APPENDIX 7A
Preliminary Preferred Route Selection Process

PRELIMINARY PREFERRED ROUTE SELECTION PROCESS

As noted in Chapter 7, subsequent to Round 3 EACP, a process was initiated to select a preliminary preferred route for the Bipole III transmission line. This involved a committee of discipline experts that reviewed stakeholder input and evaluations conducted by discipline specialists on the environmental assessment team based on data and input available at that time. The route selection matrix (RSM)[1] recorded all of the input and evaluation that went into initial preferred route selection in the 13 sections that the alternative routes were divided into. There are two tables contained in the RSM. Table 7A-1 recorded the segment by segment comparison of routes for the initial selection of a preferred route. Table 7A-2 provides the ratings for new segments that were added to the selection process to address issues and constraints that were identified during the iterative route selection process for the Preliminary Preferred Route (PPR).

On the RSM, in each of the 13 sections, the section number and alternative route segments were listed on the left (vertical) axis. On the top (horizontal) axis, the 27 biophysical, socio-economic, land use, stakeholder (response), and technical evaluation factors were listed. Ratings for each of the factors were provided below for each route segment by section. For each of the 13 sections, section rating summaries were also listed on the top (horizontal) axis. The matrix for each section included a map showing the section and identifying the alternative segments within that section. Comments on the alternative route segments from the various perspectives (biophysical, socio-economic, stakeholder, technical) were included, along with a summary of the selected preferred route by section.

Evaluation criteria were identified for each factor that would facilitate three-tier (high, medium and low concern) rating. Biophysical, socio-economic and land use ratings were based on the degree to which the factor was potentially affected. Stakeholder rankings were based on the nature and degree of response to an alternative route segment. The objective of the stakeholder evaluation was to identify route segments with the lowest level of concerns or most favoured in terms of the EACP. A three-tiered ranking system (fair, good or poor routing option) for the EACP responses was based on numeric counts of comments. Technical (engineering) ratings used the three-tier rating system and were based on the degree to which a factor was a constraint.

A four-tier rating (very high, high, medium and low concern) system was used for several biophysical factors (mammals, caribou, birds, core communities, fragmentation) where potential effects on protected species and habitats were identified. The four-tier system was also used for culture-heritage.

[1] The RSM was based on information available up to April 2010 to support the identification and selection of preliminary preferred route.

The RSM also contains "Segment Comments" which provides details on the reason for any High or Very High rankings for each route segment. Comments were also included to identify routing opportunities and note where ATK was received in advance of the alternative route selection so it could be incorporated into the process. ATK is highlighted in red in terms of comments on each route segment. In addition, the segment comments indicate where ATK influenced the preferred route in each section.

Several biophysical factors (e.g., caribou, forestry) and land use (e.g., TLE, agriculture) were not applicable in all sections and were not rated in sections where these factors were not a consideration. These instances are indicated by a "-" in the appropriate cells in the matrix.

A description of each evaluation criteria is provided below along with how it was considered in evaluating route segments.

BIOPHYSICAL

Vegetation

The vegetation evaluation considered potential effects that the alternative routes may have on listed species and the environments that will likely be encountered. The evaluation gave consideration to important habitats and areas that have protection by legislation. The objective was to select route segments with the least impact on important vegetation species and their habitats. The evaluation considered species of conservation concern, grassland and prairie areas, PAIs, ASIs and salt marshes of highest concern. A three-tiered rating system (high, medium, low) was applied to each alternative route segment.

Forestry

The forestry evaluation considered commercial forestry values as viewed by the Provincial government and the forest industry. Ecological issues were addressed in the vegetation, wildlife and habitat assessments. The objective was to select route segments with least amount of forestry values. The parameters considered were productive forest land, forest harvest and renewal sites and point forest values that include monitoring and research sites, tree improvement program sites, private woodlots and shelterbelts. The proportion of productive forest land, number of harvest/renewal and point forest value sites were considered. Each parameter was scored and a three-tiered ranking system (high, medium, low) was applied to each route segment.

Birds

The bird evaluation considered the range of bird species within the Project Study Area, rare and endangered species, habitat availability and assessment, proximity of known high

use/nesting/staging areas, migration corridors, Valued Environmental Components (VECs), and other factors. Core habitat and fragmentation were assessed independently. The objective of the evaluation was to select route segments with minimal effects on birds. Ten VECs were selected and their habitats were modeled using the Land Cover Classification Enhancement for the Bipole III line (LCCEB). Other variables included ecological reserves, parks, and conservation areas. A scoring method was applied to a number of variables and expressed as a total effect score. The total effect score was derived and expressed on a route segment and ecodistrict basis. A four-tiered rating system (very high, high, medium and low) was applied to each route segment.

Mammals

The mammal evaluation considered the range of mammal species, VECs, habitat availability, critical habitats, population densities and concentrations. Four VECs were selected and their habitats were modeled using the LCCEB. Other variables included ecological reserves, parks and conservation areas. The objective of the evaluations was to select route segments with minimal effects on mammals. The potential effect score was derived and expressed on an alternative route segment and ecodistrict basis. Aerial survey data for moose and wolverine were used north of Red Deer Lake based on stratification of habitat using the LCCEB to determine high density populations that could be potentially affected. Scores were ranked on presence/absence of concentrations and combined with VEC modeling to obtain ordinate ranking. A four-tiered raking system (very high, high, medium and low) was applied to each route segment.

Caribou

Boreal woodland caribou are a VEC and have implications to development. Both winter and calving habitat availability can potentially be limiting; thus, separate models were developed for seasonal life history requirements. Alternate routes were also evaluated using historic and current high resolution GPS telemetry data, and represent the highest quality dataset for all mammals in the study area. Aerial transect survey data and point density analyses contributed to areas where no GPS collar data exists for alternative route assessment.

The Boreal woodland caribou evaluation considered a comprehensive analysis of core use areas, core habitat modeling, calving areas and calving habitat modeling using the LCCEB. The objective of the evaluation was to select route segments with minimal effects on caribou. Model parameters included the development of patch metrics based on calving patch analysis and core winter use areas using adaptive kernel modeling techniques. Core winter areas were determined through a combination of GPS kernel analysis and point density analysis using aerial transect survey data in areas where no caribou collar data existed. A four-tiered ranking system (very high, high, medium and low) was applied to each alternative route segment.

Core Communities

Core communities provide a general description of the landscape by using five broad plant community types. The approach is used to evaluate a wide range of species but primarily those species within the community that have small to moderately-sized home ranges. This method and the results were developed to describe wildlife and plant communities where specific core areas are not known. This evaluation was not integrated directly with any specific wildlife species and was not used in the assessment of any particular wildlife species habitats. The objective of the evaluation was to select route segments which avoid areas of contiguous core communities. VEC species habitats were derived using other modeling methods and the habitat results were integrated on a species-by-species basis. A four-tiered ranking system (very high, high, medium and low) was applied to each route segment.

Fragmentation - Wildlife

Fragmentation can affect a wide array of wildlife and plant communities at multiple spatial scales that are related to individual home ranges and to the extent of populations. Two complimentary methods were developed, compared and integrated. Similar to the core community assessment, the fragmentation evaluation was not integrated directly with specific species, and because of other ecological considerations, it remained as an independent analysis.

The objective of the evaluation was to select route segments which will fragment the environment the least. Two methods were used for the fragmentation evaluation. Fragmentation in a route segment in method 1 was compared proportionally to fragmentation in corresponding ecodistricts. An assumption was used to compare with existing fragmentation levels along the alternative routes where "the lowest threshold at which the most sensitive species and population may begin to decline as a result of additional linear feature is >0.16 km/km² . The number and area of forest patches intersected by each alternative route segment in method 2 was measured and the maximum and median patch sizes intersected were calculated for each segment. A four-tiered ranking system (very high, high, medium and low) was applied to each route segment.

Soils and Terrain (Local)

Localized constraints for soils and terrain are site-specific in nature and have discrete areas identified through aerial photo interpretation for non-agricultural landscapes or through existing large-scale databases. The assessment focused on ecological constraints relative to the line including soil and terrain sensitivities, steep/unstable slopes, extensive organic deposits, vulnerable aquifers and enduring features identified by the PAI. Enduring features data was only available for the north section of the Project Study Area (Ecoregions: Selwyn Lake Upland, Churchill River Upland, Hayes River Upland and Hudson Bay Lowland). The

objective of the soils and terrain evaluation was to select route segments with the least amount of soil and terrain constraints. The evaluation considered the proportion of area identified for the measured constraints based on relative degree of constraint. A three-tiered ranking system (high, medium, low) was applied to each route segment.

Aquatics

The aquatics evaluation considered potential effects to fish habitat and water quality. It also incorporated known high value fish habitat areas (e.g. spawning sites). The objective of the evaluation was to select route segments with lowest potential for effects on fish habitat. The evaluation method included the number of crossings, crossings with spans greater than 500 m and crossings within 500 m of a confluence (stream-stream or stream-lake) which were standardized to the segment length. Comparisons were made by route segment. Meetings were held with Provincial regional fisheries managers/biologists to identity high value fish habitat areas. A three-tiered ranking system (high, medium, low) was applied to each route segment.

Amphibians and Reptiles

The amphibian, reptile and terrestrial invertebrate evaluation considered the potential effects that the line may have on protected species and the environments in which they are most likely to be encountered. The objective of the evaluation was to select route segments with minimal effects on amphibians and reptiles, and terrestrial invertebrates. The evaluation included identification of route segments overlapping distributions or presence of at-risk species, area and proportions of sandy prairie and breeding wetland habitat categories, relative to route segments and ecozones. A three-tiered ranking system (high, medium, low) was applied to each route segment.

SOCIO-ECONOMIC

Population Density

The population density evaluation considered the potential effects that route segments may have on people. Information provided is reported at the dissemination block level which was an area bounded on all sides by roads and/or boundaries of standard geographic areas, and was the smallest geographic area for which population and dwelling count data were disseminated. The objective of the evaluation was to minimize instances where a route segment encompassed densely populated areas to address potential noise and disturbance concerns/issues, as well as potential concerns with respect to effects on human health and safety. The evaluation included the ratio of individuals in a route segment compared to total

individuals in all segments. A three-tiered ranking system (high, medium, low) was applied to each segment.

Culture - Heritage

The culture - heritage evaluation considered the potential effects that route segments may have on archaeological sites, centennial farms, plaques, and designated municipal and provincial sites. The objective of the evaluation was to minimize the number of sites affected. Heritage sites within each route segment were plotted and ranked according to values assigned to each site type. The frequency of site type were multiplied by the appropriate valuation and totalled for each alternative route segment. A four-tiered ranking system (very high, high, medium, low) was applied to each segment.

Resource Use

The resource use evaluation considered commercial fur harvest or trapping and the commercial allocation of big game wildlife resources to commercial operators through non-resident hunting allocations. The objective was to minimize the amount and frequency of potential disturbance to trappers and big game outfitters. Measurable parameters included the number of active traplines, trapline production, number of black bear and moose allocation areas, and the distance of segments intersected, as well as numbers of white-tailed deer Game Hunting Areas (GHAs) intersected. A three-tiered ranking (high, medium, low) was combined with the maximum value as some areas have only trapping or outfitting activity as a resource use.

Lodges and Tourism

The lodges and tourism evaluation considered lodge operators, including any outcamps, that may be located within the view of the alternative route segment. The objective of the evaluation was to select route segments that minimize the number of lodge operations affected. The three-tiered ranking (high, medium, low) used reflected the distance of the lodge operator from the route segment.

Land Use

The land use evaluation considered ways in which land is developed and used in terms of the types of activities allowed or present. General categories included nature protection areas, recreational use areas, industrial use areas, land tenure and use, transport and infrastructure facilities, and communities and residential development. The objective of the evaluation was to select route segments that minimize the amount of land use features/constraints affected. The evaluation method considered the ratio of intersection for a given feature/constraint in

a route segment. This was determined as a percentage in relation to the total number of interactions for that feature/constraint in all segments. A three-tiered ranking system (high, medium, low) was applied to each route segment based on an accumulated total score for all features/constraint interactions along a particular segment.

PAI - ASI

The protected areas evaluation considered areas designated under legislation as permanently protected (i.e., national parks, provincial parks, ecological reserves, forest reserves, WMAs, or private lands under conservation agreements) or lands under consideration for permanent protection due to their unique ecological features (i.e., enduring features). The objective of the evaluation was to select route segments that minimize the number of PAIs/ASIs affected. All designated areas under permanent protection would receive a high constraint ranking (i.e., national parks, provincial parks, ecological reserves). Park reserves, forests reserves, WMAs and community pastures were considered to be moderately affected because developments such as transmission lines are allowed in these areas. A three-tiered ranking system (high, medium, low) was applied to each segment.

TLE

This evaluation considered Aboriginal lands acquired by TLE through the allocation of Crown land or the purchase of private lands. The objective of the evaluation was to select alternative route segments with the least number of TLEs affected. A three-tiered ranking system (high, medium, low) was applied to each route segment where a high rank would be assigned where the route crossed TLE lands, while a moderate ranking would be assigned where the route segment was in close proximity to TLE land.

