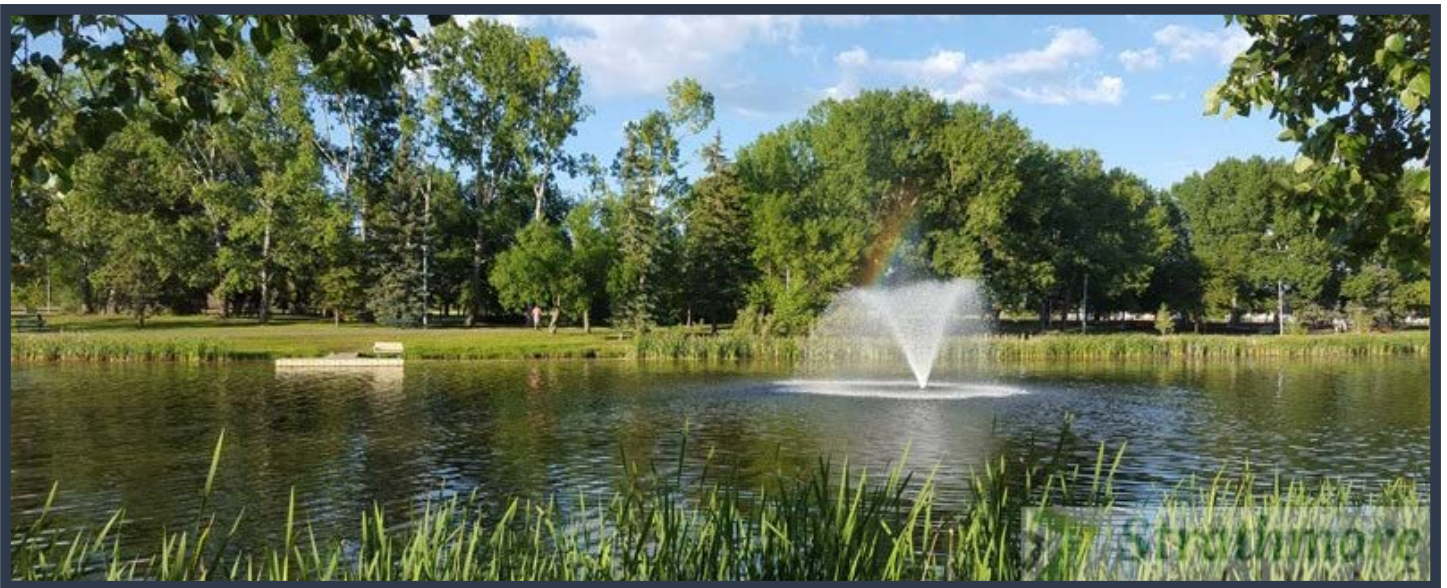


Hazard Reduction Burn Plan

DECEMBER 2023

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INTRODUCTION

Hazard Reduction Burning is a tool used to remove cured grassland fuels quickly, effectively and safely from around communities. Using hand ignition, trained staff ignite these fuels under strict weather, staffing, and time of day parameters which are outlined in this plan. This eliminates the chance of ignition before the fire hazard is too high. Hazard Reduction Burning is also an extremely valuable tool for firefighters to gain fire behaviour knowledge and skills in a safe and controlled manner.

This Hazard Reduction Burn Plan was developed using standard practices and assessment tools to gather the information required to prescribe fuel treatment options for O1a matted and O1b standing grass around the community. Information gathered, ground truthing fuels, and community layout were all used to build a plan to mitigate the risk of wildfire. Current research and understanding of wildfire behaviour in all fuel types has allowed communities to alter the fuels on the landscape to better prepare and reduce the fire risk of a catastrophic event.

THE OBJECTIVES OF THIS PLAN ARE:

- To assess the grassland fuels that exist on the landscape within the Town of Strathmore
- To identify locations of high fire risk based on predicted fire behaviour during periods of high hazard
- To prescribe training recommendations for the Strathmore Fire Department when it comes to hand ignition practices
- To prioritize and prescribe these areas for Hazard Reduction Burning

Treatments recommended in this plan will help reduce the risk of grassland fires by removing cured grass through ignition. This is a preventative measure that should be implemented during the Spring and Fall burning windows. An added benefit to Hazard Reduction Burning is the fire behaviour and suppression training this provides firefighters.

