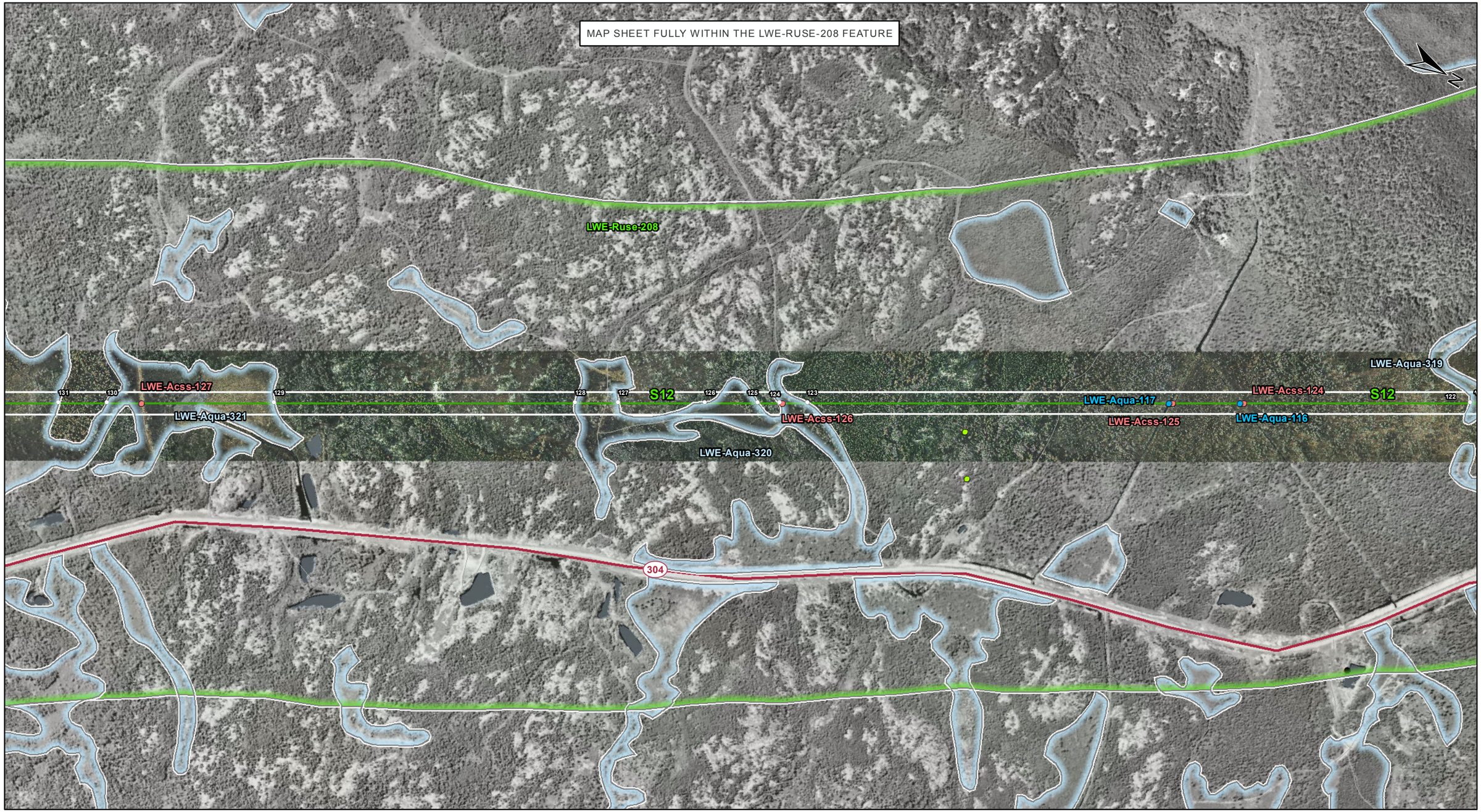

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: July 29, 2014
Version: Draft

