

2021

Liquids Pipelines Customer Handbook

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At Enbridge, we exist to help fuel the quality of life for millions of people across North America. We are a leading North American energy infrastructure company, connecting supply with growing markets through our liquids pipelines, natural gas pipelines, and utilities and power businesses.



Life takes energy

Enbridge transports about 25% of the crude oil produced in North America and 20% of the natural gas consumed in the U.S. We operate North America's largest natural gas utility by volume; we were an early investor in renewable energy, and we have a growing offshore wind portfolio.

Liquids Pipelines

Enbridge operates the world's longest and most complex crude oil and liquids transportation system—with approximately 17,000 miles (27,400 kilometers) of active crude pipeline across North America—and delivers more than 3 million barrels of crude oil and liquids, safely and reliably, every day.

Natural Gas Pipelines

Enbridge's gas transmission and midstream pipelines cover about 23,800 miles (38,300 km) in 30 U.S. states, five Canadian provinces and offshore in the Gulf of Mexico. We transport more than 16 billion cubic feet per day (Bcf/d) of natural gas through an array of long-haul pipelines, and have about 439 billion cubic feet (Bcf) of natural gas storage capacity across North America.

Gas Distribution and Storage

Enbridge's natural gas utility is the third-largest in North America by customer count and largest in North America by volume, distributing about 2.3 Bcf/d of natural gas. Enbridge Gas Inc. and its affiliates serve 15 million customers in Ontario and Quebec through 3.8 million residential, commercial, institutional and industrial meter connections.

Renewable energy

Since 2002, we've committed more than C\$7.3 billion in capital to renewable energy and power transmission projects currently in operation or under construction. Our renewable energy portfolio includes wind, solar, geothermal and waste heat recovery facilities. These projects, either operating or under construction, have the capacity to generate about 2,075 megawatts (MW) net of zero-emission energy, and meet the electricity needs of about 940,000 homes.

Enbridge was named to the Thomson Reuters Top 100 Global Energy Leaders in 2018; we were selected to Bloomberg's 2019 and 2020 Gender Equality Index; and we have been ranked among the Best 50 Corporate Citizens in Canada for 18 years running, through 2020.

Enbridge Inc. is headquartered in Calgary, Canada. We have a workforce of more than 12,000 people, primarily in Canada and the United States. Enbridge (ENB) is traded on the New York and Toronto stock exchanges.

The energy you count on, the reliability you expect



Vern Yu
President,
Liquids Pipelines,
Enbridge Inc.

Enbridge's liquids system is the largest network of crude oil pipelines and terminals in North America. Our integrated system connects producers to key markets and refiners to critical feedstock through a safe and reliable pipeline operation at competitive rates.

The Mainline System, a complex network of parallel pipelines moving multiple commodities, is directly connected to the U.S. Midwest and Eastern Canada, which has been our historical core market. Over the years, we've extended our system further south to connect to the Cushing and Patoka markets as well as the important U.S. Gulf Coast market and export infrastructure in the region. Due to this complexity and unparalleled connectivity to several premium markets we can optimize throughput and accommodate the changing needs in the market, which provides a unique competitive advantage for our customers. We continue to deliver on low-cost, high impact opportunities to provide additional pipeline egress for our diverse customer base.

Even with the events this past year dealing with multiple waves of COVID, involving demand destruction and supply impacts, Enbridge's liquids system has been resilient to deliver the much-needed energy to our customers. This included Mainline optimizations and bringing Line 3 Canada into service, which provided additional flexibility on the system to move

The energy you count on, the reliability you expect

medium blends. We place a strong focus on the safety and reliability of our pipeline network, which is why we continue to pursue the Line 5 Great Lakes Tunnel Project in Michigan. The permitting review processes are anticipated to continue throughout 2021, and during the execution of the Tunnel project, we remain vigilant on the sustained and safe operation of the Line 5 Straits of Mackinac crossing until the Tunnel is completed.

Over the next year, we have several market access options coming into service, including Express pipeline expansion, further mainline optimizations, and of course our largest project, the US portion of the Line 3 Replacement project. The expansion of the Dakota Access Pipeline and completion of the Gray Oak Pipeline will provide incremental egress capacity out of the Bakken and Permian basins, respectively.

Looking forward, our efforts are focused on expansion opportunities that increase our footprint, with the goal of extending our integrated value chain through to the Gulf Coast infrastructure and export market. These projects include a Seaway pipeline expansion and development of the Enbridge Houston Oil Terminal, which will facilitate interconnection between Seaway and the Gulf Coast refineries as well as to existing and planned export facilities. With respect to the latter, we recently announced a plan to partner with Enterprise in the development of the SPOT project, which is a deep-water VLCC loading project just south of Houston.

We are focused on ensuring our customers continue to have attractive market access options while also listening to our diverse customer base as we progress a new contract tolling arrangement for the Mainline. In addition to toll stability and certainty to serve refining markets, there is strong demand from our customers to align Mainline capacity with their refinery, production or downstream pipeline contracts on a long-term basis with priority access.

Our Environmental, Social and Governance (ESG) goals represent the next stage of our evolution as an ESG leader. It is a key focus to our operations, people, and stakeholders. We have set an emission intensity reduction target of 35% by 2030 and net-zero greenhouse gas (GHG) emissions by 2050. In addition, we are looking to achieve increased representation of diverse groups within our board, workforce, and suppliers by 2025.

Just as our customer service is a critical pillar to our competitive position, so too is our commitment to safety and operational reliability. We're leaders in driving research and innovation that continue to enhance the safety and operability of our system.

Sincerely,



Providing safe and reliable solutions for our customers is our foundation.

For more than 70 years, Enbridge has grown from a single pipeline to the largest, longest and most complex petroleum pipeline system in the world; delivering over 3 million barrels per day (bpd) to markets in Canada and the United States. Our relationship with our customers and commitment to our industry remain our top priorities, and we continue to deliver solutions that meet customer's needs and drive growth in our Liquids Pipelines business. Our assets and expertise are well positioned to provide value to customers by delivering infrastructure projects near supply basins, increasing available Mainline capacity and improving on market access to meet the growing needs of the industry. We will continue to publicly advocate for the responsible growth of the energy industry given the increasing demand for cost effective and reliable energy on a global basis.

We are listening to the needs of our customers and looking ahead to anticipate market demands with the objective of providing transportation solutions that are cost effective, efficient and timely. With six separate lines connecting Western Canada to the United States and further to Eastern Canada, we offer our customers economy, flexibility, reliability, safety and innovation in delivering their products to market.

Our focus is to continue optimizing our expansive network of assets to provide customers with additional capacity and superior service. As we progress on our Line 3 Replacement U.S. Program and potential Seaway expansion, we are

committed to stakeholder engagement and timely project completion. Even beyond these capacity expansions, we continue to believe that the low cost, staged options to expand our Mainline capacity through highly executable solutions with reduced regulatory requirements will provide opportunity for us to bring significant value to our customers. Enbridge remains committed to finding creative solutions for providing highly competitive transportation options to premium markets in North America, while also focusing on creating competitive alternatives for our customers to access international markets.

Enbridge is challenging the Michigan governor's unlawful attempt to close the Line 5 dual pipelines at the Straits of Mackinac by terminating an easement that has been in existence since 1953. We have received strong support for the continued safe operation of Line 5 at the Straits—support that is rapidly gathering momentum from all levels of government, unions, business and industry on both sides of the international border. In all the years of change and growth, one certainty has remained; delivering safe and reliable solutions for our customers is our foundation. This is why we will continue to vigorously defend our assets from parties looking to inhibit the service we provide our customers. Further, Enbridge is committed to providing increased optionality for our customers while continuing to deliver the exceptional service our customers have come to expect from us.



The coronavirus pandemic and subsequent travel lockdowns profoundly impacted global crude oil supply and demand in 2020. Following the outbreak, global oil demand dropped by an estimated 25MM bpd, representing over 25% of total demand. The Organization of Petroleum Exporting Countries and its allies quickly responded to this fundamental shock by implementing steep production cuts. U.S. sanctions against Iran and Venezuela also helped further curtail supply during the year.

