our protective measures. Advise landowners of security status and provide emergency contact information if unusual or suspicious activity is observed.
	General All security response activities must be logged. Review all contract maintenance and capital work, and consider canceling or delaying non-essential work.
Severe (Red)	**All of above, PLUS:** ***Access Control*** Regional management must establish contact with ETN Crisis Management Center and ETN Incident Screening Committee in Edmonton. Prepare for or shut down or evacuate facilities as identified or directed by senior management. Restrict access to area staff unless approved in advance by regional management.
	Vehicle Control Restrict vehicle access to employees and emergency vehicles only.
	General Lock doors at all times. Suspend all maintenance and capital work involving contractors. ***Monitoring*** Regarding Aerial Patrols, confirm with Aviation Department as no fly restrictions could apply.

Appendix

Appendix - Information Summary

1. OPERATOR IDENTIFICATION

Enbridge (U.S.) Inc.
Operates the Enbridge Energy, Limited Partnership Pipeline System
1100 Louisiana, Suite 3200
Houston, TX 77002-5216
(713) 650-8900 (Phone Number)
(800) 858-5253 (24 hr. Emergency Number)
(713) 653-8711 (Fax)

2. RESPONSE ZONE DESCRIPTION

The Enbridge Liquids Pipeline System (Lakehead System) consists of four response zones. These response zones represent the regional boundaries designated in the normal operating structure. The response zones include:

- **Superior Region**
- Chicago Region
- Cushing Region
- Enbridge Pipelines North Dakota

Superior Region Response Zone (#866)

The Superior Region response zone begins at the Canadian border near Neche, North Dakota and continues across northern Minnesota into Superior, Wisconsin. This section of response zone includes nine pipelines that transport crude oil and natural gas. The response zone continues south of Superior to Ladysmith, WI with pipelines transporting crude oil. A 30-inch pipeline originates in Superior, WI and transports crude oil and natural gas liquids across northern Wisconsin, the Upper Peninsula of Michigan and into lower Michigan. The Superior Region system is comprised of:

- Approximately 2,320 miles of pipeline, with pipe diameters ranging from 18 to 48 inches;
- 29 Pump Stations are located along the pipes;
- The Superior System includes 44 tanks (35 Tanks at Superior; 9 at Clearbrook). Tanks located in Superior, WI have 7.5 million barrels storage capacity and Clearbrook, MN has 1.3 million barrels storage capacity.

Counties included in the Superior Region response zone are:

North Dakota	Minnesota	Wisconsin	Michigan
Pembina	Kittson	Douglas	Cheboygan
	Marshall	Bayfield	Delta
	Red Lake	Washburn	Dickinson
	Polk	Sawyer	Emmet
	Hubbard	Ashland	Gogebic
	Clearwater	Iron	Iron
	Beltrami	Rusk	Mackinac
	Cass		Marquette
	Itasca		Otsego
	Aitkin		Schoolcraft
	St. Louis		
	Carlton		

This response zone includes the following pipelines:

Line	Pipeline Sections	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
LSr (65)	Gretna, Manitoba to Clearbrook, MN	0	721,140	136.6	20"	Crude Oil
1	Gretna, Manitoba to Clearbrook, MN	0	716,232	135.7	20"	Crude Oil & Natural Gas Liquids
1	Clearbrook, MN to Superior, WI	716,232	1,712,883	188.8	18"	Crude Oil & Natural Gas Liquids
2	Gretna, Manitoba to Superior, WI	0	1,712,887	324.4	26"	Crude Oil
3	Gretna, Manitoba to Superior, WI	0	1,712,887	324.4	34"	Crude Oil
4	Gretna, Manitoba to Donaldson, MN	0	168,408	31.9	36"	Crude Oil
4	Donaldson, MN to Viking, MN	168,041	213,109	8.5	48"	Crude Oil
4	Donaldson, MN to Viking, MN	213,461	322,423	20.6	36"	Crude Oil
4	Donaldson, MN to Plummer, MN	320,971	393,021	13.6	48"	Crude Oil
4	Viking, MN to Plummer, MN	394,395	527,703	25.2	36"	Crude Oil
4	Viking, MN to Clearbrook, MN	526,404	545,840	3.7	48"	Crude Oil
4	Plummer, MN to Clearbrook, MN	547,141	647,345	19.0	36"	Crude Oil
4	Plummer, MN to Clearbrook, MN	645,406	716,261	13.4	48"	Crude Oil
4	Clearbrook, MN to Cass Lake, MN Loop	716,411	878,927	30.8	36"	Crude Oil
4	Cass Lake, MN Loop (MP939.87 to MP953.04)	877,981	946,695	13.1	48"	Crude Oil
4	Clearbrook, MN to Deer River ,MN Loop	946,641	1,059,570	21.4	36"	Crude Oil
4	Deer River, MN Loop (MP974.73 to MP995.83)	(127,102)	1,173,196	22.0	48"	Crude Oil

