

PRESCRIBED BURN PLAN

IRVINE PRAIRIE 2023 1 of 1

SITE/TRACT: Irvine Prairie- South Tract, Central Unit

LANDOWNER/OPERATOR: Tallgrass Prairie Center, University of Northern Iowa

ADDRESS: 1173 55th St, Dysart, IA 52224

ACRES TO BURN: 19.7

TOWNSHIP: Bruce, T86NR12W **SECTION:** 32

PLANNED DATE FOR BURN: 4-25-23

EXPIRATION DATE: 5-20-23

Notification of units of government:

Local Fire Dept.: Dysart Fire Department* (City of Dysart)

Phone: 319-476-5690

Sheriff/County Dispatch: Benton County Sheriff Office

Phone: 319-472-2337

Other: Tama County Sheriff Office

Phone: 641-484-3760

Notification of neighbors (in advance and day of):

Name: Cathy Irvine (north)

Phone: 319-640-5919 (cell)

Name: Larry Fleschner (northeast)

Phone: 319-342-2729 (landline)

Name: Shane Vogeler (south)

Phone: 319-231-6619 (cell)

Name: Ed Hach (west)

Phone: 319-538-1211 (cell)

Name: Brian Pippert (east)

Phone: 319-231-5453 (cell)

A. DESCRIPTION OF BURN AREA: Program/Land use: NA

A1) Woody Plant Species (list species, size, and plants/acres):

None

A2) Herbaceous Plant Species (list species, height, condition):

Tallgrass prairie vegetation throughout, approximately 5ft vegetation height. Dense warm season grasses, with forbs co-dominant.

A3) Fuel Load:

Fine fuel (grass/forbs)	Tons/acre	%Volatile Fuels
Predominant fuel ht. 2-6 ft	~ 2	None

A4) Soil Types:	Slope%	Aspect:	%Area
Dinsdale silty clay loam	2-9%	NE	~85
Colo-Ely silty clay loam complex	0-5%	NE	~15

B. OBJECTIVE AND TIMING OF BURN

General objective is to remove accumulated dead biomass to promote native prairie growth. Other objectives include suppressing non-native cool season grass, perennial noxious weeds, and trees/shrubs.

C. SPECIFIED CONDITIONS FOR DAY OF BURN

Condition	Preferred:	Lowest Acceptable:	Highest Acceptable:
Air temperature	50-65 F	40 F	75 F
Relative humidity	40-50%	30%	70%
Wind speed	10-15 mph	7 mph	20 mph
Wind direction	N, NNW, NW, WNW, W, WSW, SW, S, SE, E, NE		

D. PREPARATION OF AREA FOR BURNING (see attached burn plan map)

- 1. Firebreak Construction: (type of fire line, width in feet. Also indicate on burn plan map.)**
South, west, north breaks 15ft wide. Mowed breaks into existing prairie, stubble height 2in, thatch thrown out of breaks. NW break parking lot appx. 50ft wide to road. East breaks 15ft plus additional 20-30ft cool-season mowed grass or bare ground.
- 2. Existing firebreaks: (streams, roads, tilled field, etc. Show on burn plan map)**
Road to north provides primary existing fire break.
- 3. Items to address: (protection of power line poles, signs, cable/phone junction boxes, dead tree removal, etc.)**
Stand pipe at SE corner should be protected. Surrounding vegetation will be trimmed and a crew member will spray with water prior to fire reaching area.

4. **Potentially Hazardous Areas within Burn Area:** (power lines, snags, structure, obstacles to vehicle access, plastic drain tile, under-ground utilities, etc.)
None.

E. ADJACENT AREAS

1. **Vegetation and Fuels Description:**

The area bordering the west boundary is tallgrass prairie vegetation. The field bordering the south boundary is chopped corn residue. The area bordering the east boundary is tallgrass prairie vegetation. The farm to the north consists of mixed mowed cool season grass, cool-season ornamental forbs, shrubs 15-30 ft tall, and trees 30-60 ft tall. The field bordering the north boundary is chopped soybean residue.

2. **Special Precaution Areas: (also drawn on attached burn plan map)**

The primary special precaution area is Irvine Farm, north of the road. Other special precaution areas include adjacent fields of cover cropped corn stubble (south).

3. **Smoke Management Plan:**

Avoid sending smoke to the north. Irvine residence is appx. 200 ft. to the north of the burn area and gravel road is appx. 50 ft. to the north. Flaggers and signage should be assigned to 55th St. on the east and west boundaries of Irvine Prairie if smoke is expected to cross the road (southerly winds). If smoke is on the road, flaggers will direct traffic.

