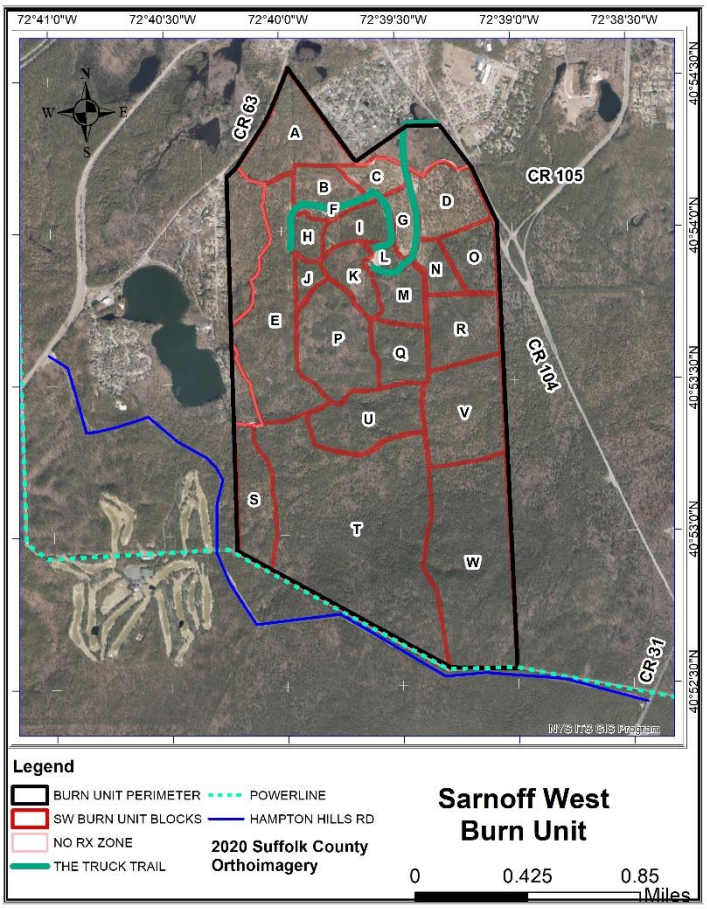
Central Pine Barrens
Joint Planning & Policy Commission

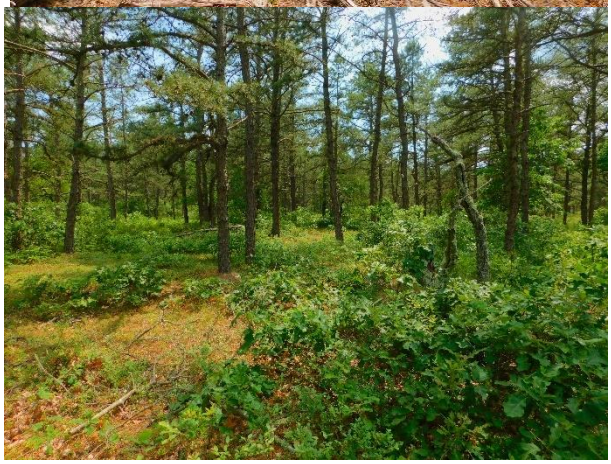
624 Old Riverhead Rd, Westhampton Beach, NY 11978

Prescribed Fire Plan
Sarnoff West

David A. Sarnoff Pine Barrens State Forest
Town of Southampton, NY

August 2021 - December 2030





Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S): David A. Sarnoff Pine Barrens State Forest

PRESCRIBED FIRE NAME:
Prescribed Fire Unit (Ignition Unit): Sarnoff West RX

PREPARED BY:
Name (print): Robert Panko Qualification/Currency: RXB2

Signature: Robert A Panko Date: 07/12/21

TECHNICAL REVIEW BY:
Name (print): Bryan Gallagher Qualification/Currency: RXB2 (currency 2026)

Signature: Date: 07/09/2021

COMPLEXITY RATING: MODERATE

MINIMUM BURN BOSS QUALIFICATION: RXB2

APPROVED BY:
Name – Agency Administrator (print): Judy Jakobsen

Signature – Agency Administrator: Judy Jakobsen Date: 10/7/2021

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Element 2A: Agency Administrator Ignition Authorization

Instructions: The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Prior to signature the agency administrator should discuss the following key items with the fire management officer (FMO) or burn boss. Attach any additional instructions or discussion documentation (optional) to this document.

Key Discussion Items

A.	Has anything changed since the Prescribed Fire Plan was approved or revalidated? *Such as drought or other climate indicators of increased risk, insect activity, new subdivisions/structures, smoke requirements, Complexity Analysis Rating.*
B.	Have compliance requirements and pre-burn considerations been completed? *Such as preparation work, New York State Environmental Quality Review mitigation requirements, cultural, threatened and endangered species, smoke permits, state burn permits/authorizations.*
C.	Can all of the elements and conditions specified in Prescribed Fire Plan be met? *Such as weather, scheduling, smoke management conditions, suitable prescription window, correct season, staffing and organization, safety considerations, etc.*
D.	Are processes in place to ensure all internal and external notifications and media releases will be completed?
E.	Have key agency staffs been fully briefed about the implementation of this prescribed fire?
F.	Are there circumstances that could affect the successful implementation of the plan? *Such as preparedness level restrictions, resource availability, other prescribed fire or wildfire activity*
G.	Have you communicated your expectations to the Burn Boss and FMO regarding if and when you are to be notified that contingency actions are being taken?
H.	Have you communicated your expectations to the Burn Boss and FMO regarding decisions to declare the prescribed fire a wildfire?

Implementation Recommended by:
CPB Fire Management Specialist or Prescribed Fire Burn Boss Signature:_____ Date:_____

I am authorizing ignition of this prescribed fire between the dates of _____ and _____. It is my expectation that the project will be implemented within this time frame and as discussed and documented and attached to this plan. If the conditions we discussed change during this time frame, it is my expectation you will brief me on the circumstances and an updated authorization will be negotiated if necessary.

Additional Instructions or Discussion Documentation attached (Optional): Yes ☐ No☐

Ignition Authorized by:
Agency Administrator Signature and Title:_____ Date:_____

Element 2B: Prescribed Fire Go/No-Go Checklist

Preliminary Questions	**Circle YES or NO**
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If **NO** proceed with the Go/NO-GO Checklist below, if **YES** go to item B.	YES NO
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If **YES**, proceed with checklist below. If **NO, STOP: Implementation is not allowed. An amendment is needed.**	YES NO
GO/NO-GO Checklist	**Circle YES or NO**
Have ALL permits and clearances been obtained?	YES NO
Have ALL the required notifications been made?	YES NO
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	YES NO
Have ALL required current and projected fire weather forecast been obtained and are they favorable?	YES NO
Are ALL prescription parameters met?	YES NO
Are ALL smoke management specifications met?	YES NO
Are ALL planned operations personnel and equipment on-site, available and operational?	YES NO
Has the availability of contingency resources applicable to today's implementation been checked and are they available?	YES NO
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	YES NO
If all the questions were answered "**YES**" proceed with a test fire. Document the current conditions, location and results. If any questions were answered "**NO**", DO NOT proceed with the test fire: Implementation is not allowed.	
After evaluating the test fire, in your judgment can the prescribed fire be carried out according to the prescribed fire plan and will it meet the planned objective? **Circle: YES or NO**	

Burn Boss Signature:_____ Date:_____

Element 3: Complexity Analysis Summary and Final Complexity

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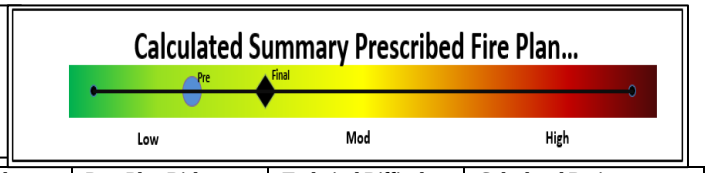
Sarnoff West Prescribed Fire Complex		Quantity	Significance
Values	On-Site	Multiple	Low
	Off-Site	Multiple	Mod
	Public/Political Interest	Considerable	Mod



Element	Preliminary Risk	Post-Plan Risk	Technical Difficulty	Calculated Rating
Safety	Low	Low	Low	Low
Fire Behavior	Low	Mod	Low	Mod
Resistance to Containment	Low	Low	Mod	Mod
Ignition Procedures and Methods	Low	Low	Low	Low
Prescribed Fire Duration	Low	Mod	Low	Mod
Smoke Management	High	Mod	Mod	Mod
Number and Dependence of Activities	Low	Low	Low	Low
Management Organization	Mod	Mod	Low	Mod
Treatment/Resource Objectives	Low	Low	Mod	Mod
Constraints	Mod	Low	Low	Low
Project Logistics	Low	Mod	Mod	Mod

Final Complexity Determination	Final Complexity Determination Rationale
Mod	This is a landmark landscape burn project in the Central Pine Barrens. It is the first burn plan that exceeds 1000 acres in this locale (if not the entire State of NY); it has a decade long implementation period; parts of the burn unit are quite remote raising logistical challenges that have not been faced before for prescribed burning in Long Island; there are heavy, volatile wildland fuels in most of the burn unit and the wildland urban interface is immediately adjacent on most aspects. This plan successfully addresses these concerns in a variety of ways. It calls for a methodical sequence of ignitions, starting in mechanically thinned and accessible areas, allowing fire managers and firefighters to gain experience, evaluate methods and adjust for future operations. It outlines a sequence of ignitions that maintains previously burned portions of the burn unit as anchor points for subsequent ignitions and holding. It emphasizes the use of patch burning vs. broadcast burning which creates operational flexibility, significantly reduces potential adverse smoke impacts and allows for strategic fuels targeting in the burn sequence. The plan also established three "No Burn" zones that serve as buffers to the adjacent communities. The overall goal is to reset the current 30-50 year Fire Return Interval Departure within 1100 acre burn unit. This plan is designed to achieve that goal on a parcel by parcel basis over the period of a decade. Though large, long and challenging this burn plan is between Low to Moderate Complexity. It is shown rated overall as Moderate due to the predominance of Moderate ratings in the final Calculated Rating column and RXB2 level supervision is required.

Signatures

Rx Burn Plan Preparer's

Name: Robert Panko X Robert W Panko Date: 06/03/2021

Technical Reviewer's

Name: Bryan Gallagher . X Date: 07/09/2021

Agency Administrator's

Name: Judy Jakobsen X Judith Jakobsen Date: 10/7/2021

Element 4: Description of Prescribed Fire Area

A. Physical Description:

1. Location: The Sarnoff West Prescribed Burn Unit is located within the David A. Sarnoff Pine Barrens State Forest in the Town of Southampton, Suffolk County, New York (Figure 1). The burn unit is within the hamlet of Riverside which is part of the Town of Southampton. The Town of Riverhead is just a half mile to the north. It is in the western half of the David A. Sarnoff Pine Barrens State Forest (western side of County Route (CR)104/Quogue Riverhead Road). This western half of the State Forest totals 1855 acres. County Road 104 is adjacent to and east of the burn unit and Wildwood Lake and its surrounding subdivisions are to the west. Immediately to the north is the Riverwood Mobile Home Community and village of Riverside. This burn unit is entirely within the Central Pine Barrens Commission Southampton Fire Management Unit and the lands are entirely within the Central Pine Barrens Core Preservation Area.

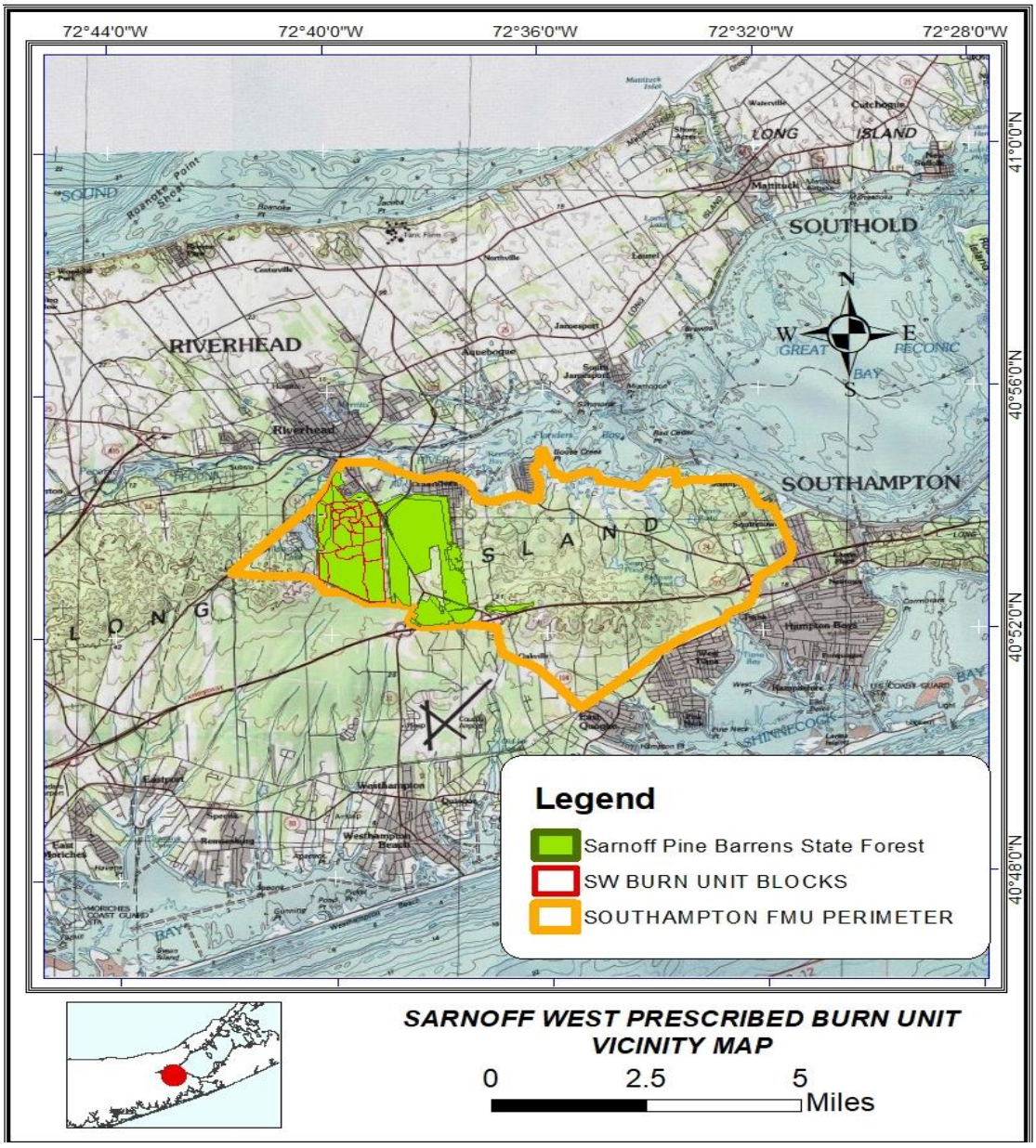


Figure 1: Sarnoff West Burn Unit Vicinity Map

The burn unit is within the Flanders Fire District, served by the Flanders Volunteer Fire Department. The north-northeast corner and western side of the burn unit abut the Riverhead Fire District. The southern boundary of the burn unit abuts the Westhampton Beach Fire District.