Agriculture

The agricultural evaluation considered dwellings and farm yards, intensive livestock operations, lands under irrigation and with irrigation potential, row crop areas, intensive annually cropped areas, tame forage areas, mixed farming areas with some cultivated land, native pasture and hay lands, and land with limited or no agricultural use. The objective of the evaluation was to select route segments with the least impact on agriculture. Measurable parameters included agricultural productivity and placement of towers. A three-tiered ranking system (high, medium, low) was applied to each route segment based on agricultural impact categories. High rated segments included lands that are under intensive agriculture and annual cropping, while low rated segments include lands with limited (haying and grazing) or no agriculture use.

TECHNICAL

Foundations

Selection of a proper tower foundation depends on soil conditions. Difficult soil conditions lead to high construction costs and maintenance issues. The objective of the evaluation was to select route segments with favourable geotechnical conditions. The evaluation considered the type of soil found along the route segment, as well as proximity to a water crossing. A three-tiered ranking system (high, medium, low) was applied to each segment with high for wetlands and deep organics, medium for sand and lacustrine clay, and low for rock and dense till.

Angle Towers

Heavy angle towers are more expensive than tangent towers. Hence, a lower number of heavy angle structures reduces the cost of the line. The objective of this evaluation was to select route segments with a lower number of heavy angle structures. The evaluation considered the average separation distance between angle towers. A three-tiered ranking system (high, medium, low) was applied to each route segment based upon the average separation distance.

Construction Access

The ease of access for construction is an important factor in the overall construction cost. The objective of this evaluation was to select alternative route segments with easy access for construction. The evaluation considered existing roads, highways, transmission lines and terrain ruggedness. A three-tiered ranking system (high, medium, low) was applied to each route segment based on the relative comparison of alternative segments.

Separation

Separation from Bipoles I and II is critically important in addressing system reliability concerns. The objective of this evaluation was to select route segments that meet the minimum separation distance requirement of 40 km from Bipoles I and II. A three-tiered ranking system (high, medium, low) was applied to each route segment based on the linear separation distance. If more than 40% of the linear distance of a route segment crossed into a higher separation distance category (i.e., had less separation), then the entire route segment was given the higher ranking.

Line Length

Transmission line cost is proportional to the line length. Hence, shorter lengths result in lower costs. The objective of this evaluation was to select short route segments. A three-tiered ranking system (high, medium, low) was applied to each segment based on a relative comparison of other segments. A lower ranking meant lower line length in that segment.

STAKEHOLDER RESPONSES

All route segments were evaluated on both a numeric count and an assessment of the negative or positive commentary provided for segments during the EACP. General commentary provided through the EACP (e.g. diagonal lines were not preferred, longer lines were not preferred) was considered in the assessment of segments where applicable. The responses were divided into Aboriginal communities, municipal (communities), stakeholder group and the general public. A three-tiered ranking system (good, poor, no preference) was applied to each segment where comments were received.

INITIAL SEGMENT SELECTION

The process of selecting a particular segment or segments for each of the 13 sections followed several steps and was recorded in the RSM. A scoring system was linked to the low to very high rankings and was used to sum a numeric score for each segment for the 23 criteria. This gave a preliminary indication of the level of constraint or issue for each segment as compared to other segments in a section (Table 7A-1). The next step was to consider stakeholder response for the segments.

Stakeholder response was obtained from the initial three rounds of the EACP. Stakeholder ratings were assigned to each alternative route segment based on the following: G – Good routing option, F – Fair routing option and P – Poor routing option. Comments were not provided by all stakeholders for all of the alternative route segments. Where comments weren't provided (i.e., municipalities had no comments on the alternative route segments that were outside of their boundaries in Section 1), a "-" was denoted on the matrix.

The final step in selecting the initial preferred route segment for a particular section was accomplished by having a panel of specialists from the route selection committee do a final rating of the route segments. The routing options were rated for five summarized criteria including Biophysical, Socio-Economic, Land Use, Stakeholder Response and Technical factors. Ratings in each segment (by section) were as follows:

√ - Good routing

- = No preference

X = Poor routing option

The last column on the right of the RSM identifies the initial preferred route selection from this process.

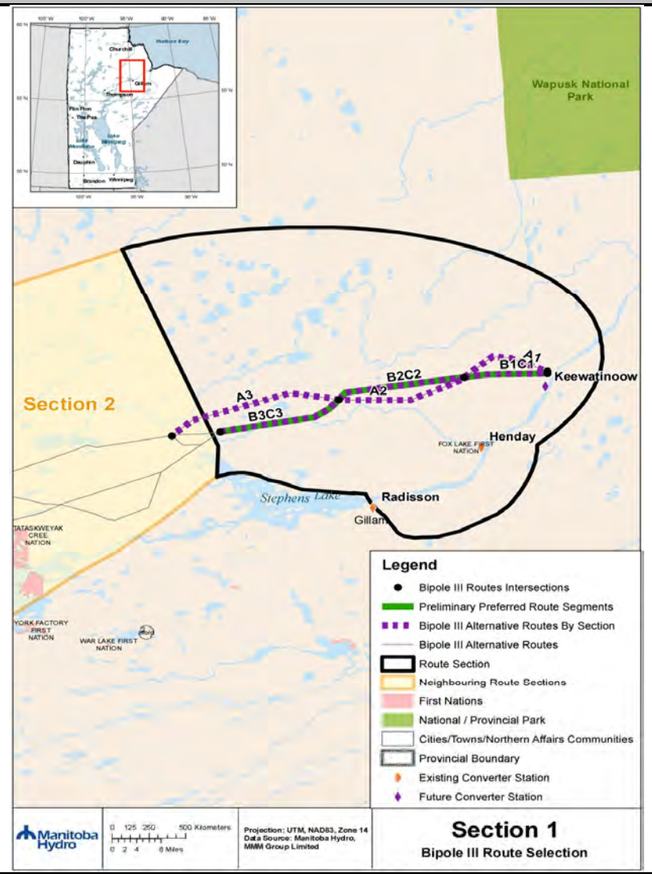
There is a "Selection Summary" in the RSM which provides a summary on the selection of the initial preferred route in each section. The rationale for selecting preferred route segments over the other alternative route segments in each section are provided. The summary also notes situations where adjustments could be required as a result of unresolved issues/concerns.

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
1	A1	L	L	L	M	M	L	H	L	M	L	L	L	M	L	L	M	L	-	M	H	L	H	M	16	G	-	-	-
1	A2	M	L	L	M	M	VH	H	L	M	L	L	L	M	L	L	M	L	-	L	H	M	H	L	21	G	-	-	-
1	A3	M	L	L	M	M	VH	H	L	M	L	L	L	L	L	L	H	H	-	M	M	L	M	L	21	G	-	-	-
1	B1C1	L	L	L	M	M	L	H	L	M	L	L	L	M	L	L	M	L	-	M	M	L	H	L	13	G	-	-	-
1	B2C2	M	L	L	M	M	VH	H	L	H	L	L	L	M	L	L	M	L	-	L	M	M	H	L	21	G	-	-	-
1	B3C3	M	L	L	M	M	L	H	M	M	L	L	L	L	L	L	H	H	-	L	M	M	H	L	19	G	-	-	-

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	-	✔	x	-	-	
B	✔	✔	x	✔	-	✔

SECTION 1 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A1	7. Fragmentation risk due to remote, undeveloped nature of area; 20. High proportion of angle towers to length; 22. Segment falls with 40km of Bipoles I and II (unavoidable);
A2	6. Core habitat values reflective of remote, undisturbed area; 7. Fragmentation risk due to remote, undeveloped nature of area; 20. High proportion of angle towers to length; 22. Segment falls with 40km of Bipoles I and II (unavoidable);
A3	6. Core habitat values reflective of remote, undisturbed area; 7. Fragmentation risk due to remote, undeveloped nature of area; 16. Stephens Lake ASI (114); traverses with enduring features of 4 Natural Regions; 5 Features are Rare and 1 is a Single Occurance; 17. Traverses Site 6 (187) Little Limestone Lake, York Factory FN;
B1C1	7. Fragmentation risk due to remote, undeveloped nature of area; 22. Segment falls with 40km of Bipoles I and II;
B2C2	6. Core habitat values reflective of remote, undisturbed area; 7. Fragmentation risk due to remote, undeveloped nature of area; 9. Number of crossings& confluences; 22. Segment falls with 40km of Bipoles I and II;
B3C3	7. Fragmentation risk due to remote, undeveloped nature of area; 16. Stephens Lake ASI (114); traverses with enduring features of 4 Natural Regions; 5 Features are Rare and 1 is a Single Occurance; 17. Traverses Site 6 (187) Little Limestone Lake, York Factory FN; 22. Segment falls with 40km of Bipoles I and II;

SELECTION SUMMARY

Preferred Route Segments: B1C1, B2C2, B3C3

While there is concern regarding both fragmentation risk and separation distance from Bipoles I and II in this section, this concern is roughly equal for all segments within the section. The high rating for aquatics for segment B2C2 along the preferred route is due to the high number of stream crossings; however, this is manageable through final route alignment. There are equal PAI-ASI and TLE concerns for the preferred route segment B3C3 and its comparator segment A3. The preferred route has fewer technical constraints than the alternate Route A. The preferred route in this section has low or moderate concerns from all other perspectives.

Stakeholder Response:

No route selection feedback received regarding this section.

Other Considerations:

Option to use individual segments in Section 1.

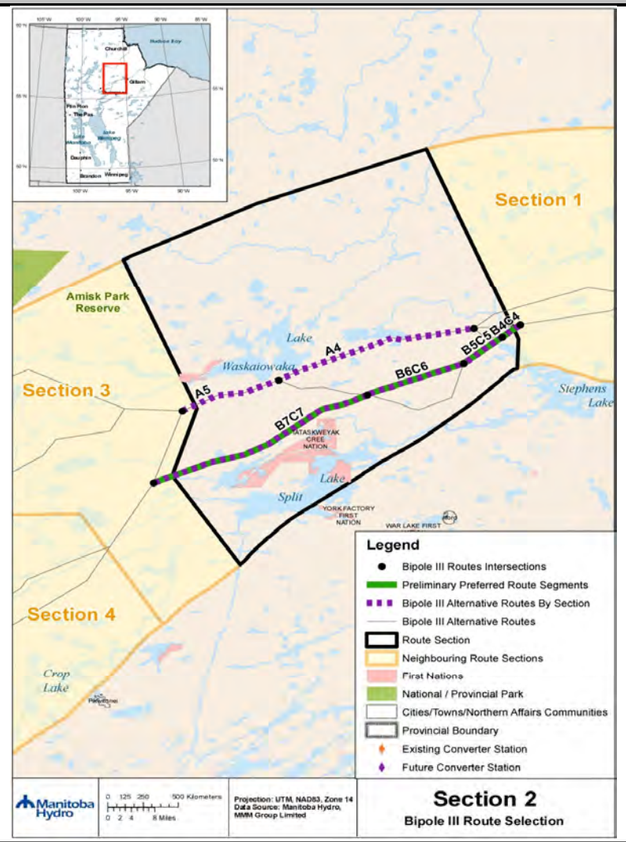
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
2	A4	M	L	L	H	L	L	H	L	M	L	L	L	M	L	L	M	-	-	L	H	H	M	L	17	G	-	G	-
2	A5	L	L	L	L	L	L	H	L	H	L	L	L	L	L	L	L	-	-	L	H	H	M	L	13	G	-	G	-
2	B4C4	M	L	L	L	M	L	H	M	M	L	L	L	L	L	L	M	-	-	L	H	L	M	L	12	G	-	G	-
2	B5C5	M	L	L	L	L	L	H	L	M	L	L	L	L	L	L	H	-	-	M	M	L	M	L	11	G	-	G	-
2	B6C6	M	L	L	M	L	L	H	L	M	L	L	L	M	L	L	M	-	-	M	M	L	M	L	11	G	-	G	-
2	B7C7	L	L	L	M	L	M	H	L	M	L	L	L	M	L	L	L	-	-	M	H	M	M	L	13	G	-	P	-

SECTION RATING SUMMARY ***							
ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	-	✔	✔	-	-	
B	✔	✔	-	✔	-	✔

SECTION 2 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A4	4. Traverses high quality, low disturbance regime moose habitat; 7. Fragmentation risk due to remote, undeveloped nature of area; 20. High proportion of angle towers to length; 21. Poor construction access;
A5	7. Fragmentation risk due to remote, undeveloped nature of area; 9. Number of of crossings & confluences; 20. High proportion of angle towers to length; 21. Poor construction access;
B4C4	7. Fragmentation risk due to remote, undeveloped nature of area; 20. High proportion of angle towers to length;
B5C5	7. Fragmentation risk due to remote, undeveloped nature of area; 16. Stephens Lake ASI (114); traverses with enduring features of 4 Natural Regions; 5 Features are Rare and 1 is a single occurance; **Opportunity:** Potential routing opportunity along short segment of existing road (PR 280);
B6C6	7. Fragmentation risk due to remote, undeveloped nature of area;
B7C7	7. Fragmentation risk due to remote, undeveloped nature of area; 20. High proportion of angle towers to length; 26. Exploration and mining concerns from MAMI (technique and equipment interference);

SELECTION SUMMARY

Preferred Route Segments: B4C4, B5C5, B6C6, B7C7

The preliminary preferred Route (B) in this section is a better route based on technical considerations particularly that it is straighter (fewer angle towers) and has better construction access. Route B also has fewer concerns respecting mammals (i.e. moose) and aquatic resources than the alternative Route A. Fragmentation is equally high for all segments due to the remote, undeveloped nature of the area. Resource use was rated somewhat higher for Route A than Route B. Route B does cross Stephens Lake ASI which requires further dialogue and evaluation with Manitoba Conservation. The mining industry expressed concerns regarding segment B7C7, and a minor realignment of this segment may address these concerns. The preferred route in this section has low to moderate concerns for all other disciplines.