F. TOOLS/EQUIPMENT NEEDED:

Include type and number of rakes, swatters, drip torches, backpack pump, other

F1) Equipment Checklist

- 2 Pumper Vehicles (Polaris Ranger w/ 50 gal tank, Chevy Silverado w/ 225 gal tank)
- 2 Drip torches (Igniters must wear all-leather boots)
- 1 Personal weather station (burn boss)
- 5 Two-way radios
- 5 gal Drip torch fuel (30 gas:70 diesel)
- 4 Flappers
- 5 gal Drinking water (or 2 case bottled water)
- 5 gal Pumper engine fuel (unleaded gas)
- 4 Rakes
- 4 Lighters (line leaders and igniters)
- 4 Backpack pumps
- 12 NOMEX coveralls, leather gloves, safety glasses
- 1 Fencing tool

G. PERSONNEL REQUIRED FOR BURN

Include number of people and their role. It's recommended that burning be done by certified personnel.

Position	Name
Fire Boss	Justin Meissen (FFT2 Coursework)
A Team Line Leader	Laura Walter (FFT2 Coursework)
B Team Line Leader	Andy Olson (FFT2 Coursework)
A Team Igniter	Mallory Sage or volunteer, must wear all-leather boots
B Team Igniter	Bri Hull (FFT2 Coursework) or volunteer, must wear all-leather boots
A Team Pumper/Driver	TPC Research Assistant 1 or volunteer
B Team Pumper/Driver	TBD volunteer
A Team Mop/Spotter	TBD volunteer
B Team Mop/Spotter	TBD volunteer
Traffic Control (S winds only)	TBD volunteer
Traffic Control (S winds only)	TBD volunteer

H. SPECIAL CONSIDERATIONS

Precautions to prevent fire escape

Wide burn breaks make escape unlikely, but airborne embers may cause spot fires in heavy fuels. Look-outs will be assigned to watch and extinguish spot fires downwind from airborne embers.

I. SUPPRESSION PLAN IF FIRE ESCAPES

Note any contingency plans, i.e. secondary firebreaks: creeks, roads, disked breaks, authorities to contact. Provide burn map to fire dept. noting field access, hazards, etc.

Roads exist along the entire north and east edges of the property. A creek and cool season waterway runs northwest to southeast in the adjacent southern property. If fire escapes to the west and cannot be suppressed at escape location safely from the flanks, crews should follow the main road west and access the neighboring fields from the west. If fire escapes to the south, crews should suppress fire in the field from the flanks. If fire escapes to the east and cannot be suppressed at escape location safely from the flanks, crews should move to the dirt road/field bordering the east and prepare to suppress spot fires across the road. Engine crews should be prepared to suppress spot fires in the adjacent fields (see Map 5). Call 911 if fire in fields cannot be suppressed.

J. PATROL AND MOP UP PLAN

Look-outs should be assigned to periodically watch for spot fires downwind from airborne embers. Crews will extinguish or spread out any smoking material within 100 ft of burn perimeter. Crew may be dismissed 30 min. after no-smokes. Burn boss will remain on site for 1 hr 30 min after crew dismissed to ensure no flare ups.

K. IGNITION PLAN (See attached burn plan map)

1. Ignition Time:

1pm

2. Method of Firing/Firing Sequence:

For north winds (Map 1): Ignite on the southeast corner. Team A should back fire to the east to DP1 to create initial black line as Team B waits. Team B should then begin back firing along the east lines until reaching DP3. Both teams should move slowly in tandem (Team B moving faster to match pace with uphill direction of Team A) Team A should proceed slowly toward DP2 and set pace to ensure Team B is not downwind of progress. Team A should hold at DP2 until Team B reaches DP4. Once Team B reaches DP4, Team A may begin lighting head fires along the northwest line to DP6. Team B should hold at DP4 until Team B reaches DP6 and can then light final head fires across the north line.

For northwest winds (Map 2): Ignite in the middle of the east line. Both teams begin back firing up and down the line to create sufficiently wide black line, Team A to the south and B to the north. Team A and B should move approximately the same speed toward DP1 and DP2 respectively. Team A should then backfire/flank along the south line until reaching DP3 ensuring corner is well blackened and widened. Both Teams should hold at DP2, DP3 until black lines >50 ft wide. Team A should then begin flank fires along the west line until reaching DP4. Both teams may then proceed headfiring across northern/northeastern line towards DP5.

For west winds (Map 3): Ignite in the middle of the east line and start back firing up and down the line to create sufficiently wide black line. Team A and B should move approximately the same speed toward DP3 and DP1 respectively. Both Teams should hold at DP1, DP3 until black lines >50 ft wide. Team B can then ignite flank fires on the north line to DP2, while Team A ignites flank fires on the south line to DP4. Once Team B has reached DP2 and Team A reaches DP4, Team B can begin head fires along north west line while Team B can begin head fires along south west line toward DP5.

