

Town of Swan Hills Pre-Attack Plan

Prepared for:

Town of Swan Hills



Sustainable Resource
Development



Prepared by:

Stew Walkinshaw, R.P.F.

MONTANE
Forest Management Ltd.

Canmore, Alberta

March/2008

A. Communications.

1. Town of Swan Hills.

Position	Contact	Business	Cell	Home
Director of Emergency Management	Hilda Price	(780) 333-4477	(780) 333-1397	(780) 333-3669
Fire Chief	Trent Wagner	(780) 333-5461	(780) 333-3473	
Dispatch Centre		(780) 333-2255 (24 hr)		

2. MD of Big Lakes.

Position	Contact	Business	Cell	Home
Director of Emergency Management	Jeff Renaud	(780) 523-5955	(780) 523-1434	
Regional Fire Chief/ Emerg Response Coor.	John Gould	(780) 776-0007	(780) 523-8778	
Dispatch Centre		1-888-538-0393 (24 hr)		

3. SRD - Woodlands Forest Area.

Position	Contact	Business	Cell	Home
Wildfire Operations Officer	Doug Smith	(780) 778-7264	(780) 706-5366	
Duty Officer	Whitecourt Fire Centre	(780) 778-7265 (24 hrs)		
Dispatch Centre	Whitecourt Fire Centre	(780) 778-7272		

4. Other.

Organization	24 Hr. Phone	Local Phone
RCMP – Swan Hills Detachment	(780) 333-4459	(780) 333-4450
Power Company(s) Atco Electric Transmission & Distribution	1-800-668-5506	
Gas Company Atco Gas	1-800-511-3447	
Values Stakeholders Telus Mobility Swan Hills Golf Course	1-800-391-1391	(780) 333-4539

5. Mutual-Aid Radio Channels.

Type	Frequency
Interface Command Net (Forestry to Municipal)	Provincial Mutual-Aid (156.855 MHz)
Interface Tactical Net(s)	Swan Hills Fire Dept. (158.1750 MHz)

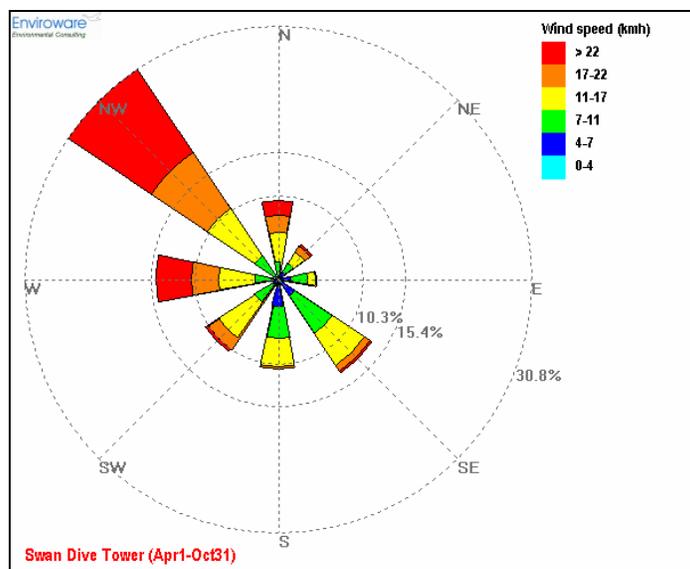
B. Local Area Description.

1. Planning Area (Map 1).

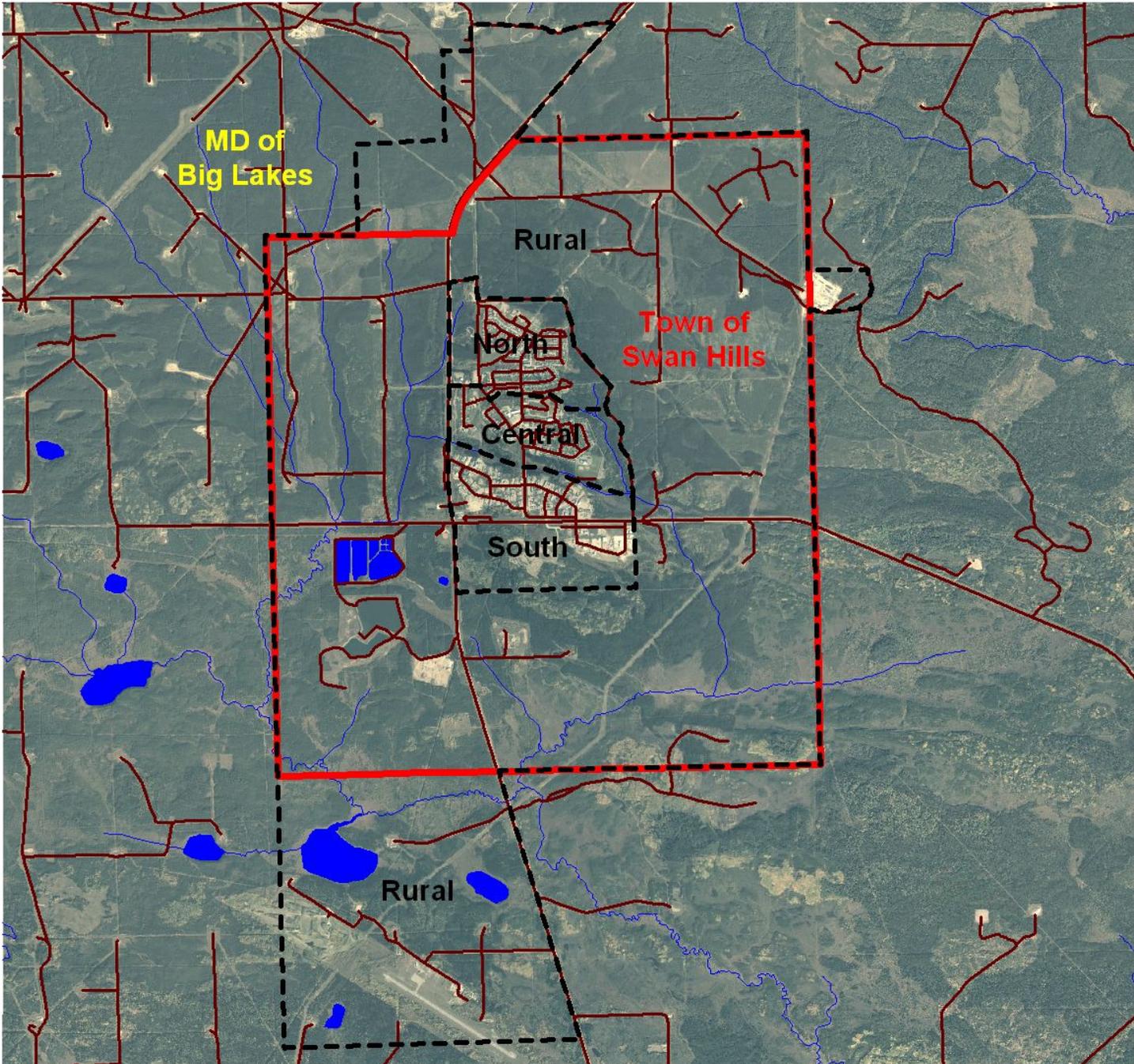
Jurisdictional Authority	Agency
Wildfire.	SRD (outside Corporate boundaries). Town of Swan Hills (within Corporate boundaries).
Structure and Non-Structure Fire.	Town of Swan Hills within Corporate boundaries. MD of Big Lakes outside Corporate boundaries.
Evacuation	Town of Swan Hills within Corporate boundaries. MD of Big Lakes outside Corporate boundaries.