Stakeholder Response:

MAMI expressed concerns regarding potential mining exploration and extraction in segment B7C7. No other feedback received regarding this section.

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
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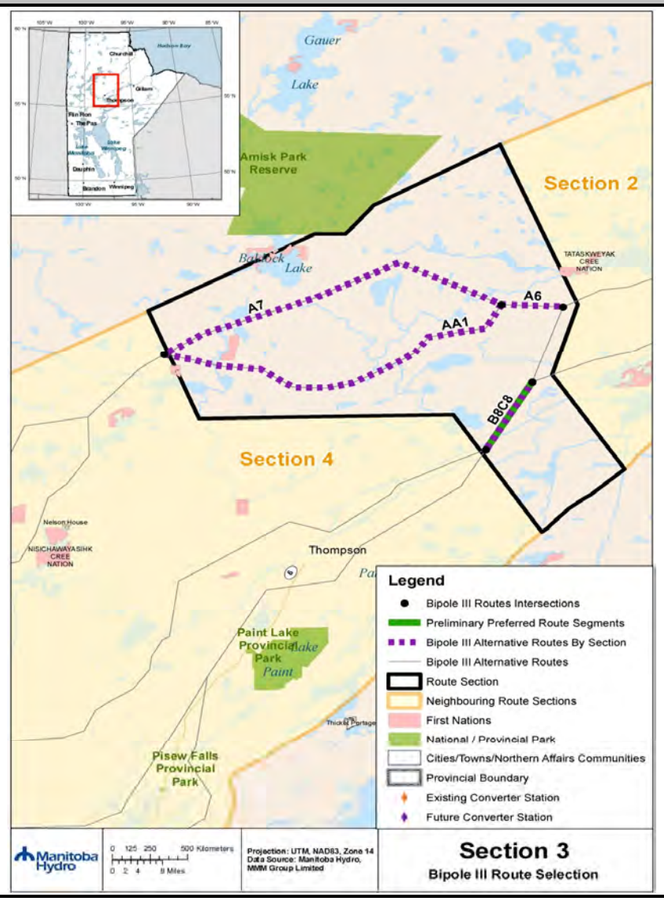
3	A6	L	L	L	H	L	L	H	L	M	L	L	L	L	L	L	L	L	-	L	M	H	L	M	12	G	-	G	F
3	A7	M	L	L	VH	L	M	H	H	M	L	L	L	M	L	L	H	L	-	H	L	H	L	M	25	G	-	G	F
3	B8C8	L	L	L	L	M	L	H	L	H	L	L	L	M	L	L	L	L	-	M	L	L	M	L	10	G	-	G	G
3	AA1	M	L	L	H	L	M	H	M	M	L	L	L	H	L	L	M	H	-	M	H	M	L	H	25	G	-	G	F

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	×	✔	-	-	-	
B	✔	✔	✔	✔	✔	✔
A1	-	✔	-	-	-	

SECTION RATING SUMMARY ***

SECTION 3 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A6	4. Traverses high quality, unfragmented remote moose habitat; 7. Fragmentation risk due to remote, undeveloped nature of area; 21. Poor construction access;
A7	4. Goes through major moose and wolverine concentration areas; 7. Fragmentation risk due to remote, undeveloped nature of area; 9. Crosses enduring feature in ASI; 16. Sub-segment A7 traverses enduring features within Amisk South ASI (112); 19. Poor foundation conditions; 21. Poor construction access;
B8C8	7. Fragmentation risk due to remote, undeveloped nature of area; 9. Number of crossings & confluences; **Opportunity:** Potential routing opportunity along short segment of PR 280;
AA1	4. Low disturbance regime for moose; 7. Fragmentation risk due to remote, undeveloped nature of area; 13. Intersects 7 active RTLs; 17. Overlap with TLE Site #7.01(911) Harding Lake & #14.01 (913) Pakwaw Lake, Nisichawayasihk CN; 20. High proportion of angle towers to length; 23. Long route;

SELECTION SUMMARY

Preferred Route Segment: B8C8

Route B is preferred in terms of mammals, core habitats, and soils and terrain considerations. Route B also has better foundation conditions, requires less angle towers, is shorter and provides better overall access for construction and maintenance. . While Route B has a higher rating for aquatics due to the frequency of stream crossings, these concerns can be addressed through final route alignment and tower placement. The human population density is low in the region and there is no preference from a population density perspective. There are no registered heritage sites along this section. The preferred route in this section has low to moderate concerns for all other disciplines.

Stakeholder Response:

No specific comments were raised regarding this section; numerous respondents in the study area stated that the Route A path further north would add cost and was therefore not as preferred as other options. Shorter routes were preferred by the general public.

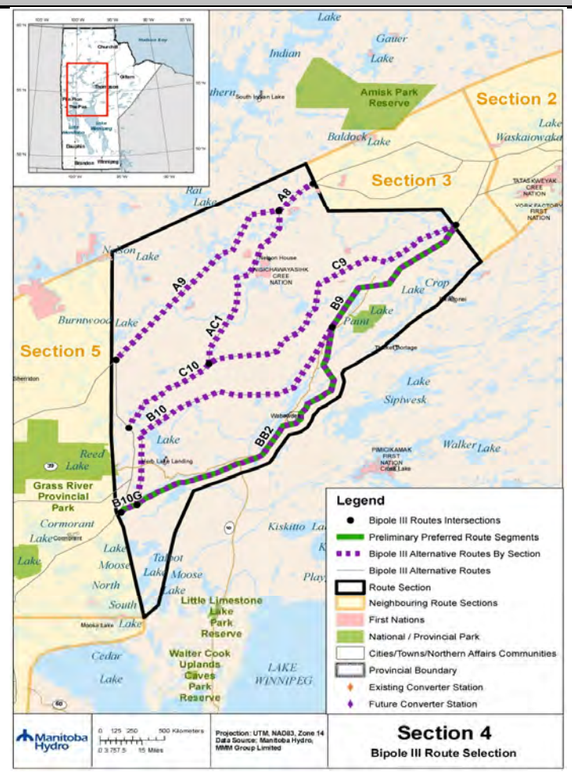
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; **x** = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
4	A8	L	L	L	H	M	L	H	L	M	L	L	L	L	L	L	L	L	-	L	M	H	L	M	13	P	F	G	F
4	A9	M	M	L	H	H	L	M	H	H	L	L	VH	M	L	L	H	H	-	L	L	H	L	H	32	P	F	G	F
4	B9	L	H	L	M	M	L	M	L	H	L	L	M	M	L	M	L	L	-	H	L	L	M	L	16	G	G	P	G
4	BB2	L	M	M	M	M	VH	L	L	M	H	L	L	M	L	H	L	L	-	H	H	L	H	L	26	G	G	P	G
4	B10G	L	L	L	L	VH	L	L	H	M	L	L	L	M	L	L	L	L	-	M	H	L	M	L	15	G	G	G	G
4	B10	M	H	M	H	VH	M	M	L	M	L	L	VH	H	H	H	L	L	-	M	M	M	M	L	34	G	P	P	G
4	C9	L	L	L	M	VH	L	M	L	M	L	L	VH	M	L	H	M	H	-	M	H	M	M	L	27	G	P	P	G
4	C10	H	M	L	M	VH	M	H	L	M	L	L	L	M	L	L	L	L	-	M	H	M	L	L	21	G	G	P	G
4	AC1	M	L	L	H	H	L	VH	L	M	L	L	VH	M	L	L	L	H	-	M	H	H	L	M	30	P	P	G	G

SECTION RATING SUMMARY ***							
ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	×	-	-	-	-	
B1	✔	✔	-	-	×	✔
B2	×	-	-	✔	×	
C	×	×	×	-	×	
A1	×	×	-	-	-	

SECTION 4 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A8	4. High quality moose habitat; 7. Fragmentation risk due to remote, undeveloped nature of area; 25. Snow Lake prefers C10 due to impact of all other routes;
A9	4. Wolverine presence, remote moderate dense moose population, low disturbance regime; 5. Majority of segment no issue, however, southern portion enters major core winter area; 8. Rare/single enduring features in Burntwood ASI, organic deposit; 9. Number of crossings & confluences; 12. Heritage resource concerns (16 archaeological sites, including one burial); Value = 65 16. Crosses Burntwood River ASI (107); traverses 2 enduring features; 17. Overlap with TLE Site 6-2000(790) Notigi, Site 4.1 Notigi Service Centre Fee Simple Site, NCN ; 21. Poor construction access; 23. Long segment; 25. Snow Lake did not prefer this route.
B9	2. High % productive forest land, harvest/renewal sites & Environmental Monitoring Unit sites; 9. Number of crossings & confluences; 19. Poor foundation conditions; 26. Exploration and mining concerns from MAMI (technique and equipment interference);
BB2	6. Important caribou & other VEC habitat; 10. ATK (Herb Lake) identified garter snake pit. (ranking changed to H). 11. ATK (Herb Lake) identified former school site and freighting route. 15. Overlap with numerous mineral exploration licenses, mining claims, mineral leases and Wabowden. 19. Poor foundation conditions; 20. High proportion of angle towers to length; 22. Significant portion of segment falls within 40km of Bipoles I and II; **Opportunity:** Potential routing opportunity along shared transmission line/rail corridor and road (PR 392);
B10G	5. Small section that's totally contained in a core winter area; 8. Extensive organic deposits, sensitive soils; 20. High proportion of angle towers to length; **Opportunity:** Potential routing opportunity along existing rail line;
B10	2. High % productive forest land, harvest/renewal sites & Tree Improvement Program sites; 4. Low disturbance regime through wolverine habitat; 5. Traverses through major winter area and calving complex; 12. Heritage resource concerns (9 archaeological sites, 1 plaque). Value = 38; ATK (Herb Lake) identified artifact location; (rankong changed to VH) 13. Traverses through major winter area and calving complex; 14. Overlap of 3 mile corridor with lodge/outfitter operation; ATK (Herb Lake) identified popular canoe route on Grass River; (ranking changed to H). 15. Overlap with numerous mining claims; prox. to 5 mining sites; prox. to rec. areas (1 lodge, 3 cottage subd.); overlap with airstrip; 25. Snow Lake concerned re: impact of this route passing near built up areas near Lake Wekusko; 25. Park and recreation concerns (Prefers route C through district); 26. Exploration and mining concerns from MAMI (includes technique and equipment interference);

SELECTION SUMMARY

Preferred Route Segments: B9, BB2 and B10G (requires other realignments): Route selection in this section is difficult due to a significant set of constraints with virtually all routes within the section. Segments B9, BB2 and B10G are preferred from a biophysical perspective due to fewer concerns about mammals and habitat fragmentation when compared with the other route alternatives. Route B avoids developed areas around Snow Lake and Wekusko Lake. Segment BB2 also has a higher degree of existing disturbance. While Segment A9 has a low rating it cannot be selected without also selecting Segment A10, which has a high overall rating. Segment B10 overlaps with mineral exploration licences, mining claims and mineral leases, and requires further discussion with the mining industry. Herb Lake members also identified areas of community activities, recreation areas and local resources on segment B10. The human population density is low in the region and there is no preference from a population density perspective. The preferred route has minimal negative aspects for land use and has low to moderate concerns for all other disciplines. The very high rank for caribou for segment B10G is manageable. Forestry, aquatics, and soils and terrain concerns are also manageable through final routing. While preferred segments are identified, route adjustment is required to address mining industry concerns.

Stakeholder Response: Preferred routing option for the Town of Snow Lake was Route C if it was through their territory. Shorter lengths were preferred by the general public. All B and C routes received negative feedback from mining exploration and extraction concerns.

ATK related comments are shown in red. ATK influenced ratings are shown hatched in the relevant cell of the route selection matrix.

Herb Lake members identified areas of community activties, areas for recreation and local resource use on route B10. BB2 is identified as having an area that overlaps historical site and presence of reptiles; risk of disruption to community life is higher at BB2 annd B10 as opposed to other options in the Section. NCN and Nelson House are undertaking their own ATK process.

Other Considerations: Information provided to NCN. Minimal feedback was provided at this stage of the route evaluation. On-going efforts to secure opportunities for feedback.