The lands inside this burn unit are owned entirely by New York State Department of Environmental Conservation (NYS-DEC; Figure 2). Lands outside the burn unit on the eastern side and southwestern corner are owned by Suffolk County. To the north and northeast the burn unit is adjacent to the privately owned Riverside Mobile Home Community. To the west privately owned lands in the Pine Valley neighborhood along Wildwood Lake abut the burn unit.

The Latitude / Longitude of a central point of the burn unit is N 40 53’ 58” by W 79 32’ 33”.

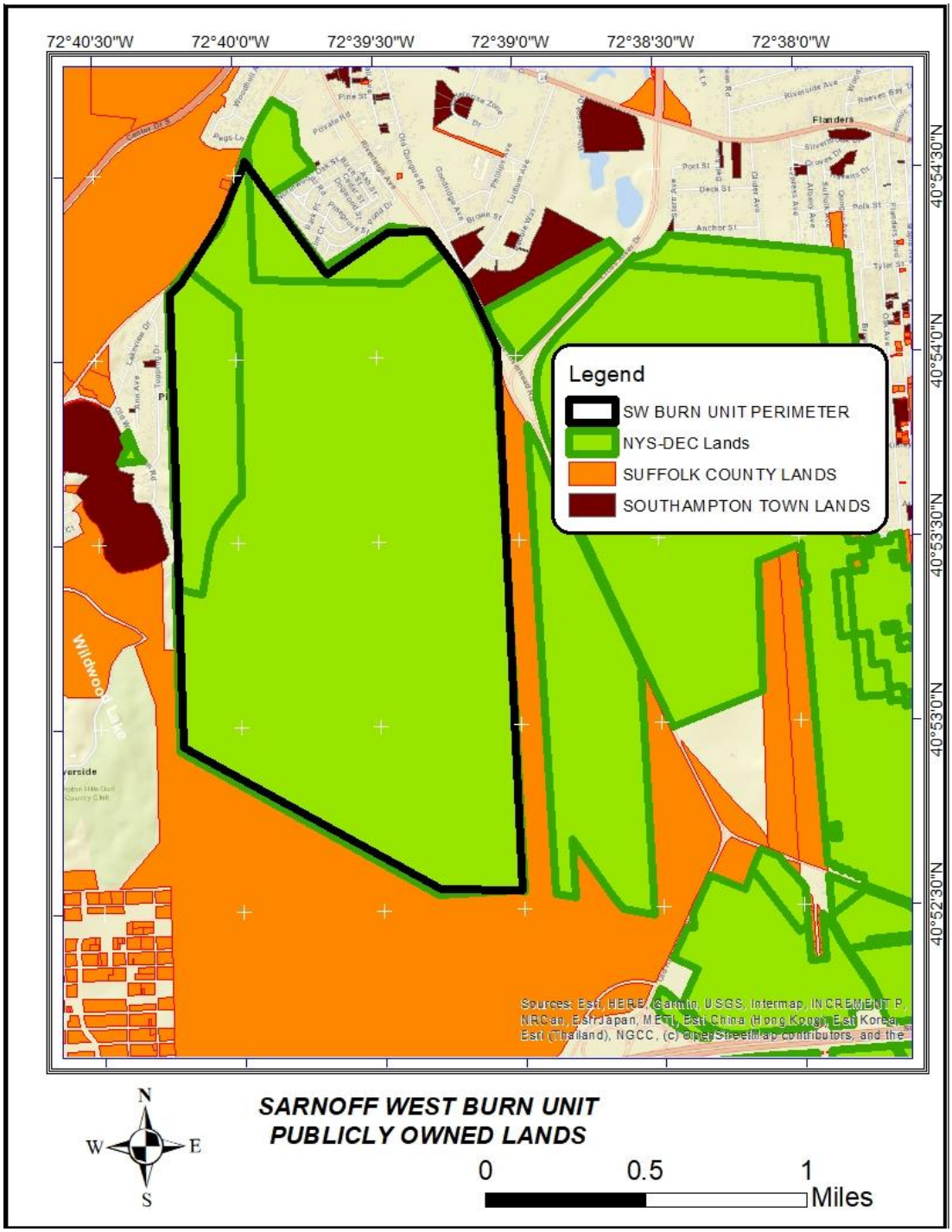
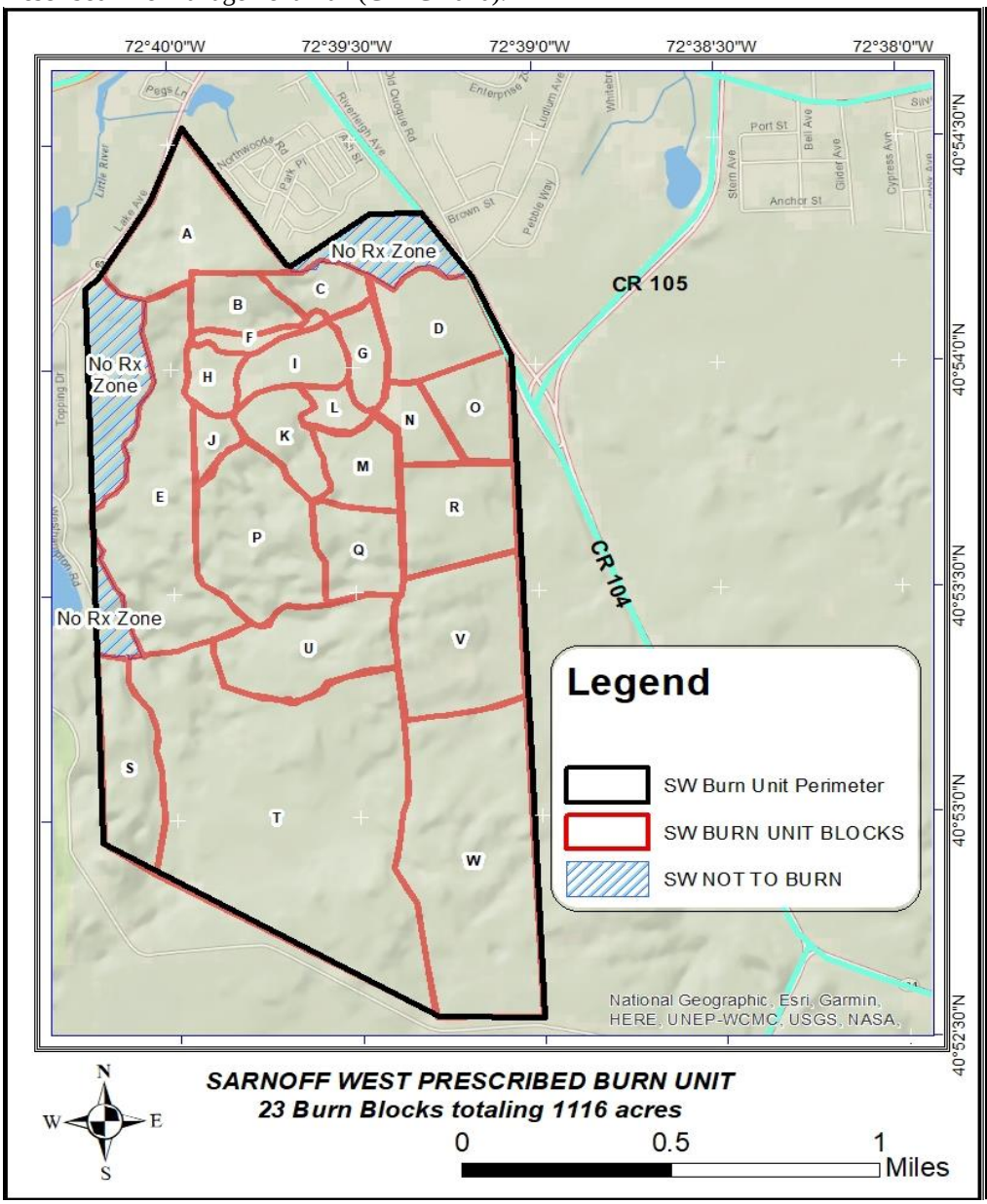


Figure 2: Public Land Ownership Around the Sarnoff West Burn Unit

2. Size: This 1212 acre burn unit is broken into 23 burn blocks for implementation (Figure 3). The sum of the burnable acreage contained in the burn blocks is 1116 acres. There are 96 acres inside the burn unit perimeter that are not planned for burning. These no burn areas consist of 26 acres in the northeast corner of the burn unit, 52 acres along the western boundary and a total of 18 acres of roads/trails that are the burn block boundaries. All or portions of the 23 burn blocks would be burned over the decade lifespan of this plan.

3. Topography: The simplest way to envision the elevation profile of this burn unit is to picture an inverted letter T centered on the unit. The highest ground in the burn unit is the central core (the shaft of the inverted T) and the southern fifth of the unit (the cross of the T) as displayed in Figure 4. This burn unit can best be described as a corrugated landscape with small elevation changes throughout on both north / south and east / west transects. Average slopes are about 6% with maximum slopes between 25% and 30% in some steep, hilly areas.

This burn unit was the terminal moraine of the last ice age, retreating about 12,000 years ago. The ground here is a good example of kame and kettle landscape described as "an undulating landscape in which a disordered assemblage of knolls, mounds or ridges of glacial drift is interspersed with irregular depressions" within the Central Pine Barrens Comprehensive Prescribed Fire Management Plan (CPBC 2020).



SARNOFF WEST RX	
SW BLOCK A	55 acres
SW BLOCK B	22 acres
SW BLOCK C	16 acres
SW BLOCK D	40 acres
SW BLOCK E	100 acres
SW BLOCK F	8 acres
SW BLOCK G	15 acres
SW BLOCK H	13 acres
SW BLOCK I	22 acres
SW BLOCK J	9 acres
SW BLOCK K	23 acres
SW BLOCK L	9 acres
SW BLOCK M	25 acres
SW BLOCK N	17 acres
SW BLOCK O	27 acres
SW BLOCK P	67 acres
SW BLOCK Q	29 acres
SW BLOCK R	46 acres
SW BLOCK S	41 acres
SW BLOCK T	263 acres
SW BLOCK U	53 acres
SW BLOCK V	70 acres
SW BLOCK W	146 acres
Total	**1116 acres**

Figure 3: Burn Unit Perimeter and Burn Blocks with Acreage

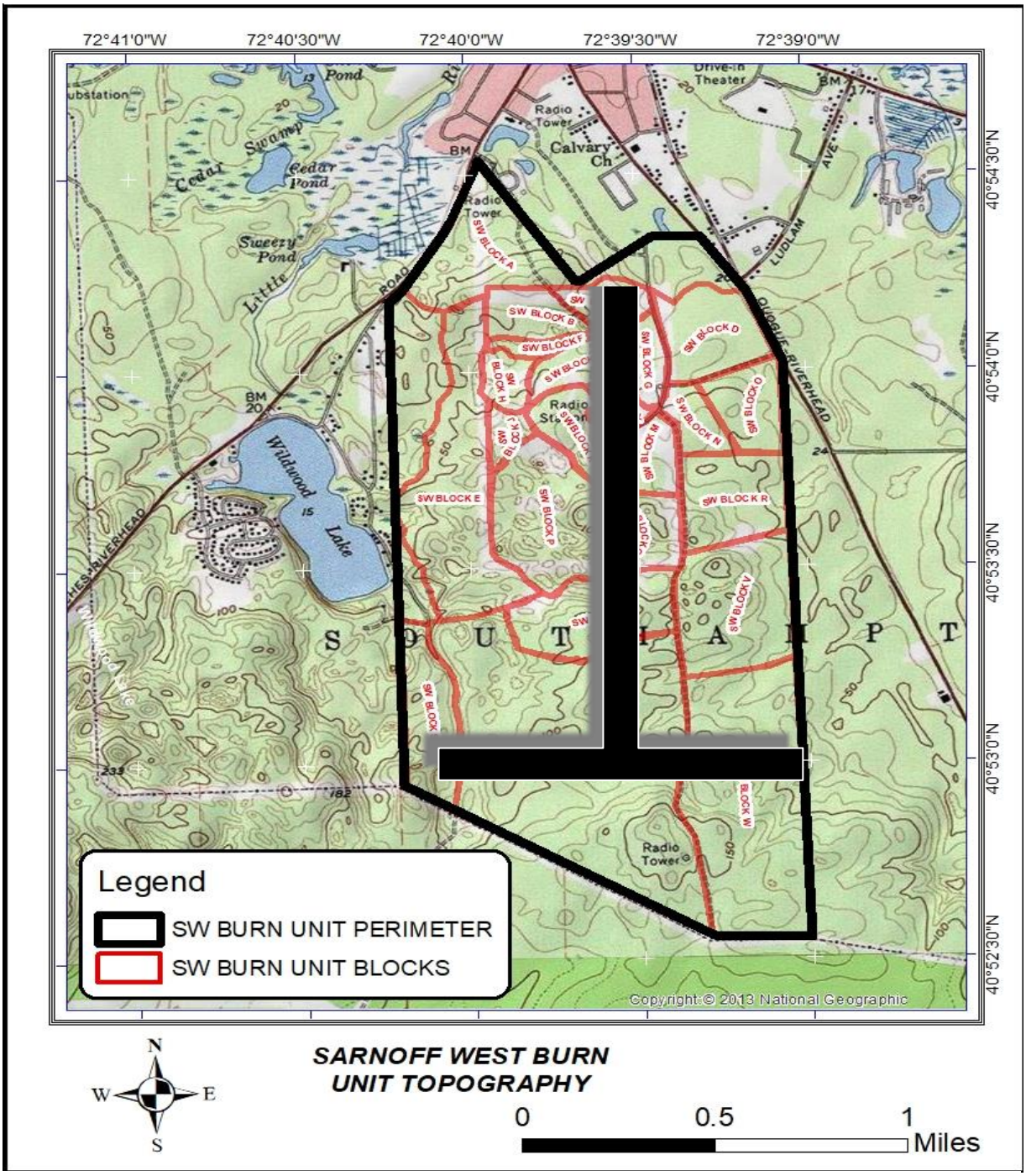


Figure 4: Inverted T is High Ground

The northern tip of the unit has a north aspect with a 12% slope and an elevation of 90' to 30' above mean sea level (MSL) that extends into the Peconic River watershed basin (Figures 4 & 5). The eastern half of the unit falls from elevations around 100' MSL in the center to 40' MSL along the CR 104 highway corridor and has an eastern aspect with a slope of 7%. The highest elevations in the unit occur in the south, from the intersection of County Route (CR) 31 and CR 104, following a west northwest transect to the southeast corner of Wildwood Lake. Along this transect, the elevation tops out at nearly 200' MSL at the top of a forested drumlin where a radio tower once stood. The eastern half of this transect has a southeast aspect with a 6% slope. From the central high point following the transect to the west is a northwest aspect with a 6% slope, with elevations dropping from nearly 200' to 30' MSL. Proceeding north along the unit boundary from the southeast corner of Wildwood Lake the elevations increase from 30' to 50'MSL. From this western boundary line to the east, to the center core of the unit, there is a rise in elevation from 100' to 120' MSL with a western aspect with slope of 7%.