In North America, the pandemic forced producers and refiners to fill most storage options and ultimately shut-in production altogether. At its trough in May 2020, U.S. oil production fell by 2.8MM bpd from year-end production levels of 12.8MM bpd. In the Bakken specifically, oil production fell by 0.6MM bpd from year-end production levels of 1.5MM bpd. As governments eased mobility restrictions in the second half of the year, oil prices and production levels started to recover. Nevertheless, U.S. production remained below pre-pandemic levels at year-end. The Energy Information Agency, in their Annual Energy Outlook, is projecting that U.S. oil production will only return to pre-pandemic levels by 2023.

Canadian oil production proved to be more resilient during 2020. The Canadian Energy Regulator (CER) reported that Western Canadian Sedimentary Basin (WCSB) oil and liquids production dropped down to 3.7MM bpd by May 2020, but by the end of the year it was

estimated to have rebounded to 4.7MM bpd, or close to pre-pandemic levels. The provincial government of Alberta also suspended its curtailment program as of December 2020, allowing local production to rebound.

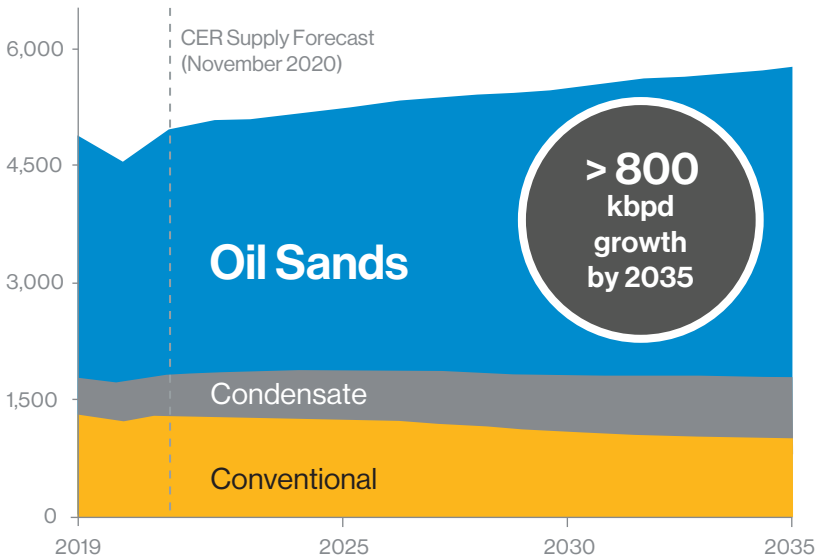
While much of the recovery was led by the oil sands, WCSB conventional and tight oil production lagged as drilling activity fell and well declines took hold. On Dec. 31, 2020, the Canadian oil and gas rig count stood at only 59, down from 99 a year prior. As a result, the Petroleum Association of Canada and the Canadian Oilwell Drilling Contractors Association forecast between 3,350 to 3,771 wells will be drilled in 2021 suggesting another 60,000 to 70,000 bpd decline in WCSB conventional light and tight oil production for 2021. However, strengthening oil prices in 2021 could provide support to conventional drilling levels for the year. The CER, in its latest Canada's Energy Future 2020 report, forecasts overall WCSB supply growth in 2021 and into the next decade, led by new phases of existing in situ projects.

In order to support that growth and remain globally competitive, many WCSB producers are striving to reduce costs and lower emissions by improving operations and developing new technology. Advancements such as solvent-assisted steam-assisted gravity drainage (SA-SAGD) will lower both breakeven production costs and emissions per barrel.

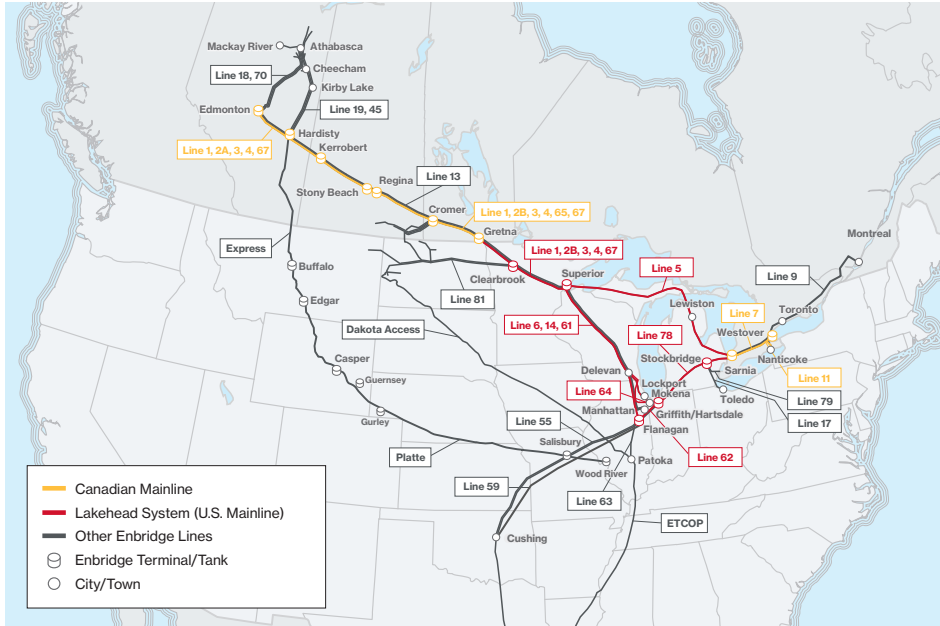
Furthermore, the need for ample crude oil transportation infrastructure remains critical to support producer investment in new supply growth. Physical supply from the WCSB production continues to exceed pipeline capacity. Access to low

cost, safe and efficient transportation infrastructure to premium markets via pipeline will be fundamental in supporting the Western Canadian petroleum industry.

Canadian Crude Oil and Liquids Production (kbpd)



> Figure 1 – Canadian Crude Oil Production
Source: Canada’s Energy Future 2020, CER, Nov 2020



The current Average Annual Capacity on the Mainline System is approximately 3 million bpd out of Western Canada. A series of pipelines run between Edmonton, Alberta and Superior, Wisconsin and four pipelines extend the system beyond Superior, providing access to markets in Minnesota, Illinois, Indiana, Ohio, Michigan and Ontario. Enbridge also has market access pipelines connected to the Mainline that serve markets in Eastern Canada, Cushing, Patoka and the U.S. Gulf Coast (USGC).

Despite the increasing challenges in permitting major infrastructure projects, between 2013 and 2020 Enbridge successfully completed system enhancements totaling approximately 1.3 million bpd upstream of Superior and approximately 1.7 million bpd downstream of Superior. These projects have enabled production growth from the WCSB and Bakken regions to move to prime markets and have provided Enbridge with the flexibility to optimize the operations of the Mainline System to become even more safe and reliable.

Enbridge delivered a record 2.921 million bpd ex-Gretna in February 2020 by focusing on Mainline system optimization principles and operating efficiencies.

Mainline tankage and terminalling

In 2018 and 2019, Enbridge continued making upgrades to a number of terminals across the network, with the goal of maximizing throughput and increasing the level of service provided to our customers. This year, Enbridge will continue to support customer-initiated projects, as well as explore further opportunities to optimize the terminalling assets.

Line 3 Replacement Program

After receiving shipper support in 2014 to replace Line 3 from Hardisty to Superior, Enbridge continues to develop the approximately \$9.3 billion program to maintain and enhance our Canadian and U.S. Mainline Systems. This is the largest project in Enbridge's history and involves replacing all remaining segments of Line 3 between Hardisty and Superior with 1,660 kilometers (1,031 miles) of new pipe, using the latest available high strength steel and coating technology. The Line 3 Replacement Program (L3RP) will also substantially reduce long-term adverse impacts to landowners and the environment caused by conducting numerous preventative maintenance digs to maintain the line. The L3RP will support the safety and operational reliability of the

overall system, enhance flexibility and allow Enbridge to restore 370,000 bpd of capacity and optimize throughput on the Mainline System's overall western Canada export capacity. When completed, the L3RP will provide landowners and shippers with a new pipeline that restores the historical operating capabilities of Line 3 to move approximately 760,000 bpd in mixed-product service.

