SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: **Municipality of Harrison Park**

PROPOSAL NAME: **Sandy Lake Water Level Control Project**

CLASS OF DEVELOPMENT: **Two**
TYPE OF DEVELOPMENT: **Water Development and Control**
CLIENT FILE NO.: **5804.00**

OVERVIEW

The Proposal was received on November 16, 2015. It was dated November 5, 2015. The advertisement of the Proposal was as follows:

"An Environment Act Proposal has been filed by G. D. Newton and Associates Inc. on behalf of the Municipality of Harrison Park for a project to regulate high water levels on Sandy Lake. The project involves the construction of a gated box culvert control structure in SW 16-18-20W and the improvement of the upstream portion of a small existing channel along the natural outlet route from Sandy Lake to Beaufort Lake. The outlet route from Beaufort Lake to the Little Saskatchewan River would not be modified. The project would allow water to be discharged from Sandy Lake when lake elevations were less than 0.1 m below the top of the main pier in the community of Sandy Lake. Outflows from Sandy Lake would be regulated so that levels on Beaufort Lake did not exceed the top of the Beaufort Lake outlet culvert in SW 17-18-20W. The Sandy Lake outlet therefore would be closed or limited following heavy precipitation events until downstream local inflow had diminished. Construction and operation of the project is proposed for 2016."

The Proposal was advertised in the Minnedosa Tribune on Friday, December 11, 2015, and in the Brandon Sun on Saturday, December 12, 2015. It was placed in the following public registries:

- Legislative Library (Winnipeg)
- Millennium Public Library (Winnipeg)
- Online: http://www.gov.mb.ca/conservation/eal/registries/5804sandylake/index.html

The Proposal was distributed to Technical Advisory Committee (TAC) members on December 11, 2015.

The closing date for comments from members of the public and TAC members was January 14, 2016.

COMMENTS FROM THE PUBLIC

Comments were received from 30 members of the public and the Keeseekowenin Ojibway Nation. Comments are summarized in the table below, with brief dispositions provided for comments expressing concerns about the project. Full comments are provided in the public registries.

Table 1 Sandy Lake Water Level Control Project – Public Comments

No.	Name	Comments	Disposition
1.	Geri Pringle	Concern about environmental study, target elevation, dock removal, low lake levels, downstream effects.	Additional information requested.
2.	Hank Monita	Concern about target level, dock condition and removal.	Additional information requested.
3.	Lorne and Janet Bradley	Advertising of proposal, wastewater pollution of Sandy Lake.	Discussed with ECEB [1]
4.	Sheila Miller	Concern about low water levels.	
5.	Dennis Hodgson	Have water quality impacts been studied? Do property owners have input? Questions about target levels and operation.	Additional information requested.
6.	Barry Zachedniuk	Concern about target level reference, dock removal, and need for project – approval of low lying development and uncontrolled inflows.	Additional information requested.
7.	Vern Cross	More study should be done before approving.	
8.	Virginia Shemeliuk	Numerous concerns with the basis for the project, water levels, gate operation	Additional information requested.
9.	Brad Kelso	Target level based on arbitrary point, pier being removed. Target level should be based on engineering and environmental assessments with public consultation.	Additional information requested.
10.	Harold Fung	Supports proposal, concerned about high lake levels.	
11.	James Nicholls	Concerned about low levels, levels should remain natural.	Additional information requested.
12.	Doug Wotton	Water quality must not deteriorate; supports project, concerned about advertising of proposal.	
13.	Tom Sherb	Support proposal.	
14.	Lorne and Janet Bradley	Further comments on water quality issue.	
15.	Ken and Eloise Gosnold	Support proposal.	
16.	Dale Scott	Concerned about high levels, support proposal.	
17.	Liz Wotton	Support proposal.	
18.	Kevin and Rhonda Pratt	Support proposal.	
19.	JoAnna and Jim Grant	Environmental study done? What are impacts on bodies of water involved? Concerned about low levels, target level and replacement of pier – reference level. Water quality concerns. Will there be a	Additional information requested.