PLANNING AREA & STAKEHOLDERS

The planning area for this plan includes all of the Town of Strathmore lands. Situated approximately 50 kms East of Calgary, Strathmore is located in an area of grassland fuels. The landscape consists of a built up community surrounded by grassland fuels with varying levels of fire risk. The community has an approximate population of 16,000 residents with all the amenities of a modern town. Every effort was made to build this plan with input from the involved stakeholders and to consider the wildfire risk to the community when prescribing treatments.

Stakeholders that were consulted with in this plan:

- David Sturgeon – Strathmore Fire Chief
- Town of Strathmore
- Strathmore Fire Department





WILDFIRE RISK ASSESSMENT

The Wildfire Hazard Assessment is a tool used to determine the overall wildfire hazard on the landscape of the Town of Strathmore lands. Assessing the wildland fuel types, locations, size, arrangement, continuity, and slope position determines the potential fire behaviour that could be seen during periods of high fire hazard.

The community of Strathmore is situated in an area of grassland fuels. Great care was taken to identify hazardous wildland fuel types on the landscape and how they would impact the community of Strathmore during a wildfire incident. The dominant fuel type on the town’s lands was identified as O1a matted and O1b standing grass. These grassland fuel types are at their most volatile in the early Spring and Fall when they are near 100% cured. These cured fuels are extremely receptive to ignition and have the highest spread rates of any wildland fuel types when the hazard is high.

Wildland Fuel Type	Fire Behaviour Potential
O1a Matted Grass	Extreme
O1b Standing Grass	Extreme

A main issue is the volatility of these fuels during the spring and fall hazard. Spread rates being pushed by high winds raises concerns in these fuel types for the community. The cured fine fuels during a spring and fall hazard are of special concern due to the volatile nature and high spread rates that can exist during that time. Fine fuels are directly impacted by wind and fine fuel moisture contents which can result in high to extreme spread rates during dangerous fire weather conditions.

IGNITION POTENTIAL

Historical wildfire data was not available for the Town of Strathmore, however through speaking with community members and the fire chief, it was found there was a low number of wildfire incidents in the previous 20 years with little to no change in trends on the Community's land.

Multiple sources of ignition are present in the area and include:

- Overhead Hydro lines
- Industrial
- Off-Highway Vehicles (OHVs)
- Residents
- Lightning
- Agriculture

Each ignition source presents an issue for the community as most ignitions have the potential to become fast moving wildfires in grassland fuel types. Agriculture poses a unique risk as crops are cured and tall in the Fall season. The risk of equipment igniting a wildfire is higher typically in the fall.

The Strathmore Solar site is a piece of critical infrastructure that has its own set of fuel mitigation practices. Through mowing, disking, and livestock, the site does do some mitigation efforts. Due to the unique risk this site poses, we did not include this in the plan as hazard reduction burning is not the correct option for this site. Care should be taken to engage staff at the site to keep up with fuel reduction all seasons, specifically in the Fall when agriculture is at its most cured and volatile.



HAZARD REDUCTION BURN PLAN OVERVIEW

As part of this plan, each area identified was ground truthed and inspected for risk, practicality, and safety. The areas identified were selected to reduce the risk of wildfire, reduce the number of nuisance fires, and to better prepare the community in the event of an approaching wildfire on the landscape.

Each area has its own set of hazards ranging from uneven ground to overhead hydro lines, garbage, fence lines, slope potential, and possible encampments. Proper training of staff will show how to protect and mitigate these hazards.

When conducting a hazard reduction burn, there are certain parameters that should be followed to ensure a safe burn. These parameters are critical to follow especially when firefighters are new to hand ignition. Whenever burning we recommend bringing as many staff and apparatus as possible, along with mutual aid partners. Bringing mutual aid resources in, allows for shared training, more capacity, and strengthens the relationships between agencies that would respond together at wildfire incidents.