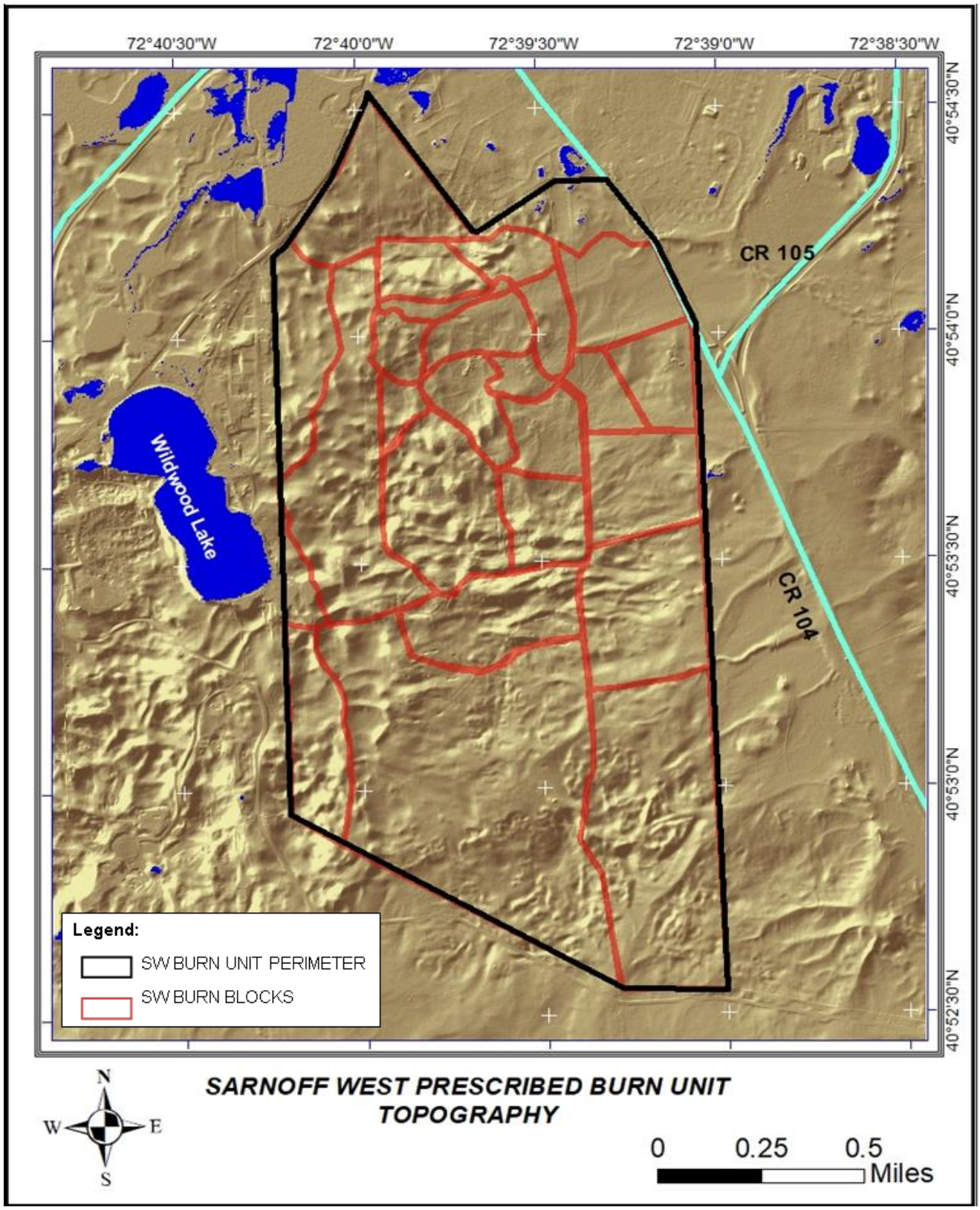


Figure 5: Topography of Sarnoff West

4. Project Area: The burn unit is a large contiguous state forest tract that is used by hikers, hunters and many other outdoor enthusiasts. While it is a heavily forested and undeveloped nature preserve, it has a significant wildfire urban interface being directly adjacent to urban communities and major transportation corridors.

a) Land Use History (Figure 6): The burn unit itself has history of human development disturbance and the remnants of the past human history are evident throughout its areas. In the 1920's the Radio Corporation of America (RCA) began doing radio research at a facility in Riverhead. Among the executives of RCA was David A. Sarnoff. RCA established its RCA Radio Central, then the largest radio transmitting station in the world, at Rocky Point and developed its sister receiving station here in what is now David A. Sarnoff Pine Barrens State Forest. RCA established antenna fields connected with transmission lines and roads on what is now this burn unit inside this State Forest. These antennas and operations buildings were protected from wildfires by 200-300 feet wide firebreaks. These old firebreaks and old road remnants associated with RCA as well as modern day roads, trails and improvements are used to divide this large prescribed fire unit into multiple smaller burn blocks for implementation.

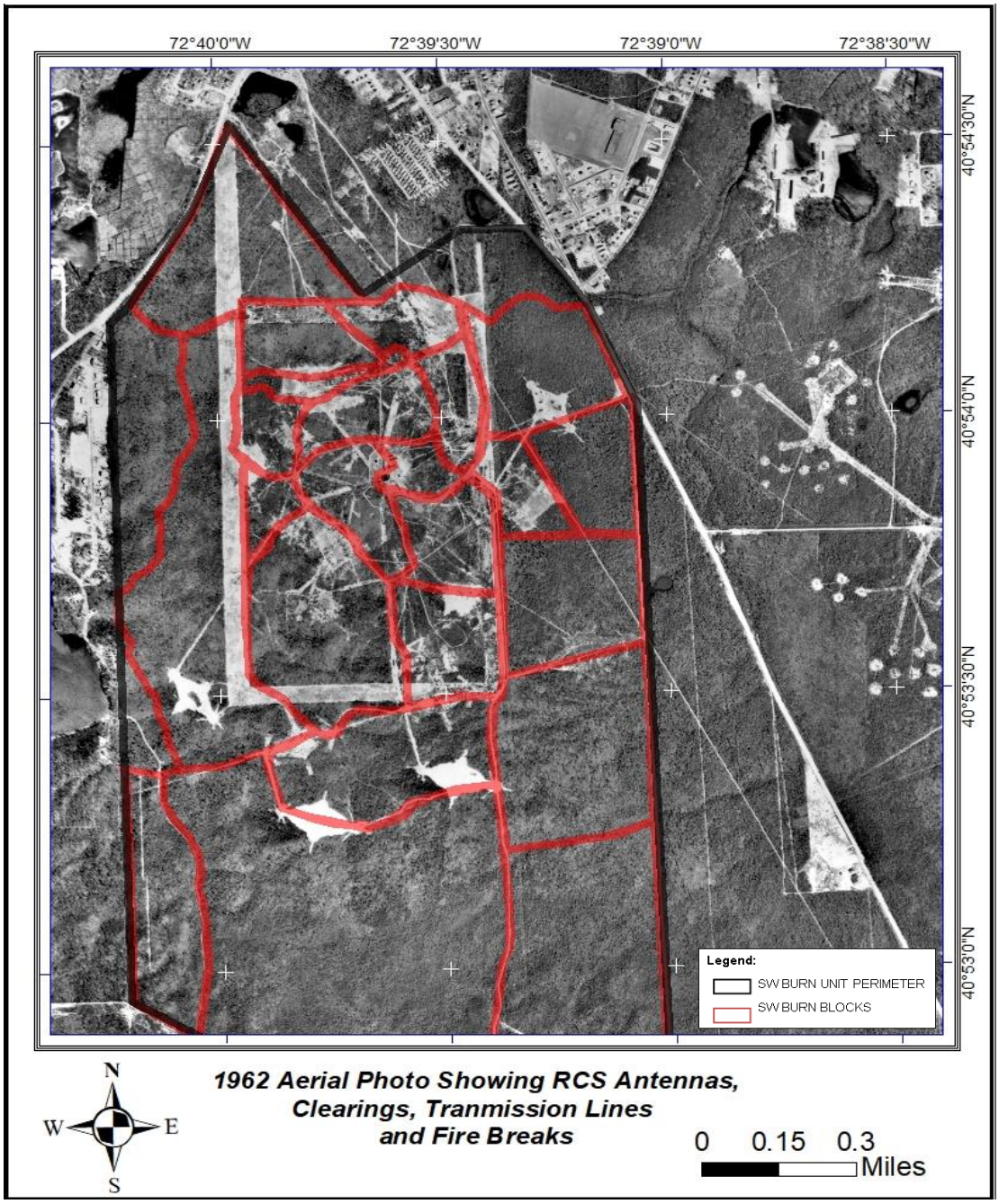


Figure 6: RCA Infrastructure Circa 1962

b) Wildfire History (Figure 7): This burn unit has experienced only five wildfires since 1930, and none of which was a major fire (100 acres or more by definition). The Windisch Fire #22 burned 57 acres on April 1, 1945, 49 acres of which were within the burn unit. That fire was stopped against the RCA western fire break mentioned above. Windisch Fires #124 and #125 burned a total of 22 acres on June 26 and 27, 1990 on the northwestern edge of the unit. Those wildfires were described as a "surface fire with some scorching" (Windisch 1994) indicating that they had little fire severity impact. Aerial imagery from 1994 also shows a 35-acre wildfire that mostly burned outside of the burn unit in the extreme southeast corner sometime around 1993. It is likely this fire occurred after the date of aerial images that Windisch was using for his fire history report (published in 1994) and was therefore not included in the report. This was a crown fire with high local severity and its scar (and shrub oak recovery) are yet visible. There was also one very small fire in the northeast corner of Block O on May 13, 2013. In total, these wildfires created no significant disturbance of this landscape other than the localized shrubby regrowth. Further, with only five small fires in the past 90 years, most of this burn unit has a significant Fire Return Interval (FRI) Departure. The majority of the unit has a 40-60 year FRI so the FRI Departure is at least 30-50 years. The fire records only go back to 1930 so the period of time since a large fire in the unit is likely in excess of 100 years.

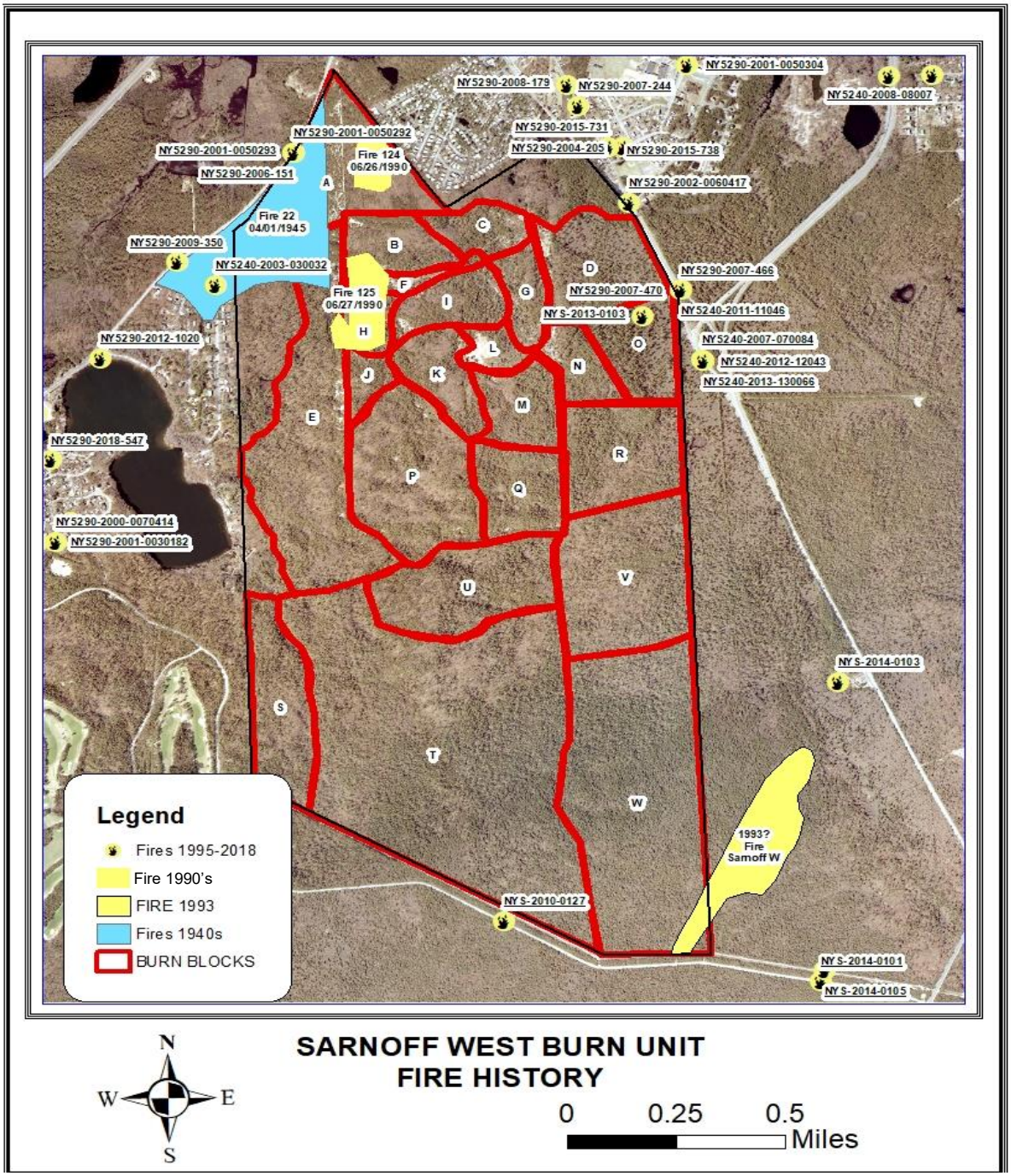


Figure 7: Wildfire History

c) Management History: The entire NYSDEC David A. Sarnoff Pine Barrens State Forest is covered by a master Strategic Plan for State Forest Management written and approved by the NYSDEC in 2010. This Management Plan approves mechanical thinning of forested areas for forest health management and for prescribed burns and to improve forest health and diversity. This Management Plan completed the State Environmental Quality Review Act processes with findings of Negative Impacts via a Generic Environmental Impact statement.

In winter 2018 / 2019 and winter 2019 /2020, a total of 75 acres of the northern portion of the burn unit was mechanically thinned as part of a program by NYS-DEC to proactively reduce the likelihood of outbreaks southern pine beetle (SPB) and to overall improve forest health (Figure 10). Trees were thinned to reduce an abnormally high density of stems per acre restoring the basal area to 80 ft/ac^2), a desirable level where SPB outbreak is significantly reduced. Additionally, the understory shrubs were masticated to help remove a high fuel burden, increase ventilation to dissipate SPB pheromones and return the treated acres to a savanna. The woodchips and many limbs remained on site. In March 2021 an additional 18 acres in the eastern half of burn block O was masticated by NYS-DEC, removing especially dense scrub oak while retaining the mature pitch pine forest. Most of the first two years of prescribed burning will take place in these treated areas in order to treat them with fire before they revert once again to heavy shrub understory.

The remaining acres that have not been treated may be burned without further mechanical thinning by burning into the black created by the burns conducted on the thinned acres. Additional mechanical thinning and brush mastication will continue in the burn unit in the future. This plan will be modified to reflect the current fuel models and fuel loadings in the burn blocks after they are treated. This plan is intended to reset the fire return interval over the next decade by returning fire to most of the area within the burn unit by methodic small applications of fire treatment.

d) Recreation: Sarnoff is popularily utilized for various recreational activities including hunting, hiking, dog training and other activities. The Paumanuk path which extends across Long Island traverses this unit, as does other blazed hiking trails (Figure 8). The blazed and unblazed trails are noted for purposes of awareness of potential use and public safety as well as potential access points and escape routes.

