WATER POWER ACT LICENCES

LAKE WINNIPEG REGULATION SHORT TERM LICENCE EXTENSION APPLICATION

SUPPORTING DOCUMENTATION

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EXTERNAL & INDIGENOUS RELATIONS, ENVIRONMENT and COMMUNICATIONS

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LAKE WINNIPEG REGULATION
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1.0 INTRODUCTION

Lake Winnipeg Regulation (LWR) was announced by the Government of Manitoba in 1970 and developed by Manitoba Hydro to achieve two key objectives: to reduce shoreline flooding on Lake Winnipeg; and to support hydroelectricity generation to meet the growing demand in Manitoba. The project is a complex, engineered network of channels and structures that is used to control the outflow of water from the lake and allow higher outflow during flood conditions. It allows up to 50% more water to flow out of the lake than would otherwise flow out naturally. Work on the Lake Winnipeg Regulation project began in 1970 with the construction of three channels and the Jenpeg Generating Station and Control Structure. LWR became operational in 1976, and Jenpeg Generating Station was completed in 1979.

This report provides information in support of a Short-Term Extension Licence application that was requested on November 6, 2025. Manitoba Hydro requests this extension licence in accordance with Section 92 of The Water Power Regulation, Manitoba Regulation 25/88R of The Water Power Act.

Manitoba Hydro operates Lake Winnipeg Regulation in accordance with the Final Water Power Act Licence for the regulation of Lake Winnipeg outflows. This licence was issued in accordance with the provisions of The Water Power Act on May 5, 2021. The Final Licence expires on August 1, 2026.

Manitoba Hydro requested a Renewal Licence on July 26, 2022. While Manitoba Hydro is waiting for Manitoba to provide the LWR renewal licence process, Manitoba Hydro requested a Short-Term Extension Licence to allow the licence renewal to occur at a future date.

2.0 PROJECT COMPONENTS

2.1 Jenpeg Control Structure and Dikes

Jenpeg is located about 100 km north of Lake Winnipeg, on the upper portion of the Nelson River. Jenpeg controls most of the flow of water out of Lake Winnipeg for flood reduction on Lake Winnipeg and power generation along the Nelson River.

The Jenpeg Control Structure together with the Jenpeg Generating Station (licensed separately) regulates the outflow from Lakes Winnipeg, Playgreen and Kiskittogisu. The structure has a discharge capacity of about 4,616 cubic metres per second at full supply level. This is a reinforced concrete spillway structure with five gated openings across the peninsula on the right bank of the Nelson River just upstream of Cross Lake, with a rock fill dam on the west abutment and a river channel closure rock fill dam on the east abutment.

The Jenpeg West Dikes are four earthfill saddle dams with a total length of about 1,676 metres across low ground on the west abutment within 6.4 kilometres southwesterly from the Jenpeg Control Structure. The Jenpeg East Dike is a saddle dam about 1,890 metres in length across low ground within 4.8 kilometres southeasterly from the Jenpeg Control Structure.

Jenpeg's primary purpose is to regulate the discharge in the West Channel of the Nelson River. The Nelson River East Channel is unregulated. The generation of electricity is Jenpeg's secondary function. The operational strategy for Jenpeg is devised by the Energy Operations and Water Planning Department and issued to the System Control Department and Jenpeg station operators.

Additional detail on Lake Winnipeg Regulation system operations can be found on pages 27-33 of the July 2014 document in support of Manitoba Hydro's request for a Final Licence. (https://www.hydro.mb.ca/docs/regulatory_affairs/pdf/lake_wpg_regulation/lwr_complete_report.pdf)

Table 1: Principal Structures for the Jenpeg Control Structure

Spillway	Number of Bays	Spillway with 5 bays
	Total Length	79.3 m
	Discharge Capacity (at full supply level*)	4,616 m^3/s
Dams and Dikes	Material	Earthfill
	Crest Elevation (at design)	Main Dam: 220.0 m to 220.7 m East and West Dikes: 219.5 m Kiskitto Dam: 219.8 m Kiskitto Dike: 219.3 m to 220.0 m
	Available Freeboard (at full supply level*)	Main Dam: 2.46 m to 3.16 m East and West Dikes: 1.96 m Kiskitto Dam: 2.26 m Kiskitto Dike: 1.76 m to 5.8 m

*Full Supply Level at 217.54 m measured at the forebay.

2.2 Eight-Mile Channel

The Eight-Mile Channel is a diversion channel from Playgreen Lake to Kiskittogisu Lake that allows water to bypass several flow constrictions and flow more directly into the Nelson River. The channel is about 12.9 kilometres (8 miles) in length. It ranges in width from about 213 to 366 metres and is about 6 metres deep.

Without this channel, water could only flow downstream through a relatively narrow part of Playgreen Lake and then through an even narrower portion at the north end of the lake called Whiskey Jack Narrows.

2.3 Two-Mile Channel

Two-Mile Channel connects Lake Winnipeg and Playgreen Lake as a second outlet for Lake Winnipeg. The channel is about 3.2 kilometres (2 miles) long, 183-213 metres wide, and about 9 metres deep.

The natural Lake Winnipeg outlet is located east of Two-Mile Channel at Warren Landing. This original outlet has a few major islands with one wider channel and then transitions to one channel with numerous vegetated shallows, rock outcrops, and smaller islands. These features impede the flow of water during the open water season with even more significant flow constrictions in winter as ice cover develops.

2.4 Kiskitto Inlet Control Structure and Dikes

The Kiskitto Inlet Control Structure regulates inflow to Kiskitto Lake so that Kiskitto Lake water levels can be maintained within their natural range. The impoundment of water from the construction of Jenpeg required prevention of the free flow of water from entering and flooding Kiskitto Lake. While a dam and dike prevent this, some inflow is required to control the water level. The flows through the culvert are regulated using a vertical lift gate.

The Kiskitto Main Dam is about 600 metres in length, with a maximum height of 15 metres from its base. There are also 16 separate dikes with a total length of 14 kilometres. These dikes protect Kiskitto Lake and the surrounding area from the higher water levels of the Nelson River's west channel.

2.5 Ominawin Rapids Bypass Channel

The Ominawin Bypass Channel is an excavation located at the north end of Kiskittogisu Lake and allows water flow to bypass the natural restrictions of the Ominawin Channel. The channel has a centre division (rockfill groin) for about 70% of its length designed to reduce ice thickness.

The Ominawin Bypass Channel is about 427 metres wide, about 6 metres deep, and about 3.4 kilometre long.

2.6 Kisipachewuk Channel Improvement

The Kisipachewuk Channel Improvement was constructed to increase water flows through this outlet channel from Kiskittogisu Lake into the Nelson River. The channel improvement is an excavation of the river bed over a length of about 80 metres and width of 60 metres.