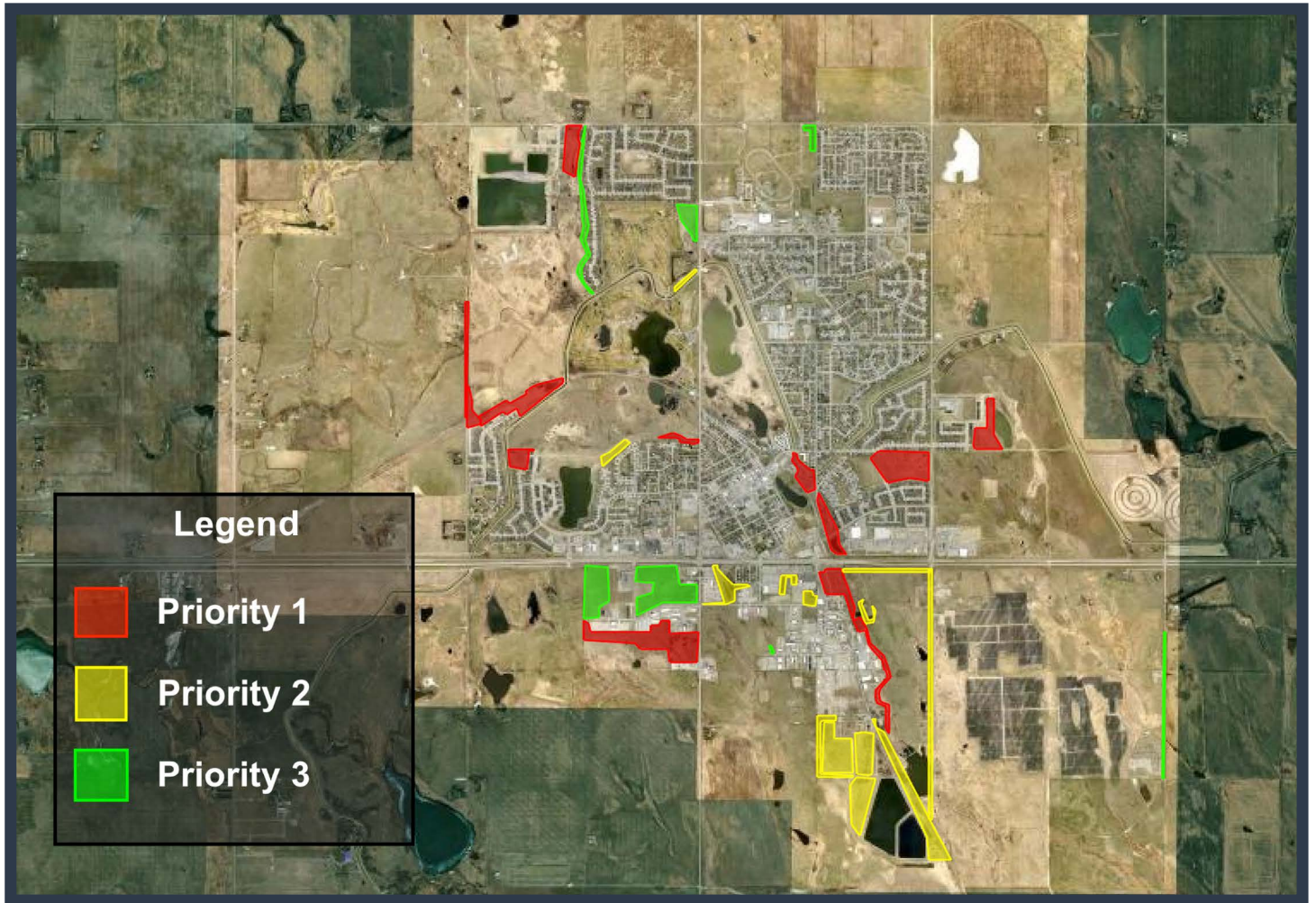
Recommended parameters:

- Wind under 15kph
- Minimum 4 staff members
- Minimum Type 6 or larger Engine
- Minimum Type 2 or larger Tactical Tender
- Public notification must be done through usual channels
- Fire dispatch should be made aware
- Land owners/developers must be consulted beforehand
- Recommend a UTV with water and pump when possible
- Recommend burning in low hazard or morning and evenings
- Be aware of relative humidity as it approaches crossover

If the fire hazard is climbing and there are concerns of safety, consider burning smaller blocks such as ditches, priority 2/3 areas, or evening burns.. As experience grows, the department can decide which blocks to burn based on these parameters.

A resource for fire weather is: <https://www.acis.alberta.ca/acis/m/#!fire>

BLOCK MAP



BLOCK PRIORITY

Priority 1 **RED**

Priority 2 **YELLOW**

Priority 3 **GREEN**

Block Name	Block Priority	Block Name	Block Priority
1.1 Hillcrest	1	2.5 Home Hardware	2
1.2 Wildflower Rd 1	1	2.6 Historic Barn	2
1.3 Wildflower Rd 2	1	2.7 Service Rd Ditch	2
1.4 Wildflower Rd 3	1	2.8 RR 251	2
1.5 Westmount	1	2.9 Lagoon 1	2
1.6 Wheatland Wheeler	1	2.10 Lagoon 2	2
1.7 Kinsmen 1	1	2.11 Lagoon 3	2
1.8 Kinsmen 2	1	2.12 Lagoon 4	2
1.9 Parklane Drive	1	2.13 Lagoon 5	2
1.10 Edgefield	1	3.1 Rodeo Grounds	3
1.11 South Canal	1	3.2 Golf Course NE	3
1.12 Canadian Tire	1	3.3 Hillcrest Feeder	3
1.13 Industrial Creek	1	3.4 Dodge	3
2.1 Main Canal	2	3.5 Canal Blvd N	3
2.2 Strathmore Lakes East	2	3.6 Dog Park	3
2.3 Esso East	2	3.7 RR 250	3
2.4 No Frills	2		

