Line 6B 2012 Maintenance and Rehabilitation Project

Lake and LaPorte Counties, Indiana

Individual Water Quality Certification Application – Supplemental Information

June 15, 2012

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INTRODUCTION

Enbridge Energy, Limited Partnership ("Enbridge")[1] owns and operates Line 6B, a 30-inch-diameter oil and liquid hydrocarbon pipeline (referred herein as "crude oil pipeline" or "Line 6B") initially constructed in 1969. Line 6B is located in northwestern Indiana through Michigan and crosses the international border under the St. Clair River before it terminates at Sarnia, Ontario, Canada. Enbridge conducted thorough internal inspections of Line 6B as part of its ongoing system-wide pipeline integrity program. Continued assessments and on-going inspections of Line 6B identified seven segments that contained numerous features that require repair and/or pipe replacement. These segments were:

- In Indiana, two approximately 5-mile-long segments in Lake and LaPorte counties; and
- In Michigan, three approximately 5-mile-long segments, one approximately 28-mile-long segment, and one approximately 22-mile-long segment.

Accordingly, Enbridge is implementing the Line 6B 2012 Maintenance and Rehabilitation Program ("Program" or "Project") in Indiana and Michigan to replace those segments. This application has been prepared to acquire an Individual Water Quality Certification to initiate the Project for the two 5-mile-long replacement segments in Indiana located in Lake and LaPorte Counties. The majority of the project will occur within or abutting the existing easements for Line 6B.

Enbridge prepared this Supplemental Information document in support of Indiana Department of Environmental Managements (IDEM) Application to Discharge Dredged or Fill Material to Waters of the State. The sections presented in this document correspond to the items identified in the Application Form (51821 (R/10-04)). Note that only items 3-5 and 8-10 of the Application Form are provided in this Supplemental Information document. The remaining items that are not provided herein are fully addressed in the Application Form, Appendices of this document, or do not require completion due to the nature of the project and the type of resources being impacted.

Enbridge has long-term easements with property owners that allow for operation and maintenance of the existing pipeline. In general, Enbridge will construct the replacement sections of pipeline within and/or adjacent to its existing easements. Enbridge will obtain authorization from numerous property owners to accommodate temporary construction workspace, and in some instances acquire additional pipeline easements.

ITEM 3 PROJECT LOCATION

The Project is located in Lake and LaPorte Counties, Indiana, as shown on the attached Project Location Map and on the Wetland and Waterbody Location Maps, which include road names and are provided in Appendix A. Latitude and Longitude coordinates for each wetland and waterbody are provided in the tables in Appendix B and a complete list of township, range, and sections crossed by the pipeline segments are provided below.

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[1] Enbridge Energy, Limited Partnership is a wholly owned subsidiary of Enbridge Energy Partners, L.P., a Delaware master limited partnership headquartered at 1100 Louisiana, Suite 3300, Houston, Texas 77002 (ph. 713-821-2000; www.enbridgepartners.com).

Township, Range, and Sections Crossed in Lake and LaPorte Counties, Indiana			
County	**Township**	**Range**	**Sections**
Lake	T35N	R8W	6, 7, and 8
	T35N	R9W	1, 2, 3, and 12
LaPorte	T37N	R3W	19, 20, and 21
	T37N	R4W	24, 25, 26, and 27

The proposed project will cross four waterbodies and 28 wetlands as identified and described in this application, on the Wetland and Waterbody Location Maps (Appendix A), the Wetland and Waterbody Impact Tables (Appendix B), and the Wetland and Waterbody Delineation Forms (Appendix C).

Generally, the project can be identified by existing Enbridge Line 6B pipeline markers adjacent to road crossings and by following the existing, maintained pipeline right-of-way. The centerline of the proposed pipeline route may also be marked by ribbon flagging or wooden lathe. However, portions of the proposed route may not be marked or identifiable. Enbridge requests that prior to conducting any additional field reviews for the Project, IDEM contact Enbridge so appropriate landowner notifications may be completed.

ITEM 4 PROJECT PURPOSE

Purpose

Enbridge conducted thorough internal inspections of Line 6B as part of its ongoing system-wide pipeline integrity program. Continued assessments and on-going inspections of Line 6B identified two 5-mile-long segments in Indiana which contained numerous features that, over time, require investigation and repair. Enbridge believes that while ongoing integrity inspections, testing and maintenance achieves required safety standards, replacement of the remaining Line 6B segments is the more cost-effective option to restore the original ultimate pipeline capacity of Line 6B to meet the current and future capacity requirements of its shippers. This option benefits the public by replacing those pipeline segments that would otherwise require extensive ongoing integrity assessment and maintenance activities under Enbridge's long-term integrity management program.[2] Thus, the Project also has an added public benefit by reducing impacts to landowners, local communities, and the environment over the long term.