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Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining

Project Infrastructure
- Angle Tower Locations
- LWESI Final Preferred Route
- 60 m Right of Way
- Manigotagan Corner Station Preferred Site

ESS Features

Access
- Intersection

Ecosystem
- Species of Concern

Water
- Water Crossing

Resource Use
- Food/Medicinal

Water
- Wetland

Lake Winnipeg East Side Initiative Transmission Project Construction Environmental Protection Plan

Environmentally Sensitive Site Locations

DRAFT: FOR DISCUSSION PURPOSES ONLY

MAP 13

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO_LWESI\ARCMAP\LWESI_CENVPP_ESS_10K_MAPS_20140728.MXD

ESS Group: Intersection

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S12	LWE-Acss-124	Trail crossing	700338	5625717	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Acss-125	Trail crossing	700434	5625550	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Acss-126	Trail crossing	700964	5624632	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Acss-127	Trail crossing	701835	5623124	14N	Manitoba Hydro Consultants

Potential Effects:

May provide increased sightlines from the road and additional access for hunters

Specific Mitigation:

- Maintain existing shrubs and understory for 100m on both sides of the crossing
- Minimize centerline trail clearing width

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S12	LWE-Aqua-116	Unnamed Drain	700343	5625708	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Aqua-117	Unnamed Drain	700439	5625541	14N	Manitoba Hydro Consultants

Potential Effects:

Habitat loss & contamination from structure foundations & installations; Increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Rutting of floodplain

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S12	LWE-Ruse-208	Berry Harvest	Site: 117 to 118	E-699801 N-5626644	E-703282 N-5620617	14N	6960 m	ATK

Potential Effects:

Loss of plants as a result of clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Wetland /Fens