Priority 1 was given to areas with the most fire risk to the community. Priority 2 and 3 areas are of lower risk and may be easier and safer to complete. **Total Blocks - 33**

BLOCK PRIORITY EXPLANATION

Each block was given priority based on the risk to the community, level of difficulty, and fuel loading. Below are examples of the differences between priorities.

Priority 1 Example — 1.10 Edgefield

1.10 Edgefield is of concern due to the fuel-loaded upslope run to the structures. An approaching wildfire from the East, or an ignition in this area could result in a fast moving wildfire that limits the Fire Department's ability to safely protect these structures. By removing this fuel through Hazard Reduction Burning, it effectively protects the community from this risk.



Priority 2 Example — 2.2 Strathmore Lakes East

2.2 Strathmore Lakes East is of lesser concern due to the lighter fuel load in the area. The area is easier to complete due to the control lines in the area.



Priority 3 Example — 3.4 Dodge

3.4 Dodge is a priority 3 due to the excellent control lines on the West end of the block as well as the setbacks from any structures. A wildfire in this area would have minimal risk to the community.



BLOCK MAPS

PRIORITY 1

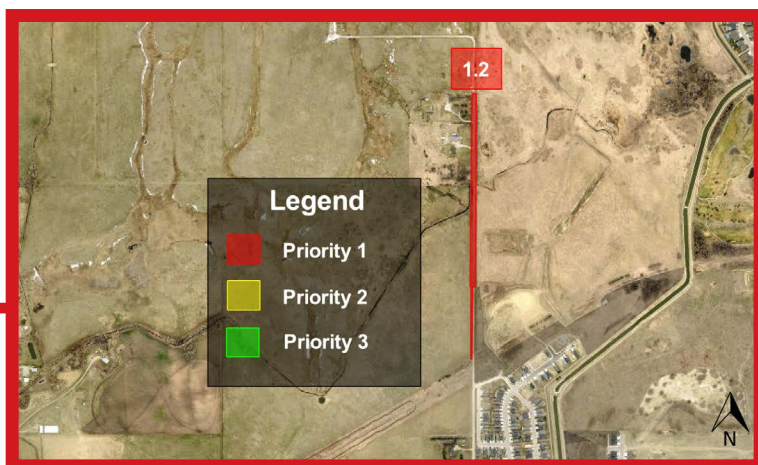
1.1

Hillcrest



1.2

Wildflower Rd 1



1.3

Wildflower Rd 2



1.4