Line	Pipeline Sections	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
4	Cass Lake, MN to Floodwood, MN Loop	1,173,151	1,306,304	25.2	36"	Crude Oil
4	Floodwood, MN Loop (MP1019.73 to MP1044.33)	1,299,654	(47,009)	24.6	48"	Crude Oil
4	Deer River, MN to Wrenshall, MN Loop	1,429,072	1,512,231	15.7	36"	Crude Oil
4	Wrenshall, MN Loop (MP1060.11 to MP1079.91)	1,512,091	1,616,806	20.0	48"	Crude Oil
4	Wrenshall, MN Loop to Superior, WI	1,616,840	1,712,760	19.8	36"	Crude Oil
13	Gretna, Manitoba to Clearbrook, MN	0	715,074	135.5	18"	Crude Oil
5	Superior, WI to Mackinaw, MI	0	1,993,306	377.5	30"	Crude Oil & Natural Gas
5	Straits of Mackinac East and West (*2)	1,993,306	2,015,016	8.2	20"	Crude Oil & Natural Gas
5	Straits of Mackinac to Lewiston Pump Station MP1544.3	2,015,016	2,378,371	68.8	30"	Crude Oil & Natural Gas
6A	Superior, WI to MP97.23 (Ladysmith, WI)	0	513,368	97.2	34"	Crude Oil
14	Superior, WI to MP97.23 (Ladysmith, WI)	0	512,719	97.1	24"	Crude Oil
61	Superior, WI to MP97.23 (Ladysmith WI)	0	523,170	99.08	42"	Crude Oil

(Number) Diversion Stationing

3. CONSISTENCY WITH NATIONAL AND AREA CONTINGENCY PLANS

National Contingency Plan

Enbridge (U.S.) Inc. has reviewed the National Contingency Plan to ensure our emergency response planning and structure is consistent. The Incident Command Structure established for Enbridge assumes Enbridge, as a "responsible party" will work in a "unified command structure" with local, state and/or federal agencies to manage the emergency.

The Enbridge Emergency Response Plan (ERP) adheres to all Federal, State and Local emergency response requirements for the crude oil pipeline transportation industry. This section of the appendix was developed to address specific protocol questions common to ERP requirements.

Enbridge identifies the technical training and qualification standards for operations employees in accordance with company policy, industry standards, and applicable government regulations. For the Liquid Pipeline side, these can be found in our Operations and Maintenance Procedures (O&MP) Book 1 Tab 5 – Training and Qualifications. For the Gathering Systems, this can be found in Gathering Systems O&MP Section 4. Specifically:

1. Characteristics and hazards of oil: This training is conducted annually during HAZWOPER refresher training, specifically in the hazardous materials and Material Safety Data Sheet (MSDS) training components.

2. Conditions that are likely to worsen emergencies, including the consequence of facility malfunctions or failures and appropriate corrective actions: These are covered in our O&MP Books 7 both General & Region Specific under the High Consequence Areas (HCA) identified On individual maps and covered as part of the Emergency Response Training.

3. Steps necessary to control an accidental discharge of oil: Training on general operations procedures cover the precautions to prevent discharges and reviewed during our annual table-top exercises, field exercises and HAZWOPER training.

4. Steps necessary to minimize the potential for fire, explosion, or environmental damage: Covered in annual ignition source, HAZWOPER and emergency response training.

5. Proper firefighting procedures and use of personal protective equipment (PPE), fire fighting procedures or extinguisher use is provided within three months of initial hire or before an individual is assigned to a specific response position and every three years thereafter. PPE training is covered in annual refresher training for all employees.

Additional Comments:

The Enbridge O&MP Book 1 section 05-02-02, which covers specific duties in the Emergency Response Training Matrix, and O&MP Book 7 section 02-01-01 "Overview of Emergency Response Actions", addresses the appropriate levels of training and the requirements specified in OSHA 29 CFR 1910.120.

The O&MP Book 1 section 04 describes the company's procedures for maintenance of response training records for response personnel.

The O&MP Book section 05-02-02 describes the requirements for maintaining drill documentation for three years and ensuring the availability of such records for inspectors.

Area Contingency Plan

Enbridge has reviewed the applicable Area Contingency Plans and established communication, where necessary, with the appropriate Area Contingency Plan coordinator to ensure that Enbridge information is accurate. Enbridge will, on an on-going basis, continue to review these plans, provide input as necessary and participate in the Area Committees as appropriate. The identification of environmentally sensitive (high consequence areas) will be reviewed with Area Contingency Plans in order to establish consistency.

The Area Contingency Plans that must be considered within Enbridge's Emergency Response Plan have been identified and are listed below according to the response zone affected.

Superior Response Zone

USCG	*USCG Ninth District* 1240 E. 9th Street Cleveland, OH 44199	216-902-2045
	USCG Marine Safety Office 600 S. Lake Ave., Canal Park Duluth, MN 55802-2352	218-720-5286
	USCG Marine Safety Office 337 Water Street Sault Ste. Marie, MI 49783	906-635-3233
EPA	*EPA Region V* 77 W. Jackson Blvd. Chicago, IL 60604	312-886-3000
	EPA Region VIII 999 – 18th St., Ste. 300 Denver, CO 80202-2466	303-312-6312

4. CALCULATION OF WORST CASE DISCHARGE

Worst Case Discharge Volume Calculation Methodology

The approach for calculating Worst Case Discharge (WCD) volume utilizes American Innovation's Integrity Assessment Program (IAP) software. The IAP model performs two calculations to determine the total volume out at any given point along the pipeline in the event of a rupture; maximum initial and maximum stabilization loss.