Summary of Proposed Construction Activities

Enbridge will construct the pipeline replacement segments by following several typical sequential pipeline construction procedures, including: survey and staking; clearing and site preparation (including

[2] In accordance with various federal pipeline safety regulations and national consensus standards, pipelines are inspected, maintained, and repaired as necessary to maintain safe operations commensurate with the operating pressures of the pipeline. This process, known as "integrity management", includes periodic internal inspections with in-line inspection devices and, based on the results of those tools, anomalies are prioritized, monitored, and/or excavated and repaired.

installation of temporary bridges); pipe stringing, bending, welding; trenching; lowering-in and backfilling; hydrostatic testing; and cleanup and restoration. In open areas, these construction procedures would proceed in an assembly line fashion with construction crews moving down the construction right-of-way as work proceeds. Concurrently, smaller construction crews will complete road, waterway, and railroad crossings that require boring or other site-specific crossing methods.

Survey and Staking

The first step of construction involves survey crews staking the limits of the construction right-of-way, the centerline of the proposed trench, any temporary extra workspaces, and other approved work areas. No unauthorized disturbance is allowed beyond the workspace limits. Enbridge will clearly mark access roads using temporary signs or flagging. Enbridge will mark wetlands and other environmentally sensitive areas where appropriate. In cooperation with affected landowners, Enbridge will brace and cut fences and will install temporary gates and fences to contain livestock in active grazing or livestock areas.

Clearing and Site Preparation

Trees, brush, and shrubs within the construction workspace will be cut at or near ground level and root systems would remain in place except where the pipeline trench would be excavated or where grading is necessary to facilitate safe equipment operation. All brush and other materials cleared from upland areas within the construction corridor will be placed in a windrow along the construction corridor and disposed of or burned as agreed to with the landowner. Brush and other materials cleared from wetland areas will be removed from the wetland and placed in upland areas and disposed or burned as agreed to with the landowner.

Erosion control measures will be installed prior to the commencement of ground disturbing activities in accordance with Enbridge's Environmental Mitigation Plan ("EMP") (refer to Appendix D) and federal, state, and local agency requirements, as applicable.

In uplands, the construction corridor will be graded by bulldozers as needed to provide safe and efficient operation of construction equipment and to preserve topsoil. Bridges over waterbodies and construction mats in wetlands will be installed during this operation. Temporary equipment bridges will be constructed using timber mats, rock flumes, railroad flat cars, flexi-float or other prefabricated portable bridges, or other methods as approved by appropriate agencies and will be removed as soon as possible during final restoration. Typical bridge construction drawings are provided in Enbridge's EMP in Appendix D.

With exception to clearing-related equipment, fording of waterbodies is prohibited (i.e., civil survey, potholing, or other equipment are not permitted to ford waterways prior to bridge placement). Clearing equipment and equipment necessary for installation of equipment bridges will be allowed a single pass across waterbodies prior to bridge installation, unless restricted by applicable permits.

Bridges will be designed as close to perpendicular to the axis of the stream channel, creating the shortest crossing length and must be built and maintained in accordance with applicable permits. Equipment bridges will be designed to withstand the maximum foreseeable flow of the stream. Bridges will not restrict flow or pool water while the bridge is in place, and will be constructed with clean materials. Bridges will be designed and maintained to prevent soil from entering the waterbody. Soil

that accumulates on the bridge decking will be removed as needed, or as deemed necessary by the Environmental Inspector ("EI").

Topsoil will be segregated from subsoil as described in EMP and stockpiled separately for later replacement. Grading will not occur within wetlands. The terrain along the pipeline route varies from relatively flat to moderate slopes. Significant cutting of steep terrain will not be performed unless required and topsoiling will occur to the extent practicable in steep terrain.

Pipe Stringing, Bending, and Welding

After clearing and site preparation, sections of pipe between 40 and 80 feet long (also referred to as "joints") will be transported to the construction right-of-way by truck. Each segment of pipe will be unloaded by cranes or tractors equipped with side booms and slings and strung in a continuous line beside the future location of the trench.