Construction of the \$5.3-billion Canadian portion of the L3RP is complete; the new line began commercial service in December 2019. Throughout the construction period in Canada, Enbridge has delivered on our commitments and maintained relationships with all our stakeholders including landowners, Indigenous communities, the Canadian Energy Regulator and all levels of Government, which was crucial to the completion of the project.

In the United States, the 14-mile Wisconsin segment of the L3RP is complete and was brought into service in 2018. In addition, in 2020, Enbridge has completed the construction of the 13-mile North Dakota segment of the project.



In Minnesota, a number of critical milestones were achieved in 2020. In November, Enbridge received the Authorization to Construct permit from the Minnesota Public Utility Commission. In addition, coinciding with MPUC permit, the Minnesota Pollution Control Agency, and US Army Corps of Engineers also issued a number of permits required to commence construction. As of December 2020, Enbridge has started construction and anticipates the pipeline to be placed into service in Q4 2020.

Great Lakes Tunnel Project

Enbridge continues to pursue the Line 5 Great Lakes Tunnel Project in Michigan in accordance with the Tunnel Agreement entered between Enbridge and the Mackinac Straits Corridor Authority in 2018. The 645-mile Line 5 pipeline originates in Superior, Wisconsin, travels through Michigan's Upper and Lower peninsulas, and terminates in Sarnia, Ontario, Canada. When completed, the Great Lakes Tunnel will house a 4.5-mile replacement segment of Line 5 under the Straits of Mackinac. Enbridge completed the engineering and design phase of the Tunnel project in March 2021 and is actively pursuing state and federal regulatory permits from the U.S. Army Corps of Engineers, the Michigan Department of Environment, Great Lakes & Energy (EGLE), and the Michigan Public Service Commission. The permitting review processes are anticipated to continue throughout 2021. Project permitting continues to be the driver of project timing. During the execution of the Tunnel project, we remain vigilant on the sustained and safe operation of the Line 5 Straits of Mackinac crossing until the Tunnel is completed.

Upstream-of-Superior system enhancements

Beyond Enbridge's secured slate of projects, the Mainline System is well positioned to offer scalable, low cost and highly executable expansion projects to meet the transportation needs of industry, particularly in this time of uncertainty. Given the multi-pipeline configuration of the Mainline System, several low-cost system optimization and expansion options are available. Once Line 3R US is in service, these system enhancements can be achieved by employing new crude slates and drag reducing agent injections, as well as minimizing delivery windows across our system. These system enhancements could potentially provide incremental capacity of up to 200,000 bpd ex-WCSB.

Downstream-of-Superior system enhancements

To fully utilize the potential of the entire suite of secured and future Mainline expansions, additional capacity from Superior to Flanagan will be required. Enbridge is currently exploring multiple options that could bring on the required capacity, ranging from building new infrastructure to utilizing existing pipeline infrastructure in that corridor.

Enbridge plans to further develop both upstream and downstream options and to engage with shippers in commercial discussions at a suitable time.

Enbridge continues to review its system configuration to maximize value to customers.

With the significant pressure to add egress out of Western Canada, Enbridge has placed a key focus on increasing pipeline capacity. Since 2015, significant progress has been made to optimize system performance and capacity out of western Canada, increasing capacity by 600,000 bpd. This includes incremental capacity of 165,000 bpd offered in 2019 from capacity recoveries on Lines 4 and 2A, putting Canadian Line 3 in service and window optimizations. With the light supply/demand destruction in 2020, approval of a new blend commodity (CBH, CBT) maximized utilization of light capacity ex-Western Canada.

Improvements made on these factors have increased the system operating efficiency and overall throughput offered to industry. The Enbridge Mainline offers a one-of-a-kind system with optionality and flexibility to shippers across North America. This allows quick response to supply/demand disruptions via its multiple pipelines, terminal facilities and access to markets. Enbridge will continue to optimize the above factors to maximize throughput offered to industry.

The optimization process examines several factors including:

- Overall system capacity
- Expected throughput/capacity by commodity/crude slate
- Maintenance aligned with customer maintenance
- System reliability
- Current pressure restrictions
- Product quality
- Line-fill requirements
- Facility interconnection capabilities
- Power and integrity costs
- Maximizing scheduling windows
- Drag Reducing Agent (DRA)

Maintaining toll certainty and competitiveness for our customers is a significant focus for Enbridge.

The Enbridge Canadian Mainline System is currently tolled as per the Competitive Tolling Settlement (CTS), a 10-year tolling agreement with shippers that expires June 30, 2021. The CTS provides for a U.S. dollar denominated International Joint Tariff (IJT) for crude oil shipments originating in Canada on the Enbridge Pipelines Inc. (EPI) System and delivered in the U.S. off the Lakehead System. Local rates for service on the U.S. portion of the Mainline System are not affected by the expiry of CTS and will continue to be established by Lakehead's existing tolling agreements.

Replacing the expired CTS will be a new tolling arrangement that will have a U.S. dollar denominated IJT while providing priority access on a contract basis on the Canadian Mainline. Contracts offered will be available for term lengths of up to 20 years and contain flexible commercial terms for all shippers while providing long-term toll stability and certainty. The new commercial framework will reserve a minimum 10% of the Canadian Mainline capacity as spot service. Enbridge has submitted the application for the new tolling arrangement to the CER and expects a decision in Q4 2021 at which time Enbridge will hold a subsequent Open Season.

Due to the CER application review process taking longer than initially planned, with a decision not expected prior to the expiry of CTS on June 30, 2021, Enbridge has proposed a temporary interim tolling methodology based on the existing CTS for the Canadian Mainline to bridge the time period between CTS expiry and implementation of the new Canadian Mainline tolling arrangement.

The Regional Oil Sands System provides connectivity from several oil sands customers to the Edmonton and Hardisty areas with a total annual average capacity of approximately 2.5 million bpd.

The **Athabasca Terminal**, located north of Fort McMurray, provides operational receipt tankage for multiple products. The terminal is the initiation point for injections onto both the Athabasca Pipeline and the Wood Buffalo Pipeline. Athabasca Terminal has a total tank storage capacity of approximately 3.4 million barrels.

The **Cheecham Terminal**, located south of Fort McMurray, acts as a major hub, providing operational tankage to facilitate receipt of product from Oil Sands customers. Additionally, Cheecham Terminal provides connectivity for injections onto the Waupisoo Pipeline, Athabasca Pipeline, and the Wood Buffalo Extension Pipeline. The Norlite Diluent Pipeline is connected to Cheecham Terminal for the receipt of condensates. Cheecham Terminal expanded to the west of the existing terminal with the acquisition of two additional tanks, land and connecting facilities in 2019, the total tank storage capacity of Cheecham terminal has reached approximately 3.3 million barrels.

The **Athabasca Pipeline** runs from Athabasca Terminal to the Hardisty area. The 30" pipeline has an average annual capacity of 570,000 bpd.

The **Athabasca Pipeline Twin** runs from Kirby Lake Terminal to the Hardisty area. The 36" pipeline has an average annual capacity of 800,000 bpd.

The **Wood Buffalo Pipeline Extension** runs from Cheecham and Kirby Lake where it connects to the Athabasca Pipeline Twin and delivers to the Hardisty area. The 36" pipeline has an average annual capacity of 800,000 bpd.

The **Waupisoo Pipeline** runs from Cheecham Terminal to the Edmonton area. The 30" pipeline has an annual average capacity of 550,000 bpd.

The **Woodland Pipeline**, a joint venture partnership with Imperial Oil and ExxonMobil, provides transport services from the Kearn Oil Sands Project to the Edmonton area. The 36" pipeline has an average annual capacity of 400,000 bpd and is expandable to 800,000 bpd.

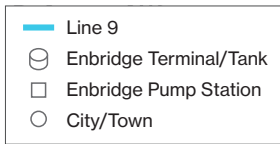
The **Wood Buffalo Pipeline** runs from Athabasca Terminal to Cheecham Terminal. The 30" pipeline has an average annual capacity of 550,000 bpd.