2. Fire Behavior Potential (Map 2).

Factor	Description
Fuels	<ul style="list-style-type: none"> ▪ North – Boreal spruce (C-2). ▪ East – Boreal spruce (C-2). ▪ South – Deciduous (D-1) and Boreal spruce (C-2). ▪ West – Mature pine (C-3). ▪ Clear-cut harvesting on all sides of Swan Hills has resulted in areas of cured grass (O-1) and immature pine (C-4) fuel types.
Weather	<ul style="list-style-type: none"> ▪ Predominant winds from NW with some SE winds in the spring with strongest wind velocities from NW and W.
Topography	<ul style="list-style-type: none"> ▪ Topography is rolling and would have no significant effect on fire behavior near Swan Hills.
Probable Fire Spread Direction(s)	<ul style="list-style-type: none"> ▪ C-2/C-3 fuels in all directions and NW/W or SE winds, indicates that probable wildfire threat is from NW or SE.



Swan Dive Tower Windrose (April – October).

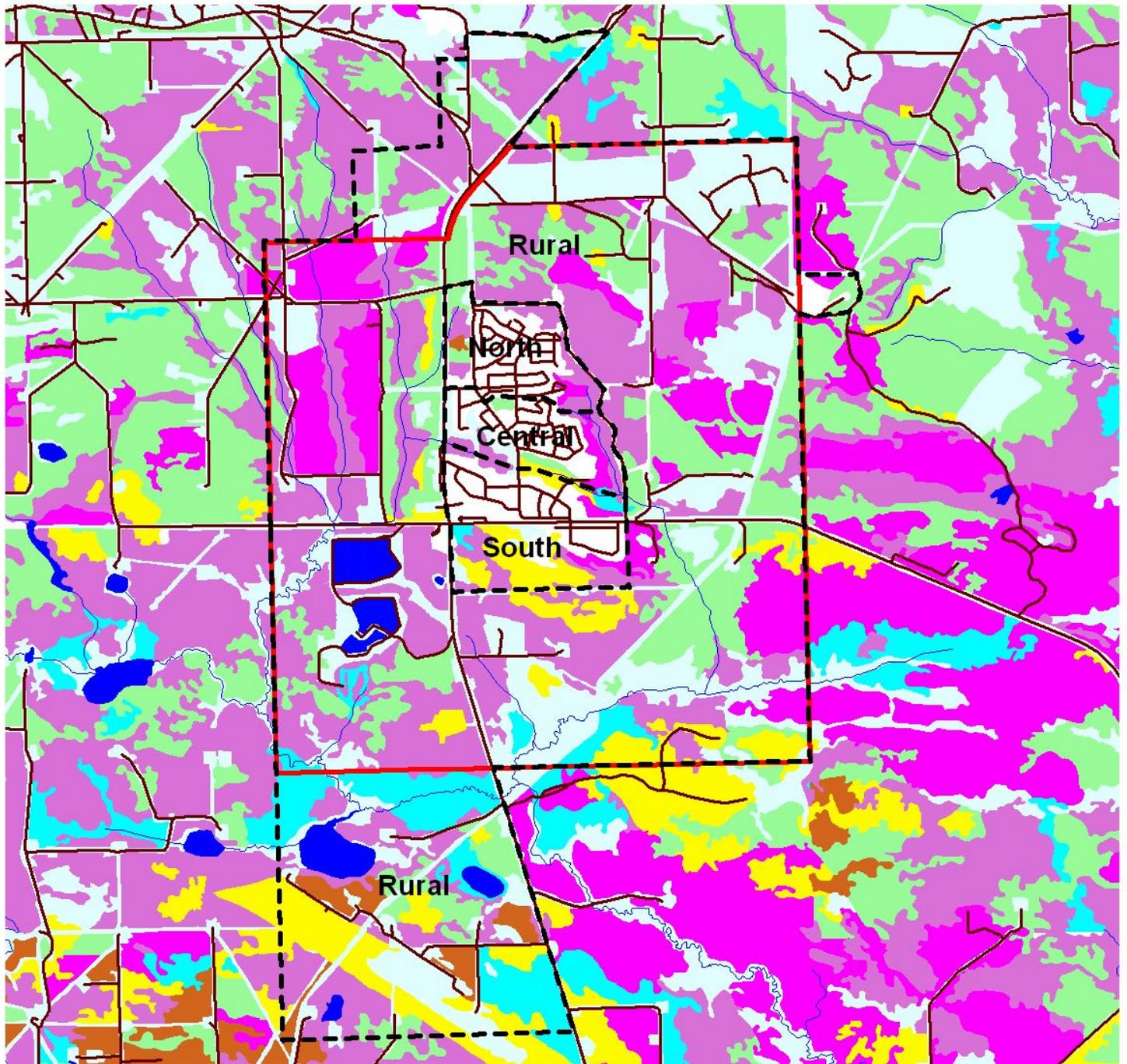


**Map 1 - Planning Area
Town of Swan Hills**

- Town Boundary
- Pre-Attack Zone
- Access Road

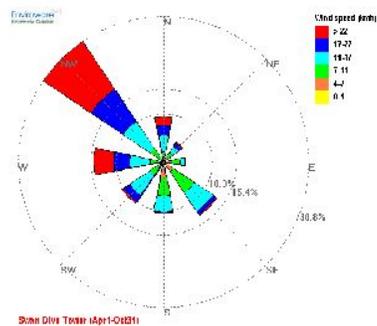


MONTANE
Forest Management Ltd.
March/2008



**Map 2 - Fire Behavior Potential
Town of Swan Hills**

- Boreal Spruce (C-2)
- Mature Pine (C-3)
- Deciduous (D-1)
- Mixedwood (M-1)
- Non-Fuel (NF)
- Cured Grass (O1)
- Water (WA)
- Spruce-Lichen Woodland (C-1)
- Immature Pine (C-4)



MONTANE
Forest Management Ltd.
March/2008

C. Values at Risk (Maps 3a – 3d).

1. Values at Risk.

Pre-Attack Zone	Value Type	No. of Structures	No. of People	Roofing Material
North (Map 3a)	Commercial Facility	4	~1050	Asphalt Shingle 321
	Multi-Family Dwelling	19		Metal/Other Non-Comb. 24
	Single-Family Dwelling	315		Unrated Wood Shake 1
	Infrastructure Facility	6		
	O&G Facility	1		
	Recreational Facility	1		
Central (Map 3b)	Commercial Facility	11	~600	Asphalt Shingle 147
	Multi-Family Dwelling	8		Metal/Other Non-Comb. 42
	Single-Family Dwelling	157		Unrated Wood Shake 0
	Infrastructure Facility	6		
	Other	4		
	Recreational Facility	3		
South (Map 3c)	Commercial Facility	69	~200	Asphalt Shingle 24
	Commercial Facility - DG	3		Metal/Other Non-Comb. 81
	Multi-Family Dwelling	4		Unrated Wood Shake 0
	Single-Family Dwelling	23		
	Infrastructure Facility	3		
	Mixed Comm/Dwelling	5		
	Recreational Facility	4		
Rural (Map 3d)	Cabin	2		Asphalt Shingle 3
	Infrastructure Facility	7		Metal/Other Non-Comb. 31
	O&G Facility	24		Unrated Wood Shake 0
	Recreational Facility	3		

Critical Infrastructure.