Wildflower Rd 3



BLOCK MAPS

Priority 1 CONTINUED

1.5

Westmount



1.6

Wheatland
Wheeler



1.7

Kinsmen 1



BLOCK MAPS

Priority 1 CONTINUED

1.8

Kinsmen 2



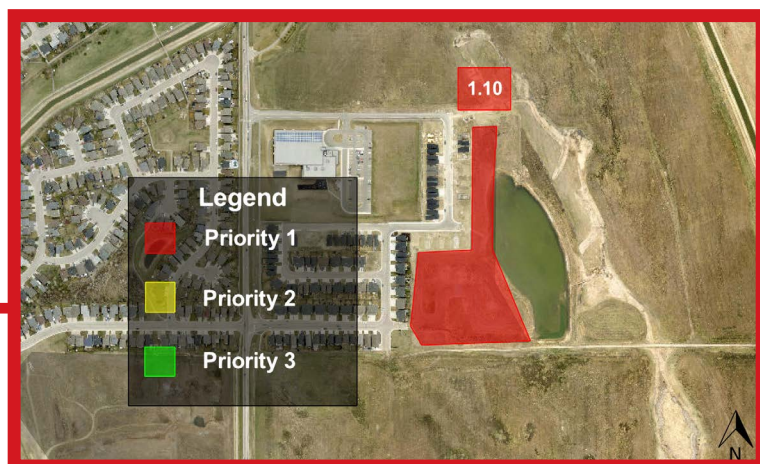
1.9

Parklane



1.10

Edgefield



BLOCK MAPS

Priority 1 CONTINUED

1.11

South Canal



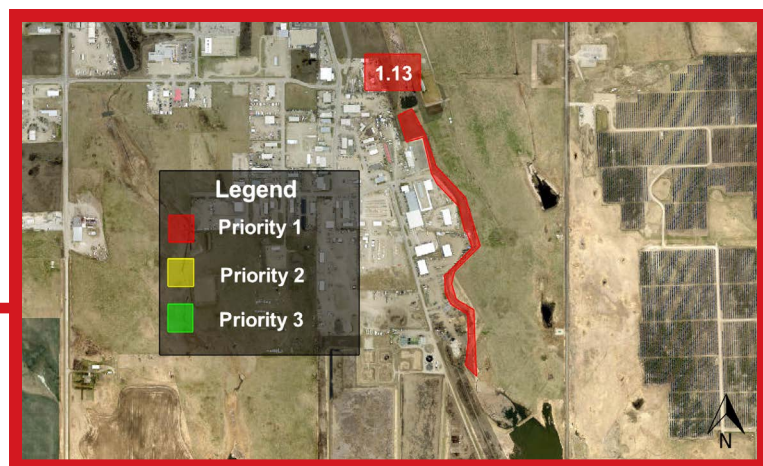
1.12

Canadian Tire



1.13

Industrial



BLOCK MAPS

PRIORITY 2

2.1

Main Canal



2.2

Strathmore
Lakes East



2.3

Esso East

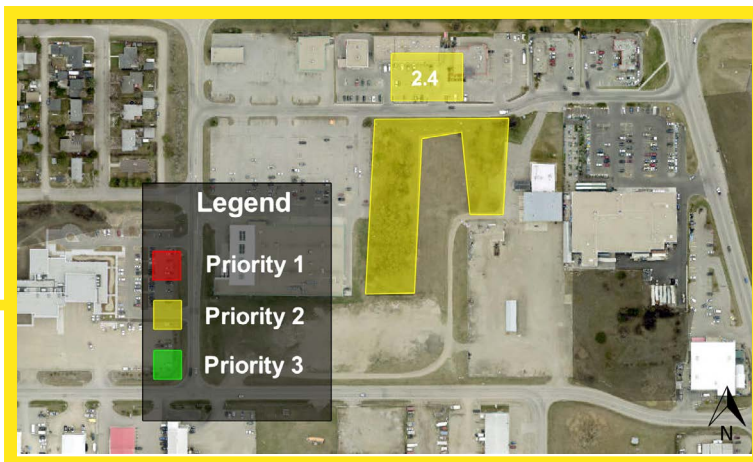


BLOCK MAPS

Priority 2 CONTINUED

2.4

No Frills



2.5

Home
Hardware



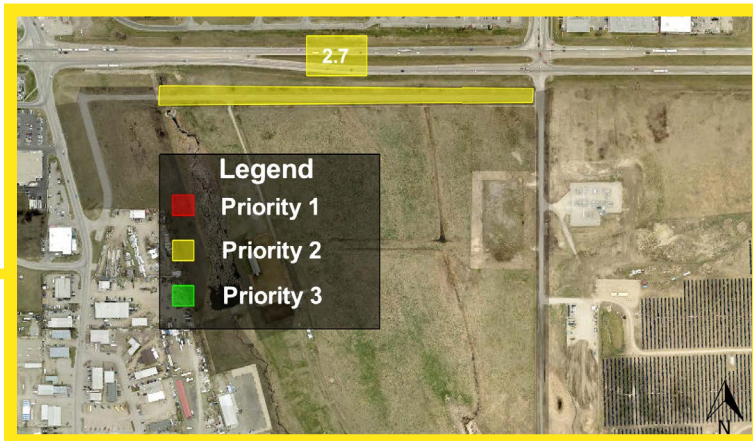
2.6

Historic Barn



2.7

Service Rd
Ditch



BLOCK MAPS

Priority 2 CONTINUED

2.8

RR 251



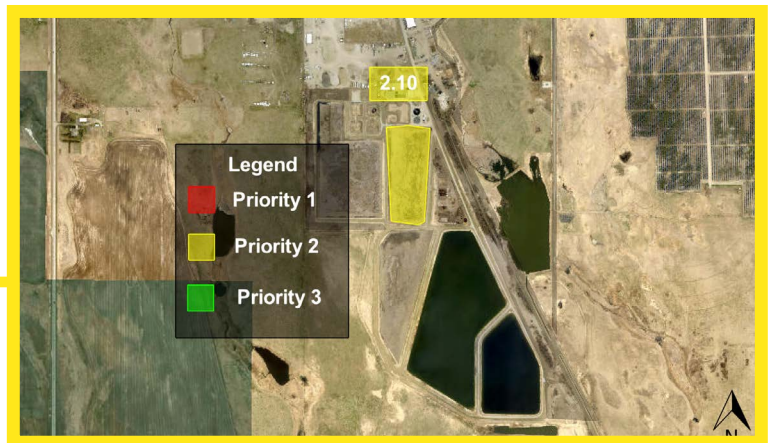
2.9

Lagoon 1



2.10

Lagoon 2

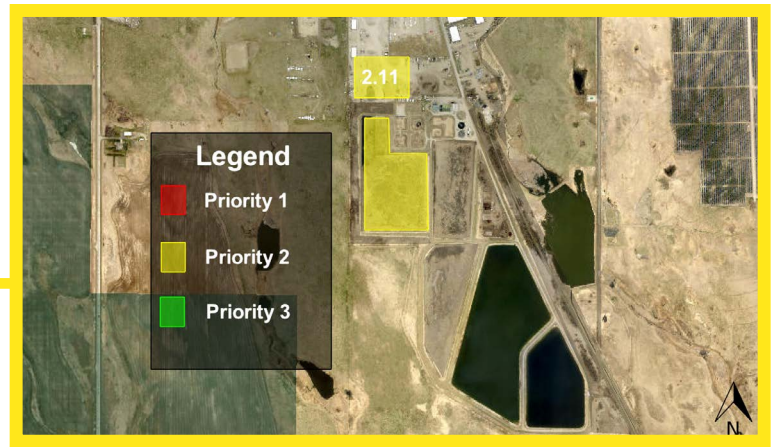


BLOCK MAPS

Priority 2 CONTINUED

2.11

Lagoon 3



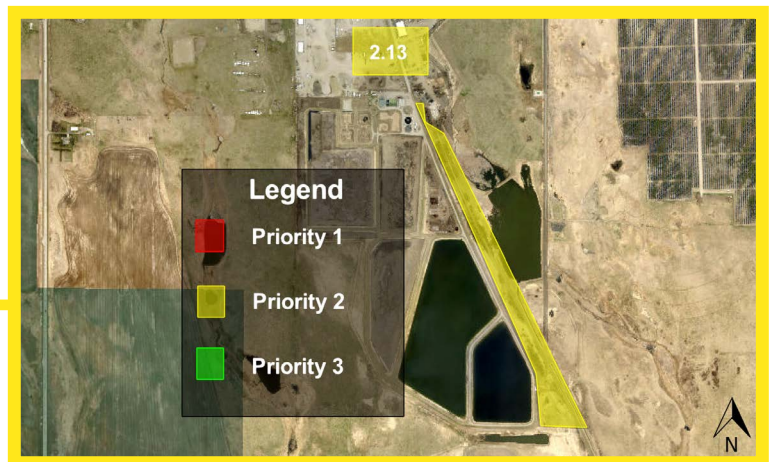
2.12

Lagoon 4



2.13

Lagoon 5



BLOCK MAPS

PRIORITY 3

3.1

Rodeo Grounds



3.2

Golf Course NE



3.3

Hillcrest Feeder



3.4

Dodge



BLOCK MAPS

Priority 3 CONTINUED

3.5

Canal Blvd N



3.6

Dog Park



3.7

RR 250



SUMMARY

Care has been taken to ensure the accuracy of this plan. Through ground truthing, satellite imagery, knowledge of the writers, and common sense, this plan is a useful tool for firefighters to begin their hazard reduction burns throughout the community of Strathmore.

Burning of the landscape is a natural process that eliminates old growth and allows new regeneration of grasses. By utilising burning, we allow nutrients to re-enter the soils and grow new life. Smoke being released into the atmosphere is of all natural components, and caution must be exercised to account for smoke drift. Each block identified requires planning to ensure smoke drift does not affect the community. This is outlined in the recommended training.

Training for Hazard Reduction Burning is a must. Proper procedures and techniques must be used to ensure a safe and effective ignition. We recommend training with qualified individuals prior to implementing this plan. Adequate resources must be available to conduct the burns without interfering with daily operations. Utilising mutual aid partners is a great way to increase resources and share in relationship building and training value between agencies.

Wind direction and speed is the main consideration for burning. Care must be taken to select the areas based on wind that are both safe to complete and do not send smoke in an unwanted direction, such as neighborhoods or travel corridors. Guarding areas or burning when snow exists in the tree lines is preferable due to the extra layer of safety this provides.