The **Norealis Pipeline** provides terminalling and transportation services from the Husky Sunrise Oil Sands Project to Cheecham Terminal. The 24" pipeline has an average annual capacity of 90,000 bpd, and is expandable to 270,000 bpd.

The **Norlite Diluent Pipeline**, a Joint Venture Partnership with Keyera Partnership, has the capability to bring diluent from the Edmonton/Fort Saskatchewan area to the Oil Sands region. The 24" pipeline has an annual average capacity of 218,000 bpd, and is expandable to 465,000 bpd.

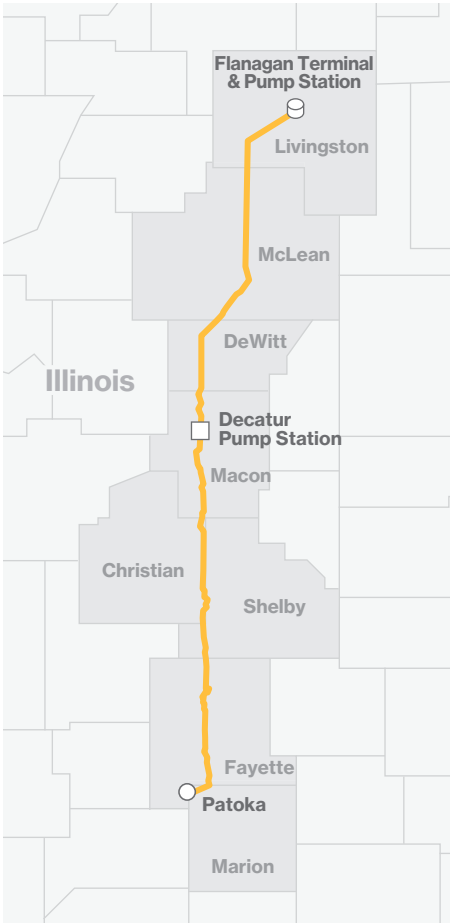
Enbridge continues to identify and develop new pipeline infrastructure and use existing capacity to ensure production growth from the region can reach Alberta market hubs in a safe, reliable and efficient manner.

With its Joint Venture partners, Imperial Oil Resources Limited and ExxonMobil Canada Properties, Enbridge is working to expand the Woodland Pipeline capacity to 570,000 bpd. The Woodland Capacity Expansion includes pump modifications and a new intermediate pump station at Abee. The target in-service date for the Woodland Capacity Expansion is June 2021. The Woodland Capacity Expansion Project provides incremental throughput and will support long-term growth in the oil sands.



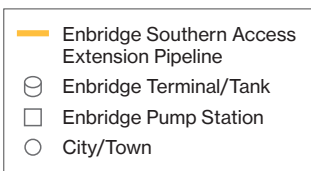
Eastern Access

Line 9, an 832-kilometre (517-mile), 30” pipeline, transports crude oil from Sarnia, Ontario to Montreal, Quebec with an average annual capacity of 300,000 bpd. Enbridge continues to work with stakeholders to ensure safe and reliable delivery of crude oil to refineries in Eastern Canada.



Southern Access Extension

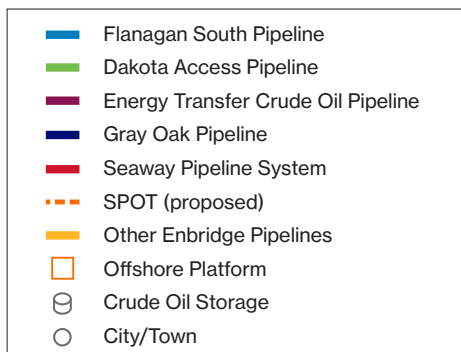
The Southern Access Extension Pipeline (SAX), a 270-kilometre (168-mile), 24" pipeline, transports crude oil from the Enbridge Flanagan Terminal near Pontiac, Illinois, to Patoka, Illinois. Since its in-service date in January 2016, the pipeline has provided customers with timely, economical and reliable transportation service to the strategic Patoka hub. SAX has an average annual capacity of 300,000 bpd and has expansion capability of 100,000 bpd for incremental access to the Patoka market.





Spearhead Pipeline

The Spearhead Pipeline is a 973-km (583-mile) pipeline comprised of 22" and 24" sections. It transports crude from Enbridge's Flanagan Terminal near Pontiac, Illinois to Cushing, Oklahoma. The capacity of the Spearhead Pipeline is 193,000 bpd with one midpoint injection location at Key Station near the Platte Salisbury Terminal, which is available for limited capacities of crude.



U.S. Gulf Coast Access

Together, the Flanagan South Pipeline and the Seaway Pipeline System allow crude oil transported on the Enbridge Mainline System to access key U.S. Gulf Coast refining centers in Houston and Port Arthur, Texas. The Flanagan South Pipeline, a 954-kilometre (593-mile), 36" interstate crude oil pipeline that originates at the Enbridge Flanagan Terminal in

Illinois and terminates in Cushing, Oklahoma, came into service in Q4 2014 and has an average annual capacity of 585,000 bpd.

The Seaway Pipeline System has an annual average capacity of 950,000 bpd and consists of two 846-kilometre (526-mile) 30" pipelines between Cushing, Oklahoma and the Seaway Jones Creek Terminal in Brazoria County, TX. The pipelines can deliver to the Freeport Docks, Phillips 66 Sweeny Refinery, Enterprise ECHO Terminal, Texas City Seaway Pipeline System and Docks, or continue on to Beaumont/Port Arthur where the Seaway System connects to three terminals: Sunoco Nederland, Enterprise Beaumont Marine West, and Phillips 66 Beaumont.

Enbridge continues to evaluate growth opportunities to expand capacity into the U.S. Gulf Coast. Expansions of the Flanagan South Pipeline and Seaway Pipeline can create up to 250,000 bpd of incremental access into the U.S. Gulf Coast market.

The Gray Oak pipeline is a 1,368-kilometre (850-mile) pipeline with an average annual capacity of 900,000 bpd stretching from the Permian basin to the U. S. Gulf Coast. It connects production in the Permian and Eagle Ford Basins to market centers in Corpus Christi and Sweeny, Texas. The first stage of the project came into service in November 2019. An Open Season conducted in 2020 resulted in an expansion and a new destination in Victoria County, TX which is expected to be in service by mid-2022.



Enbridge, through the Seaway Pipeline System, has ownership in two existing docks, that are fully capable of importing and exporting crude oil on the Gulf coast at Freeport and Texas City. Freeport has a draft of 42 feet and can load at 20,000 barrels per hour and Texas City has a draft of 45 feet and can load at 35,000 barrels per hour. In addition, Enbridge has negotiated an option to purchase an equity interest in Enterprise's Sea Port Oil Terminal (SPOT). SPOT will provide direct loading capabilities into VLCCs, which will provide a more efficient export solution. With a design loading rate of 85,000 barrels per hour, SPOT will be able to load a VLCC in 24 hours. SPOT is expected to receive permits in 2021 with an estimated in-service date of 2023.

The Express Pipeline delivers crude oil from Hardisty, Alberta to Casper, Wyoming. In early 2020 the capacity of the Express Pipeline was expanded to 287,000 bpd with the installation of drag reducing agent injection skids and pump stations optimization. Further optimization efforts will increase the capacity to 310,000 bpd by Q2 of 2021. Deliveries can be made in Montana, Wyoming, and to a connecting facility servicing Utah. Express Pipeline also interconnects with Platte Pipeline, which transports both WCSB and domestic production into PADD II. The ratio of WCSB to light domestic throughput influences Platte Pipeline System capacity; however average annual capacity is approximately 164,000 bpd between Casper and Guernsey, Wyoming and 145,000 bpd between Guernsey, Wyoming and Wood

River, Illinois. Along this route, deliveries can be made in Wyoming and Illinois and on to connecting facilities servicing Colorado, Kansas and Oklahoma.

The Platte to Spearhead Connection went into service in April 2018; allowing Express-Platte barrels to access Cushing from Platte's Salisbury Terminal via the Spearhead Pipeline.

