

Regional Municipality of Wood Buffalo Wildfire Mitigation Strategy Review



Prepared for:



October 2022

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1 Introduction

The Regional Municipality of Wood Buffalo (RMWB) and Alberta Government have been implementing FireSmart mitigation measures since 1999 and based on the accomplishment of many of the recommendations in the previous plans the RMWB FireSmart Committee has identified the need to review and update the Wildfire Mitigation Strategy.

The objectives of the RMWB Wildfire Mitigation Strategy Review are to:

- Update the wildfire hazard assessment
- Review FireSmart mitigation accomplishments
- Set new FireSmart implementation priorities for the next five-year period

This review updates the wildfire hazard assessment, provides accomplishments on the 2017 recommendations, and provides 2022 observations and recommendations for each of the seven-disciplines of wildland/urban interface.

1. Vegetation Management
2. Development
3. Legislation
4. Public Education and Engagement
5. Inter-Agency Cooperation
6. Cross-Training
7. Emergency Planning

Implementation of FireSmart mitigative options will **reduce** the threat of wildfire to structures however it will never **remove** the threat.

FireSmart implementation requires a long-term strategy and approach with continual review and maintenance as conditions change. This plan should be reviewed and updated at approximately five-year intervals to ensure it is based on current conditions.

2 Planning Area

The RMWB Service Areas are wildland/urban interface communities. The term “wildland/urban interface” is used to define areas where combustible wildland fuels are found adjacent to human development and wildfires have the potential to interact with that development.

The planning area includes lands within and surrounding the RMWB Service Areas.

- Conklin
- Janvier
- Anzac
- Gregoire Lake Estates
- Fort McMurray
- Saprae Creek Estates
- Draper
- Fort McKay
- Fort Chipewyan
- Fort Fitzgerald

Land ownership consists of private, municipal, provincial, first nation, and metis nation lands. Development authority rests with the RMWB within the Service Areas.

All lands within the rural Service Areas are within the Forest Protection Area and all lands within the Fort McMurray urban Service Area are excluded from the Forest Protection Area. Structural fire is the responsibility of RMWB Regional Emergency Services in each of the Service Areas and wildfire management is the jurisdiction of the Alberta government within the rural Service Areas and the RMWB within the Fort McMurray urban Service Area.

3 Hazard Assessment

Wildfire behaviour potential is used to quantify wildfire hazard within and surrounding the RMWB Service Areas and can be used to identify relative wildfire threat for existing and new development areas and to assist with prioritizing areas for FireSmart vegetation management and/or public education programs. Wildfire behaviour potential was assessed in 2017 (Walkinshaw, 2017), updated in 2019 (Walkinshaw, 2019), and updated once again for this report based on changes to wildland vegetation conditions including FireSmart fuel modification projects. Wildfire behaviour potential will require regular revision as wildland vegetation conditions change.

Relative wildfire behaviour potential classes of Low, Moderate, or High/Extreme were assigned to each treatment unit based on anticipated wildfire behaviour type:

- Low – surface fire
- Moderate – surface fire with candling/torching
- High/Extreme – surface fire with intermittent to continuous crown-fire

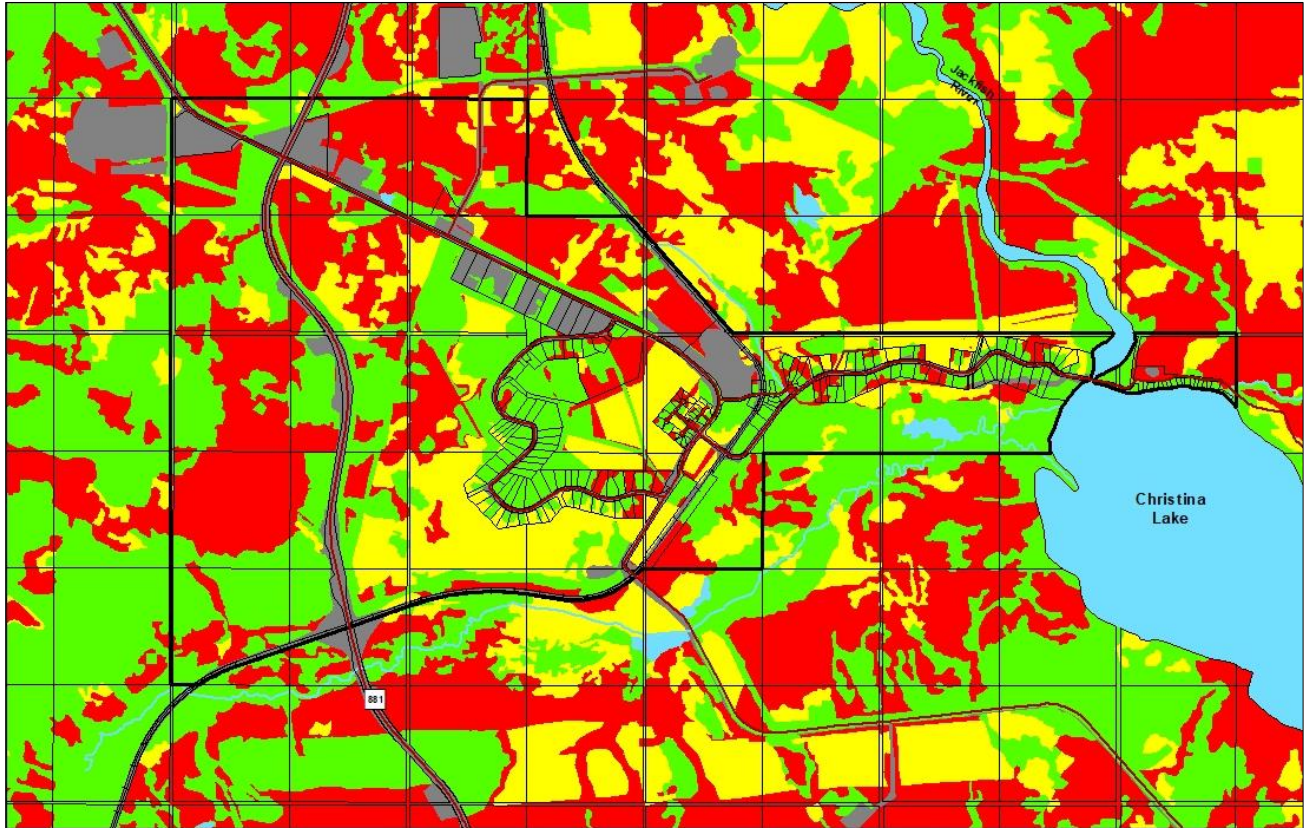
Low and Moderate wildfire behaviour potential classes are considered acceptable and High/Extreme class is unacceptable for FireSmart communities.

2022 Observations

- The 2016 Horse River wildfire has begun to regenerate to young deciduous (D-1) and is rated as Low wildfire behaviour potential within and surrounding Fort McMurray, Draper, Sapræ Creek Estates, Gregoire Lake Estates, and Anzac.
- Significant reductions in wildfire behaviour potential have occurred due to vegetation management projects conducted by RMWB, the Province, and First Nations in Conklin, Anzac, Gregoire Lake Estates, Fort McMurray, Fort McKay, and Fort Chipewyan.
- The reclamation/landscaping and mowing of the 2016 Horse River wildfire dozer-guards in Fort McMurray and Anzac provides excellent fuelbreaks for community protection.
- The burnt-tree removal projects surrounding Beacon Hill, Abasand, and Wood Buffalo Estates have reduced the future increased hazard from dead and down material.

Conklin

- Fuel removal and fuel reduction projects in High/Extreme hazard fuel types have reduced the wildfire behaviour potential significantly
- Scattered occluded patches of Municipal lands and several patches of deeded lands continue to present High/Extreme wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots

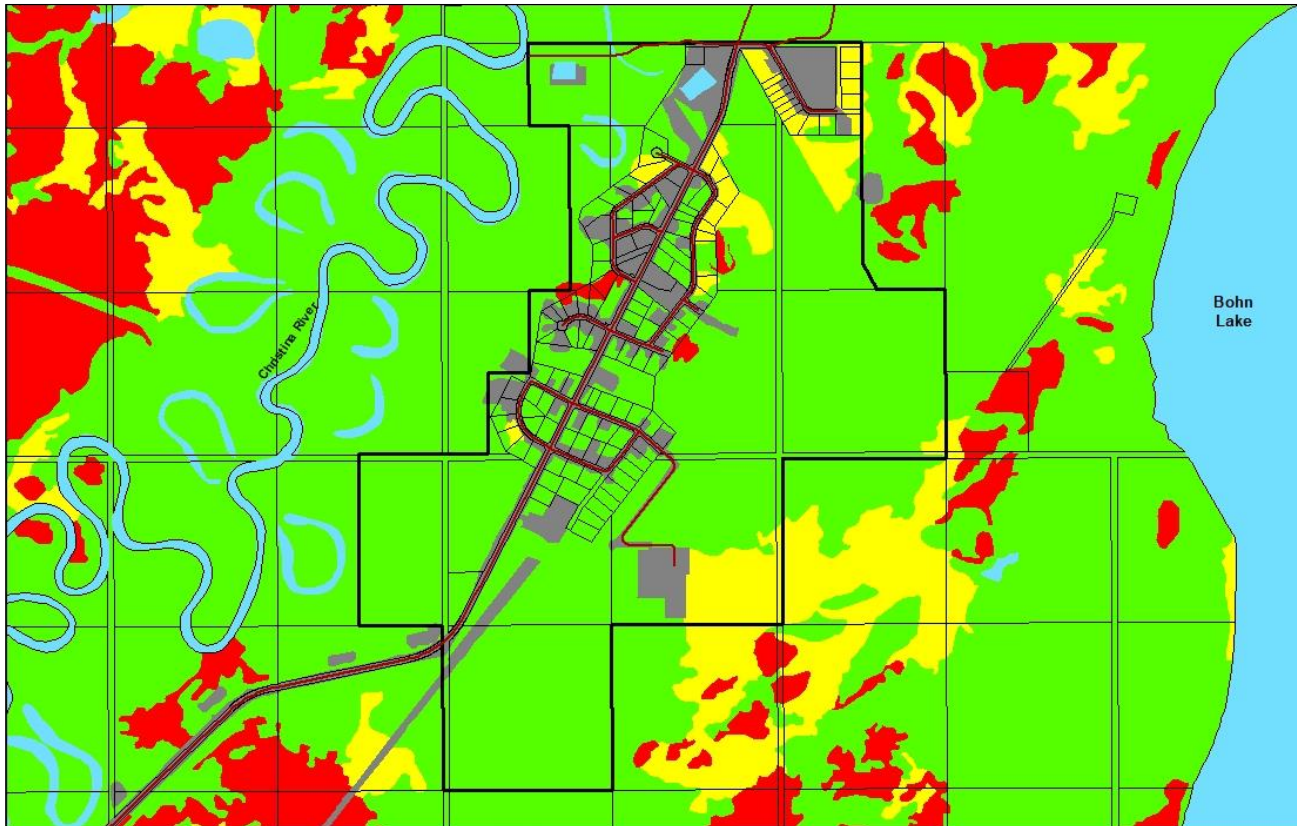


Map 3A - Wildfire Behaviour Potential - Conklin 2022



Janvier

- Wildfire behaviour potential remains as Low-Moderate due to the predominantly deciduous and mixedwoodDC fuel types within and surrounding the Service Area
- A few small occluded patches of mixedwoodCD fuels within the developed area continue to present High wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots

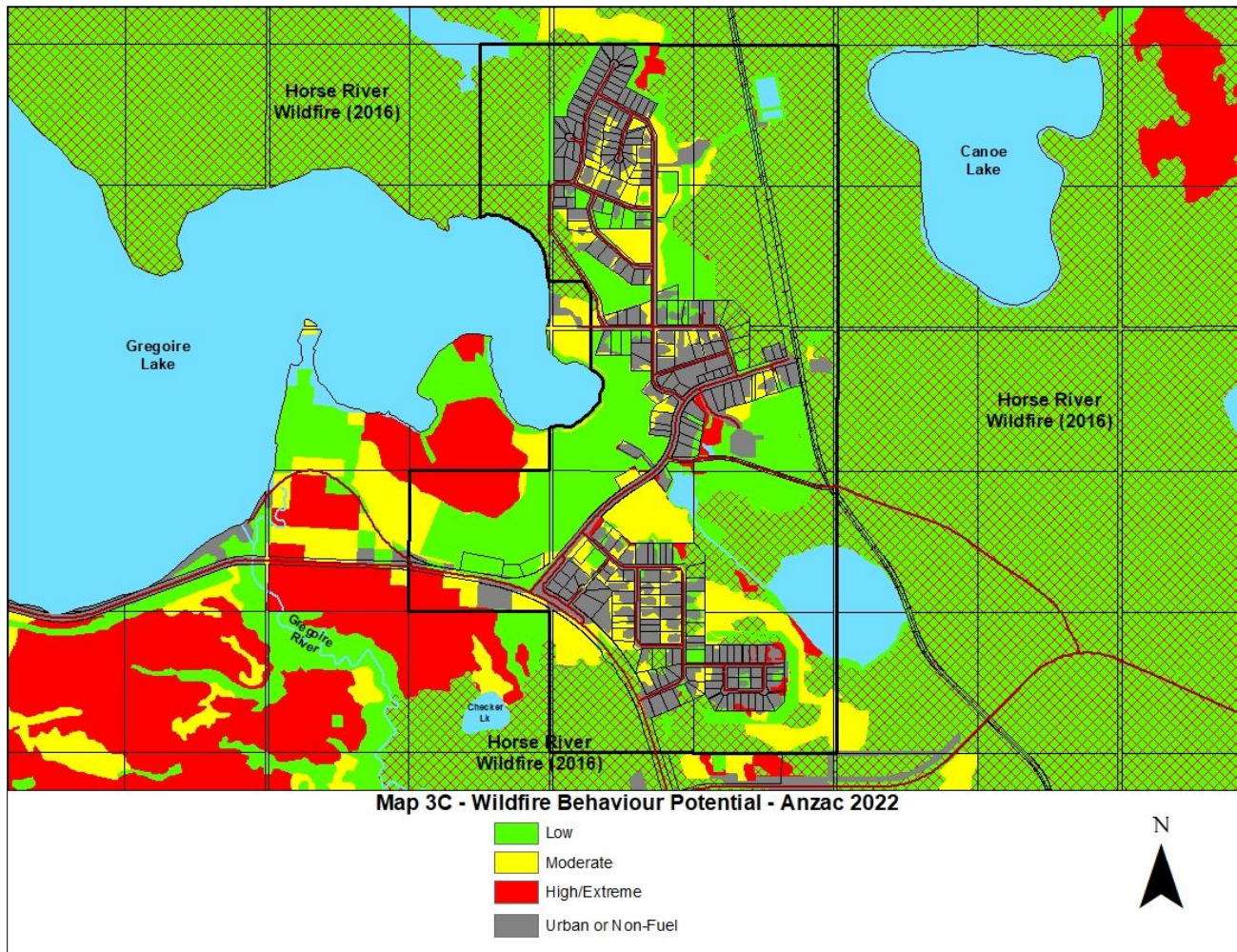


Map 3B - Wildfire Behaviour Potential - Janvier 2022



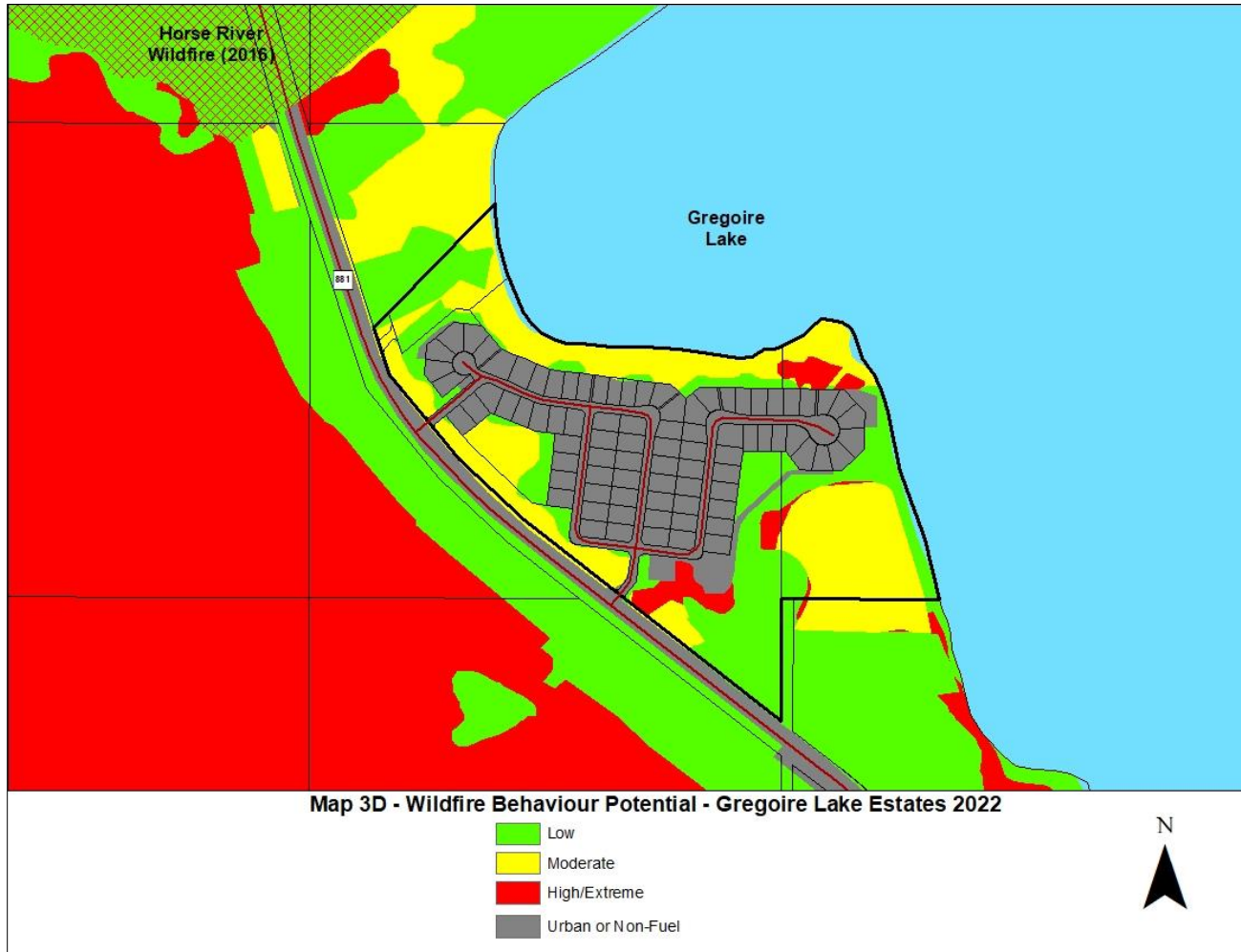
Anzac

- Fuel reduction projects in High/Extreme hazard fuel types and the 2016 Horse River wildfire and related dozer guards have reduced the wildfire behaviour potential significantly
- Scattered occluded patches of Municipal lands continue to present High/Extreme wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots



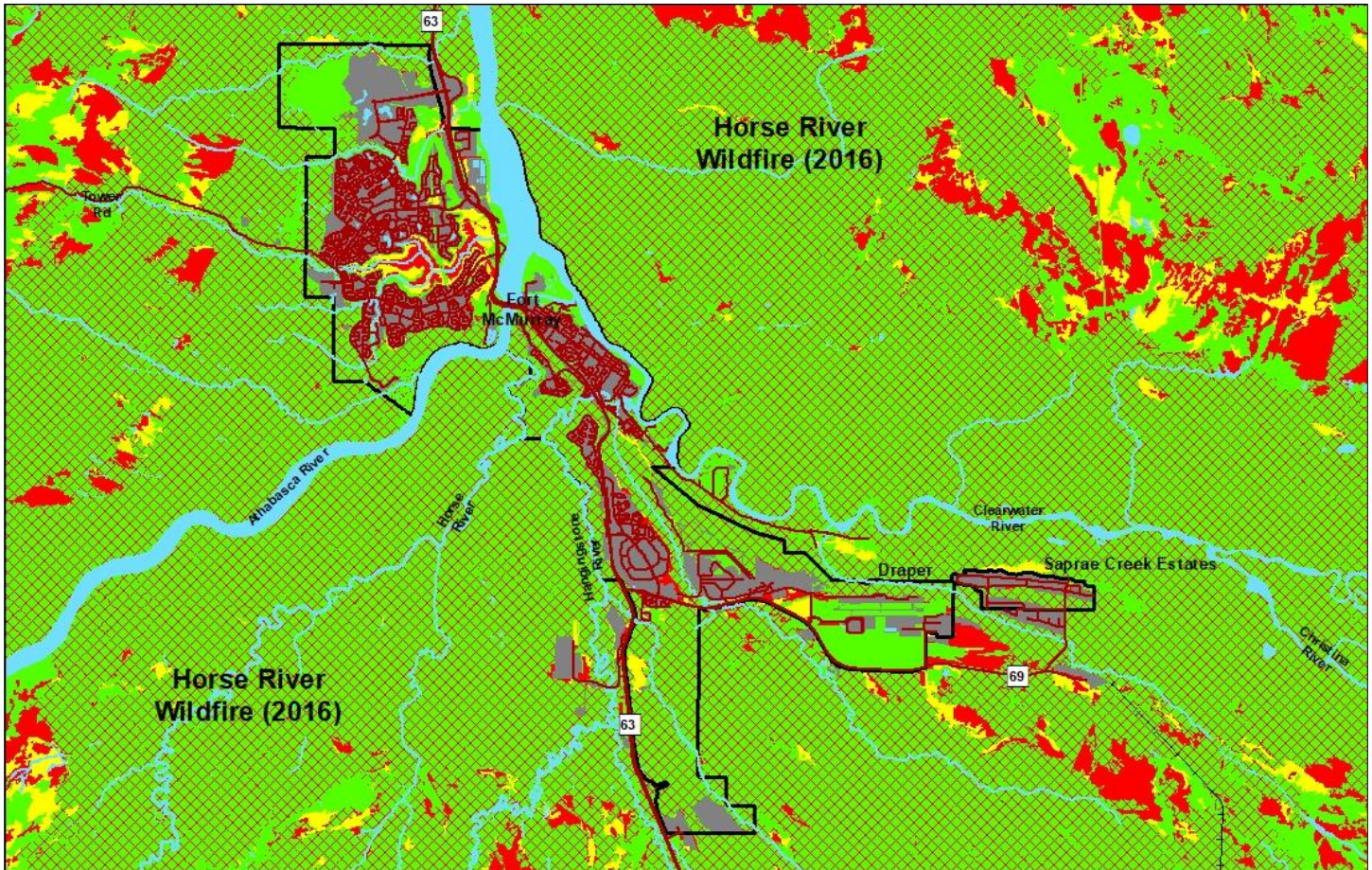
Gregoire Lake Estates

- Fuel reduction projects in High/Extreme hazard fuel types and the 2016 Horse River wildfire and related dozer guard construction and have reduced the wildfire behaviour potential significantly
- Scattered occluded patches of Provincial lands continue to present High/Extreme wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots



Fort McMurray

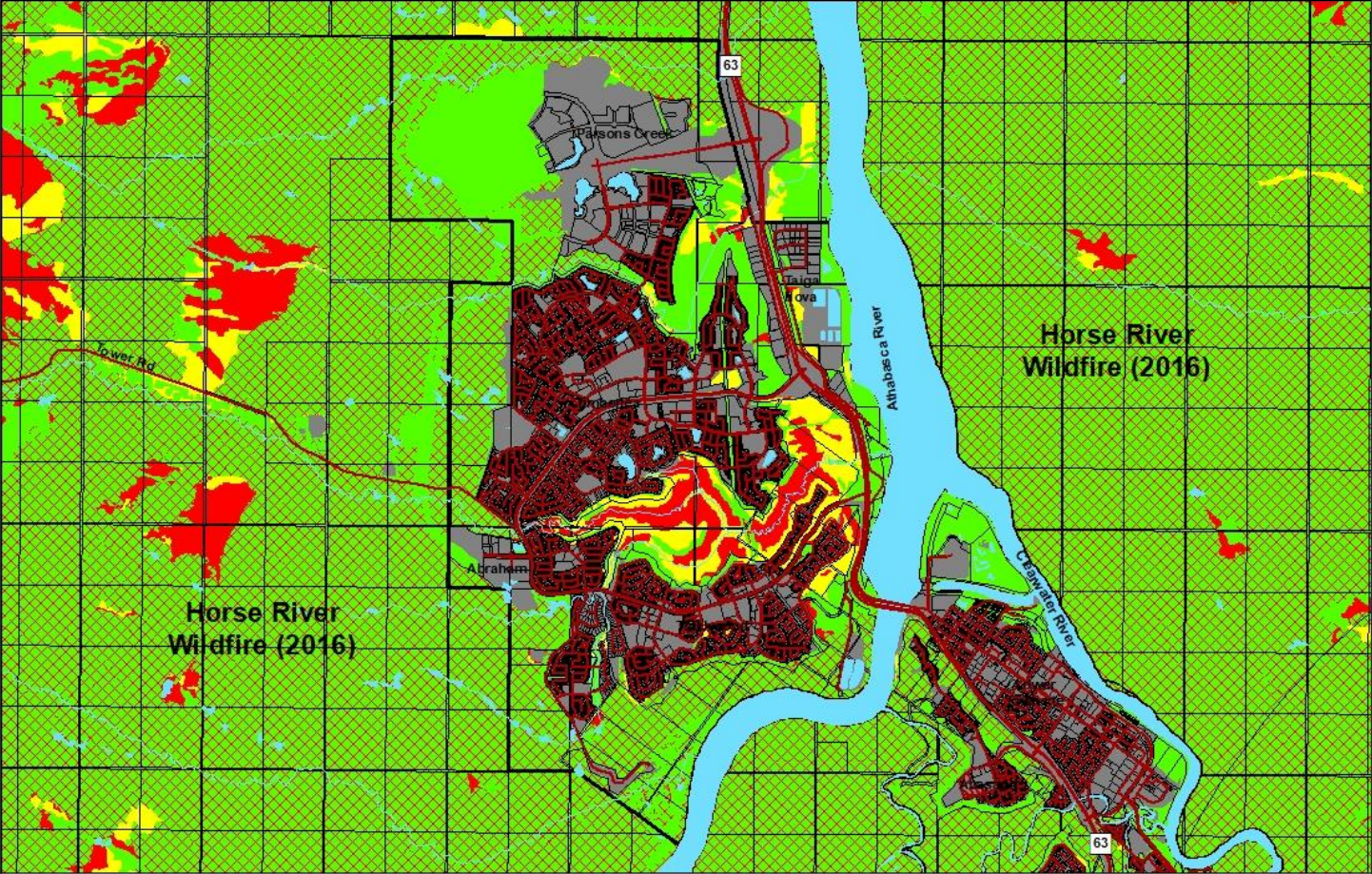
- Fuel reduction projects in High/Extreme hazard fuel types, burnt-tree removal, reclamation/landscaping and mowing of the 2016 dozer-guards, and the 2016 Horse River wildfire have reduced the wildfire behaviour potential significantly
- The Conn Creek/Birchwood Trails area presents the most significant High/Extreme wildfire behaviour potential for the Fort McMurray Service Area
- Scattered occluded patches of Municipal lands continue to present High/Extreme wildfire behaviour potential



Map 3E - Wildfire Behaviour Potential - Fort McMurray 2022



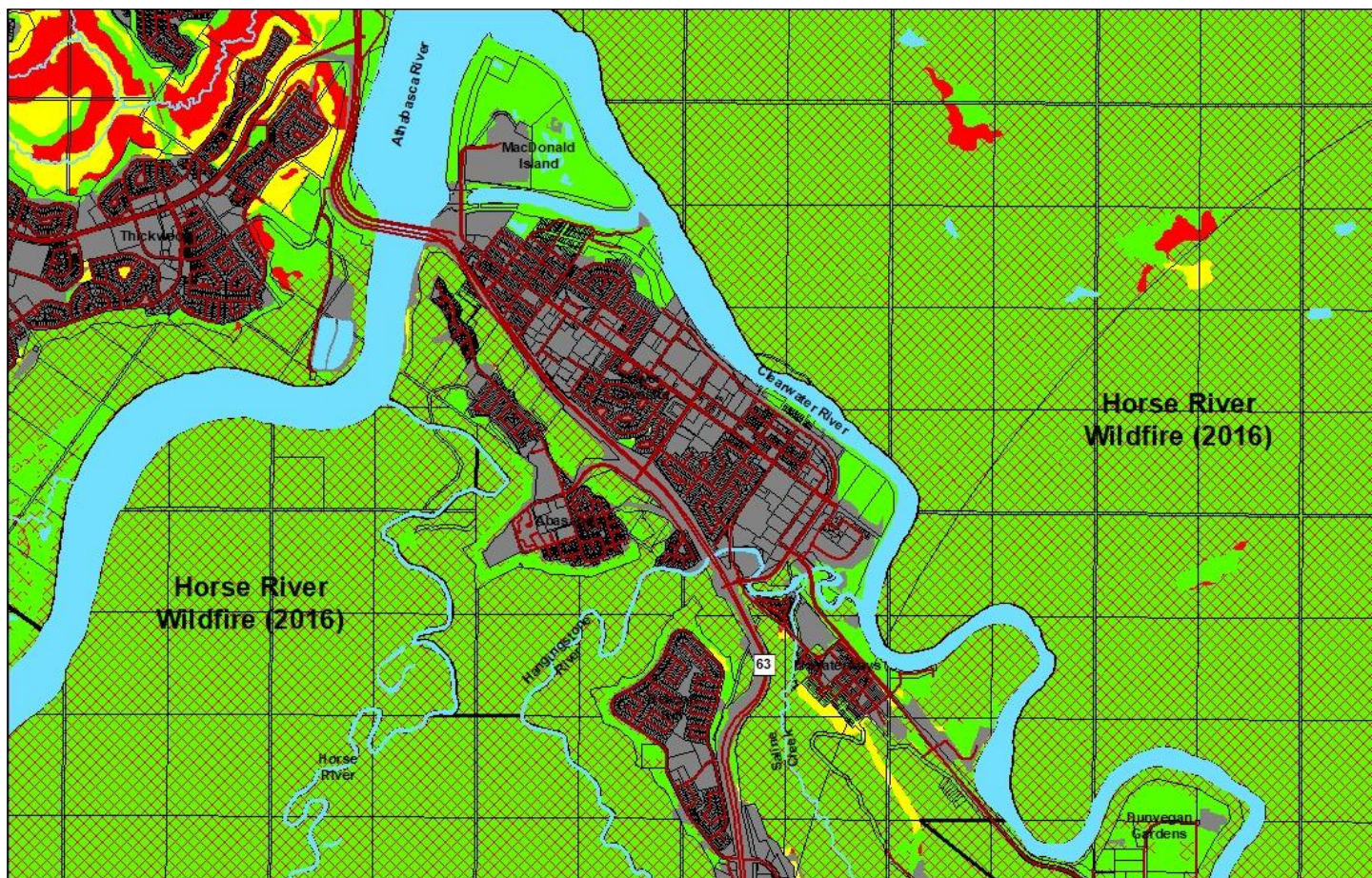
Fort McMurray North



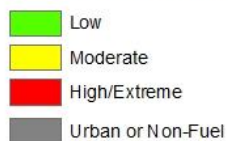
Map 3E - Wildfire Behaviour Potential - Fort McMurray North 2022