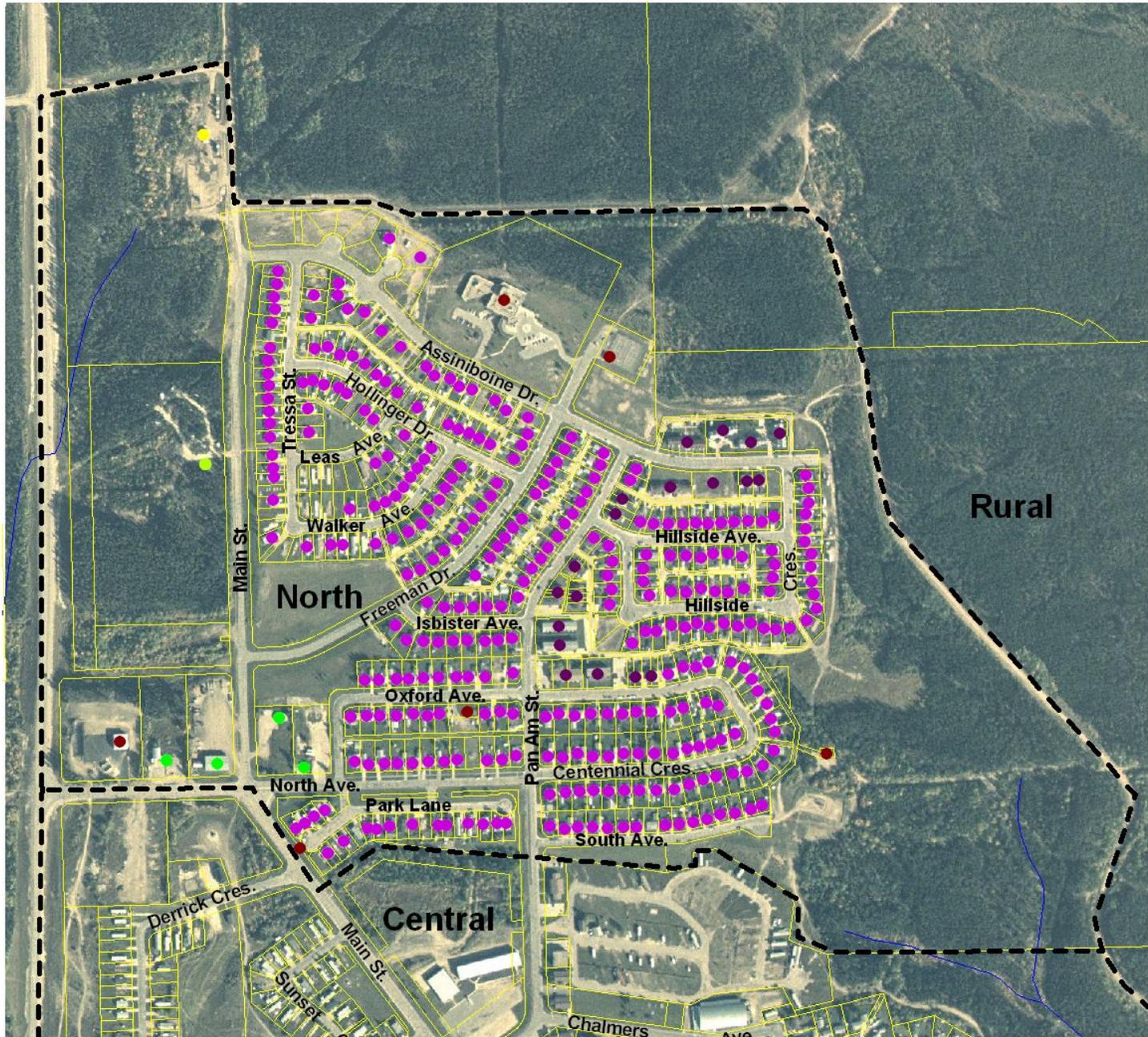
Value Name	Location (Zone)	Comments
Swan Hills Town Hall/EOC	5536 – Main St. (Central)	
Swan Hills Hospital	29 – Freeman Dr. (North)	
Swan Hills Fire Hall	Lot B – Main St. (Central)	
Swan Hills RCMP	5538 – Main St. (Central))	
Swan Hills School	4707 – Ravine Dr. (Central)	
Swan Hills Airport	NE34-65-10-W5(Rural) 54° 40.460' X 115° 25.144'	
Telus Mobility Tower	SE35-66-10-W5 (Rural) 54° 44.995' X 115° 23.525'	
Water Treatment Plant	8-15-66-10-W5 (Rural) 54° 42.715' X 115° 24.918'	4.5 million lit. – No backup power.
North Water Reservoir	Lot A – Freeman Dr. (North)	13.5 million lit. – Nat. gas backup power.
Atco Electric Substation	1-13-65-11-W5 (Outside) 54° 37.154' X 115° 30.836'	

3. Special Values at Risk.

Value Name	Location (Zone)	Comments
Swan Hills Cemetery	10-22-66-10-W5 (Rural) 54° 43.623' / 115° 25.358'	

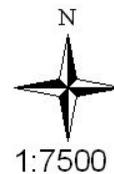
4. Hazardous Values at Risk.

Value Name	Location (Zone)	Comments
PetroCan Bulk Fuel Stn.	52 Onley Cres. (South)	2 – large above-ground fuel tanks.
Eckerts Welding	23 Onley Cres. (South)	Welding Shop – Acetylene onsite.
Esso Gas Stn.	4812 Hwy. 33 (South)	1 – large above-ground diesel tank, 2 – 1000 gal. propane tanks.