The Platte Pipeline is expandable, between Casper and Guernsey, up to an incremental 60,000 bpd of capacity with pump station optimization and construction of new pump stations. Enbridge is pursuing this expansion project as part of a joint toll offering to provide firm service to the USGC. The project is targeted to be in service by the second half of 2023.

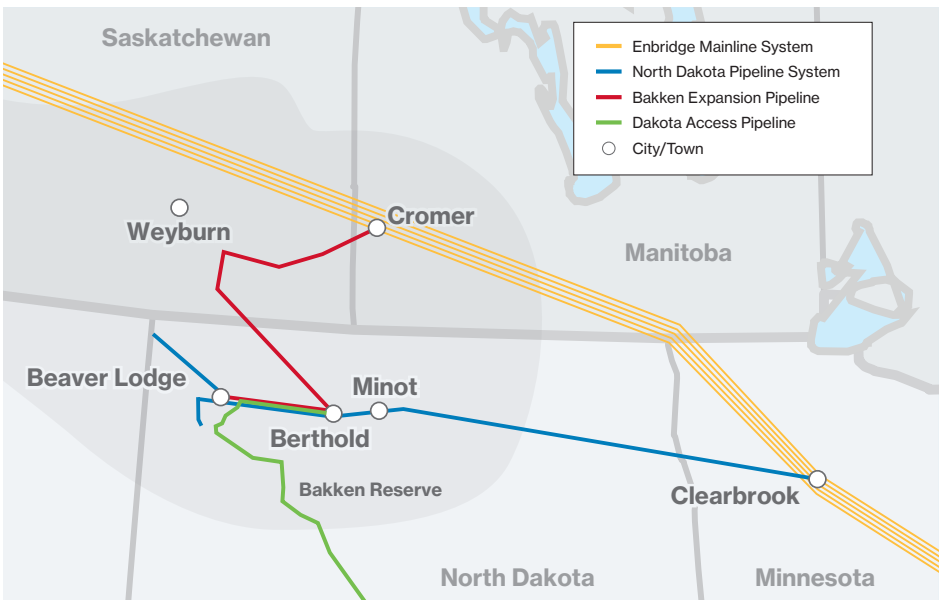


Enbridge's extensive infrastructure in the Bakken region makes it ideally situated to accommodate both current and planned growth.

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The North Dakota System, including the Bakken Expansion Pipeline, gathers crude oil from points in North Dakota for delivery to the Enbridge Mainline, which in turn provides access to multiple refineries in the U.S. Midwest, Gulf Coast and eastern Canada. The current annual average system capacity out of the North Dakota Bakken is approximately 360,000 bpd.

In February 2017, Enbridge and Marathon finalized an agreement to acquire a 49 percent equity interest in the holding company that owns 75 percent of the Bakken Pipeline System. The Bakken Pipeline System consists of both the Dakota Access Pipeline, which delivers Bakken production to the Patoka, Illinois hub and the Energy Transfer Crude Oil Pipeline, which provides access to the USGC market. Enbridge is evaluating synergies between its existing network and the Bakken Pipeline System to provide increased optionality and enhanced market access for producers and shippers in the Bakken region.



Enbridge has established a significant presence in contract storage in recent years, largely driven by increasing production of Western Canadian crude oil.

Currently, Enbridge is operating, or has under construction, contract storage at the following locations:

Location	Storage capacity in operation or under construction (million barrels)
Hardisty, AB	10.5
Cushing, OK	26
Other	9.1
Total	45.6

Hardisty

Hardisty, Alberta is the most important crude oil storage hub in Canada. Enbridge operates approximately 3 million barrels of salt cavern storage at Hardisty Caverns, and 7.5 million barrels of above ground storage at Hardisty Contract Terminal, with both facilities well connected, providing customers with the much-needed optionality they require. Both are currently completely subscribed. Enbridge is evaluating additional service options and growth opportunities to maximize value.

Cushing

Cushing, Oklahoma is one of the most important crude oil storage hubs in the world and the location of the settlement of the New York Mercantile Exchange West Texas Intermediate (NYMEX WTI) contract. In Q1 2021, Enbridge acquired a facility that includes 34 tanks for a total

of approximately 6.6 million barrels of storage at Cushing from Blueknight Energy Partners, L.P. The acquisition, at a price more competitive than building new storage, further strengthens Enbridge's top-tier position as a leader in the Cushing storage complex. For our customers, this means expanded storage capabilities and connections in Cushing which brings more optionality, flexibility and value.

Houston Oil Terminal

Enbridge is developing a new terminal in the Houston area that will be fully integrated into the Seaway system with access to all existing delivery points and could have future connectivity to both SPOT and Gray Oak. The location supports up to 15 million barrels of tannage and plans to be in service by 2023.

Other

The oil sands have various operational contract tanks throughout the system totaling more than 7 million barrels. Additionally, Enbridge has contract storage locations throughout the North Dakota Classic system, 480,000 barrels of leased storage at Platte Pipeline's Casper, Wyoming facility, and 400,000 barrels of storage at Patoka, Illinois with a large footprint for future development. Enbridge continues to actively consider and develop future opportunities to add merchant storage across our network.





The Southern Lights Pipeline transports diluent supply from various sources through the U.S. Midwest to Western Canada's heavy oil production regions.

Southern Lights

Originating from Manhattan, Illinois, Southern Lights sources its diluent from the U.S. Gulf Coast, mid-continent and Midwest refineries via interconnections to existing crude and refined products pipelines and delivers it to Western Canada's crude oil hubs. Southern Lights receives product from three connecting carriers at the Manhattan Terminal in Illinois—BP, Enterprise and Explorer pipelines.

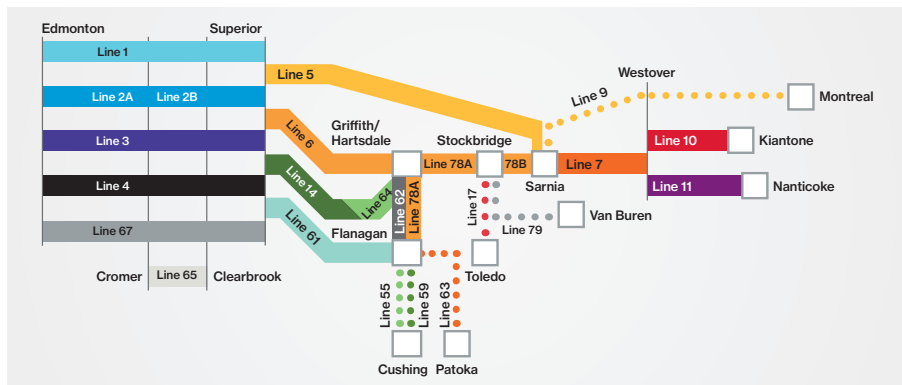
At the terminus of the system in Edmonton, Alberta, Southern Lights has direct delivery connections to the CRW pool, Keyera, Gibson, Pembina, Plains and Access pipelines. Currently, there is also a direct delivery connection to the Enbridge Mainline at Hardisty, Alberta, and to Plains at Kerrobert, Saskatchewan.

The annual average capacity of Southern Lights is 180,000 bpd, of which 162,000 bpd is secured by long-term contracts. As referenced in the Oil Sands Infrastructure Development section, the Norlite Project is a key component of Enbridge's overall diluent strategy, extending diluent delivery into the Oil Sands region.