2.7 Kiskitto-Minago Drainage Channel and Black Duck Control Structure

The Black Duck Control Structure regulates the amount of water diverted from Kiskitto Lake into the Minago River via Black Duck Creek. The control structure is made of concrete with wooden stoplogs used to regulate flow. The purpose of the structure along with the Kiskitto Lake Inlet Control Structure is to regulate the water level of Kiskitto Lake within its natural range.

The Kiskitto-Minago Drainage Channel, sometimes called the Black Duck Diversion channel, diverts water from Kiskitto Lake to the Black Duck Control Structure. The channel is about 3 metres wide at its base. Its length is about 3.3 kilometres between Kiskitto Lake and the control structure, and about 1.5 kilometres from there to Black Duck Creek.

2.8 Stan Creek Diversion

The Stan Creek Diversion routes local natural drainage into Kiskitto Lake that was blocked from flowing into the Nelson River by the construction of dikes. The channel is approximately 3 metres wide at its base, is on average 2.7 metre deep, and is about 1,500 metres in length.

3.0 WATER POWER LICENSING REQUIREMENTS

3.1 Licence Terms

Section 3.2 of the Final Licence stipulates that:
"The Licensee may regulate outflows for power purposes when the wind eliminated water levels are between: (a) Lake Winnipeg – maximum 715.0 feet and minimum 711.0 feet, (b) Playgreen Lake – maximum 714.9 feet and minimum 707.0 feet, measured at the north end of Playgreen Lake, (c) Kiskittogisu Lake – maximum 714.8 feet and minimum 706.0 feet, subject, however, to the provisions of Section 72 of the Regulations."

Observance
Manitoba Hydro was compliant with Section 3.2 of the Final Licence 100% of the time for the years 2022, 2023 and 2024.

Further details on compliance for any terms of the Licence for these years can be found in Manitoba Hydro's annual Water Levels and Flows Compliance Reports on the provincial website:
https://www.gov.mb.ca/sd/about/articles-and-publications/index.html?wg=water_power_licensing

Section 3.3 of the Final Licence stipulates that:
"The Licensee shall, during periods when the water level in Lake Winnipeg is above elevation 217.93 metres (715.0 feet) ASL, operate Jenpeg Control Structure in such a manner as to effect the maximum discharge possible under the circumstances then prevailing until the water level of Lake Winnipeg recedes to elevation 217.93 metres (715.0 feet) ASL."

Observance
Lake Winnipeg water levels exceeded 217.93 metres in 2022 and Manitoba Hydro responded by operating to maximize discharge out of Lake Winnipeg.

Manitoba required Manitoba Hydro to provide bi-weekly reports for the period when the Lake Winnipeg water level would remain above 715 feet, starting June 10, 2022. Manitoba Hydro completed thirteen bi-weekly reports, ending on November 18, 2022.

The bi-weekly reports are copied in Appendix L of the 2022 Annual Water Levels and Flows Compliance Report.

In 2023 and 2024, Lake Winnipeg water levels did not rise above 217.93 metres so this condition was not triggered.

Section 3.4 of the Final Licence stipulates that:
"The Licensee shall operate the Jenpeg Control Structure in such a manner that the combined outflow of water from Lake Winnipeg through the natural and artificial channels at any time shall not be less than 708 cubic metres per second (25,000 cubic feet per second)."

Observance
In 2022, 2023 and 2024, the daily average outflow from Lake Winnipeg complied with the licence limit 100% of the time.

Section 3.5 of the Final Licence stipulates that:
"Notwithstanding any other terms or conditions of this Final Licence, the Licensee shall during periods when the water level in Lake Winnipeg is below elevation 216.71 metres (711.0 feet) ASL, operate Jenpeg Control Structure as ordered by the Minister under Section 72 of the Water Power Regulation."

Observance
In 2022, 2023 and 2024, the Lake Winnipeg water level was not below 216.71 metres (711.0 feet), so this condition was not triggered.

Section 3.6 of the Final Licence stipulates that:
"Subject to Section 3.5 of this Final Licence, but notwithstanding any other terms or conditions of this Final Licence, the Licensee shall operate the said control structure at Jenpeg in such a manner that any increase or decrease in the rate of the discharge therefrom during any 24-hour period shall not exceed 425 cubic metres per second (15,000 cubic feet per second)."

Observance
In 2022, Manitoba Hydro was compliant with the Jenpeg outflow rate of change 99.2% of the time (reasons included strong winds, wicket gates drifting closed during freeze up program, high temperature alarm set off by zebra mussels and a lightning strike). Explanations are described in more detail in the 2022 Annual Water Levels and Flows Compliance Report https://www.gov.mb.ca/sd/pubs/water/licensing/2022_hydro_annual_report.pdf

In 2023 and 2024, Manitoba Hydro was compliant with the Jenpeg outflow rate of change limit 100% of the time.

Section 3.7 of the Final Licence stipulates that:
"The Licensee shall operate the Kiskitto Inlet Control Structure and Black Duck Control Structure in such a manner as to regulate water levels in Kiskitto Lake within natural ranges subject to the orders of the Director."

Observance
In 2022, 2023 and 2024, the water levels on Kiskitto Lake were within natural ranges and in compliance with the licence 100% of the time.

Section 7.4 of the Final Licence stipulates that:
"The Licensee shall, to the satisfaction of the Director, provide a monthly forecast of water levels and flows in connection with the operation of the Undertaking."

Observance
Manitoba Hydro sends the monthly forecast of water levels and flows to the Environmental Approval Branch's (EAB's) email on or near the 1st of every month.

For water level and flow information including near real-time water levels and 7-day forecast estimates, please visit Manitoba Hydro's website at *www.hydro.mb.ca/waterlevels*

Section 7.5 of the Final Licence stipulates that:
"As provided for in Section 65 of the Water Power Regulation, the Licensee shall submit all information and data on water levels and flows necessary to enable the Director to determine compliance with this Final Licence and other approvals pertaining to water levels and flows in connections with the operation of the Undertaking."

Observance
Manitoba Hydro sends an annual Water Levels and Flows Compliance Report to Manitoba Environment and Climate Change every June.

Copies are posted on the Provincial website.
https://www.gov.mb.ca/sd/about/articles-and-publications/index.html?wg=water_power_licensing

Section 7.6 of the Final Licence stipulates that:
"The Licensee shall provide the Minister, the Director, or any person appointed by either for the purpose with free access to all parts of the works, lands and properties of the Licensee and to all books, plans, records or accounts used in connection with or affecting this Final Licence or the Undertaking, and may from time to time make measurements and observations and take such other steps for carrying out any inquiry as may be considered necessary or expedient in the administration of the Regulation."