No.	Name	Comments	Disposition
		public meeting to discuss proposal?	
20.	Marno and Connie Cross	Concern about notice for proposal, target elevation, removal of pier,	Additional information requested.
21.	Gil Van Daele	Concern about notice for proposal, high levels and water quality. Support proposal.	
22.	Owen Hagan	Concern about high levels. Support project.	
23.	Myles and Lorie Emrick	Support project.	
24.	Ken Omilano	Concern about notice for proposal, high levels and water quality. Support proposal.	
25.	Gordon and Cheryl Cormack	Concern about high levels and water quality. Support proposal.	
26.	Darryl and Julie Kines	Concern about high levels, would prefer lower target level. Support proposal.	
27.	Jeanette Rouire	Support proposal.	
28.	Mark Sefton	Support proposal. Concern about high levels, water quality.	
29.	Ricki Marie Woods	Concern about high levels and notice for proposal. Support proposal.	
30.	Chris Miller	Support an environmental study to ensure needs of the lake are best met, focus on water quality.	Additional information requested.
31.	Barry Bone (Keeseekoowenin Ojibway Nation)	Concern about lack of Crown-Indigenous consultation. Project would drastically affect the livelihood of Keeseekoowenin First Nation. Concern about pollutants, fisheries and aquatic life, culverts and road washouts	Additional information requested.

Notes

1. Environmental Compliance and Enforcement Branch

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE

Technical Advisory Committee comments are summarized in the table below, with brief dispositions provided for comments. Full comments are provided in the public registries.

Table 2 Sandy Lake Water Level Control Project – Technical Advisory Committee Comments

Member	Response Provided	Disposition
Canadian Environmental Assessment Agency	Comments below	
Manitoba Sustainable Development		
• Environmental Compliance and Enforcement	No response	
• Climate Change and Air Quality	No significant impact on air quality expected	
• Parks and Protected Spaces	No comments or concerns	
• Forestry	No response	
• Aboriginal Relations	No response	
• Lands	Comments below	Addit. info requested
• Office of Drinking Water	Comments below	As noted after comments
• Water Science and Management	No response	
• Water Use Licensing	No concerns	
• Water Control Works and Drainage Licensing	Comments below	As noted after comments
• Wildlife and Fisheries	No wildlife concerns	
Sport, Culture and Heritage	No response	
• Historic Resources		
Infrastructure		
• Highway Planning and Design	Comments below	Addit. info requested
• Water Management, Planning and Standards	No response	
Indigenous and Municipal Relations	No response	
• Community and Regional Planning		
Health, Seniors and Active Living		
• Environmental Health Unit	No further comments	
Growth, Enterprise and Trade		
• Office of the Fire Commissioner	No response	

Canadian Environmental Assessment Agency

Thank you for your assistance in clarifying the parameters of the project and provincial license requirements.

The Agency has completed its analysis of the proposed project and concluded that under the *Canadian Environmental Assessment Act* (CEAA 2012) and its *Regulations*, the proposed project is not a designated physical activity.

Analysis

Given that the new culvert would be an expansion of an existing structure for the diversion of water, the Agency considered whether Paragraph 7 of the *Regulations Designating Physical Activities*, under CEAA 2012 applied to the project. S 7 states:

> **7.** *The expansion of an existing structure for the diversion of water from a natural water body into another natural water body that would result in an increase in diversion capacity of 50% or more and a total diversion capacity of 10 000 000 m^3/year.*

The proposed outlet will be actively managed to maintain the water level at 96.5 m which is 0.1m below the pier. The bottom of the proposed culvert would be set at this elevation so that the water levels could not be lowered below this target elevation. Once this elevation is reached, outflow from the lake would stop.

The lake is 561 ha (5 610 000 m^2). To have a discharge of 10 000 000 m^3/year, 1.78 m of precipitation would have to fall on the lake area (ignoring other inflows). The average precipitation for Manitoba is approximately 0.5 m/y. Therefore on an annual basis, given the ongoing stabilization of the lake level, it is highly unlikely that the flow rate through the culvert could ever reach the regulation threshold limit.