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **				SECTION RATING SUMMARY ***						
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public	ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE

Segment	Comments
C9	5. Very long segment that enters into core winter area and calving complex; 12. Heritage resource concerns (39 archaeological sites, Burial site). Value = 151 15. Prox. to numerous mineral leases, mining claims, mineral exp. areas; overlap w. airstrip at Thompson; 17. Overlap with TLE Site1101(916) Moak Lake, Site 2-2000(671) Birch Tree Brook, Site 3-2000 (688) Birch Tree Brook Addition, Site1-06(1332) Wuskwatim Rd. Mile17B, NCN; 20. High proportion of angle towers to length; 25. Snow Lake concerned re: impact of this routes passing near built up areas near Lake Wekusko; 26. Exploration and mining concerns from MAMI (technique and equipment interference).
C10	1. Presence of non-historical S1 species; 5. Traverses through major winter area and calving complex; 7. Fragmentation risk due to remote, undeveloped nature of area; 20. High proportion of angle towers to length; 26. Exploration and mining concerns from MAMI (technique and equipment interference); **Opportunity:** Potential routing opportunity along existing transmission lines;
AC1	4. Wolverine area, intersects moderate remote moose population; 5. Majority of segment no issue, however, extreme southern portion enters critical winter and calving area. Remote segment. 7. Fragmentation risk due to remote, undeveloped nature of area; 12. Heritage resource concerns (38 archaeological sites) *Two burials. Value = 137 17. Overlap with TLE Site#13-01 (933) Osik Lake, #3-01 (932) Chipewyan Bay #8-01(929) Leaf Rapids to Gate Falls, Nisichawayasihk CN; 20. High proportion of angle towers to length; 21. Poor construction access; 25. Snow Lake concerned re: impact of this route passing near built up areas near Lake Wekusko;

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✓ = Good ; **x** = Poor **-** = No Preference

Table 7A-1: Route Selection Matrix

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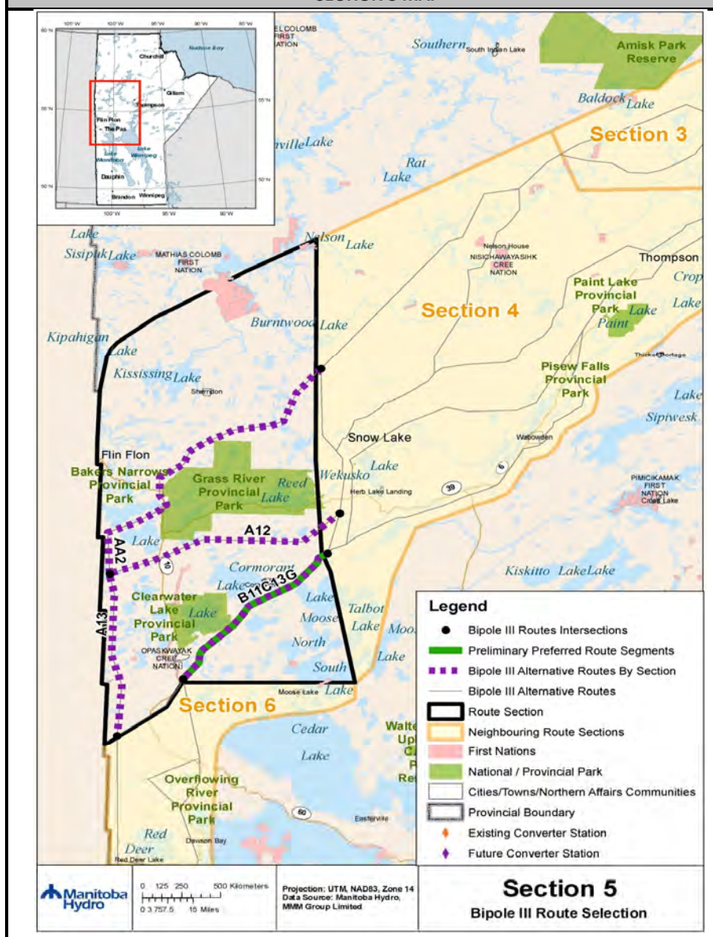
5	A12	M	H	M	M	VH	M	L	H	M	L	L	L	H	L	M	L	H	L	H	L	H	L	H	32	G	F	F	F
5	A13	L	M	H	H	M	M	L	M	M	L	L	L	H	L	M	M	H	L	M	M	H	L	H	27	G	G	G	F
5	B11C13	M	M	H	H	H	H	H	H	H	M	L	H	H	M	H	M	L	L	H	H	L	L	L	35	F	G	G	G
5	AA2	M	H	H	VH	VH	L	L	L	M	L	L	H	H	H	H	L	L	L	M	H	M	L	M	36	G	P	P	P

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	×	✔	×	×	×	
B	✔	✔	-	-	✔	✔
A1	×	-	-	-	×	

SECTION 5 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A12	2. High % productive forest land, harvest/renewal sites & Permanent Sample Plots; 5. Traverses through major core winter area and calving complex; 8. Extensive organic deposits; 13. Intersects 6 moose and bear outfitter allocations (87% of segment length), 2 GHAs with non-resident general rifle deer seasons (92% of segment length) and 8 active RTLs; 17. Overlap with TLE Site#1-05(1275) Egg Lake, Opaskwayak CN; 19. Poor foundation conditions; 21. Poor construction access; 23. Long segment;
A13	3. Habitat, Bird focused, conservation areas; 4. Transects moose concentration area; 5. Intersects 5 moose and bear outfitter allocations (100% of segment length), 4 GHAs with non-resident general rifle deer seasons (100% of segment length) ; 17. Overlap with TLE Site #8(557) Barrier Settlement, Opaskwayak CN; 21. Poor construction access; 23. Long segment;
B11C13	3. Diverse/important bird habitats; ATK (Cormorant) confirms this; 4. ATK(Cormorant) identified prime moose habitat (ranking changed to 'H'); 5. Borderline medium, but originates in a core winter area; 6. High % of core habitat; ATK (Cormorant) identified two main areas of core caribou habitat; 7. ATK (Cormorant) concerned with fragmentation of moose and caribou habitat (ranking changed to 'H'); 8. High % organic deposits & sensitive soils; 9. Saskatchewan River Crossing - concern with bank stability; ATK (Cormorant) confirms use of Moose Lake and Cormorant Lake for fishery and many spawning sites were identified (ranking changed to 'H'); 12. Heritage resources identified. Petroform registered with province is found on Wuskwatim T line near Cormorant (ranking change to 'H'); 13. Intersects 4 moose and bear outfitter allocations (88% of segment length) and 3 GHAs with non-resident general rifle deer seasons (100% of segment length); ATK (Cormorant) identified extensive resource use throughout the area; 15. Crosses through Tom Lamb WMA (ASI 91); proximity to Clearwater Lake Provincial Park and Cormorant Provincial Forest; overlap with Agricultural Crown land. 20. High proportion of angle towers to length; 24. ATK (Cormorant) identified concerns with respect to increased fragmentation in local resource area. Petroform found in the area registered with province is found on Wuskwatim TL near Cormorant and OCN (ranking changed to 'F'); **Opportunity:** Potential use of an existing road/rail/transmission linear feature as an opportunity.
AA2	2. High % productive forest land, harvest/renewal sites & permanent sample plots; 3. Diverse/important bird habitats; 4. High concentration moose area west of The Pas, high density wolverine area, low disturbance regime; 5. Very long segment, northern portion intersects known core winter areas and known calving complexes. High ecological value for caribou; TOLKO caribou leave area in FMU 62; 12. Heritage resource concerns (12 archaeological sites). Value = 29; 13. Intersects 8 moose and bear outfitter allocations (81% of segment length), 2 GHAs with non-resident general rifle deer seasons (34% of segment length) and 17 active RTLs ; 14. Proximity to recreation areas, including cottage subdivisions and 3 lodge sites; proximity to Grass River Provincial Park and 3 canoe routes; Proximity to a seaplane base; 15. Overlap with mineral exploration licence areas, mining claims and proximity to 5 mine sites/properties; 25. LUD of Cranberry Portage/RM of Kelsey – interference with potential development in the area (cottages); 26. Exploration and mining concerns from MAMI (includes technique and equipment interference); 27. Concern regarding line length and proximity to Grass River Provincial Park. **Opportunity:** Potential routing opportunity along short transmission line segment and rail right-of-way (including through Cranberry Portage).

SELECTION SUMMARY

Preferred Route Segment: B11C13

The area a relatively high number of concerns associated with all route options in this section and the resulting scores reflect this. Route B is the most effective choice in minimizing these concerns from the overall perspective of the five disciplines. Preferred route concerns for soils and terrain are secondary to others including caribou core habitat on segments AA2 and A12. Soil and terrain concerns are manageable for segment B11C13. There are concerns for lodge owners, cottage areas and Cranberry Portage residents along segment AA2. Route B overlaps with mineral exploration licences, mining claims and is in proximity to a provincial park and provincial forest. Crossing through the Tom Lamb WMA (ASI) cannot be avoided. Route B also avoids Cranberry Portage. Route B is shorter and has better access. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response:

Shorter Routes were preferred by the general public. AA2 and future developmental impact of the LGD of Cranberry Portage would be a poor routing option in the section. Little concern was expressed regarding B11C13.

ATK related comments are shown in red. ATK influenced ratings are shown hatched in the relevant cell of the route selection matrix.

ATK studies from Cormorant validated and confirmed most of the biophysical findings. There was concern about further fragmentation of prime moose habitat which has already been fragmented by the Wuskwatim TL.

Other Considerations:

N/A

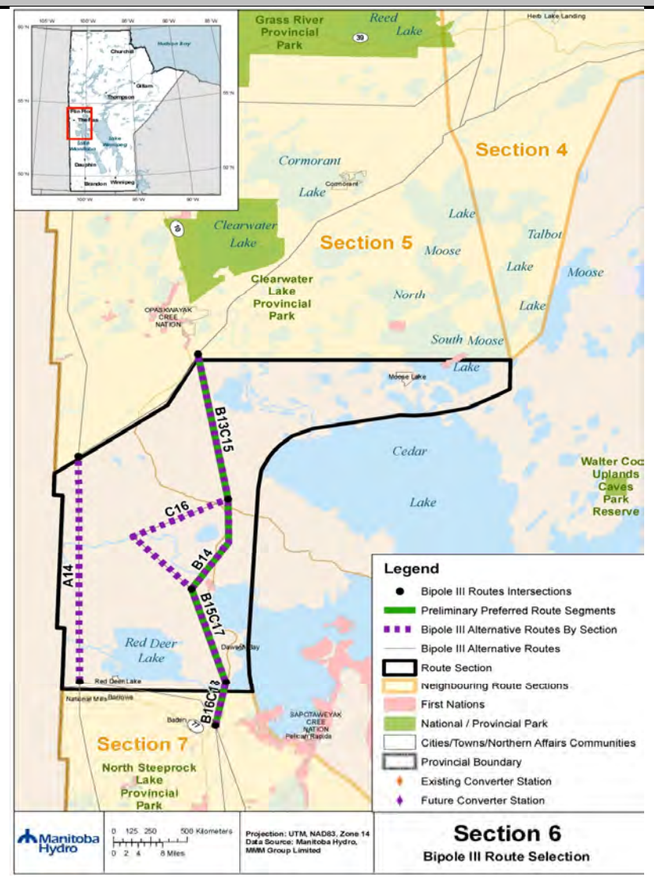
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
6	A14	M	L	L	M	VH	M	H	M	M	M	L	VH	H	L	L	H	L	-	M	L	H	L	M	30	P	-	F	F
6	B14	M	L	L	M	M	M	L	H	M	M	L	L	H	L	L	L	H	-	M	M	L	L	L	17	G	-	G	G
6	B13C15	M	L	L	M	M	H	L	H	L	M	L	L	M	M	L	L	H	-	L	L	L	L	L	15	G	-	G	G
6	B15C17	M	M	L	M	M	M	L	M	M	M	L	L	M	L	L	L	H	-	L	M	L	L	L	13	G	-	G	G
6	B16C18	M	M	L	L	L	L	L	L	M	L	L	L	M	L	L	L	H	-	L	M	L	L	L	8	G	-	G	G
6	C16	M	M	L	M	VH	M	M	H	M	M	L	L	M	L	L	H	H	-	H	L	M	L	H	29	G	-	G	F

SECTION RATING SUMMARY ***							
ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	×	✔	-	-	-	
B	✔	✔	-	✔	✔	✔
C	×	✔	×	×	-	