Pipeline System Configuration

Q1, 2021



Line 1
37,600 m³/d (237 kbpd)
18"/20" – 1,767 km (1,098 mi)
- NGL
- Refined Products
- Light

Line 2A
70,300 m³/d (442 kbpd)
24" – 966 km (600 mi)
- Condensates
- Light
- Heavy

Line 2B
70,300 m³/d (442 kbpd)
24"/26" – 808 km (502 mi)
- Light

Line 3
68,400 m³/d (430 kbpd)
34" – 1,767 km (1,098 mi)
- Light
- Heavy

Line 4
126,500 m³/d (796 kbpd)
36"/48" – 1,770 km (1,100 mi)
- Heavy
- Medium (Ex-Clearbrook)
- Light (Ex-Clearbrook)

Line 5
85,900 m³/d (540 kbpd)
30" – 1,038 km (645 mi)
- NGL
- Light

Line 6
106,000 m³/d (667 kbpd)
34" – 748 km (465 mi)
- Light
- Medium
- Heavy

Line 7
28,600 m³/d (180 kbpd)
20" – 193 km (120 mi)
- Light
- Medium
- Heavy

Line 78A
90,600 m³/d (570 kbpd)
36" – 425 km (264 mi)
- Light
- Medium
- Heavy

Line 78B
79,500 m³/d (500 kbpd)
30"/36" – 175 km (109 mi)
- Light
- Medium
- Heavy

Line 65
29,500 m³/d (186 kbpd)
20" – 504 km (313 mi)
- Light
- Medium

Line 10
11,800 m³/d (74 kbpd)
12"/20" – 143 km (89 mi)
- Light
- Medium
- Heavy

Line 11
18,600 m³/d (117 kbpd)
16"/20" – 76 km (47 mi)
- Light
- Medium
- Heavy

Line 62
37,400 m³/d (235 kbpd)
22" – 121 km (75 mi)
- Heavy

Line 14/64
54,600 m³/d (343 kbpd)
24" – 784 km (487 mi)
- Light
- Medium

Line 61
158,300 m³/d (996 kbpd)
42" – 744 km (462 mi)
- Light
- Medium
- Heavy

Line 61
158,300 m³/d (996 kbpd)
42" – 744 km (462 mi)
- Light
- Medium
- Heavy

Line 17
16,000 m³/d (100 kbpd)
16" – 142 km (88 mi)
- Light
- Medium
- Heavy

Line 62
37,400 m³/d (235 kbpd)
22" – 121 km (75 mi)
- Heavy

Line 55
30,700 m³/d (193 kbpd)
22"/24" – 938 km (583 mi)
- Light
- Medium
- Heavy

Line 67
127,200 m³/d (800 kbpd)
36" – 1,790 km (1,112 mi)
- Heavy

Line 59
93,000 m³/d (585 kbpd)
36" – 954 km (593 mi)
- Light
- Medium
- Heavy

Line 79
12,700 m³/d (80 kbpd)
20"/16" – 98 km (61 mi)
- Light
- Medium
- Heavy

Line 63
30,700 m³/d (193 kbpd)
24" – 270 km (168 mi)
- Light
- Medium
- Heavy

Not part of the Enbridge Mainline System



Line 9
47,700 m³/d (300 kbpd)
30" – 832 km (517 mi)
- Light
- Medium
- Heavy

Line 17
16,000 m³/d (100 kbpd)
16" – 142 km (88 mi)
- Light
- Medium
- Heavy

Line 55
30,700 m³/d (193 kbpd)
22"/24" – 938 km (583 mi)
- Light
- Medium
- Heavy

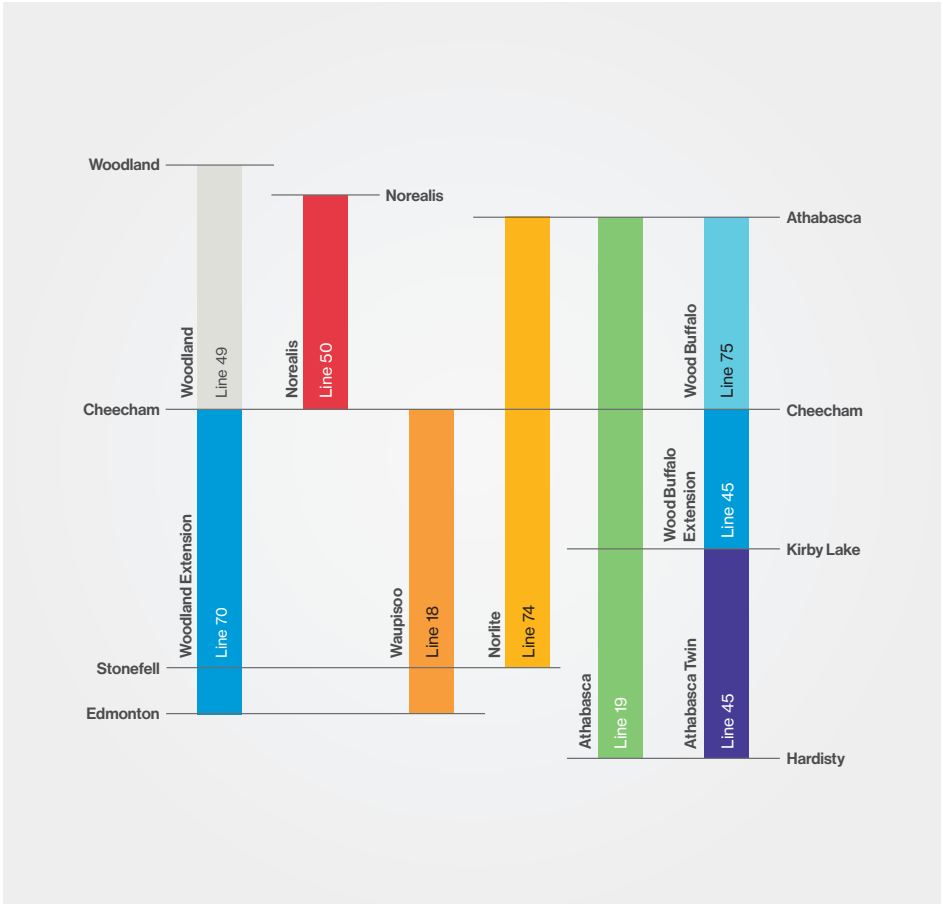


Line 59
93,000 m³/d (585 kbpd)
36" – 954 km (593 mi)
- Light
- Medium
- Heavy

Line 79
12,700 m³/d (80 kbpd)
20"/16" – 98 km (61 mi)
- Light
- Medium
- Heavy

Line 63
30,700 m³/d (193 kbpd)
24" – 270 km (168 mi)
- Light
- Medium
- Heavy

NOTE: Capacities provided are Average Annual Capacities and do not include current restrictions.



Line 18 – Waupisoo Pipeline
 550 kbpd
 30" – 380 km (236 mi)

Line 75 – Wood Buffalo Pipeline
 550 kbpd
 30" – 96 km (59 mi)

Line 19 – Athabasca Pipeline
 570 kbpd
 30" – 542 km (337 mi)

Line 45 – Athabasca Twin Pipeline
 800 kbpd
 36" – 347 km (215 mi)

Line 45 – Wood Buffalo Extension
 800 kbpd
 36" – 107 km (66 mi)

Line 74 – Norlite Diluent Pipeline
 218 kbpd (Expandable to 465 kbpd)
 24" – 447 km (278 mi)

Line 49 – Woodland Pipeline
 379 kbpd (Expandable to 800 kbpd)
 36" – 138 km (86 mi)