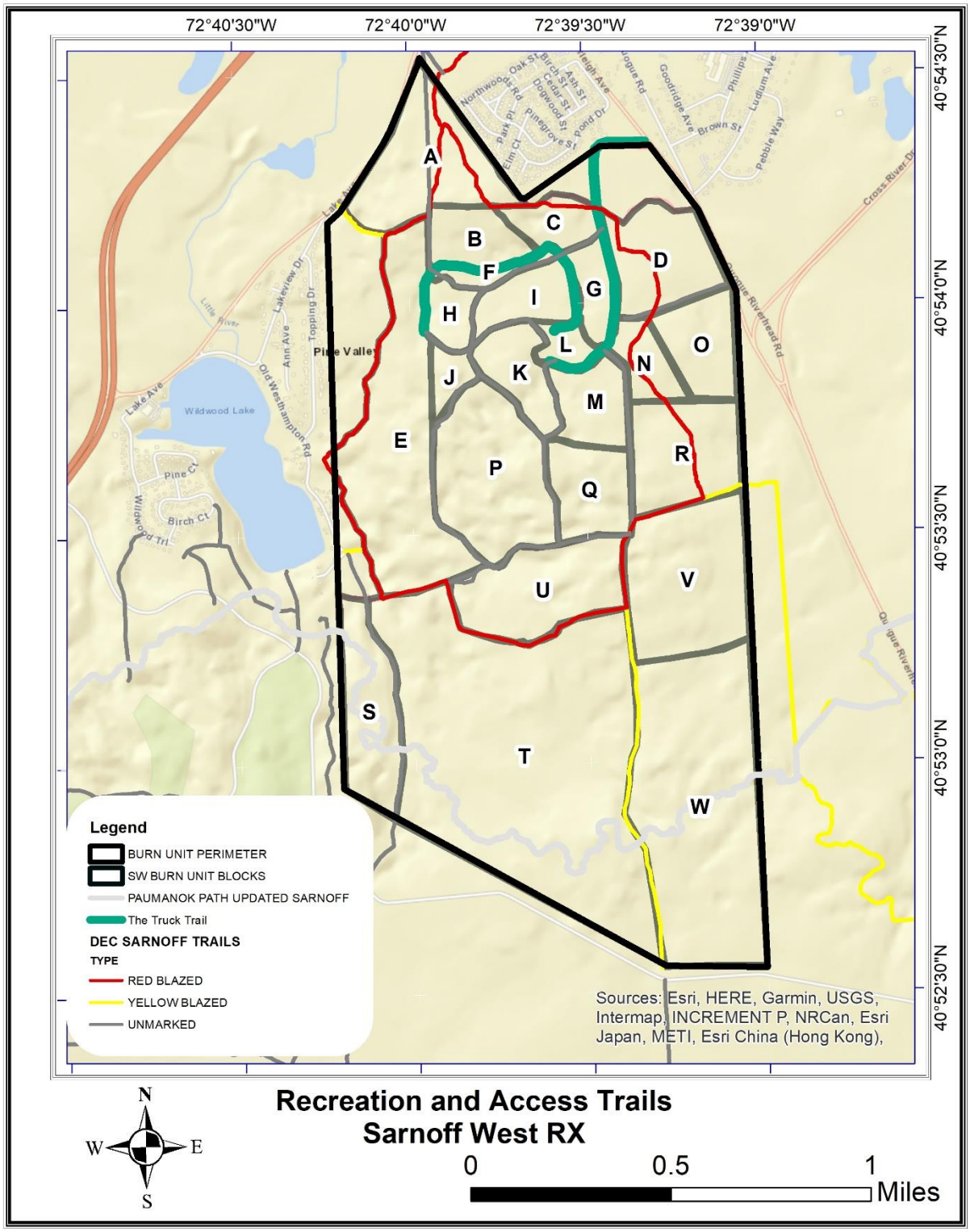


Figure 8: Recreational and Acccess Trails of Sarnoff West

5. **Ignition Units:** There are 23 burn blocks that make up this burn unit (Figure 9) which are lettered from north to south, west to east. The blocks are divided by paved road, dirt roads, improved trails, foot trails or by future masticated lines to be installed as part of pre-fire treatment.

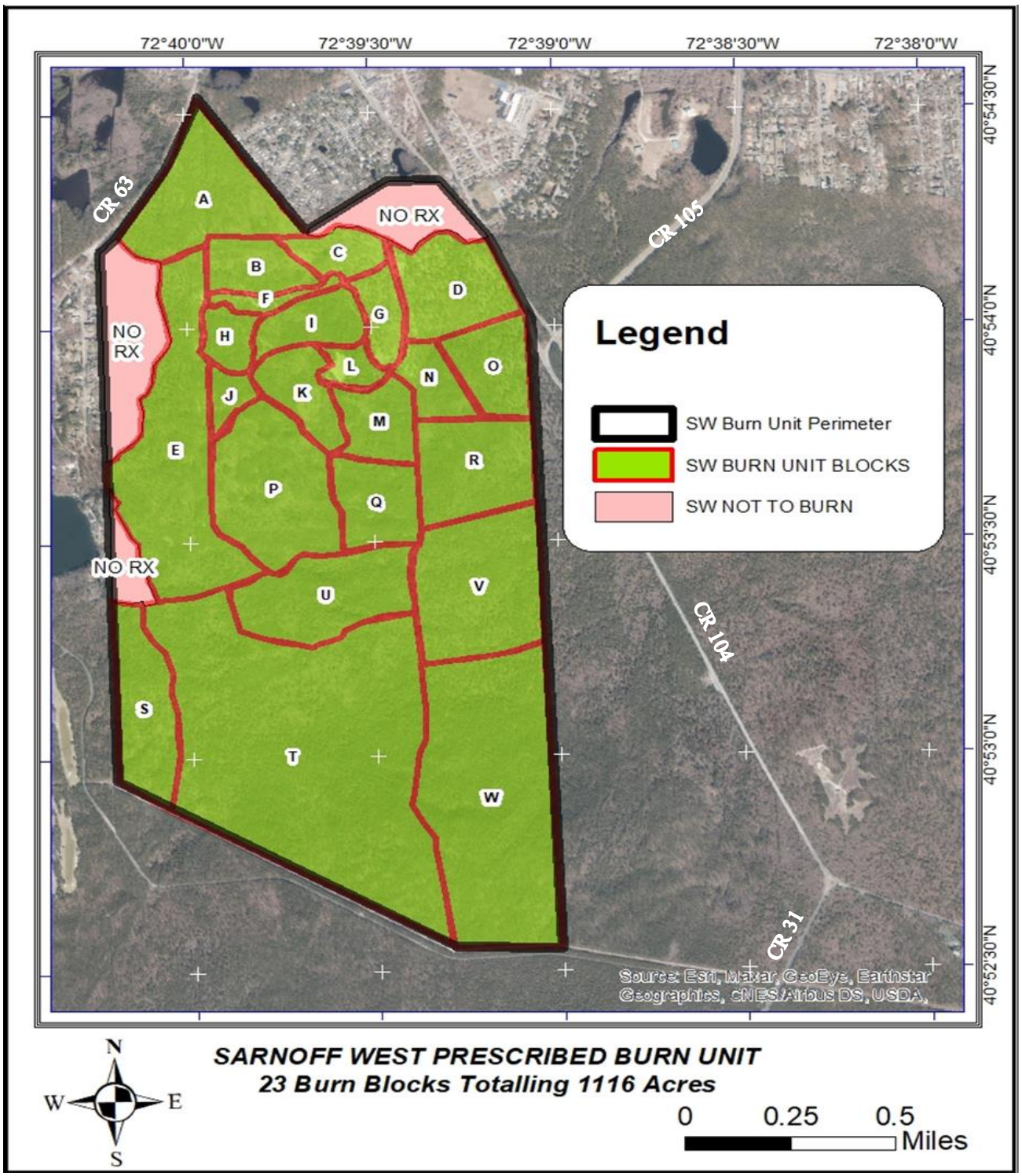


Figure 9: The Burn Blocks of Sarnoff West

The Northern Burn Blocks (A, B, C, D, F, G, H, I, J, K, L, M, N and O; Figure 10) represent the most intensively used and managed portion of the burn unit. These 14 burn blocks include the smallest blocks which at an average of 25 acres are much smaller than the burn blocks that characterize the southern half of the burn unit. The reason for the difference in size is due to both the diversity of fuels in the northern portion of this burn unit and the higher abundance of trails and roads that break the unit into smaller segments. A prominent feature of the northern quarter of the burn unit is called the "Truck Trail" by NYS-DEC. It is half paved and half dirt road. The Truck Trail is the main access to the burn unit and is entered at the signed and gated entrance to the State Forest located on the west side of CR 104 immediately southeast of the Riverwoods Mobile Home Community in Riverside, New York. Inside of this gated entry, the eastern and southern portion of the Truck Trail is a paved road that leads to the core public activity area of this unit, a grassy field and open faced shelter building in the center of **Burn Block L**. This open area and shelter have been the focal point of organized activities within the Sarnoff State Forest for years and the landscape of the venue is a remnant of the RCA facilities. The Truck Trail continues as a dirt road into the State Forest from the north side of the grassy field in **Block L**, continuing north between **Burn Blocks I** and **G**, then turns west between **Burn Blocks C**, **B** and **F**. At the western edge of **Block F**, the Truck Trail turns south traverses between **Burn Blocks E** and **H** following an open pine savanna that is the remnant of the former westernmost RCA firebreak.

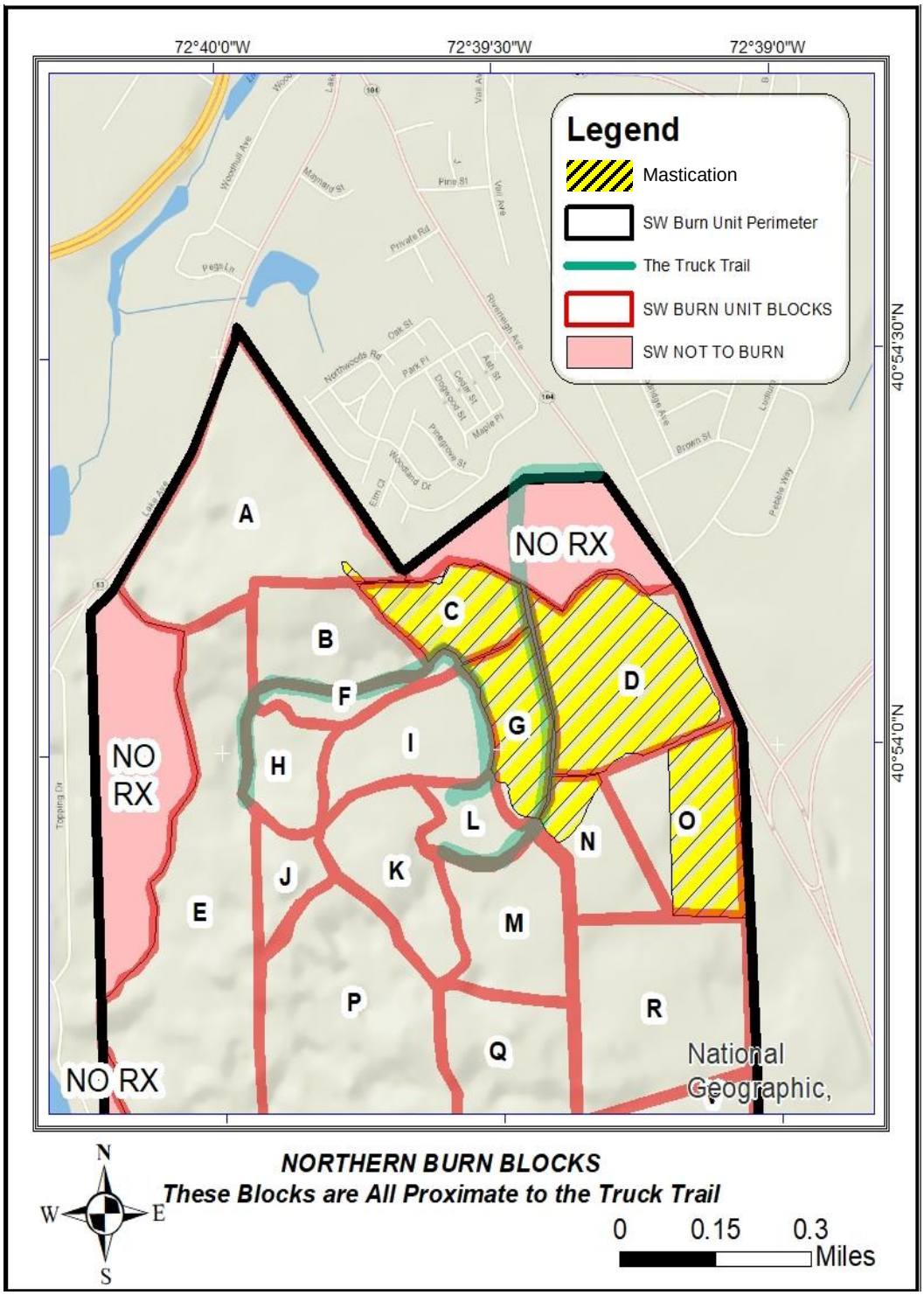


Figure 10: Truck Trail and Northern Burn Blocks

The mechanically treated areas include **Burn Blocks C** (16 acres in 2019), **Burn Block A** (2 acres 2019)**, D** (40 acres in 2018)**, G** (15 acres in 2020), a small portion of **N** (4 acres in 2019) in the northwest corner of that block and the eastern half of **O** (18 acres in 2021).

The eight Southern Burn Blocks (P, Q, R, S, T, U, V and W) are the larger burn blocks of this unit averaging 89 acres in size and includes the largest block (**Block T**) of this unit which totals 263 acres.

Ignition Sequence (Figure 11): The mechanically treated areas (**Blocks C, D, G** and a portion of **N**) are the priority blocks to burn due to this recent vegetation treatment and fuel rearrangement. Due to their central location, relatively small size, and ease of holding because they are adjacent to the Truck Trail, **Blocks C** and **G** would be the first to burn. These blocks may be burned in smaller patches rather than broadcast burning and would be followed by burning in **Block D** and the treated portion of **Block N**. To reiterate, burning may consist of a mosaic of burned patches rather than a broadcast burn. These blocks ideally will be burned prior to the end of November 2022 to take advantage of the mechanical fuels reduction. Burn **Block O**, treated in March 2021, is also a priority to burn and should be burned prior to the end of November 2023.