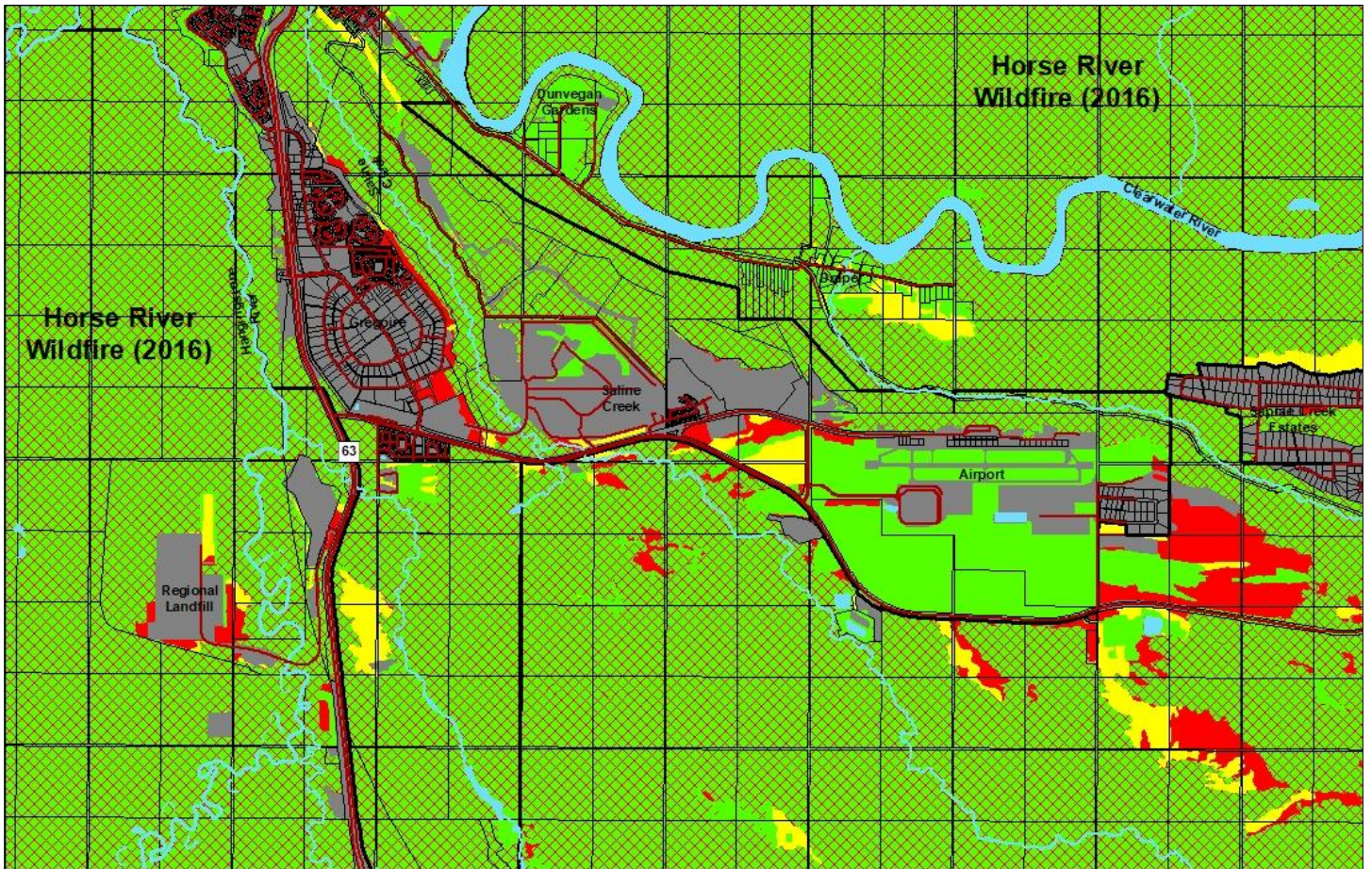
Fort McMurray Central



Map 3E - Wildfire Behaviour Potential - Fort McMurray Central 2022

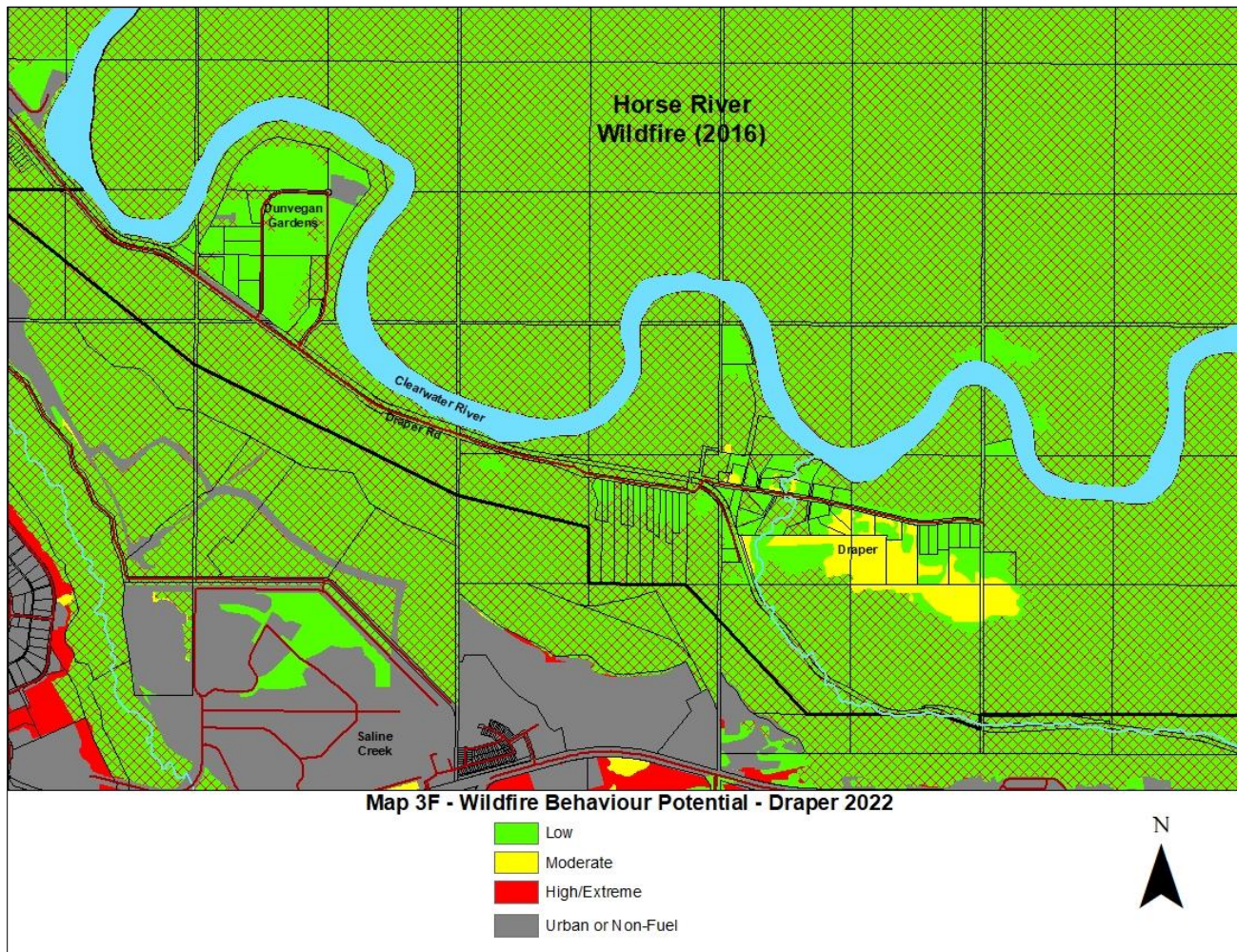


Fort McMurray South



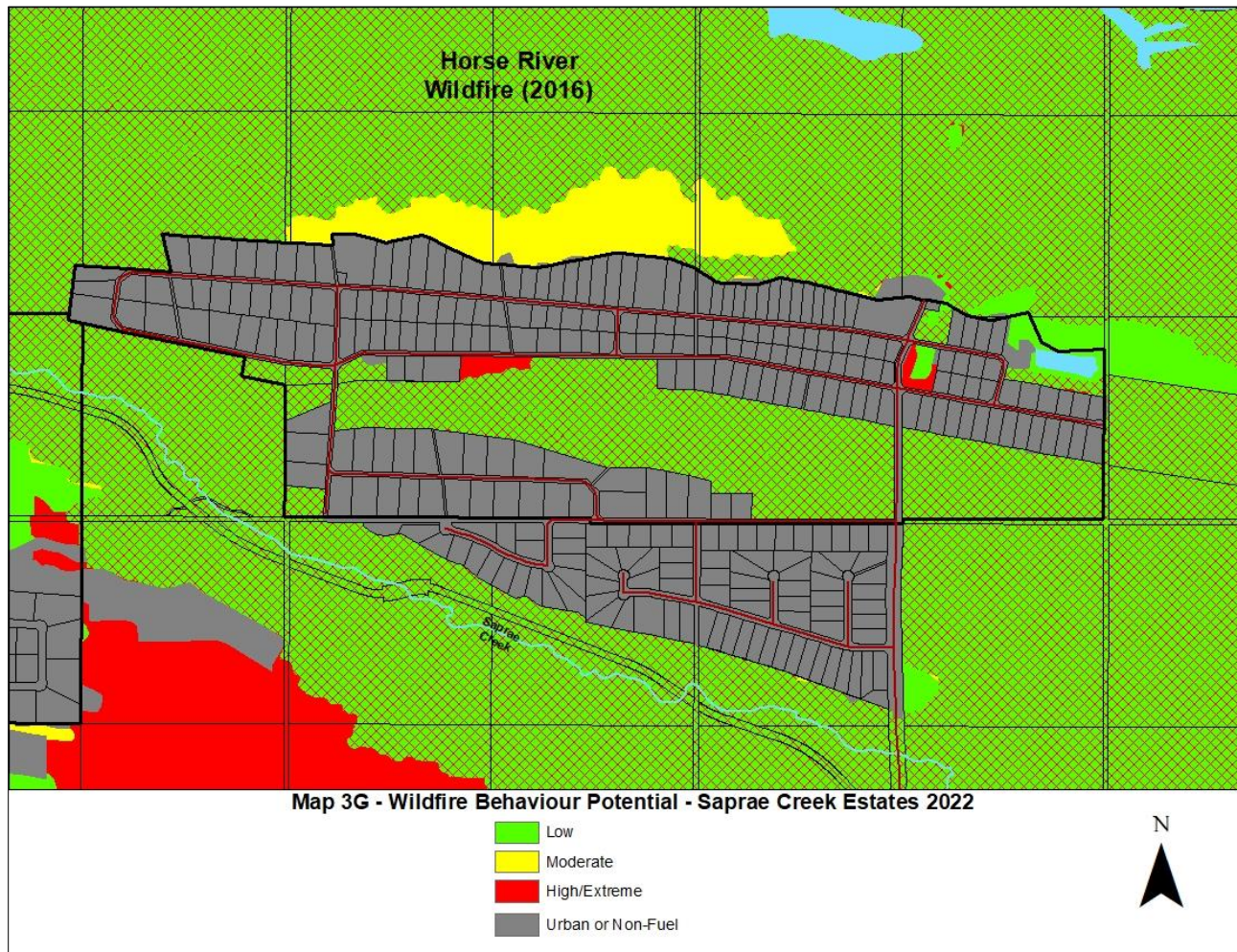
Draper

- The 2016 Horse River wildfire has reduced the wildfire behaviour potential significantly
- Significant resident work is required to reduce the wildfire threat on private lots



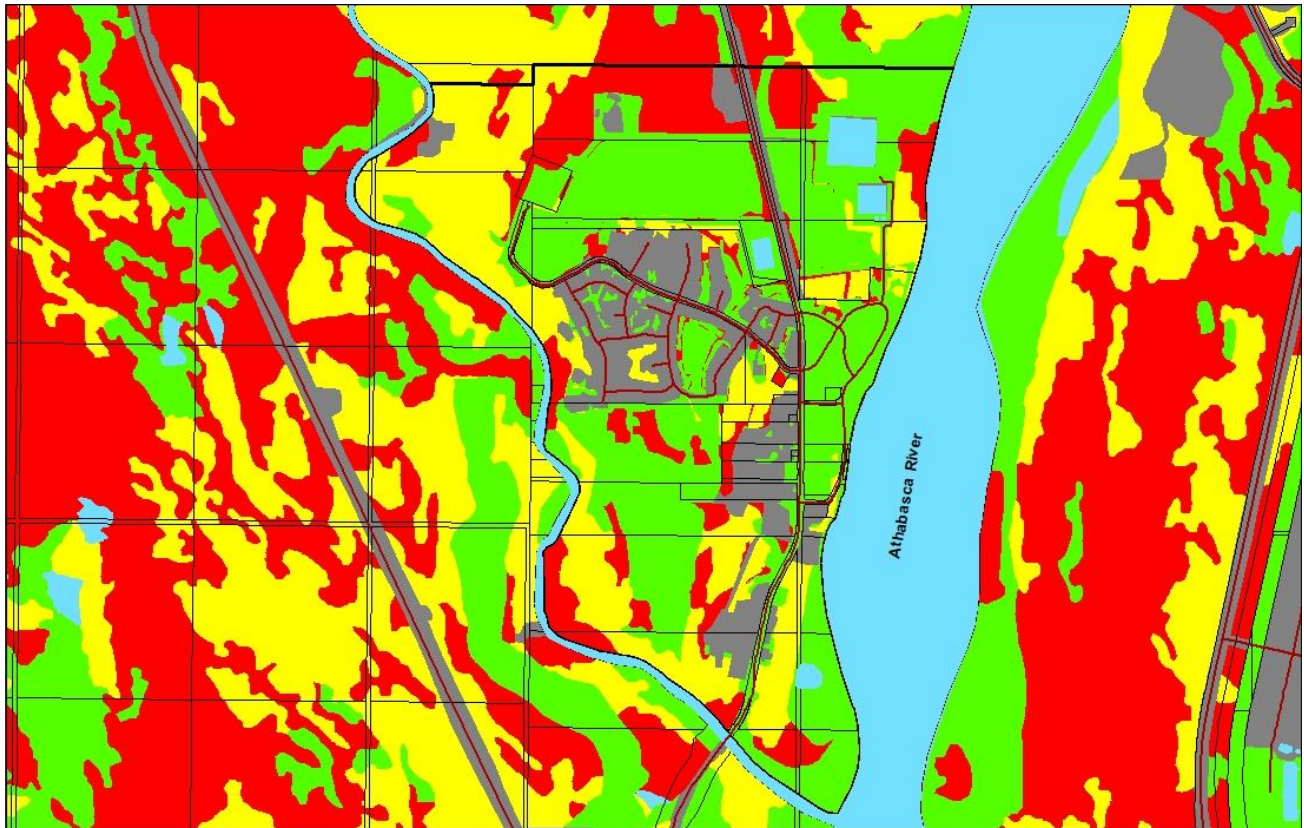
Saprae Creek Estates

- The 2016 Horse River wildfire has reduced the wildfire behaviour potential significantly
- Scattered occluded patches of Municipal lands continue to present High/Extreme wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots

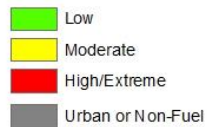


Fort McKay

- Fuel removal and reduction projects in High/Extreme hazard fuel types and the 2016 Horse River wildfire dozer-guards around the Service Area and the two industrial parks have reduced the wildfire behaviour potential significantly
- Scattered occluded patches of lands continue to present High/Extreme wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots

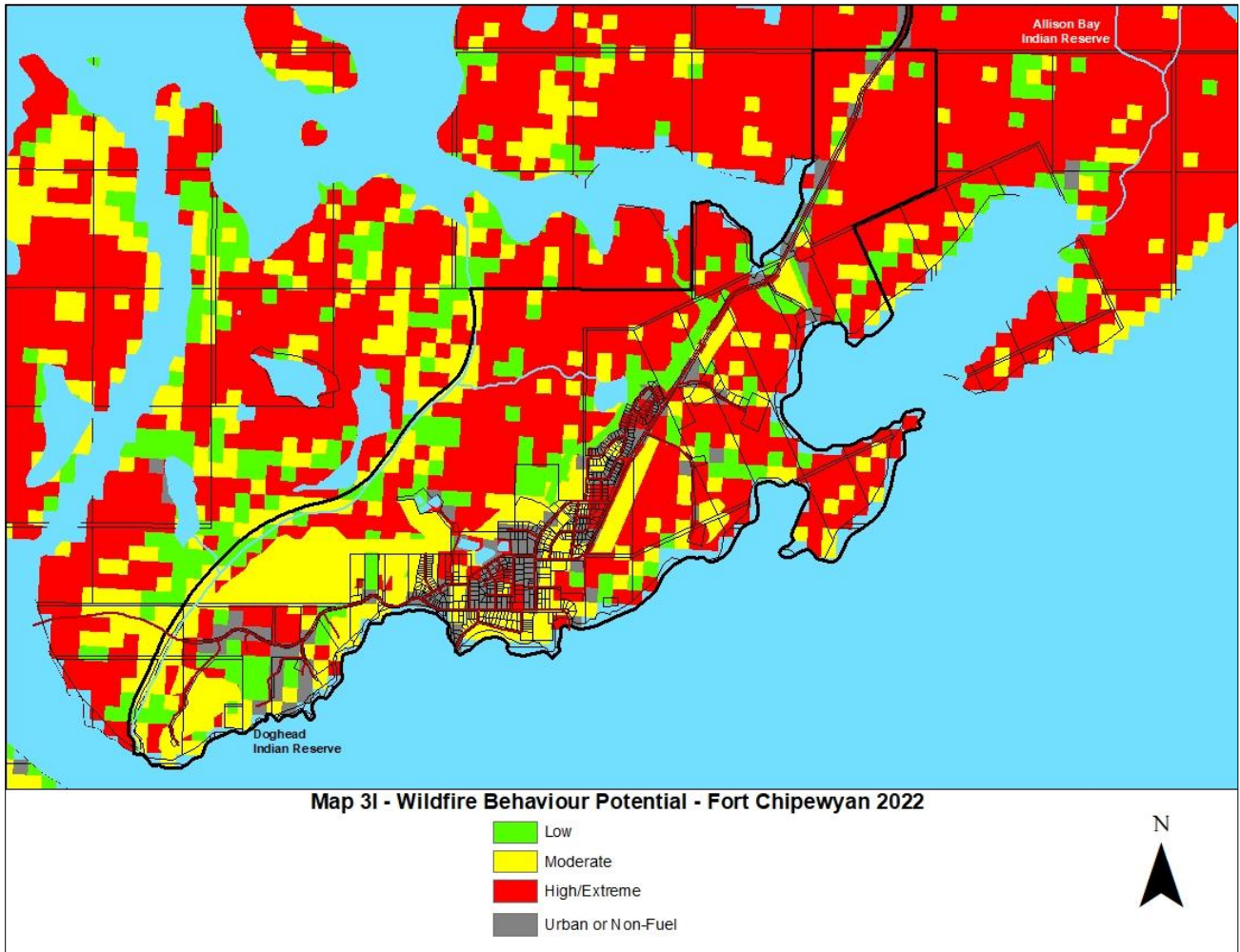


Map 3H - Wildfire Behaviour Potential - Fort McKay 2022



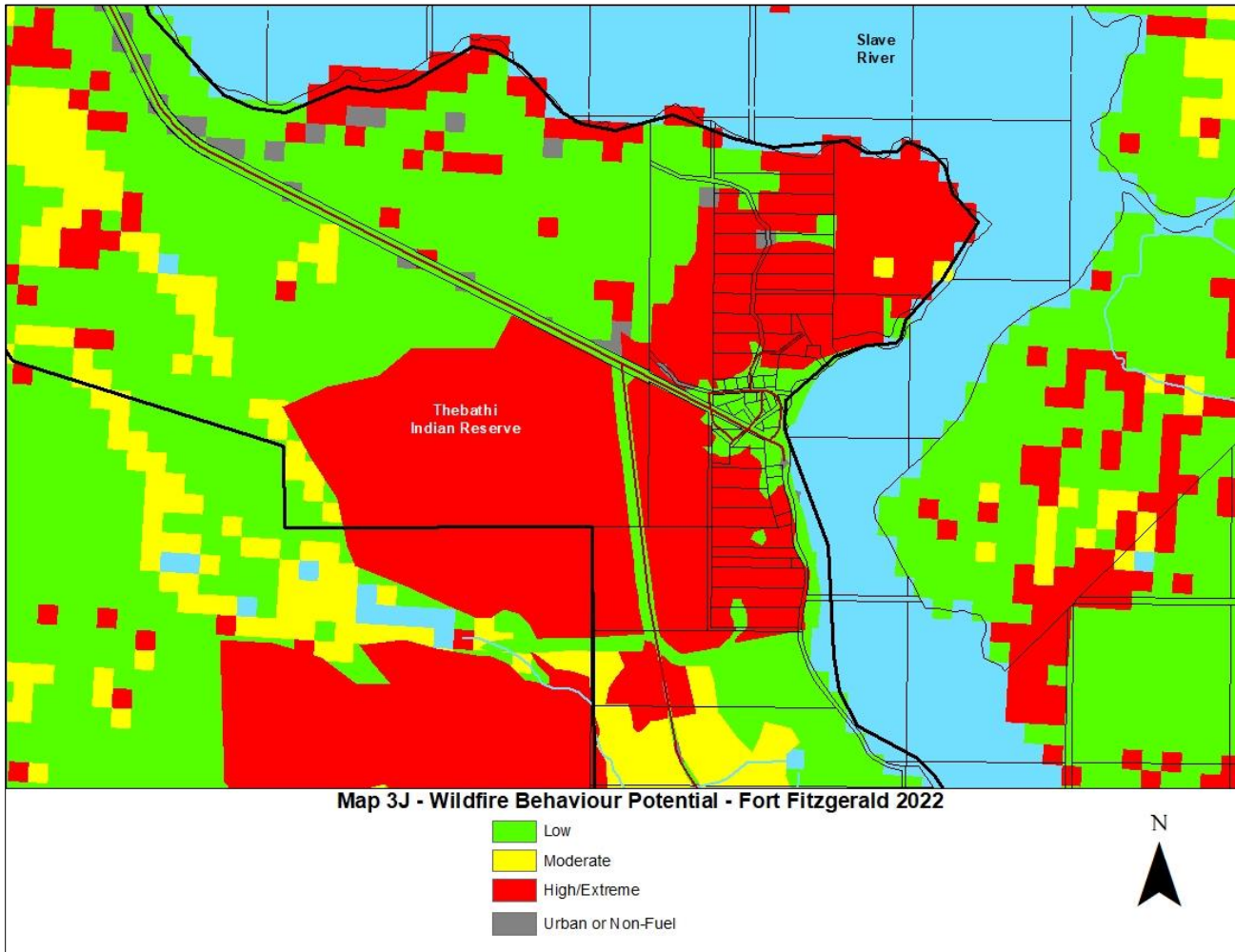
Fort Chipewyan

- Fuel reduction projects in High/Extreme hazard fuel types have reduced the wildfire behaviour potential significantly
- Scattered occluded patches of Municipal lands continue to present High/Extreme wildfire behaviour potential
- Significant resident work is required to reduce the wildfire threat on private lots



Fort Fitzgerald

- Significant High/Extreme hazard fuel types exist within the between the fuel removal breaks and the community structures
- Significant resident work is required to reduce the wildfire threat on private lots



4 Vegetation Management Options

The goal of vegetation management is to create a fuel-reduced buffer between structures and flammable wildland vegetation to reduce the intensity and rate of spread of wildfire approaching or leaving the development. Vegetation management options are proposed to reduce the threat of wildfire to developed areas however **they do not ensure structure survival under all hazard conditions.**

The FireSmart Canada Home Ignition Zone consists of the Structure and the Non-Combustible Zone (0-1.5m from structure), Zone 1 (1.5-10m from structure), and Zones 2-3 (10-100m or more from structure). FireSmart guidelines recommend vegetation management for the Non-Combustible Zone and Zone 1 at a minimum and Zones 2-3 based on hazard and risk (PIP, 2003).



FireSmart Home Ignition Zone

4.1 Non-Combustible Zone & Zone 1

2017 Recommendations and Accomplishments

Recommendation: Encourage residents to establish adequate FireSmart Priority Zone 1 clearance on their private or leased lands.

- 590+ FireSmart Home Assessments completed by the RMWB FireSmart team and delivered to RMWB residents in Ft. McMurray, Anzac, Conklin, Ft. McKay, and Gregoire Lake Estates in 2021-2022

2022 Observations

- Field inspections and 59% of the 2021-22 FireSmart Home Assessments indicate that the NC Zone and Zone 1 **DO NOT** meet FireSmart guidelines for residential structures and RMWB infrastructure due to wildland vegetation (grass, brush, trees) and combustible debris, landscaping species/bark mulch, wooden fences, and/or outbuildings.



NC Zone – Anzac Recreation Centre



NC Zone & Zone 1 – Anzac Pumphouse



NC Zone & Zone 1 – Ft. McMurray Firehall 5



NC Zone & Zone 1 – GLE Pumphouse

4.2 Zones 2-3

2017 Recommendations & Accomplishments

Recommendation: Implement FireSmart Zone 2-3 vegetation management on Municipal and Provincial lands based on priority and available funding and encourage First Nations, residents, and lease holders to implement FireSmart Zone 2-3 vegetation management on lands under their control.

The RMWB, Provincial government, and First Nations have completed FireSmart vegetation management consisting of fuel reduction and fuel removal on Municipal, Provincial, and First Nation lands in Conklin, Anzac, Gregoire Lake Estates, Fort McMurray, Draper, Fort McKay, and Fort Chipewyan (Table 4-1 & Maps 4A-4J).

Table 4-1: Completed Zone 2-3 FireSmart Vegetation Management – 2006-2022

Service Area	Completed Area (Ha) by Landbase				Totals
	Municipal	Provincial	First Nation	Deeded	
Conklin	131.7	351.7		0.7	484.1
Janvier	0.7				0.7
Anzac	123.5				123.5
Gregoire Lake Estates	2.6	4.9			7.5
Fort McMurray	192.7	8.2			200.9
Draper	0.7	9.1			9.8
Saprae Creek Estates					0.0
Fort McKay/Fort McKay FN	8.0	113.8	90.5	1.6	213.9
Fort Chipewyan/Allison Bay FN	124.4	12.7	17.8		154.9
Fort Fitzgerald		48.6*			48.6*
Totals	584.3	549.0	108.3	2.3	1243.9

* The Fort Fitzgerald completed area is from 2017 – the areas completed by the First Nation in 2021 could not be confirmed.

Recommendation: Implement the strategic-level RMWB Urban Forest Strategy and develop and implement an Urban Forest Management Plan for the Birchwood Trails/Conn Creek community reserve to reduce the threat of community-level wildfire to RMWB Service Areas.

There has not been any progress on development and implementation of an Urban Forest Management Plan for the Birchwood Trails/Conn Creek community reserve and this area continues to present significant wildfire behaviour potential to the bordering developments.

2022 Observations

The completed FireSmart vegetation management projects have used several different strategies and tactics to successfully accomplish the overall goal of wildfire hazard reduction



2019 Ft. McKay Fuel Treatment



2021 Anzac Fuel Treatment



2020 Ft. McMurray Fuel Treatment



2020 Ft. Chipewyan Fuel Treatment



2022 Conklin Fuel Treatment

4.2.1 Proposed Zones 2-3 Vegetation Management

Proposed vegetation management blocks on Municipal and Provincial lands (Table 4-2 & Maps 4A-4J) include areas:

- identified in the previous plan but not yet completed
- to close openings in landscape and community-level fuelbreaks
- in High/Extreme hazard areas that were not identified in the previous plan

Table 4-2: Proposed Zone 2-3 FireSmart Vegetation Management

Service Area	Proposed Area (Ha) by Landbase			Totals
	Municipal	Provincial	First Nation	
Conklin	22.9	41.3		64.2
Janvier	9.2			9.2
Anzac	9.8	17.6		27.4
Gregoire Lake Estates		1.6		1.6
Fort McMurray	21.4	37.7		59.1
Draper				0.0
Saprae Creek Estates	3.5	16.2		19.7
Fort McKay/Fort McKay FN		7.2	1.7	8.9
Fort Chipewyan/Allison Bay FN	15.8		42.2	58.0
Fort Fitzgerald			79.6	79.6
Totals	82.6	121.6	123.5	327.7

** The areas completed by the First Nation in 2021 could not be confirmed - proposed area above may be less.*

The RMWB and the Province have each been treating their jurisdictional lands however some Provincial and Municipal blocks within or immediately adjacent to the RMWB Service Area boundaries that were proposed in the previous Wildfire Mitigation Strategy (2017) have not yet been treated.

The wildfire hazard assessments related to this and previous Wildfire Mitigation Strategies identified that the forest-health conditions within the centre of the Birchwood Trails/Conn Creek reserve are overmature and unhealthy with significant dead standing and dead and down from multiple years of Spruce budworm infestation. There is a need for urban forest management planning and implementation to improve the long-term health and sustainability of the Birchwood Trails/Conn Creek community reserve while at the same time reducing the wildfire behaviour potential within the reserve. Development and implementation of an Urban Forest Management Plan **with reduction of wildfire behaviour potential as an objective** will reduce the community-level wildfire threat in the Birchwood Trails/Conn Creek community reserve.

4.2.2 Zones 2-3 Maintenance

2017 Recommendations and Accomplishments

Recommendation 3: Inspect and maintain all FireSmart vegetation management areas on a regular basis.

- There have not been any maintenance projects planned or completed yet.

2022 Observations

The landscaping and ongoing mowing/maintenance of the 2016 dozer-guards and neighbourhood green space perimeters and trail systems provides an excellent fuelbreak between present and future wildland fuels.



Fort McMurray



Anzac

Some FireSmart vegetation management blocks and fireguards are reaching the stage and/or condition where they require inspections to evaluate coniferous regrowth and the need for maintenance and/or second-pass thinning. Blocks in Conklin and Ft McKay require blowdown maintenance (Maps 4A & 4H) to reduce the surface fuel accumulations.



Blowdown in Conklin Fuel-Treated Block



Blowdown in Ft. McKay Fuel-Treated Block

2022 Recommendations

Recommendation: Increase FireSmart public education and awareness to improve resident & RMWB understanding and implementation of FireSmart Non-Combustible Zone and Zone 1 vegetation management guidelines with a priority on the rural Service Areas.

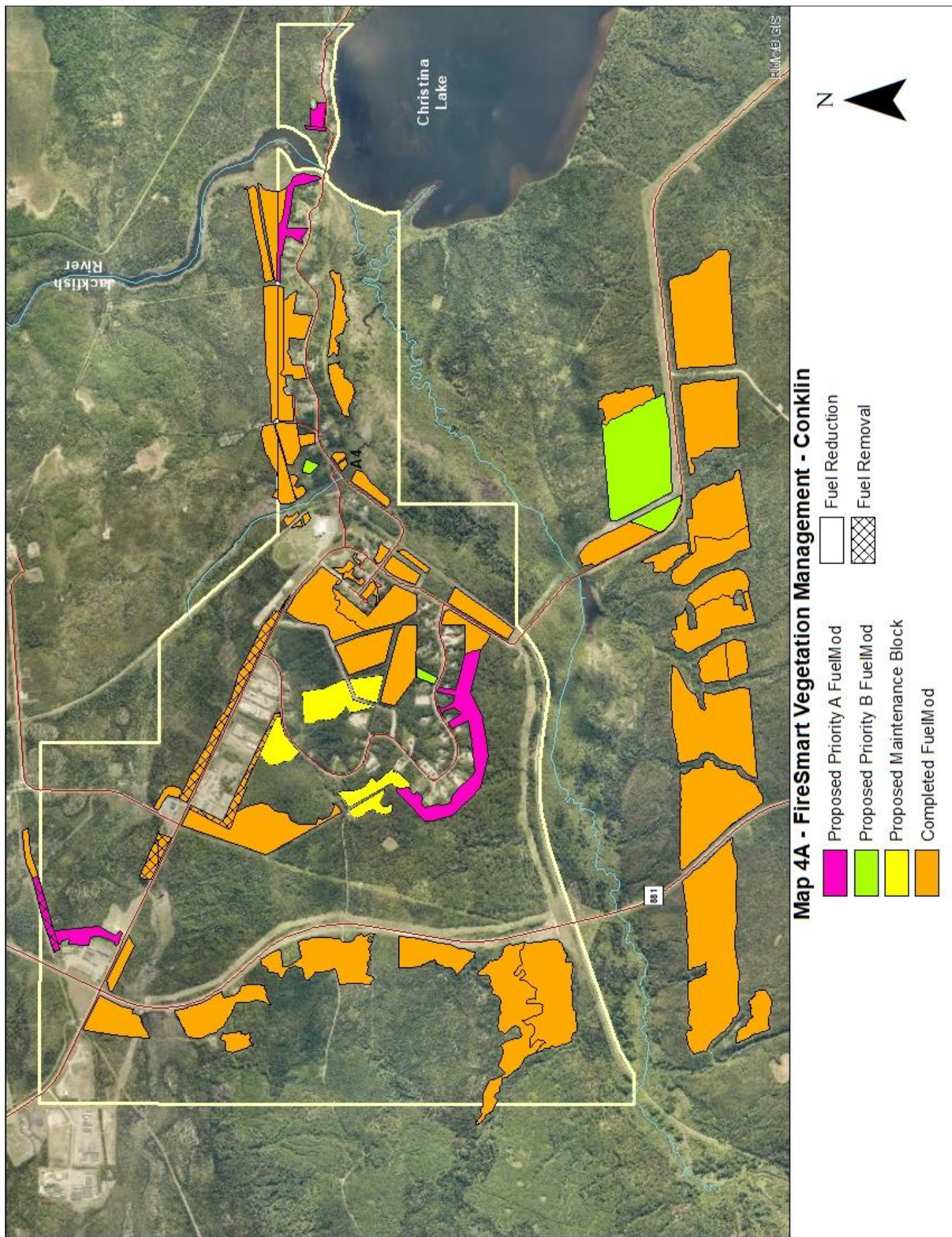
Recommendation: RMWB and the Province to determine a process for RMWB to complete proposed vegetation management blocks on Provincial lands within the Service Area boundaries.