SECTION 6 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A14	1. ATK (Barrows) identified areas of Seneca Root Harvest 3. ATK (Barrows) identified Loons at Camp Lake 5. Segment passes through core area; Important caribou calving habitat and summer range; 7. Fragmentation risk due to remote, undeveloped nature of area; 12. Archaeological sites are addressed in A15. Presence of 8 burials (ranking changed to 'VH'); Value for A14/15= 620; ATK (Barrows) identified Burials along Red Deer Lake; 13. Intersects 4 moose and bear outfitter allocations (100% of segment length), 2 GHAs with non-resident general rifle deer seasons (100% of segment length) and 8 active RTLs; ATK (Barrows) identified domestic fishing along Red Deer Lake, Registered trapline, and trappers cabins along Red Deer River; 16. Overlap with Red Deer Lake ASI (86); traverses salt flats and old river delta, priority areas; 21. Poor construction access;
B14	4. ATK (Pelican Rapids) identified Moose hunting area. 5. ATK (Pelican Rapids) identified Caribou herd migration area. 8. Extensive organic deposits; 13. Intersects 4 moose and bear outfitter allocations (99% of segment length) and 2 GHAs with non-resident general rifle deer seasons (100% of segment length); ATK (Pelican Rapids) identified Beaver trapping along Overflowing River and Santon River, and Muskrat trapping in close proximity to segment B14. ATK (Dawson Bay and Barrows) identified a Registered Trap Line; 17. Overlap with TLE Site #2-02(972) Overflowing River, Sapotaweyak CN; **Opportunity:** Potential routing opportunity along existing road, transmission line.
B13C15	6. Good caribou habitat; 8. Extensive organic deposits; 13. ATK (Barrows) identified a Registered Trapline (RTL) 17. Overlap with TLE Site #2-06(1412), 21A South, Opaskwayak CN; **Opportunity:** Potential routing opportunity along existing transmission line;
B15C17	1. ATK (Barrows) identified sweet gress harvest 5. ATK (Dawson Bay) identified presence of caribou herd. 13. ATK (Barrows) identified Registered TrapLine (RTL), ATK (Dawson Bay) identified hunting and trapping areas. 17. Overlap with TLE Site #3-99(583), The Bluff (rev., Sapotaweyak CN);
B16C18	9. ATK (Pelican Rapids) identified freshwater spring in the region, and fish spawning locations along Steeprock River. 10. ATK (Pelican Rapids and Barrows) identified snake pits and snake breeding grounds. 13. ATK (Pelican Rapids) identified presence of trapping and hunting grounds. ATK (Barrows) confirmed presence of Registered Tarplines between B16C18 and B18 15. ATK(Pelican Rapids) confirmed presence of Wildlife Management Area 17. Overlap with TLE Site #5-01(806) Red Deer River North, #7-02(997) Red Deer River South, Wuskwi Sipihk CN, site 5-02(970), Pelican Rapid Access Rd. Phase-3 #4-02 (974) Pelican Rapids Rd. Access Phase-1, #1-03(1101) Pelican Rapids Access Rd.-Phase-2 Sapotaweyak CN; **Opportunity:** Potential routing opportunity along existing road, transmission line or rail line.
C16	4. ATK (Pelican Rapids) confirmed presence of moose hunting area 5. Calving areas, remote, increases fragmentation of core winter area; ATK (Pellican Rapids) confirmed presence of Caribou herb migration area 8. High % organic deposits & sensitive soils; 13. ATK (Pelican Rapids) identified beaver trapping along Overflowing and Santon River, ATK (Barrows) identified a Registered Trapline (RTL) and hunting area for Caribou, Moose, Elk, Deer, Beaver and Muskrat 16. Overlap with Red Deer Lake ASI (86); 19. Poor foundation conditions; 23. Long segment; 17. Overlap with TLE Site #3-02(973)PTH10 Sapotaweyak CN;

SELECTION SUMMARY

Preferred Route Segments: B14, B13C15, B15C17,B16C18

Route B is preferred primarily because it avoids significant concerns that the other alternatives in this section do not, including caribou habitat, fragmentation, culture and heritage sites, PAI and ASI areas, foundation conditions, construction access and overall line length. While the preliminary preferred route does include concerns respecting TLE and Soils and Terrain, the same concerns are shared with at least one of the other alternatives. These concerns are also considered secondary to the more primary concerns of habitat fragmentation and caribou. The human population density in region is low and there is no route preference from a population density perspective. Route B does cross a protected area (Red Deer River ASI) which requires further discussion with Manitoba Conservation. Crossing the Steeprock WMA is to be addressed by ROW selection within the preferred route corridor. Route B was most commonly preferred by stakeholders and routes A and C had roughly equal negative responses. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response:

Route B is favored overall. Limited responses suggest that any option in this section would be a fair option.

ATK related comments are shown in red. ATK influenced ratings are shown hatched in the relevant cell of the route selection matrix.

Several domestic resource use areas identified by members of Pelican Rapids, Dawson Bay and Barrows.

Other Considerations:

N/A

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
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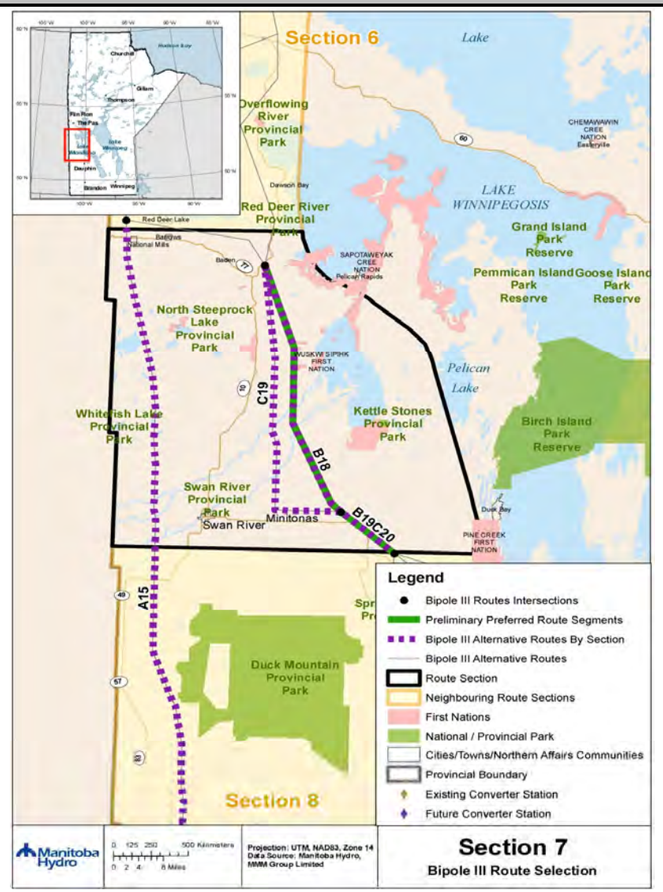
SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
7	A15	H	H	VH	VH	-	M	L	L	H	H	M	VH	H	L	H	M	H	M	L	M	L	L	H	44	F	P	P	P
7	B18	M	L	M	L	-	M	L	M	M	L	L	L	H	L	L	M	H	L	M	M	M	L	L	15	G	G	F	G
7	B19C20	M	M	L	M	-	M	L	H	L	L	L	L	M	L	M	L	L	L	H	M	M	L	L	14	G	G	F	G
7	C19	L	L	M	M	-	M	L	L	H	L	L	VH	H	L	H	M	H	M	M	M	M	L	M	26	P	G	G	G

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	×	×	×	-	×	
B	✔	✔	-	✔	✔	✔
C	×	×	×	-	-	

SECTION 7 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A15	1. Corridor Overlaps ER, PF, PP, HGA-LCCEB (*see footnote), potential presence of high number of species of conservation concern; 2. High % productive forest land, harvest/renewal sites, permanent sample plots & wood lots; 3. 4. High quality bird & mammal habitat, PP, ER (*see footnote), bird focused conservation areas; ATK (Waywayseecappo FN) identified elk migration route along Birdtail Creek; 9. High number of crossings; 10. Presence of sandy prairie, proximity to sandy soils. 12. Heritage resource concerns (126 archaeological sites, 2 provincial, 2 municipal, 31 centennial farms, 22 plaques, 8 burials). Value = 620 13. Intersects 10 moose and bear outfitter allocations (29% of segment length), 12 GHAs with non-resident general rifle deer seasons (100% of segment length) and 8 active RTLs; 15. Overlap with an ecological reserve, Porcupine Forest Reserve, Duck Mountain Forest Reserve and Provincial Park; overlap with numerous habitat conservation lands (MHHC, DUC), recreation areas, proximity to an airstrip; 17. Overlap with TLE Site#1-01(900_, #2-01(901), #3-01(902), #4-01(903), #5-01(904), #6-01 (905), #7-01 (906), #8-01 (934), #9-01 (935), #12-01(938), #13-01 (939), #14-01 (940), #15-01 (941), #16-01 (942); Overlap with private purchase lands, Rolling River FN; 23. Long segment; 24. Feedback from community members at Dawson Bay and Pelican Rapids Communities opposed this segment crossing Porcupine Mountains concern re: moose hunting impact. 25. Municipal opposition from RMs of Shellmouth-Boulton, Silver Creek, Minto, and Shell River due to line length, proximity to RMNP, tourism hindrance, agricultural hindrance and aesthetics. 26. DUC indicated preference for Route C due to concern with other routes including: fly ways for migratory fowl, numerous potholes and bird populations. Rossburn Game and Fish opposed the project through the area. Assessippi Parkland Economic Development opposed due to agricultural concerns, mineral rights and lack of local benefits. 27. Public concerns regarding line length, proximity to parks, agricultural hindrance, aesthetics and tourism.
B18	13. Intersects 5 moose and bear outfitter allocations (72% of segment length) and 3 GHAs with non-resident general rifle deer seasons (100% of segment length); 17. Overlap with TLE Site #6-99(518), Various Crown Land/Crown Lease Ag. Lands, Site #3(805) All30-41-24 WPM (3) Palmondon, Site#6-99 (1672), Wuskwi Sipihk CN, Site #5-02(970), Pelican Rapid Access Rd. Phase-3, Sapotwayak CN;
B19C20	8. Extensive organic deposits; 19. Poor foundation conditions;
C19	9. Number of crossings & confluences; 12. Heritage resouce concerns (46 archaeological sites,1 centennial farm, 8 plaques); Value = 161 13. Intersects 4 moose and bear outfitter allocations (29% of segment length) and 4 GHAs with non-resident general rifle deer seasons (100% of segment length); 15. Overlap with community pasture, Porcupine Provincial Forest and numerous mining claims; 17. Overlap with TLE Site#5-02 (970), Pelican Rapid Access Rd. Phase-3, Sapotwayak CN; **Opportunity:** Potential routing opportunity along existing rail line (abandoned).

SELECTION SUMMARY

Preferred Route Segments: B18, B19C20

The preliminary preferred route in this section has far fewer concerns than the alternatives in almost every respect. Route A includes significant concerns in all discipline areas – most noteworthy of which are the length of the route, the impact to high quality bird and mammal habitat, including traversing Provincial Forest lands, impact to culture and heritage sites, and very strong negative stakeholder response, partly due to the significant population count along the length of the route. Route C, while ranking better than Route A, still includes a significant set of concerns related aquatics, culture and heritage, resource use, land use and TLE. Route B does include localized soil and terrain concerns (segment B19C20) that are considered manageable. Route adjustment is required to address existing mining claims along the route, an overlap with an ecological reserve and an overlap with the Wuski Sipihk TLE selections. Segment B19C20 also crosses Swan-Pelican Provincial Forest which may not be avoidable. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response:

A number of public responses suggest a preference for B in this section. Ducks Unlimited indicated a preference for route C due to concern regarding impact of Route B to waterfowl habitat. No positive comments regarding Route A were received, while a significant amount of feedback from many stakeholders suggested Route A was not preferred mainly because of the additional length along Route A.

ATK related comments are shown in red. ATK influenced ratings are shown hatched in the relevant cell of the route selection matrix.

Other Considerations:

Routing opportunites were identified along existing transmission corridors for B and C segments.

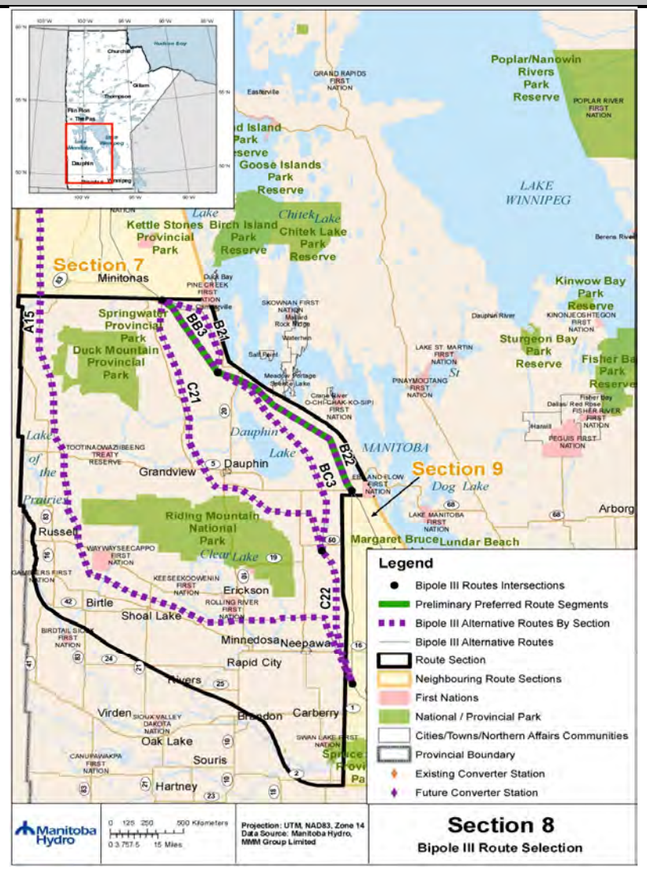
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
8	A15	H	H	VH	VH	-	M	L	L	H	H	M	VH	H	L	H	M	H	M	L	M	L	L	H	44	P	P	P	P
8	B21	H	L	L	L	-	VH	L	L	H	L	L	H	H	M	L	L	L	L	M	M	M	L	L	21	G	G	F	G
8	BB3	L	L	L	L	-	VH	L	L	M	M	L	L	H	H	L	L	L	L	H	M	H	L	L	20	G	G	G	F
8	B22	M	M	H	M	-	M	L	L	M	H	L	H	M	L	M	L	L	L	L	M	M	M	L	19	G	G	F	G
8	C21	H	L	VH	H	-	M	L	L	M	M	L	VH	H	L	H	M	M	M	M	M	L	L	M	31	F	G	G	F
8	C22	M	L	M	L	-	M	L	L	M	L	L	H	M	L	H	L	L	M	L	M	L	L	L	13	F	G	G	G
8	BC3	M	M	H	L	-	M	L	L	M	M	L	M	H	L	M	L	L	M	L	M	L	M	L	16	F	P	F	P