Observance
Manitoba Hydro provides access to Manitoba when requested.

Section 7.7 of the Final Licence stipulates that:
"The Licensee shall participate in future planning, studies and other initiatives as instructed by the Minister, in areas impacted by the Undertaking along with affected communities and other stakeholders."

Observance
Manitoba Hydro will participate in any future large area planning or other studies and initiatives as directed by the Minister. If progress updates are required, they will be provided in the Annual Water Levels and Flows Compliance Report.

Section 7.8 of the Final Licence stipulates that:
"The Licensee shall, to the satisfaction of the Minister, continue to participate in a system-wide monitoring program in the lands and waters that are affected by the Undertaking, including Indigenous community participation and Indigenous traditional knowledge."

Observance
Manitoba Hydro and Manitoba continue to implement Coordinated Aquatic Monitoring Program (CAMP) in the upper Nelson River. CAMP expanded by recently creating a Regional Monitoring Committee (RMC) in the area where Indigenous communities are invited to work together on developing a monitoring plan for the area.

Manitoba Hydro is required to provide a bi-monthly update to Manitoba on the CAMP expansion progress. Bi-monthly reports are post on the Provincial website. https://manitoba.ca/sd/about/articles-and-publications/index.html?wg=camp

Section 7.9 of the Final Licence stipulates that:
"The Licensee shall, to the satisfaction of the Minister, continue to implement a public safety and debris management program in lands and waters within the Severance Line, and report annually to the Director."

AND

Section 7.10 of the Final Licence stipulates that:
"The Licensee shall submit an annual report to the Director documenting the Licensee's engagement with Indigenous communities on the continued operation of the Undertaking."

Observance
Manitoba Hydro has a Waterways Management Program (WMP) in place to support and promote the safety of people travelling on waterways affected by Manitoba Hydro's operations. The WMP includes boat patrols, debris management and safe ice trails. Manitoba Hydro works with Indigenous communities annually to implement the WMP throughout the affected waterways.

Manitoba Hydro provides an annual report on the Ongoing Water Power Act Licence Requirements Related to Indigenous Engagement, Public Safety, Shoreline Stabilization and Debris Management for the Churchill River Diversion, Lake Winnipeg Regulation, and Nelson River Generation Station Areas to Manitoba Environmental Approvals Branch in June.

https://www.gov.mb.ca/sd/about/articles-andpublications/index.html?wg=ier

Section 7.11 of the Final Licence stipulates that:
"The Licensee shall, to the satisfaction of the Minister, update the licence implementation guide, within one year of the date of this Final Licence."

Observance
Manitoba Hydro updated the LWR Licence Implementation Guide (LIG) in May 2022. This guide is on the Provincial website.

https://www.gov.mb.ca/sd/pubs/water/licensing/lwr_jenpeg_lig.pdf

3.2 Licence Area

The licence area within the severance line shown in Figure 1 covers approximately 2326 square km mostly upstream of the Jenpeg Generating Station to Two Mile Channel. Included as part of the licence area are Playgreen Lake, Kiskittogisu Lake, and Kiskitto Lake.

4.0 MONITORING PROGRAMS

4.1 Water Levels

Water Survey of Canada (WSC) and Manitoba Hydro use pressure sensors to determine water levels at their existing hydrometric gauging stations.

Playgreen Lake elevation is recorded above Whiskey Jack Narrows (05UB704) This gauge is owned and operated by Manitoba Hydro.

Kiskittogisu Lake elevation is recorded at Whiskey Jack Landing (05UB017). This gauge is operated by Manitoba Hydro on behalf of WSC under the terms of the Canada-Manitoba Cost Sharing Agreement on Water Quantity and Quality Surveys.

Kiskitto Lake elevation is recorded on an island in the northeast part of Kiskitto Lake (05UB013). This gauge is operated by Manitoba Hydro on behalf of WSC under the terms of the Canada-Manitoba Cost Sharing Agreement on Water Quantity and Quality Surveys.

The Wind-Eliminated Water Level on Lake Winnipeg is calculated using a method developed collaboratively by Manitoba Hydro, Manitoba and WSC. The following water level gauging stations are used:

- Gimli (05SB006)
- Victoria Beach (05SA003)
- Berens River (05RD005)
- George Island (05RE003)
- Mission Point (05SG001)
- Pine Dock (05SD001)
- Matheson Island Landing (05SD002)
- Montreal Point (05RF001)

Seven gauges are operated by WSC, while the gauge at Montreal Point is operated by Manitoba Hydro on behalf of WSC under the terms of the Canada-Manitoba Cost Sharing Agreement on Water Quantity and Quality Surveys. Detailed gauge descriptions for each of the eight Lake Winnipeg gauges is included in the Lake Winnipeg Regulation LIG.

Water level data is collected and published according to the procedures and Quality Control Assurance processes established by WSC. Real-time data is available, but it is not recognized as official. Final data, or published data, is generated through several levels of reviews to verify compliance to applicable standards and includes recognition of the impact of other related environmental and contextual factors. (https://wateroffice.ec.gc.ca/)

Wind-Eliminated water level calculation procedures are described in the Lake Winnipeg Regulation and Jenpeg LIG.

4.2 Outflow Rate of Change

Section 3.6 of the LWR Water Power Act Final Licence restricts the rate of change in outflow through the Jenpeg Generating Station during any 24-hour period. Jenpeg Generating Station outflow is calculated using rating curves for unit discharges and spill to properly evaluate the outflow rate of change at Jenpeg, an averaging technique is used to remove short-term effects which do not affect the water level downstream on Cross Lake. Small, short-term weather and hydraulic events are smoothed out using a 3-hour moving mean.

4.3 Dam Safety

Manitoba Hydro's Dam Safety Program is based on the Canadian Dam Association (CDA 2007) Guidelines and operates in accordance with two key CDA principles:

Principle 1a
The public and the environment shall be protected from the effects of dam failure, as well as release of any or all retained fluids behind a dam, such that the risks are kept as low as reasonably practicable.

Principle 2 d
Documented surveillance procedures shall be followed to provide early identification and to allow for timely mitigation of conditions that might affect dam safety.

Manitoba Hydro's Dam Safety Program objectives aim to detect changes in the condition of dams and to initiate timely remedial measures when necessary. The program includes visual inspections, instrumentation data analysis, engineering analysis, testing, evaluations, and reporting. Manitoba Hydro maintains and follows inspection guidelines for surveillance of concrete and embankment dams based on the dam classification, condition, and professional judgment.

Manitoba Hydro staff perform routine inspections of all water retaining and flow control structures associated to Lake Winnipeg Regulation to ensure that these structures continue to perform as intended. Specialists from Manitoba Hydro's Asset Management Division perform additional inspections of all dams annually. A summary of key dam safety related activities and assessments is included in Manitoba Hydro's Annual Water Levels and Flows Compliance Report.