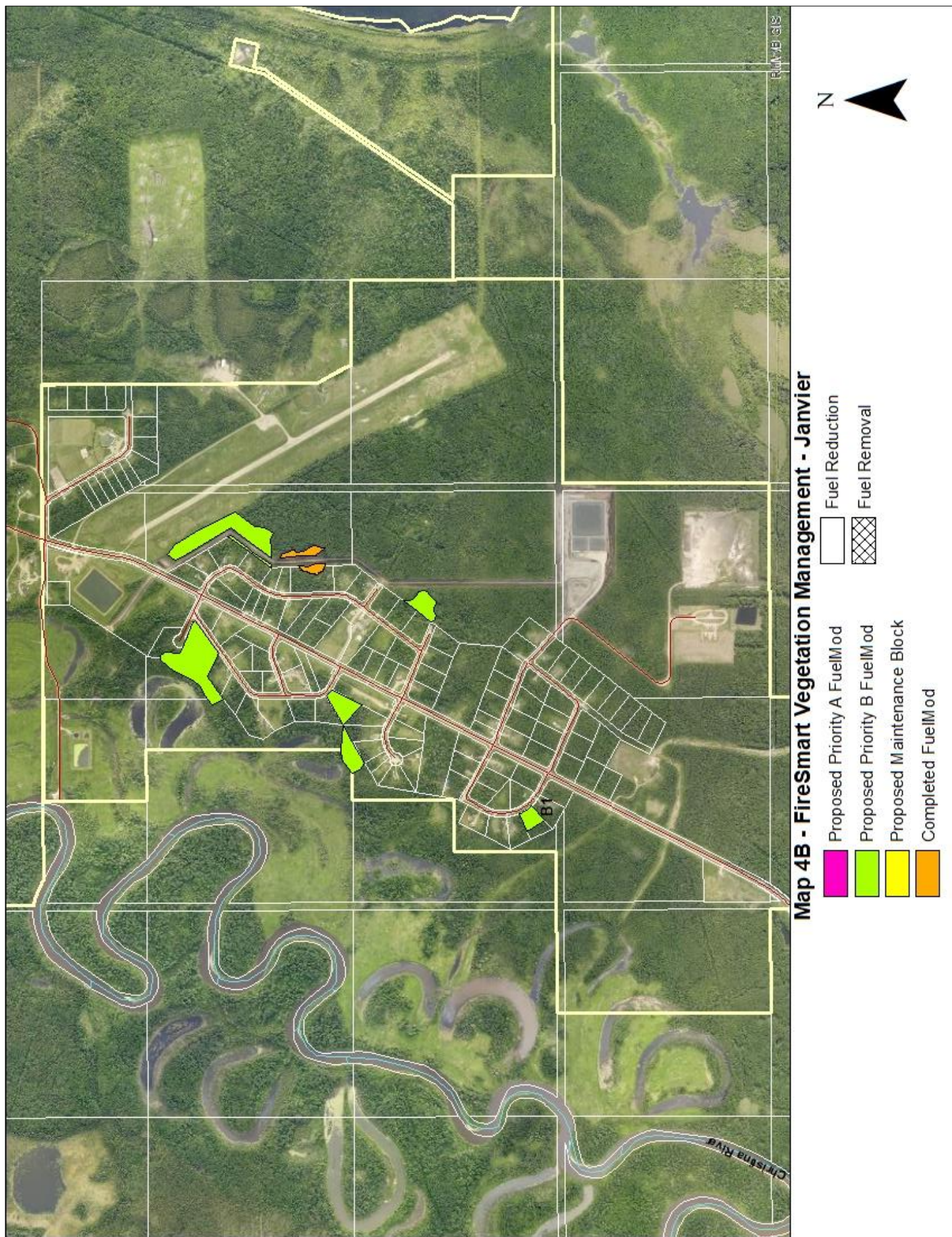
Recommendation: Prepare detailed fuel modification prescriptions for scheduled blocks and complete proposed Zone 2-3 vegetation management on Municipal, Provincial, and First Nation lands based on priority and available funding.

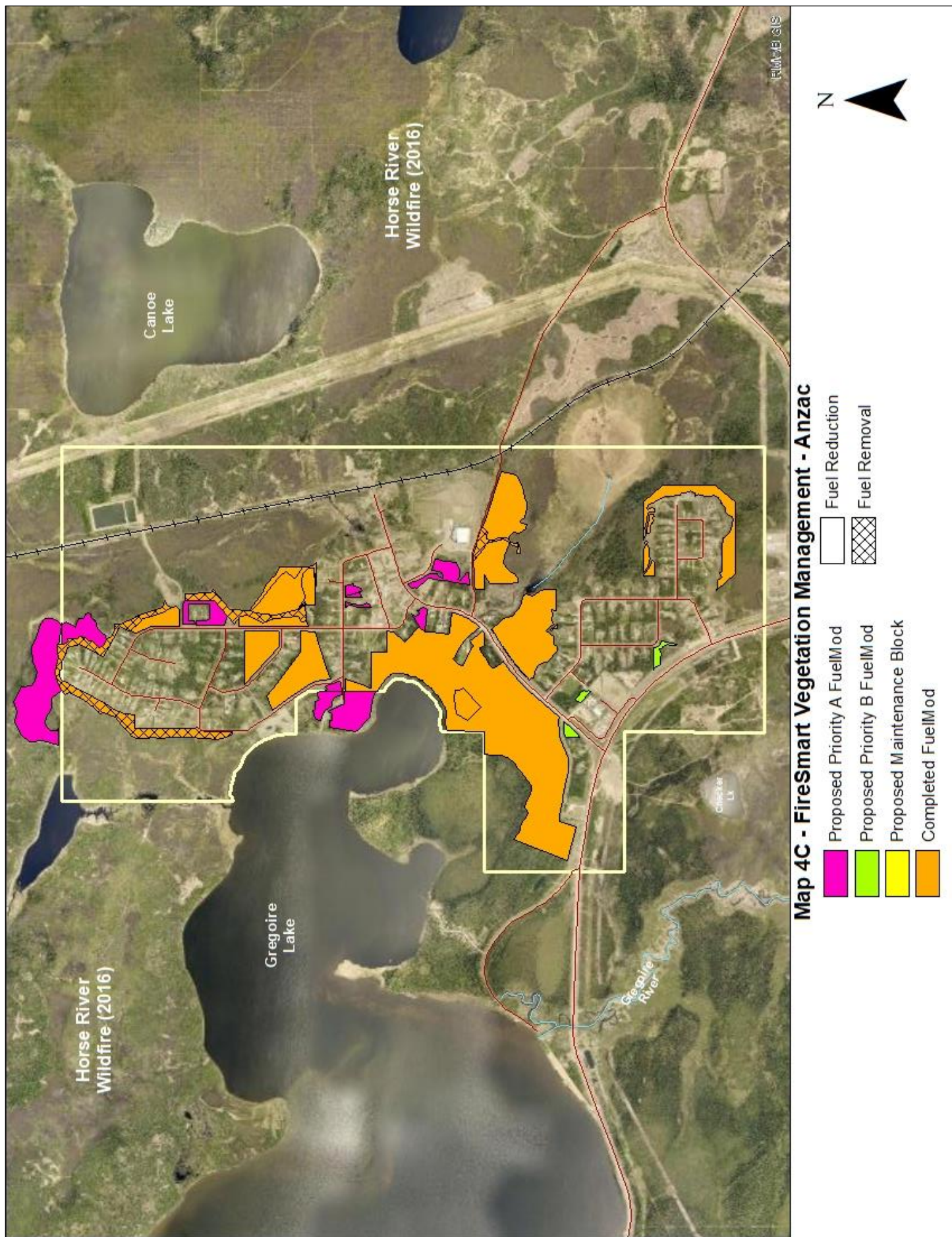
Recommendation: Develop and implement an Urban Forest Management Plan for the Birchwood Trails/Conn Creek community reserve to reduce the threat of community-level wildfire to RMWB Service Areas.

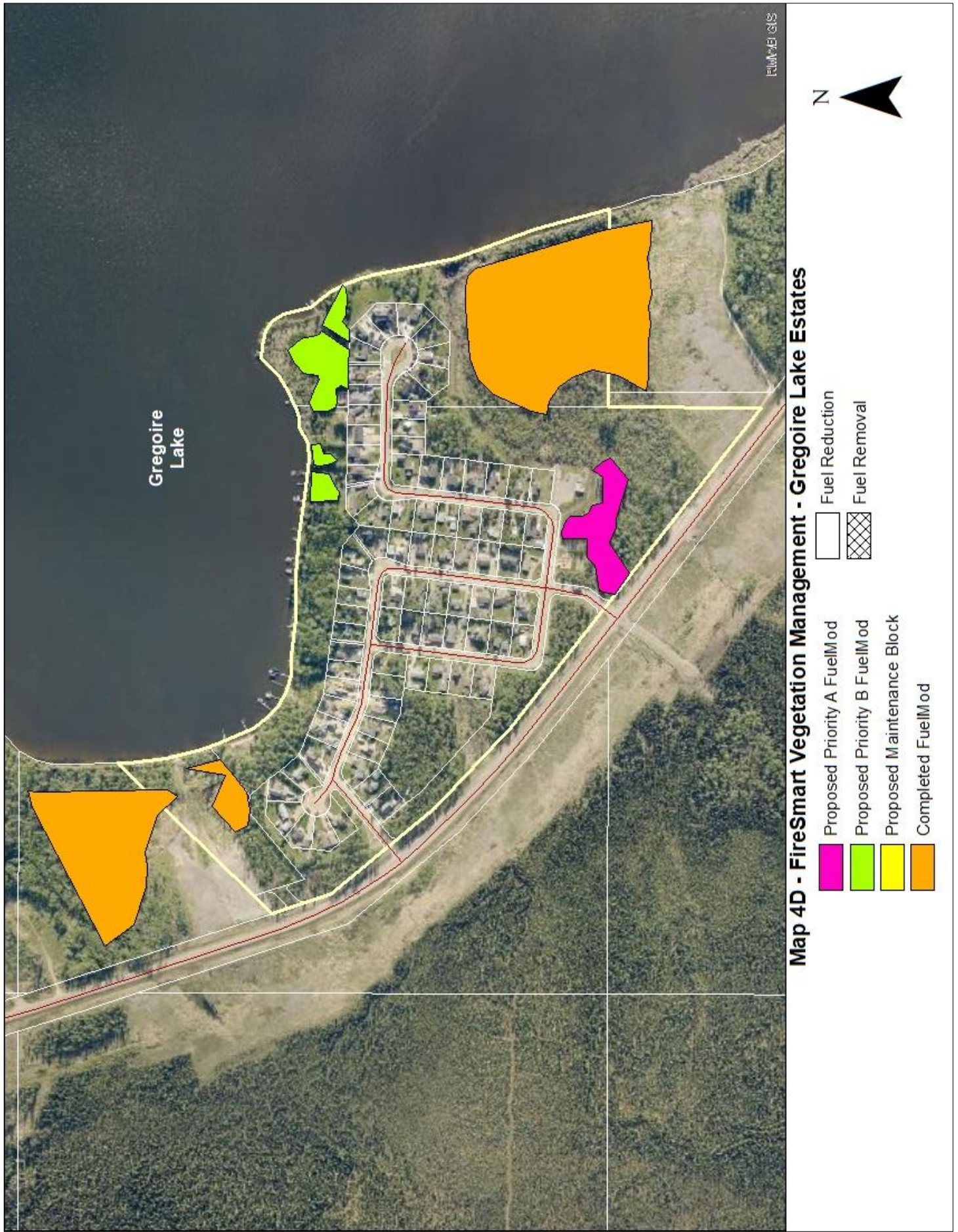
Recommendation: Continue the ongoing mowing/maintenance of the neighbourhood green space perimeters and trail systems to ensure their ongoing effectiveness as fuelbreaks.

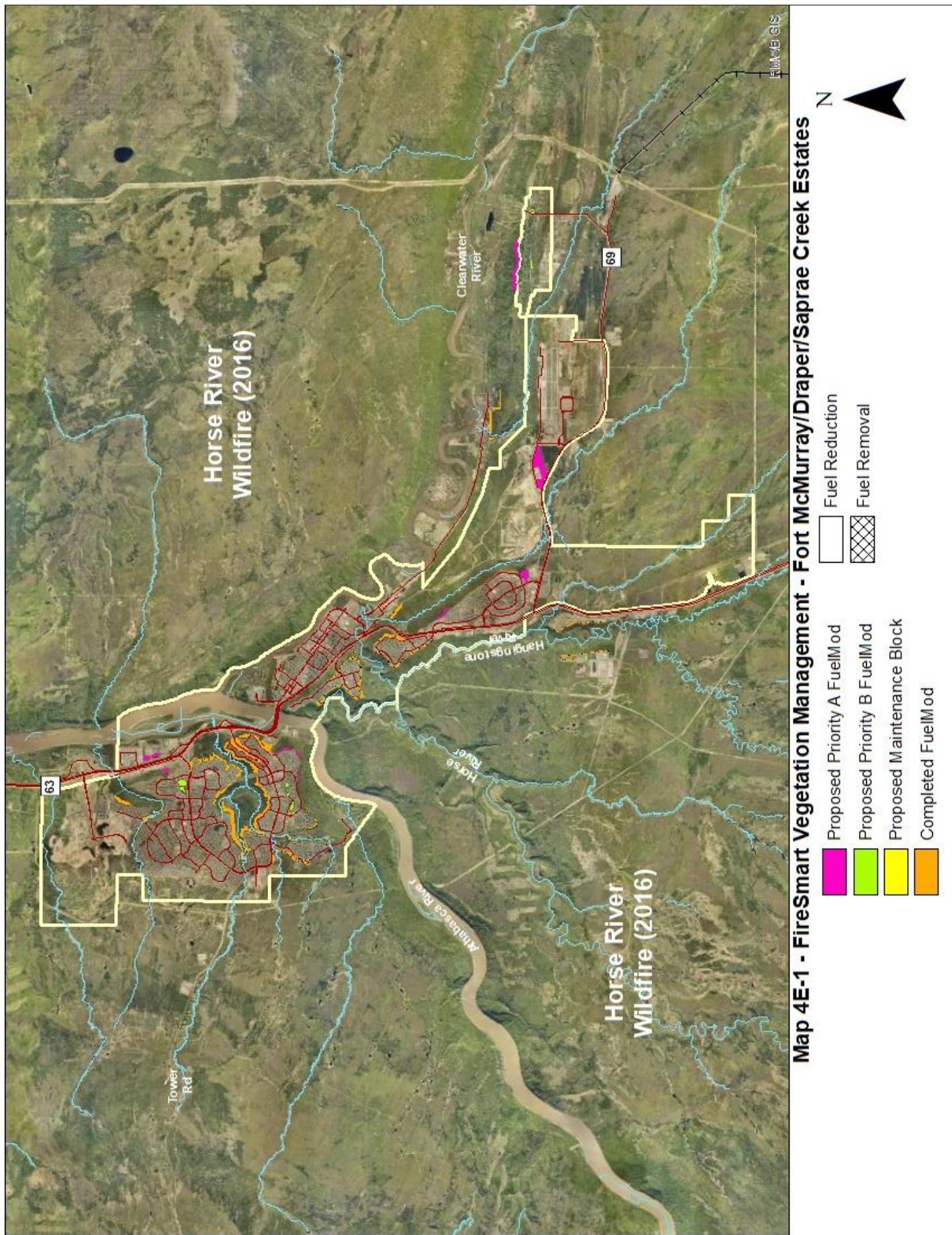
Recommendation: Develop a FireSmart Vegetation Management Plan to set priorities and methods for future vegetation management maintenance.