Public notifications must be made to ensure the public is aware of ignition operations. Signage, social media, and news outlets are all excellent sources of public outreach. Traffic warnings are another way to mitigate drive by 911 calls.

All blocks identified in this plan are to be burnt at the Fire Chief's discretion. Additional blocks are recommended to have the Fire Chief's approval prior to ignition. This plan was designed to get a start on the hazard reduction burning program for the Town of Strathmore. Additions and edits will be required once the plan is executed.



GLOSSARY

Area Command: An organization established to oversee the management of multiple incidents that are each being handled by a separate Incident Command System organization or to oversee the management of a very large or evolving incident that has multiple incident management teams engaged. An agency administrator/executive or other public official with jurisdictional responsibility for the incident usually makes the decision to establish an Area Command. An Area Command is activated only if necessary, depending on the complexity of the incident and incident management span-of-control considerations.

Assessment: The evaluation and interpretation of measurements and other information to provide a basis for decision making.

Assignments: Tasks given to resources to perform within a given operational period that are based on operational objectives defined in the Incident Action Plan.

Available Resources: Resources assigned to an incident, checked in, and available for a mission assignment, normally located in a Staging Area.

Base: The location at which primary Logistics functions for an incident are coordinated and administered. There is only one Base per incident. (Incident name or other designator will be added to the term Base.) The Incident Command Post may be co-located with the Base.

Branch: The organizational level having functional or geographical responsibility for major aspects of incident operations. A Branch is organizationally situated between the Section Chief and the Division or Group in the Operations Section, and between the Section and Units in the Logistics Section. Branches are identified by the use of Roman numerals or by functional area.

Cache: A predetermined complement of tools, equipment, and/or supplies stored in a designated location, available for incident use.

Camp: A geographical site within the general incident area (separate from the Incident Base) that is equipped and staffed to provide sleeping, food, water, and sanitary services to incident personnel.

Chain of Command: A series of command, control, executive, or management positions in hierarchical order of authority.

Check-In: Process in which all responders, regardless of agency affiliation, must report in to receive an assignment in accordance with the procedures established by the Incident Commander.

Chief: The Incident Command System title for individuals responsible for management of functional Sections: Operations, Planning, Logistics, Finance/Administration, and Intelligence/Investigations (if established as a separate section).

Command: The act of directing, ordering, or controlling by virtue of explicit statutory, regulatory, or delegated authority.

Command Staff: Consists of Information Officer, Safety Officer, Liaison Officer, and other positions as required, who report directly to the Incident Commander. They may have an assistant or assistants, as needed.

Common Terminology: Normally used words and phrases-avoids the use of different words or phrases for same concepts, consistency.

Complex: Two or more individual incidents located in the same general area and assigned to a single Incident Commander or to Unified Command.

Critical Infrastructure: Essential underlying systems and facilities upon which our standard of life relies.

Delegation of Authority: A statement provided to the Incident Commander by the Agency Executive delegating authority and assigning responsibility. The Delegation of Authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines as needed. Many agencies require written Delegation of Authority to be given to Incident Commanders prior to their assuming command on larger incidents. Same as the Letter of Expectation.

Demobilization: The orderly, safe, and efficient return of an incident resource to its original location and status.

Deputy: A fully qualified individual who, in the absence of a superior, can be delegated the authority to manage a functional operation or perform a specific task. In some cases a deputy can act as relief for a superior, and therefore must be fully qualified in the position. Deputies generally can be assigned to the Incident Commander, General Staff, and Branch Directors.

Director: The Incident Command System title for individuals responsible for supervision of a Branch.

Division: The partition of an incident into geographical areas of operation. Divisions are established when the number of resources exceeds the manageable span of control of the Operations Chief. A Division is located within the Incident Command System organization between the Branch and resources in the Operations Section.

Emergency Coordination Center (ECC): The physical location at which the coordination of information and resources to support incident management (on-scene operations) activities normally takes place. An ECC may be a temporary facility or may be located in a more central or permanently established facility, perhaps at a higher level of organization within a jurisdiction. ECCs may be organized by major functional disciplines (e.g., fire, law enforcement, and medical services), by jurisdiction or some combination thereof. Sometimes referred to as Emergency Operations Centres (EOC).

Evacuation: Organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas.

Finance/Administration Section: The Section responsible for all administrative and financial considerations surrounding an incident.

General Staff: A group of incident management personnel organized according to function and reporting to the Incident Commander. The General Staff normally consists of the Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance/Administration Section Chief. An Intelligence/Investigations Chief may be established, if required, to meet incident management needs.