SECTION RATING SUMMARY ***							
ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	×	×	×	-	×	
B21	✔	-	✔	-	-	
BB3	✔	✔	✔	×	✔	✔
B22	-	-	✔	-	✔	
C	×	✔	×	-	-	
B2	-	✔	-	✔	×	

SECTION 8 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A15	24. ATK (Waywayseecappo FN) indicates use of the Riding Mountain area; SEE SECTION 7 for all other segment A15 comments;
B21	1. ATK (Camperville & Pine Creek) identified high prevalence of blueberries, cranberries, hazelnuts, seneca root, mushrooms, cranberry bark and other medicinal herbs used extensively by community members (ranking changed to 'H'); 6. High % of core habitat; 9. ATK (Camperville and Pine Creek) confirms presence of multiple fish spawning locations along North Duck, north Pine and South Pine Rivers (ranking changed to 'H'); 11. High population density; 12. Heritage resource concerns (11 archaeological sites). Value = 26; ATK (Camperville/Pine Creek) confirmed presence of trapping areas for Fisher, Martin, Otter and Squirrel (ranking changed to 'H'); 13. Intersects 5 moose and bear outfitter allocations (100% of segment length) and 2 GHAs with non-resident general rifle deer seasons (100% of segment length); ATK (Camperville/Pine Creek) confirmed that community members use Birch and Maple extensively for making sugar (ranking changed to 'H') 24. Camperville and Pine Creek preferred BB3 over B21. **Opportunity:** Potential opportunities along existing roads and sub-transmission line.
B22	3. Bird habitat diversity/core, PP, EC, Bird focused, conservation areas; 10. Plains spadefoot, snake dens, presence of sandy soils, high amount of wetlands; 12. Heritage resouce concerns (2 archaeological sites, 2 centennial farms, 3 plaques). Value = 55
C21	1. Potential presence of numerous conservation concerns; high # of S2 species, MGP - LCCEB, HGA - LCCEB*; ATK (Camperville/Pine Creek) identified use of North Pine River for medicine gathering; 3.4. Bird & mammal habitat, PP, EC, Bird focused, conservation areas; 12. Heritage Resource concerns (23 arch. sites, 1 municpal, 15 cent. farms, 6 plaques). Value = 168 13. Intersects 4 moose and bear outfitter allocations (30% of segment length) and 6 GHAs with non-resident general rifle deer seasons (100% of segment length); 15. Overlap with 2 Community Pastures; overlap with Provincial Forest, developed areas, municipal recreation areas, agricultural Crown lands. 18. Variable types of ag. usage from intensive annual cultivation, to native hay and grazing to no ag. usage; ATK (Camperville/Pine Creek) confirmed use of haylands by Camperville community members;
C22	12. Heritage resource concerns (6 arch.sites, incl. 1 burial site, 4 cent. farm). Value = 30 15. Overlap with 4 WMA parcels (hydro-prohibited), habitat conservation lands, municipal recreation areas, developed areas;
BB3	6. High % of core habitat; 9. ATK (Campeville) shows domestic fishing along North Pine and Sclater River; 13. Intersects 5 moose and bear outfitter allocations (100% of segment length) and 2 GHAs with non-resident general rifle deer seasons (100% of segment length); ATK (Camperville/Pine Creek) shows extensive resource use east of BB3 closer to B21; 14. Overlap of 3 mile corridor with a lodge/outfitting operation; 19. Poor foundation conditions; 21. Poor construction access; 25. RM of Lawrence strongly objects;
BC3	3. Bird habitat diversity/core, PP, EC, Bird focused, conservation areas; 13. Intersects 4 GHAs with non-resident general rifle deer seasons (100% of segment length); 25. RM of Lawrence cited interference with agricultural practices. RM of Ste. Rose opposed to western routing options. 27. Concerns regarding agricultural disruption of practices and diagonal crossing of farm land.

SELECTION SUMMARY

Preferred Route Segments: BB3, B22

Route B (specifically segment B22) is preferred through this section due to its low rating in nearly all categories. In areas where this segment is rated higher, other comparable segments are also rated higher. While Segment BC3 is rated lower, significant concerns from stakeholders related to agricultural impact lower the attractiveness of this route from a stakeholder impact perspective. Segment BB3 is preferred due to its shorter distance than B21 as well as feedback received through ATK studies. For example, risk of disruption of community life is higher with B21 as opposed to BB3. Waywayseecappo members use the local resources extensively for medicines, hunting, and sometimes income. The concerns for segment A15 respecting birds, mammals, and amphibians and reptiles outweigh all concerns related to both Routes B and C. Route A also has higher human population compared to routes B and C. Segment C21 was not preferred due to very high bird and high mammal ranking even though vegetation concerns are manageable. Route C also has urban area and recreation concerns, and overlaps with a Provincial Forest and hydro-prohibited wildlife management area parcels. The preferred segment BB3 includes a concern for impact to core communities, that will require addressing. While Segment BB3 has foundation and access limitations, these can be overcome by design.

Stakeholder Response: Generally feedback suggests the shortest route, and the least impacting to agriculture is preferred overall, particularly in this section. Four municipalities formally oppose the construction of Route A within their jurisdiction. 16 comment sheets show a preference for Route B in this section. Ducks Unlimited stated a preference for C however, as did one municipality, while five municipalites preferred Route B. Municipalities located along B Routes did not express opposition to the route. There were numerous letters received regarding the potential impact to the Saskatchewan Valley, agricultural concerns and added line length (Route A concerns).

ATK related comments are shown in red. ATK influenced ratings are shown hatched in the relevant cell of the route selection matrix.

Camperville and Pine Creek members use the local resources extensively, for medicines, community activities, in some cases as a source of income.

Other Considerations: Preferred crosses through numerous agricultural Crown land parcels, many of which are not avoidable, and may be a consideration by PAI for route avoidance.

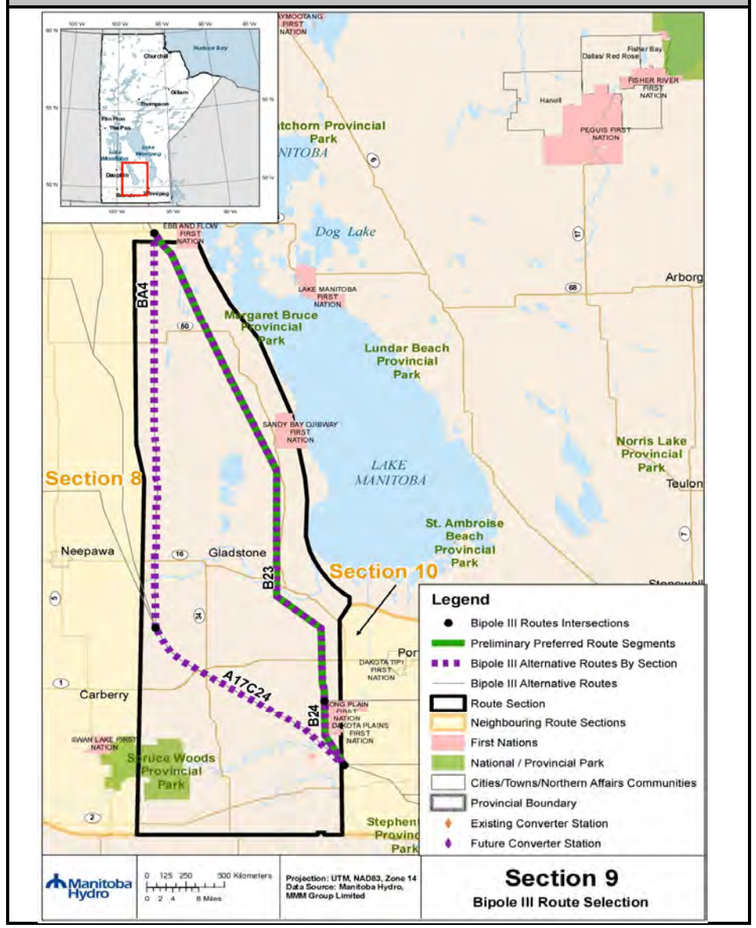
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
9	A17C24	M	L	M	M	-	M	L	M	H	M	L	VH	M	L	H	M	L	H	M	M	M	L	L	25	F	P	F	P
9	BA4	M	L	M	L	-	M	L	L	M	M	L	H	M	L	M	M	M	L	L	M	L	M	L	14	P	G	F	F
9	B23	M	L	H	M	-	M	L	L	M	H	L	VH	H	L	M	L	L	M	L	M	L	M	L	22	P	G	F	G
9	B24	M	L	L	L	-	M	L	M	M	M	L	H	M	L	L	L	H	H	M	H	M	M	L	21	P	G	G	G

SECTION RATING SUMMARY ***							
ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	✔	-	×	-	×	
B1	✔	-	-	✔	-	
B	×	-	✔	✔	-	✔
B	×	-	✔	✔	-	

SECTION 9 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A17C24	9. Number of crossings & confluences; 12. Heritage resource concerns (14 archaeological sites, inculding 1 burial site, 4 centennial farms, 5 plaques). Value = 84 15. Proximity to developed areas/communities; proximity to 5 WMAs; proximity to airstrip; 18. Very high agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential; 25. RMs of North Cypress and North Norfolk indicated concern regarding disruption to agricultural land, diagonal crossing of land, and Highway 1 crossing between Austin and MacGregor could hinder expansion of both communitie; RMs of North Cypress and North Norfolk indicate preference for Route B. 27. Public concerns regarding impact to agricultural impact, particularly diagonal crossings.
BA4	12. Heritage resource concerns (6 archaeological sites, 1 municipal, 3 centennial farms, 5 plaques). Value = 59 **Opportunity:** Potential opportunity along short segment of existing sub-transmission line and rail line.
B23	3. Bird habitat diversity/core, PP, EC, Bird focused, conservation areas; 10. Uncas skipper, snake dens, presence of sandy soils, high amount of wetlands; 12. Heritage Resource concerns (8 archaeological sites, including 2 burial sites, 2 municipal, 4 centennial farms, 4 plaques). Value = 76 13. Intersects 4 GHAs with non-resident general rifle deer seasons (100% of segment length); **Opportunity:** Potential routing opportunity along B23 using sub-transmission line/road corridor (subject to avoidance of settlement area, organic farm).
B24	12. Heritage Resouce Concerns (6 archaeological sites, 1 centennial farms, 1 plaques). Value = 25 17. Overlap with TLE Site #4(665), #5(666), #13 (1281), #14(1282), #15 (1283), #16 (1284), #17(1285), #18 (1286), #19 (1287), #1-06(1352) 1-06(1352), #4(1772), #4 (1772). Purchased Lands, Long Plain FN; 18. High agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential in the middle and southern part and intensively farmed annual crop lands near Highway 16; 20. High proportion of angle towers to length;

SELECTION SUMMARY

Preferred Route Segments: B23, B24

While BA4 has the lowest score in this section, it includes the selection of Segment A17C24 as its southerly extension and which has substantial negative ratings resulting mainly from the diagonal crossing of farm land and intense negative stakeholder feedback. Segments B23 and B24 are preferred from this perspective. Route adjustment is proposed to address nearby developed areas, including rural residential development, and an aerodrome. Segment B24 also has an affect on agriculture due to active and potential irrigation and certain route adjustments may be required to address this concern. However, the relatively straight alignment of the route is preferred to the diagonal alignments of the other segments. The human population is low for all route options in this section as a result there is no preference from a population density perspective.

Stakeholder Response:

Respondents at an Open House in Langruth, although low, expressed no concern for Route B. Segment A17C24 is a poor routing option as viewed by the general public due primarily to diagonal crossing and concern regarding impact to agriculture. Segment B23 was favored by both the RM of Glenella and the RM of North Norfolk.

Other Considerations:

B23 crosses through numerous agricultural Crown land parcels, many of which are not avoidable, and may be a consideration by PAI for route avoidance.