After the segments of pipe are strung along the workspace, but before the joints are welded together, workers will use a track-mounted, hydraulic pipe-bending machine to bend the pipe to accommodate horizontal and vertical changes in direction and terrain, respectively. Where multiple or complex bends are required, the pipe will be bent at a pipe fabrication factory and shipped to the Project. After the pipe is bent, the pipe segments will be aligned end-to-end and clamped into position.

Qualified and certified welders will weld the aligned and clamped pipe joints.[3] Welds will be visually inspected by a qualified inspector and will be non-destructively inspected.[4] Any defects in the welding will be repaired or removed as required by the specified regulations and standards. Every pipeline weld will be non-destructively tested.

The welded pipeline joints will be coated with an Enbridge-approved protective layer of coating to prevent corrosion. The pipeline will be visually and mechanically inspected and any faults or scratches to the coating will be repaired before it is lowered into the trench.

Trenching

Backhoes will excavate the pipeline trench following stringing, bending, and welding. The trench will be excavated to a sufficient depth to provide the minimum depth of cover.[5] Any crossing of foreign pipelines, roads, railroads, and waterbodies will generally require the pipeline to be buried at greater depths.

Soil that is excavated from the pipeline trench will be temporarily placed adjacent to the trench until backfilling of the trench occurs. Silt fence or an alternative physical barrier may be used to contain and segregate soil piles, as necessary. When constructing in wetland areas without standing water, up to one foot of topsoil will be stripped from the trench line and stockpiled separate from trench spoil to preserve the native seed stock. In standing water wetlands, soil segregation is not typically practical; however, Enbridge's Contractor will attempt to segregate as much of the organic layer as possible based on site/saturation conditions. If normally unsaturated wetlands are saturated at the time of

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[3] 49 CFR Part 195 and API 1104 "Standard for Welding Pipelines and Related Facilities" (latest edition)
[4] 49 CFR Part 195
[5] 49 CFR Part 195

construction, topsoil segregation will be attempted according to Enbridge's EMP (refer to Appendix D) and based on recommendations from the appropriate regulatory agencies and on-site environmental inspector.

When excavating in waterbodies, excavating equipment will operate from one or both banks without entering the stream, where possible. If equipment must encroach into the stream, it will operate on clean construction mats. Streambed material will be segregated and placed within a spoil containment structure in approved construction work area limits. Storage of streambed spoil within the stream is not anticipated for this Project and will only be allowed if expressly approved in applicable permits.

In addition to temporary soil storage, timber mats will be temporarily placed within wetland areas to minimize disturbance to soils and vegetation, support construction equipment, and create a stable surface to string and weld the pipe segments. A timber mat is generally composed of 4 or 5 hardwood planks held together by bolts. Mats are generally 4 to 5 feet wide, 12 to 25 feet in length, and 1 foot thick. An illustration of a typical construction mat is provided below.

Typical Timber Mat

Lowering-In and Backfilling

Once the coating operation and trenching is complete, the trench is inspected to ensure it is clear of rocks or other debris that may damage the pipe or its protective coating. In areas where water has accumulated in the trench, dewatering may be necessary to visually inspect the bottom of the trench for debris and rocks. Trench water discharges will be directed through sediment filtration devices to minimize the potential for runoff and sedimentation. The pipe is then carefully lowered to the bottom of the trench by a series of side-boom tractors.

Trench breakers (stacked sand bags or polyurethane foam) will then be installed in the trench as described in Enbridge's EMP (Appendix D) to prevent subsurface water movement along the pipeline. The trench will then be backfilled using the excavated material. Subsoil is returned to the trench first, followed by topsoil. An earth crown (12 inches or less) may be left over the trench line to allow for future settling of the backfill material. The contractor will restore contours as near as practicable to pre-construction conditions.

The locations of drain tiles cut during trenching will be flagged by the contractor. Drain tiles cut by the trench will also be probed on either side with a sewer rod or pipe snake to determine if tiles were damaged in areas away from the trench. Drain tiles damaged during construction will be repaired to their preconstruction condition, after which the trench will be backfilled.

Hydrostatic Testing

Hydrostatic testing will be conducted to verify the integrity of the new replacement segments of pipeline. Pipe integrity is tested by capping the welded pipeline with test manifolds and filling the capped pipeline segment with water. The water will be pressurized to a pre-determined test pressure and held at that pressure for 8 hours. Any significant loss of pressure indicates that a leak may be present. The pipe will then be inspected, repaired, and re-tested as necessary.