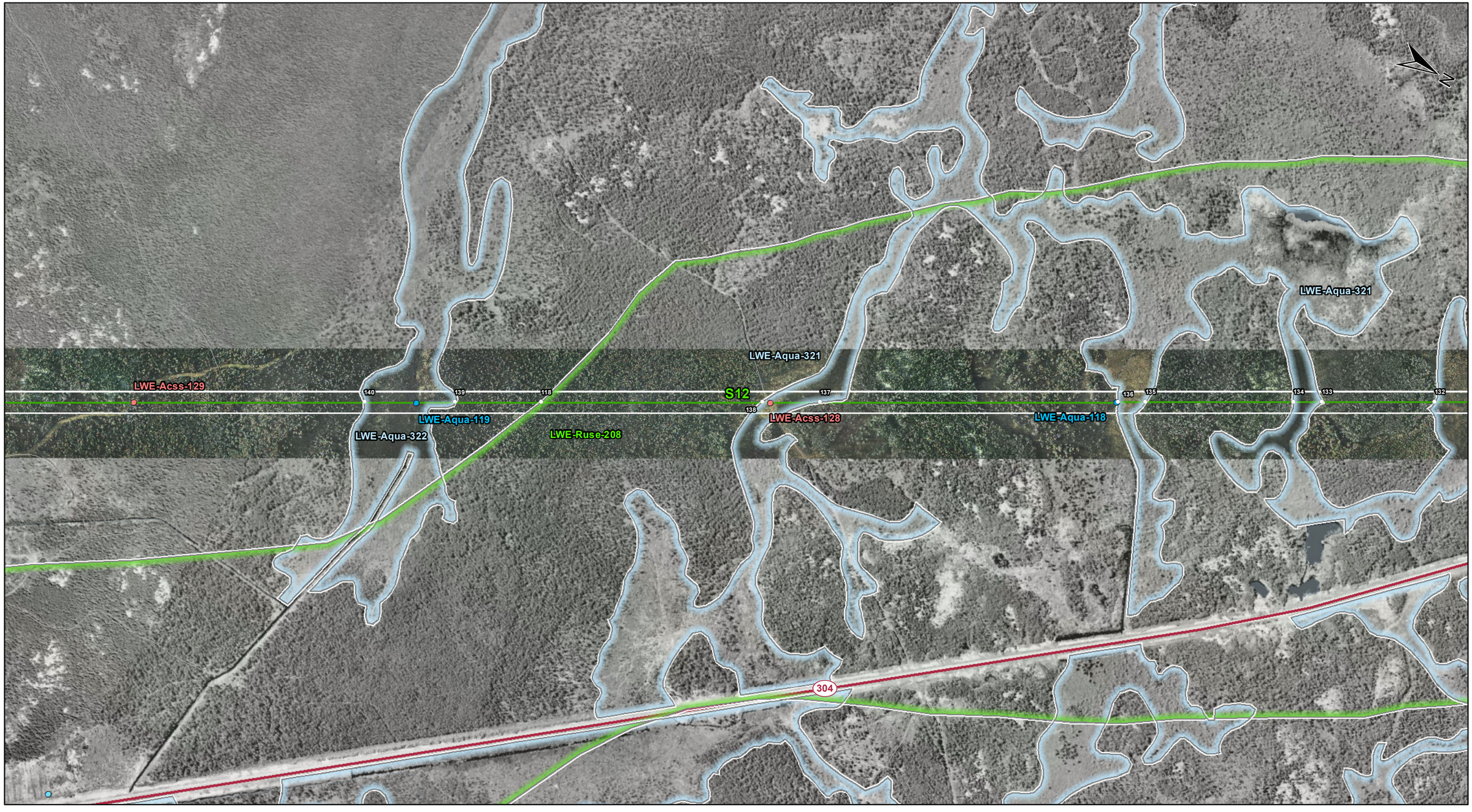
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S12	LWE-Aqua-319	Wetland sensitivity area	Site: 121 to 122	E-700006 N-5626290	E-700029 N-5626250	14N	45 m	MBCWS
LWE-S12	LWE-Aqua-320	Wetland sensitivity area	Site: 123 to 124	E-700929 N-5624691	E-700968 N-5624625	14N	76 m	MBCWS
LWE-S12	LWE-Aqua-320	Wetland sensitivity area	Site: 125 to 126	E-700997 N-5624575	E-701069 N-5624449	14N	144 m	MBCWS
LWE-S12	LWE-Aqua-320	Wetland sensitivity area	Site: 127 to 128	E-701186 N-5624246	E-701245 N-5624145	14N	116 m	MBCWS
LWE-S12	LWE-Aqua-321	Wetland sensitivity area	Site: 129 to 130	E-701654 N-5623437	E-701881 N-5623044	14N	453 m	MBCWS
LWE-S12	LWE-Aqua-321	Wetland sensitivity area	Site: 131 to 132	E-701947 N-5622929	E-702060 N-5622733	14N	227 m	MBCWS

Potential Effects:

Potential Disruption to sensitive wetland habitat

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer



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Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
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Land Base
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- Local Road
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- Railway (Discontinued)
- Mining

Project Infrastructure
- Angle Tower Locations
- LWESI Final Preferred Route
- 60 m Right of Way
- Manigotagan Corner Station Preferred Site

ESS Features

Access
- Intersection

Ecosystem
- Research

Water
- Water Crossing

Resource Use
- Food/Medicinal

Water
- Wetland

Lake Winnipeg East Side Initiative Transmission Project Construction Environmental Protection Plan

Environmentally Sensitive Site Locations

DRAFT: FOR DISCUSSION PURPOSES ONLY

MAP 14

ESS Group: Intersection

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S12	LWE-Acss-128	Trail crossing	702970	5621159	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Acss-129	Trail crossing	703839	5619653	14N	Manitoba Hydro Consultants

Potential Effects:

LWE-Acss-128: *May provide additional access for hunters*
LWE-Acss-129: *May provide increased sightlines from the road and additional access for hunters*