During storm events, outflow from Sandy Lake would be suspended until monitoring confirmed that downstream water levels in Beaufort Lake and the related systems were operating within their prescribed tolerances. Therefore, the culvert is not to be used as an emergency outlet. This is included in the Environment Act Proposal and CWS has verified this will be a requirement of the operating license.

Therefore, even though the design capacity could theoretically exceed the threshold in the expansion provision, the physical reality of the lake size, annual precipitation and operational restrictions during emergency events would prevent this threshold from being reached. The proposed project is therefore not considered a designated physical activity under paragraph 7 of the Regulations.

Please let me know if you have any questions regarding the Agency's conclusion.

Manitoba Sustainable Development – Lands Branch

Below are comments as well as suggestions made by the IRMT Western Region and coursed through the Regional Lands Manager:

1. Lack of geodetic level to indicate what static level that Sandy Lake will be maintained or where the gate will be established. Clearly this is an important for understanding the impact to current levels and how much drawdown is required to

get to that level. As the proposal mentions that the target level is 0.1 m below the top of the pier, it has been noted that the pier was not level at last inspection and also was scheduled to be removed January 2016.

Suggestion that a geodetic level be incorporated in the report as well as information as to how much draw down required of current lake level.

2. There is also concern for cottage development proposed for Beauford Lake (located immediately downstream of Sandy Lake) and as such, request to have assessment of immediate flood from Sandy Lake and how it will change levels to Beauford and to what duration.

   Suggestion that the report include some comparative impacts to the potential impacted lake levels and how it impacts proposed cottage lot location.

3. Potential to flood along Drainage Route- Review of the drainage route of the 10 crossings with Water Resources Staff have indicated that Crossing number 10 has the potential to flood. Crossing 10 is all on Keeseekoowenin First Nation land and has low freeboard coverage on the culvert. The history of the area flooding is recent, and in the spring of 2015 Keeseekoowenin First Nation was in contact with the Rural Municipality of Harrison as the water from Sandy Lake was causing flooding issues at this location. In addition, there other flows added to the drainage route (from Thomas Lake) that may provide a compounding impact will impact to this crossing.

   Suggestion that more hydrological information be provided with flood stage impacts to this drainage route and on this crossing. Crossing Number 10 should also be included as a control point for the release of water from Sandy lake. Suggestion that Report also include statement that the First Nation have been consulted and have expressed support to the proposed works.

4. Request for survey of any potential clean out is required beforehand to properly assess extent of the potential impacts along drainage route.

Suggestion that cleanout survey be conducted and estimations with potential impacts be included in future report.

Disposition:

Additional information was requested to address these comments.

Manitoba Sustainable Development – Office of Drinking Water

- The Little Saskatchewan River (LSR) provides the raw water supply for the Town of Rivers downstream of the point where the proposed diversion is to enter the LSR. Further downstream, the LSR empties into the Assiniboine River upstream of the

water system intake for the City of Brandon. No mention of this was made in the Report.

- No data is given on the chemistry of Sandy Lake (minerals, salinity, organic carbon, etc.) or any changes in the chemistry of the LSR anticipated resulting from, the diversion of water from Sandy Lake.
- No discussion is provided of potential effects upon the treatment processes or treated water quality of the Town of Rivers or City of Brandon public water systems from diversion of water from Sandy Lake into the LSR.

I would respectfully suggest these issues should have been addressed to at least some extent in the Report. At a minimum, ODW recommends that contact information for the Town of Rivers water treatment plant be included in the Operating Procedures for the diversion with instructions that the water plant operator at the Town of Rivers be notified any time the diversion is operated to release water from Sandy Lake into the LSR.
Apart from these points ODW has no other cause for concern with the EAP or proposed development respecting drinking water safety or quality.

