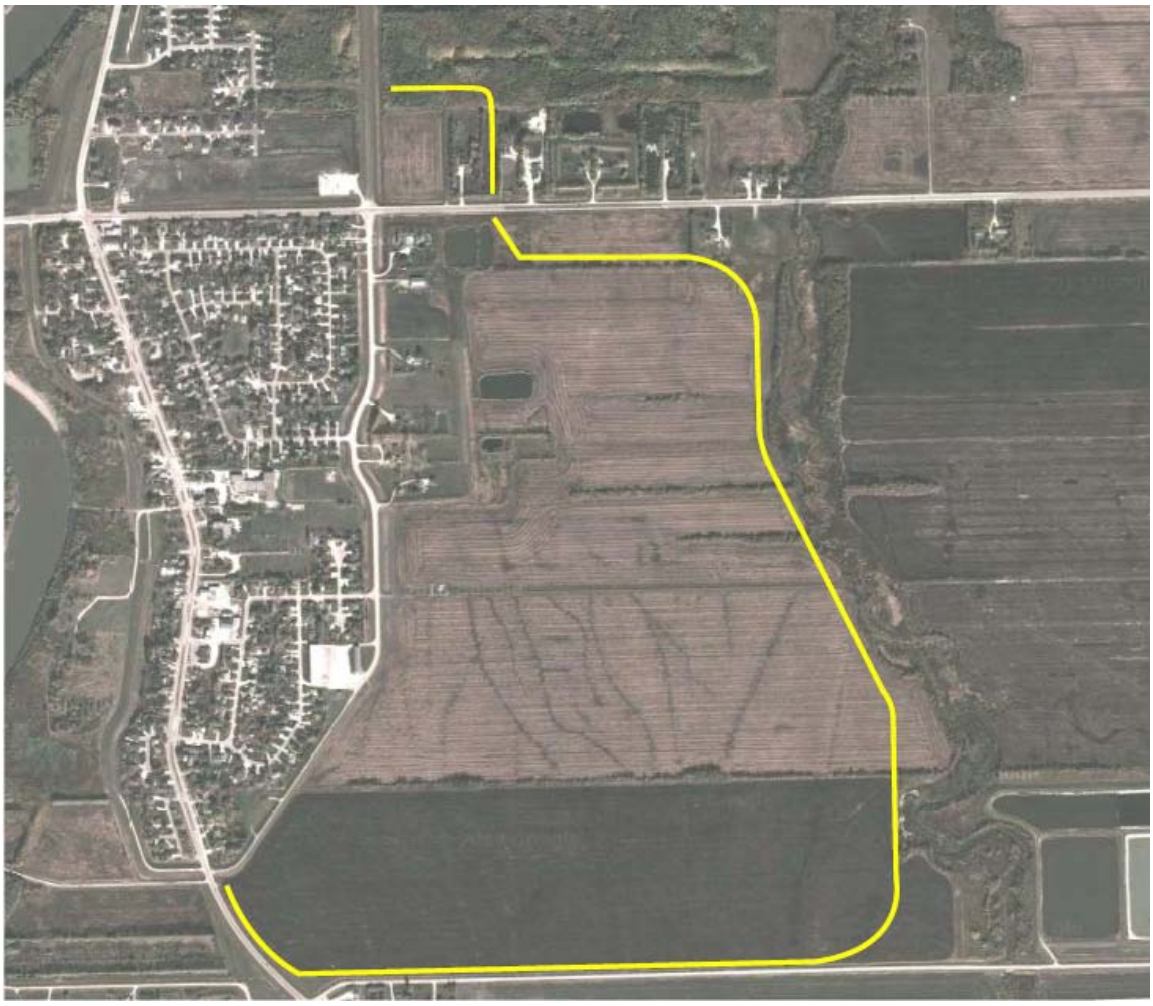
MANITOBA ENVIRONMENT ACT PROPOSAL

PROPOSED ST. ADOLPHE RING DIKE EXPANSION



Manitoba Infrastructure and Transportation

Highway Planning and Design Branch

September 2014

Manitoba

Proposed St. Adolphe Ring Dike Expansion

Manitoba Environment Act Proposal

Submitted to:

Manitoba Conservation and Water Stewardship

Environmental Approvals Branch

Submitted by:

Manitoba Infrastructure and Transportation

Highway Planning and Design Branch

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Executive Summary

Manitoba Infrastructure and Transportation (MIT) is planning an expansion of the St. Adolphe Ring Dike in order to increase the protected area to accommodate future development in the Town of St. Adolphe. The proposed alignment of the expanded ring dike is located in the area generally east of the existing protected area and will increase the protected area by approximately 1.6 km^2.

The Project also includes a flood control structure and pumping station to address drainage requirements under both regular and flood-stage conditions.

Because the Project increases the protected area by more than one square kilometer, it is subject to Licensing under *The Environment Act*.

Taking into consideration the scope of the Project, associated environmental issues and suggested appropriate mitigation measures, MIT is of the opinion that implementation of this Project is not likely to cause significant environmental effects.

Table of Contents

Figures

Tables

Appendices

1.0 Introduction and Background

Manitoba Infrastructure and Transportation (MIT) is planning an expansion of the St. Adolphe ring dike in order to increase the protected area to accommodate future development in the Town of St. Adolphe. The proposed alignment of the expanded ring dike is located in the area generally east from the existing protected area and will increase the protected area by approximately 1.6 km^2. The new dikes will be constructed to an elevation of 2 feet above the 1997 flood levels and will follow standard design and construction standards. The Project is considered a Class II development under the *Classes of Development Regulation 164/88* and will require a License pursuant to Manitoba's *The Environment Act C.C.S.M. c. E125*. The following includes a review of the proposed development and assessment of its potential effects as outlined under the Environment Act Proposal Report Guidelines published by Manitoba Conservation and Water Stewardship's Environmental Approvals Branch.

1.1 Need and Rationale for Development

The Town of St. Adolphe is located in the Red River flood plain and is subject to flooding during wet years. St. Adolphe is currently protected by a ring dike that encompasses the established town site and an area north of Provincial Road (PR) 210 that is currently under residential development. Figure 1 shows the protected area during flooding in 2009. In order to accommodate future development needs, the St. Adolphe ring dike needs to be expanded to increase the protected area.

The existing ring dike was originally constructed in 1968 to an elevation of 235 m (771 ft). The ring dike was expanded to north of PR 210 in 1989 with an elevation of 235.5 m. It was subsequently raised in 1998 to an elevation of 236.4 m, south of PR 210, and 238.25 m, north of PR 210 which is the 1997 flood elevation plus 0.6 m (2 ft).

Figure 1: Aerial Photo of St. Adolphe During 2009 Flooding

1.2 Alternatives Considered

In 2013, MIT commissioned AECOM to complete a preliminary design report that evaluated various dike alignment options. Various options were reviewed with respect to engineering, environmental, and economic considerations.

Based on that review, two design options were presented to the public.

Option One (Figure 2):

- The dike expansion generally follows the outline of the UCH zone

- The proposed dikes are set back from the St. Adolphe Coulee a distance greater than 150 metres.
- Total dike length is 4.03 km
- Total additional protect area is 1.62 km^2.

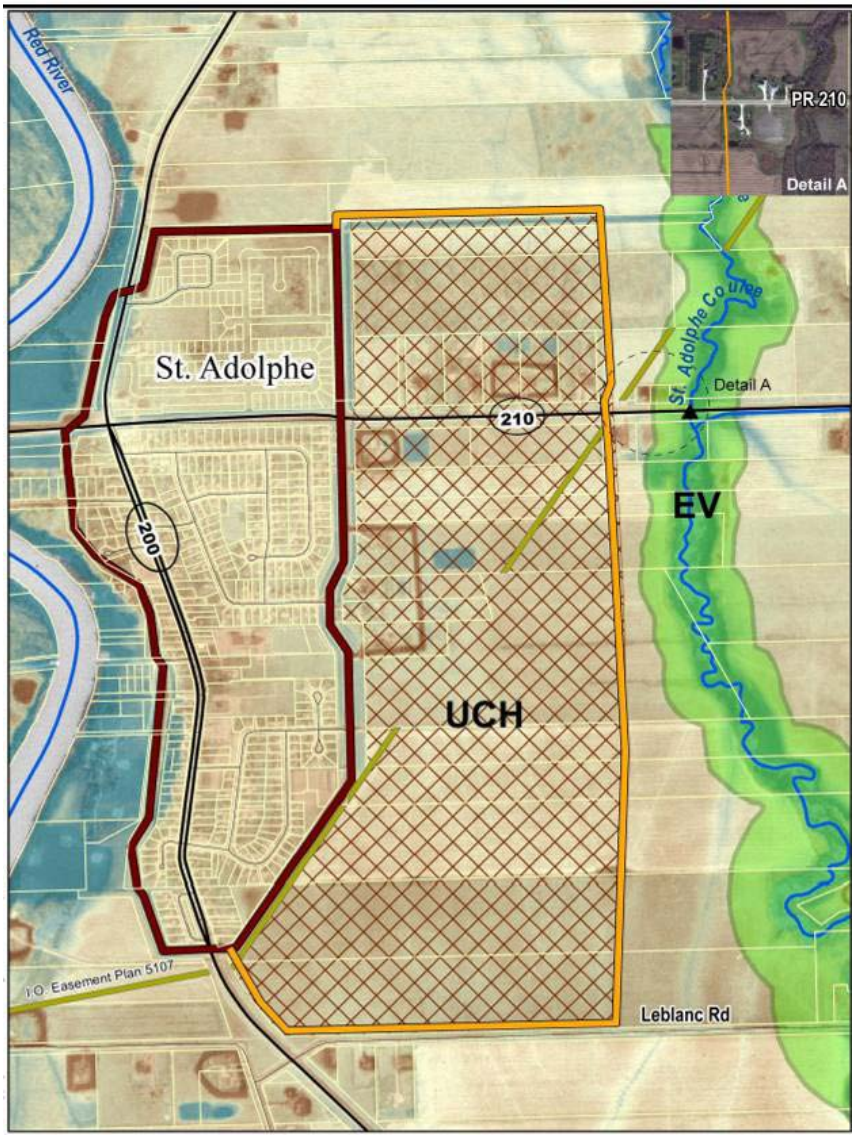

Figure 2: Proposed Expanded Ring Dike Alignment – Option 1

Option Two (Figure 3):

- Similar to Option 1, but with an eastern alignment closer to the St. Adolphe Coulee
- Includes land outside of the UCH zone
- The proposed dikes are set back from the St. Adolphe Coulee a minimum distance of 150 metres

- Total dike length is 4.31 km
- Total additional protect area is 1.82 km^2.

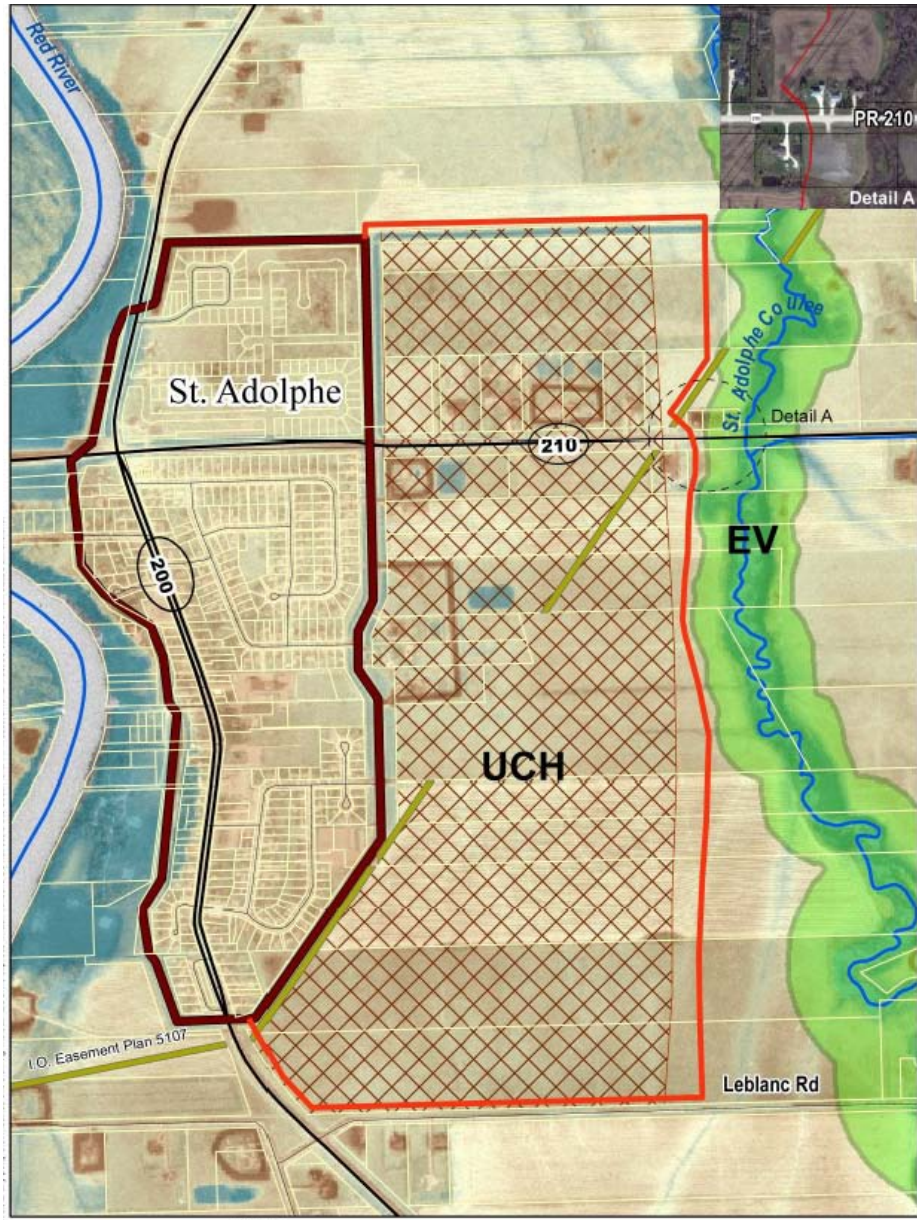

Figure 3: Proposed Expanded Ring Dike Alignment – Option 2

Results from the public open house confirmed the majority of Town of St. Adolphe residents were supportive of the Project. Most of those supportive of the Project favoured Option 2, as it provided a larger protected area than Option 1.

The Rural Municipality of Ritchot (RM) attempted to acquire land and develop a financial plan for the RM to recoup project funding through land owner contributions. Several homeowners north of PR 210 objected to this plan, as their properties were already flood protected to 1997

level plus 2 ft (0.6m) and would not benefit from the expanded ring dike protection. The RM responded by reducing the ring dike footprint by shifting the northern alignment south, with the eastern and southern alignments remaining the same as Option 2. The Option 3 footprint is indicated by Figure 4 and differs from Option 2 as the northern alignment is located one river lot south of PR 210.