Group: Established to divide the incident management structure into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division.) Groups are located between Branches (when activated) and Resources in the Operations Section.

Incident Action Plan (IAP): An oral or written plan containing general objectives reflecting the overall strategy for managing an incident. It may include the identification of operational resources and assignments. It may also include attachments that provide direction and important information for management of the incident during one or more operational periods.

Incident Command: Responsible for overall management of the incident and consists of the Incident Commander, either single or unified command, and any assigned supporting staff.

Hazard: A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Incident Commander (IC): The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The IC has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site.

Incident Command Post (ICP): The field location where the primary functions are performed. The ICP may be co-located with the incident base or other incident facilities.

Incident Command System (ICS): A standardized on-scene emergency management system specifically designed to provide for the adoption of an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources during incidents. It is used for all kinds of emergencies and is applicable to small as well as large and complex incidents. ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations.

Incident Management Team (IMT): An Incident Commander and the appropriate Command and General Staff personnel assigned to an incident. IMTs are generally grouped in five types.

Incident Objectives: Statements of guidance and direction needed to select appropriate strategy(s) and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow strategic and tactical alternatives.

Information Officer (IO): A member of the Command Staff responsible for interfacing with internal clients, the public and media and/or with other agencies with incident related information requirements.

Jurisdiction: A range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority. Jurisdictional authority at an incident can be political or geographical or functional (e.g., law enforcement, | public health).

Kind: An Incident Command System resource classification that refers to similar resources. All fire engines for example are grouped as the same “Kind” of resource, their capability however is defined by “Type”.

Liaison Officer: A member of the Command Staff responsible for coordinating with representatives from cooperating and assisting agencies or organizations.

Logistics: Providing resources and other services to support incident management.

Logistics Section: The Section responsible for providing facilities, services, and material support for the incident.

Mitigation: Sustained actions taken to eliminate or reduce risks and impacts posed by hazards well before an emergency or disaster occurs; mitigation activities may be included as part of prevention.

Objective: The overarching purposes or aims of an incident response is expressed as an objective. Objectives are priority based, specific, measurable to a standard and a timeframe and are both reasonable and attainable.

Officer: The ICS title for the personnel responsible for the Command Staff positions of Safety, Liaison, and Public Information.

Operational Period: The time scheduled for executing a given set of operation actions, as specified in the Incident Action Plan. Operational periods can be of various lengths, although usually they last 12-24 hours.

Operations Section: The Section responsible for all tactical incident operations and implementation of the Incident Action Plan. In the Incident Command System, it normally includes subordinate Branches, Divisions, and/or Groups.

Plain Language: Communication that can be understood by the intended audience and meets the purpose of the communicator. Plain language is designed to eliminate or limit the use of codes and acronyms, as appropriate, during incident response involving more than a single agency.

Planning Section: The Section responsible for the collection, evaluation, and dissemination of operational information related to the incident, and for the preparation and documentation of the Incident Action Plan. This Section also maintains information on the current and forecasted situation and on the status of resources assigned to the incident.

Resource Management: Efficient emergency management and incident response requires a system for identifying available resources at all jurisdictional levels to enable timely and unimpeded access to resources needed to prepare for, respond to, or recover from an incident.

Resource Tracking: A standardized, integrated process conducted prior to, during, and after an incident by all emergency management/response personnel and their associated organizations.

Resources: Personnel and major items of equipment, supplies, and facilities available or potentially available for assignment to incident operations and for which status is maintained. Resources are described by kind and type and may be used in operational support or supervisory capacities at an incident or at an emergency operations center.

Safety Officer: A member of the Command Staff responsible for monitoring incident operations and advising the Incident Commander on all matters relating to operational safety, including the health and safety of emergency responder personnel.

Section: The organizational level having responsibility for a major functional area of incident management (e.g., Operations, Planning, Logistics, Finance/Administration, and Intelligence/Investigations (if established)). The Section is organizationally situated between the Branch and the Incident Command.

Sector: On large incidents such as wildland fires, a Division can be further geographically subdivided into sectors. Sectors can be managed by a Task Force Leader or Strike Team Leader depending on the resources assigned.

Single Resource: Individual personnel, supplies, and equipment items, and the operators associated with them.

Span of Control: The number of resources for which a supervisor is responsible, usually expressed as the ratio of supervisors to individuals. (An appropriate span of control is between 1:3 and 1:7, with optimal being 1:5.)

Staging Area: Established for the temporary location of available resources. A Staging Area can be any location in which personnel, supplies, and equipment can be temporarily housed or parked while awaiting operational assignment.