Dam Safety Reviews (DSR) of generating stations and water control structures are undertaken on a specified frequency based on recommendations in the CDA Guidelines. (The Jenpeg Generating Station is under its own Water Power Act Licence but since the operation of the spillway is part of Lake Winnipeg Regulation, Jenpeg's DSR will be described here.) This type of review is a systematic evaluation of dam safety through a comprehensive performance assessment of the structures and review of original design, construction, operation and maintenance records to ensure that the generating station meets current industry standards. Qualified external consulting engineering firms carry out DSRs and typically include a site inspection of the station, dams, and spillway gates, including mechanical and electrical aspects of gate operation. A comprehensive DSR report includes observed deficiencies and recommendations for follow-up. Hatch Ltd. completed the most recent Jenpeg Generating Station (GS) DSR in 2019, with the final report being issued in 2021. Several deficiencies and identified risks have been addressed, while the remaining items are prioritized within the appropriate work management system. The next DSR for Jenpeg GS is planned for 2030.

Manitoba Hydro maintains Dam Safety Emergency Plans (DSEP) for all generating stations. These plans are consistent with the CDA's Dam Safety Guidelines and bulletins and are issued to local authorities and emergency response agencies to assist in responding to an emergency. The Jenpeg Dam Safety Emergency Plan contains detailed information regarding the verification, classification of the emergency, and contains communication notification and reporting procedures.

Manitoba Hydro updates notification charts in the emergency plans annually to reflect ongoing personnel and content change. Major revisions to the plans are currently underway and will include updated dam breach mapping and a new format that aligns with the latest CDA emergency management guidance. A new Jenpeg DSEP is scheduled to be completed by 2027/28.

4.4 Aquatic Monitoring

Lake Winnipeg Regulation falls within the Upper Nelson River Region of the Coordinated Aquatic Monitoring Program (CAMP). CAMP is a partnership program between the Manitoba government and Manitoba Hydro. It was established in 2008 and is a long-term aquatic monitoring program to study and monitor water bodies (river and lakes) effected by Manitoba Hydro's generating system.

Monitoring information can be found at https://www.campmb.ca.

Water and sediment quality, fish community, lower trophic levels, and mercury in fish are the parameters monitored in CAMP. In addition to monitoring, CAMP has also collected information on waterways such as aquatic habitat inventories and sedimentation.

In the Final Licence for Lake Winnipeg Regulation, Manitoba directed Manitoba Hydro to participate in a system-wide monitoring program that includes Indigenous community participation and Indigenous Traditional Knowledge. CAMP is expanding to incorporate Regional Monitoring Committees with Indigenous communities to work on monitoring plans. CAMP is also expanding monitoring to include shorelines, as directed in the Lake Winnipeg Regulation Final Licence's cover letter.

5.0 COMMUNITY INVOLVEMENT, SYSTEM UPGRADES AND STUDIES

5.1 Community Involvement

Manitoba Hydro has a long history of interaction with the people living in the Lake Winnipeg Regulation licence area. Manitoba Hydro has worked with communities, groups, and associations to build relationships and address the impacts of hydroelectric development in this region through various adverse effects settlement agreement processes, mitigation programs, and ongoing communications about water levels and flows and operational works. Agreement processes include the Northern Flood Agreement (NFA) and related NFA claims process, Comprehensive Implementation Agreements, agreements with resource users and other settlement agreements.

Manitoba Hydro has several ongoing forums, programs, and measures that involve communities in the Lake Winnipeg Regulation licence area. While some programs and activities are common across individual communities, other activities are unique to specific communities and are related to the nature and scope of historic hydroelectric impacts experienced. Manitoba Hydro's relationship and engagement with each community is also informed by established agreement obligations, as well as by the work and initiatives that take place in a community's area of interest.

Manitoba Hydro is required to submit an annual report to Manitoba Environment and Climate Change each June that documents Manitoba Hydro's engagement with Indigenous communities on the continued operation of the Lake Winnipeg Regulation. This report summarizes the forums, programs, and measures through which Manitoba Hydro regularly works with communities to implement agreements, programs, and measures, as well as any other related engagement initiatives. The public version of the report is posted on the Province of Manitoba's Water Power webpage related to the Lake Winnipeg Regulation. In addition, a Confidential Report is submitted in accordance with the Water Power Act Licence. This confidential report contains summaries of community-specific

activities that may be considered private by individual communities and are therefore not intended to be made public.

These reports can be found on the Government of Manitoba's web site at: www.gov.mb.ca/sd/water/water-power/index.html

5.2 System Upgrades

The Manitoba Water Power Regulation 62(1) states that "the licensee shall at all times install and use first class, modern, standard works, plant, and equipment, giving consideration to their requisite suitability of design, safety, strength, durability, efficiency, and all other relevant factors whatsoever, and shall maintain the same in good repair and condition, and shall exercise all due skill and diligence so as to secure satisfactory operation thereof."

Manitoba Hydro completes ongoing maintenance to our facilities on an asset management basis as required. Maintenance is strategically applied to an asset to obtain best value of an asset's life cycle by balancing cost, performance, and risk.

Since receiving the 2021 Final Licence, Manitoba Hydro has not completed any major maintenance to the Jenpeg Generating Station spillway (as noted in Section 2.1, the Jenpeg Generating Station is licensed separately so its maintenance can be found in the Annual Water Levels and Flows Compliance Report). In 2022 and 2023 (last 2 years of a four-year project), Manitoba Hydro and communities continued remediation work of contaminated soils at Two Mile and Eight Mile channels.

5.3 System Studies

In 2013, the Clean Environment Commission (CEC) Bipole III Report recommended that Manitoba and Manitoba Hydro conduct a Regional Cumulative Effects Assessment (RCEA) for all Manitoba Hydro projects in the Nelson River sub-watershed which includes Lake Winnipeg Regulation. The RCEA reports are retrospective in nature and are based on the review, collation, synthesis and analysis of the numerous environmental and socio-economic studies, post-project environmental reviews, environmental

impact assessments for proposed developments and monitoring programs that have been conducted by Manitoba Hydro, Manitoba, Canada and affected communities and people over more than 50 years. Historical LWR GS information can be found throughout the Phase I, Phase II and the Integrated Summary Reports.

https://www.hydro.mb.ca/corporate/regulatory-affairs/regional-cumulative-effects-assessment/

In 2011, the Minister of Water Stewardship and the Minister of Conservation requested that the Clean Environment Commission (CEC) review Manitoba Hydro's request for a Lake Winnipeg Regulation Final Licence under the Water Power Act. In 2014, after determining what information was required, Manitoba Hydro submitted A Document in Support of Manitoba Hydro's Request for a Final Licence under the Manitoba Water Power Act to the Clean Environment Commission. The document describes:

- the conditions that led to the provincial government's announcement of LWR in 1970
- explains the LWR Water Power Act licensing process
- describes how the LWR system works
- describes LWR's effects on downstream communities north of Lake Winnipeg, and outlines Manitoba Hydro's effort to address those effects
- discusses Manitoba Hydro's dialogue with communities and stakeholder groups around Lake Winnipeg and their concerns raised about the possible impacts of LWR on the lake itself
- highlights Manitoba Hydro's commitment to sustainable development and ongoing water monitoring, and
- considers the implications of changing the terms of the licence.