Disposition:

Rivers is located on the Little Saskatchewan River approximately 100 km downstream of the discharge point for the proposal into the river. There are two dams and reservoirs between the discharge point and Lake Wahtopanah, the source of Rivers' drinking water. Brandon is located further downstream on the Assiniboine River, where perhaps 10% of the Brandon flow is derived from the Little Saskatchewan River. The volume and rate of discharge of Sandy Lake water into the Little Saskatchewan River and the Assiniboine River would be insignificantly small as far downstream as Rivers and Brandon, and it is expected that water quality effects this far downstream would be undetectable. However, water quality effects on the downstream drainage system were not addressed in the proposal, and additional information was requested to address this matter.

Manitoba Sustainable Development – Water Control Works and Drainage Licensing Section

An engineered drainage plan and design of proposed infrastructure are required, as per the attached specifications.

Please advise the proponent that all water control works (drains, culverts, dykes, dams, etc.) require licensing under the *Water Rights Act* - an application is attached for their convenience. Any inquiries in this regard may be directed to the local *Water Resource Officer*. Their contact information may be found at:

http://www.gov.mb.ca/conservation/waterstewardship/licensing/pdf/officer_areas_of_focus_30mar2015.pdf

Licensing of yard and field approaches (access points) are the responsibility of either the municipality, or *Manitoba Infrastructure and Transportation*, whichever is applicable.

The drainage and/or alteration of permanent and semi-permanent wetlands is not permissible under the *Water Rights Act*.

Disposition:
This information was provided to the proponent's consultant for information. Several of the comments can be addressed as licence conditions.

Manitoba Infrastructure – Highway Planning and Design Branch, Environmental Services Section

MIT has reviewed the proposal under the *Environment Act* noted above and MIT's Southwestern Region has the following comments/concerns:

- MIT has already undertaken bank stabilization work along PR 250 at Beaufort Lake. Allowing additional water to flow from Sandy Lake to Beaufort Lake may cause further erosion and bank destabilization.
- Indications that the potential for flow to continue through all or a part of a winter season is of concern given the proximity of PR 250.
- The proposal indicates that the slide gate on the box culvert will be opened or closed based on site conditions. However, there is no indication who will be monitoring the site conditions and then operating the gate. It has been the experience of MIT that gates are not well monitored nor maintained.
- The proposal advises that the outflow from Sandy Lake will not be permitted under storm conditions. There isn't a clear enforceable plan to ensure this.
- The proposal indicates that fish that leave Sandy Lake in overflow conditions may become trapped and perish. The proposed solution of a screen on the box culvert has been rejected due to the necessary maintenance.

For clarifications on these comments, please contact Brian Hickman, Regional Planning Technologist, at (204) 726-6822 or at Brian.Hickman@gov.mb.ca.

Disposition:
Additional information was requested to address these comments.

ADDITIONAL INFORMATION

Additional information was requested to address public and Technical Advisory Committee comments on the project on August 18, 2016. A response to several of the items was provided by the municipality on November 9, 2016. The remaining items were addressed in a letter from the municipality's consultant of December 7, 2016. The additional information request and responses are attached.

PUBLIC HEARING

No requests were received for a public hearing. Accordingly, a public hearing is not recommended.

CROWN-INDIGENOUS CONSULTATION

The Government of Manitoba recognizes it has a duty to consult in a meaningful way with Indigenous communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of the Indigenous rights of that community.

The Sandy Lake Water Level Control Project proposes an outlet route from Sandy Lake to the Little Saskatchewan River that passes through the Keeseekoowenin Ojibway Nation. The First Nation provided comments on the proposal expressing concern about water quality and flooding. Additional information provided by the proponent and proponent's consultant address the concerns. The additional information, commentary on it and the draft licence were provided to the First Nation in accordance with its request. No concerns were identified.

RECOMMENDATION

All comments received have been addressed through additional information, the provision of additional information to the proponent's consultant or through licence conditions. It is recommended that the Development be licensed under *The Environment Act* subject to the limits, terms and conditions as described on the attached Draft Environment Act Licence. It is further recommended that enforcement of the Licence be assigned to the Western Region of the Environmental Compliance and Enforcement Branch.