The calculations used to determine the worst case discharge volume use:

- An assumption of a guillotine rupture (100% volume out)
- Design pipeline capacity to determine the amount of product released prior to a rupture being isolated by closure of remote-controlled mainline valves
- An assumption that all of the product in the pipe except that isolated by either elevation or the location of existing remote-controlled valves will be discharged at a rupture location.

This yields a conservative estimate of the worst case discharge volume.

IAP software and data is in custody of, and maintained by the Enbridge Liquid Pipelines Operational Risk Management Group.

Maximum Initial Loss

Initial volume out is the amount of product that is released before a pipeline is shutdown and remote-controlled isolation valves closed in vicinity of the rupture.

Maximum Initial Loss
= pipeline flow rate x (time to recognize rupture and isolate the pipeline)

Time to Recognize Rupture

A full mainline rupture will show up as alarms on SCADA screens within 1 minute of its occurrence.

The Material Balance Leak Detection will recognize a rupture within 5 minutes of a rupture occurring (runs in a 5 minute cycle). The Material Balance Leak Detection is a backup to operator recognition.

The volume out calculation uses a time to recognize rupture of 5 minutes.

Valve Closure Rate

All motor operated valves in the Enbridge liquid mainline system close in three minutes or less. This is a design criteria requirement for motorized mainline valves used by Enbridge.

Time to Isolate Line (Remote Controlled Valves Only)

The time to isolate a line is the time it takes to recognize the rupture plus the time it takes to close the remote-controlled mainline valves. For the Enbridge liquid mainline system this time is 8 minutes.

Maximum Stabilization Loss

The maximum stabilization loss is a worst case calculation of the amount of oil that will escape to ground after isolation has occurred. The calculation takes into consideration the outer diameter and wall thickness of the pipe, the pipeline elevation profile, and the location of remote-controlled valves.

Worst Case Discharge Volume

Worst Case Discharge (WCD) Volume
= Maximum Initial Loss + Maximum Stabilization Loss

Calculation of Worse Cast Discharge for Mainline Piping

Line	Capacity (bbls/day)	Time to Isolate (min)	Worst Case Discharge (bbls)	Location (ft Stationing)	Location (MP)
LSr (65)	207,000	8	9,447	213,052	814
1	236,770	8	12,336	1,712,719	1098.1
2	431,480	8	20,850	1,7128,15	1098.12
3	471,110	8	18,804	34,147 Eqn 60	1041.93
4	790,000	8	45,961	1,159,859	993.39
5	529,600	8	27,939	341,304	1162.63
6A	656,660	8	33,614	4,902	0.93
13	187,560	8	5,143	214,434	814.33
14	387,360	8	18,179	13,745	2.6
61	400,000	8	44,852	27,750	5.3

Calculation of Worse Case Discharge for Tankage

Prevention Measure	*Standard*	Credit (percent)
Secondary containment > 100%	NFPA 30	50
Built/repaired to API standards	API STD 620/650/653	10
Overfill protection standards	API RP 2350	5
Testing/cathodic protection	API STD 650/651/653	5
Tertiary containment/drainage/treatment	NFPA 30	5
Maximum allowable credit		**75**

25% of largest tank in Superior Region Zone = 390,000 x 25% (75% RSPA credit) = 97,500 bbls

5. IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS

Enbridge utilizes the criteria described in its integrity management plan (HCA Management Plan) to identify and evaluate varying degrees of sensitivity to a number of public safety and environmental concerns along its right-of-way.

Spatial data regarding the HCA sites were derived from the National Pipeline Mapping System (NPMS) database maintained by PHMSA and mapped using the Geographic Information System (GIS) software ESRI (Environmental Systems Research Institute) ArcMap. In addition to the HCA's identified by PHMSA, Enbridge considered the following features in its Unusually Sensitive Area assessment:

- Rivers identified as high volume areas;
- Additional drinking water resources verified through state databases;
- Environmentally sensitive areas identified through regional or field knowledge.

In addition, HCA's were identified that may be affected by a release from Enbridge pipelines via transport mechanisms. The types of transport mechanisms considered were:

- Overland flow of crude oil to an HCA which is a function of topographic gradients, locations of ditches, and barriers to flow, in addition to stationing-specific volumes of crude oil that could be potentially released from an Enbridge pipeline;
- Flow of crude oil with/on water to an HCA from static lakes and ponds or perennial streams;
- Spray of crude oil from a potential rupture to an HCA.

The Enbridge HCA maps are an integral part of Enbridge emergency planning and response and are distributed to the Enbridge Regional Offices. The HCA maps are available upon request.

6. SIGNIFICANT AND SUBSTANTIAL HARM

Enbridge has determined that the Superior Response Zone meets the criteria that requiring the zone to be considered as having the potential to cause "significant and substantial" harm.