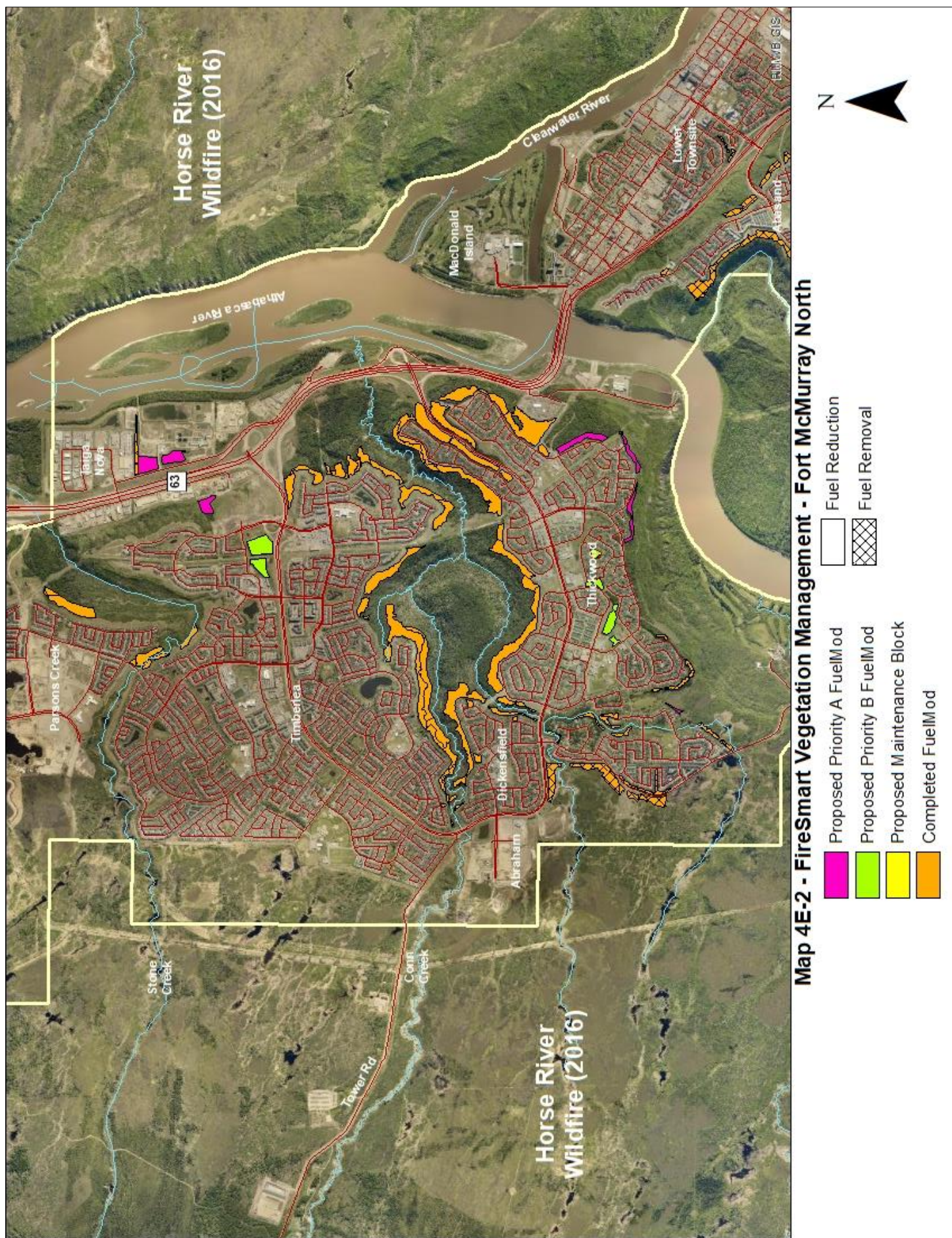


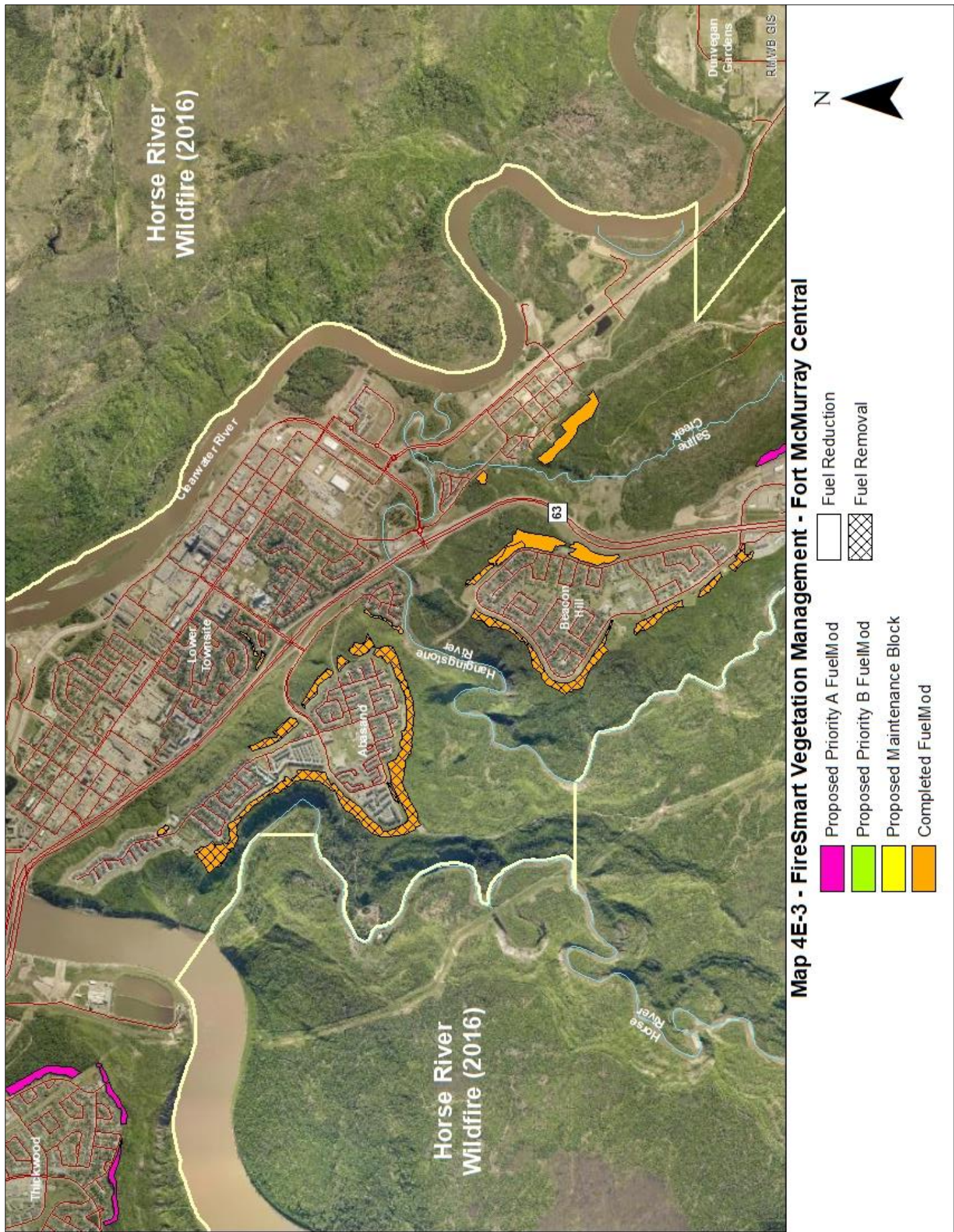


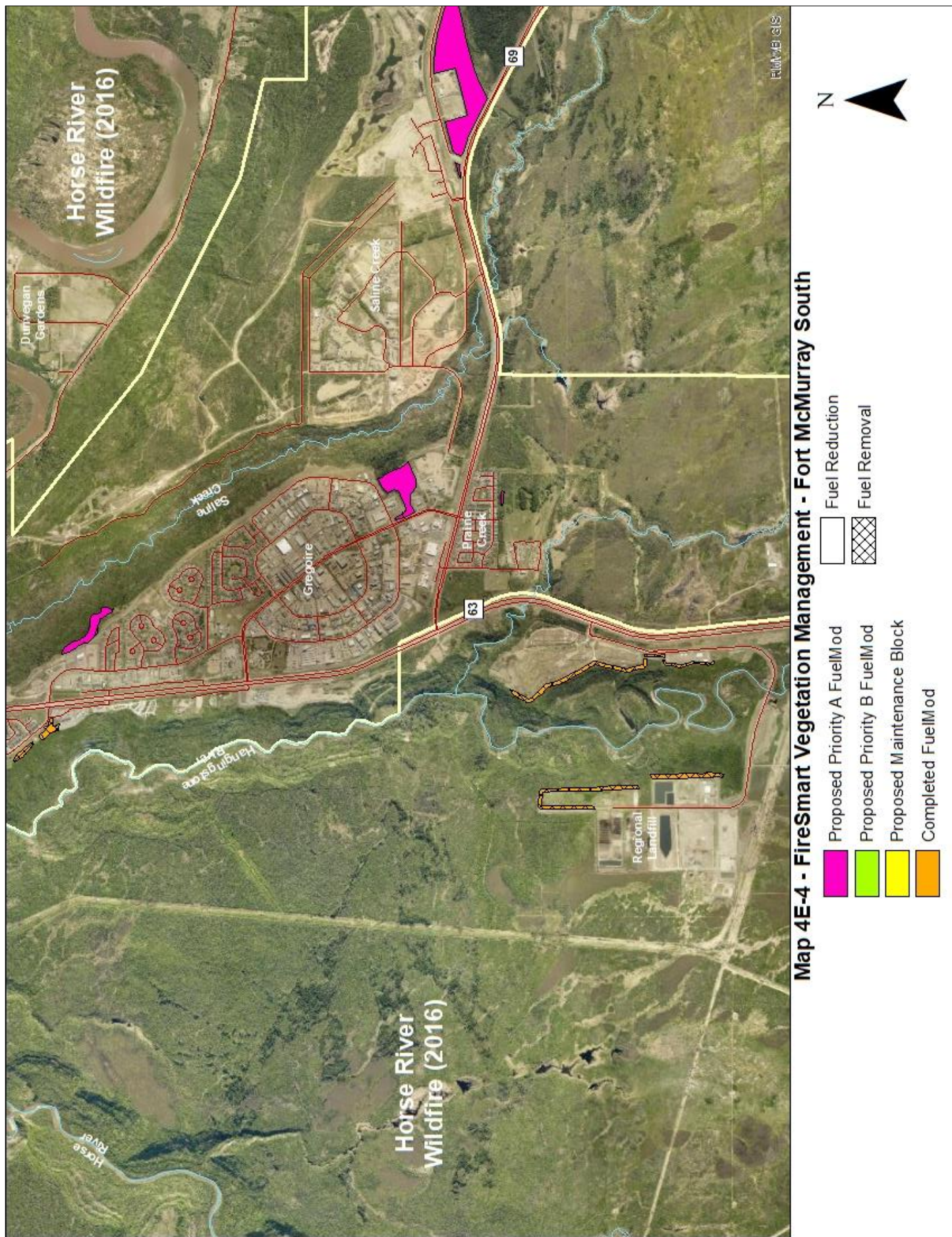


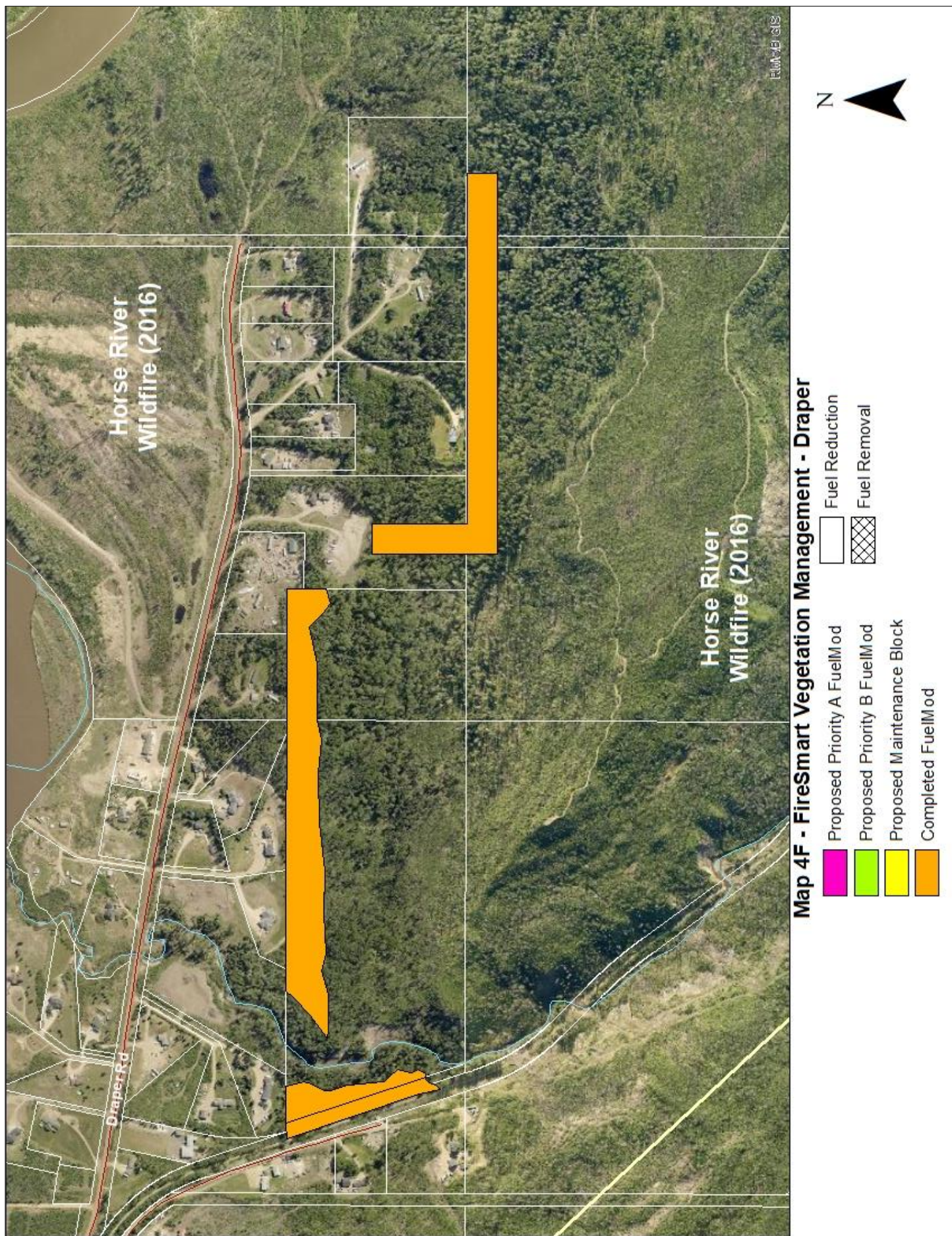


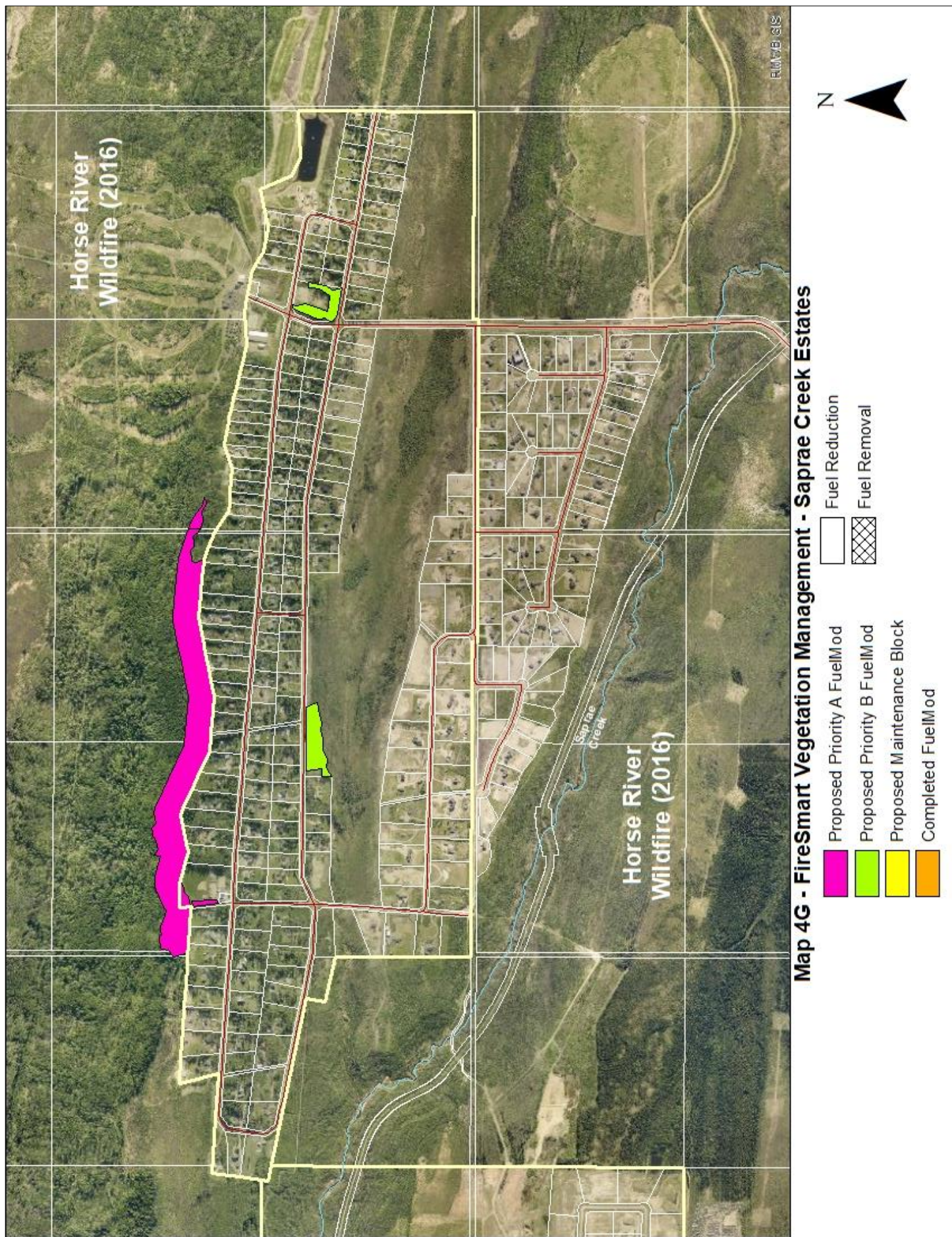


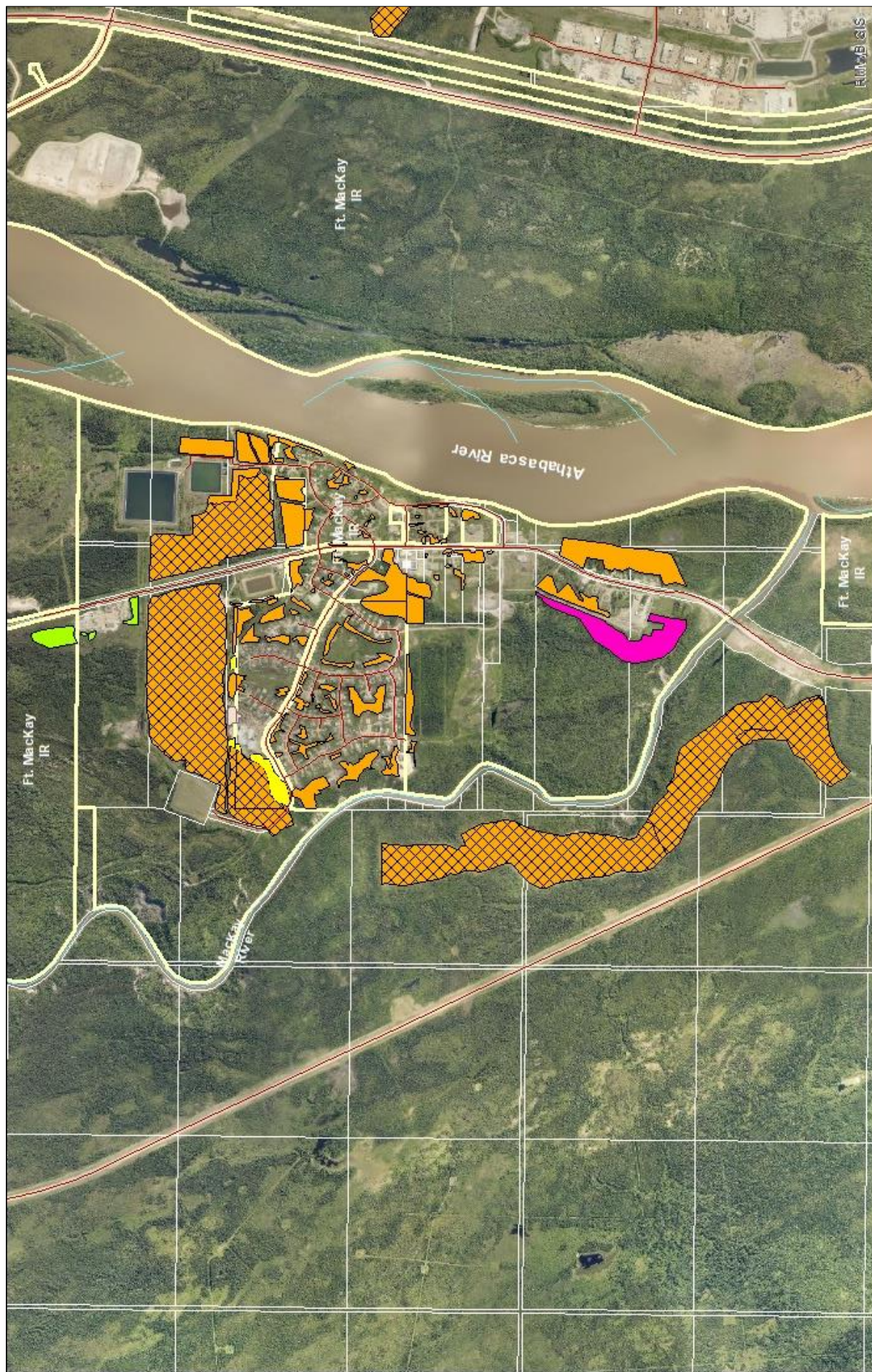












Map 4H - FireSmart Vegetation Management - Fort McKay



Fuel Reduction
 Fuel Removal

Proposed Priority A FuelMod
 Proposed Priority B FuelMod
 Proposed Maintenance Block
 Completed FuelMod

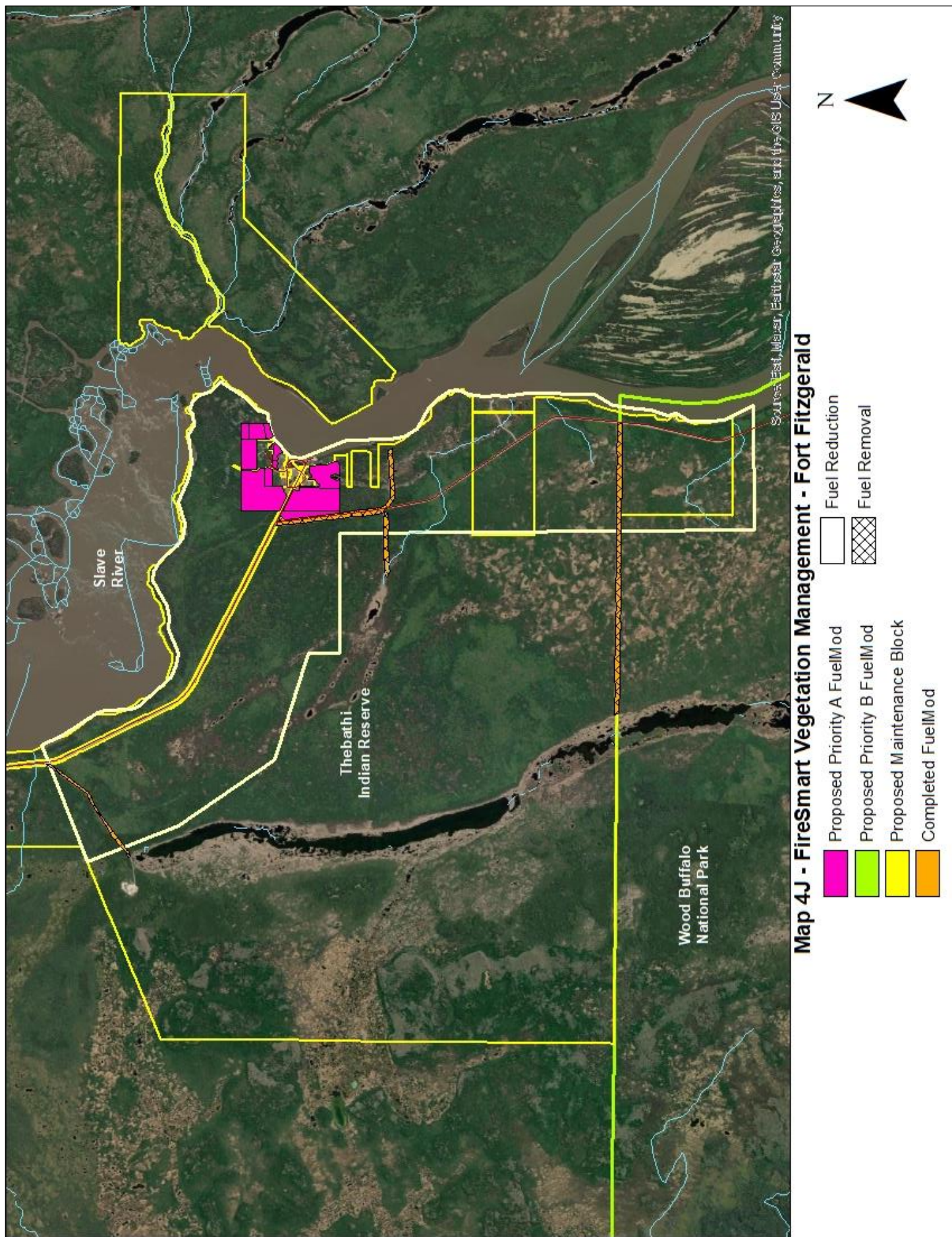


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Map 4I - FireSmart Vegetation Management - Fort Chipewyan Region

- | | | | |
|---|-----------------------------|--|----------------|
| | Proposed Priority A FuelMod | | Fuel Reduction |
| | Proposed Priority B FuelMod | | Fuel Removal |
| | Proposed Maintenance Block | | |
| | Completed FuelMod | | |





5. Development & Legislation Options

Consideration of wildfire at the development planning stage is encouraged to ensure that wildfire hazard is identified and the appropriate mitigation measures are implemented prior to and/or during development. FireSmart recommended guidelines for structural and infrastructure options may be implemented through developer and resident education and engagement and through adoption of development legislation and policy that recognizes FireSmart principles for new and existing developments.

Fire-resistant exterior structure products are becoming more common in interface community development and reduce the losses during interface wildfires (CAL-FIRE, 2011). The Horse River wildfire (2016) provided excellent information on the need for fire-resistant exterior structural materials in interface communities to reduce the likelihood of structure ignition from airborne firebrands and/or radiant heat (Westhaver, 2017).

2017 Recommendations & Accomplishments

Recommendation: Ensure that the following infrastructure options are improved to meet FireSmart recommended guidelines:

- Secondary access routes for all Service Areas where feasible
- Driveway access standards for all new developments
- Identification and development of dry-hydrant fire suppression water supply for Draper
- Danger tree removal along overhead powerlines
- Propane tank clearance from wildland fuels
- Road and address signage

The RMWB Municipal Development Plan (Draft 2021) states “*Where feasible, the Municipality will work with the province to establish a minimum of two access routes in all communities and neighbourhoods and will provide alternate access routes for new urban neighbourhoods.*” New secondary access routes have been established for Abasand Heights, Beacon Hill, and Fort McKay.

Section 4.2.3 of the RMWB Engineering Services Standards and Development Procedures requires that development access is designed in conformance with the requirements of NFPA 1141 Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas (NFPA, 2017) which meets FireSmart recommended guidelines.

RMWB has upgraded and/or installed pressurized fire hydrant water supply in Anzac, Conklin, Gregoire Lake Estates, and Sapræ Creek Estates.

Road and address signage in some rural Service Areas is still combustible and does not meet FireSmart recommended guidelines.

Recommendation: Include the planning and development of maintained parks and open spaces as fuelbreaks as a consideration in the RMWB development planning process.