Option Three (Figure 4):

- The eastern and southern extent of the dike expansion generally follows the eastern and southern boundary as in Option 2. The northern extent generally follows the southern boundary of one river lot south of PR 210 Right of Way.
- The proposed dikes are set back from the St. Adolphe Coulee a distance greater than 150 metres.
- Total dike length is 4.03 km
- Total additional protect area is 1.62 km^2.

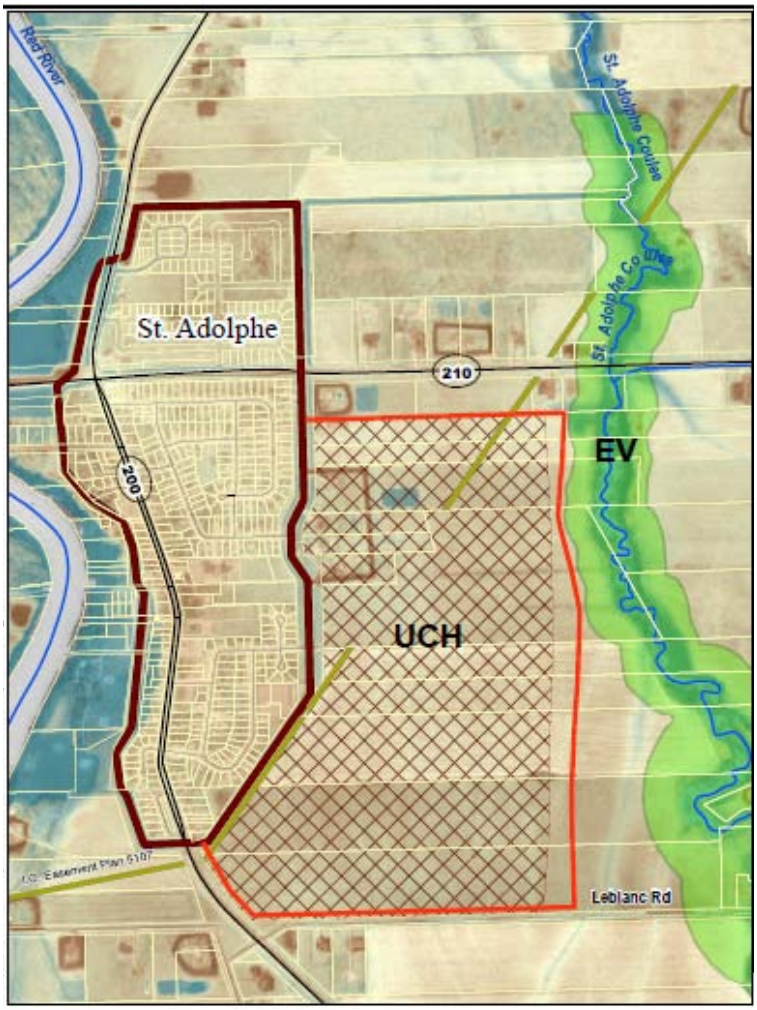

Figure 4: Proposed Expanded Ring Dike Alignment – Option 3

The RM made an offer to the landowners to purchase land required for construction of dike Option 3. Several of the landowners were not agreeable with selling their property and the RM did not want to attempt expropriation, so the St. Adolphe Ring Dike Expansion Project was abandoned in January 2014.

In spring of 2014, a developer willing to perform land negotiations on the RM's behalf and also contribute to the RM's portion of the project expenses approached the RM of Ritchot. The developer requested moving the ring dike alignment closer to the St. Adolphe Coulee be studied to determine if the wider alignment would have a detrimental effect to residents outside of the proposed ring dike expansion. The hydraulic study (Appendix C), completed in August 2014, showed little or no impact to the floodplain hydraulics.

The revised ring dike alignment being proposed in this submission is Option 4 shown in Figure 5.

Option 4 (Figure 5):

- The southern extent of the dike expansion generally follows the southern boundary as in option 3. The eastern extent follows along the west side of the St. Adolphe Coulee and the north-west extent has been shifted north of PR 210.
- The proposed dike is set close to the St. Adolphe Coulee
- The total dike length is 3.4 km
- The additional protected area is 1.6 km^2

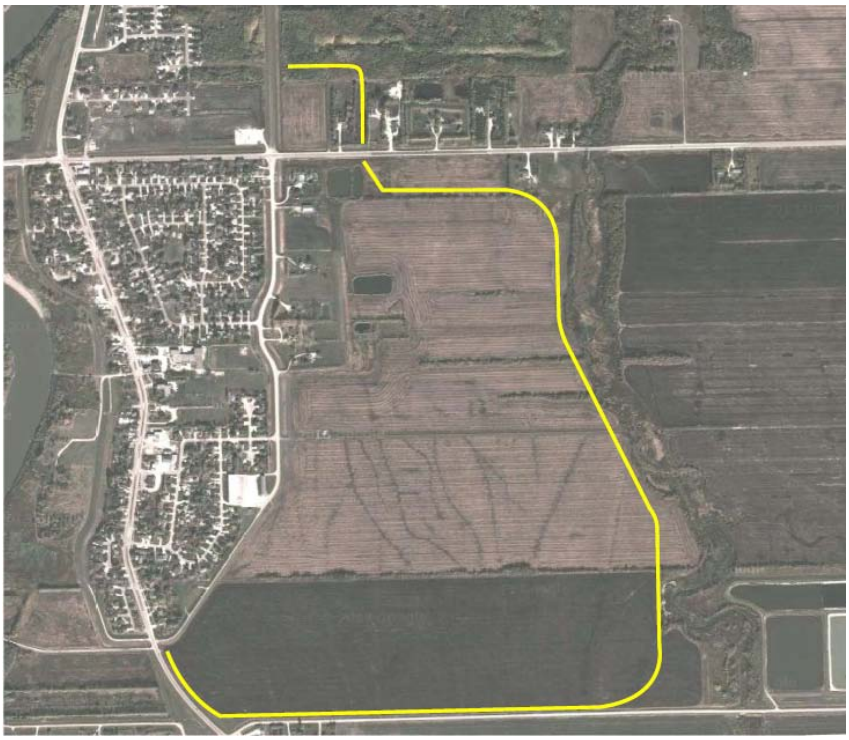

Figure 5: Proposed Expanded Ring Dike Alignment – Option 4

Initially Options 1 and 2 were presented at a public open house with Option 2 receiving the most community support. When the RM approached residents north of PR 210, there was significant opposition to the ring dike expansion because their homes had already been flood protected.

The alignment was revised to Option 3, so only farmland south of PR 210 was included in the proposed St. Adolphe ring dike expansion. When Ritchot approached landowners there was a mixed response and several landowners were unwilling to sell.

A developer offered to acquire land for the St. Adolphe Ring Dike Expansion Project and currently negotiated agreements with intent to sell with all of the affected landowners. The developer requested two changes be made to the Option 3 alignment, including crossing north of PR 210 and shifting the east extent closer to the St. Adolphe Coulee. The environmental effects of the four alignments were similar as the main contributing factor to flood water elevation is the width of the southern dike. A hydraulic model of the worst case scenario, Option 4, showed little or no impact on floodplain hydraulics (Appendix C).

A set of drawings derived from the proposed St. Adolphe Ring Dike Expansion Project is located in Appendix A to this report.

2.0 Description of Proposed Development

The expansion of the St. Adolphe Ring Dike (Project) generally consists of:

- Construction of approximately 3.4 km of dikes to extend the St. Adolphe ring dike to include the area generally located east of the existing protected area, bounded on the east by the St. Adolphe coulee and with a northern boundary one river lot both south of and north of PR 210. The proposed dike alignment is indicated in Figure 5 with the typical cross sections shown in Figure 6.
- Construction of a concrete cast-in-place flood control structure with a variable speed electric motor and gate system for use in pumping flood water and/or drainage water. Figure 7 shows the design details of the flood control structure
- Contouring of the area within the expanded protected area using a network of drainage basins to maximize effectiveness of the drainage system

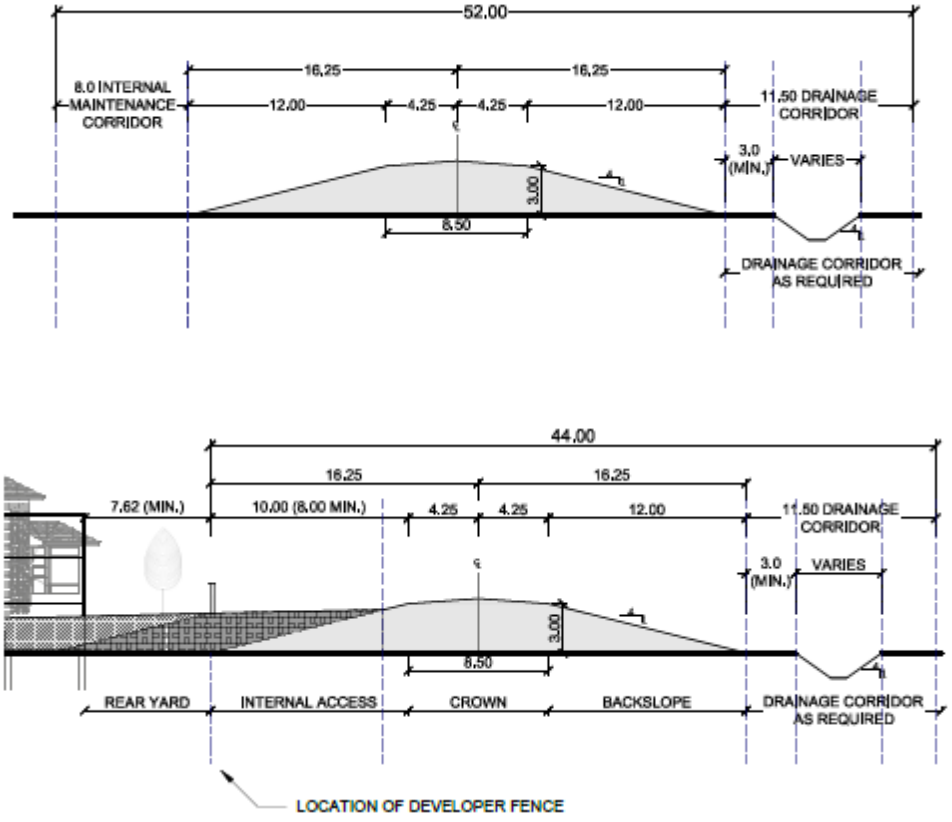

Figure 6: Proposed Dike Cross Sections (Typical)

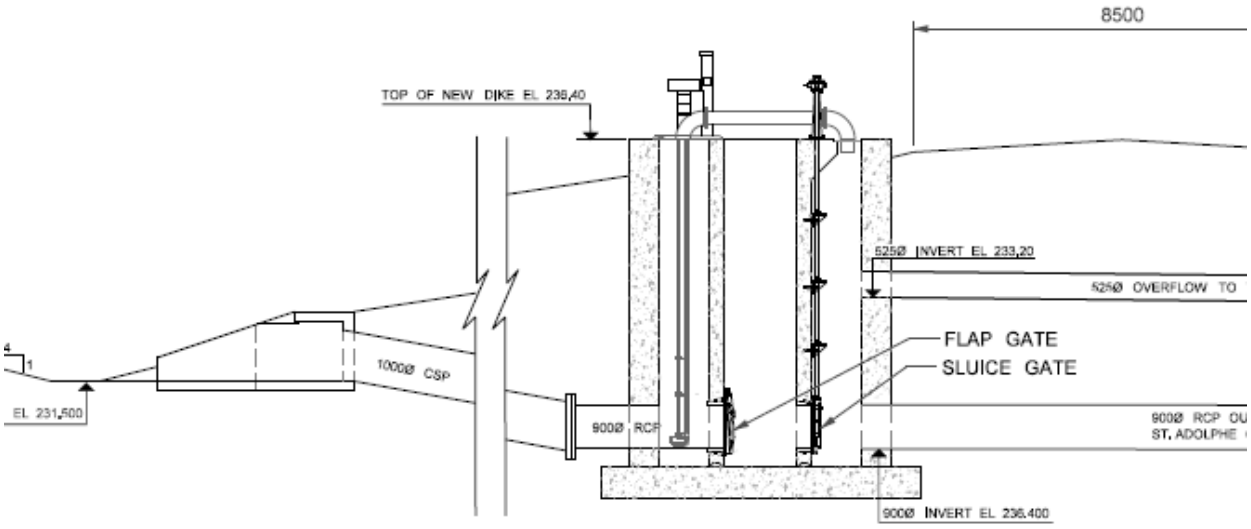

Figure 7: Proposed Flood Control Structure

2.1 Project Activities

The Project includes a number of different activities which will occur at different stages during its development. The following sections highlight key activities that will take place during the Project's Construction and Operation stages.

2.1.1 Construction

The Construction phase of the Project includes the broadest array of different activities. Key activities associated with the construction of the ring dike expansion will generally include the following:

- Setting up laydown areas;
- Establishing temporary fuel storage areas;
- Establishing borrow areas;
- Excavating, hauling and placing material for dike construction;
- Installing the flood control structure;
- Installing protection for a wastewater pipeline;
- Installing protection for a natural gas pipeline;
- Installing erosion and sediment control measures;
- Revegetating; and
- Rehabilitating/restoring the construction site.

2.1.2 Operation and Maintenance

Upon completion of construction the expanded dike will become part of Manitoba's flood protection system. The integrity of the dikes will be maintained through vegetation control programs and the use of monitoring systems.

During flood events, openings in the permanent ring dike, such as at highway crossings, will be temporarily closed through standard construction practices.

2.2 Property Ownership and Mineral Rights

The land that will be located under the footprint of the proposed dikes and within the expanded protected area is currently under agricultural production and is owned by various private landowners. A developer is in the process of acquiring ownership of the lands required for dike construction. MIT understands that ownership will need to be established before an Environment Act Licence will be issued. It is our intention to acquire the necessary land prior to commencing construction activities.

The mineral rights in the Project area are assumed to be retained by the Crown.

2.3 Existing Land Uses

The existing land use at the location of the proposed dike alignment, as well as within the expanded protected area, is agricultural production.

2.4 Land Use Designations

The land for the expanded protected area is known as Urban Centre Hold Policy Area, but is currently designated for AR (Agricultural Restricted) land use. The land immediately east of the proposed protected area is designated and zoned agricultural, and the land within 150 metres of the St. Adolphe Coulee is zoned as Environmental Policy Area where development is prohibited.

It is anticipated that the protected area will be used for agricultural purposes until the Urban Centre Hold Policy Area has been re-designated from AR to RG (Residential General).