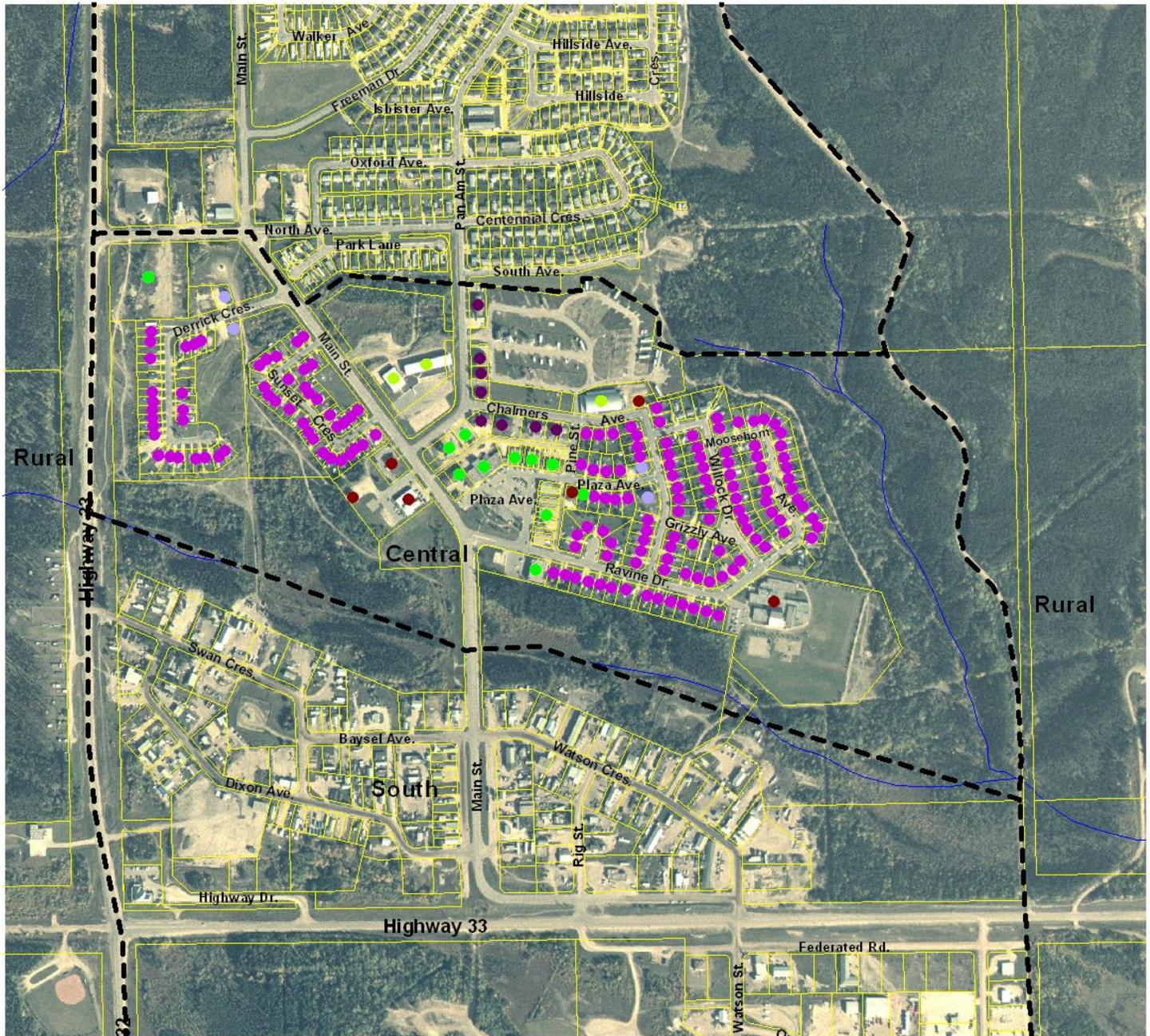


**Map 3a - Values at Risk - North Zone
Town of Swan Hills**

- | | |
|---|---|
|  Cabin |  Mixed |
|  Commercial Facility |  O&G Facility |
|  Commercial Facility DG |  Other |
|  Dwelling MF |  Outbuilding |
|  Dwelling SF |  Recreational Facility |
|  Infrastructure Facility |  Special |



MONTANE
Forest Management Ltd.
March/2008

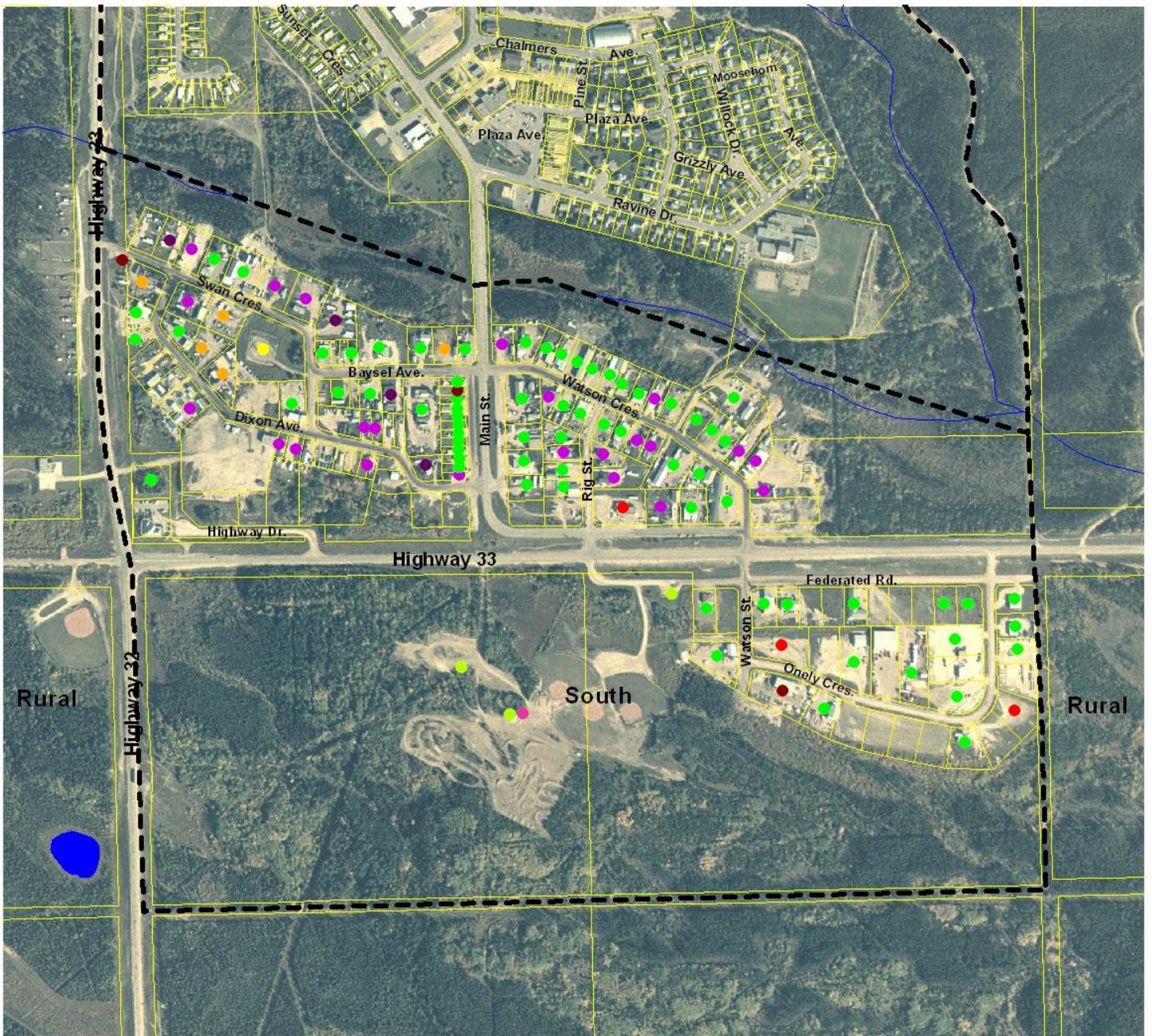


**Map 3b - Values at Risk - Central Zone
Town of Swan Hills**

- | | |
|--|--|
| ● Cabin | ● Mixed |
| ● Commercial Facility | ● O&G Facility |
| ● Commercial Facility DG | ● Other |
| ● Dwelling MF | ● Outbuilding |
| ● Dwelling SF | ● Recreational Facility |
| ● Infrastructure Facility | ● Special |