Section 6.4.1 of the Draft RMWB Municipal Development Plan (2022) states *“To protect against wildfires that are common in the region, the Municipality will promote FireSmart communities designed in accordance with the Municipality’s Wildfire Mitigation Strategy, Urban Forest Strategy, FireSmart: Protecting Your Community Manual, and evolving wildfire prevention best practices. This will include things such as minimizing the potential for wildfire damage through: The provision of recreational facilities such as trails and parks, along the outer perimeter of the development.”*

Recommendation 8: Review and revise Section 10 – Landscape and Park Development Standards of the *RMWB Engineering Services Standards* to prohibit planting of evergreen trees and shrubs and the use of bark mulch/wood chips within 10 metres of any structures.

Section 26.12 – FireSmart Landscaping Regulations of the RMWB Land Use Bylaw (21-003) states:

- (c) Only fire-resistant deciduous shrubs, trees and perennials shall be planted within 10m of the principal building.*
- (d) Bark or wood mulch shall not be located within 10m of the principal building.*
- (e) Subject to section 26.12 (d) above, evergreen trees may be planted individually or among deciduous trees within 30m of the principal building.*
- (i) Coniferous trees shall be planted no closer than 3 m from any other coniferous tree based on expected mature spread.*

Recommendation 9: Consider revision of the current RMWB statutory planning documents and provide input to Building Code revisions to meet FireSmart recommended guidelines.

The Draft RMWB Land Use Bylaw (21-003) does not require the use of non-combustible/ ignition-resistant exterior building materials for roofing, siding, and decking materials as recommended in the 2017 RMWB Wildfire Mitigation Strategy.

5.1 Exterior Structural Materials

2022 Observations and Recommendations

Table 5-1 – 2022 RWMB Exterior Structural Materials

Feature	2022 RMWB Observations	FireSmart Recommended Guidelines
Roofing	<ul style="list-style-type: none"> Primarily ignition-resistant/non-combustible asphalt shingle and metal with scattered combustible roofs - Fort McMurray's Burton Place, Berard Crescent, Brosseau Crescent, Burns Place, Brett Drive, and Ball Place have a significant number of structures with un-rated combustible wood-shake roofing materials 	<ul style="list-style-type: none"> Use only ULC-rated roofing materials
Siding	<ul style="list-style-type: none"> Primarily combustible wood or vinyl siding with scattered structures having combustible log or ignition-resistant/non-combustible stucco, fibre-cement, concrete, or metal siding 	<ul style="list-style-type: none"> Use only ignition-resistant/non-combustible materials extending from ground-level to the roofline
Decks/Porches	<ul style="list-style-type: none"> Combustible wooden decks and porches with open undersides are common throughout all Service Areas 	<ul style="list-style-type: none"> Use ignition-resistant/non-combustible materials Enclose or screen undersides with ignition-resistant/non-combustible materials
Fencing	<ul style="list-style-type: none"> Combustible wood fencing up to the structure is common in Fort McMurray and scattered in Anzac and Fort McKay 	<ul style="list-style-type: none"> Use non-combustible materials or if a wood fence is installed, ensure there is a minimum 1.5 metre non-combustible break between the combustible wood portion of the fence and the furthest projection of the structure

Recommendations for implementation of FireSmart structural options are provided in Section 5.3 – Development Legislation & Policy.