Specific Mitigation:

- Maintain existing shrubs and understory for 100m on both sides of the crossing
- Minimize centerline trail clearing width

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S12	LWE-Aqua-118	Unnamed Drain	702497	5621979	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Aqua-119	Unnamed Drain	703453	5620322	14N	Manitoba Hydro Consultants

Potential Effects:

Habitat loss & contamination from structure foundations & installations; Increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Rutting of floodplain

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S12	LWE-Ruse-208	Berry Harvest	Site: 117 to 118	E-699801 N-5626644	E-703282 N-5620617	14N	6960 m	ATK

Potential Effects:

Loss of plants as a result of clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Wetland /Fens

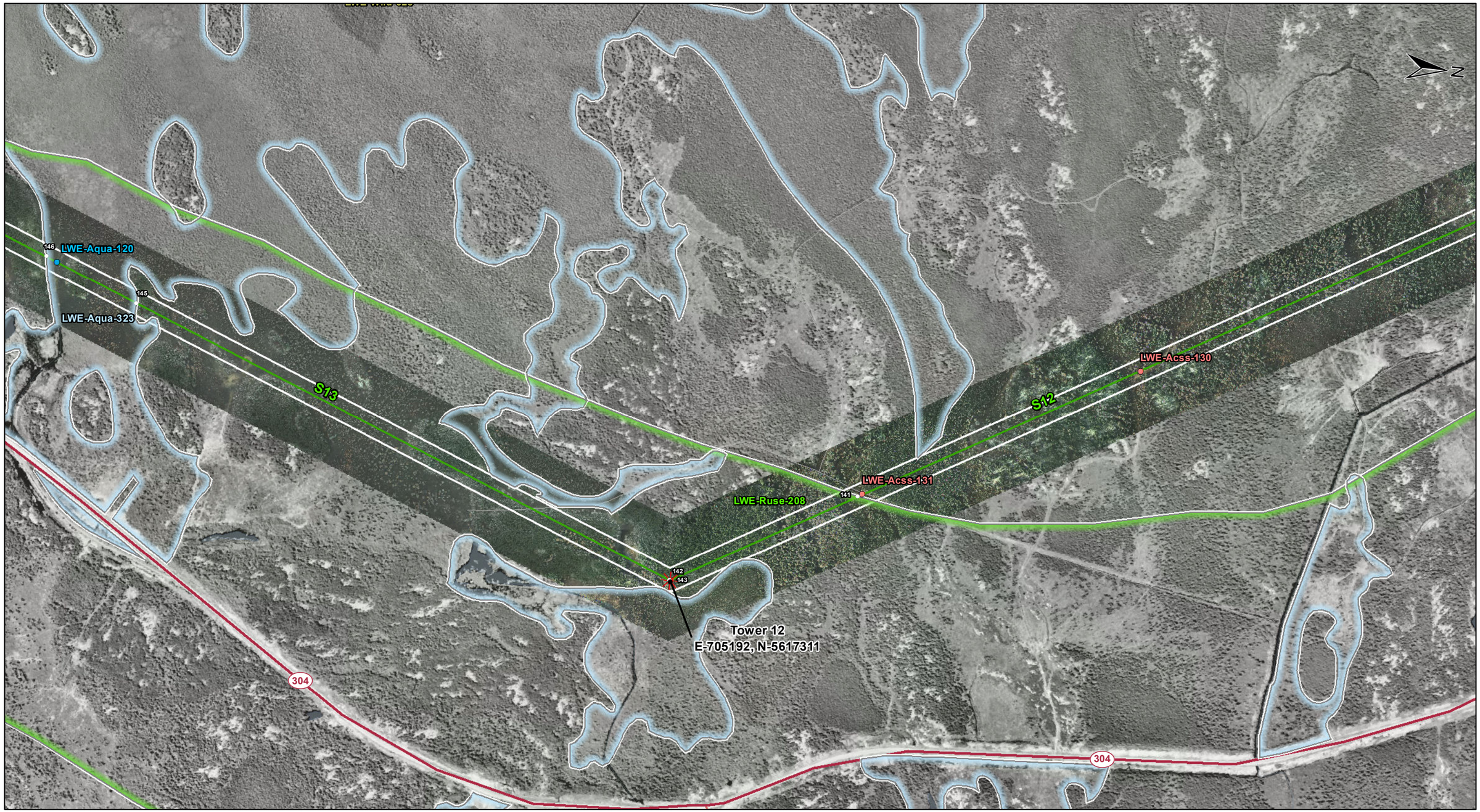
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S12	LWE-Aqua-321	Wetland sensitivity area	Site: 131 to 132	E-701947 N-5622929	E-702060 N-5622733	14N	227 m	MBCWS
LWE-S12	LWE-Aqua-321	Wetland sensitivity area	Site: 133 to 134	E-702215 N-5622466	E-702254 N-5622398	14N	78 m	MBCWS
LWE-S12	LWE-Aqua-321	Wetland sensitivity area	Site: 135 to 136	E-702456 N-5622047	E-702494 N-5621982	14N	75 m	MBCWS
LWE-S12	LWE-Aqua-321	Wetland sensitivity area	Site: 137 to 138	E-702901 N-5621277	E-702980 N-5621141	14N	157 m	MBCWS
LWE-S12	LWE-Aqua-322	Wetland sensitivity area	Site: 139 to 140	E-703400 N-5620413	E-703524 N-5620199	14N	247 m	MBCWS