After testing is complete, the test water will be discharged within the temporary construction workspace using energy dissipation and filtration devices (e.g., hay/straw bales and silt fence). Discharges will comply with provisions of Rule 11, Wastewater Discharge Associated with Hydrostatic Testing of Commercial Pipelines, Sections 327 IAC 15-11-1 through 327 IAC 15-11-10 of the Indiana Administrative Code.

Pipeline Tie-in

Following hydrostatic testing, the newly installed pipeline segments will be tied-in to Line 6B. The replaced pipeline segments will be purged of crude oil, filled with nitrogen, capped, and rendered inactive.[6] The tie-in of these segments may be sequential over several weeks to minimize impacts on shippers as Line 6B will be temporarily shut down during tie-in operations.

Cleanup and Restoration

After the completion of backfilling, all disturbed areas will be final graded. Any remaining trash or debris will be properly disposed. After construction is completed, the entire construction corridor will be protected by the implementation of appropriate erosion control measures. The erosion control measures used will be in accordance with federal, state, and local agency requirements as applicable. Cleanup and restoration procedures will be initiated as soon as practical after backfilling.

The construction right-of-way will be restored to its pre-construction condition as is practicable and in accordance with applicable federal, state, and local regulations and permits. Additionally, cleanup and restoration procedures will be initiated as soon as practical after backfilling. Generally, after the contours are restored, the corridor will be final-graded and reseeded as soon as possible to minimize erosion. The construction corridor will be protected by the implementation of appropriate erosion control measures. The erosion control measures used will be in accordance with federal, state, and local agency requirements as applicable. If seasonal or weather conditions are not favorable, revegetation will be delayed until favorable conditions exist. Restoration may be suspended during the winter of 2012/2013, resuming as weather permits in the spring of 2013. Revegetation will be accomplished in a manner compatible with pre-construction and adjacent vegetation patterns.

Specialized Construction Techniques

Special construction techniques are typically required when constructing across wetlands, waterbodies, roads, railroads, foreign utilities, and adjacent to residences. Temporary extra workspaces adjacent to the construction right-of-way would be utilized at most of these areas for staging construction, storing

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[6] 49 CFR Part 195

materials, maneuvering equipment, fabricating pipe, and stockpiling spoil. Enbridge's EMP details construction in these areas.

Construction Best Management Practices

Enbridge's EMP, provided as Appendix D, outlines construction-related environmental policies, procedures, and mitigation measures that Enbridge will implement during construction of the Project. The EMP is based on the Federal Energy Regulatory Commission's ("FERC") January 2003, Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures (FERC, 2012); as well as Enbridge's experience implementing best management practices during recent construction of a number of unrelated pipeline expansion projects in the Midwest. The EMP is intended to meet or exceed applicable federal, state, tribal, and local environmental protection and erosion control specifications and practices. The EMP is designed to address typical circumstances that may be encountered during a pipeline project. Project-specific permit conditions and/or landowner agreements may supersede general practices described in the EMP document and would be implemented during construction.

Invasive Species Control

To prevent the introduction of the noxious weeds and invasive species into the project area from other construction sites, construction equipment will be cleaned prior to arriving at the project area. This cleaning consists of removing visible dirt and vegetative debris from the equipment and blowing loose material from equipment using compressed air. Special attention will be made to cleaning the undercarriage of the equipment. The construction contractor will keep a log documenting the cleaning history of each piece of equipment and make the logs available to the on-site EI or other Enbridge Representatives upon request. Equipment found to be not compliant with the cleaning requirement will not be allowed on the project site until it has been adequately cleaned.

ITEM 5 AVOIDANCE, MINIMIZATION, AND MITIGATION INFORMATION

Enbridge identified three potentially isolated wetlands categorized as Class I that would be impacted by the Project. Enbridge requested the U.S. Army Corps of Engineers (COE) assume jurisdiction of all wetlands crossed by the project. Therefore, these isolated wetlands, identified in the Wetland and Waterbody Delineation Report (refer to Appendix C), will be permitted as jurisdictional wetlands instead of under IDEM's isolated wetland permitting program.