MONTANE
Forest Management Ltd.
March/2008

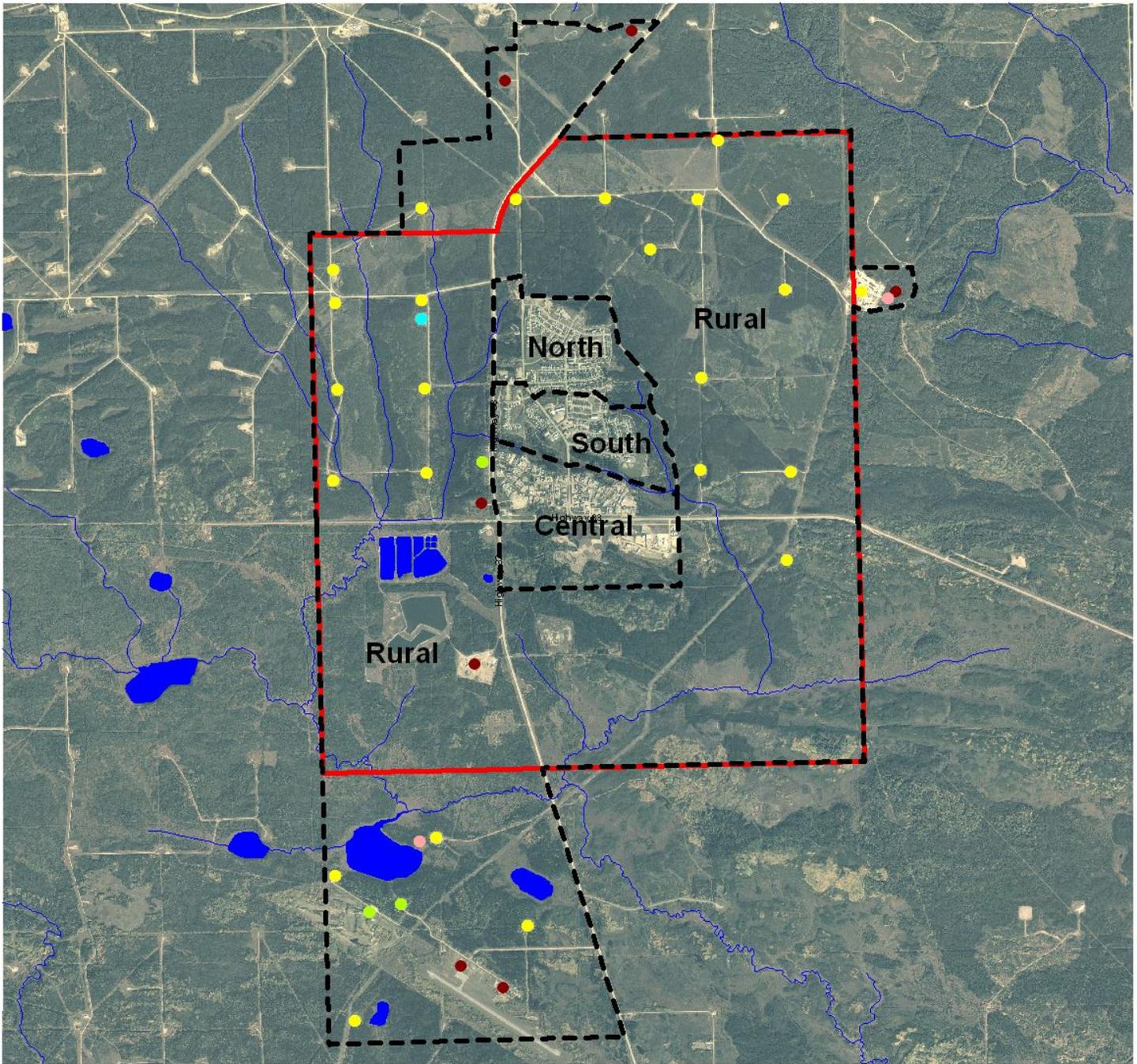


**Map 3c - Values at Risk - South Zone
Town of Swan Hills**

- | | |
|---|---|
|  Cabin |  Mixed |
|  Commercial Facility |  O&G Facility |
|  Commercial Facility DG |  Other |
|  Dwelling MF |  Outbuilding |
|  Dwelling SF |  Recreational Facility |
|  Infrastructure Facility |  Special |



MONTANE
Forest Management Ltd.
March/2008



**Map 3d - Values at Risk - Rural Zone
Town of Swan Hills**

- | | |
|--|--|
| ● Cabin | ● Mixed |
| ● Commercial Facility | ● O&G Facility |
| ● Commercial Facility DG | ● Other |
| ● Dwelling MF | ● Outbuilding |
| ● Dwelling SF | ● Recreational Facility |
| ● Infrastructure Facility | ● Special |



MONTANE
Forest Management Ltd.
March/2008

D. Fire Operations Action Plan (Maps 4a – 4d).

1. Strategies and Tactics.

Zone	Strategy	Tactics	Comments
North (Map 4a)	Protect Onsite	<ul style="list-style-type: none"> ▪ Initiate perimeter sprinkler line on north and/or east fireguards. ▪ Direct attack in fuel-reduced buffers north and east sides. ▪ Engine patrol on perimeter structures: <ul style="list-style-type: none"> - Assiniboine Dr. - Hillside Cres. - Centennial Cres. - South Ave. 	Critical Infrastructure: <ul style="list-style-type: none"> ▪ Hospital. ▪ North Water Reservoir.
Central (Map 4b)	Protect Onsite	<ul style="list-style-type: none"> ▪ Initiate perimeter sprinkler line on east fireguard. ▪ Direct attack where possible between structures and east fireguard. ▪ Engine patrol on perimeter structures: <ul style="list-style-type: none"> - Moosehorn and Ravine Dr. 	Critical Infrastructure: <ul style="list-style-type: none"> ▪ Town Hall/EOC. ▪ Fire Hall. ▪ RCMP. ▪ School.
South (Map 4c)	Protect Onsite	<ul style="list-style-type: none"> ▪ Widen vegetation clearance on south side with heavy equipment if required. ▪ Engine patrol on perimeter structures: <ul style="list-style-type: none"> - Onely Cres and Watson St. 	Dangerous Goods Sites: <ul style="list-style-type: none"> ▪ PetroCan Bulk Fuel ▪ Eckerts Welding ▪ Esso Gas Station
Rural (Map 4d)	Retreat & Return	<ul style="list-style-type: none"> ▪ Prepare individual structures in advance of wildfire impingement. ▪ Ensure protection of Freeman Lk. pump stn. ▪ Sprinkler structures at Golf Course, Krause Lk. PRA and Snowmobile Club cabin, Airport, Swan Dive Tower and trapper cabin as necessary. ▪ Reinforce vegetation clearance with heavy equipment. ▪ Consider backfire from existing Primary Contingency line. 	Critical Infrastructure: <ul style="list-style-type: none"> ▪ Freeman Lk. Pump Stn. ▪ Water Treatment Plant. ▪ Airport. ▪ 2 – Telus Mobility Tower.