Potential Effects:

Potential Disruption to sensitive wetland habitat

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer



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Manitoba Hydro

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Land Base
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- Railway (Discontinued)
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Project Infrastructure
- Angle Tower Locations
- LWESI Final Preferred Route
- 60 m Right of Way
- Manigotagan Corner Station Preferred Site

ESS Features
Access
- Intersection

Water
- Water Crossing

Resource Use
- Food/Medicinal

Water
- Wetland

Lake Winnipeg East Side Initiative Transmission Project
Construction Environmental Protection Plan
Environmentally Sensitive Site Locations

DRAFT: FOR DISCUSSION PURPOSES ONLY

MAP 15

ESS Group: Intersection

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S12	LWE-Acss-130	Trail crossing	704495	5618524	14N	Manitoba Hydro Consultants
LWE-S12	LWE-Acss-131	Trail crossing	704906	5617807	14N	Manitoba Hydro Consultants

Potential Effects:

May provide increased sightlines from the road and additional access for hunters

Specific Mitigation:

- Maintain existing shrubs and understory for 100m on both sides of the crossing
- Minimize centerline trail clearing width

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S13	LWE-Aqua-120	Unnamed tributary	704506	5615565	14N	Manitoba Hydro Consultants

Potential Effects:

Habitat loss & contamination from structure foundations & installations; Increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Rutting of floodplain

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group: Wetland /Fens

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S13	LWE-Aqua-323	Wetland sensitivity area	Site: 145 to 146	E-704594 N-5615791	E-704494 N-5615534	14N	275m	MBCWS

Potential Effects:

Potential Disruption to sensitive wetland habitat

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S12	LWE-Ruse-208	Berry Harvest	Site: 141 to 142	E-704912 N-5617795	E-705191 N-5617311	14N	559 m	ATK
LWE-S13	LWE-Ruse-208	Berry Harvest	Site: 143 to 144	E-705191 N-5617311	E-701407 N-5607679	14N	10348 m	ATK