For southwest winds (Map 4): Ignite in the northeast corner. Team B should start the backing fire along north line to DP3. Once sufficient black exists, Team A can begin back/flank firing the east line toward DP1. Team B should hold at DP3 until Team A reaches DP1. Team B can then begin flank firing the northwest line towards DP4 while Team A flank fires along east line toward DP2. Once Team A reaches DP2, they should begin lighting head fires around the corner, then both teams may begin headfiring along the southwest line, meeting in the middle of the southwest line.

For southeast winds (Map 5): Ignite in the northwest corner. Team A should start the backing fire along northeast line to DP1. Team B should provide spotter and mop support from near ignition point as Team A fires toward DP1. Once Team A reaches DP1, Team B should begin a backing fire toward DP4, relatively slowly. Once black lines >50 ft wide on northwest line, Team A can continue flank/backfiring towards DP2. Team B should hold at DP4 until Team A reaches DP2. Team A should wait until black lines mostly >50 ft wide on the flank, then carefully ignite the corner at DP2. Once corner blackened, Team A should headfire toward DP3. Once Team A reaches DP3, both teams can ignite headfires toward DP5.

For east and northeast winds (Map 6): Ignite in the western corner. Team A should start the backing fire along the southeast line to DP1. Once Team A is about half way to DP1, Team B should begin a backing fire toward DP4. Once black lines >50 ft wide on west line, Team A can continue flank/backfiring towards DP2. Team B should hold at DP4 until Team A reaches DP2.

Team A should wait until black lines mostly >50 ft wide on the flank, and corner blackened. Team B may begin carefully with flank/headfires in the northwest corner while Team A should flank/headfire toward DP3. Once Team A reaches DP3, Team B may flank/backfire toward DP5 as Team A continues headfiring toward DP5.

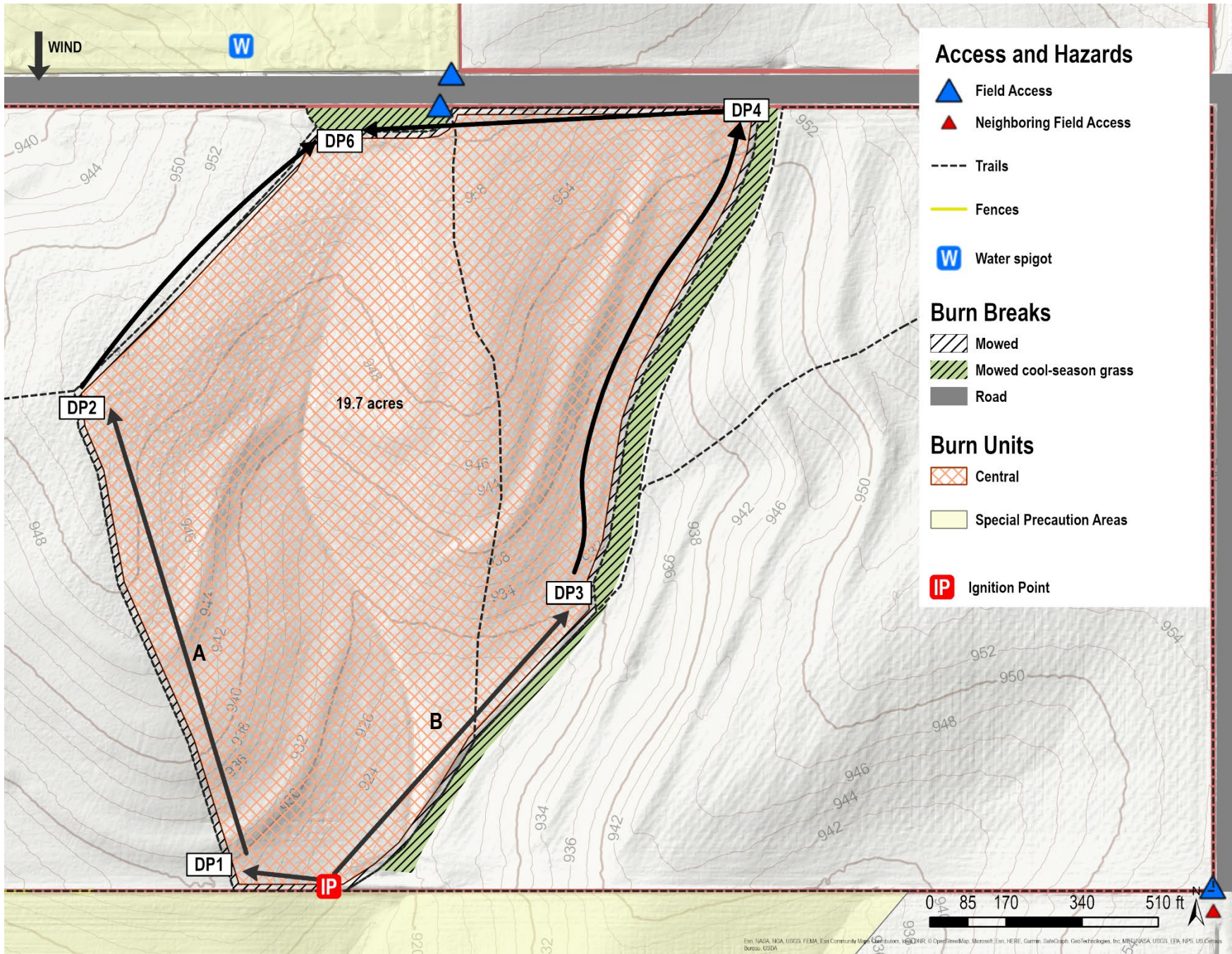
Plan Prepared By:

Justin Meissen

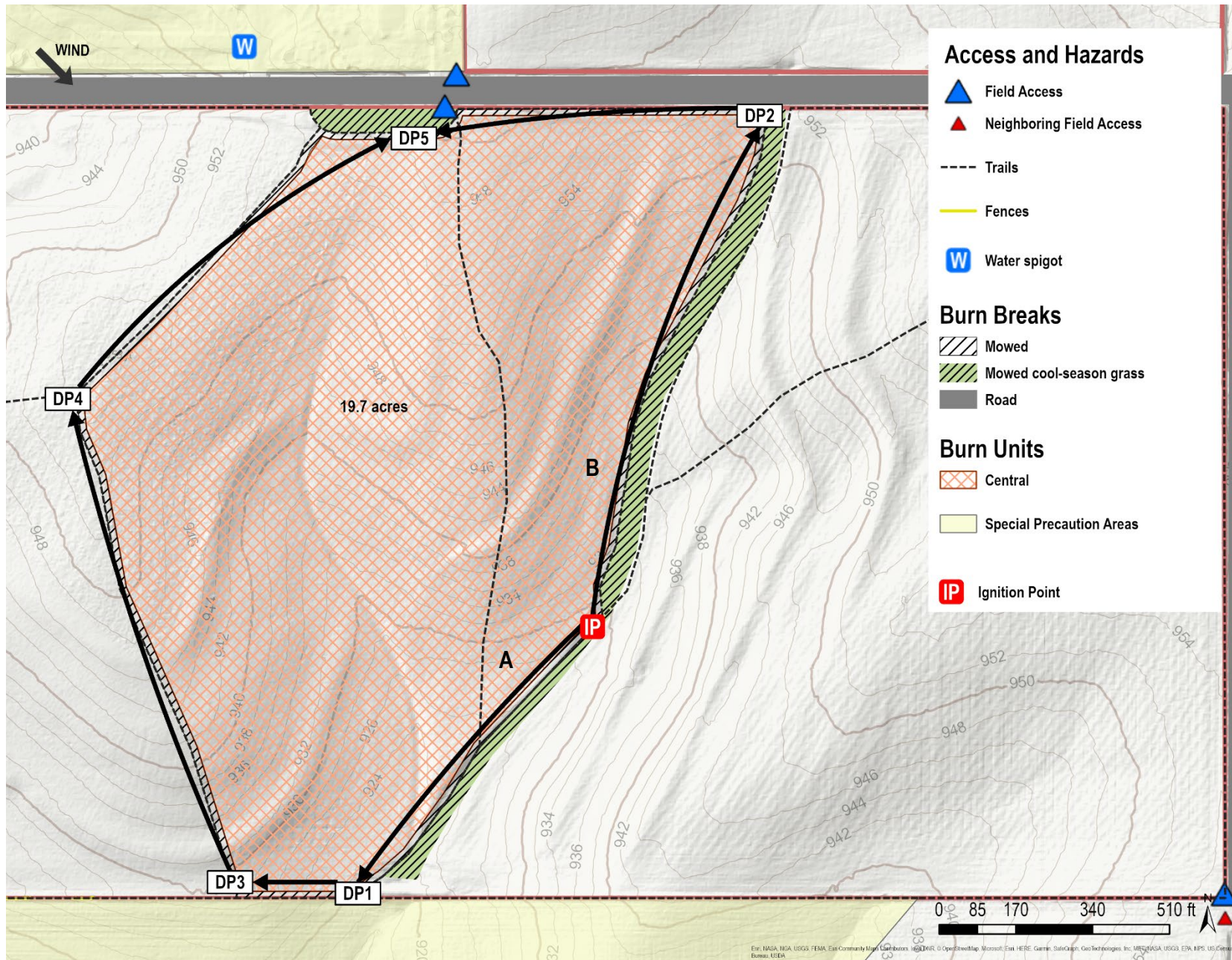
Research and Restoration Program Manager, Tallgrass Prairie Center, University of Northern Iowa