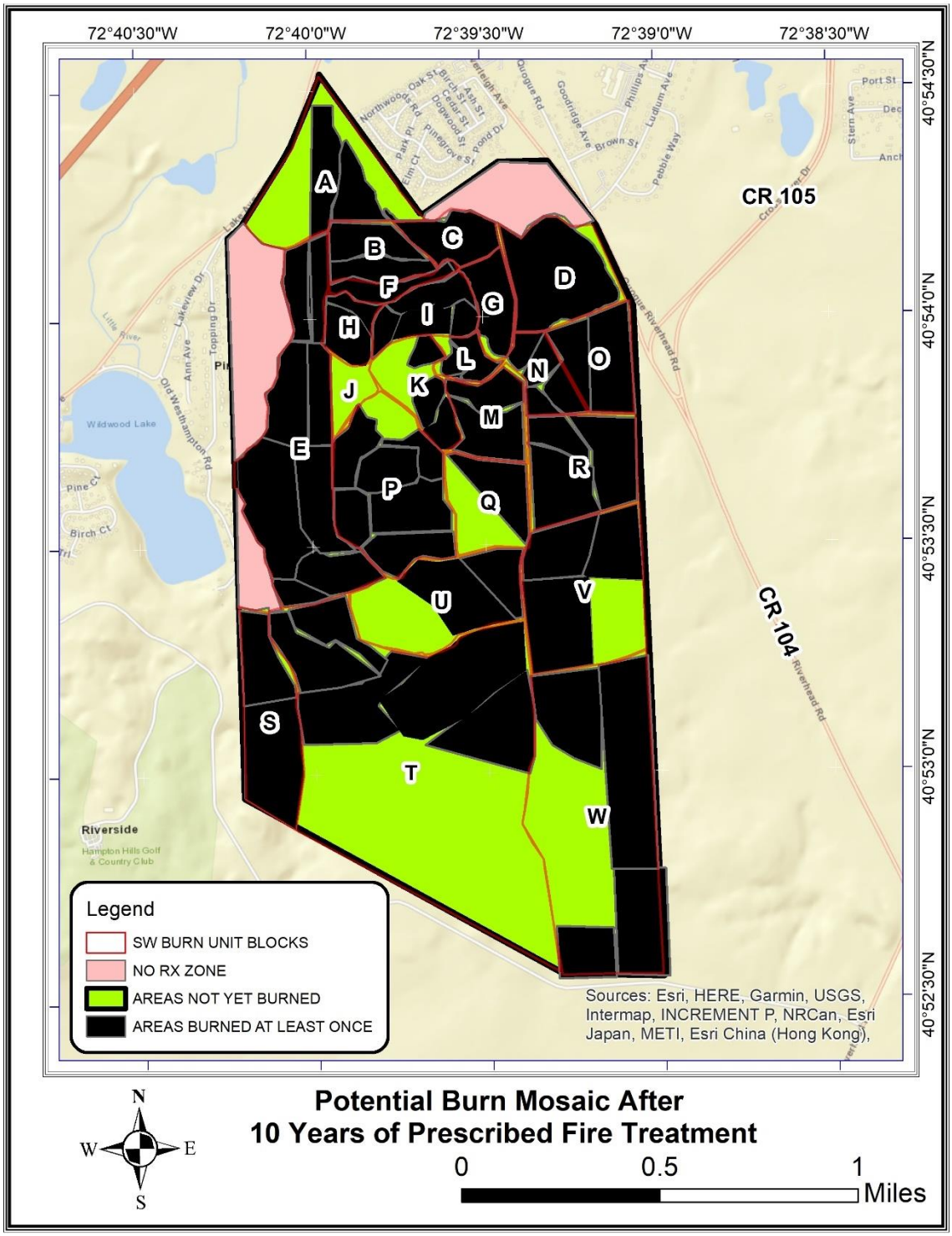


Figure 11: Example of Possible Treatment Mosiac Following a Decade of Implementation Using the Recommended Prescribed Fire Ignition Strategy

The remaining burn blocks will utilize the prescribed fire enhancement zone strategy described in the Central Pine Barrens Comprehensive Prescribed Fire Management Plan (CPBC 2020). That strategy describes the process of using already prescribed burned or wildfire burned areas as anchor points for additional prescribed fires. For example, with burn **Blocks B**, **C** and **G** burned, adjacent **Blocks F, I** and **L** would be next in the burn queue. Those burns would then allow **Blocks H, K** and **J** to be burned.

A recommended ignition sequence strategy can be found in Appendix A. It must be emphasized that this example ignition sequence is designed to show how the mosaic of burning inside of this landscape may be accomplished. Since this is a decade long plan it is expected that the current fire administrators / burn bosses would adjust this sequence based upon lessons learned from burning the initial burn blocks, from adjustments of priorities based upon changing needs or environmental conditions such as forest pest invasions.

Once again only selected patches of a burn block may be burned instead of broadcast burn treatment. Following this strategy (burning against black coupled with only burning portions of a burn block on a given day) permits using a wide range of wind vectors and seasons of burning. This promotes maximizing burn windows and creating a wide treatment mosaic on the landscape. While this treatment method would follow a methodical progression sequence over the years, if wildfires happened in other portions of the burn unit, the sequence could be altered to take advantage and treat prescribed burn blocks adjacent to the wildfire burn scar while it is still unavailable for fire due to lack of fuels recovery. Since much of the burning may be completed with a series of patch burns, it can be assumed that individual burn blocks may have multiple burn treatments during the decade shelf life of this burn plan.

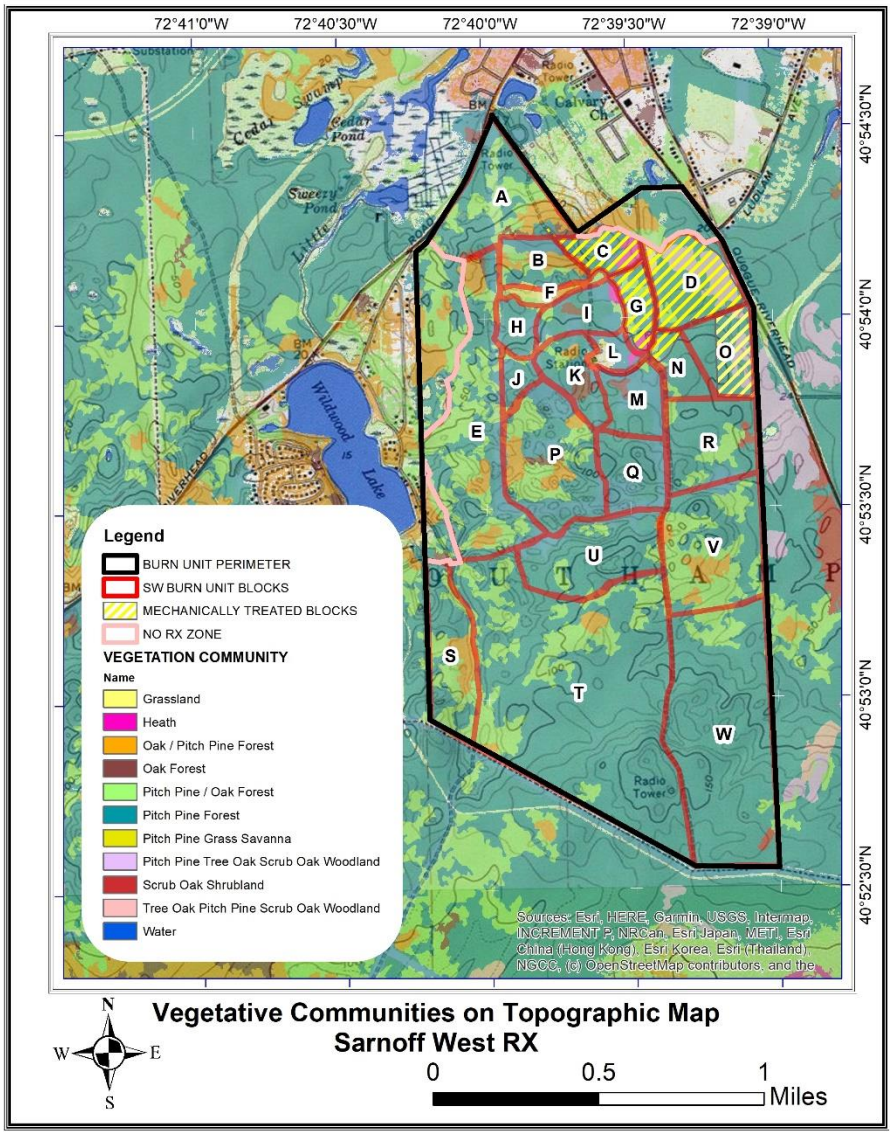


Figure 12: Vegetative Communities Description

B. Vegetation / Fuels Description:

As stated previously, the burn unit is primarily a pitch pine forest community that has not had fire onsite in over 90 years. The fire return interval departure (FRI Departure) in most of the burn unit is 30-50 years. The burn unit consists of pitch pine forests, pitch pine-oak forests, oak-pitch pine forests, oak forests and a small amount of scrub oak shrublands and heath forests.

Although the elevations are not that significant, it can be seen that the undisturbed forest / fuels communities reflect the aspects. As addressed previously, the topography of this unit is like an inverted T (Figure 4) bisecting the unit north to south, with an eastern aspect on the east side of the T shaft and a western aspect on the western side. As shown in Figure 12, the pure pitch pine forests tend to be on the eastern half (eastern aspect) and higher elevation southern fifth, while the majority of the pitch pine – oak forests and oak – pitch pine forests are on the western aspect of the western half of the unit.

1. On-Site Fuels Data: Fuel Characteristics and Burn Block Fuels Descriptions:

The fuels models in this plan are all described in Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model (Scott and Burgan. 2005. US Dept. of Agriculture, General Technical Report RMRS-GTR-153).

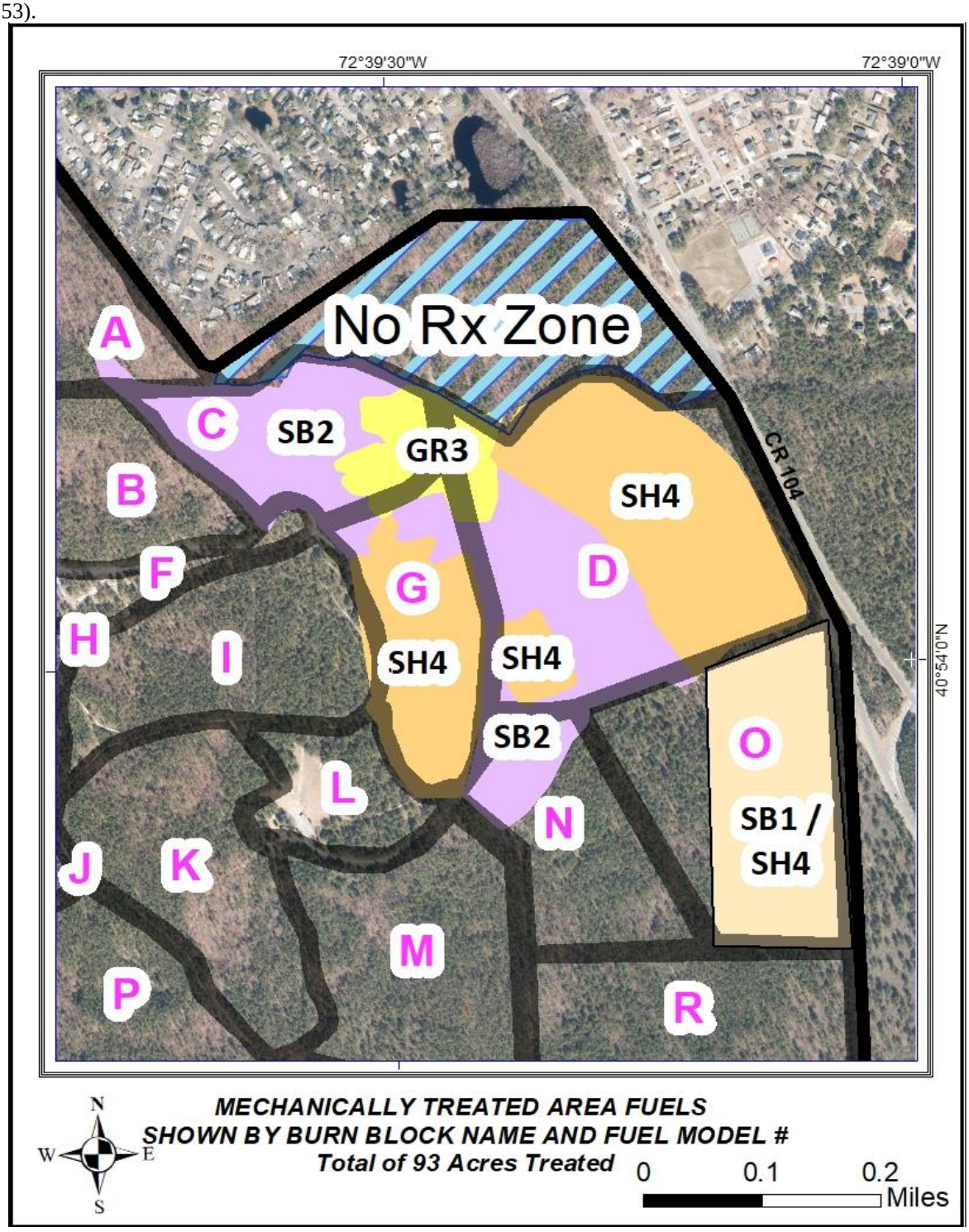


Figure 13: Treated Area Fuel Models

a) Mechanically Treated Burn Block Fuels (Burn Blocks C, D, G portions of N, A and O; Figure 13:

The total acreage of mechanically treated zone is 93 acres. The forest at this location is pitch pine that has been mechanically treated and reduced from SH8, High Load Humid Climate Shrub and/or SH3 Moderate Load Humid Climate Shrub to SB2 Moderate Load Activity Fuel, SH4 Low Load Humid Climate Timber Shrub and GR3 Low Load, Very Coarse, Humid Climate Grass.

GR3 Fuels: GR3 Low Load, Very Coarse, Humid Climate Grass (Dynamic). The patch of GR3 grass fuels totals five acres and is within Burn **Block C** and **D** on both sides of the Truck Trail. It a mixture of switch grass (*Panicum virgatum*), Broome sedge (*Andropogon virginicus*), and Pennsylvania sedge (*Carex pensylvanica)* (Figure 14). This is likely a grassy remnant of a large, cleared area from the RCA facility as seen in 1962 aerial photos. It was also the northeastern intersection of the large RCA firebreaks.

Figure 14: GR3 Fuels East of Truck Trail Block D

The primary carrier of fire in this model is the course, semi continuous grass. This is a dynamic fuel model, meaning that its fuel characteristics change seasonally in accordance with the total live fuel moisture percentages. With conditions in the middle of the prescribed range (see Prescription Element 7) flame lengths modeled at 2.5' with 30% probability of mortality of embedded pitch pines (*Pinus rigida*).

SB2 Fuels (Figure 15): SB2 Moderate Load Activity Fuel. Mechanical treatments have reduced fuels in this area from densely timbered SH8 high load shrub fuels to open savanna with a short understory. The fuels primarily consist of resprouting shrubs and residual of the mechanical felling and mastication consisting of chips, branches, limbs and logs. There are some areas with pine and oak litter, grasses and other herbaceous plants. The primary carriers of fire will be dead and down light and medium fuels and the live foliage of active pyrophytic shrubs. Tops of downed pines in some areas create small jackpots of fuels, especially if covered with dead needles.

Figure 15: SB2 Fuels Along the Western Edge Block C

Despite the openness of these areas, there is still a relatively high fine fuel load (4 tons or greater per acre). Reflective of this fuel loading, Behave model runs in these fuels predict relatively slow moving fires (8 chains per hour or less) with relatively long flame lengths given the low height of the fuel bed (5 feet).