The appendices offer additional technical background in support of these themes. https://www.hydro.mb.ca/corporate/regulatory-affairs/licensing/
The appendices included:

- Appendix 1: Interim WPA Licences for LWR and Jenpeg
- Appendix 2: Licence Compliance Water Level Charts
- Appendix 3: An Assessment of LWR Effects Based on Hydrometric Data

- Appendix 4: An Assessment of Regulation Effects on Lake Winnipeg
- Appendix 5: Shoreline Monitoring and Erosion Protection Downstream from Lake Winnipeg
- Appendix 6: Environmental Effects Downstream from Lake Winnipeg
- Appendix 7: Lake Winnipeg Watershed Hydroclimatic Study
- Appendix 8: Discussion of Key Biological Concerns on Lake Winnipeg
- Appendix 9: Table of Sustainable Development Principles
- Appendix 10: An Assessment of Alternative Lake Winnipeg Power Ranges
- Appendix 11: LWR Economic Evaluation
- Appendix 12: Province of Manitoba - Lake Winnipeg Shoreline Erosion Advisory Group, the Lake Winnipeg Stewardship Board and the Shoreline Erosion Technical Committee

The CEC process included eleven participants, a public information request process (336 questions), technical workshop, presentations and hearings in ten First Nations, eleven cities, towns and villages and at the Manitoba Metis Federation Winnipeg head office. Hearings were held in Thompson, Wabowden, York Factory First Nation, Misipawistik Cree Nation, Fisher River Cree Nation, Pine Dock, Peguis First Nation, Ashern, Grand Marais, Brokenhead Ojibway Nation, Selkirk, Gimli, Manigotagan, Black River First Nation, Berens River First Nation, Sagkeeng First Nation, Pimicikamak Okimawin, Cross Lake, Norway House Cree Nation, Norway House and Winnipeg.

In 2015, the CEC published their Lake Winnipeg Regulation Report. The report can be found at either link.
https://www.cecmanitoba.ca/hearings/lake-winnipeg-regulation-mb-hydro/index.html
or
https://www.gov.mb.ca/sd/water/water-power/lake_winnipeg_regulation/pdf/cec_lwr_report.pdf

In 2015, Manitoba Hydro submitted a Support Report and final severance line drawings for the Final Licence request. The document included observances of all the terms and conditions under the Interim Licence and its subsequent authorizations as well as Regulation 25/88R pursuant to the Water Power Act.

https://www.gov.mb.ca/sd/pubs/water/licensing/lake_wpg_reg/lake_winnipeg_regulation_support.pdf

6.0 CLOSURE STATEMENT

Manitoba Hydro continues to operate Lake Winnipeg Regulation in accordance with the Final Licence for the Regulation of Lake Winnipeg Outflows for Water Power Purposes. Manitoba Hydro operates and maintains the generating station and associated structures based on the Canadian Dam Association Guidelines.