2. Evacuation.

Zone	Estimated Evacuation Time	Safe Refuge Areas	Special Evacuation Concerns
North	4 hrs	Community Centre	Hospital patients.
Central	4 hrs	Community Centre	None
South	4 hrs	Community Centre	None
Rural	1 hr	Airport	None

3. Fire Suppression Water Supply.

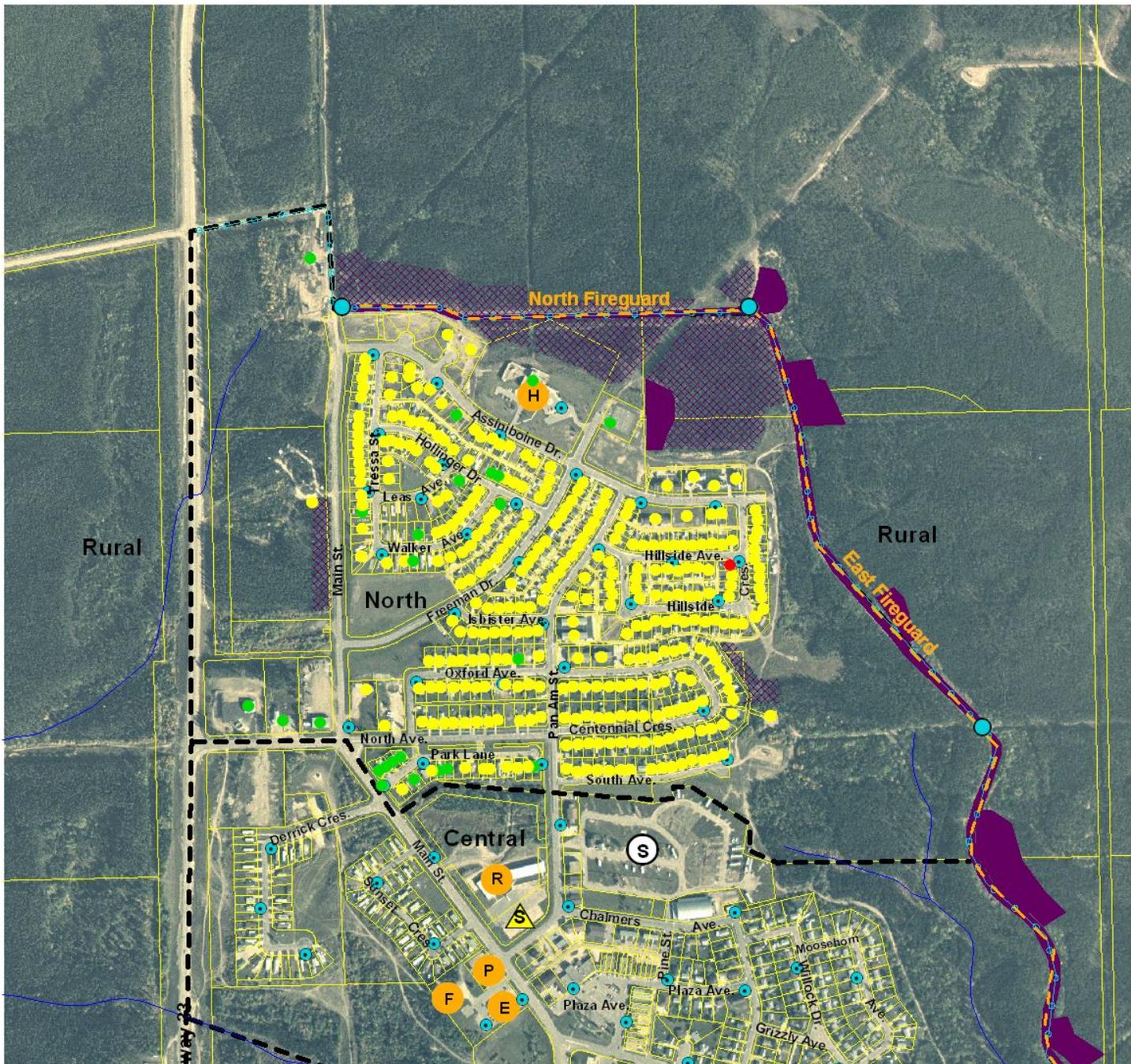
Zone	Name	Type/Delivery	Capacity/Flows
North	Urban	Hydrant supply	13.5 million lit. reservoir – Natural gas backup.
	North/East Fireguard	Above-ground tanks/ Portable pumps	3 - 400 bbl. Oilfield tanks for fireguard sprinkler system.
Central	Urban	Hydrant Supply	
South	Urban	Hydrant Supply	4.5 million lit. reservoir at treatment plant.
	Parkers Transport 5011 Baysel Ave.	Hi-Vol. Well	Unknown
Rural	Morris Ri./Hwy 32	Creek	Unlimited
	Sewage Lagoon Rd.	Creek	Unlimited

Note: Town water supply is provided by pump and pipeline from Freeman Lk. No backup power for Freeman Lk. pump station.

4. Minimum Auto-Order List.

*Note: This list is for minimum resource requirements in the **initial** stages of an interface fire and is based on probable fire spread/behavior and anticipated values at risk. More and/or specialized resources may be required and should be requested immediately if warranted.*

Zone	Apparatus	Other Manpower/Equipment
North & Central	2 – Type 1 Engines 2 – Type 3 Engines 4 – Type 1 Water Tenders	10 - Sprinkler kits (large) 8 – Pumps, MK3 or BB4 10,000’ – Hose, 1 1/2” 46 – Water thieves 8 – Check valves 4 – Wyes, 1 1/2” 2 - Dozer Units 3 - Type I Crews (8)
South	2 – Type 1 Engines 1 – Type 3 Engine 4 – Type 1 Water Tenders	2 - Dozer Units 2 - Type I Crews (8)
Rural	2 – Type 1 Engines 2 – Type 3 Engine 4 – Type 1 Water Tenders	10 - Sprinkler Kits (large) c/w pumps, hose, and fittings. 10 - Sprinkler Kits (small) c/w pumps, hose, and fittings. 6 - Relay tanks (2500 gal.) 2 - Dozer Units 2 - Type I Crews (8)



Map 4a - Fire Operations - North Zone

Roofing Type

- Asphalt Shingle
- Metal/Other Non-Comb.
- UR Wood Shake

Existing Barriers

- Fireguard
- Fuel Reduction
- Fuel Removal

Watersources

- Above-Ground Tank
- Hydrant
- Under-Ground Tank
- Creek/Lake

Emergency Facilities

- H Hospital
- P Police
- F Fire Hall
- S School
- E Municipal EOC
- R Reception Centre

Fire Operations

- Safe Refuge Area
- Staging Area
- Sprinkler Line
- Contingency/Containment Line