Tel: 319-273-7957

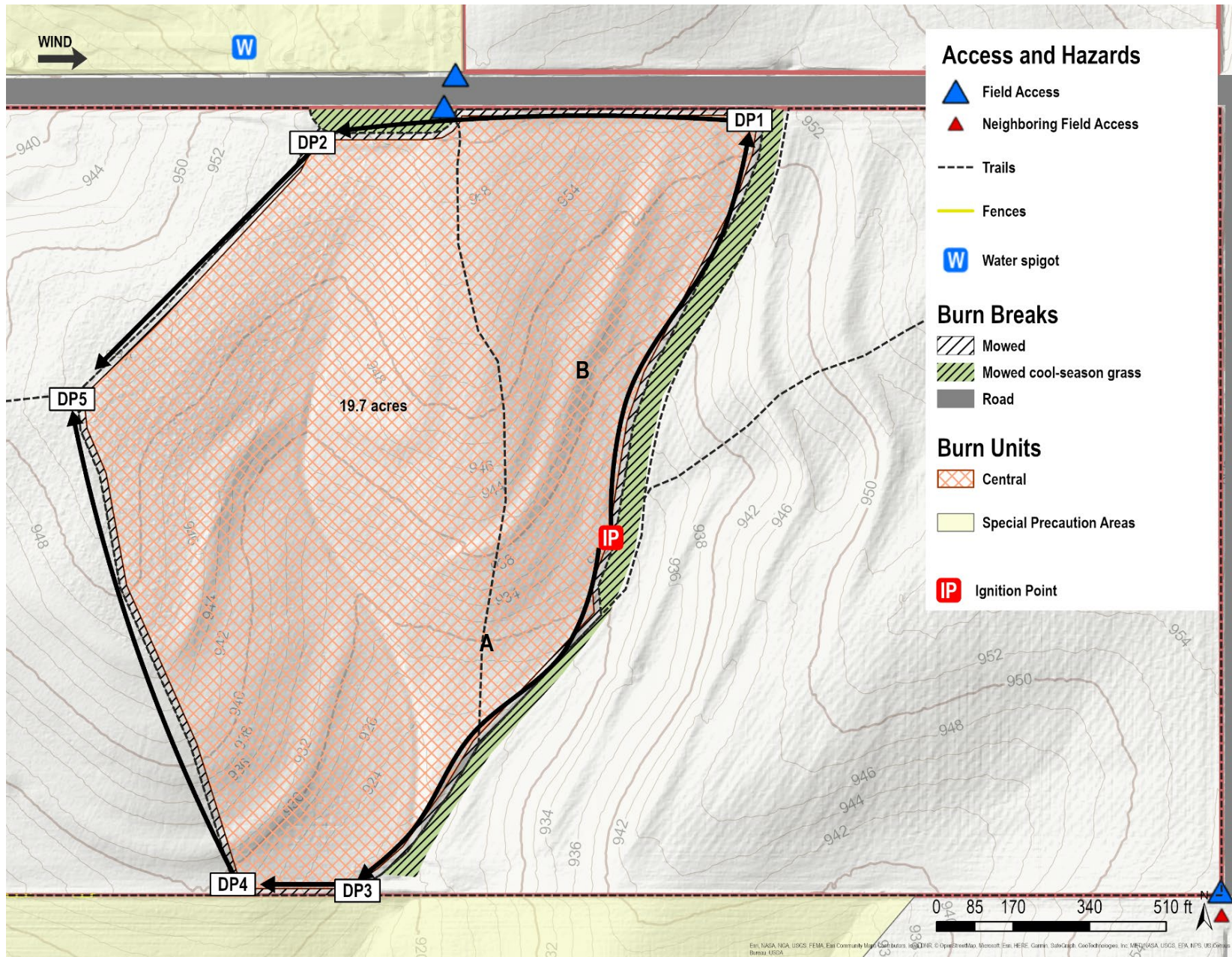
Email: justin.meissen@uni.edu



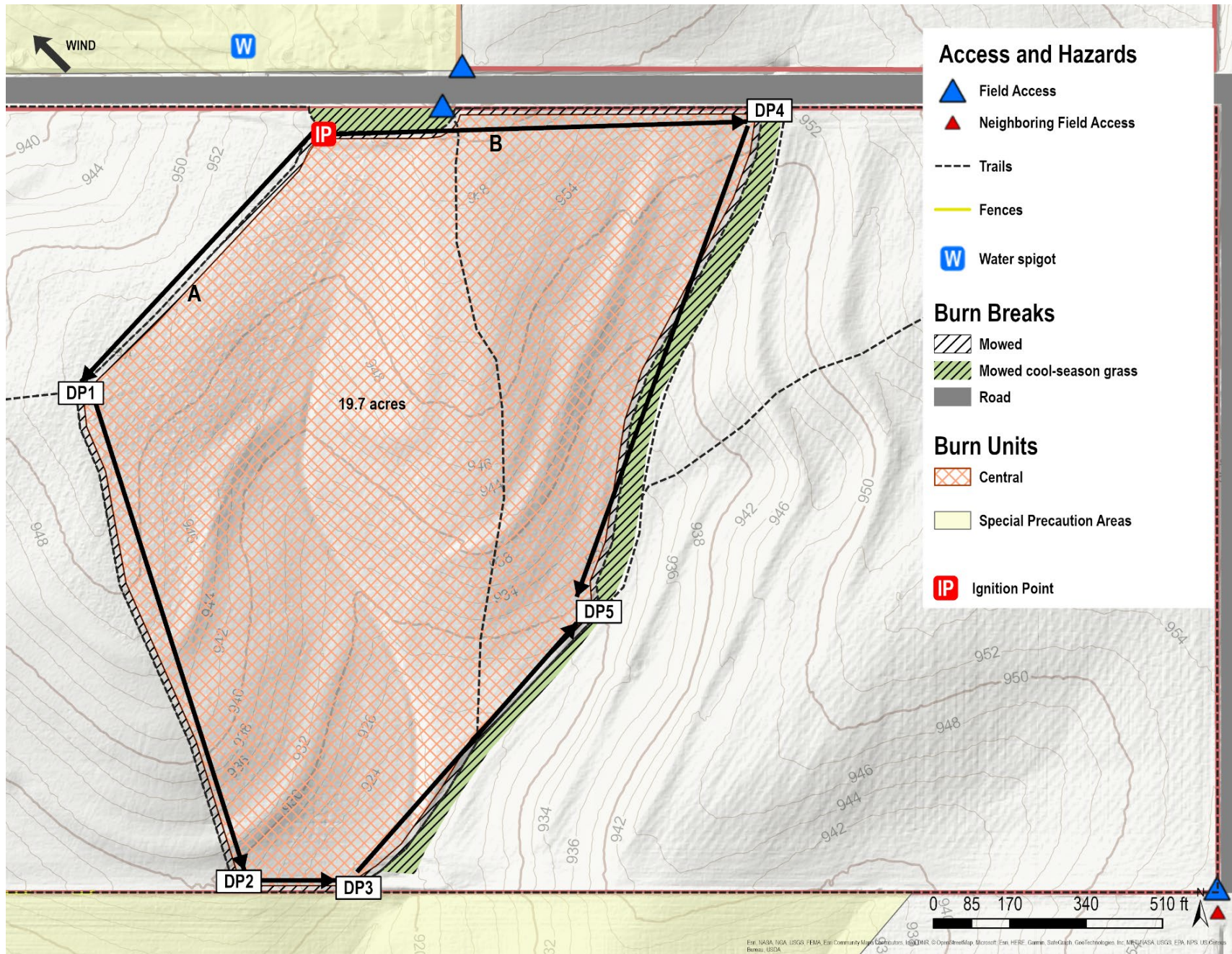
Map 1. Central Unit (South Tract) Ignition Plan for North Winds