7.0 FIGURES AND PHOTOGRAPHS

Figure 1: Lake Winnipeg Regulation's Final Water Power Licence Area

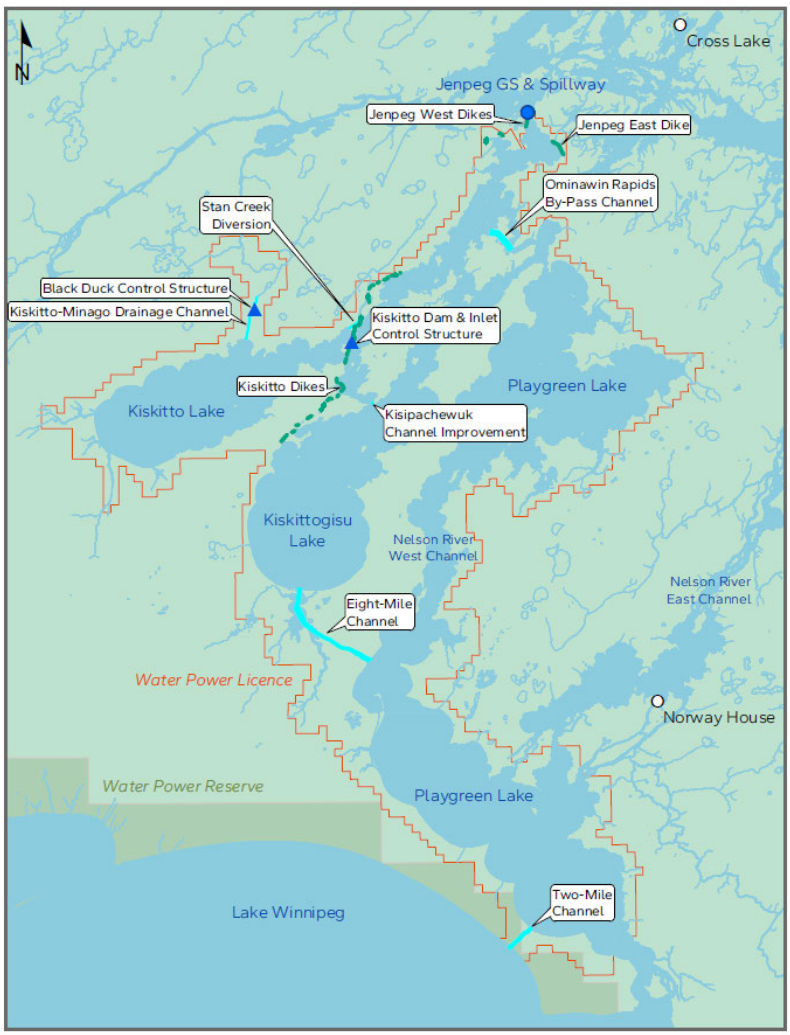


Figure 2: Jenpeg Generating Station Location Plan

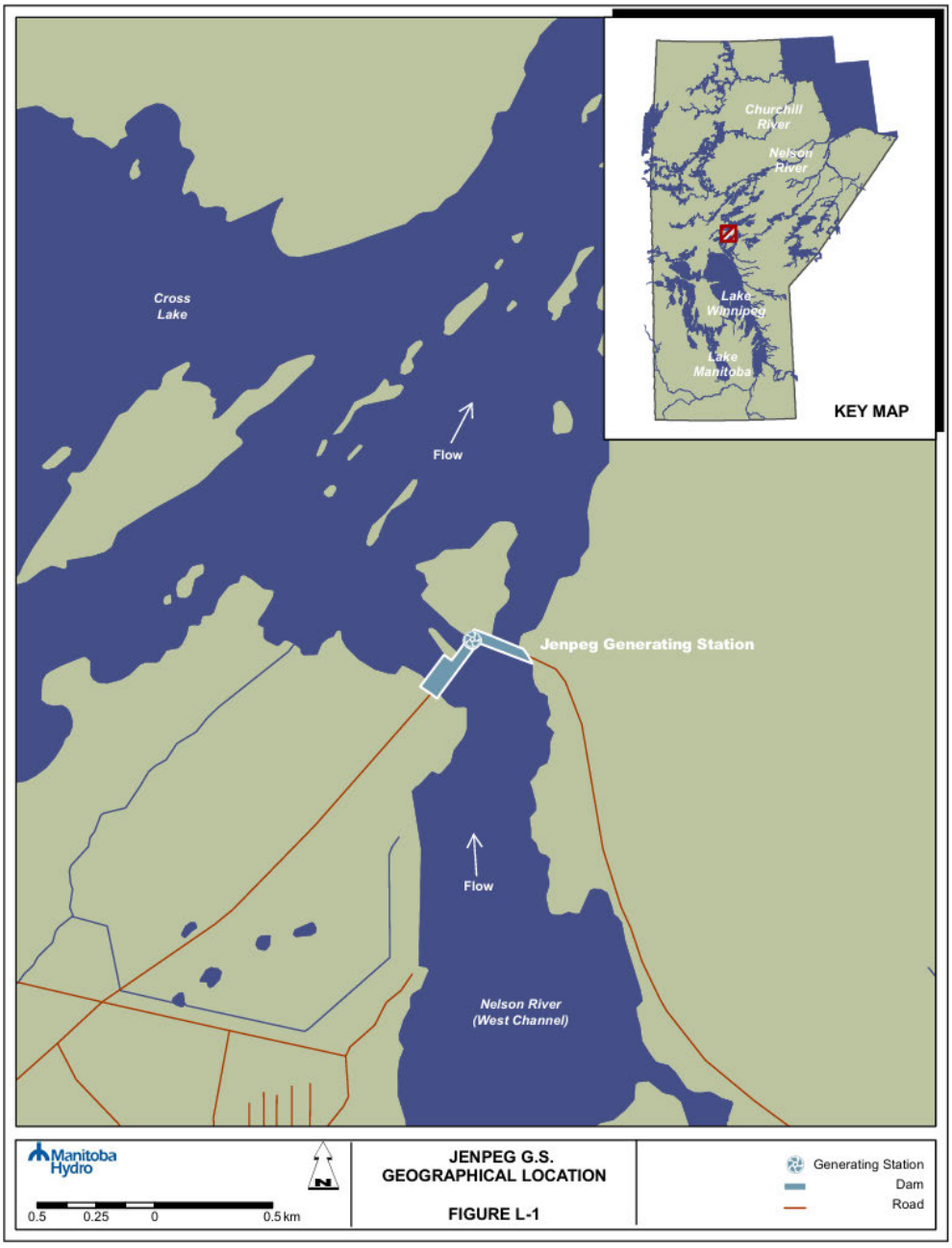


Figure 3: Gauge Location Plans

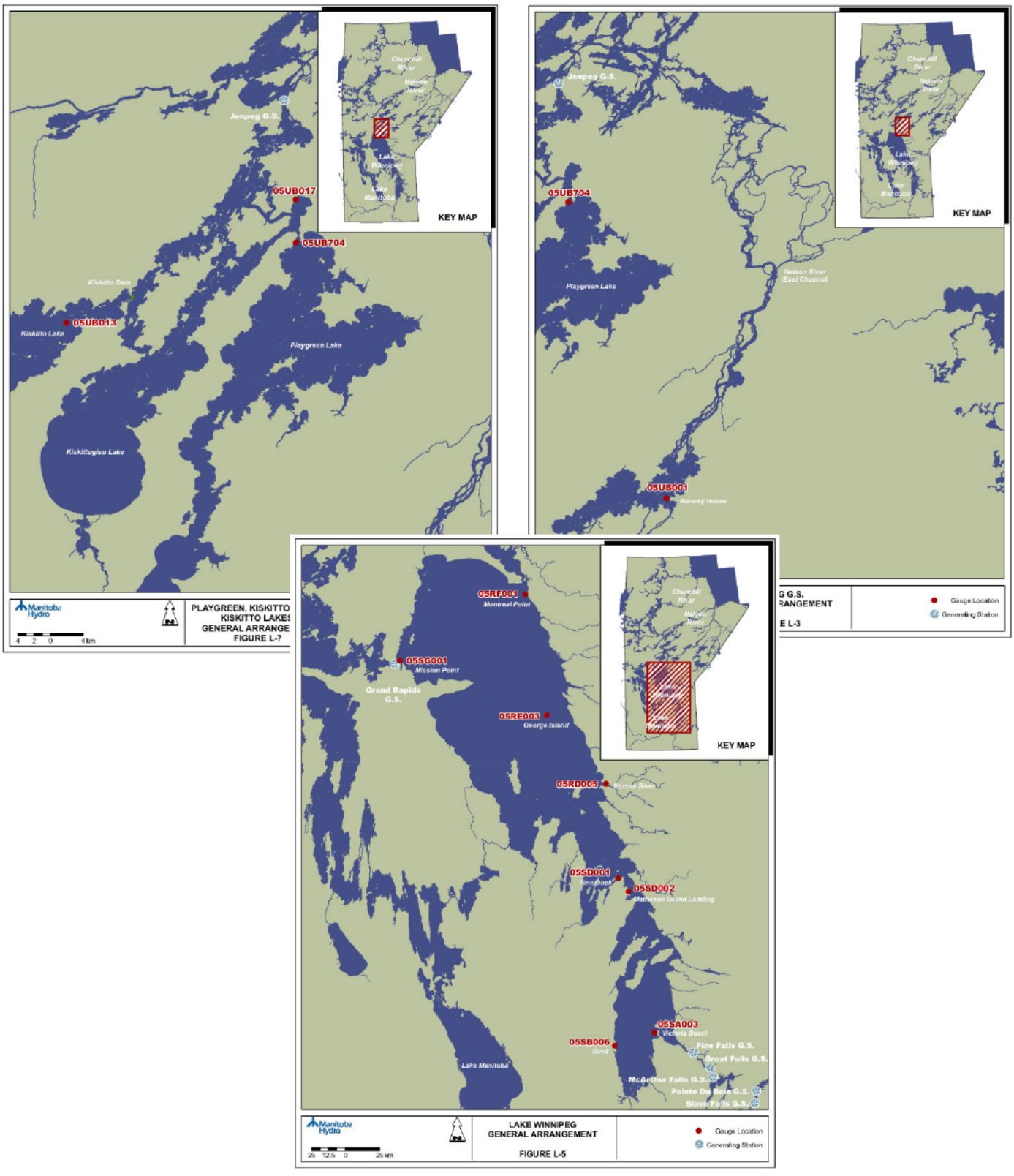


Figure 4 : Jenpeg Spillway General Arrangement

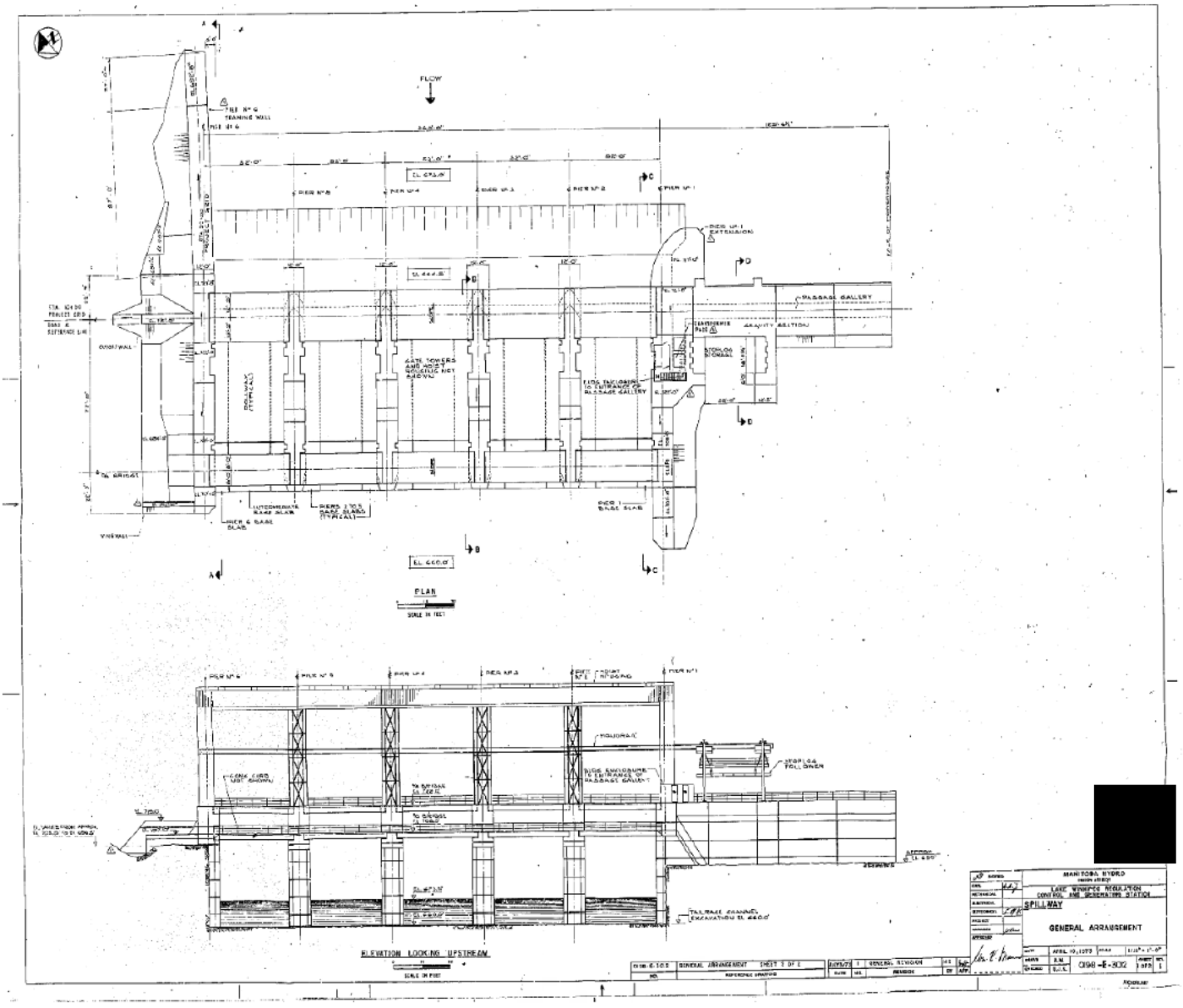