Enbridge will minimize impacts by reducing the width of the construction right-of-way from 105 feet to 80 feet in most wetland areas, limit grading in wetlands, and install erosion control measures to prevent sediment from entering wetland during construction. Enbridge will also preserve the topsoil layer removed from the trench line in unsaturated wetlands with its seed source, roots, and rhizomes and replace that material over the trench as final backfill to promote natural revegetation. Additionally, wetlands will be seeded with a native wetland seed mix to enhance the existing natural vegetation. Refer to Appendix E for Enbridge's suggested wetland seed mix.

In general, unless specifically provided in this application, additional temporary extra work space will not be located in, and access roads will not be routed through, wetland areas. Fuel and other hazardous materials will not be stored within 100 feet of wetlands and waterbodies, and fueling of construction equipment will restricted to uplands areas 100 feet from wetland boundaries and waterbodies.

Forested Wetland Impact Minimization, Restoration, and Mitigation Plan

In addition to the native forested wetland seed mix provided in Appendix E, Enbridge will replant native tree species tolerant of wet conditions (e.g., pin oak, swamp white oak) to accelerate the recovery of woody species in forested wetlands where tree clearing is necessary for temporary construction workspace. However, trees will not be planted within Enbridge's currently maintained pipeline right-of-way. Enbridge is required by the U.S. Department of Transportation to maintain a cleared pipeline right-of-way to facilitate visual and aerial inspections of its pipeline system. Instead of maintaining the entire new permanent easement, Enbridge is committed to limiting its clearing maintenance to a 10-foot-wide area centered over the new pipeline within the new permanent easement in forested wetland areas. The maps included as Appendix F illustrate the right-of-way configuration within impacted forested wetlands including the permanently maintained 10-foot-wide strip, and also identifies the existing tree species and the species Enbridge proposes to replant within the temporary workspace.

Post-construction monitoring of the restored temporary right-of-way will be conducted by Enbridge during the first growing season after restoration is complete, or until revegetation criteria is met. Revegetation in non-agricultural areas will be considered successful when the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. If monitoring indicates a higher density and cover of noxious weeds on the right-of-way compared to adjacent off right-of-way areas, Enbridge will take appropriate measures to control the noxious weeds. These measures may include herbicide spraying, mowing, or burning. Enbridge will control noxious weeds in a manner that prevents the spread of weeds onto adjacent agricultural land on land where Enbridge has aboveground facilities (e.g., valve sites, pump stations).

In forested wetlands where native trees are planted, Enbridge will monitor tree planting success once a year for three years. The first year of monitoring will be conducted during the growing season after the trees are planted. A survival success rate of 75% in each planted wetland must be achieved during the third year of monitoring for tree planting to be considered successful. If a survival success rate of 75% is not achieved, Enbridge will plant additional native tree species and implement measures to increase tree survival rates (e.g., installing browse protection, planting larger stock, planting species better suited for site-specific conditions, etc.). If these additional planting and protection measures do not appear successful, Enbridge will consult with IDEM to determine an appropriate course of action to ensure temporary forested wetland impacts are mitigated.

Enbridge recognizes there will be a 0.96-acre permanent functional impact within forested wetlands due to the 10-foot-wide permanently maintained area, which will convert to emergent or scrub-shrub wetland. Although Project activities do not include wetland fill and will have no loss of wetlands or other waters of the U.S., Enbridge employed Cardno JFNew to assist in the preparation of a mitigation plan to compensate for the functional change of forested wetland to emergent or scrub-shrub within the 10-foot-wide permanently maintained area. In coordination with the Indiana Department of Natural Resources (IDNR), Enbridge identified a parcel of land owned by the IDNR in Porter County north of the Project area within the Reynolds Creek watershed. The parcel of land is approximately 70 acres and is currently being cultivated with corn. The mitigation plan is attached as Appendix G.

ITEM 8 ADDITIONAL INFORMATION

Enbridge evaluated several alternatives to the Project to determine if a more reasonable and environmentally preferable option exists. Enbridge's analysis of alternatives includes the no-action

alternative; repair versus replace alternative; 30- or 36-inch diameter pipeline; system alternatives; route variations; alternative energy sources; and energy conservation.

The criteria used to evaluate potential alternatives included: whether an alternative offers a significant environmental advantage over the Project; whether an alternative is technically and/or economically feasible and practical; and whether an alternative meets Enbridge's stated Project objectives. Enbridge utilized actual land and workspace requirements, survey data for wetland, habitat, and cultural resource, desktop sources of information, and information from the database searches to standardize the comparison between the Project and the alternatives.