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
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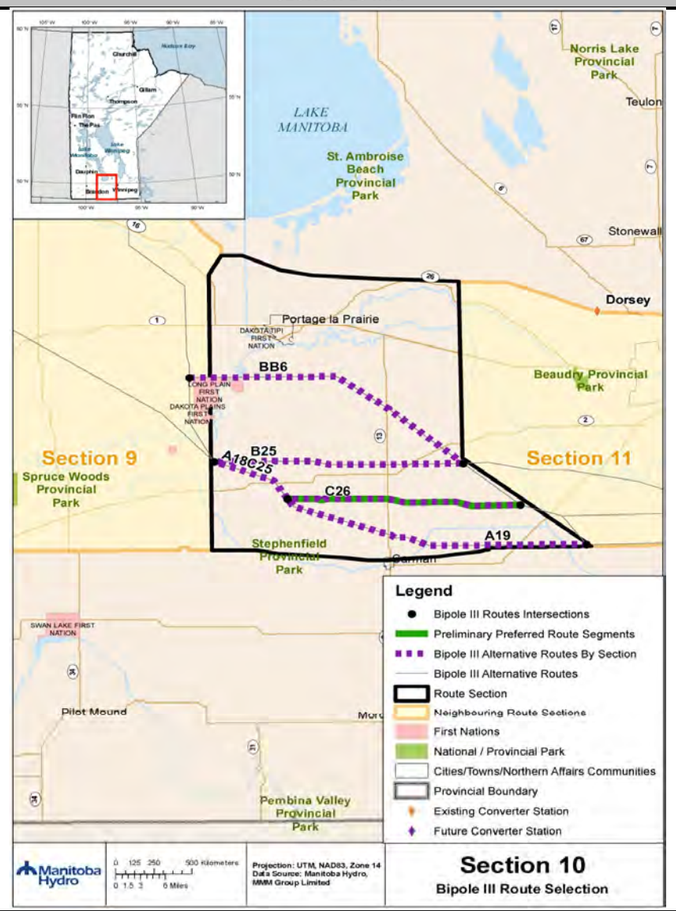
10	A19	M	L	M	L	-	L	L	M	M	L	L	L	M	L	L	L	L	H	M	M	L	M	M	12	F	P	F	P
10	A18C25	M	L	L	L	-	M	L	H	L	M	L	H	M	L	M	L	L	H	L	H	L	M	M	19	F	P	F	P
10	C26	L	L	L	L	-	L	L	M	M	L	L	L	M	L	L	L	L	H	L	H	L	M	M	11	F	P	G	P
10	B25	M	L	L	L	-	L	L	M	M	M	L	H	M	L	H	L	L	H	L	H	L	M	M	19	F	P	G	P
10	BB6	L	L	L	L	-	L	L	M	M	M	L	H	M	L	M	L	H	H	M	M	M	M	L	18	F	G	F	F

SECTION	SEGMENT	SECTION RATING SUMMARY ***						
		ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
10	A19	A	✔	-	✔	-	×	
10	A18C25	A-C					×	✔
10	C26	C	-	✔	-	-	×	
10	B25	B	×	✔	-	-	×	
10	BB6	B1	×	✔	×	-	-	

SECTION 10 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A19	18. Very high agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential, many rural residences, undesirable diagonal line field placement in intensively farmed agricultural areas; 25. RM of Grey and Dufferin opposed to routes. Interference with agricultural land, proximity to the community of St. Claude and potential wind farm opportunities. 27. Proximity to the town of St. Claude and interference with agricultural practices.
A18C25	8. Sensitive soils, Assiniboine aquifer; 12. Heritage resource concerns (1 archaeological sites, 1 municipal, 1 centennial farms, 1 plaques); Value = 31 18. Very high agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential; 20. High proportion of angle towers to length; 25. RM of Grey and Dufferin opposed to routes. Interference with agricultural land, proximity to the community of St. Claude and potential wind farm opportunities. 27. Proximity to the town of St. Claude and interference with agricultural practices.
C26	18. Very high agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential; 20. High proportion of angle towers to length; 25. RM of Grey concerned regarding numerous residences within this corridor.. 27. General public concerned regarding impacts to agricultural practices. added costs for operation; proximity of residences and impact to land value. **Opportunity:** Potential routing opportunity along existing drains.
B25	12. Heritage resource concerns (2 archaeological sites, 2 municipal, 3 plaques). Value = 33 15. Overlap with community developed area, recreation area, airstrip/aerodrome and organic farm operations; 18. Very high agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential, many rural residences; 20. High proportion of angle towers to length; 25. RM of Grey noted that this line would bisect the town of Fannystelle and Homewood. Agriculture and land value were primary concerns. 27. General Public concerned with impact to agriculture. **Opportunity:** Potential routing opportunities along existing transmission lines and road segments.
BB6	12. Heritage resource concerns (8 archaeological sites, 1 municipal, 5 plaques); Value = 50 17. Overlap with TLE Site#7(1162), #8(1163), #9(1164), #11(1166), #12(1167), #19(1287), #2-07(1492), #3-07(1493), #4-07(1494), #5-07(1495), #6-07(1572, #7-07(1573); overlap with purchased land, Long Plain FN; 18. Intensively cropped lands with some active pivot irrigation or irrigation potential; undesirable diagonal line field placement in intensively farmed agricultural areas; **Opportunity:** Potential routing opportunities along existing transmission/sub-transmission lines.

SELECTION SUMMARY

Preferred Route Segment: A18C25, C26

The preliminary preferred segments in this section each have limited biophysical concerns. Segment B25 overlaps with organic farm producers, an airstrip and communication towers. Segment BB6 overlaps with TLE/private land selections associated with Long Plain First Nation. The preferred route segments cross high agricultural capability lands and intensive agricultural use areas with active and potential irrigation. These agricultural concerns will need to be addressed through route adjustment to eliminate diagonal placements and locate along existing linear features (e.g. drains, roads) where possible. Route A received least negative public response. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response:

Preferred Route recieved least negative public response and was noted as the preference of one Municipality. RM of Grey opposes the project, and the RM of Dufferin prefer not to have the line within their jurisdiction due to concern for residences in the area. Strong opposition was heard at the Elm Creek Open House regarding all routing options. Suggestions were provided to seek routing opportunities such as drainage ditches in less populated areas. Strong concern regarding diagonal routing through agricultrual lands. Segment BB6 received minimal commentary.

Other Considerations:

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; x = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
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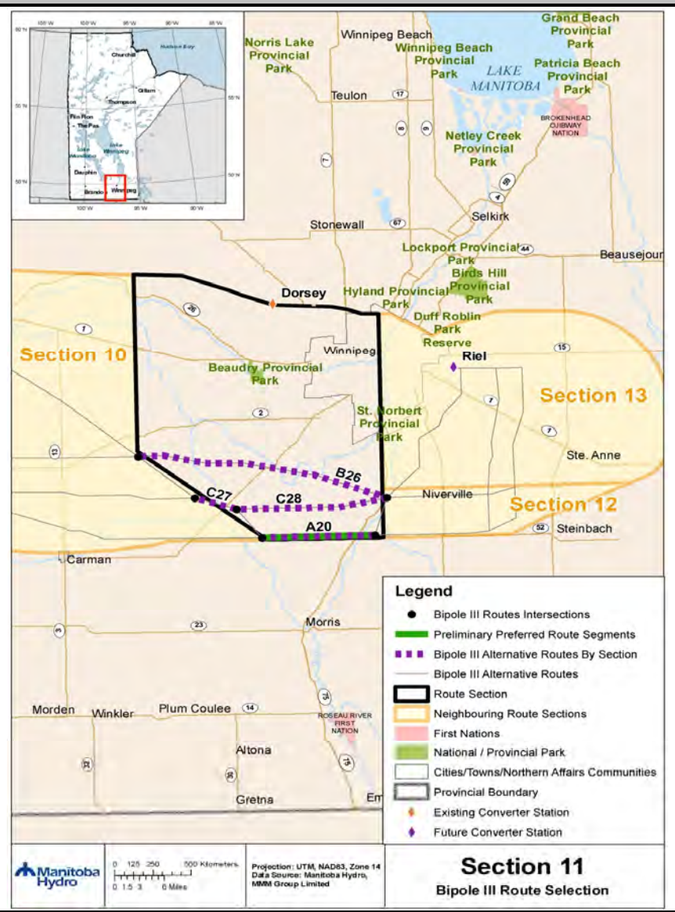
11	A20	L	L	H	L	-	L	L	L	M	L	L	L	L	L	M	L	L	M	M	L	L	M	M	9	-	G	F	G
11	B26	L	L	L	L	-	M	L	L	M	L	L	M	L	L	M	L	L	M	M	H	L	H	L	12	-	F	F	F
11	C27	L	-	L	L	-	L	L	L	M	L	L	M	L	L	L	L	L	H	M	H	L	M	M	11	-	P	G	F
11	C28	L	L	H	L	-	L	L	L	M	L	**L**	L	L	L	M	L	L	M	M	M	L	M	M	10	-	G	G	G

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	✔	✔	-	✔	✔	✔
B	×	-	-	-	-	
C	✔	✔	-	-	×	

SECTION 11 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A20	3. Potential for bird wire strikes on the Red River crossing;
B26	20. High proportion of angle towers to length; 22. Separation: Falls within 40km of Bipoles I and II. **Opportunity:** Potential routing opportunity along existing road.
C27	18. Intensively cropped areas with alternative along road allowance and some diagonal route placement; 20. High proportion of angle towers to length; 25. RM of Grey does support this route (extension of C26).
C28	3. Potential for bird wire strikes on the Red River crossing; **Opportunity:** Potential routing opportunity along existing road and drainage ditch.

SELECTION SUMMARY

Preferred Route Segment: A20

The preliminary preferred route in this section (Route A) has very few significant concerns in any discipline, with the exception of a high rating for birds due to the potential for bird strikes at the Red River crossing – which is a shared concern for all of the alternatives in this section. The human population count is low for all route options and concern for resource use factors are similar for all segments. Route C crosses intensively cropped areas and includes undesirable diagonal line placement. Stakeholder preference is for route A due to sparse population with residences and farms. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response:

While there were many responses indicating concern for impacts to agricultural lands in this section, the most common stakeholder response regarding a preference was for Route A as it is less densely populated with residences and farms. One municipality indicated a preference for this route. C27 is opposed by the RM of Grey due to concern with agriculture and residences. Ducks Unlimited stated a preference for Route C. Route A is less densely populated and routing opportunities were noted from Keystone Agriculture Producers and Municipalities in the area.

Other Considerations:

N/A

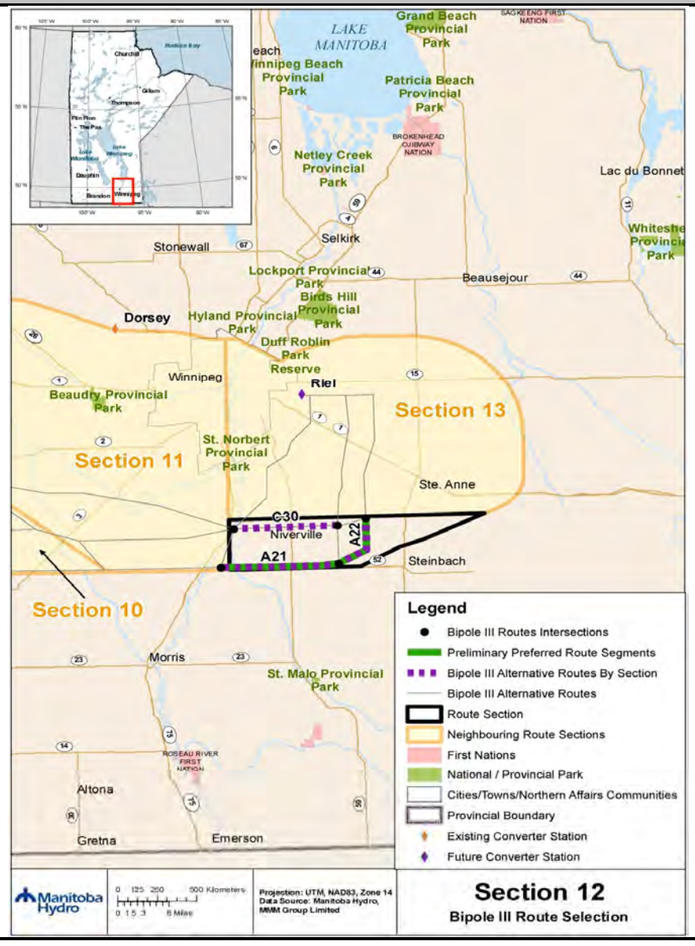
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; **x** = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
12	A21	H	L	L	L	-	M	L	L	M	L	**L**	L	M	L	L	L	L	M	M	H	L	M	M	13	-	G	F	G
12	A22	M	L	L	L	-	M	L	L	M	L	**L**	M	M	L	L	L	L	M	M	H	L	M	M	12	-	G	F	F
12	C30	L	L	L	L	-	M	L	L	M	L	H	H	M	L	M	L	L	M	M	M	L	M	M	15	-	P	G	F

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	-	✔	✔	-	✔	✔
C	✔	×	-	✔	×	

SECTION 12 MAP



Seg.	SEGMENT COMMENTS (number corresponds to the column header number (e.g. 1 Vegetation)
A21	1. Potential presence of high number of species of conservation concern; non-historical S1 species; 10. Total population by dissemination block is 2904, representing a percentage of 10.7% 20. High proportion of angle towers to length; **Opportunity:** Potential routing opportunity along existing road.
A22	20. High proportion of angle towers to length; **Opportunity:** Potential routing opportunity along existing road.
C30	11. High population density along segment; 12. Heritage resource concerns (1 centennial farm, 8 plaques). Value = 45 25. RM of Ritchot prefers southernmost routing options; communities fall in close proximity to this alternative; **Opportunity:** Potential routing opportunity along existing road.