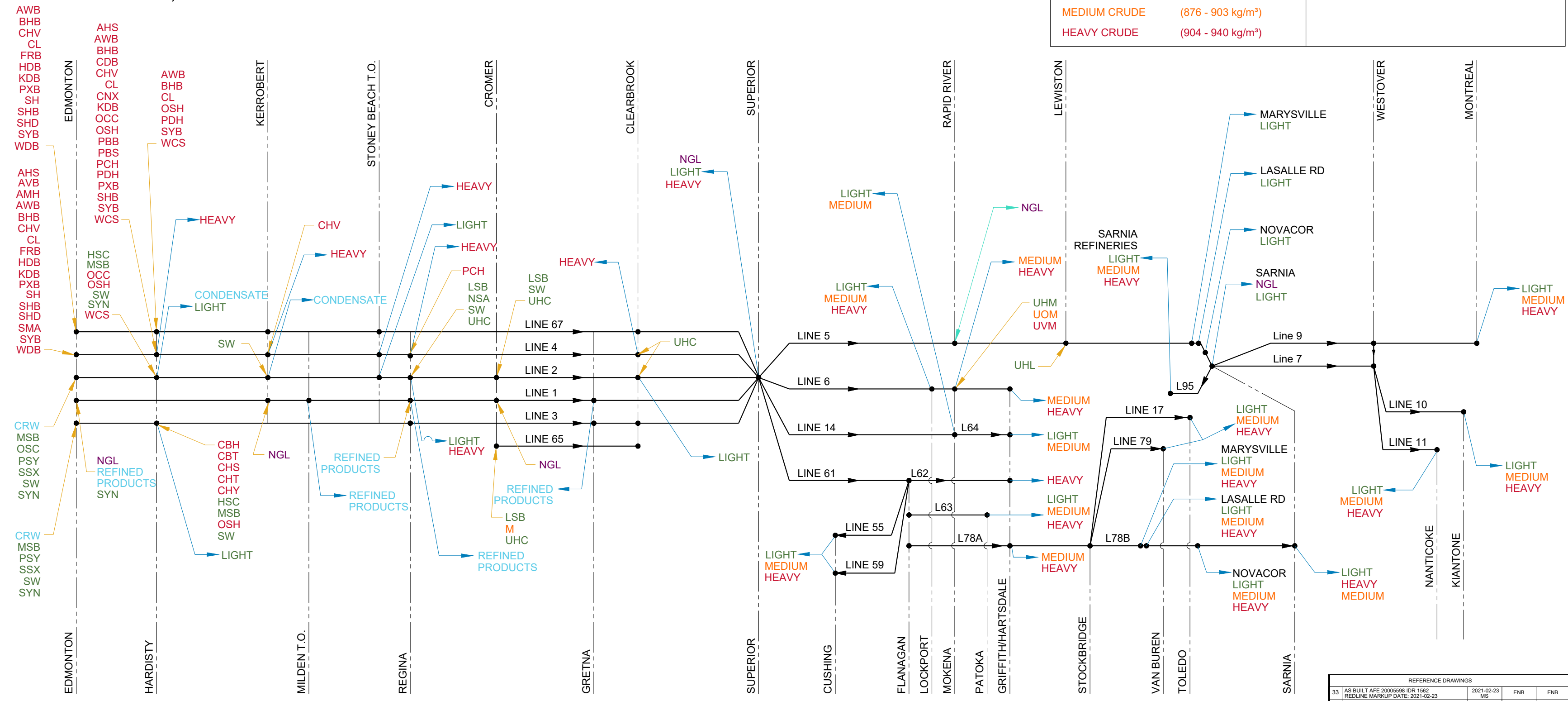
Line 70 – Woodland Extension
 379 kbpd (Expandable to 800 kbpd)
 36" – 387 km (240 mi)

Line 50 – Norealis Pipeline
 270 kbpd (Expandable to 360 kbpd)
 24" – 113 km (70 mi)

PIPELINE COMMODITY MOVEMENT MAP

QUARTER 1, 2021

COMMODITY CLASSIFICATION LEGEND		COMMODITY MOVEMENT LEGEND	
NGL	(TO 599 kg/m ³)		INJECTION
CONDENSATE / REFINED PRODUCTS	(600 - 799 kg/m ³)		DELIVERY
LIGHT CRUDE	(800 - 875 kg/m ³)		DELIVERY/INJECTION
MEDIUM CRUDE	(876 - 903 kg/m ³)		
HEAVY CRUDE	(904 - 940 kg/m ³)		



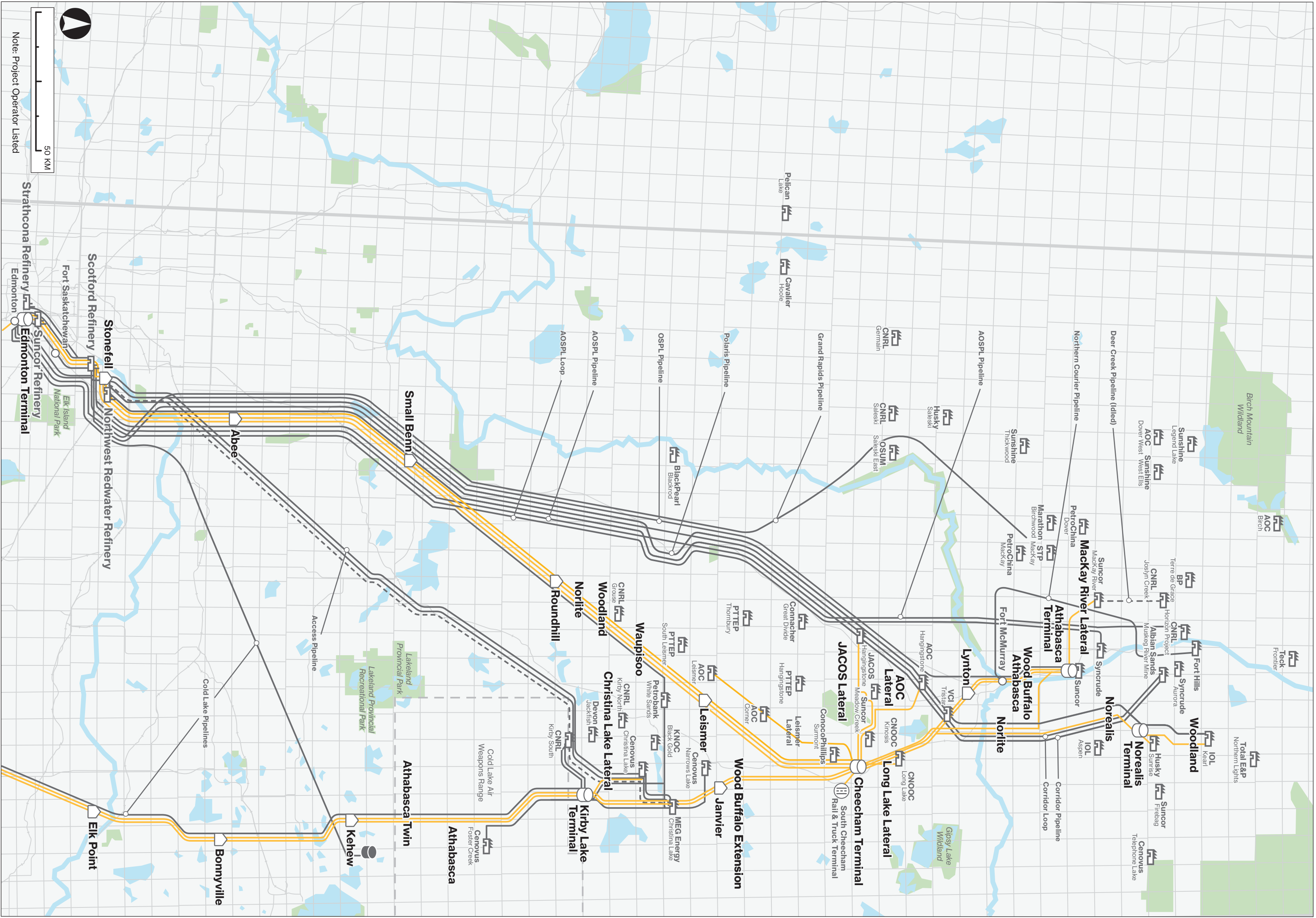
COMMODITY IDENTIFIER / CRUDE NAME LEGEND									
AHS	ALBIAN HEAVY SYNTHETIC	CHT	CANADIAN HEAVY DILBIT	MSB	MEDIUM SOUR BLEND	PXB	PETRO CHINA BLEND	UHM	U.S. HIGH SWEET - MOKENA
AMH	ALBIAN MUSKEG RIVER HEAVY	CHY	CANADIAN HEAVY SYNBIT	NGL	NATURAL GAS LIQUIDS	SH	SEAL HEAVY	UOM	U.S. HIGH SOUR MOKENA
AVB	ALBIAN VACUUM GAS OIL BLEND	CL	COLD LAKE	NSA	NEWGRADE SYNTHETIC BLEND A	SHB	SURMONT HEAVY BLEND	UVM	U.S. HEAVY - MOKENA
AWB	ACCESS WESTERN BLEND	CNX	CONDENSATE BLEND	OCC	SUNCOR - CUSTOM CRACKED	SHD	SURMONT HEAVY DILBIT	WCS	WESTERN CANADIAN SELECT
BHB	BOREALIS HEAVY BLEND	CRW	CONDENSATE BLEND	OSC	SUNCOR LIGHT SYNTHETIC	SMA	SURMONT MIX A	WDB	WESTERN CANADA DILBIT
BSS	BP SWEET SYNTHETIC BLEND	FRB	FORT HILLS REDUCED CARBON LIFE CYCLE DILBIT BLEND	OSH	SUNCOR - H	SSX	SHELL SYNTHETIC BLEND		
CBH	CANADIAN BLENDED HEAVY	HDB	HANGINGSTONE DILBIT BLEND	PBB	PINE BLEND BUFFER	SW	MIXED BLEND SWEET		
CBT	CANADIAN BLENDED DILBIT	HSC	HARDISTY SYNTHETIC CRUDE	PBS	PINE BLEND SPECIAL	SYB	SYNTHETIC BITUMEN BLEND		
CDB	CHRISTINA LAKE DILBIT BLEND	KDB	KEARL DILBIT	PCH	PREMIUM CONVENTIONAL HEAVY	SYN	SYNCRUDE		
CHV	CONVENTIONAL HEAVY	LSB	LIGHT SOUR BLEND	PDH	LONGLAKE HEAVY DILBIT BLEND	UHC	US HIGH SWEET		
CHS	CANADIAN HEAVY SWEET	M	MIDALE BLEND	PSY	PREMIUM SYNTHETIC	UHL	U.S. HIGH SWEET - LEWISTON		