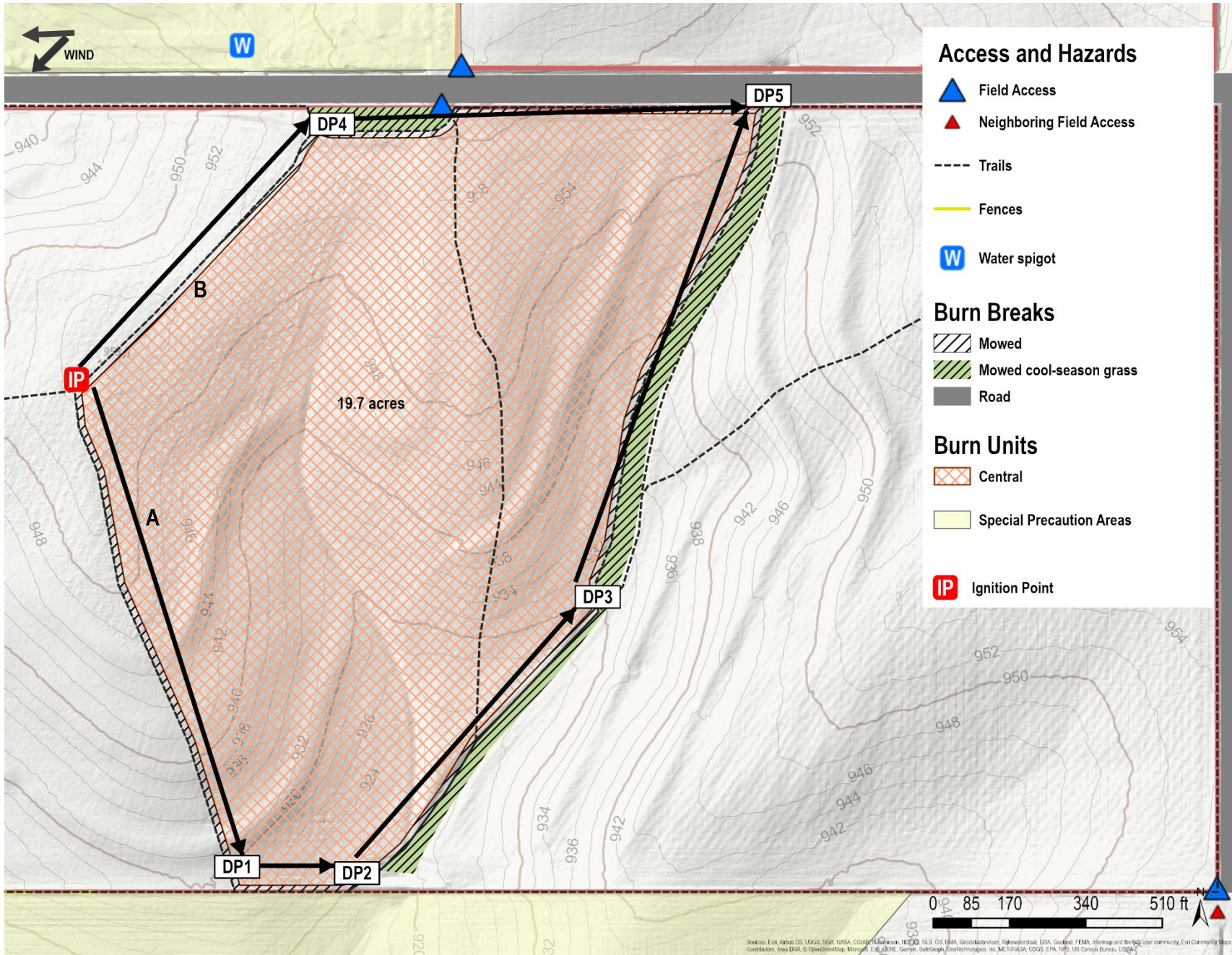
Map 2. West Unit (South Tract) Ignition Plan for Northwest Winds