Figure 5: Jenpeg Spillway General Arrangement

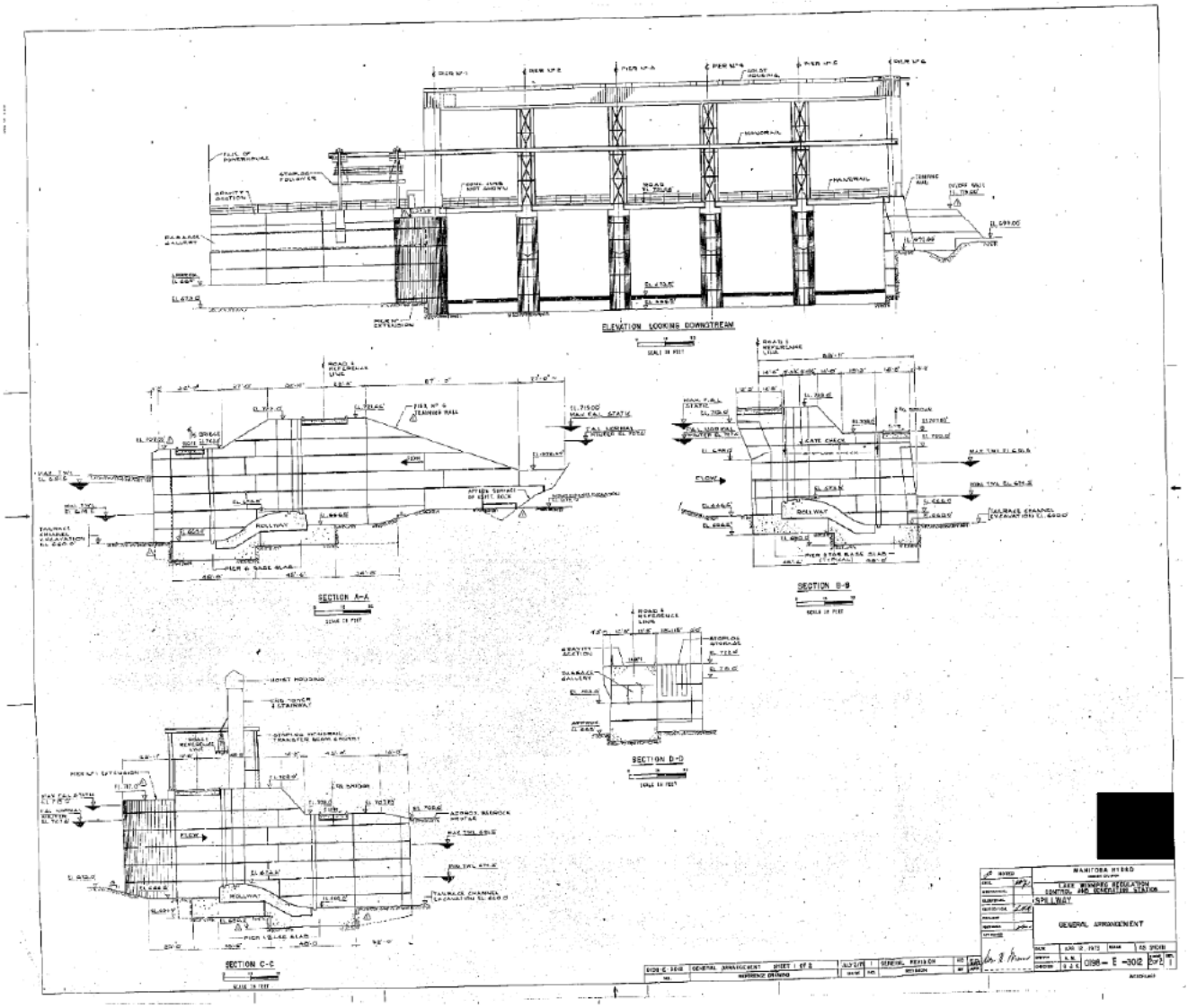
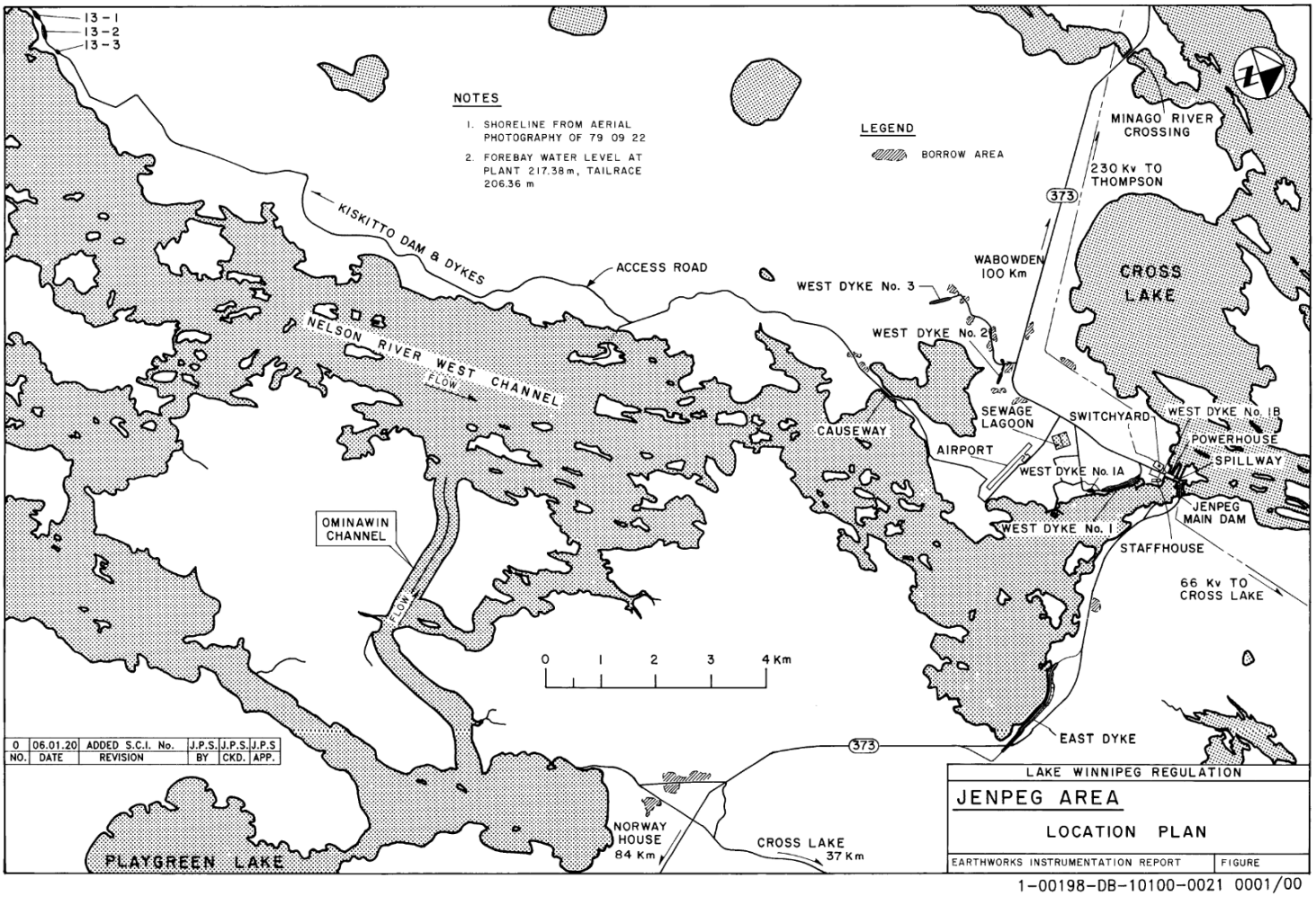


Figure 6: Jenpeg Area Location Plan showing diking



Photograph 1 : Jenpeg Spillway Location

Manitoba Hydro	MANITOBA HYDRO	
	WATERWAY APPROVALS AND MONITORING	
	JENPEG GENERATING STATION	
	PHOTOGRAPH OF GENERATING STATION	
	PROJECT WATER LEVELS AND FLOWS REPORT	FIGURE L-2

Photograph 2: Two – Mile Channel (2004)

Photograph 3: Eight – Mile Channel (2010)

Photograph 4: Ominawin Bypass Channel (2009)

Photograph 5: Kisipachewuk Channel Improvement (unknown date)

Photograph 6: Kiskitto Lake Inlet Control Structure (2004)

Photograph 7: Black Duck Control Structure (2020)

Photograph 8: Black Duck Diversion Channel (Kiskitto-Minago Drainage Channel) (2005)

Screenshot 9: Stan Creek Diversion Channel (2026 Google Maps)