REFERENCE DRAWINGS				
33	AS BUILT AFE 20005598 IDR 1562 REDLINE MARKUP DATE: 2021-02-23	2021-02-23 MS	ENB	ENB
32	AS BUILT AFE 20005598 IDR 1055 REDLINE MARKUP DATE: 2020-02-13	2020-02-13 MS	ENB	ENB
31	AS BUILT AS PER IDR 375	2018-05-03 MM	BB	BB
30	REVISED AS PER PIPELINE COMMODITY MAP'S MARK UP DRAWING	2017-01-24 KF	SH	SH
29	REVISED AS PER PIPELINE COMMODITY MAP'S MARK UP DRAWING	2017-01-09 ME	SKE/KP	SKE/KP
28	REVISED AS PER PIPELINE COMMODITY MAP'S MARK UP DRAWING	2016-01-19 ME	SKE/AE	SKE/AE
REV	REVISION DESCRIPTION	DATE BY	CHK	APPR

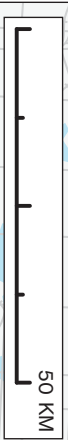
ENBRIDGE

ENBRIDGE PIPELINES INC.
COMMODITY MOVEMENT MAP

BY: AMJ	CHK: CAL	ENG.: PBONTKES/DB	ENB APPR: EGH
DATE: 2000-05-17	SCALE: NTS	STATUS: AS BUILDING	
DWG NO:	D-0.0-1812-0		REV NO: 33.A



Note: Project Operator Listed



ENBRIDGE
Life Takes Energy[®]

ATHABASCA REGION

Major Pipelines

Enbridge Pipelines

- In-Service
- Under Construction

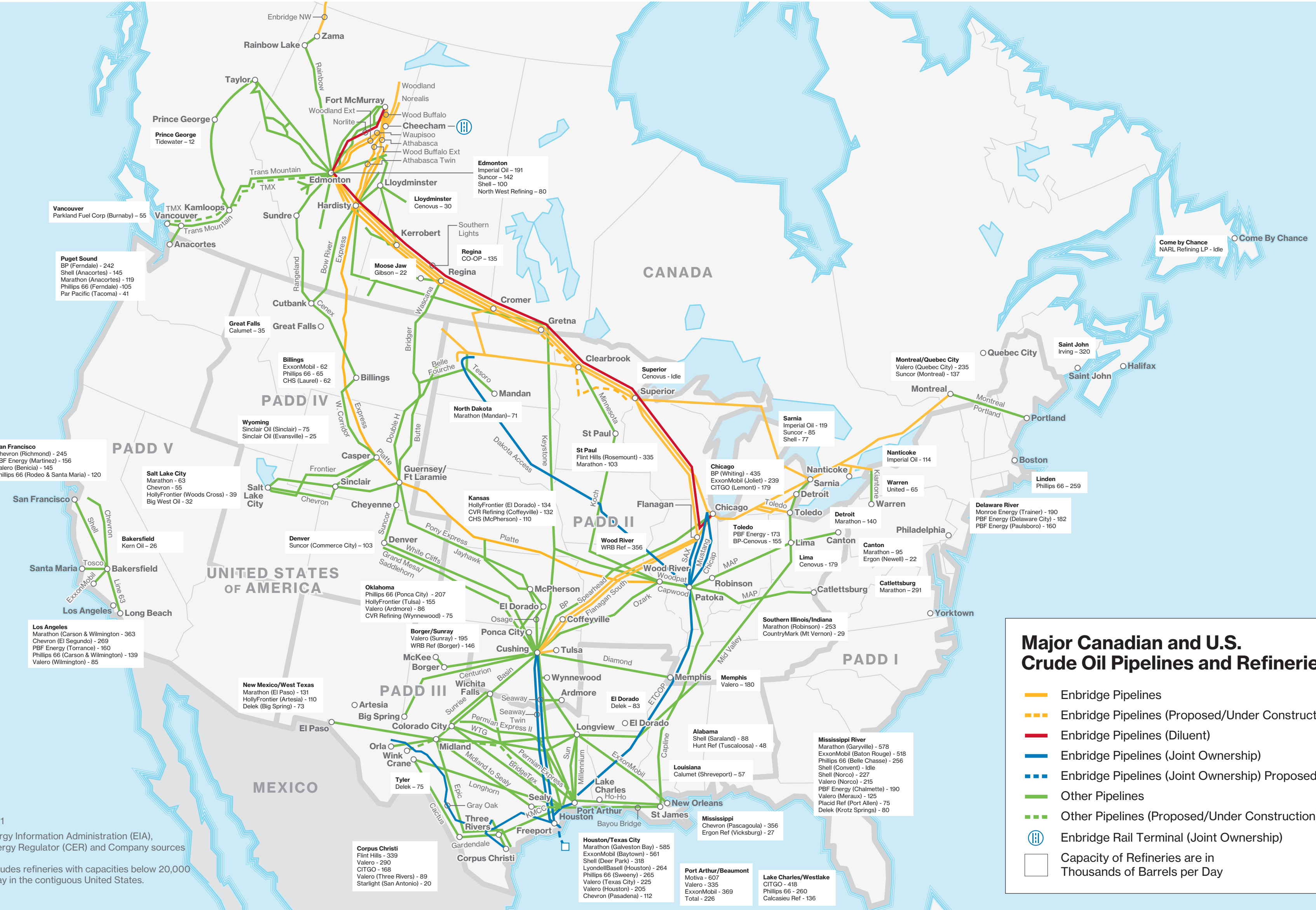
Other Pipelines

- In-Service
- Idle

Other Infrastructure

- Enbridge Station
- Enbridge Tankage
- Other Tankage
- Processing Facility
- Refinery
- Rail Facility
- Railway
- Highways
- Parks

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Major Canadian and U.S. Crude Oil Pipelines and Refineries

- Enbridge Pipelines
- - - Enbridge Pipelines (Proposed/Under Construction)
- Enbridge Pipelines (Diluent)
- Enbridge Pipelines (Joint Ownership)
- - - Enbridge Pipelines (Joint Ownership) Proposed
- Other Pipelines
- - - Other Pipelines (Proposed/Under Construction)
- I Enbridge Rail Terminal (Joint Ownership)
- Capacity of Refineries are in Thousands of Barrels per Day

February 2021
 Sources: Energy Information Administration (EIA), Canadian Energy Regulator (CER) and Company sources
 The map excludes refineries with capacities below 20,000 barrels per day in the contiguous United States.

Forward-looking Information

This booklet includes references to forward-looking information. Although Enbridge believes these forward-looking statements are reasonable, based on the information available on the date such statements are made, they are not guarantees of future performance or outcomes.

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