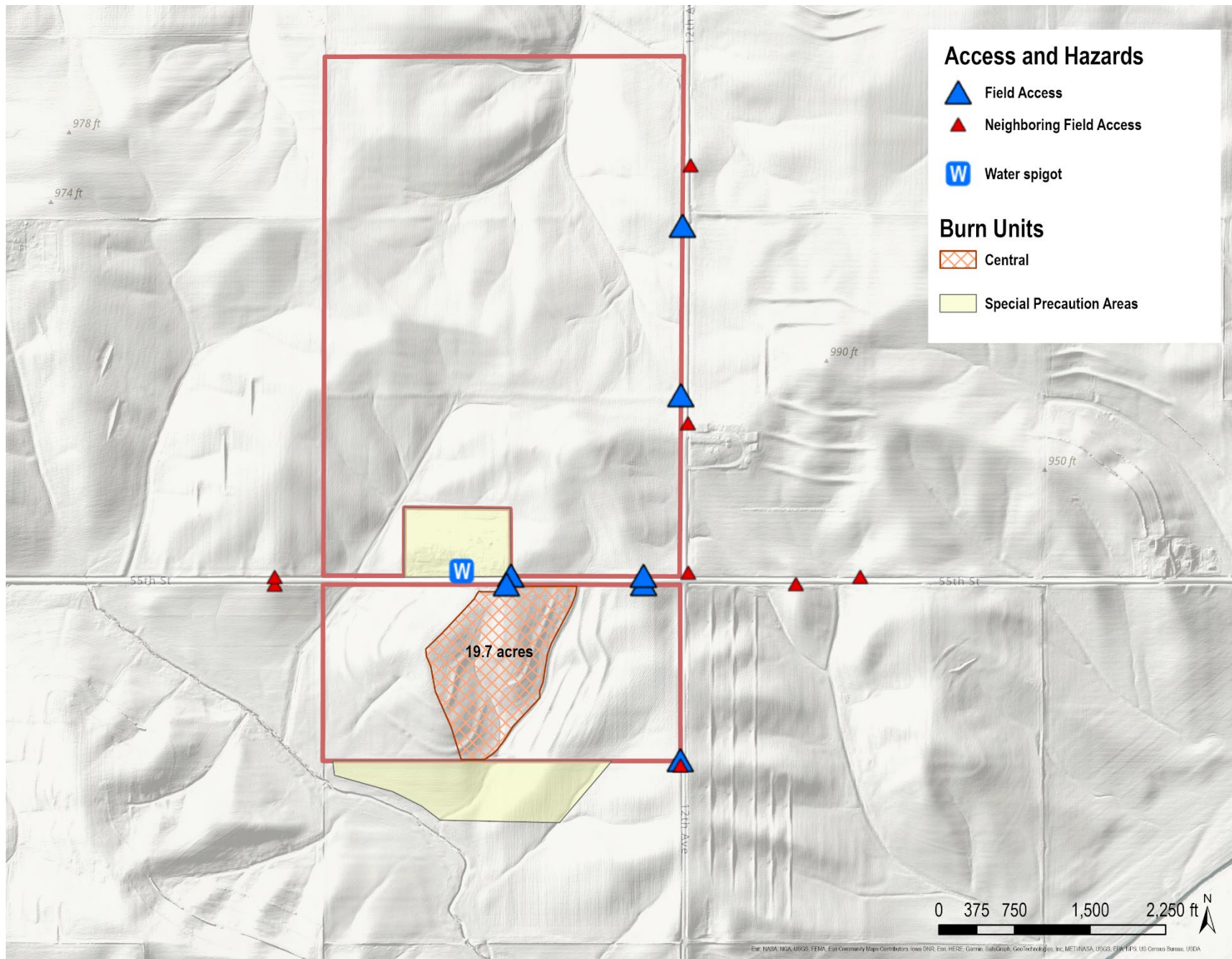
Map 3. West Unit (South Tract) Ignition Plan for West Winds