PREPARED BY:

Bruce Webb
Environmental Approvals Branch – Land Use and Energy Section
December 20, 2016 Updated February 1, 2017
Telephone: (204) 945-7021
Fax: (204) 945-5229
E-mail: bruce.webb@gov.mb.ca

Webb, Bruce (SD)

From:	Webb, Bruce (SD)
Sent:	August-18-16 9:23 AM
To:	'Sarah Santiago'; 'Glen Newton'
Cc:	'Chad'
Subject:	Sandy Lake Water Level Control Project File: 5804.00
Attachments:	Application for Licence to Construct Water Control Works.pdf; Fact Sheet-Engineered Drainage Plans for Subdivisions.pdf

The public and Technical Advisory Committee review of the Environment Act Proposal for the above project was completed earlier; I apologize for the lengthy delay in the process for this project. I have now compiled a list of additional information items that are needed to address concerns identified during the review. Your comments on the following items are requested:

1. The proposal references a target water level for the lake to the main community dock (0.1 m below the top of the dock). I understand the dock has since been removed. A geodetic level for the target elevation is needed. Are there plans to establish another convenient reference point for monitoring water levels?
2. Please outline how the target level for lake regulation was determined. From the proposal, it appears to have been based on observations over the past several years of levels which affect low lying properties. Can you confirm?
3. How often would water levels on Sandy Lake, Beaufort Lake and at Crossing #9 be monitored by operators, and how frequently would flows be adjusted? Are provisions planned to prevent unauthorized operation of the control structure at the outlet of Sandy Lake?
4. The proposal noted that winter flows would be a possibility. Please describe any operating rules that would apply to winter operation, and any additional monitoring that would be needed to accommodate this operation.
5. Water quality effects of the project are discussed briefly; page 13 of the proposal suggests that water quality data is either not available or was not examined. Please comment on any known differences in water quality between Sandy Lake, Beaufort Lake and the Little Saskatchewan River, and potential project effects. Some water quality data should be available for Sandy Lake and Beaufort Lake through monitoring for the community of Sandy Lake's water supply and wastewater treatment systems.
6. A fish screen is not proposed to prevent the escape of fish from Sandy Lake with the outlet in place. What data is available on fish species present in Sandy Lake, Beaufort Lake and the Little Saskatchewan River, and are any project effects on fish anticipated?
7. The proposal notes that the outlet would not increase peak flows, but that downstream flow durations would be extended. Additional commentary would be useful on downstream effects, including effects on downstream roads and culverts and their maintenance. The proposal suggests that the municipality would address debris removal at downstream culverts; more information on how frequently this would be done would be helpful. In particular, it is noted that the outlet route slope in the lower reaches is steep, and the road over Crossing #9 is high – how could debris be removed at this location in a timely manner?

The following comments from the Water Control Works and Drainage Licensing Section of Manitoba Sustainable Development are provided for your information:

> An engineered drainage plan and design of proposed infrastructure are required, as per the attached specifications.
>
> Please advise the proponent that all water control works (drains, culverts, dykes, dams, etc.) require licensing under the *Water Rights Act* - an application is attached for their convenience. Any inquiries in this regard may be directed to the local *Water Resource Officer*. Their contact information may be found at:

http://www.gov.mb.ca/conservation/waterstewardship/licensing/pdf/officer_areas_of_focus_30mar2015.pdf

Licensing of yard and field approaches (access points) are the responsibility of either the municipality, or *Manitoba Infrastructure and Transportation*, whichever is applicable.

The drainage and/or alteration of permanent and semi-permanent wetlands is not permissible under the *Water Rights Act*.

Bruce.