No-Action Alternative

Enbridge would not conduct routine maintenance on its Line 6B pipeline system if the no-action alternative was implemented. This is not a viable alternative to the Project for several reasons. Enbridge is required to maintain its pipeline according to federal Office of Pipeline Safety requirements, specifically 49 CFR Part 195. Additionally, without conducting routine maintenance of its pipeline system, pipeline integrity would decline over time, increasing the risk of pipeline failure, loss of service to customers, and result in health, safety, and environmental hazards.

Repair Rather than Replace Alternative

As an alternative to replacing the pipeline segments, it is possible to continue to complete numerous, small permanent repairs within these segments along the existing Line 6B pipeline. Repairs would typically involve mitigation of a feature by: the installation of welded full-encirclement around the existing pipeline; the cutting out and replacement of smaller sections of the existing pipeline; or a combination of these methods.

There are a number of individual features that will be required to be rehabilitated, repaired, or replaced within the Project segments in subsequent years. In light of the feature clusters in these segments, numerous repairs would likely be required over many years and the duration of impacts due to investigative digs and repairs would increase. Maintenance costs for the pipeline system would be higher, and landowners would likely be impacted multiple times over many years. Employing the repair alternative provides no advantage in attempting to minimize environmental impacts as they would likely be similar to those anticipated as part of this Project and would occur over a longer duration and require repetitive impacts to landowners. Based on this evaluation, Enbridge determined the most practical, cost-effective, and least intrusive method of maintaining its pipeline is to replace the identified segments of pipeline.

30- or 36-inch Diameter Pipeline Alternative

Enbridge shippers are forecasting a need for additional capacity on Line 6B to meet their transportation requirements. Enbridge believes that it is prudent to replace the two 5-mile segments with a 36-inch-diameter pipe based on the expressed current and long term capacity needs of its shippers. This approach avoids future landowner and environmental impacts that would be incurred if Enbridge subsequently needed to replace a newly installed 30-inch-diameter pipe with new 36-inch pipe to meet shippers transportation requirements.

The slight potential increase in pipeline diameter will not result in an incremental increase in the construction right-of-way, nor will the potential larger pipe diameter cause any additional environmental impacts, except for the excavation of an additional 6 inches from the trench to achieve the desired burial depth. The potential reduction of environmental impacts of installing a larger pipeline are significant as the larger diameter pipeline will reduce the necessity of another pipeline in the corridor to meet shipper needs thereby greatly reducing environmental and landowner impacts. Therefore, based on this evaluation, Enbridge determined that a 36-inch diameter pipeline will be installed as part of this Project with negligible increases in environmental impacts.

System Alternative

System alternatives are alternatives to a proposed Project that would make use of existing, modified, or other newly proposed crude oil transmission systems to supply the volumes of crude oil that are transported by the existing Line 6B pipeline. Should Enbridge fail to maintain its existing Line 6B, the pipeline would be deactivated and abandoned. Consequently, some modifications or additions to another pipeline system may be required, or an entirely new pipeline system may be needed. Such modifications or additions would result in environmental impacts that could be less than, similar to, or greater than the impacts associated with construction of the Project.

In order to be a viable system alternative to the existing Line 6B pipeline and meet Enbridge's customer's needs, potential system alternatives would have to provide transportation of an equivalent amount of crude oil to refineries served by Line 6B. No other pipelines exist that are able to transport this volume from production. There are alternative pipelines connecting some of these refineries to other sources of supply transported from the U.S. Gulf Coast, although none have the capacity or access to production to replace the volumes transported by Line 6B. Therefore, a system alternative is not a viable option at this time.

Route Variations

Route variations are typically short deviations from the proposed route and are identified to resolve or reduce construction impacts on localized, specific resources such as cultural resource sites, wetlands, recreational lands, residences, landowner requests, and terrain conditions. Enbridge considered a variety of factors in evaluating route variations, including length, land requirements, the number of landowners affected, and potential for reducing or minimizing resource impacts. Upon evaluating these factors, Enbridge determined that constructing the pipeline adjacent to the existing Line 6B pipeline is the preferred routing variation for the Project.