Map 5. West Unit (South Tract) Ignition Plan for Southeast Winds



Map 6. West Unit (South Tract) Ignition Plan for Northeast, East Winds



Map 7. Burn Area Overview

PRESCRIBED BURN CHECKLIST

For review and completion day of burn

A. Pre-burn Checklist:

- | | | |
|--|-----|----|
| 1. Weather forecast favorable | YES | NO |
| 2. Necessary firebreaks constructed | YES | NO |
| 3. Potential hazards accounted for | YES | NO |
| 4. Special precaution areas noted | YES | NO |
| 5. Safety equipment adequate | YES | NO |
| 6. Tools/equipment on-site | YES | NO |
| 7. Personnel needed available | YES | NO |
| 8. Special considerations reviewed with crew | YES | NO |

B. IF ANY OF ABOVE ARE ANSWERED "NO", DO NOT BURN

1. Actual weather at burn

- | | | | |
|--|-------------------------|-----------|----------------|
| i. Acceptable Conditions: | Preferred: | Actual: | Time Recorded: |
| ii. Air temperature (40-75 F) | 60 F | _____ F | _____ |
| iii. Relative humidity (30-60 %) | 40% | _____ % | _____ |
| iv. Soil damp to touch | | _____ | _____ |
| v. Wind speed (7-20 mph) | 12 mph | _____ mph | _____ |
| vi. Acceptable wind direction steady from: | N, NW, W, SW, SE, E, NE | | YES NO |
| vii. Preferred wind direction steady from: | SE, E, NE | | YES NO |
| viii. Actual wind direction: | _____ | | |

2. Fronts or changes expected? YES NO

3. Notification of units of government made:

- | | | |
|-----------------------------|-----------------------|---------------------|
| i. Local Fire Department | Dysart FD* (City) | phone: 319-476-5690 |
| ii. Sheriff/County Dispatch | Benton County Sheriff | phone: 319-472-2337 |
| iii. Other | Tama County Sheriff | phone: 641-484-3760 |

4. Notification of neighbors

- | | |
|---------------------------------------|--------------------------------|
| i. Name: Cathy Irvine (north) | phone: 319-640-5919 (cell) |
| ii. Name: Larry Fleschner (northeast) | phone: 319-342-2729 (landline) |
| iii. Name: Shane Vogeler (south) | phone: 319-231-6619 (cell) |
| iv. Name: Ed Hach (west) | phone: 319-538-1211 (cell) |
| v. Name: Brian Pippert (east) | phone: 319-231-5453 (cell) |

5. Necessary permits obtained (if any): YES NO NA

Checklist completed by: _____

Date: _____

A. Post-burn Evaluation:

1. **Burning method used** _____

2. **Start of burn** Beginning time: _____

Mop-up completed Ending time: _____

3. **Observed change in weather conditions during burn:**

4. **Fire behavior:**

i. Spotting NO FEW MANY

ii. Difficult to control NO YES

iii. Convection column NO YES

iv. Fire whirls NO YES

5. **Objective of burn met:** NO YES

6. **Post-burn management plan (if needed):**

7. **Other comments:**

Evaluation Completed by:

Signature: _____

Date: _____