2.5 Proposed Schedule and Dates

A tentative schedule for the various components of the Project is as follows:

- Geotechnical Investigation — September 2014 – October 2015
- Detailed Design Survey — September 2014 – October 2014
- Land Acquisition — September 2014 – March 2015
- Embankment Detailed Design for Option 4 — September 2014 – March 2015
- Pump Station Detailed Design for Option 4 — October 2014 – August 2015
- Construction — May 2015 – October 2016
- Maintenance — Fall 2016 - Future

2.5.1 Project Funding

The Project will be jointly funded by the Province of Manitoba, Government of Canada, and Rural Municipality of Ritchot.

2.5.2 Other Federal/Provincial/Municipal Approvals and Requirements

Additional approvals that may be required for the undertaking of this Project include:

- Drainage approval from Manitoba Conservation and Water Stewardship for the proposed drainage system.

2.5.3 Public Consultations

A public open house was held on December 10, 2012 at the St. Adolphe community Hall. This open house was attended by 98 people including RM councilors, the MLA for the area, the engineering consultant that facilitated the open house, and MIT personnel. The open house included a description of the proposed development as well as a presentation of a hydraulic model to show potential effects of the Project on flood water.

Open house participants were provided with a questionnaire that included a request to identify their preference between the proposed dike alignments. Public house information, questionnaire responses, and a report on the public open house are included as Appendix B to this report.

Public concerns generally included:

- Cost;
- Funding;
- Flooding and erosion impacts; and
- Dike location and the inclusion/exclusion of certain properties.

The RM of Ritchot is hosting 2 open houses in September 2014 to present and receive input on the secondary plan for the community.

2.5.4 Borrow Pit Locations

Location of several borrow pits to be used for construction are being considered in the detailed design for Option 4. The majority of the material will originate from proposed storm water retention ponds, the existing St. Adolphe Ring Dike that is to be demolished, and other land owned by the RM.

3.0 Description of Existing Environment

3.1 Biophysical Environment

This section provides a description of the biophysical characteristics of the study region. Topics are discussed on a regional scale with some topics being focused on the proposed Project area.

3.1.1 Regional Setting

The proposed Project is located within the Winnipeg Ecodistrict, where native vegetation originally consisted of tall prairie grass, meadow prairie grass and meadow grass. Development of agricultural land has resulted in the disappearance of most natural vegetation with local pockets remaining. Bur oak, trembling aspen with an undergrowth of snow berry, hazelnut and red-osier dogwood are common tree species in well drained areas. In floodplains and riparian areas, white elm, basswood, cottonwood, Manitoba maple and green ash with an undergrowth of willow, ferns and associated herbaceous plants occur. Saskatoon, high bush cranberry and nannyberry occur in both well drained areas and on the floodplains (Smith et. al. 1998).

3.1.2 Prevailing Climate and Meteorological Conditions

The climate in the Winnipeg Ecodistrict is characterized by short warm summer and long, cold winters. The mean annual temperature is approximately 2.4°C (Smith et. Al, 1998). Table 1 shows a summary of climate statistics for the area.

Table 1: Selected Summary Climate Statistics 1971-2000 for Winnipeg Manitoba, Richardson International Airport

Parameters	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
Daily Average (°C)	-17.8	-13.6	-6.1	4	12	17	19.5	18.5	12.3	5.3	-5.3	-14.4	2.6
Daily Maximum (°C)	-12.7	-8.5	-1.1	10.3	19.2	23.3	25.8	25	18.6	10.8	-0.9	-9.7	8.3
Daily Minimum (°C)	-22.8	-18.7	-11	-2.4	4.8	10.7	13.3	11.9	6	-0.3	-9.6	-19.1	-3.1
Extreme Maximum (°C)	7.8	11.7	23.3	34.3	37	37.8	37.8	**40.6**	38.8	30.5	23.9	11.7	-
Date (yyyy/dd)	1942/ 23	1958/ 25	1946/ 27	1980/ 21	1980/ 22	1995/ 17	1939/ 12	**1949/ 07**	1983/ 02	1992/ 01	1975/ 05	1939/ 06	-
Extreme Minimum (°C)	-42.2	**-45**	-37.8	-26.3	-11.1	-3.3	1.1	0.6	-7.2	-17.2	-34	-37.8	-
Date (yyyy/dd)	1943/ 20	**1966/ 18**	1962/ 01	1979/ 02	1958/ 01	1964/ 03	1972/ 03	1965/ 28	1965/ 26	1941/ 30	1985/ 30	1967/ 31	-
Rainfall (mm)	0.2	2.5	7.5	21.5	58	89.5	70.6	75.1	51.9	31	6.1	1.6	415.6
Snowfall (cm)	23.1	14.2	15.8	10.1	0.8	0	0	0	0.4	5	21.4	19.8	110.6
Precipitation (mm)	19.7	14.9	21.5	31.9	58.8	89.5	70.6	75.1	52.3	36	25	18.5	513.7

(Adapted from: Environment Canada, 2013)

3.1.3 Air Quality and Greenhouse Gas Emissions

Air quality and greenhouse gas emissions are an important consideration for human and environmental health. According to Manitoba Conservation (2013), air quality concerns in Manitoba are typically localized, meaning that should any occur their effects tend to be limited to local people and their immediate environments. Typical human and environmental effects associated with poor air quality are generally associated with nuisance odour, noise, and air pollutants. For example, ground level ozone or smog can serve to damage vegetation and degrade various types of materials (Manitoba Conservation 2013). The U.S. Environmental Protection Agency (2009) states poor air quality can generally be linked to a number of health related respiratory problems such as aggravated asthma, lung disease, and reduced lung functioning among others. Key sources of air pollutants affecting air quality and greenhouse gasses in Manitoba are industrial operations, vehicle emissions, and the release of manmade substances into the atmosphere (Manitoba Conservation 2013).

The Dike Expansion Project is not expected to have a lasting impact on air quality or climate change. Short term impacts due to construction vehicle emissions are not expected to be significant.

3.1.4 Water Resources

3.1.4.1 Surface Water

The Project is located within the Red River Drainage Basin and flood plain which is part of the Nelson River Basin of the Hudson Bay. The nearest waterbodies to the Project area are the Red River west of St. Adolphe and the St. Adolphe Coulee immediately east of the Project area.

The Red River is considered one of the primary waterways in southern Manitoba. The Red River watershed is approximately 127,000 km^2 with 20% located in Manitoba. The remainder of the watershed area is mostly located in Minnesota and North Dakota.

3.1.4.2 Groundwater

The main aquifer in the area is the carbonate bedrock aquifer that bears fresh water to the east of the Red and Rat Rivers. Typical depth to the aquifer ranges from 12 to 40 m below the ground surface with the aquifer being overlain by clay and till. The Project area is not considered a groundwater pollution hazard area. (Rutulis, 1984).

3.1.5 Aquatic Environment

The Village of St. Adolphe lies between the Red River, to the west, and the St. Adolphe Coulee, to the east.

The Red River is a large, meandering river that flows northward from its headwaters in the United States, through the Red River Valley of southern Manitoba and into Lake Winnipeg. It is classified as Type A fish habitat according to Fisheries and Oceans Canada and Manitoba Water Stewardship, which means it is complex habitat containing large-bodied fish species (Milani 2013). The Red River contains 70 species of native, introduced, and transplanted fish species, including most of the commercial, recreational, and Aboriginal fishery species such as Walleye, Sauger, Channel Catfish, Lake Sturgeon, Northern Pike, White Sucker, Lake Whitefish, Burbot, and Goldeye (Stewart and Watkinson 2004). It also contains a number of rare species, including Silver Chub, Mapleleaf Mussel, Common Snapping Turtle, and Northern Leopard Frog (Table 2).

St. Adolphe Coulee is a small tributary of the Red River which drains a watershed of about 130 km^2 (Seine-Rat River Conservation District 2009). It flows northward for about 13 km from its headwaters near Niverville to join with the Seine River Diversion just before it discharges into the Red River. Historically, it emptied directly into the Red River until the completion of the Seine River Diversion in 1960. St. Adolphe Coulee is classified as Type A fish habitat for most of its length, which means it is complex habitat containing large-bodied fish species (Milani 2013). It also contains a rare invertebrate, the Calico Crayfish (Table 2). The St. Adolphe wastewater treatment lagoons are located on the east bank of the St. Adolphe Coulee, north of Leblanc Road, and drain into the Coulee between June 15th and October 31st of any year.

Table 2: Rare Species Found in Watercourses Near the Proposed Ring Dike

Species	MB ESA	SARA	CDC Rank
Mapleleaf Mussel	Endangered	Endangered, Sched. 1	G5, S2
Northern Leopard Frog	n/a	Special Concern, Sched. 1	G5, S4
Calico Crayfish	n/a	n/a	G5, SNR
Silver Chub	n/a	Not At Risk	G5, S3
Common Snapping Turtle	n/a	Special Concern, Sched. 1	G5T5, S3

Note: MB ESA=Manitoba Endangered Species Act, SARA=federal Species at Risk Act, CDC=Conservation Data Centre, G5=globally widespread, G5T5=subspecific taxon globally widespread, S2=locally rare, S3=locally uncommon, S4=locally widespread with long-term concern, SNA=rank not applicable.

3.1.6 Terrestrial Environment

3.1.6.1 Vegetation

Native vegetation originally consisted of tall prairie grass, meadow prairie grass and meadow grass. Development of agricultural lands has resulted in the disappearance of most natural vegetation with local pockets remaining. Bur oak, trembling aspen with an undergrowth of snow berry, hazelnut and red-osier dogwood are common tree species in well-drained areas. In floodplains and riparian areas, white elm, basswood, cottonwood, Manitoba maple and green ash with an undergrowth of willow, ferns and associated herbaceous plants occur. Saskatoon, high bush cranberry and nannyberry occur in both well drained areas and on the floodplains (Smith et. al. 1998).

The *Manitoba Endangered Species Act* indicates that nine (9) protected plant species may occur in the Lake Manitoba Plain Ecoregion, where the Project area is located. They are:

- Rough Purple Flase-foxglove (*Agalinis aspera*)
- Gattinger's Agalinis (*Agalinis gattingeri*)
- Hackberry (*Celtis occidentalis*)
- Small White Lady's slipper (*Crypripedium candidum*)
- Silky Prairie-clover (*Dalea villosa var. villosa*)
- Riddell's Goldenrod (*Solidago riddellii*)
- Western Silvery Aster (*Symphyotrichum sericeum*)
- Western Ironweed (*Vernonia fasciculate ssp. Corymbosa*)
- Culver's root (*Veronicastrum virginicum*).

The area of the proposed dike expansion itself is under agricultural production and therefore the above listed species are not expected to be present.

3.1.6.2 Wildlife

Characteristic wildlife habitat normally found in the Project area includes that of white-tailed deer, coyote, rabbit, ground squirrel and waterfowl.

The *Manitoba Endangered Species Act* indicates that 14 protected animal species may occur in the Lake Manitoba Plain Ecoregion, where the Project area is located. They are:

- Baird's Sparrow (*Ammondramus bairdii*)
- Sprague's Pipit (*Anthrus spragueii*)
- Burrowing Owl (*Anthene cunicularia*)
- Chestnut-collared Longspur (*Calcarius ornatus*)
- Whip-poor-will (*Caprimulgus vociferous*)

- Chimney Swift (*Chaetura elagica*)
- Piping Plover (*Chordeiles inor*)
- Common Nighthawk (*Charadrius melodus*)
- Peregrine Falcon (*Falco peregrines anatum*)
- Least Bittern (*Ixobrychus exilis*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Eskimo Curlew (*Numenius borealis*)
- Golden-winged Warbler (*Vermivora chrysoptera*)

The area of the proposed dike expansion itself is currently under agricultural production and therefore the above listed species are not expected to be affected by the Project.

3.1.7 Existing Land and Resource Uses

The Project area is located immediately adjacent to the Town of St. Adolphe, on land that is currently under agricultural production. A wastewater forcemain and a natural gas pipeline transect the Project area.

3.2 Socio-Economic Environment

3.2.1 Public Safety and Health Risks

The purpose of this Project is to expand the protected area of the St. Adolphe Ring dike. An expanded area will accommodate further development in the St. Adolphe area by increasing the area that will be protected from flooding. The Project will not create any new or additional public safety and/or health risks.

3.2.2 Protected Areas

Land designated by the McDonald Ritchot Planning District Development Plan as “Environmental Policy Area”, which includes land within 150 metres of the St. Adolphe coulee and land within 400 metres of the St. Adolphe waste water treatment lagoon, is protected from development.

The Jennifer and Tom Shay Ecological Reserve is located approximately 2.2 km south of the Project area. This provincial ecological reserve serves to protect river bottom forest that includes uncommon and very rare plant species.

There are no other protected areas within 10 km of the Project area.

3.2.3 Heritage Resources

The potential for this Project to impact significant heritage resources is very low.

3.2.4 First Nation Communities in Study Area

The closest First Nation Community to the study area is Roseau River First Nation which is located approximately 60 km to the south.

The Town of St. Adolphe itself is a Manitoba Metis Federation Metis community.

MIT has concluded that the Project will not infringe upon or adversely affect the exercise of an Aboriginal or Treaty right and therefore Crown-Aboriginal Consultation is not required.

4.0 Environmental Effects and Mitigation Measures

4.1 Impacts on Biophysical Environment

4.1.1 Soils and Terrain

Construction activities will disturb the terrain along the entire length of expanded dike, including staging areas. A borrow area will also need to be established in order to obtain material to construct the new dike sections. Adverse effects to terrain and soils from project-related activities could potentially occur as a result of increased loss of soil due to erosion, change in landscape features, and soil compaction due to equipment movement.

4.1.1.1 Soil Loss Due to Erosion

Potential Effects

Removal of vegetation and disruption of the surface layer by grading, and other construction activities, may lead to increased soil loss due to erosion.

Mitigation Measures

Manitoba Infrastructure and Transportation has adopted a number of standard practices to reduce soil losses due to erosion along its projects. These standard practices will be used in this Project as dictated by local conditions. Standard practices include:

- minimizing the foot print of the Project area as much as possible;
- avoiding steep slopes wherever possible;
- protecting exposed soils and slopes as soon as possible;
- applying erosion control blankets where appropriate; and
- utilization of appropriate re-vegetation techniques to minimize erosion not only during construction but also during the operation phase of the Project.

In addition, construction equipment and vegetation clearing will be confined to the dike area and ancillary development areas. Where considered necessary, vegetation

clearing will be restricted to hand methods in areas immediately adjacent to water courses and within sensitive terrain and in terrain too rugged for mechanical clearing. Regular follow-up inspections of the construction sites will be carried out to evaluate the success of the erosion control mitigation measures and recommend further action where considered necessary.

Significance of Effects

With the proper application of the mitigation measures mentioned above, it is expected that soils within the Project area will experience a negligible increase in erosion thus making the adverse residual effects not significant.

4.1.1.2 Changes in Landscape Features

Potential Effects

Material required for the dike construction will be excavated from a borrow area within the Project area. This will result in landforms and landscape features being altered or removed. These changes will occur mainly within the expanded protected area. These changes will be irreversible.