Alternative Energy Sources, Transport Modes, and Energy Conservation

The use of alternative energy sources is an option to reduce the need for crude oil should the line be deactivated and/or abandoned. Potential alternative energy sources to crude oil include coal, natural gas, nuclear energy, and electricity, as well as more innovative sources including solar, wind, geothermal energy, and biofuels. All of these alternate energy sources, depending on the location of the source, will require additional energy gathering facilities and the construction or expansion of transmission/distribution facilities to be a viable alternative to the Project. Further, should the refineries served by Line 6B no longer be able to receive this supply of crude oil, the refineries could reduce capacity, shut down, or increase the price of local petroleum products.

Energy conservation reduces the need for crude oil, its refined petroleum products, and other energy sources and has been effective in slowing the growth in U.S. demand for petroleum products. Therefore, energy conservation could potentially be a future partial alternative to crude oil transportation and refining. Energy conservation methods have long been advocated by federal and state governmental agencies; however, conservation programs and individual efforts are not capable of alleviating the current need for crude oil and operation of the Line 6B pipeline. For energy conservation to become viable, it will require widespread industry research and development efforts (e.g. – to produce more energy efficient vehicles, engines, machinery, etc.), and increased support and conservation practices by consumers, as well as political support. U.S. Energy Information Administration ("EIA") projected that there will be a per capita decrease in energy use through 2035; however, growth projections suggest that the demand for energy, including crude oil, will exceed per capita efficiencies and cost-effective programs designed to stimulate energy conservation (EIA, 2011). Therefore, the regional demand for new sources of energy, while maintaining current sources, including crude oil, will continue into the future. While energy conservation may provide an alternative to crude oil use in the future, energy conservation, by itself, is not viable to meet the current energy demand and supply provided by Enbridge's Line 6B pipeline.

Alternative modes of transporting the volume of crude oil on Line 6B are limited. It is technically feasible to deliver crude oil into this region by waterborne transit, rail or truck. However, these options are not as economical or reliable year-round modes of transit in order to efficiently deliver large volumes over long distances. In the lower 48 states, crude oil is almost exclusively transported by pipeline (EIA, 2010). Replacing even a modest-sized pipeline, which might transport 150,000 bpd, will require 750 tanker truck loads per day, a load delivered every 2 minutes around the clock. Replacing the same pipeline with railroad cars will require a 225-car train to arrive, unload and depart every day (Association of Oil Pipelines, 2011). Even if these alternative modes were pursued as an alternative, additional rail, port, and roadways will be needed. The Federal Pipeline and Hazardous Material Safety Administration ("PHMSA") of the Office of Pipeline Safety stated that pipelines are the safest, most environmentally-friendly, and reliable mode of hazardous liquid and gas transportation (PHMSA, 2011). Construction of alternative energy facilities will likely have more environmental impact than Enbridge's Project.

ITEM 9 PERMITTING REQUIREMENTS / OTHER AGENCY CORRESPONDENCE

The table below lists the federal, state, and local agencies and permits/approvals that are required to construct the Project. Enbridge's Agency Correspondence is also provided as Appendix H of this document. Enbridge is responsible for obtaining all permits and approvals required to construct and operate the proposed project, regardless of whether they appear in this table.

Status of Permits and Consultation for the Line 6B 2012 Maintenance and Rehabilitation Program in Lake and LaPorte Counties, Indiana		
Agency	**Permit/Approval/Consultation**	**Status**
FEDERAL		
U.S. Army Corps of Engineers	Section 404 Authorization - Dredge and Fill	Application submitted January 16, 2012 Revised supplemental application submitted concurrently on June 15, 2012
U.S. Fish and Wildlife Service	Consultation regarding compliance with Section 7 and Section 9 of the Endangered Species Act	Letter of Concurrence issued December 7, 2011
STATE		
Indiana Department of Natural Resources	State-listed threatened or endangered species review	Consultation completed (refer to Appendix G).
Indiana Department of Environmental Management	NPDES Rule 11 Hydrostatic Test Water Discharge Permit	Anticipated submittals in July 2012
Indiana Department of Environmental Management	NPDES Rule 5 Stormwater Runoff Associated with Construction Activity	Anticipated submittals in July 2012
Indiana Division of Historic Preservation and Archaeology	Section 106, National Historic Preservation Act	Letter of Concurrence issued March 14, 2012
LOCAL		
Lake County	Lake County Drain Permit	Anticipated submittal in July 2012
LaPorte County	LaPorte County Drain Permit	Anticipated submittal in July 2012
Lake County	Stormwater Pollution Prevention Plan (SWPPP) approval	Anticipated submittal in July 2012
LaPorte County	Stormwater Pollution Prevention Plan (SWPPP) approval	Anticipated submittal in July 2012

ITEM 10 ADDRESSES OF ADJOINING PROPERTY OWNERS

A list of property owners adjacent to impacted wetlands and waterbodies is provided in Appendix I. Enbridge has easements with property owners that allow for operation and maintenance of the existing pipeline. Enbridge would construct the replacement sections of pipeline within and adjacent to its existing easements. Enbridge will obtain authorization from numerous property owners to accommodate temporary construction workspace and is some instances, obtain additional pipeline easements.