5.2 Infrastructure

2022 Observations and Recommendations

Table 5-2 – 2022 RMWB Infrastructure Observations

Feature	2022 RMWB Observations
Access	<ul style="list-style-type: none"> Main access road standards throughout the urban and rural Service Areas are generally adequate consisting of all-weather loop and dead-end designs with adequate traveled surface width and turn-around dimensions for fire apparatus Driveway access to several lots in Draper are narrow, steep, and have poor surface cover making access to structures with fire apparatus and crews difficult and unsafe during wildfire conditions RMWB Service Areas with only one vehicle access route in and out include Draper, Sapræ Creek Estates, Janvier, Anzac, and Fort Fitzgerald. The RMWB Municipal Development Plan (Draft 2021) states <i>“Where feasible, the Municipality will work with the province to establish a minimum of two access routes in all communities and neighbourhoods and will provide alternate access routes for new urban neighbourhoods.”</i>
Fire Suppression Water Supply	<ul style="list-style-type: none"> All of the Service Areas have overhead fill stations at the water treatment plants and pressurized fire-hydrant supply is provided in all of the Service Areas except Janvier, Fort Fitzgerald, and East Conklin (Christina Lake Drive)
Road & Address Signage	<p>Road and address signage in the Fort McMurray urban Service Area meets FireSmart recommended guidelines however the rural Service Areas do not:</p> <ul style="list-style-type: none"> Road Signage – Signs meet FireSmart recommended guidelines but are installed on combustible wood posts in some Service Areas Address Signage – not commonly posted, not standardized, does not meet FireSmart recommended guidelines/ NFPA 1141 standards

Recommendation: Ensure that the following infrastructure options are improved to meet FireSmart/NFPA 1141 recommended guidelines:

- Secondary access routes for all Service Areas where feasible
- Road and address signage

5.3 Development Legislation & Policy

The following RMWB documents were reviewed relating to FireSmart regulation and policies:

- RMWB Municipal Development Plan (Draft 2022)
- RMWB Land Use Bylaw (Draft 21-003)

2022 Observations and Recommendations

RMWB Municipal Development Plan (MDP)

The MDP recognizes wildfire as a hazard and provides the following policy directions:

- Performing hazards, risks, and vulnerability reassessments regularly to identify changing degrees of vulnerability and exposure (Policy 1.2.5)
- Identifying emergency mitigation measures and updating emergency action plans (Policy 1.2.5)
- Reassessing risks of and exposure to future natural disasters, and revisiting land use policy, including the Land Use Bylaw and relevant Area Structure Plans to incorporate changes that reduce the level of exposure and mitigate the impacts (Policy 5.4.1)
- Prioritizing retrofitting existing settlement areas and requiring new developments to align with FireSmart best practices (Policy 5.4.1)
- Identification that wildfires pose a very serious and very real risk to the safety and well-being of Wood Buffalo residents and by employing effective approaches to the safeguarding of structures through (Policy 6.4.1):
 - Ensuring policies are in place throughout the development approvals process to require applicants for subdivision or development proposals, where deemed appropriate by the approval authority, undertake a wildfire risk assessment
 - Promoting FireSmart communities designed in accordance with the Municipality's Wildfire Mitigation Strategy Urban Forest Strategy, FireSmart: Protecting Your Community Manual, and evolving wildfire prevention best practices including:
 - The provision of recreational facilities such as trails and parks, along the outer perimeter of the development,
 - The provision of fire guards and using FireSmart vegetation species, which will serve as buffers between development and the surrounding areas, and
 - The construction of trails between development and the surrounding forested land which may be used in an emergency for prevention purposes
 - Continuing to follow and implement identified FireSmart Priority Zones in the Wildfire Mitigation Strategy to avoid the risk of future wildfire hazards
 - Monitoring and maintenance of the FireSmart management areas regularly
 - Ensuring new or rebuilt development within or adjacent to high and moderate wildfire risk areas include conditions that require the implementation of FireSmart principles
 - Where feasible, working with the province to establish a minimum of two access routes in all communities and neighbourhoods

RMWB Land Use Bylaw (LUB) 21-003

The RMWB Land Use Bylaw 21-003 has Section 26.12 outlining FireSmart landscaping requirements but does not have any items regulation related to exterior structure materials. The requirement for use of non-combustible/ignition-resistant exterior building materials on new and retrofit construction would support the MDP policy promoting the “build back better concept”.

Sample Land Use Bylaw regulations for FireSmart exterior building materials are provided below (Table 5-3) for consideration by the **RMWB Planning & Development and Regional Emergency Services departments**.

Table 5-3: Sample Land Use Bylaw Regulations

Factor	Proposed Revisions
Roofing Materials	<ul style="list-style-type: none"> All roofing materials on new, replacement, or retrofitted dwellings, accessory buildings and commercial buildings shall meet a minimum Class “A” U.L.C. rating or as specified by the Development Authority
Siding Materials	<ul style="list-style-type: none"> All siding materials on new, replacement, or retrofitted dwellings, accessory buildings and commercial buildings within 50 metres of Moderate, High and Extreme wildfire behaviour potential class areas shall use non-combustible or ignition-resistant materials extending from ground level to the roofline or as specified by the Development Authority.
Decking Materials	<ul style="list-style-type: none"> All exterior deck materials on new, replacement, or retrofitted dwellings, accessory buildings and commercial buildings within 500 metres of Moderate, High and Extreme wildfire behaviour potential class areas shall use non-combustible or ignition-resistant materials or as specified by the Development Authority. All new dwellings, accessory buildings, and commercial buildings with exposed undersides and/or with raised decks and porches less than 2 metres from ground level shall be sheathed or screened from the floor level to the ground level with non-combustible materials to prohibit the entry of sparks and embers under the structure. All new dwellings, accessory buildings, and commercial buildings with exposed undersides and/or raised decks and porches more than 2 metres from ground level shall have and maintain a non-combustible surface cover underneath.
Fencing Materials	<ul style="list-style-type: none"> All fencing on new, replacement, or retro-fitted residential and commercial properties within 500 metres of Moderate, High and Extreme wildfire behaviour potential class areas shall use non-combustible materials within 1.5 metres of the outermost projection of the structure.

Recommendation: Revise the current RMWB statutory planning documents to meet FireSmart recommended guidelines.

Recommendation: All new developments should be provided to and reviewed by the RMWB Regional Emergency Services FireSmart Team for compliance with FireSmart best-practices.

6. Public Education & Engagement Options

Many of the structures within the RMWB Service Areas are at High/Extreme threat to wildfire due to inadequate structural options and Non-Combustible Zone/Zone 1 standards that do not meet FireSmart guidelines. Residents, business owners, and developers all need to be aware of the wildfire hazard and the solutions to minimizing the risk and become a partner in implementation of FireSmart solutions in their own backyards and communities.

2017 Recommendations & Accomplishments

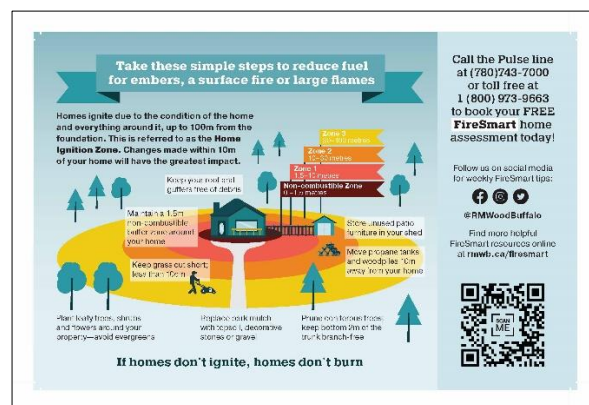
Recommendation: Professional development of a focused, repetitive, long-term FireSmart education and awareness program should be set as a high priority to ensure that residents are aware of options available to reduce the hazard and risk to their properties and are engaged and assisted to take action in their own backyards.

The RMWB FireSmart Team has developed an innovative public education campaign designed to reach all RMWB stakeholders including residents, youth, businesses, and RMWB staff including:

- RMWB website with FireSmart section providing information on current initiatives
- 620+ FireSmart Home Assessments conducted by the RMWB FireSmart team and delivered to RMWB residents in Ft. McMurray, Anzac, Conklin, Ft. McKay, and Gregoire Lake Estates in 2021-2022
- 75+ FireSmart public education events conducted in all Service Areas
- FireSmart Interpretive Trail completed in fall/2022
- FireSmart Home Action Rebate Program launched in 2022 providing funding to 51 homeowners that have received a FireSmart Home Assessment to replace combustible roofing (34), decking (17), or siding materials with ignition-resistant materials
- FireSmart public education materials developed and distributed (see below)



RMWB FireSmart Postcard



Recommendation: The RMWB should identify and train key personnel from urban and rural Emergency Services and Parks Services to act as Local FireSmart Representatives and to identify and work with the appropriate Community Champions within the RMWB Service Areas to work towards Recognized FireSmart Community status.

- RMWB has two trained Local FireSmart Representatives on their FireSmart team.
- No neighbourhoods have begun the FireSmart Neighbourhood Recognition Program yet.

2022 Observations & Recommendations

Field observations and 2021-22 FireSmart Home Assessment results indicates that a majority of structures assessed have combustible exterior structure materials and/or Non-Combustible Zones and Zone 1 that do not meet FireSmart recommended guidelines.

Recommendation: Review the FireSmart Home Assessment data to determine and implement the key messages for the FireSmart public education campaign.

Review of the 2021-22 FireSmart Home Assessment results indicates that approximately 94% of the assessments were conducted in Fort McMurray with the remaining 6% conducted in Anzac, Conklin, Fort McKay, and Gregoire Lake Estates.

Recommendation: Train the rural Regional Emergency Service fire department staff to conduct scheduled assessments in their Rural Service Area to increase the home assessments in those communities with the higher wildfire threat.

Identification of candidate neighbourhoods for the FireSmart Canada Neighbourhood Recognition Program has been conducted by the RMWB FireSmart Team members however the recognition process has not yet begun.

Recommendation: Determine priority neighbourhoods and Community Champions for the Neighbourhood Recognition Program and begin the process to get residents to take ownership of and manage the wildfire threat to their dwellings and neighbourhood.

7. Inter-Agency Cooperation & Cross-Training Options

Interagency cooperation and cross-training between all stakeholders is necessary to ensure cooperative and effective implementation of FireSmart mitigation options and to coordinate an effective multi-agency response to a wildland/urban interface fire.

2017 Recommendations & Accomplishments

Recommendation: The RMWB and AB. Forestry should identify cooperative training opportunities and provide support to each other for applicable cross-training related to emergency management, wildfire prevention, wildfire operations, and wildland/urban interface. RMWB personnel should be cross-trained and qualified based on their participation in the emergency management organization.

- RMWB Regional Emergency Services and AB. Forestry have conducted several table-top and functional wildfire exercises
- RMWB Regional Emergency Services continually trains their personnel in wildland and wildland/urban interface fire operations

2022 Observations & Recommendations

The RMWB FireSmart Committee continues to work collaboratively to identify funding sources, set mitigation priorities, and implement FireSmart activities throughout the RMWB and consists of representatives from:

- Regional Municipality of Wood Buffalo
- AB. Forestry

Recommendation: RMWB and AB Forestry should continue with the FireSmart Committee to collaboratively set the priorities and implement FireSmart activities throughout the RMWB.

Landscaping practices using bark mulch and coniferous trees and shrubs around RMWB infrastructure buildings and a lack of previously recommended development regulation relating to FireSmart exterior building materials for all new or retrofit development indicates the need for further training of RMWB Planning and Development and Parks and Recreation staff.

Recommendation: Prepare and conduct FireSmart education/awareness sessions for the necessary RMWB departments to encourage the adoption of FireSmart principles within the entire RMWB organization.

8. Emergency Planning Options

Emergency preparedness is an important part of any disaster planning. The need for organization, clear chain of command, and an understanding of job responsibilities during a wildland/urban interface fire are of paramount importance.

2017 Recommendations & Accomplishments

Recommendation: Update the RMWB Wildfire Response Plan (2010) annually to provide most current information.

- The RMWB Regional Emergency Management Plan format was revised in 2018 and is updated annually:
 - Section 4 identifies wildfire risk as a High and requiring hazard mitigation and risk reduction measures.
 - Pre-developed wildfire response plans have been prepared for each of the RMWB Service Areas

Recommendation: Conduct regular wildland/urban interface table-top, functional, and/or field exercises between AB. Forestry, RMWB, and applicable mutual-aid partners to test recommendations in the Horse Creek Wildfire Post-Incident Assessments, the RMWB Municipal Emergency Plan, and/or the Wildfire Preparedness Guide(s).

- The RMWB and AB. Forestry jointly prepared and conducted a multi-agency wildland/urban interface table-top exercise (Mar/2019) followed by a functional exercise (Jan/2020) to practice and test response and site support protocols for a wildland/urban interface fire.

2022 Observations & Recommendations

The current RMWB Regional Emergency Services emergency management processes related to wildland/urban interface planning, preparedness, response, and recovery meet the needs for the current situation. There are no recommendations at this time.

9 Implementation Plan

Vegetation Management

Item	Recommendation	Responsible Agency
Non-Combustible Zone/Zone 1	Increase FireSmart public education and awareness to improve resident & RMWB understanding and implementation of FireSmart Non-Combustible Zone and Zone 1 vegetation management guidelines with a priority on the rural Service Areas.	RMWB
Zone 2-3	RMWB and the Province to determine a process for RMWB to complete proposed vegetation management blocks on Provincial lands within the Service Area boundaries.	RMWB & AB. Forestry
	Prepare detailed fuel modification prescriptions for scheduled blocks and complete proposed Zone 2-3 vegetation management on Municipal, Provincial, and First Nation lands based on priority and available funding.	RMWB & AB. Forestry
	Develop and implement an Urban Forest Management Plan for the Birchwood Trails/Conn Creek community reserve to reduce the threat of community-level wildfire to RMWB Service Areas.	RMWB
Vegetation Management Maintenance	Continue the ongoing mowing/maintenance of the neighbourhood green space perimeters and trail systems to ensure their ongoing effectiveness as fuelbreaks.	RMWB
	Develop a FireSmart Vegetation Management Plan to set priorities and methods for future vegetation management maintenance.	RMWB

Development & Legislation

Item	Recommendation	Responsible Agency
Infrastructure	Ensure that the following infrastructure options are improved to meet FireSmart/NFPA 1141 recommended guidelines: <ul style="list-style-type: none"> ▪ Secondary access routes for all Service Areas where feasible ▪ Road and address signage 	RMWB
Development Legislation & Policy	Recommendation: Revise the current RMWB statutory planning documents to meet FireSmart recommended guidelines.	RMWB
	Recommendation: All new developments should be provided to and reviewed by the RMWB Regional Emergency Services FireSmart Team for compliance with FireSmart best-practices.	RMWB

Public Education & Engagement

Item	Recommendation	Responsible Agency
Public Education Key Messages	Recommendation: Review the 2021-22 FireSmart Home Assessment data to determine and implement the key messages for the 2023 public education campaign.	RMWB
FireSmart Home Assessments	Recommendation: Train the rural Regional Emergency Service fire department staff to conduct scheduled assessments in their Rural Service Area to increase the home assessments in those communities with the higher wildfire threat.	RMWB
FireSmart Canada Neighbourhood Recognition Program	Recommendation: Determine priority neighbourhoods and Community Champions for the Neighbourhood Recognition Program and begin the process to get residents to take ownership of and manage the wildfire threat to their dwellings and neighbourhood.	RMWB & AB. Forestry

Interagency Cooperation & Cross-Training

Item	Recommendation	Responsible Agency
RMWB FireSmart Committee	Recommendation: RMWB and AB Forestry should continue with the FireSmart Committee to collaboratively set the priorities and implement FireSmart activities throughout the RMWB.	RMWB & AB. Forestry
RMWB Municipal Department Education/Awareness	Recommendation: Prepare and conduct FireSmart education/awareness sessions for the necessary RMWB departments to encourage the adoption of FireSmart principles within the entire RMWB organization.	RMWB

10 References

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