Pines that have been left in these SB2 modeled treated areas tend to have high crown ratios as seen in Figure 16 (crown covers most of the bole of the tree). These trees would be especially susceptible to fire caused tree mortality even when burning under moderate conditions with relation to the prescription (see Prescription Element 7).

Figure 16: SB2 Fuels in Block D

SH4 Fuels (Figure 17): SH4 Low Load Humid Climate Timber Shrub. Mechanical treatments have reduced fuels in this area from densely timbered SH8 high load shrub fuels to open savanna with a moderate understory. These fuels are much like the SB2 areas described only the shrub understory is slightly taller and the fuels are more continuous. Once again, the fuels primarily consist of resprouting shrubs and residual of the mechanical felling and mastication consisting of chips, branches, limbs and logs. There are less areas with pine and oak litter, grasses and other herbaceous plants than the SB2 fuels areas. The primary carriers of fire will be the live foliage of active pyrophytic shrubs and dead and down light and medium fuels. Tops of downed pines in some areas create small jackpots of fuels, especially if covered with dead needles.

Figure 17: SH4 Shrub Fuels in Block G East of the Truck Trail

There is a relatively high fine fuel load (4 tons or less per acre). As would be expected due to the horizontal continuity of the shrub fuels Behave model runs in these fuels predict faster moving fires than the SB2 areas (11 chains per hour or less) with shorter flame lengths (4 feet), but from the empirical perspective it is cautioned that the flame lengths will be greater than 4 feet. There is likely to be a minimum of 30% pitch pine mortality when burning in these fuels.

SB1 Fuels (Figures 18 & 19): SB1 Low Load Activity Fuels in **Block O**. Mechanical treatments in March 2021 have reduced fuels in this area from densely timbered SH8 and SH9 high load shrub fuels to open savanna with an understory of shredded oak shrub stems. The fuels primarily consist of the shredded woody materials. The mechanical treatment in this area consisted entirely of forestry mowing of thick oak scrub (much of it the result of a wildfire seven years ago) with no thinning of mature pine trees. As a result, the fuel bed has no branches, limbs and logs. Until the scrub oak (*Quercus ilicifolia*) resprouts the primary carriers of fire will be these dead and down shreds.

Figure 18: SB1 Fuels in Block O

Despite the openness of these areas there is still a relatively high fuel load (4 tons or greater per acre) since the forestry mowing only re-arranges fuel loading, it does not remove it. Reflective of this fuel loading, Behave model runs generally predict moderate rates of spread with short flame lengths in this fuel bed. Empirically it can be assumed that fire behavior will rely upon the relative compaction of this fuel bed as that changes over time (decay), post heavy snowpack and the addition of needle cast to the fuel bed. This fuel model may also evolve into a shrub model after resprout and emergence of shrub oak unless treated by prescribed fire.

Figure 19: SH3 Fuels in Block O

Update Note: It is hard to believe but this fuel bed was examined on July 13, 2021 by the plan author and it now appears the mechanically treated area of Block O would be rated as SH3 when it is leafed out. The fuels recovery in a four month period since treatment (mid March – mid July 2021) only reiterates the need to follow-up mechanical treatments with prescribed fire as soon as feasible in some fuel beds.

b) <u>Truck Trail Untreated Burn Blocks Fuels Characteristics (Figure 20)</u>: This section of the burn unit has the most diversity of vegetation communities and fuel models in the burn unit. That fact is likely a result of the ground and vegetative disturbances of the RCA facilities, recreational use and wildlife habitat improvement projects conducted by hunting dog training groups. There are pitch pine savannas (fuel model TL1); bands of low, moderate and high fuel loaded timber-shrub models in pitch pine forests (SH4, SH3 and SH8 respectively) and pitch pine-oak and oak-pitch pine forests, pure oak stands and oak/pine forests with heath understory (SH6/TL6). Descriptions of the characteristics of these fuel models are as follows:

- SH4 Low Load Humid Climate Shrub: The primary carrier of fire is woody shrubs and shrub litter. As described earlier, this fuel has good horizontal continuity, a fuel bed depth of 1-3 feet and a relatively high fuel load of up to 4 tons per acre. These factors combine to produce fire with moderate flame lengths and high rates of spread at the drier end of the prescription (see Element 7 Prescription). Pitch pine mortality is a minimum 30% and would be much higher with low live fuel moistures.
- SH3 Moderate Load Humid Climate Shrub: The primary carrier of fire is woody shrubs and shrub litter. This fuel has a higher fuel loading than SH4 (6-7 tons/acre), but slightly less continuity than SH4 in its 2-3 foot depth fuels bed. That results in fire with low rates of spread and low flame length. Even under moderate burning conditions Behave still predicts 30% pitch pine mortality.
- SH6 Low Load Humid Climate Shrub: Although this fuel model is generally used for more open habitats, the fuel loading and expected fire behavior should mimic areas that where there are active pyrogenic shrubs and heath (including huckleberry (*Gaylussacia bacatta*). Although titled "low load" the fine fuel loads are 4 tons/acre or greater. The primary carrier of fire is woody shrubs and shrub litter. The shrubs are dense with little or no herbaceous fuels. This fuel has a high rate of spread and high flame lengths and these understory in oak stands. characteristics are consistent over a wide range

of both live and dead fuel moistures. Behave shows under most conditions pitch pine mortality would be high and scarlet oak mortality low from fires in this fuel. There is a high potential for crown fire unless live fuels are kept at the wetter end of the prescription (see Prescription Element Seven).

- SH8 High Load Humid Climate Shrub:The SH8 model is a high flammability model and even though it is not a Dynamic model, burn severity very much depends upon the live fuel moistures in these fuels. The rate of spread and flame lengths vary considerably depending upon the conditions of fuel moisture. The primary carriers of fire are the pyrophytic woody shrubs and shrub litter. The fine fuel loading is high at 6.5 tons per acre. High live fuel moistures (150-200%) are key factors in preventing this fuel from total pitch pine mortality and crowning.
- TL6 Moderate Load Broadleaf Litter: This fuel model will be found in high oak density patches that are relatively free of understory shrubs. The primary carrier of fire is hardwood litter. It has a moderate rate of spread with low flame lengths. Rates of spread and flame lengths increase when the litter layer is fluffy having not been compacted by snow or age decay.

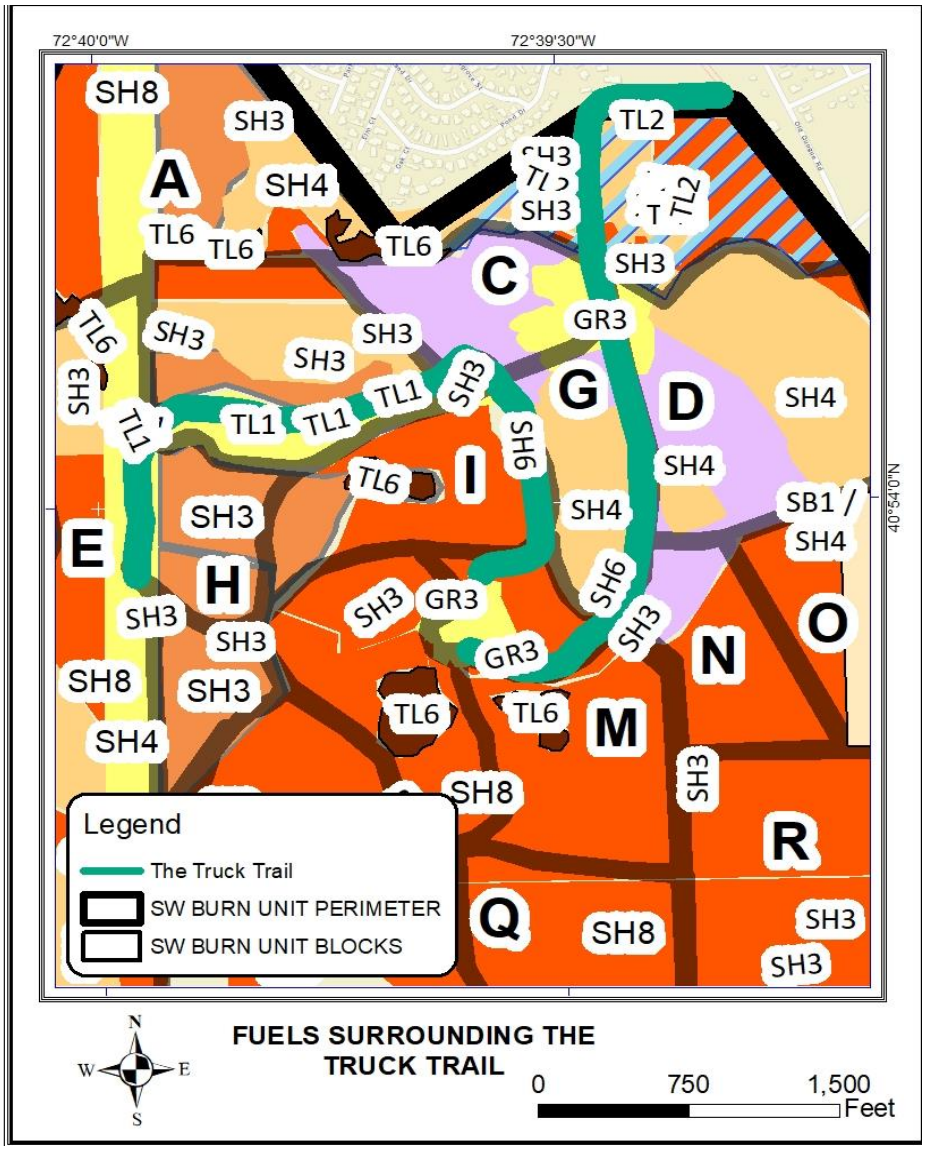


Figure 20: Fuels Near Truck Trail

- TL1 Low Load Compact Conifer Litter: This fuel model has a light to moderate level of fine fuel loading (1 ton/acre) and is a very shallow fuel bed on a sandy base. In this burn unit, fuels modeled TL1 also have patchy or mostly continuous grass areas and some hardwood litter. The primary carriers of fire are either the conifer / hardwood litter or grass. Spread rates in the litter layers are very low with low flame lengths, but the grassy areas will model closer to the GR3 fuels with higher rates of spread and longer flame lengths.
- GR3 Low Load, Very Coarse Humid Climate Grass (Dynamic): As described earlier in the mechanically reduced fuels section, the primary carrier of fire in this model is the course, semi continuous grass. This is a dynamic fuel model, meaning that its fuel characteristics change seasonally in accordance with the total live fuel moisture percentages. With conditions in the middle of the prescribed range (see Prescription Element 7) flame lengths modeled at 2.5'. In this untreated area, these fuels are restricted to a few acres in the middle of **Block L**.

Any of these burn blocks may be burned in smaller patches rather than broadcast burned.

c) Descriptions of Fuels in Untreated Blocks:

i. Truck Trail Area:

In the paragraphs below, the fuels and characteristics of each burn block are described the first time a specific fuel model is mentioned, but those characteristics will not be repeated in subsequent burn block fuels descriptions.

Figure 21: TL1 Fuels in Burn Block F

Burn Block B (22 ac.) was thinned by in September/October 2021. This block is a mosaic of both vegetation types and fuel model types and is now modeled as SB2 fuels. The primary carrier of fire in this block is the woody slash and shrub litter.

Burn Block F (8 ac.) is a long narrow block running west to east that is a pitch pine savanna bounded by dirt roads, the Truck Trail and foot trails. It is a grassy pitch pine savanna with some scattered pockets of shrubs and woody dead and down fuels. This savanna is likely a remnant of RCA facility disturbance and may have had some clearing conducted by sporting groups that use the area. This block is modeled at TL1 (Figure 21).

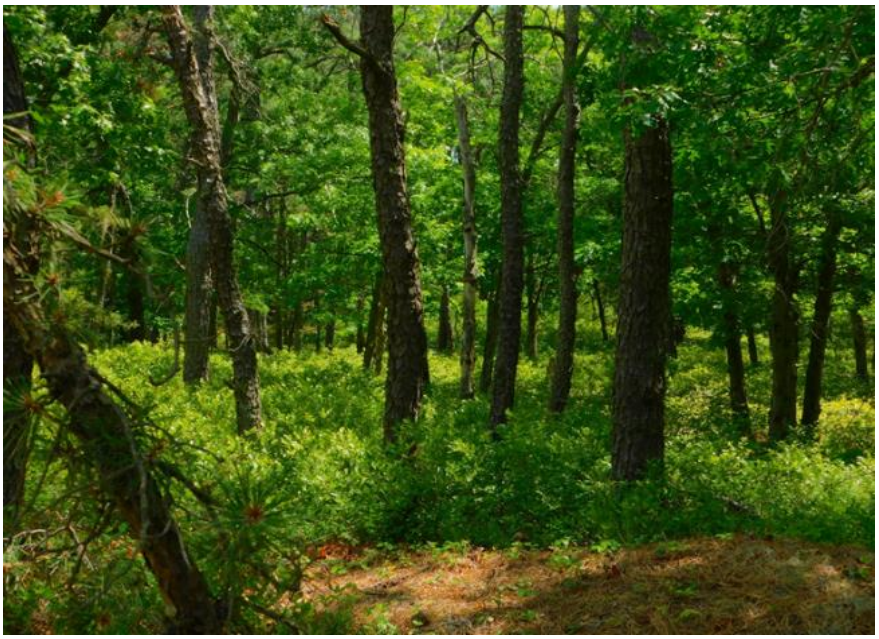


Figure 22: SH3 Fuels Western Block H

Burn Block H (13 ac.) is a rectangular block with its western edge boundary the Truck Trail and the northern, eastern and southern boundaries against foot trails. The fuels are mostly pitch pine forest modeled as SH3 (Figure 22). The western edge is in the middle of the old western RCA fuel break and its pitch pine savanna modeled at TL1.

Burn Block I (22 ac.) is a rectangular block bounded by the dirt Truck Trail to the east and foot trails on all other aspects. The vegetation is mostly pitch pine forest, with some areas of pine-oak forest and a two-acre island of oak (Figure 23). The western third of the block is modeled as SH3 (30%), the eastern two thirds is SH8 (66%). The island of oak in the center of the block is modeled as SH6 / TL6 (4%).

Burn Block J (9 ac.) is a triangular shaped block bounded on the west by the old RCA firebreak and dirt trails on the other aspects. The block is mostly a pitch pine stand modeled as SH8 (90%) and SH3 (10%).

Burn Block K (23 ac.) is an oblong shaped block mostly covered by pitch pine forest with a four-acre oak forest in the center. It is bounded by foot trails. The pitch pine forests are modeled SH8 (83%; Figure 23). The oak forest (totaling 17% of the burn block) is modeled SH6 (75%) / TL6 (25%) due to its continuous heath understory (Figure 24). The primary carriers of fire in the block are woody live shrubs and shrub litter in the pitch pine forests, and the heath understory in the oak forest.

Burn Block L (9 ac.) is a rectangular block that is grass field GR3 (45%) and pitch pine forest SH8 (55%). It is bounded by the Truck Trail, other foot trails, the mechanically treated area in Block G and by the edge of the grassy field on the west side. The grass field in this block is the heaviest grass fuels in the entire burn unit. There is a small patch of heath fuels in the SE corner of the block. The remainder of the block is pitch pine with shrub understory that should be burned after the adjacent treated area in G and the grassy field have both been burned (Figure 25).