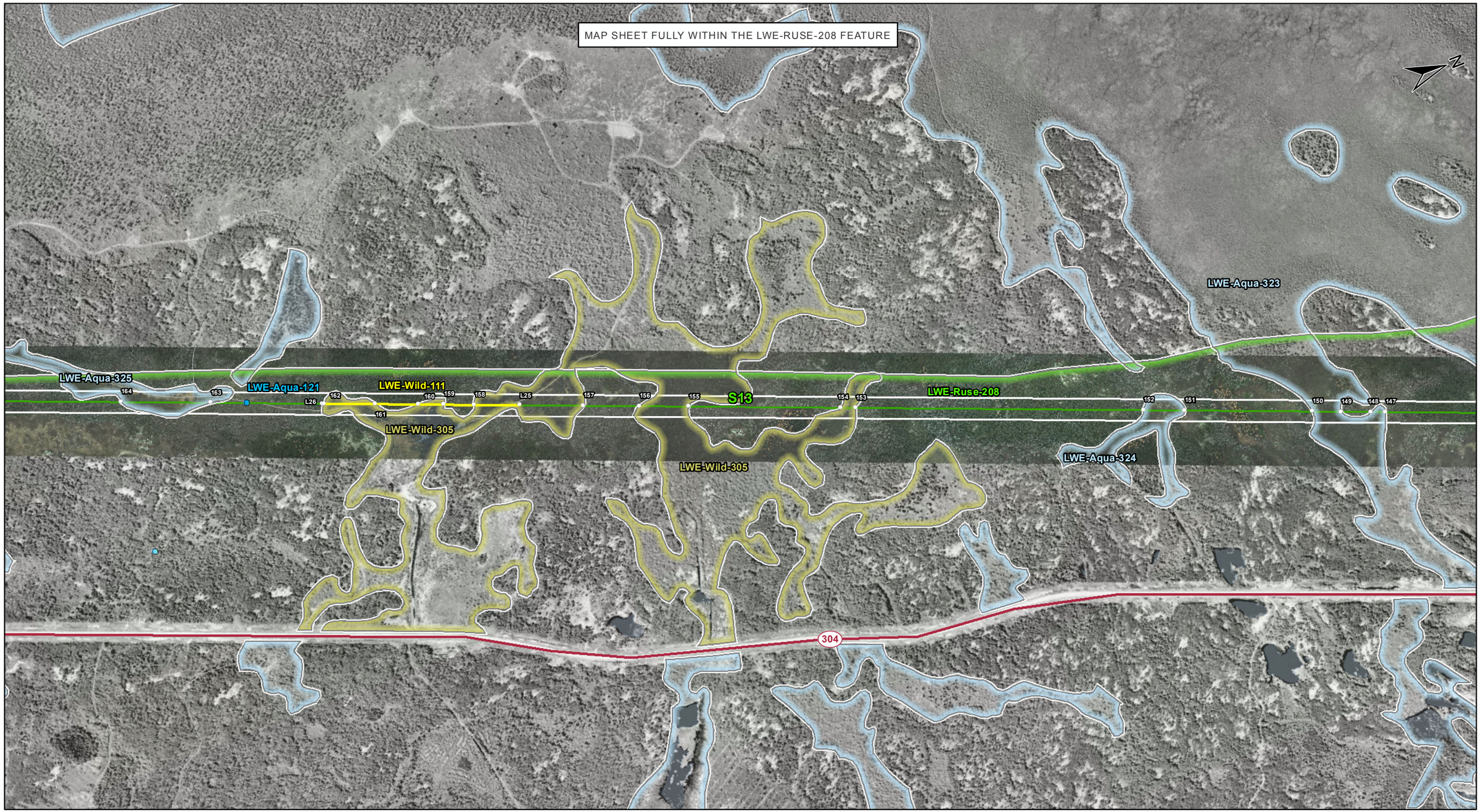
Potential Effects:

Loss of plants as a result of clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

MAP SHEET FULLY WITHIN THE LWE-RUSE-208 FEATURE



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Land Base
- Transmission Line
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- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining

Project Infrastructure
- Angle Tower Locations
- LWESI Final Preferred Route
- 60 m Right of Way
- Manigotagan Corner Station Preferred Site

ESS Features

Ecosystem
- Research

Water
- Water Crossing

Wildlife
- Birds and Habitat

Resource Use
- Food/Medicinal

Water
- Wetland

Wildlife
- Reptiles/Amphibians

Lake Winnipeg East Side Initiative Transmission Project
Construction Environmental Protection Plan

Environmentally Sensitive Site Locations

DRAFT: FOR DISCUSSION PURPOSES ONLY

MAP 16

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO_LWESI\ARCMAP\LWESI_CENVPP_ESS_10K_MAPS_20140728.MXD

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Source
LWE-S13	LWE-Aqua-121	Unnamed tributary	703239	5612341	14N	Manitoba Hydro Consultants

Potential Effects:

Habitat loss & contamination from structure foundations & installations; Increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Rutting of floodplain

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group: Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S13	LWE-Wild-111	Waterfowl and other waterbird sensitivity area	Site: L25 to L26	E-703510 N-5613031	E-703314 N-5612532	14N	536m	Manitoba Hydro Consultants

Potential Effects:

Higher risk of wire collision, Risk of wire collision is localized to the right-of-way

Specific Mitigation:

- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S12	LWE-Ruse-208	Berry Harvest	Site: 141 to 142	E-704912 N-5617795	E-705191 N-5617311	14N	559 m	ATK
LWE-S13	LWE-Ruse-208	Berry Harvest	Site: 143 to 144	E-705191 N-5617311	E-701407 N-5607679	14N	10348 m	ATK

Potential Effects:

Loss of plants as a result of clearing, construction, maintenance and decommissioning activities. Berry Harvest areas identified through ATK.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Wetland /Fens

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S13	LWE-Aqua-323	Wetland sensitivity area	Site: 147 to 148	E-704370 N-5615220	E-704356 N-5615184	14N	38 m	MBCWS
LWE-S13	LWE-Aqua-323	Wetland sensitivity area	Site: 149 to 150	E-704326 N-5615108	E-704298 N-5615036	14N	77 m	MBCWS
LWE-S13	LWE-Aqua-324	Wetland sensitivity area	Site: 151 to 152	E-704171 N-5614713	E-704130 N-5614609	14N	111 m	MBCWS
LWE-S13	LWE-Aqua-325	Wetland sensitivity area	Site: 163 to 164	E-703203 N-5612249	E-703114 N-5612023	14N	243 m	MBCWS

Potential Effects:

Potential Disruption to sensitive wetland habitat

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer

ESS Group: Reptiles/Amphibians

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance	Source
LWE-S13	LWE-Wild-305	Amphibian sensitivity area	Site: 153 to 154	E-703844 N-5613880	E-703829 N-5613842	14N	40 m	MBCWS
LWE-S13	LWE-Wild-305	Amphibian sensitivity area	Site: 155 to 156	E-703678 N-5613458	E-703629 N-5613333	14N	134 m	MBCWS
LWE-S13	LWE-Wild-305	Amphibian sensitivity area	Site: 157 to 158	E-703573 N-5613191	E-703464 N-5612915	14N	296 m	MBCWS
LWE-S13	LWE-Wild-305	Amphibian sensitivity area	Site: 159 to 160	E-703434 N-5612838	E-703409 N-5612774	14N	68 m	MBCWS
LWE-S13	LWE-Wild-305	Amphibian sensitivity area	Site: 161 to 162	E-703366 N-5612666	E-703315 N-5612536	14N	139 m	MBCWS

Potential Effects:

Potential disruption to Northern leopard frog and wood frog breeding habitat

Specific Mitigation:

- Winter clearing & construction only (outside of the April 1-May 31 breeding period)
- Provide 30m vegetated (shrub and understory) buffer around site
- Retention of logs, snags, and other woody debris and slash piles on forest floor following RoW clearing

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