Mitigation Measures

In the design of the proposed dike expansion, special attention will be given to the establishment of the borrow area in order to minimize the size. Also, to the extent possible borrow areas will be developed and located in a matter that will facilitate their use in the drainage system proposed for the protected area, which includes the use of water retention basins.

Significance of Effects

The effects of removing or altering landscape features will be local. The implementation of the proposed mitigation measures will manage the environmental risk.

4.1.2 Wildlife

Potential Effects

A number of potential effects to wildlife can occur as a result of the dike expansion including loss of habitat and disturbance during construction.

Mitigation Measures

Minimum clearing, reclamation and re-vegetation of disturbed sites are some of the environmentally sound construction techniques that will be utilized to reduce the footprint of habitat disturbance within the Project area.

Potential construction related effects on permanent resident and migratory birds include habitat loss and disruption of breeding activities. As previously noted, construction activities will be confined to areas currently under agricultural production and therefore there should be minimal disturbance to wildlife in the area.

Significance of Effects

Chimney swifts are known to be present in the Lake Manitoba Plain Ecoregion, where the Project area is located. A habitat specialist with Manitoba Conservation and Water Stewardship Wildlife Branch has reviewed the proposed Project and indicated that the Project will not threaten chimney swift habitat. A copy of this correspondence is included in Appendix D of this report.

Eagles are thought to use the St. Adolphe coulee during their migrations. The Project will not affect the St. Adolphe coulee and therefore eagle habitat will not be affected.

Environmental effects to wildlife including migratory birds as a result of this Project are expected to be not significant.

4.1.3 Fisheries

Potential Effects

There is a potential for sediment release from construction areas to the St. Adolphe coulee or to the Red River that could have a detrimental effect on fish or fish habitat.

Mitigation Measures

Appropriate erosion and sediment control practices such as the use of silt fencing and re-vegetation will be used to reduce the risk of sediment release into adjacent waterbodies. Additionally, disruption to riparian areas will be avoided.

Significance of Effects

Environmental effects to fisheries as a result of this Project are expected to be not significant.

4.1.4 Surface Waters

Potential Effects

Adverse effects to surface waters from project-related activities could potentially occur as a result of disturbances to existing drainage patterns and reduction of water quality of local water bodies resulting from increased erosion and sedimentation loads.

The dike expansion could also affect flood water elevations as the width of the dike in the perpendicular direction to the flow of flood waters is proposed to be expanded. It is this aspect of the Project that is most likely to affect flood water elevations.

Mitigation Measures

The drainage system will be designed and installed in a manner that accommodates the natural drainage of the Project area. Any newly constructed drains will be protected from erosion through vegetation or rip-rap armouring.

Proper erosion and sedimentation control plans will be implemented as well.

Hydraulic modeling using two-dimensional modeling software MIKE Flood was completed to evaluate the potential impact of the Project on flood water elevations. A full description of the modeling process and the results are available in Appendix C to this report. The model indicated that the effects on flood water elevations were greatest at points closest to the Project. These effects were generally less than a 50 mm raise in water level for the 1997 peak flood.

Significance of Effects

There will be minimal change to existing drainage patterns and water quality of water bodies.

No significant adverse effects to surface waters are expected as a result of this Project following implementation of the identified mitigation measures.

The effect of the Project on flood water elevations is considered not to be significant.

No water bodies considered “navigable” are impacted by this proposal.

4.1.5 Ground Water

Potential Effects

Virtually any activity whereby chemicals or wastes may be released has the potential to pollute ground waters. Transferring of fuels and other hazardous materials can create spills that may reach the ground water table and contaminate ground water supplies.

Also, changes to ground water regimes can occur in areas experiencing deep cuts as deep cuts can intercept the natural flows. They can also expose large areas of confined aquifers; depressurize the confined aquifer thus altering the local ground water flow patterns.

High fills can also impact ground water by blocking ground water flow patterns and by reducing the hydraulic properties of the underlying surficial soils due to compaction.

Mitigation Measures

Hazardous materials shall be transported, stored, used and disposed of in accordance with applicable regulatory requirements.

There are no areas where deep cuts and high fills will be required in this Project.

Significance of Effects

It has been concluded that with the application of appropriate mitigation measures, significant adverse environmental effects to underground water regimes in the study area as a result of this construction are not likely to occur.

4.1.6 Forestry Resources

Potential Effects

There are no forestry resources in the Project area and therefore the Project does not have the potential to affect forestry resources.

Mitigation Measures

As there are no forestry resources in the Project area there are no associated mitigation measures required.

Significance of Effects

The Project will have no effect on forestry resources.

4.1.7 Emissions

Potential Effects

Dust emissions may be created in this Project during the construction and operation stages of the development.

Mitigation Measures

Dust suppressant will be applied as required to reduce dust generation.

Significance of Effects

No significant adverse environmental effects are expected to occur following implementation of the proposed mitigation measures.

4.1.8 Hazardous Wastes (Storage, Transportation, and Disposal)

Potential Effects

A variety of potentially hazardous materials such as fuels, oils and lubricants are usually used, stored, disposed and transported during the construction of a project of this nature. The major concern regarding these substances is the incidental release into the environment through spills and improper disposal.

Accidental spills and releases of fuels, oils and lubricants are possible during all phases of the Project. Releases can occur as a result of equipment malfunction, and vehicular collisions. Depending on the location of these occurrences, spills can affect the health and safety of people, air quality, surface and ground water, terrestrial and aquatic habitats.

Mitigation Measures

Proper implementation of good management practices such as fuel handling safety procedures, emergency response plans and spill containment measures will be used throughout the construction of this Project to ensure these potential impacts are reduced. More specifically the following are some of the measures that will be implemented:

- Releases, spills, leaks and discharges of pollutants or contaminants will be reported in accordance with existing regulatory requirements (Manitoba Conservation and Water Stewardship– Phone: 204-944-4888)
- Fuels, lubricants, and other petroleum products will be stored, handled, transported and disposed of in accordance with existing regulatory requirements.

Significant of Effects

In considering the potential effects in conjunction with mitigation measures, the potential for adverse environmental effects associated with the transportation, storage and disposal of hazardous wastes is considered to be not significant.

4.1.9 Impacts on Heritage Resources

Potential Effects

Construction activities could potentially destroy identified and previously undiscovered heritage resources.

In preparation for this assessment, the proposed Project was circulated to MIT's intergovernmental review committee for their review and comment. A report on this review is available in Appendix D to this report. This review included the Historic

Resources Branch of the Manitoba Government which concluded that the potential to impact significant heritage resources in this area is low and who therefore advised they have no concerns with the proposed Project.

Mitigation Measures

Based on the comments received from the Manitoba Historic Resources Branch, potential impacts on heritage resources are very low. In the event that cultural heritage resources are encountered during construction, an acceptable heritage resource management strategy (acceptable to the Manitoba Historic Resources Branch) will be implemented to mitigate the effects of the development on heritage resources.

Significance of Effects

Project-related effects on heritage resources are not expected to occur and are considered to be not significant.

4.1.10 Socio-Economic Implications

Potential Effects

Socio-economic implications resulting from environmental impacts associated with the Project are expected to be negligible.

Mitigation Measures

There are no mitigation measures required.

Significance of Effects

There are no effects due to environmental impacts expected.

4.1.11 Climate Change Implications

Potential Effects and Significance of Effects

Air quality can be affected by emissions released from vehicles and equipment during the construction phase. These vehicles and equipment are powered directly by the combustion of fossil fuels and therefore may have climate change implications.

Because of the relatively small magnitude of the Project and its relatively short duration, climate change impacts from construction activities are expected to be local, transient and negligible.

5.0 Conclusions

MIT is planning to expand the St. Adolphe Ring dike to increase the protected area by 1.6 km^2. The proposed work consists of constructing approximately 3.4 km of new dikes to the east of the existing St. Adolphe ring dike. Potential effects of the Project have been considered in conjunction with the application of mitigation measures. MIT is of the opinion that the St. Adolphe Ring Dike Expansion Project is not likely to result in any significant adverse environmental effects.

6.0 References

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Smith, R.E., H. Veldhuis, G.F. Mills, R.G. Eilers, W.R. Fraser, and G.W. Lelyk. 1998. Terrestrial Ecozones, Ecoregions, and Ecodistricts, An Ecological Stratification of Manitoba's Landscapes. Technical Bulletin 98-9E. Land Resource Unit, Brandon Research Centre, Research Branch, Agriculture and Agri-Food Canada, Winnipeg, Manitoba.

Stewart, K.W. and D. Watkinson. 2004. *The Freshwater Fishes of Manitoba*. University of Manitoba Press, 276 p.

U.S. Environmental Protection Agency. 2009. AQI Air Quality Index: A Guide to Air Quality and Your Health. Office of Air Quality Planning and Standards Outreach and Information Division Research Triangle Park, NC. Accessed August 20, 2013 from http://www.epa.gov/airnow/aqi_brochure_08-09.pdf

Appendix A – Drawings of the Proposed St. Adolphe Ring Dike Expansion Project

EXISTING DIKE

PROPOSED LINE OF AQUISITION

167.327

R 45.000

116.290

INSIDE DRAINAGE AND ACCESS CORRIDOR AS REQUIRED (8.0m)

EXISTING IMPERIAL OIL GAS LINE EASEMENT

P. R. 210

P. R. 210

RM RICHOT PROPOSED LINE OF AQUISITION

OUTER DRAINAGE CHANNEL AS REQUIRED (11.5m)

152.124

301.402

R 150.000

PROPOSED LINE OF AQUISITION

THE TOWN OF ST. ADOLPHE

156.811

238.400

INSTALL DITCH INLET STRUCUTRE C/W SAFETY GRATE AND APPROXIMATELY 14.5m OF 1000Ø CSP AND 1.20m OF 900Ø RCP TO FLOOD CONTROL STRUCTURE

R 380.000

APPROXIMATE LOCATION OF THE NEW FLOOD CONTROL STRUCTURE AT LOW POINT

238.400

INSTALL 20.0m OF 525Ø OVERFLOW TO SPILLWAY. SPILLWAY EXTENTS APPROXIMATELY 107.5m TO THE EXISTING ST. ADOLPHE COULEE

231.50

INSTALL APPROX 126.5m OF 900Ø RCP OUTFALL TO THE EXISTING ST. ADOLPHE COULEE

PROPOSED 200 FORCEMAIN (DESIGN 2012 BY OTHERS)

ST. ADOLPHE ROAD

LAGASSE DRIVE

EXISTING DIKE

ST. MARY'S ROAD (P.R. 200)

469.809

EX. 200 FRM

ST. ADOLPHE COULEE

R 175.000

RED RIVER

FLOOD PROTECTED AREA: 1.6 km²
TOTAL PROPOSED AQUISITION AREA: 0.45 km²
TOTAL LENGTH PROPOSED DIKE: 3.4 km

ACCESS TO THE AGRICULTURAL LANDS INSIDE THE NEW DIKE TO REMAIN AS EXISTING UNTIL FULL COMMUNITY DEVELOPMENT

FOOTPRINT OF DIKE (32.5 TYP)

CREST (8.5m TYP)

INTERNAL ACCESS (8.0m MIN)

269.050

EXISTING PRIMARY CELL

EXISTING LAGOON

EXISTING SECONDARY CELL

CELL BOTTOM EL. 232.50

CONSTRUCT NEW PERIMETER DIKE. TIE INTO EXISTING DIKE

116.309

113.668

236.40

236.40

R 200.000

EXISTING IMPERIAL OIL GAS LINE EASEMENT

LEBLANC ROAD

1029.347

PROPOSED DIKE LOCATION

ST. ADOLPHE RING DIKE
PRELIMINARY DESIGN FOR
DIKE EXPANSION

SEPT 2014

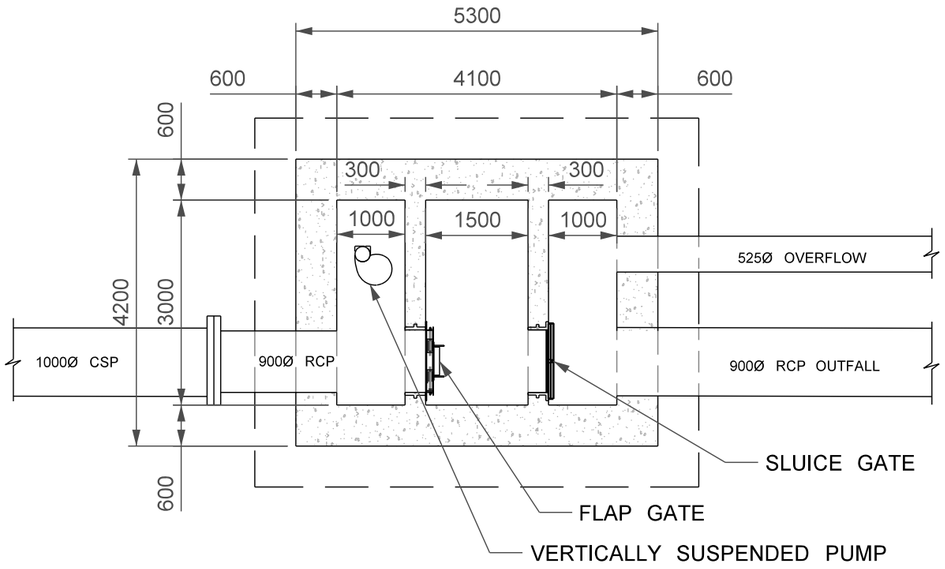
R.M. OF RICHOT

Manitoba
Infrastructure and Transportation
Water Management & Structures

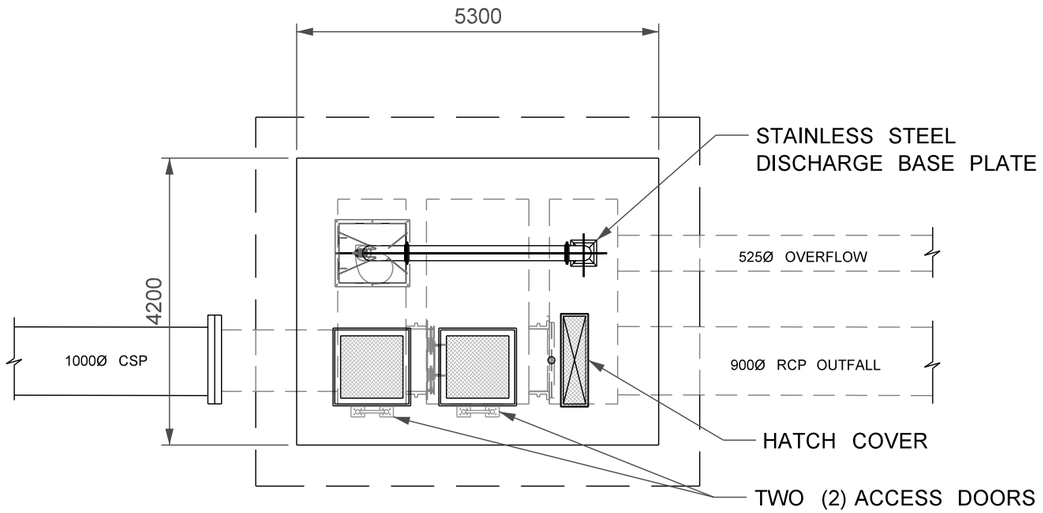
RELEASED FOR CONSTRUCTION
BY:

DIRECTOR DATE
STRUCTURES, DESIGN AND CONSTRUCTION BRANCH

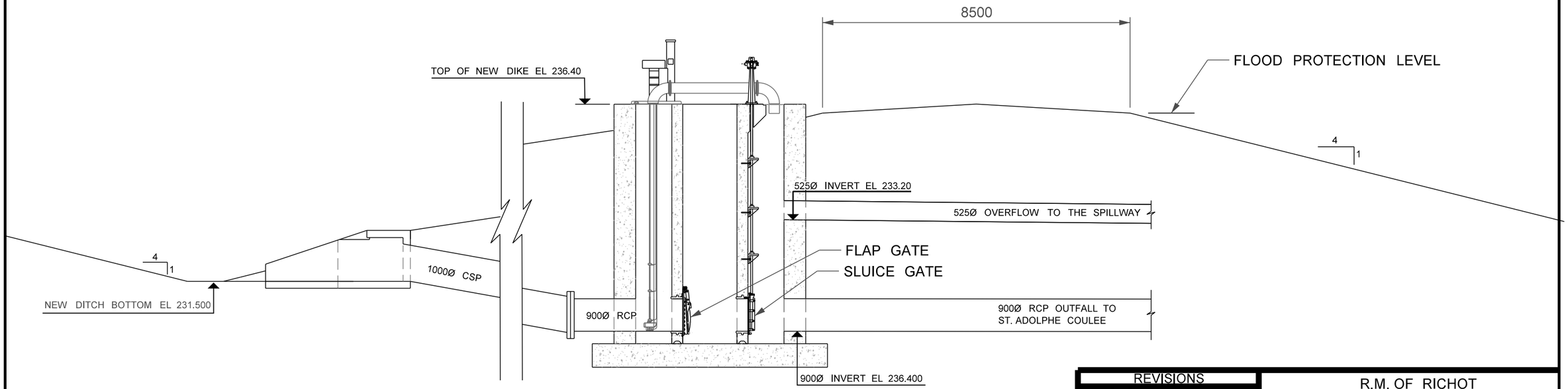
DESIGN	BY:	SCALE: NTS	SHEET No. 001
	CHECKED:		
DETAILS	BY:		SITE No.
	CHECKED:		



NEW FLOOD CONTROL STRUCTURE - PLAN VIEW
NTS



NEW FLOOD CONTROL STRUCTURE - ROOF ACCESS PLAN
NTS



NEW FLOOD CONTROL STRUCTURE - SECTION
NTS

REVISIONS

DATE	BY	DESCRIPTION

SURVEYED BY:
SURVEY DATE:

R.M. OF RICHOT

STE. ADOLPHE RING DIKE EXPANSION STRUCTURE DETAILS

Manitoba Infrastructure and Transportation
Water Management & Structures

RELEASED FOR CONSTRUCTION
BY:
DIRECTOR DATE
WATER MANAGEMENT OPERATIONS BRANCH

DESIGN
BY:
CHECKED:

DETAILS
BY:
CHECKED:

SCALE: AS SHOWN
DATE: SEPT 2014
SHEET No.
FILE No.

Appendix B – Public Open House Materials

AECOM
99 Commerce Drive
Winnipeg, MB, Canada R3P 0Y7
www.aecom.com

204 477 5381 tel
204 284 2040 fax

Memorandum – Public Open House Summary of Responses

To	Jim Friesen, P. Eng.	Page	1
CC	Eric Blais		
Subject	St. Adolphe Ring Dike Expansion Project – Public Open House Event		
From	Don Hester		
Date	January 2, 2012	Project Number	60272070 (204)

1. The Public Open House (POH) was held December 10, 2012, at the St. Adolphe Community Centre.

2. The POH was attended by 98 people, including at least three RM of Ritchot Councillors and the CAO, Flo May. Also in attendance - Ron Lemieux, the local MLA and Minister of Local Government.

3. AECOM staff in attendance included: Jim Friesen and Eric Blais, Water Resources; Don Hester, Planning; Alison Weiss and Jared Baldwin, Environment/Geotechnical.

4. The MIT staff member in attendance was Melanie Booy. Two Manitoba Government translators also attended.

5. The POH started before 4:00 pm and extended to approximately 8:20 pm, including a PowerPoint presentation by Jim Friesen and a Q&A session between 7:00 pm and 8:15 pm.

6. Forty three (43) completed or partially completed questionnaire survey forms were returned at the POH. A number of attendees took questionnaires home to fill out later or to provide to family members. Ten (10) additional questionnaire survey forms and two letters were returned to the RM of Ritchot Municipal Office by December 21, 2012. Total questionnaire surveys summarized was 53.

7. Summary of Questionnaire Survey Responses

    a. 57% of Open House questionnaire survey respondents came from St. Adolphe; most of the remainder from the surrounding RM of Ritchot. A fairly high proportion of respondents, 40%, own property within the proposed ring dike expansion area.

    b. Principal concerns regarding the project included:

        i. Costs: increased taxes; costs for removal of existing private dikes and ponds, reduced property values for those outside the expanded ring dike; accuracy of consultant cost estimates for ring dike expansion

ii. Who Pays: will everyone pay equally or will those benefiting most pay more?
iii. Flooding and Erosion Impacts: particularly on properties outside the proposed ring dike expansion area, to the east and south / southwest (Carriere Drive).
iv. NOTE: There appeared to be a misunderstanding on the part of a number of respondents regarding the extent to which water levels would rise following construction of the ring dike expansion. AECOM staff indicated that the accuracy of the data was to 6 inches but a number of respondents understand that this meant flood levels would rise by 6 inches.
v. Culvert Gate Repair: on Carriere Drive
vi. Dike Location, related to the one property to be included in Option 2 but not Option 1; a third option proposed by one respondent, and potential for the dike to expand to the north
vii. Timing of Construction, related to potential loss of federal government funding
viii. Village Character, related to the impact of substantial new development (2 respondents, both francophone), and potential for lower quality development
ix. Needed for Improvement (2 respondents): the town needs to reverse a negative growth trend

c. Option 2 was preferred by 64% of respondents compared to 9% for Option 1. The principal reasons for the preference were that one more house and more land would be protected for a relatively small additional cost. Nine percent of respondents had no preference, considering either option acceptable.

d. A total of 57% of respondents felt that the Open House event was helpful (49%), or somewhat helpful; only 9% thought it was not helpful. Generally respondents felt that the presentation material was clear and questions were answered well by the consultant. A number of respondents felt that representatives from the province and rural municipality should have been more involved in answering questions, or that their questions were not answered due to the limited scope of the Open House.

DETAILED ANALYSIS OF QUESTIONNAIRE RESPONSES

Total Number of Questionnaire Respondents: 53. One couple submitted a letter with their questionnaire. In addition, a second letter was received, signed by 5 respondents residing in three houses on PR 210.

8. Question 1 - Address

a.	St. Adolphe	30	or 57%
b.	St. Adolphe / Ritchot	2	or 4%
c.	RM of Ritchot	16	or 30%
d.	Ritchot/Winnipeg	2	or 4%
e.	Winnipeg	1	
f.	NR	2	

9. Question 2 - Land within Dike Expansion Areas

a.	Yes, I own land within proposed dike expansion area	21	or 40%
b.	No	29	or 55%
c.	NR	3	or 5%

10. Question 3 - Concerns regarding project

a. No Concerns 20 or 38%

i. Pleased with both options; recommend Option 2, which would include the existing homes as well as maximize property within the new dike; an Option 3 including an additional 2 homes and losing the one closest to the coulee would also work.

ii. It is a good project if the RM wishes to expand the town, providing existing land owners are fully consulted and negotiated with on an individual and fair basis, and expropriation is avoided at all levels.

b. Concerns 30 or 57%

~ COST OF ADDITIONAL FLOOD PROTECTION / INCREASED TAXES

i. Increased property taxes [expected].

ii. [People] outside the dike expansion area do not want any dike costs added to their taxes.

iii. Foresee taxes going up [for all] while landowners within the dike cash in on their protected land.

iv. Hope the RM is not expecting me to pay taxes related to expanded ring dike when its creation will increase the flood risk to my home and property. The cost should be paid by those wishing to develop the properties protected by this expansion and not by those negatively affected.

v. How is the RM planning to pay its share [of ring dike expansion costs]? Will cost overruns be covered? What happens if the 2014 completion date is not met, as it seems a little ambitious?

vi. How much will it cost us to be protected, especially if you do a subdivision like the old dike? Developers still have to pay back $1000 per lot.

vii. Concerned that the RM is willing to approve and build without considering a financial plan/budget – build now pay later.

viii. Will residents outside the dike see any increase in property tax as a result of the expansion?

ix. Is $4.5 million enough to complete this project? The figures seem very low. Who covers cost overruns?

~ COSTS/ACTIONS REQUIRED FOR REMOVAL OF EXISTING STRUCTURES

x. Costs associated with the removal of existing dikes and ponds that will be within the expanded dike - future developments will cause us to have to do something with these structures.

xi. Who pays to fill existing borrow pits and the removal of private dikes?

xii. Would like to know if something will be done about my existing ring dike that is taking up half my property, killing my trees and if the ponds will also be filled in.

xiii. What happens with the existing ring dike on the east side? Does it become a road? Paved? Left unchanged? How will revenues be raised for the 33% RM Ritchot share?

xiv. Will I be forced to get town water and sewer, and if so who will pay for that considering I have a fairly new well and septic field?

xv. If the ponds are not filled in who is going to pay to fence them?

xvi. The cost of removing existing dikes around properties [is a concern].

xvii. Will our property taxes and zoning change?

~ IMPACT ON PROPERTY VALUES

xviii. Recently bought Lot 9 in the new development backing on the dike, at a premium price for the green space behind my property. Knowing this I would never have purchased that lot. The value of my house will be affected!!

xix. Property values for owners outside the dike – north, south and east.

~ LOSS OF FEDERAL FUNDING / TIMING IMPLICATIONS

xx. Major concern is that unforeseen delays may result in the loss of federal funding for this project; let's get the project moving!

xxi. After being delayed so long, the project now seems to be rushed in order to meet the Federal grant program deadline of March 2015. Not convinced that environmental and hydraulic issues fully considered.

xxii. Why has this project sat idle for so long?

~ IMPACT OF NEW DIKE ON FUTURE FLOODING AND EROSION

xxiii. Impact on erosion not yet done; will love to see this impact first before responding.

xxiv. Very concerned about local flooding / water current changes to adjacent properties outside of dike that would be caused by the expansion [arrows to south-west end of both Options].

xxv. Water displacement north and south during flooding.

xxvi. Identify if the concerns raised about the homeowners immediately adjacent to the dike (but outside); Understand how the models show the +/- 150mm change in levels but I would support the added scope of work for the TAC to do detailed models for those people; presumably the cost of the design work would be minimal

compared to the potential stress caused to the home owners; my guess is that it would stay pretty much the same thing but specific to their houses...suppose it's all political...

xxvii. Living just east of the coulee this new dike will adversely affect me by flooding PR 210 sooner and longer (4 to 6 inches makes a road impassible, not to mention damaging the road more during floods). Will the RM have borrow pits within the dike since trucks getting fill from Twin Creek damaged PR 210 in the last flood.

xxviii. What assurances will residents outside the dike have regarding future floods?

~ CARRIERE DRIVE AND SOUTHWEST IMPACTS

xxix. [I live] directly south on Carriere Drive where you've chosen to exclude; very concerned of impact on residents just south of the dike.

xxx. What effect will the dike have on the properties south of the dike (i.e. Carriere Drive and others)?

xxxi. Resident living just south of the proposed dike expansion between PR 200 and Carriere Drive. My concern is the water velocity will damage my property so I intend to receive 100% compensation for those damages.

xxxii. Property at 1825 Carriere Drive, diagonally across from proposed dike corner and only a few hundred feet from the dike was last to drain and had a substantial current running through in 2009 flood. Residents are concerned about water level increase of 6 inches compromising flood protection for their house and out-buildings, which have all been raised. They would like copies of impact statements with engineer's seal, ensuring that flood protection will not be jeopardized by the proposed dike. With increased water and current their driveway will need to be raised and have larger culverts. Concerned that water redirected by the new dike will push right through their property. Need environmental studies/Water Stewardship studies since the proposed dike will change the natural flow of water. Property was submerged for 7 weeks in 2009, is this going to be even longer in future floods? Want RM assurances that no artificial change to or augmentation of current and water levels or corrective action. Want culvert traps/sluice gates repaired at the two ends of Carriere Drive, delayed due to the need for impact studies by RM.

xxxiii. How will residents to the immediate southwest of the ring dike be affected? How compensated and by whom if additional water displacement causes flooding at higher levels in future – due to 6 inches caused by ring dike expansion displacement? What assistance will there be for flooding caused by the expansion?

xxxiv. Lack of maintenance to existing infrastructure – severely damaged culverts that were responsible for street flooding a couple of years ago. Before any more water is directed our way the existing infrastructure needs to be replaced/repaired and

xxxv. Concerned that flood water will affect residents immediately to the south outside the ring dike (Carriere Drive). Has a proper impact study been conducted? Will it be necessary to raise the current flood protection elevation beyond the current 1997+2 feet level?

~ LOT INCLUDED IN ONLY ONE OPTION, 3 OR 4 HOMES OUTSIDE DIKE

xxxvi. We own the property that would be included in Option 2 but not Option 1 (1 of 4 houses on 210); prefer to be included in the dike.

xxxvii. Concerned about three or four homes just outside the east side of the dike: what consideration has been given to them? Need compensation or a better chance for flood protection. Homes are sandwiched between the dike and coulee, which gets big currents in floods like 2009

~ POTENTIAL FOR FUTURE EXPANSION NORTH

xxxviii. We would like to be informed of possible future dike expansions north of St. Adolphe as well as the possible rerouting of St. Mary's Road.

~ MAINTAINING VILLAGE CHARACTER

xxxix. (Fr) The area seems too large; too much development; the village will lose its character as a little village.

xl. (Fr) Lots of traffic and more houses

xli. Trailer park or low rentals (Manitoba Housing) in new dike areas when deals made to find money to pay RM share of dike costs.

~ PROVIDING FUTURE ACCOMMODATIONS FOR EVACUEES

xlii. Lack of hotel rooms in Winnipeg to accommodate more evacuated people during a big flood because a second route out of St. Adolphe not considered.