Burn Block M (25 ac.) is a rectangular block that is mostly shrubby pitch pine forest with an embedded 1.5-acre oak stand. It is bounded to the north by the Truck Trail and on its eastern and western sides by foot trails. A mastication line will be needed to separate the **Block M** and **Q** fuel beds in the future prior to burning. The block is SH8 fuels (88%) and SH3 (12%).

Figure 23: Block K (on right) and Block I (on left)

Figure 24: Heath Understory in the Interior Oak Forest of Block K Modeled as SH6/TL6

Figure 25: Block L Shrubby NE Corner East of Truck Trail

ii. Northern Portion of Burn Unit, Untreated Burn Blocks A, N and O Fuels:

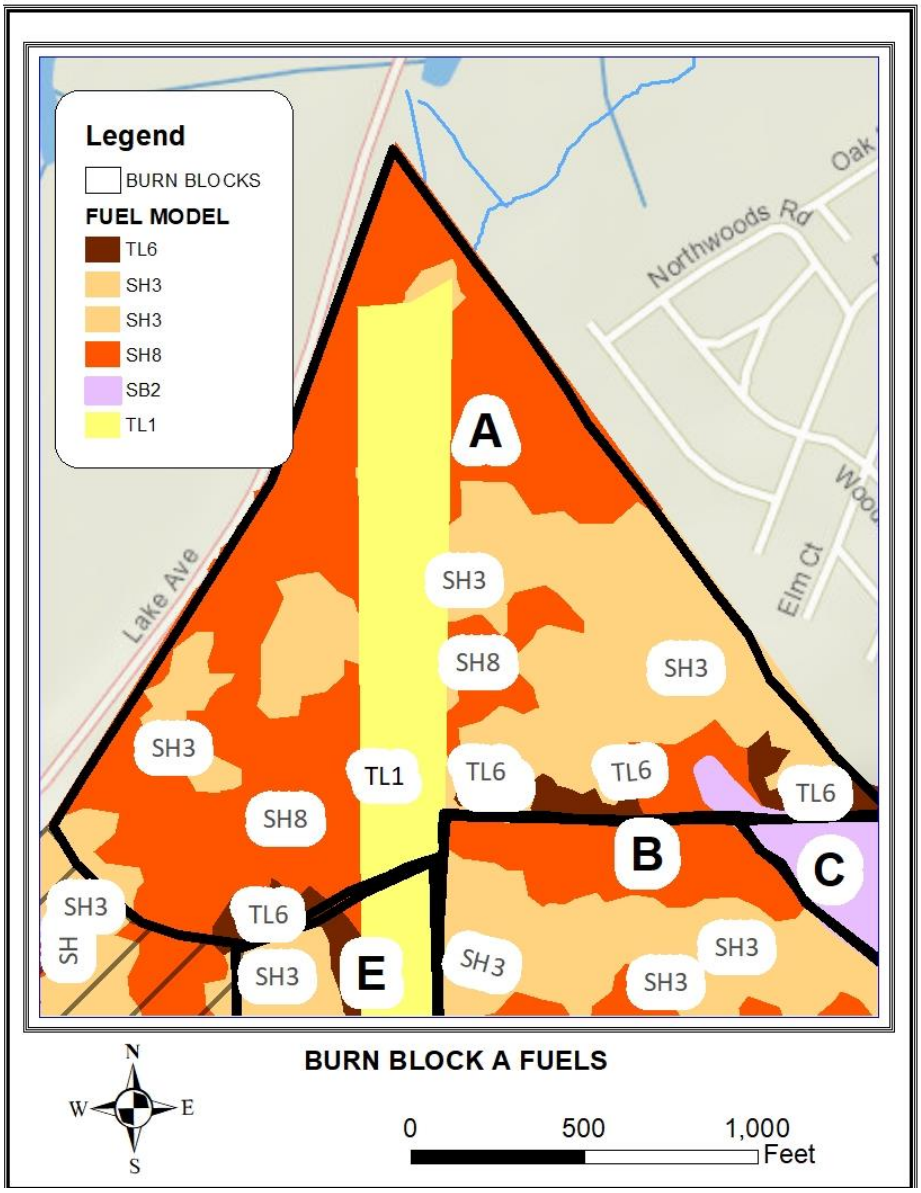


Figure 26: Fuels Block A

Burn Block A (55 ac.) is a triangular shaped block comprising the northern tip of the burn unit. This block is bounded on the west by County Route 63; the north and east by forested state land boundary and the backyards of the Riverwoods Mobile Home Community and to the south by a narrow foot trail (Figure 26). The burn unit boundaries to the west, north and east are heavily forested pitch pine stands. The block is bisected north to south by the remnant of the RCA western firebreak and the resultant pitch pine savanna of today (Figure 27). The fuels in the block include pitch pine stands SH8 (40%), pine-oak stands SH3 (35%) the pitch pine savanna TL1 (15%), oak stand fuels that include TL6 and SH4 (9%), and mechanically treated activity fuels SB2 (2%).

Figure 27: Pine Savanna TL1 Block A

Burn Block E (100 ac.) is a long linear mostly rectangular block west of the old RCA western fire break (Figure 28). This block fills the area between the fire break line and the "not to burn" sections along the western edge of the burn unit. The block is bounded on the west and north by red blazed foot trails, on the east and south by the scar of the old RCA fire break and foot trails. To the west of the block are two portions of the burn unit that are not intended to be burned but will serve as a buffer for the subdivisions and other homes of the Pine Valley neighborhood along the shoreline of and north of Wildwood Lake. The fuels in the block are primarily pitch pine forest SH8 (48%) and pitch pine-oak forest (40%). The old RCA fire break on the eastern edge of the block has 12 acres of pitch pine savanna TL1 (12%) and 8 acres of very thick pitch pine forest of reproduction on the south side (SH8).

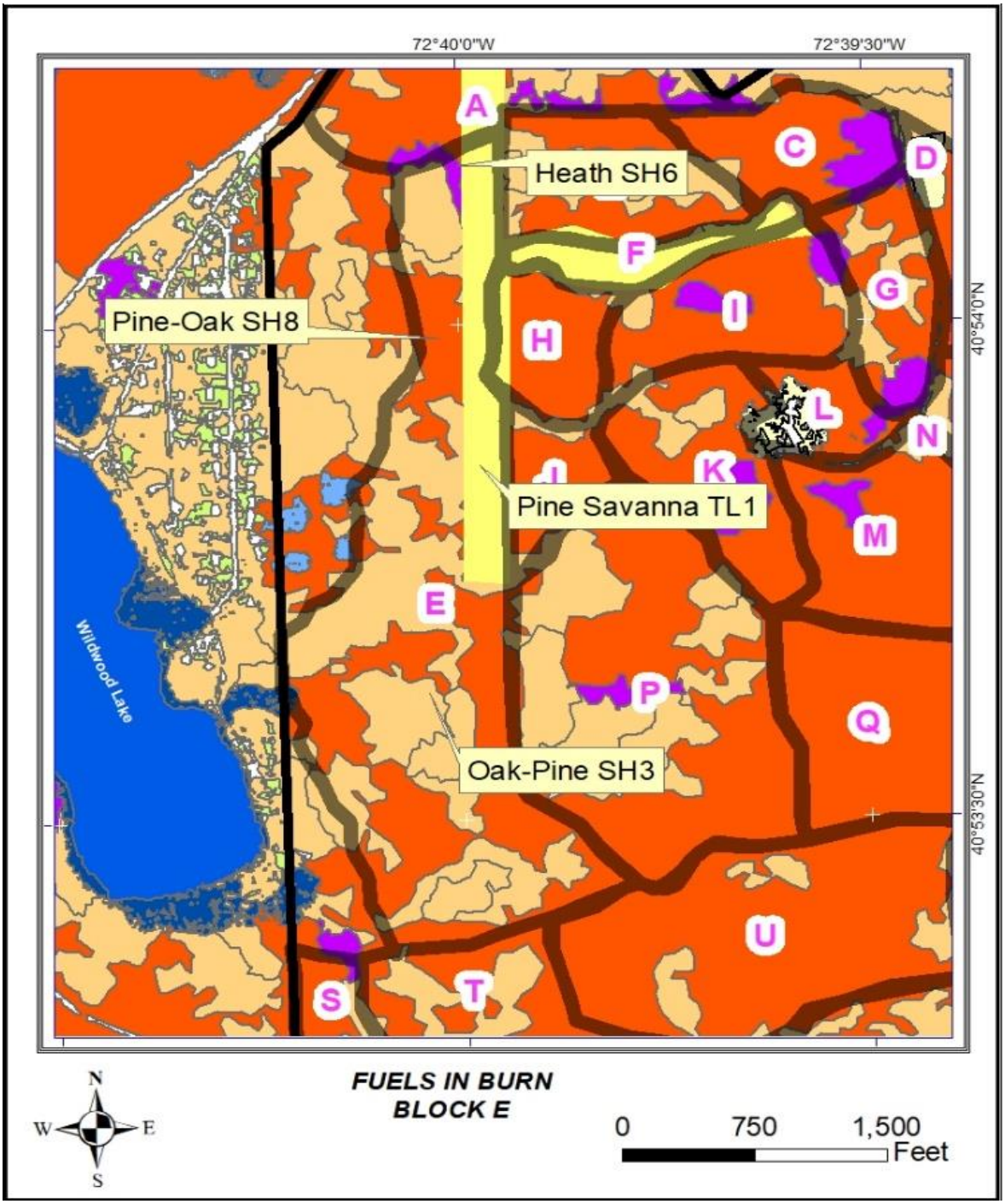


Figure 28: Fuels Block E

Burn Block N (17 ac.) is a five-sided polygon in which 4 of the 17 acres have been mechanically treated (Figure 29). The block is bounded by the Truck Trail on the northwest side and a foot trail that is a remnant of an old RCA road on the west side. The other flanks are just continuous pitch pine forests that will need to have a fuel break masticated in the future to separate it from **Blocks O and R**. The N / O break is along an old RCA transmission line scar which might make mastication easier. A red blazed trail bisects the burn block and serves to break the fuel beds into three distinct areas. Northwest of the trail are the thinned and masticated fuels modeled as SB2. Southwest of the red blazed trail is a 3-acre portion of the block that consists of a 50/50 mix of oak-pine forest and pitch pine forest, SH3 and SH8 fuels respectively. The remaining 10 acres of the block, east of the red blazed trail, are shrubby pitch pine forest, SH8. The fuel distribution is SH8(65%), SB2(24%) and SH3(12%).

Burn Block O (27 ac.) is a trapezoidal block (Figure 29). The block is bounded to the north by the mechanically treated **Block D** and red and yellow blazed foot trails, on the west and south by **Blocks N** and **R** (with no existing fuel break) and to the east abutting County Road 104 at the intersection with County Road 105 and unbroken pitch pine forest. The eastern half of **Block O** was masticated in March 2021. A fuel break will also be masticated along a portion of the western boundary with **Block N**. The fuels in the block at the time of this plan preparation are shrubby pitch pine forest SH8 (33%) and masticated pitch pine forest SB1/ SH4 (66%).

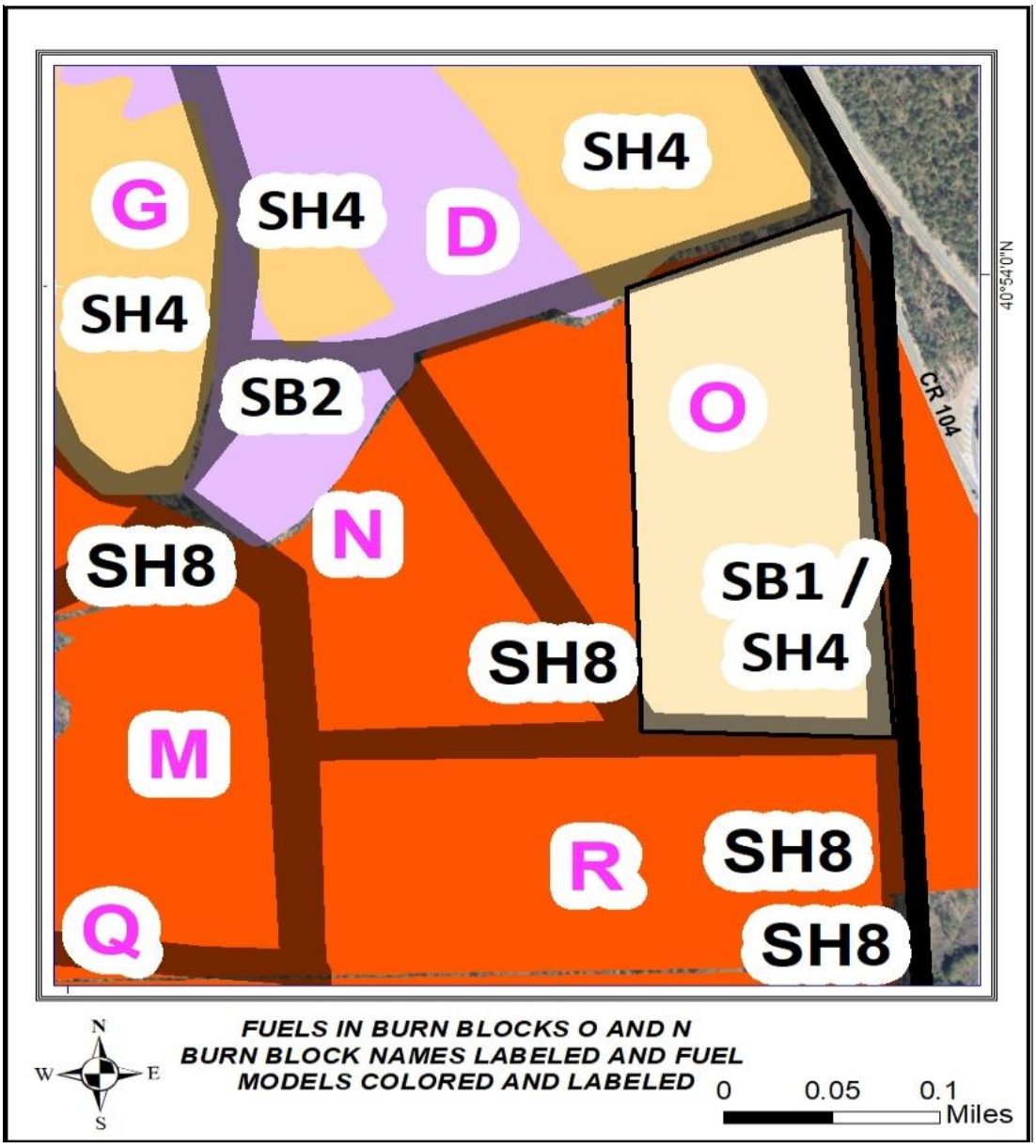


Figure 29: Burn Blocks N and O Fuels

iii. Southern Portion of Burn Unit, Untreated Burn Blocks P, Q, R, S, T, U, V and W Fuels:

Burn Block P (67 ac.) is an oval shaped block bounded on all sides by unmarked foot trails. It is pitch pine forest SH8 (51%) pine-oak forest SH3 (30%), oak-pine forest SH3 (25%), and oak forest TL6 (4%) (Figure 30). The southern RCA east-west fire break remnant is in the southern portion of the block and it is pitch pine forest, but still has a bit of grassy understory.