MONTANE
Forest Management Ltd.
March/2008



Map 4b - Fire Operations - Central Zone

Roofing Type

- Asphalt Shingle
- Metal/Other Non-Comb.
- UR Wood Shake

Existing Barriers

- Fireguard
- Fuel Reduction
- Fuel Removal

Watersources

- Above-Ground Tank
- ◈ Hydrant
- ▲ Under-Ground Tank
- Creek/Lake

Emergency Facilities

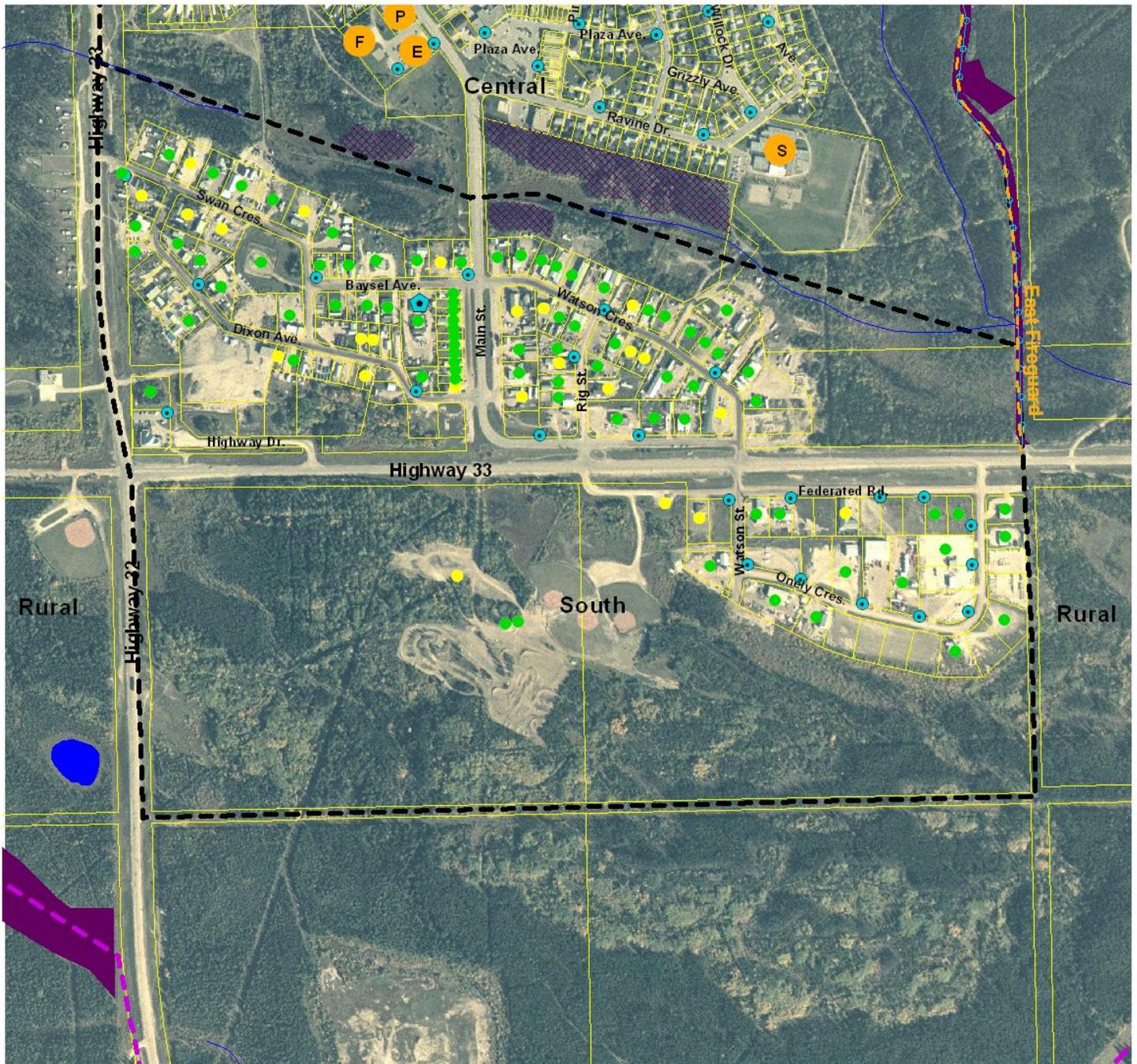
- H Hospital
- P Police
- F Fire Hall
- S School
- E Municipal EOC
- R Reception Centre

Fire Operations

- S Safe Refuge Area
- S Staging Area
- Sprinkler Line
- Contingency/Containment Line



MONTANE
Forest Management Ltd.
March/2008



Map 4c - Fire Operations - South Zone

Roofing Type

- Asphalt Shingle
- Metal/Other Non-Comb.
- UR Wood Shake

Existing Barriers

- Fireguard
- Fuel Reduction
- Fuel Removal

Watersources

- Above-Ground Tank
- Hydrant
- Under-Ground Tank
- Creek/Lake

Emergency Facilities

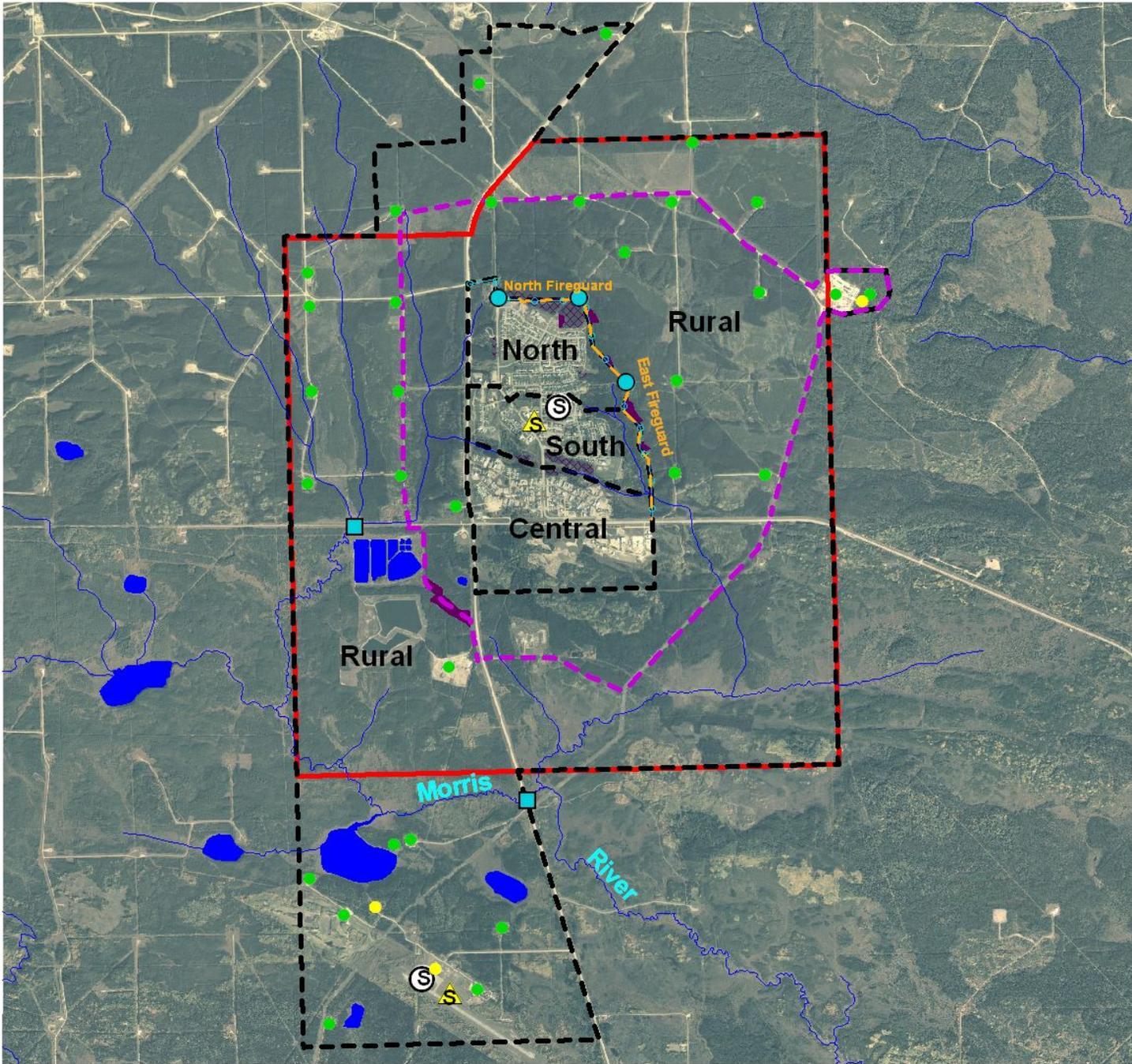
- H Hospital
- P Police
- F Fire Hall
- S School
- E Municipal EOC
- R Reception Centre