~ A THIRD OPTION

xliii. Redesign dike to incorporate the best of both options – move it west of the four homes on PR 210 and get extra land to the south of 210.

~ OPEN HOUSE NOTIFICATION

xliv. Directly affected by this expansion and yet no effort was made by the RM to inform me of this public meeting. Found out from someone also affected who posted it on a community website. Surely the RM has access to our addresses and could have made an effort to get information out to those directly affected by the expansion.

c. NR 3 or 7%

Note that additional comments received from four sets of landowners (7 people) are included in the two attached letters.

11. Question 4 – Preferred Dike Alignment Option

a. Option 1 5 or 9%
   i. Comments
      1. Dislike because we will be outside the dike and eventually the fast water will erode our land.

2. Allows some space between creek and dike.
3. Keep the south side of the dike exactly where it is.
4. Better option because it provides more room for water currents, especially for the three homes on the north side of PR 210 by the coulee.

b. Option 2 34 or 64%

i. Comments

~ SOUTH END

1. Taking in more homes on the south end of dike would be preferred; buy out left out homeowner(s).

~ ADDITIONAL AREA WITHIN THE DIKE / COST EFFECTIVE

2. Include existing home as well as maximizes property within the new dike.
3. More acres involved, crossing the pipeline at 90 degrees.
4. Better for us personally but also includes more land for minimal cost; more effective use – cost vs. gain in protected property.
5. Believe to include as many existing homes as possible.
6. Looks like a better deal.
7. The increased cost is minimal and 12.5% more land is protected; an additional existing home is protected.
8. Includes a greater area for potential development – as long as the increased area will pay the increased cost through potential tax levy.
9. Most cost-effective but more information required on infrastructure to handle drainage. Existing culverts in our area have been grossly damaged and neglected. It seems negligent to introduce a dike expansion without upgrading the culverts.

~ DIKE LOCATION

10. Properties east of [PR] 210 dike should be bought out; dike boundary on the north should line up north Broduer property; south dike should be built on LaBlanc Road; a borrow pit should be inside southeast corner of dike.

~ REAL OPTIONS?

11. There is no real choice given here; really not much difference. Were these “options” offered so as to give us a feeling of empowerment?

~ EXISTING PAD

12. We will be inside the dike but we are already on a high pad and eventually would be looking at the neighbours roof out our window.

~ BACKING UP FLOOD WATER

13. Proposed dike is being built directly in front of my property on LeBlanc Road (1296). The backup of flood water will put my home in distinct danger; the square front on this dike combined with the river current direction I feel will eat my mound.

c. No Preference/Either 4 or 9%
   i. It doesn't affect me.
   ii. Not opposed to either; support the expansion.

d. Neither 1
   i. You do not sacrifice [some] residents to benefit others.

e. Not much difference between the two 1
   i. May as well protect one property; they'd probably want it.

f. Too early to tell 1

g. Keep south side where it is 1

h. Don't want it unless it takes in my property, which means behind my property (same for both options) 1

i. NR 4 or 8%

12. Question 5 – Was the Open House Helpful?

a. Helpful 26 or 49%

~ INFORMATIVE

i. Excellent diagrams and explanations of proposals.
ii. (Fr) Useful for information.
iii. Good posters describing the project and the process.
iv. Good physical information (pictures, diagrams etc.); the professionals answered all questions.
v. Very informative and positive
vi. Learned what is planned.
vii. Answered questions on effect of dike expansion on water levels.
viii. Gave all information I needed.
ix. It's good to get community involved.
x. Thank you for hosting; communication to the community is appreciated

xi. Previously unaware of the technical studies that have been completed; in addition, I am pleased to know that this project is advancing as I have not heard of details recently.

xii. Many answers to questions; I encourage you to keep those 3 homes in mind.

~ FURTHER CONSULTATION / NEED MORE PEOPLE ATTENDING

xiii. But further consultation is required as some questions regarding external flow on adjacent properties were not adequately addressed.

xiv. But should have been more people there; we saw the sign at ESSO on December 10; was there a notice otherwise?

xv. Was helpful to have AECOM staff available. Open house was poorly advertised. Felt it was intentionally not advertised to limit public input and facilitate approval by Council. The timing of the open house – two weeks before Christmas - was not good, as well as deadline to provide feedback on last business day before Christmas. If RM is expecting St. Adolphe residents to pay one third we have a right to know Council plans. Should not have had signage in the middle of the room. Although the info and diagrams were very good they did not facilitate good discussion during the meeting because it was hard to hear residents and it would have been nice to see the faces of people that asked questions. Signs /displays should have been across the wall with windows. Someone should have tested the sound system and charge batteries or bring fresh ones.

~ LEAVES A LOT OF UNANSWERED QUESTIONS

xvi. Long overdue; wish there would have been provincial and municipal representatives on hand to answer questions that the engineers simply don't have answers to.

xvii. A pity not all the studies were done before this meeting.

xviii. Gave a good idea of the scope of the project but still leaves us with a lot of questions about the impact of the south side.

xix. The consultant was very professional; however, seems that there are many concerns from residents regarding the impact the dike will have on the outside perimeter

b. Somewhat helpful 4 or 8%

i. The setup for the evening was poor – hard to hear speakers with questions on the other side of the room, as the display was between people at the open house. Information was good.

c. Not helpful 5 or 9%

i. Not really; would be more interested in start dates.

~ DID NOT ADDRESS QUESTIONS

ii. Did not address my questions – Will taxes be affected? – How will existing dikes and ponds be addressed?

iii. No one seemed to have any answers to any of our questions; also when are they actually going to start?

iv. None of our concerns were answered or even addressed in any meaningful way by anyone in the meeting.

~ OPEN HOUSE ADVERISING AND TIMING

v. The meeting was poorly advertised and the timing right before Christmas was very suspicious. The RM can send out bulletins in the mail as well as email about road closures, Mudfest, etc. but when it comes to the Ring Dike Expansion Project, that is going to have serious effects on numerous families and their properties, a sign was put up at the ESSO. Please reply back by January 4 as to how our concerns will be addressed.

vi. It was poorly advertised to get community involvement! I get a letter in the mail when the RM cleans the sewers but no letter for a $4.5 million expense to the tax payer of the area. Told of meeting 2 weeks before it happens and 3 weeks before Christmas. Hope the rest of the project is better planned – who dropped the ball here? Residents within 500 metres of the dike did not even get a letter of meeting. Very poor communication.

d. RM should have been there 1

e. NR 18 or 34%

f. Was not able to attend (but provided survey response) 1

13. Question 6 – Other Comments?
    a. Include me in additional communications vproteau@gmail.com (204) 981-1983.
    b. How will the flow of water and the elevation of the water affect the homes outside the dike to the east and south of the proposed dike Option 2? The water displaced by dike Option 2 will go where if we surpass 1997 level?
    c. You said the land by the coulee is not stable so this extra flow will de-stabilize it more. What recourse do those 3 houses have?
    d. Dislike the fact that 3 homes will be left out of the dike to fend for themselves ; the fast flood waters would eventually flood them and erode their land; it would be easy to add a wing to deflect the water from the 3 houses (on the south side of 210) in front of the 3 houses.
    e. Further concerns about water/sewer; will I be forced to get town sewer/water and if so who will pay for that considering I have a fairly new well and septic field? Also with the further development, if the ponds are not filled in who is going to pay to fence them? The cost of removing existing dikes around properties. Will our property taxes and zoning change?
    f. Just by chance we even heard about this; should have been better advertised!

g. If my taxes are going to be used to do this dike, I would like an impact study on the results of flooding to my home! If things go sideways to my home, is the government going to compensate me? Again this dike is a short stone's throw from LeBlanc Road. The current and water backup is going to be severe because of existing mounds just before the new dike.

AECOM Presentation, 7:00 pm

Jim Friesen, p. Eng. made a brief presentation summarizing the material in the Open House storyboards. He noted that Option 2 protected 450 acres versus 400 acres (Option1). The cost of Option 2 is higher due to the greater length of dike.

The following is a summary of the verbal comments received during the open house. The following should not be considered a transcript of the event and represents the writer's summary of the questions and answers that were provided.

Q: Was geotechnical drilling done for both Option1 and Option 2?
A: Drilling was done for both options. The drilling done for Dike 2 was considered the worst case and Dike 1 would then be well within factors of safety.

Q: How much money will this project cost?
A: Option 2 is $4.5 million versus $4.3 million for Option 1. Canada Building Fund has a 2 year horizon.

Q: When would construction start?
A: This is a near term project. The federal funding means that the project would need to be completed by 2015.

Q**: In 1997 there was no exit for the town; would the project raise PR 210 to the east for exit and emergency access?**
A: This issue is hydraulically significant, however outside the scope of this study.

The project will maintain the current access. The decision to declare an emergency is up to the government. Eric Blais indicated that in 1997 hydraulics were such that 75% of water went over PR 210. If the road was raised there would be a need to expand the hydraulic capacity of the coulee.

Q: What would be the cost to move everyone out of town? This should be taken into account.
A: This is outside of the scope the public open house information. (Note after the POH – Economic evaluation is included in the project during the preliminary design phase, and this could be included if the Municipality or Province provide this data).

Q: Was the land drainage to the retention basins included in the assessment?
A: Storm Retention Basins would be part of the eventual development plan for the protected areas. However their construction would be up to the eventual developer and details were not in our scope of work.

Q: Will the borrow pit proposed for closure of the dike in the event of a flood emergency be within the proposed dyke area? The south-east corner would be a good place for this.
A: A number of regions with geotechnical feasibility were identified within the development plan area. Consideration can also be given to using the borrow pit created as a retention pond for land drainage. The location of the borrow pit/retention pond would be the subject of further planning work.

Q: There is a 500 m setback required from the lagoon, perhaps this area could be diked for use as a borrow pit.
A: This would extend the dike further to the east. This would also mean that areas with other potential uses would need to be identified in future planning.

Q: Who makes the decision on Options 1 or 2?
A: The decision will be influenced by feedback from this Open House but the local Councillors and the Province (MIT) will make the final decision.

Q: During the 1997 Flood, when we were short of borrow, lots of sites were available in town (school yards etc.). These are options to consider – they worked well in the past and they have been geotechnically confirmed as well.
A: Options available under a State of Emergency have worked well in the past. There is significant availability of suitable material. One option for borrow is to move the existing dike to the east as well.

Q: What will happen with the ditch near the dike? Will it get filled in?
A: The ditch may be kept for phased development. This will be up to the developer.

Q: Shape of dike – the original is more streamlined. How does the shape of the dike influence the flood?
A: The larger dike represents only a small increase in area on the scale of the overall flood region. Water will find its way around. In a medium sized flood versus a 1997 scale flood, water would barely go around the existing dike. In this case, the proposed dike would have a greater influence. Smaller floods fit within the channel.

Q: Has anyone studied the impacts on residents outside of the dike?
A: The study we did looked at some areas in detail and some areas more generally. We have been informed by the province that the residents left out of the diked area are all protected to '97 flood levels plus 2'. Our modelling shows that the proposed dike will have a very small effect on flood elevations. The modelled water level differences between the existing and proposed dikes was less than 6 inches and this is within the margin of error of the data (since the LiDAR data is accurate to within 6 inches).

Q: We want some kind of documentation on the effects on our properties (people outside of the diked area).
A: A 2-dimensional study could be done on a reduced footprint area to look at this; however, this is not presently in the scope of the study.

Q: Twin Creek Road has been flooded in the past 2 years. Why has the province not looked at this?
A: (Melanie Booy) MIT has conducted hydraulic studies in the past to look at Twin Creek Road. The study looked at options for this crossing including installing a bridge. It was determined that road usage compared to the cost of installing a bridge did not make economic sense. An Engineering Service Provider will be asked to develop preliminary designs for a lower level [water] crossing point to keep costs down – flood water would be allowed to run over the road when it reaches a certain elevation.

Q: The coulee is big enough to drain. Culverts have collapsed in the past. The road is acting like a dike. What are the backwater effects? You should leave this road as a low level crossing.
A: If it was a low level crossing you could cross the coulee for 11 months but not in the spring flood.

Public Comment: Sounds reasonable, after 7 years.

Q: Can the east dike be used as a road?
A: This would be part of the development concept. MIT tends not to put roads on dikes since they have different functions and the materials are competitive.

Q: The project is to be completed by 2015 but today we only have the engineering answers. If we don't have answers to things like property issues, what is the point of today?
A: Today is an important day for the project. Today is the day you can give feedback and is considered a significant step forward. The comments we hear today will influence how this project moves forward.

Q: Say to the Province they need to address the scope of all questions.
Go with Option 2.
You have heard that it works. Concerns with the alignment need to be addressed in order to move forward with detailed design. AECOM will prepare a draft report for January and the final report will be submitted in early March, 2013.

Q: What is the cost to develop water and sewer services within the diked area?
A: These are questions for the RM to address in future. A lot of work still needs to happen to determine what goes inside of the dike.

Q: I think this is good for the town. I live north of the dike. I am worried about backflow to our property and drainage.
A: Your property was within the modelled portion of the area. Our model shows that the comparison between the existing dike and the proposed dikes, the change in flood levels would be less than 6".

Q: What is the process to get from conceptual design to final design?
A: The preliminary design we do will get sent to the government. Then the government will tender the final design. In the final design, the details are worked out then the project will go out for public bid for construction.

Q: Is this the only public consultation event planned? Will there be additional consultation?
A: If there are significant comments it will be up to the RM and Province to decide whether significant alignment changes are required which would trigger a second Public Open House. If this alignment is accepted, then another Open House is not planned.

Q: Will further public consultation be based on feedback.
A: There will be a second meeting if issues are such that the dike design/alignment needs to be reconceptualised – so that A or B can't go forward and another alignment is needed. This decision rests with the TAC [Technical Advisory Committee], including RM and Provincial representatives. If you have concerns talk to Council.

Q: Does the new dike have a similar elevation to the existing?
A: The proposed dike will be at the same elevation of 775 feet.

Q: Within the costs of $4.2 and $4.4 million are there allocations for cost overruns.
A: The costs are considered Class "C" estimates and include 30% for contingencies.

Q: Will the current protection level of '97 plus 2' change after the new dike is put in?
A: This is set by the Province and AECOM has no intention of changing the flood protection level. There would be a bigger change in the flood elevations that you would see with a smaller flood event once the new dike is in place but no change over 1997 at the upper end of the range. No additional protection is required.

Q: The project is subject to the Environment Act so is there potential for an Environmental Hearing that would delay the project?
A: AECOM has looked at environmental and geotechnical issues and has found nothing that should raise environmental concerns, such as issues related to cultural resources, fish, wildlife etc. This would be a basic application that would not need a public hearing.

Q: If landowners in the area feel the impact of the dike expansion will affect them they may bring forth action to go to the Clean Environment Commission.
A: That is always your prerogative.

Q: The cost will be split between three levels of government but will the RM of Ritchot share of the cost come from all residents of the RM or landowners in the protected area.
A: This will need to be worked out.
RM Councillor: the RM will meet with landowners to work through this.