Bruce Webb, P.Eng.
Water Development and Control Assessment Officer
Environmental Approvals Branch
Manitoba Sustainable Development
Mail: 160 – 123 Main Street (Box 80)
Winnipeg MB R3C 1A5
Couriers: 2nd Floor, 123 Main Street
Winnipeg MB R3C 1A5
Tel: (204) 945-7021
Fax: (204) 945-5229
e-mail: bruce.webb@gov.mb.ca

Sandy Lake Water Level Control Project File: 5804.00

Response to August 18, 2016 Request for Additional Information

Items 1 and 5: Letter from G. D. Newton and Associates, December 7, 2016 (attached)

Items 2 - 4 and 6 – 7: from Chad Davies, CAO, Municipality of Harrison Park, November 9, 2016

2. The target level was established taking into consideration the properties that are prone to flooding when the level is exceeded, specifically the Serenuk Drive area, as well as the level that was visible on the old pier (now removed). Other considerations taken into account were the historic level near the natural drain that was filled in, shore lines along Lake Street, and what people remember.

3. Water levels on Sandy Lake, Beaufort Lake and at Crossing #9 would be monitored a minimum twice per week during operation. During and immediately after heavy rains, the drain would be closed to ensure that the drainage route is not completely flooded.

   Depending which structure is ultimately chosen, provisions would be taken to prevent unauthorized operation. With a culvert, a control gate would be installed with a secure lock that only employees authorized to open and close the drain in accordance with the issued license would have. If the concrete box culvert is installed, it would be designed with a weir system, which again would be securely locked.

4. Winter flows would be strictly monitored for freeze up. However, unless we receive a large amount of precipitation prior to freeze up, the drain would not have to be operated, as the Municipality's goal would be to have it at a reasonable level prior to winter.

   It should be noted that the drain was in operation during the winter of 2015 with no resulting issues.

6. Sandy Lake & Beaufort Lake have northern pike, walleye, and yellow perch (not many). The Little Saskatchewan River has northern pike, very few walleye in the area, and suckers. Should MB Sustainable Development recommend a fish screen, the Municipality has no objection to installing fish screens as necessary. In my opinion it would be wise to install fish screens to prevent suckers from entering both Beaufort and Sandy Lakes.

7. The Municipality would attempt to regulate the lake level and drain throughout the summer months, when temperatures are high and the soil has capacity to absorb water. The amount of water being released at any time would not negatively impact any roads or culverts because if the drainage system is full because of precipitation, the drain would not be operated. Given that the Municipality would regularly monitor the drainage system, debris remove would occur as necessary – when flows are being significantly restricted by debris or flooding is occurring because of a blockage.

The Municipality has made improvements to the crossing within Keeseekoowenin First Nation (#10) with the installation of a 900 mm culvert, alongside the existing 800 mm pipe, which will alleviate the washouts that the First Nation has been faced with over the past number of years. We also have begun to have regular discussions/contact with representatives of Keeseekoowenin First Nation.

We have excellent working relationships with area contractors and availability of equipment to address debris issues would not be an issue. Crossing #9 is steep, however a track excavator can easily maneuver down to the culvert to clean debris.

G. D. Newton and Associates Inc.

727A 10th Street
Brandon, Manitoba
R7A 4G7
204-725-1688
204-725-3922 (fax)

December 7th, 2016

Bruce Webb, P.Eng.
Water Development and Control Assessment Officer
Environmental Approvals Branch
Manitoba Sustainable Development
160-123 Main Street
Winnipeg, Manitoba
R3C 1A5

Sent via email bruce.webb@gov.mb.ca

Re: **Sandy Lake**
Water Level Control Project

This letter is written to address the three outstanding comments from the public and Technical Advisory Committee review of the Sandy Lake Water Level Control Project EAP.

WATER QUALITY EFFECTS OF THE PROJECT

The water quality data provided by yourself for Sandy Lake, Beaufort Lake, and the Little Saskatchewan River were reviewed. Unfortunately the water quality data for the three locations were taken on separate years. Therefore is not possible to compare the differences in water quality in the three bodies of water under similar weather conditions. The relevant water quality parameters that had data available for the three water bodies are summarized below.