Fire Operations

- Safe Refuge Area
- Staging Area
- Sprinkler Line
- Contingency/Containment Line



MONTANE
Forest Management Ltd.
March/2008



Map 4d - Fire Operations - Rural Zone

Roofing Type

- Asphalt Shingle
- Metal/Other Non-Comb.
- UR Wood Shake

Existing Barriers

- / / Fireguard
- Fuel Reduction
- Fuel Removal

Watersources

- Above-Ground Tank
- ⬢ Hydrant
- ▲ Under-Ground Tank
- Creek/Lake

Fire Operations

- S Safe Refuge Area
- S Staging Area
- ~ Sprinkler Line
- - - Contingency/Containment Line



1:50000

MONTANE
Forest Management Ltd.
March/2008

Appendix I
Municipal Fire Resources

Fire Dept.	Resource Kind and Type								
	Engines				Water Tenders			Manpower	Other
	1	2	3	4	1	2	3		
Swan Hills	2	1						13 – Volunteer Chief & FF	1 – Rescue 2 – EMS Units 1 – ATV (4-seater)

Appendix II

Swan Hills NorthEast Sprinkler Wetline 2008

The system uses four stationary tanks at three points along the north and north east sides of the town a total distance of 4,400 ft. If the conditions will allow, maintain the water level in these tanks with water tenders.

Pump sites

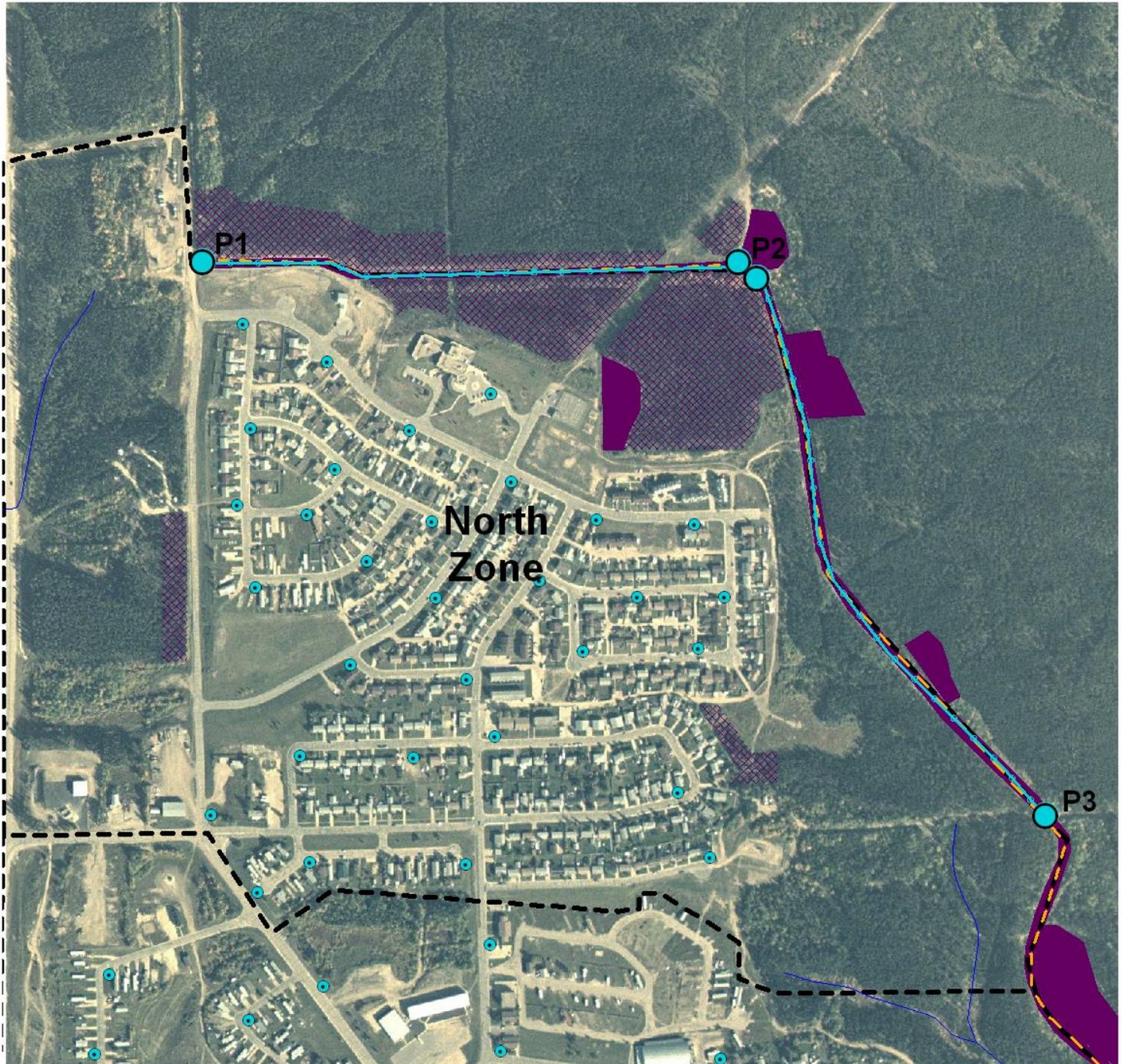
- At P1 (north west) Two pumps Mark 3 or BB4
- At P2 (midway) Four pumps Mark 3 or BB4
- At P3 (east) Two pumps Mark 3 or BB4
- Discharge check valves for all pumps

Hose layout

- Lay Two 1 ½” lines from P1 to P2 and the same from P2 to P3
- Connect each line to a pump at each pump site
- Connect the hose lines to each other at the half way point between the pumps (1,100 ft. point) using 2 wyes.
- Connect a water thief and a Rainbird sprinkler equipped with a ¼” nozzle at every second connection on all lines so that there is a sprinkler every 100 ft. along the entire length of the wet line.

Equipment

- 10,000 ft. 1 ½” hose
- 46 Rainbird Sprinklers with ¼” nozzles
- 46 Water Thief
- 8 Pumps Mark 3 or BB4
- 8 Check valves
- 4 – 1 ½” Wye
- Water tanks at each location, minimum size 8,000 imperial gallons one at P1 two at P2 and one at P3



NorthEast Swan Hills Sprinkler Plan

-  Sprinkler Line - 38 mm
-  Above-Ground Tank
-  Hydrant
- P1** Pump Site
-  Fuel Reduction
-  Fuel Removal
-  Fireguard

NE Sprinkler Plan Equipment Needs	
48	Sprinklers, Rainbird ,1/4"
10,000'	Hose, 1 1/2"
8	Pumps, MK3 or BB4
46	Water Thiefs
8	Check Valves
4	Wyes, 1 1/2"



March/2008