Q: Why were three houses left unprotected?
A: There is gas pipeline crossing in the northeastern part of the dike. The dike is set at an angle to cross this pipeline safely. The primary reason would be that saving one of the 3 would avoid taking out 2 more homes, which are already protected to 1997 + 2 feet. The homes outside the proposed dike and immediately to the west of the coulee are already protected.

Q: The dike is going to devalue the properties left out of the dike.
A: Could not move the dike east, close to the coulee since it would then be inside the environmental buffer. The banks of the coulee could also not support the weight of the dike. Water Stewardship has indicated that the houses are protected.

Q: Would you consider buying one of the houses? I am sure they are going to be up for sale.
A: I hear you. These are real issues; however we understand that these properties are already protected.

Q: What about the river running past my mound? What is it going to do to my mound? There will be an increased erosion impact on my mound.
A: The model does consider velocity effects. In smaller events, no flow goes across PR 200. For larger events, we feel confident that you are protected in terms of level. In larger flood events, the velocity issue has minimal influence at peak.

Q: Need to squeeze a lot of water through a small area.
A: These issues produce a very small impact footprint. [AECOM] may need to do more detailed modeling in certain areas to address specific issues.
2D model is 7 miles wide and 8 miles long and may not have fine detail to identify specific concerns.

Q: Test holes – how do I know my mound has been checked /tested like the main engineered dike? What's going to ensure me I can handle flood water the same?
A: If built of similar materials it should be the same. Need inspections.

Q: This whole exercise is a science. What about our neighbours on the outside of the dike? The needs of the few outweigh the needs of the many. We need to compensate the people left outside. I want my Council to hear this.
Councillor: This is something we need to consider.

Don Hester, FCSLA, MCIP
Senior Planner and Landscape Architect

Appendix C – Hydraulic Modeling of the Impact of the St. Adolphe Ring Dike Expansion on Flood Plain Water Levels

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204 477 5381 tel
204 284 2040 fax

Memorandum

To	Jim Friesen, P.Eng	Page	1
CC			
Subject	Hydraulic Analysis for St. Adolphe Ring Dike Expansion Option 4		
From	Xiaoxu Qu, P.Eng.		
Date	August 25, 2014	Project Number	60272070

AECOM was contracted by Manitoba Infrastructure and Transportation (MIT) to perform hydraulic analysis for St. Adolphe ring dike expansion Option 4.

The preliminary design and report for the St. Adolphe ring dike expansion Option 3 was completed in March 2014. Option 3 and Option 2 shared the same east dike alignment south of PR 210, however the dike protected area north of PR 210 was eliminated in Option 3. It was agreed by AECOM and MIT that Option 3 was considered hydraulically equivalent to dike expansion Option 2. Therefore, the hydraulic modelling and associated conclusions presented in the March 2013 report for Option 2 were valid for the Option 3 alignment. This memorandum presents comparison of modelled water levels of the existing dike alignment and dike expansion Option 2 simulated in 2012, and dike expansion Option 4 simulated in 2014 using the MIKE FLOOD hydraulic model. Dike expansion Option 4 is shown in Figure 1. The northwest corner of the Option 4 alignment was finalized in July 2014, (slightly varied from what is shown) however those details have little or no impact on the floodplain hydraulics south of PR 210.

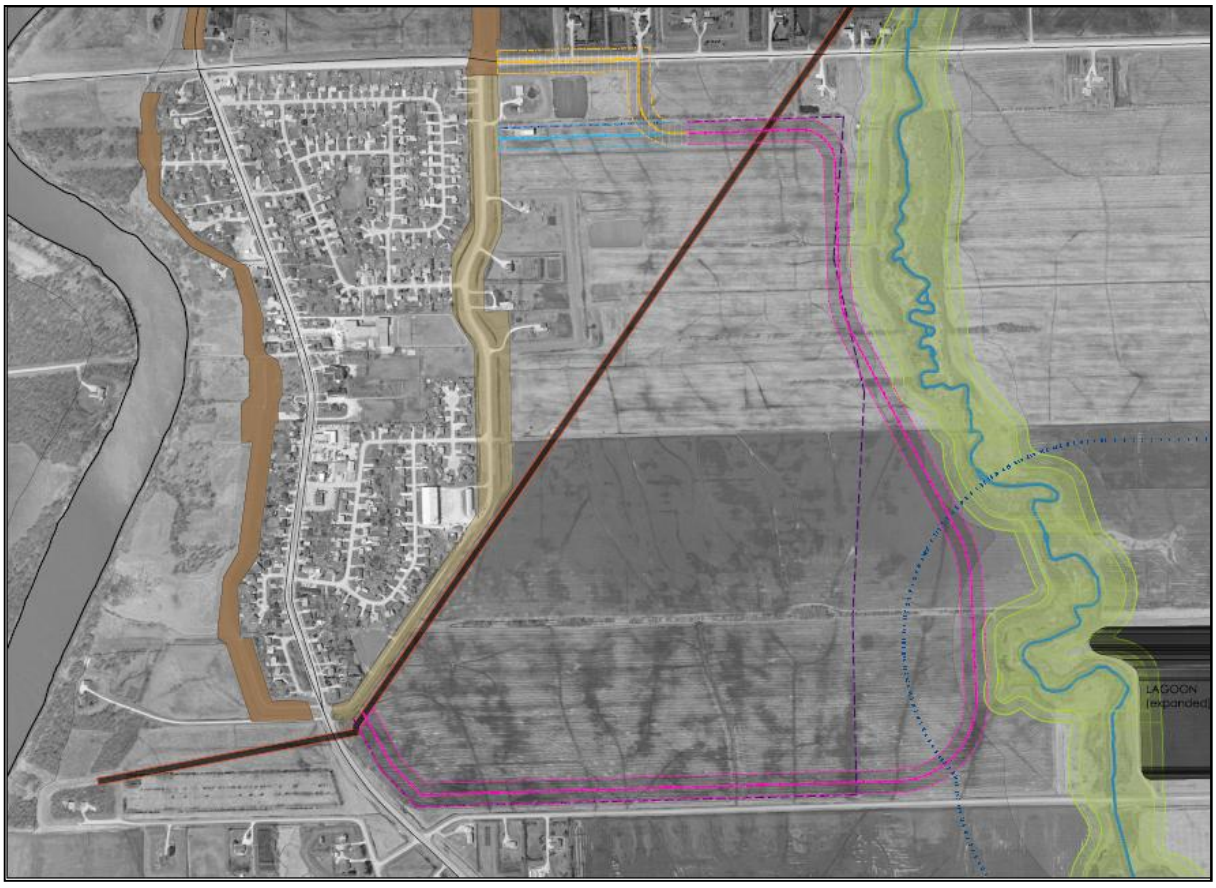

Figure 1 St. Adolphe Dike Expansion Option 4

To identify the hydraulic impact of this new alignment, the existing MIKE FLOOD model was modified and was run for the 1997, 2009 and 2011 flood events.

Modification of the Existing MIKE FLOOD Model

MIT requested AECOM to construct a MIKE FLOOD (MIKE 11 and MIKE 21) hydraulic model for the St. Adolphe Ring Dike Expansion in 2012. The main stem for rivers and tributaries were modelled as one dimension flows in MIKE 11. The flood plain was modelled as two dimension in MIKE 21. MIKE FLOOD coupled these two models together.

The existing MIKE 11 model built in 2012 remained unchanged for the simulations of dike expansion Option 4.

The existing MIKE 21 model was modified based on the Option 4 dike alignment. MIKE FLOOD coupled the existing MIKE 11 model and the modified MIKE 21 model together.

MIKE FLOOD Simulation Results

Three events (1997, 2009 and 2011) were simulated for dike expansion Option 4. These included the flood hydrographs for 1997, 2009 and 2011. All inflows and water level boundaries were consistent with the simulations for the existing dike condition and dike expansion Option 2 in 2012. The only change was the footprint of the proposed dike expansion Option 4 within the ring dike protected area.

Water level comparisons of the existing dike alignment, dike expansion Option 2 and Option 4 were presented as water surface profiles drawn east of the proposed dike Option 4 footprint. The profile stretched from PR 311 in the south to Twin Creek Road in the north. Figure 2 shows the existing dike alignment, proposed dike expansion Option 2 and Option 4, as well as the location of the water surface profile from PR 311 to Twin Creek Road. Figure 3 shows the modelled water surface profiles for 1997 and 2009 with the Existing, Option 2 and Option 4 dike alignments. Figure 4 shows the modelled 2011 water surface profiles of the Existing, Option 2 and Option 4 dike alignments.

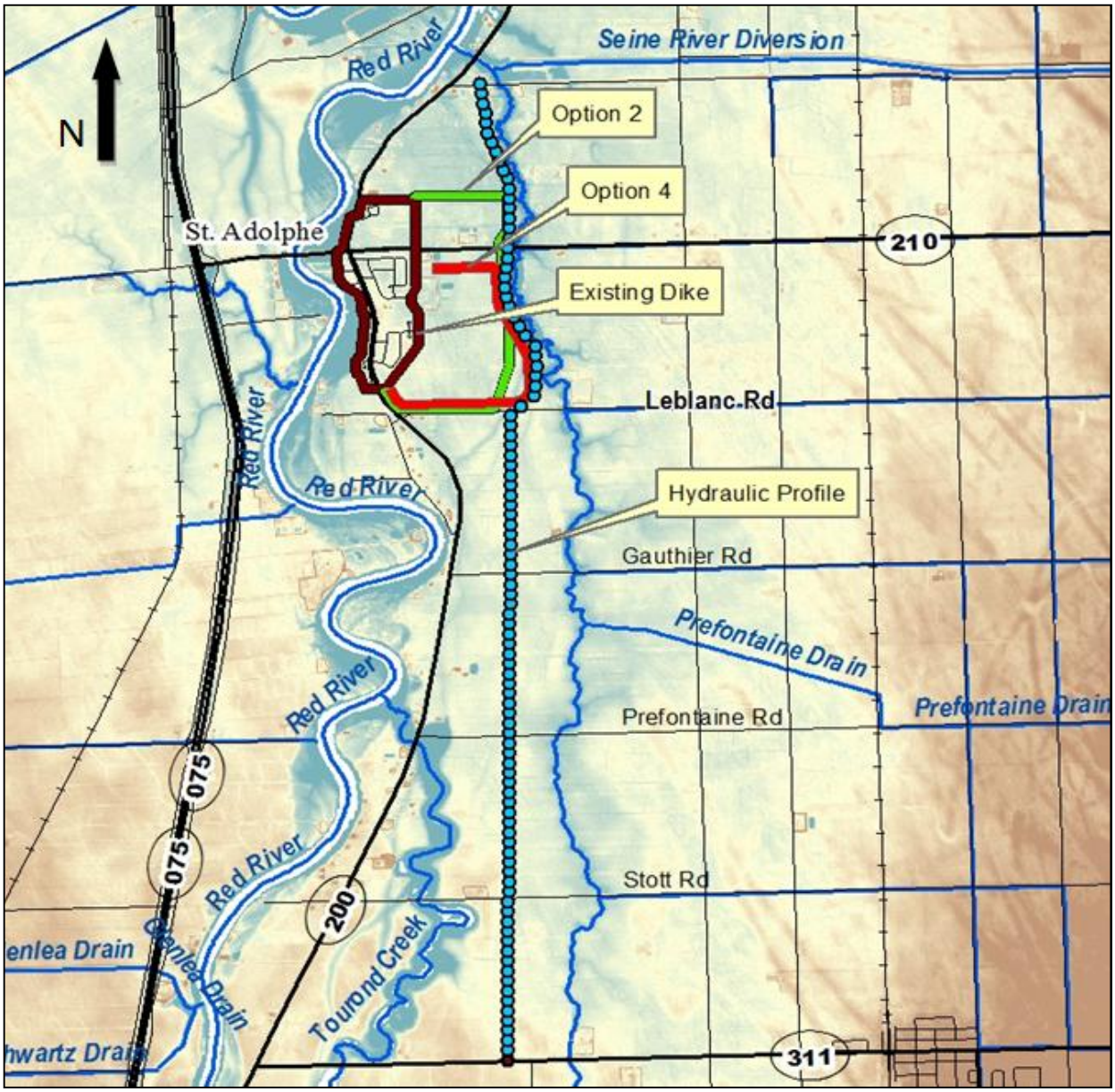

Figure 2 Existing and Proposed Dike Alignments and Location of Water Surface Profile

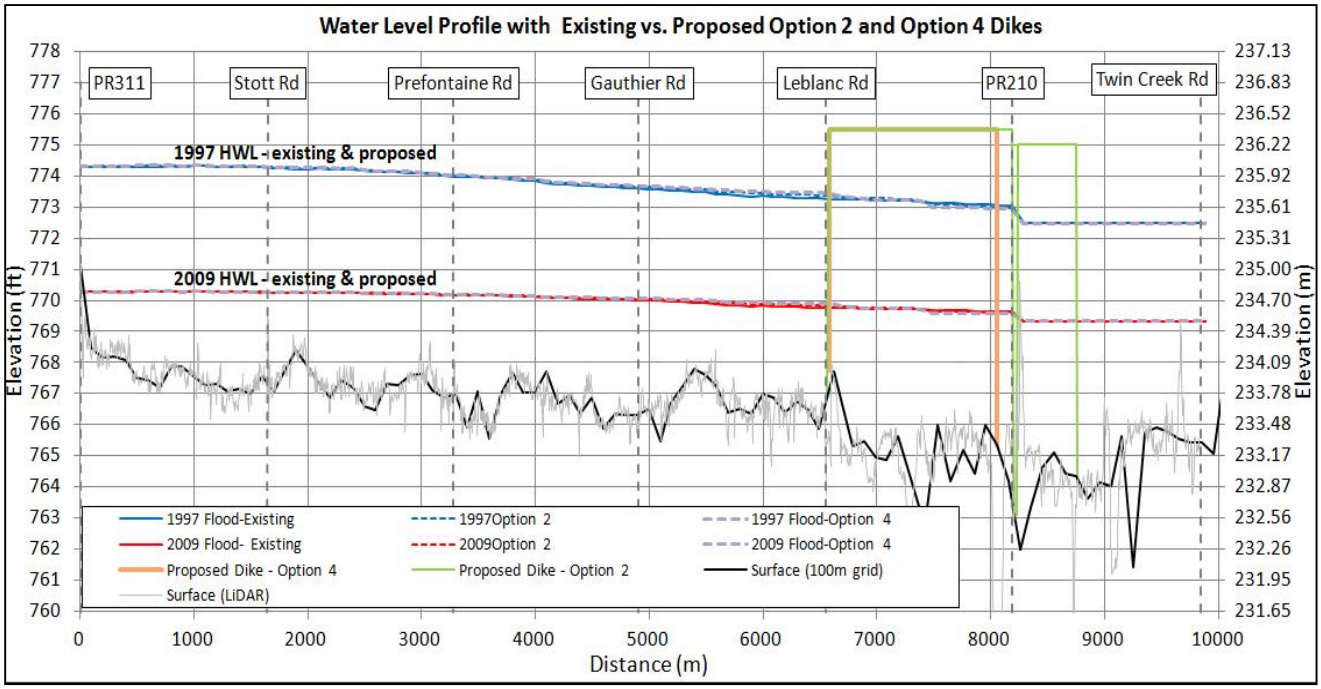

Figure 3 1997 & 2009 Water Level Profile with the Existing and Proposed Option 2 and Option 4 Dikes