WORKSHEET – SUMMARY OF ONSITE WATER RESOURCES AND PROJECT IMPACTS

A. JURISDICTIONAL WETLANDS

The proposed project will cross 28 wetlands. These features would be crossed using an open cut wet method. A detailed description of these crossing methods, including typical cross-section and profile drawings, is provided in Enbridge's EMP (refer to Appendix D). The dimensions of the pipeline trench in wetlands will typically be 15 feet wide at the ground surface, 3 feet wide at the bottom of the trench, and generally 7 feet deep. The excavated trench material in wetland areas will be temporarily stored adjacent to the excavated trench and will be backfilled after the pipeline is installed. The dimensions of the temporary storage area will generally be the same as the excavated trench.

As indicated in Table B-1 in Appendix B, approximately 16,909.5 linear feet of wetland would be crossed by the pipeline and 32.3 acres of wetland would be temporarily impacted during construction of the Project in Lake and LaPorte Counties, Indiana. Approximately 5.7 acres of wetland would be temporarily impacted by excavation and storage of trench material. Approximately 38,937.5 cubic yards of material will be temporarily excavated and stored during installation of the pipeline. Discharge material will consist predominately of clay and silt. No permanent fill is proposed for this Project.

B. ISOLATED WETLANDS

As indicated in Item 5 above, Enbridge requested the COE take jurisdiction of all wetlands crossed by the project. Therefore, any isolated wetlands identified will be permitted as jurisdictional wetlands instead of under IDEM's isolated wetland permitting program.

C. BRIDGES AND STREAM CROSSINGS

The proposed project will cross four waterbodies. These features would be crossed using an open cut wet or dry crossing method. Clear span mat bridges will be installed to facilitate the pipeline installation across the waterbody. These equipment bridges will be designed to withstand the maximum foreseeable flow of the stream. Bridges will not restrict flow or pool water while the bridge is in place, and will be constructed with clean materials. Bridges will be designed and maintained to prevent soil from entering the waterbody. A detailed description of these crossing methods, including typical cross-section and profile drawings, is provided in Enbridge's EMP (refer to Appendix D). Excavated trench material within waterbodies will not be stored within waterbodies, but will be segregated and placed within a spoil containment structure in an approved construction work area adjacent to the waterbody.

The Project will cross four waterbodies for a total crossing length of 15.5 feet. Open-cut crossings will temporarily generate 36.2 cubic yards of excavated material which will be replaced and restored upon installation of the pipeline. Discharge material will consists predominately of rock, sand, clay, and silt.

The crossing methods, temporary excavation areas, and temporary excavation volumes for each wetland and waterbody are provided in Tables B-1 and B-2 in Appendix B.

D. - F. BANK STABILIZATION, STREAM RELOCATION, AND OPEN WATER FILL

No stream relocation will occur and no surface areas of wetlands or other waters of the U.S. will be filled as a part of this project. Only backfilling the trench with the native material excavated to install the pipeline will occur, reestablishing original elevations of the bed of the waterbody and the surface of wetlands. Therefore, the Project will have no loss of wetlands or other waters of the U.S.

No bank stabilization is currently planned for this Project; however, should it be requested by a permitting agency, Enbridge prepared the attached stream restoration typical drawings as Appendix J.

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APPENDIX A

Project Location Map and Wetland and Waterbody Location Maps

APPENDIX B

Wetland and Waterbody Impact Tables

APPENDIX C

Wetland and Waterbody Delineation Report
(Data Forms Included on attached CD)

APPENDIX D

Environmental Mitigation Plan

APPENDIX E

Proposed Wetland Restoration Seed Mixes

APPENDIX F

Forested Wetland Impact and Proposed Revegetation Maps

APPENDIX G

Wetland Mitigation Plan

APPENDIX H

Agency Correspondence

APPENDIX I

Adjoining Property Owner List

APPENDIX J

Stream Bank Restoration Typicals