SELECTION SUMMARY

Section 12
Preferred Route Segments: A21, A22
Route A preferred for this section as segment C30 has a high human population density and is proximal to a significant number of culture and heritage sites. Municipalities strongly objected to Route C. Vegetation concerns along the preferred route are considered to be manageable. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response: RM of Ritchot opposed all routes in this area excluding Route A as it was perceived to have the least potential impact on residences. Ducks Unlimited stated that C would be preferred. Respondent at the Steinbach open house stated a preference for Route B.

Other Considerations:

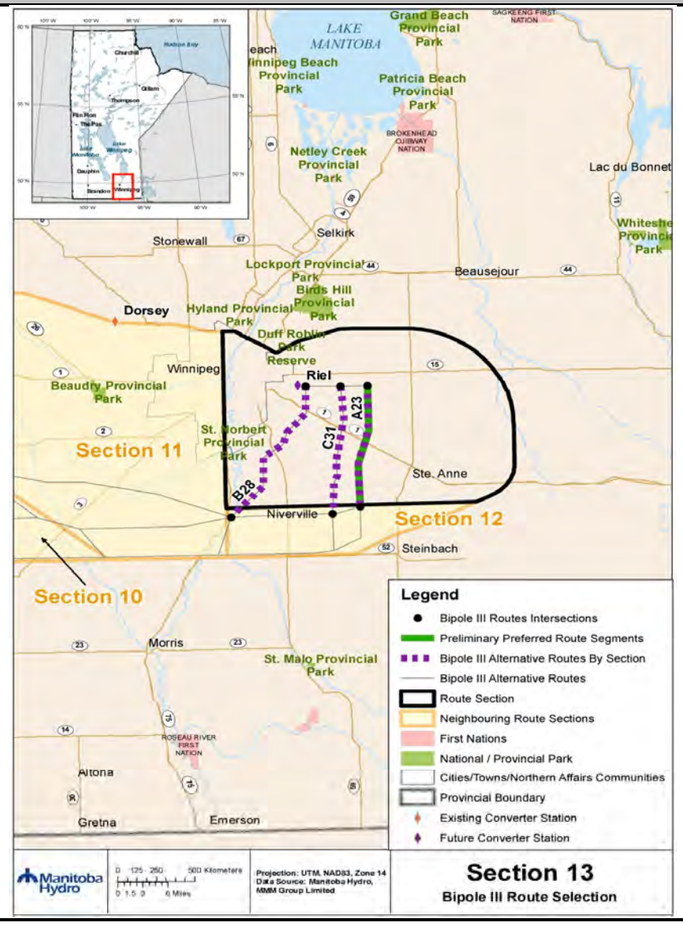
*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; **x** = Poor - = No Preference

Table 7A-1: Route Selection Matrix

SECTION	SEGMENT	Biophysical										Socio - Economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5	Response **			
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amphibians & Reptiles	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Lodges -Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length		24 Aboriginal Communities	25 Municipalities	26 Stakeholder Group	27 General Public
13	A23	L	L	L	L	-	M	L	L	M	L	M	L	M	L	M	L	L	M	M	H	L	M	M	12	-	P	F	F
13	B28	H	L	H	M	-	L	L	L	M	L	L	H	M	L	H	L	M	M	M	H	L	M	L	22	-	P	F	F
13	C31	L	L	L	L	-	M	L	L	M	L	H	M	M	L	H	L	M	M	M	H	L	M	M	18	-	P	G	F

ROUTE OPTIONS	Biophysical	Socio-Economic	Land Use	Technical	Stakeholder Response	PREFERENCE
A	-	-	-	-	×	✔
B	×	-	-	-	×	
C	-	×	-	-	×	

SECTION 13 MAP



Seg.	SEGMENT COMMENTS
A23	20. High proportion of angle towers to length; 25. RM of Tache noted that there could be interference with future development in the area.
B28	1. Non-historical S1 & S2 species; 3. Potential for wire strikes on Red River crossing; 12. Heritage resource concerns (8 archaeological sites, 1 centennial farm). Value = 25 15. Proximity to five developed areas/communities; proximity to aerodrome/airstrip; proximity to Jennifer and Tom Shay Ecological Reserve; 20. High proportion of angle towers to length; 25. RM of Ritchot noted concerns regarding future development between Grand Point and Ile des Chenes; 27. General public concern with diagonal crossing of land; Seine River Crossing. **Opportunity:** Potential routing opportunity along existing rail line and road.
C31	10. Total population is 2707, representing a percentage of 9.97% 11. Heritage Resource Concerns (3 archaeological sites, 1 centennial farm, 1 plaque). Value = 15 22. Peguis FN. Notice Area; proximity to airstrip. 17. Area of intensive crop and livestock production with many farmyards and rural residential houses; in field placement required to avoid housing and intensive livestock facilities; Seine River Crossing. 25. RM of Tache concerned regarding impact to residences in area; **Opportunity:** Potential routing opportunity along existing rail line and road.

SELECTION SUMMARY

Preferred Route Segment: A23

The preliminary preferred route (Route A) is less densely populated than the other alternatives in this section and avoids most of the key concerns associated with the other alternatives. Key among these for Route C are land use issues including proximity to developed areas, an aerodrome and an ecological reserve. Route B includes significant concerns with bird habitat, vegetation and culture and heritage sites. Though the preferred route minimizes proximity to extensively developed areas and pockets of rural residential development, route adjustment is required near Lorette and Dufresne to further minimize impact to existing residential development, particularly in the vicinity of the Seine River. Some field tower and diagonal line placement may be required to avoid housing and intensive livestock facilities. There was strong negative response to Route B due to existing and potential residential development. The preferred route in this section has varying low or moderate concerns for all other disciplines.

Stakeholder Response: Strong negative response to Route B due to existing and potential residential development. RM of Tache expressed concern with respect to all routes.

Other Considerations:
N/A

*Concern is: L-Low; M-Medium; H-High; VH-Very High;
** Route Option is: G=Good; F=Fair; P=Poor
*** Route Option is: ✔ = Good ; **x** = Poor - = No Preference

Table 7A-2: Evaluation Factors by Segment for New Alternative Route Segments

SECTION	SEGMENT	Biophysical										Socio-economic				Land Use				Technical					RATING * L=0 M=1 H=3 VH=5
		1 Vegetation	2 Forestry	3 Birds	4 Mammals	5 Caribou	6 Core Communities	7 Fragmentation-Wildlife	8 Soils-Terrain (Local)	9 Aquatics	10 Amph. & Rept.	11 Population Density	12 Culture - Heritage	13 Resource Use	14 Recreation-Tourism	15 Land Use	16 PAI - ASI	17 TLE	18 Agriculture	19 Foundations	20 Angle Towers	21 Construction Access	22 Seperation	23 Line Length	
2	B7C7-1	L	L	L	M	L	M	H	L	H	L	L	L	M	L	L	L	-	-	H	H	M	M	L	Adjusted route responds to stakeholder concern (MAMI) but is not favoured from the Technical perspective.
4	B9-1	L	L	L	H	M	M	H	L	M	L	L	L	M	L	L	L	M	-	M	L	H	L	M	Alternative segments respond to stakeholder concern (MAMI) - B9-2 is preferred.
4	B9-2	L	L	L	M	M	M	M	M	M	L	L	L	M	L	M	L	L	-	H	M	L	L	L	Alternative segments respond to stakeholder concern (MAMI)
4	B10-1	L	M	M	H	H	M	M	L	M	M	L	L	H	L	H	L	L	-	H	H	L	M	L	Alternative segment responds to stakeholder concerns (MAMI).
7	B18-1	M	M	M	M	-	M	L	L	H	L	L	L	H	L	H	L	L	L	H	M	M	L	M	Alternative segment responds to concern re: diagonal crossing of ag land, however the segment scores high ratings for variables such as resource use, land use and foundation.
8	B22-1	M	M	H	M	-	L	M	L	M	H	L	L	M	L	H	M	L	L	L	H	M	M	L	Alternative segment responds to concern re: WMA area, core communities, and culture and heritage sites. There is an increased cost due to increased number of angle towers and line length.
9	A17C24-1	L	L	M	L	-	L	L	M	H	M	L	M	M	L	L	L	L	H	M	H	M	M	M	Responds to ag issues of diagonal alignments, irrigation and the Arden Ridge enduring feature.
9	C22BA4-1	M	L	L	L	-	L	M	L	M	L	L	L	M	L	L	L	L	L	M	H	L	L	L	Responds to ag issues of diagonal alignments, irrigation and the Arden Ridge enduring feature.
9	C22BA4-2	M	L	M	M	-	M	M	L	M	L	L	L	M	L	H	L	L	L	L	H	L	L	M	Responds to ag issues of diagonal alignments, irrigation and the Arden Ridge enduring feature.
9	B23-1	M	L	H	M	-	M	M	L	M	H	L	M	H	L	H	M	M	M	L	H	L	M	M	Responds to ag issues of diagonal alignments and irrigation.
9	B24-1	M	L	L	L	-	L	L	H	M	M	L	M	M	L	M	L	L	H	M	H	M	M	M	Responds to ag issues of diagonal alignments and irrigation.
10	C26-1	L	L	L	M	-	L	L	L	H	L	L	L	L	L	L	L	L	M	L	H	L	M	M	The alternative segments respond primarily to diagonal crossing over agricultural lands, and potential impact to culture and heritage sites. The preferred route is a combination of re-routed segments. There is more expense due to angled towers, and aquatics effects can be mitigated.
10	A19-1	L	L	L	L	-	L	L	L	M	L	L	L	L	L	L	L	L	M	M	L	L	M	M	
12	A21-1	H	L	L	L	-	L	L	L	H	L	L	L	L	L	M	L	L	M	M	H	L	M	M	The alternative segment responds to population density and heritage concerns. The alternative segment has a higher cost due to angle towers, and a higher rating for aquatics, which is mitigable.
13	A23-1	L	L	L	L	-	L	L	L	M	L	M	L	M	L	H	L	M	M	M	H	L	M	H	The alternative segments respond to concerns regarding homes near the Seine River crossing. Line length and cost is increased in order to reduce impact on residential property.
13	A23-2	L	L	L	L	-	L	L	L	M	L	M	L	M	L	H	L	M	H	M	H	L	M	H	The alternative segments respond to concerns regarding homes near the Seine River crossing. Line length and cost is increased in order to reduce impact on residential property.

B7C7-1	7. Fragmentation risk due to remote, undeveloped nature of area; 9. High number of crossings & confluences; 19. Poor foundation conditions; 20. High proportion of angle towers to length;
B9-1	4. Transects high density moose area; 7. Fragmentation risk due to remote, undeveloped nature of area; 21. Poor construction access;
B9-2	19. Poor foundation conditions;
B10-1	4. Wolverine activity and Moose Habitat south of Wabowden, Good Beaver habitat; 5. Traverses through core areas; 13. Intersects 7 moose and bear outfitter allocations (73% of segment length) and 13 active RTLs; 15. 3 mile corridor overlap with mineral interests; prox. to rec. areas; 19. Poor foundation conditions; 20. High proportion of angle towers to length;
B18-1	9. High number of crossings & confluences; 13. Intersects 6 moose and bear outfitter allocations (75% of segment length) and 2 GHAs with non-resident general rifle deer seasons (100% of segment length); 15. The 3 mile corridor overlaps with a WMA, high value ag lands and a community pasture; 19. Poor foundation conditions;
B22-1	3. Bird habitat diversity/core, PP, EC, Bird focused conservation areas; 10. Plains spadefoot, snake dens, presence of sandy soils, high amount of wetlands; 15. Land use concerns with overlap of WMA and ag lands; 20. High proportion of angle towers to length;
A17C24-1	9. High number of crossings & confluences; 18. Very high agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential; 20. High proportion of angle towers to length;
C22BA4-1	20. High proportion of angle towers to length;
C22BA4-2	15. Overlap with 4 WMA parcels (hydro-prohibited), habitat conservation lands, municipal recreation areas, developed areas; 20. High proportion of angle towers to length;
B23-1	3. Bird habitat diversity/core, PP, EC, Bird focused conservation areas; 10. Uncas skipper, snake dens, presence of sandy soils, high amount of wetlands; 13. Intersects 4 GHAs with non-resident general rifle deer seasons (100% of segment length); 15 & 18. High value ag lands with irrigation (existing and potential); avoid diagonal alignments; 20. High proportion of angle towers to length;
B24-1	8. Sensitive soils, Assiniboine aquifer; 18. High agricultural capability; intensive agricultural use area with active pivot irrigation systems and areas with irrigation potential in the middle and southern part and intensively farmed annual crop lands near Highway; 20. High proportion of angle towers to length;
C26-1	9. High number of crossings & confluences; 20. High proportion of angle towers to length;
A19-1	
A21-1	1. Potential presence of high number of species of conservation concern; non-historical S1 species; 9. High number os stream crossing and drain adjacency; 20. High proportion of angle towers to length;
A23-1	15. Peguis FN. Notice Area; proximity to airstrip; Area of intensive crop and livestock production with many farmyards and rural residential houses; in field placement required to avoid housing and intensive livestock facilities; 20. High proportion of angle towers to length; 23. Indirect long segment;
A23-2	15. Peguis FN. Notice Area; proximity to airstrip; Area of intensive crop and livestock production with many farmyards and rural residential houses; in field placement required to avoid housing and intensive livestock facilities; 18. High agricultural capability; intensive agricultural use area; 20. High proportion of angle towers to length; 23. Indirect long segment;