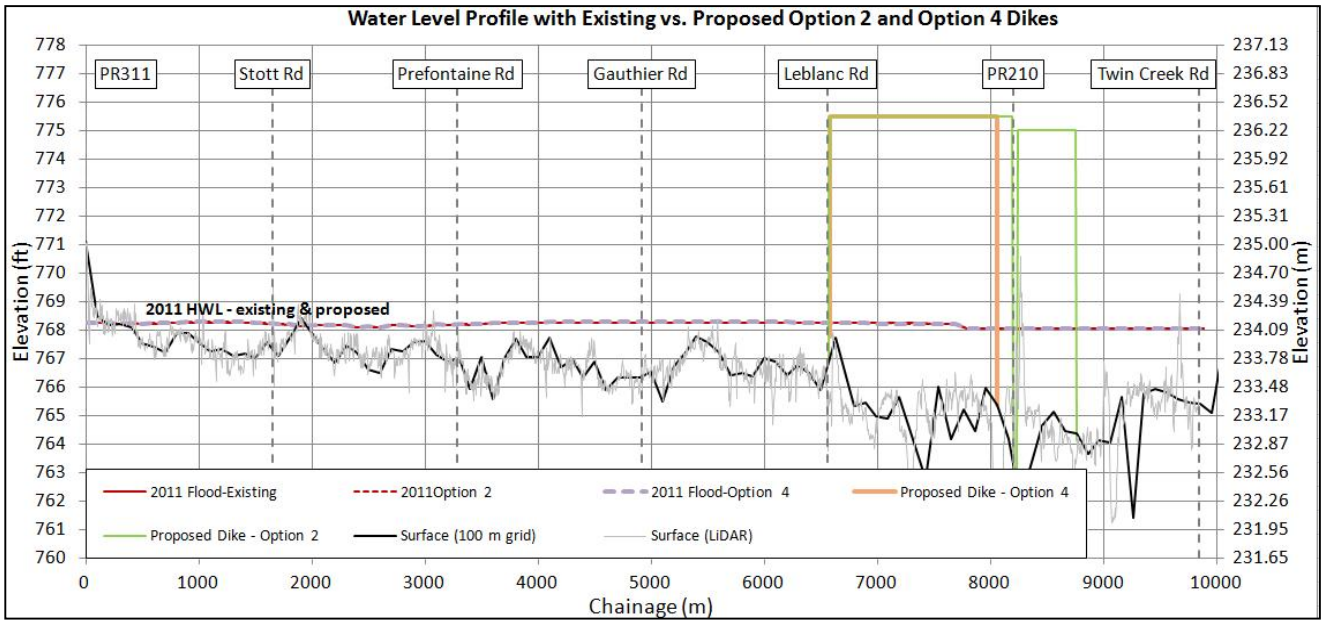

Figure 4 2011 Water Level Profile with the Existing and Proposed Option 2 and Option 4 Dikes

Hydraulic model results show that hydraulic influence on floodplain water levels of dike expansion Option 4 compared with dike expansion Option 2 was small and similar to the Option 2 results. The model results indicate water level increases generally less than 50 mm for the 1997 flood peak as shown in Figure 3. Therefore dike expansion Option 4 is considered to have a minor negative impact, similar to dike expansion Option 2 and these influences are mitigated by the freeboard commonly constructed into flood protection dikes and raised lot pads.

Appendix D – Correspondence with Manitoba Conservation and Water Stewardship and Summary of Comments from Interdepartmental Review

Weiss, Alison

From: Wiens, Jonathan (CON) [Jonathan.Wiens@gov.mb.ca]
Sent: Monday, November 26, 2012 1:46 PM
To: Weiss, Alison
Subject: RE: Chimney Swift and Eagles around St Adolphe (email 2 of 2) (Revised Option naming)

Hello Allison,

Wildlife Branch has reviewed this development proposal, and have no concerns with the project, as presented. The required habitat for Chimney Swifts, does not appear to be threatened as a result of this project.

Jonathan Wiens, MSc
Habitat Specialist
Manitoba Conservation
Box 24 - 200 Saulteaux Crescent
Winnipeg, Manitoba, R3J 3W3
Phone: (204) 945-7764
Mobile: (204) 918-3420
Fax: (204) 945-3077
Email: jonathan.wiens@gov.mb.ca

From: Weiss, Alison [mailto:Alison.Weiss@aecom.com]
Sent: November-26-12 8:53 AM
To: Wiens, Jonathan (CON)
Subject: RE: Chimney Swift and Eagles around St Adolphe (email 2 of 2) (Revised Option naming)

Hi Jonathan,
I am just following up on the St Adolphe Ring Dike project and the Chimney Swift. Have you had a chance to look at this yet?
Thanks in advance,

Alison Weiss, P.Eng.
Environmental Engineer, Environment
D 204.928.8469
alison.weiss@aecom.com

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www.aecom.com

From: Weiss, Alison
Sent: Tuesday, November 06, 2012 1:28 PM
To: 'jonathan.wiens@gov.mb.ca'
Cc: Friesen, Jim
Subject: FW: Chimney Swift and Eagles around St Adolphe (email 2 of 2) (Revised Option naming)

Hi Jonathan,
Sorry, we had your email incorrect on the email below. Please see the note from Jim on the naming of the options.
Thanks again for the help.

Alison Weiss, P.Eng.
Environmental Engineer, Environment

D 204.928.8469
alison.weiss@aecom.com

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From: Friesen, Jim
Sent: Tuesday, November 06, 2012 1:25 PM
To: Weiss, Alison; Johnathan.wiens@gov.mb.ca
Cc: Biswanger, Stephen; Blais, Eric
Subject: RE: Chimney Swift and Eagles around St Adolphe (email 2 of 2) (Revised Option naming)

Hi all.
Just a quick update to naming before a government response is sent. Please note the first map sent (sent by other email as option 2) has been renamed Option 1, and the second (sent as 4c) is renamed Option 2. See attached images proposed for Public Open House showing the exact alignments with current naming.

The TAC committee was sent multiple alignments many rejected, leaving 2 and 4c acceptable. They decided since the public had not seen the abandoned alignment options to rename those presented as Option 1 and 2 (simple, easy to remember). Please make your environmental assessment based on the current naming convention.

Regards,
Jim Friesen, *P. Eng.*
AECOM Water

From: Weiss, Alison
Sent: Tuesday, November 06, 2012 11:37 AM
To: Johnathan.wiens@gov.mb.ca
Cc: Friesen, Jim
Subject: Chimney Swift and Eagles around St Adolphe (email 2 of 2)

Hi Jonathan,
Please see attached for the second dike alignment option being considered.
Thanks,

Alison Weiss, P.Eng.
Environmental Engineer, Environment
D 204.928.8469
alison.weiss@aecom.com

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SUMMARY OF THE ENVIRONMENTAL PRE-SCREENING
INTERDEPARTMENTAL REVIEW RESULTS

Expansion of the St. Adolphe Ring Dike in the RM of Ritchot

Manitoba Infrastructure and Transportation (MIT) has undertaken an Interdepartmental Review of this project. The following is the summary of review and comments received:

A. Manitoba Conservation (CON) replied on October 19, 2012 that they do not have any concern.

B. Water Stewardship Division (WSD) submitted the following on October 22, 2012:

- In one of the options (B), the extension appears to be located at the outside edge of the riparian area that exists along the St. Adolphe Coulee. The dyke itself and related construction works shall not infringe upon the riparian area and/or restrict the ability of the creek to move within its floodplain in the future.

- The Water Stewardship Division does not object to the approval of this proposal, at this time.

C. Manitoba Culture, Heritage and Tourism (CHT) submitted the following comments on October 18, 2012:

The HRB reserves the right to review the borrow pit locations (once they have been determined) for any impact they may have to heritage resources. The Historic Resources Branch has **no concerns** with the proposed locations for the expansion of the St. Adolphe ring dike.

If at any time heritage resources are encountered in association with these lands during any development, the Historic Resources Branch may require that a heritage resource management strategy be implemented by the developer to mitigate the effects of development on any heritage resources.

If you have any questions or comments, please feel free to contact Jenny Payment, by phone (204-945-4768), or by email: Jen.Payment@gov.mb.ca.

D. Manitoba Industry, Trade and Mines (IEM) replied on September 21, 2012 that they do not have concerns.

E. Manitoba Agriculture and Food (MAFRI) submitted the following comments on October 17, 2012:

The proposal outlines two options for the dike alignment both of which include lands currently designated Urban Hold Policy Area pursuant to the MacDonald Ritchot Planning District Development Plan By-law 2-2010. Our comments follow.

Option 1 proposes a dike alignment that encompasses only the Urban Hold Policy Area. The Hold Policy Area designation is intended to direct the incremental growth of Urban Centres, Rural Centres and Enterprise Centres in a manner that supports the Planning District's commitment to sustainable growth. This area is comprised of approximately 400 acres of prime agricultural land that is currently under agricultural production. While MAFRI has some

concerns that protecting this area with a ring dike may lead to premature loss of agricultural lands, we recognize this is the direction in which the community of St. Adolphe has planned for future growth and the lands within this designation will require re-designation prior to development for urban uses. Provided that agricultural practices will be allowed to continue within the Urban Hold Policy Area, we would have no agricultural concerns with this option.

Option 2 proposes a dike alignment that appears to include land designated Agricultural Policy Area in the Development Plan. Given the size of the Urban Hold Policy Area, we wouldn't support further expanding the area protected by the dike to include agriculturally designated lands. MAFRI is not in support of Option 2.

Our preference is for proposed dike alignment Option 1. Thank you for the opportunity to provide comment.

F. Manitoba Local Government (MLG) submitted the following on September 24, 2012:

We do not have an issue with Option 1 as the proposed dike encompasses only land designated as Urban Centre Hold Area in Development Plan By-law 2-2010.

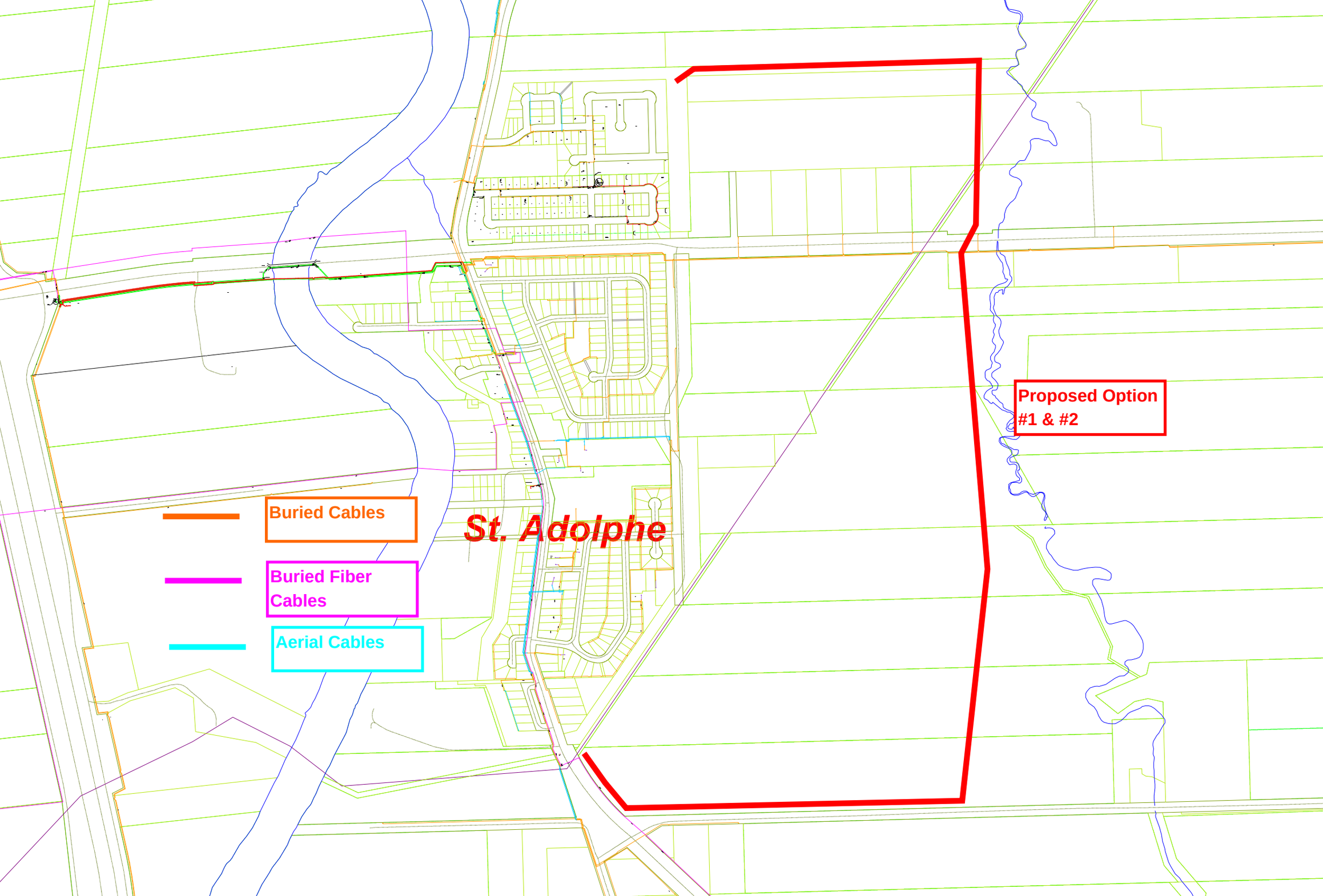
Proposed Option 2 appears to include land designated as Agricultural Policy Area in the Development Plan. We question the rationale for protecting land designated for agricultural use. Were it the intention of the Planning District Board to develop the additional extent of this land for a use other than agricultural, this intention would have been reflected in the long-term vision and policies of the Development Plan.

G. MTS submitted the following on October 12, 2012:

MTS has buried cables located on the S/S of PR#210 with distribution cable that will cross the PR in Various locations. There are no aerial cables of fiber cables in the areas indicated by your map for MTS.

I am to assume that no "Excavations" will occur, but fill will be added to the existing lands involved?

See the attached map.


Buried Cables
Buried Fiber Cables
Aerial Cables
St. Adolphe
Proposed Option #1 & #2