	Sandy Lake	Beaufort Lake	Little Saskatchewan River
Sampling Parameters			
Year in which samples were taken	2014	2007-2009	1997-1999
Sampling Location	• North east end • south east end • south narrows		2 km upstream of Rolling River
Constituents			
Total Suspended Solids (mg/L)	Range: 8-27 Avg = 17	Range: 5-15 Avg = 13	Range: 5-120 Avg = 33
Total Dissolved Phosphorus (mg/L)	0.02	Range: 0.01-0.03 Avg = 0.02	Range: 0.02-0.45 Avg = 0.09
Total Phosphorus (mg/L)	Range: 0.04-0.07 Avg = 0.06	Range: 0.03-0.04 Avg = 0.04	Range: 0.03-0.52 Avg = 0.14
Nitrogen Total Kjeldahl (mg/L)	Range: 2.1-2.6 Avg = 2.3	Range: 1.4-1.9 Avg = 1.7	Range: 0.5-2.5 Avg = 1.2
Nitrogen Dissolved NO_3 & NO_2 (mg/L)	Range: 0.07 – 0.08 Avg = 0.07	No data	Range: 0.01 – 5.38 Avg = 0.6

Based on the available data, total suspended solids (TSS) and phosphorus are similar in both Sandy Lake and Beaufort Lake, and are lower than is present in the Little Saskatchewan River.

The level of nitrogen is shown to be lower in the Little Saskatchewan River . This level may be quite closely associated with volume of runoff. The Sandy Lake sample was taken in 2014. In 2014 the volume of runoff will have been quite large. The Little Saskatchewan River samples were taken in 1997 through 1999. These were years of lower runoff. However, these levels will likely vary with levels of precipitation that immediately preceded the time of sampling.

In summary, it is the opinion of the undersigned that available water quality data does not clearly indicate likelihood for negative impacts on either Beaufort Lake or the Little Saskatchewan River as a result of the proposed outflow of water from Sandy Lake.

GEODETIC LEVEL FOR THE TARGET ELEVATION AND REFERENCE POINT FOR MONITORING WATER LEVELS

The geodetic elevation of the top of the main pier was at 611.03. The goal is to lower the lake level to 0.1m below the top of the main pier to an elevation of 610.93.

The target water level of 0.1m below the top of pier was just used as an easy reference for the public. During survey and construction, numerous benchmarks will be available to be used as a reference point for monitoring water levels.

ENGINEERED DRAINAGE PLAN

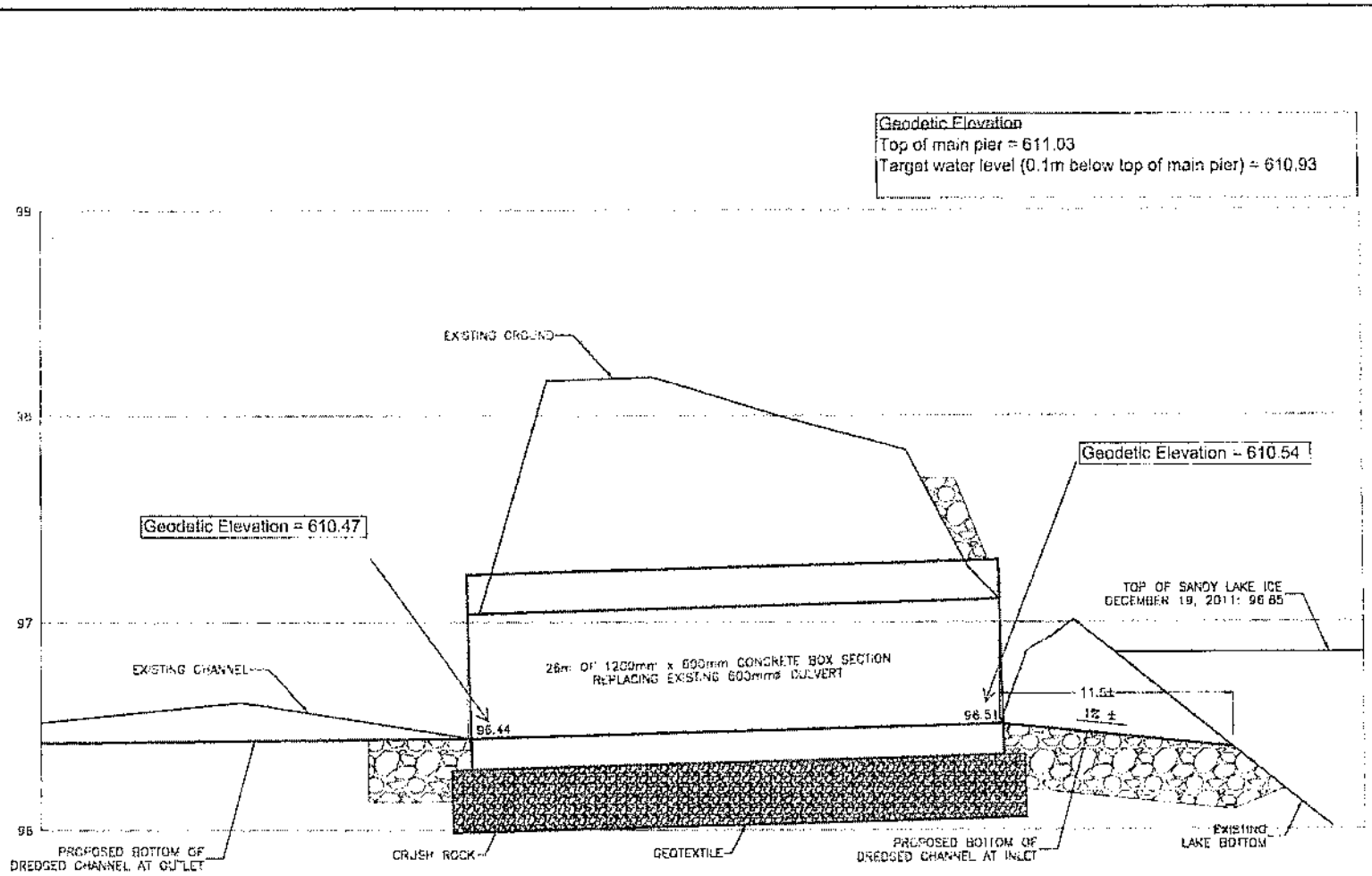
Rick Pemkowski, the local water resource officer, was contacted regarding the need for an engineered drainage plan. He stated that all he would need, aside from the stamped plans included in the EAP, are geodetic elevations for the proposed culvert and the target water level. See the attached Drawing for the relevant geodetic elevations. A copy of the attached drawing has been forwarded to Rick Pemkowski.

I trust you will find everything in order however, should you have any questions please contact the undersigned.

Respectfully submitted,

Glen Newton, P.Eng.

File 169.2.1



N

BENCHMARK NW CORNER OF TOP OF MAIN PIER 97.00

ALL DIMENSIONS ARE IN METRES
ALL ELEVATIONS ARE BASED ON A LOCAL DATUM

APEGM
Certificate of Authorization
G.D. Newton & Associates Inc.
No. 4633 Date: APRIL 30, 2016

PROVINCE OF MANITOBA
2015/10/08
G.D. NEWTON
REGISTERED PROFESSIONAL ENGINEER

LOCATION OF UNDERGROUND STRUCTURES ARE APPROXIMATE ONLY. EXACT LOCATION MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES PRIOR TO CONSTRUCTION.

REVISIONS

G.D. NEWTON AND ASSOCIATES INC.
727A 10TH STREET
BRANDON, MANITOBA
R7A 4G7

DATE: OCTOBER 2015 SCALE: (H) 1:200 (V) 1:20

R.M. OF HARRISON: SANDY LAKE
WATER LEVEL CONTROL PROJECT
OUTLET SECTION

DRAWING 2