Figure 30: Looking North into the Southern Edge of Block P from Foot Trail

Burn Block Q (29 ac.) is a square shaped block bounded on the east, south and west by unmarked foot trails. The northern edge is unbroken forest between it and **Block M** which will need a masticated fuel break. **Block Q** is solid pitch pine forest SH8 (100%) and like **Block P** to its west it has the old RCA southern firebreak on it southern edge with thick pitch pine forest, but some grassy patches.

Burn Block R (46 ac.) is a rectangular block bounded on the west by an unmarked foot trail, on the south by red and yellow blazed foot trails, and on the north and east future masticated lines. A red blazed foot trail transects the block from south to north in the middle. The eastern half of this block, the area east of the red blazed trail, would be thinned and masticated during the winter of 2022/2023. Prior to mechanical treatments, the fuel is pitch pine forest SH8 (70%), embedded pine-oak forests SH3 (26%) and a 2-acre patch of scrub oak shrubland SH9 (4%). Mechanical treatment would reduce the SH8 and SH9 fuels to the SB2 model and would likely convert the SH3 portions that are treated to SH4 fuels.

Burn Block S (41 ac.) is a mostly rectangular block in the southwest corner of the burn unit. It is bounded to the south by the powerline right of way north of the Hampton Hills Country Club road and on the east by an unmarked foot trail. The Paumanok Path, foot trail, enters this block in its southeast edge, winds throughout the center of this burn block and exits in the northwest corner. The west side follows the NYS-DEC State Forest boundary which will need mastication to open a fuel break. The fuels in the block are pitch pine forest SH8 (51%), pine-oak forest SH3 (30%) and oak-pine forest SH3, (29%).

Burn Block T (263 ac.) is a trapezoidal shape and is the largest block in the burn unit. It is bounded by an unmarked foot trail on the west, a red foot trail on the north, a yellow blazed foot trail to the east and the powerline right of way to the south (Figure 31). The Paumanok Path, a foot trail, crosses this burn block east to west along the southern third of the block. This block of rolling hills is large mature pitch pine forest SH8 (75%), with the remainder mostly pine-oak forest which due to lack of any disturbance would also be modeled SH8 (25%). This block will require a number of mastication lines in the future to break up this fuel bed into smaller patches for burning.

Figure 31: Block T Looking Northeast from the Powerline

Burn Block U (53 ac.) is a hilly, rectangular block bounded by foot trails on all sides. The fuels are pitch pine forest SH8 (90%) and pine-oak forest SH3 (10%).

Burn Block V (70 ac.) is a square block that is bounded by foot trails to the west and north. The east boundary is at the eastern edge of the burn unit against Suffolk County owned lands. In the winter of 2024/2025, the northeast and southwest corners would be thinned and masticated. The existing fuels are pine-oak forest SH3 (50%), oak-pine forest SH3 (20%) and pitch pine forest SH8 (30%). The mechanical treatment in the northeast corner should result in SH8 and SH3 fuels being reduced to SB2 and SH4 respectively. In the southwest, the mechanical treatment would primarily reduce SH3 fuels to SH4 and SB2.

Figure 32: Block W SH6 Fuels Along the Trail on the Western Edge

Burn Block W (146 ac.) is a rectangular shaped block in the southeast corner of the burn unit. The east boundary is the eastern edge of the burn unit against Suffolk County owned lands and a future fuel break along the eastern edge will need to be masticated. The south boundary is the powerline with an established sand road as a break. The Paumanok Path foot trail bisects this block from east to west in the center. During the winter of 2026/2027 the eastern third of this block would be thinned and masticated (65 acres treated). The fuels are pitch pine forest SH8 (60%), pitch pine forest SH6 (35%), pine-oak forest SH3 (4%) and scrub oak shrubland SH9 (1%) in a finger of the 1993 fire scar that burned severely (Figure 32). The mechanical treatment project would reduce the SH8 and SH9 fuels along the eastern boundary to SB2 and SH4 conditions.

2. Adjacent Fuels Data:

The adacent fuels, much like the untreated portions of this prescribed fire unit are forest fuels with a high shrub component. A complete assessment of the fuels is provided in Figure 34 and will be reviewed below in a counter-clockwise pattern. Starting from the north (Figure 33), the adjacent fuels are fragmented by roadways, lakes and freshwater wetlands but shrubby pitch pine forests (SH8) of and oak-pine / pine-oak forests (SH3) are immediately outside the burn unit and adjacent to the Riverwoods Mobile Home Community. The mobile home park itself occurs within an oak-pine stand. To the west of **Block A**, there is a thin line of pitch pine and oak along the western shoulder of CR 63, which leads to a wetland marsh that is unlikely to carry fire. From that marsh to Wildwood Lake and CR63 is primarily lined by a shrubby pitch pine (SH8) forest. The triangle of developed land with subdivisions Pitch Pine Forest SH8 between CR63 and the western boundary of the burn unit is primarily oak-pine forest with grass lawns around homes (SH3). There are some pockets of pitch

Figure 33: Riverwood Mobile Home Community and Fuels (Google Maps)

pine forest (SH8). South of Wildwood Lake, the forests immediately west of the burn unit boundary are primarily shrubby pitch pine (SH8).

The adjacent fuels to the south are almost entirely pitch pine forest (SH8). In the southeast, the pitch pine forest transitions after 0.25 miles south of the burn unit to dwarf pitch pine and shrubland forests that are modeled SH9.

The adjacent fuels to the east are also a sea of continuous pitch pine forest that has had minimal disturbance in the past 100 years and is almost entirely SH8. There are pockets inside this sea of heavy fuels where fire or other disturbances have resulted in shrublands and other high-density fuels modeled as SH9. CR104 merges with the burn unit at the intersection of CR105, and the fuels on the eastern side of CR104 are again dense, shrubby pitch pine stands (SH8).

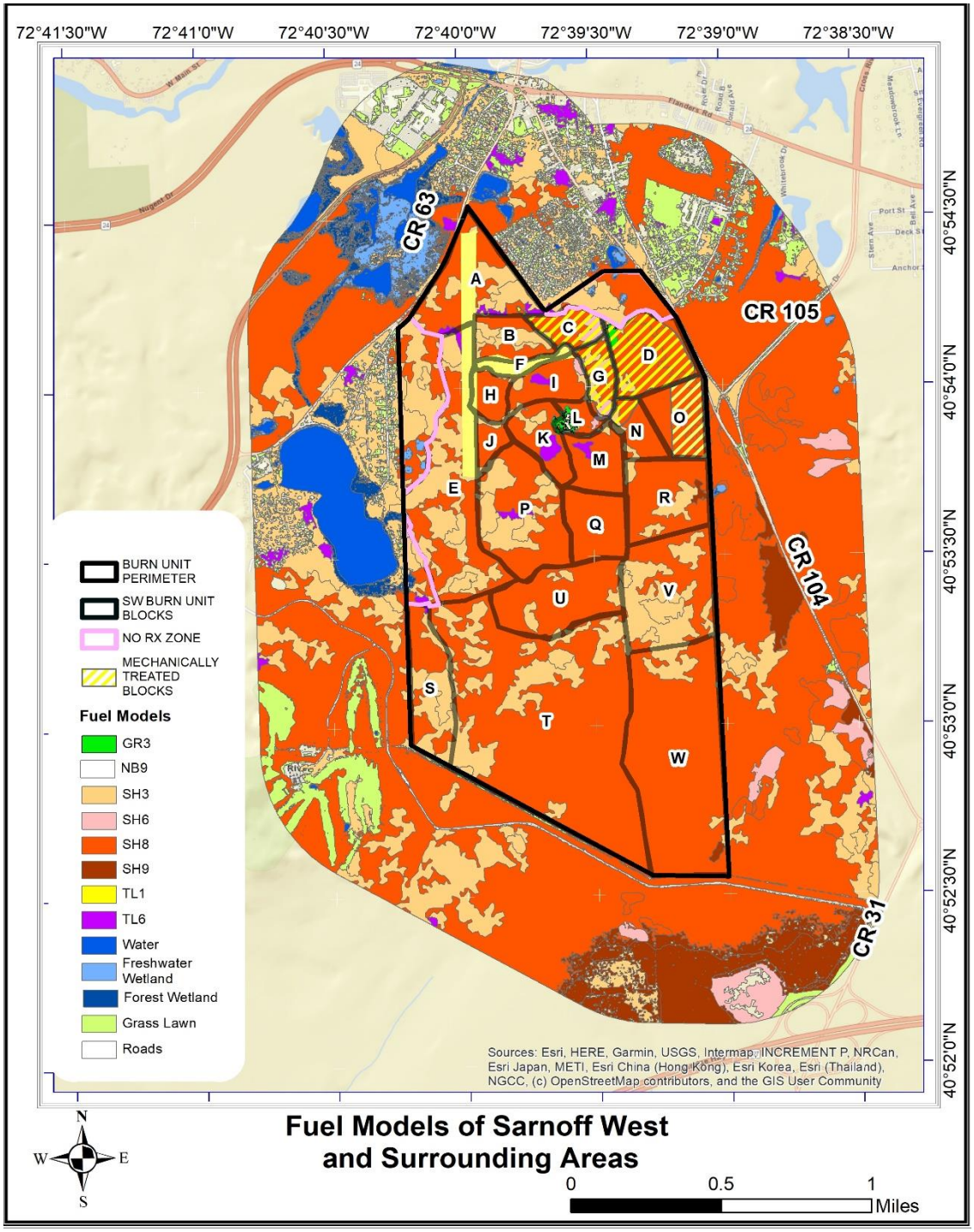


Figure 34: Fuels in and Adjacent to Sarnoff W Burn Unit

3. Percent of Vegetative Type and Fuels Model(s):

Table 1: A Summary Of The Area/Percentage Of Untreated And Treated Fuels By Vegetation Type And Fuel Model Within Each Burn Unit. <u>Untreated:</u>

Pitch Pine Forest: Modeled SH8; 700 acres = 63%
Pitch Pine-Oak Forest: Modeled SH3; 122 acres = 11%
Oak-Pitch Pine Forest: Modeled SH3; 96 acres = 9%
Oak Heath Forest: Modeled SH6; 55 acres = 5%
Pitch Pine Savanna: Modeled TL1; 29 acres = 3%
Oak Forest: Modeled TL6; 13 acres = 1.2%
Shrub Oak Shrubland: Modeled SH9; 3 acres = 0.3%
Grassland: Modeled GR3; 4 acres = 0.4%

<u>Mechanically Treated:</u>

Pitch Pine Forest Mechanically Treated: Modeled SB1/SH3; 18 acres = 1.6%
Pitch Pine Forest Mechanically Treated: Modeled SB2; 35 acres = 3%
Pitch Pine-Oak Forest Mechanically Treated: Modeled SH4; 36 acres = 3.2%
Grassland Mechanically Treated: Modeled GR3; 5 acres = 0.5%

SARNOFF WEST RX BURN UNIT FUELS BY ACRES / BURN BLOCK											
BURN BLOCK		SH3	SH4	SH6	SH8	SH9	TL1	TL6	GR3	SB1/SH3	SB2
BLOCK A	55 acres	19			22		8	5			1
BLOCK B	22 acres	11			11						
BLOCK C	16 acres								3		13
BLOCK D	40 acres		24						2		14
BLOCK E	100 acres	40			48		12				
BLOCK F	8 acres		1				7				
BLOCK G	15 acres		11				1				3
BLOCK H	13 acres	12					1				
BLOCK I	22 acres	6		1	14			1			
BLOCK J	9 acres	1			8						
BLOCK K	23 acres			3	19			1			
BLOCK L	9 acres	5							4		
BLOCK M	25 acres				22			3			
BLOCK N	17 acres	2			11						4
BLOCK O	27 acres				9					18	
BLOCK P	67 acres	30			34			3			
BLOCK Q	29 acres				29						
BLOCK R	46 acres	12			32	2					
BLOCK S	41 acres	20			21						
BLOCK T	263 acres				263						
BLOCK U	53 acres	5			48						
BLOCK V	70 acres	49			21						
BLOCK W	146 acres	6		51	88	1					
Total Acres by Fuel Model		**218**	**36**	**55**	**700**	**3**	**29**	**13**	**9**	**18**	**35**
	Fuel Model	**SH3**	**SH4**	**SH6**	**SH8**	**SH9**	**TL1**	**TL6**	**GR3**	SB1/SH3	**SB2**

C. Description of Unique Features, Natural Resources, and Values:

1. **Species of Concern:** NYS-DEC Region 1 Wildlife and Forestry staff were contacted to identity species of concern associated with the proposed prescribed fire management activities. The New York State Natural Heritage Program Database was also used as a reference to identify the threatened or endangered species or other species of concern listed below (Table 2).

a) Mammals: The northern long-eared bat (*Myotis septentrionalis)* was identified as a species of concern documented within the burn unit and the following protocols were provided by NYSDEC in order to protect this mammal:

- No burning is permitted during the June 1st-July 31st which is the maternity/pupping period of this species.
- These bats experience torpor when temperatures drop below 50F. Between March 1st and November 30th, the minimum onsite air temperature at the time of ignition shall be 50 degrees F to ensure the bats ability to fly from prescribed fire operations. There are no temperature constraints from December 1 to February 28(29) related to northern long eared bats.
- As the bats utilize bark plates and hollow trees for roosting and shelter, trees shall not be cut from March 1 – November 30.
- Snags and cavity trees will be left intact to protect bat habitat unless these trees pose an immediate threat to firefighter or public safety that cannot be mitigated by avoidance.

b) Insects/Birds/Plants: A diversity of moths and a butterfly species as listed below have been recorded onsite of the burn unit since 1931. Strategies to minimize species specific impacts follow recommendations for minimizing moth/butterfly mortality, increasing recolonization of treated areas while improving habitat such as increasing access to nesting sites and improving forage nutrition and availability. These strategies include limiting burned area acreage, assuring there are nearby unburned refugia, and burning in patches so that the entire area occupied by a population is not burned within a 3-year period. Not only does patch burning reduce the potential for invertebrate mortality, the unburned refugia protects and provides a source for recolonization of burned areas. Much of the same is true to restore and maintain habitat for the Chuck Wills Widow which is a ground nester in open patches. All of these strategies are embraced fully in the objectives and operational guidelines written in this plan and implementation would be overall beneficial to these species.

Table 2: Demographics, Concerns and Mitigation Actions for Species of Concern Documented by NY Natural Heritage Program within Sarnoff West

Species	Location (Last Observed)	Federal Status	NY Status	Concerns	Mitigations / Actions
Northern Long-Eared bat (*Myotis septentrionalis*)	All Burn Blocks (Current)	Threatened	Threatened	Direct Mortality	No burning season / Temperature & tree cutting restrictions
Coastal buckmoth (*Hemileuca maia* 5.)	Blocks K/M (1995)	Not Listed	Special Concern	Loss of Habitat Due to Lack of Fire	Patch burning improves habitat
Edwards' Hairstreak (*Satyrium edwardsii*)	Block V (1995)	Not Listed	Not Listed	Loss of Habitat Due to Lack of Fire	Patch burning improves habitat
Doll's Merolonche (*Aronicta dolli*)	Unknown Location (1931)	Not Listed	Not Listed	Historic Resident	Patch burning improves habitat
Packards Lichen Moth (*Cisthene packardii*)	Blocks N/O/R (2005)	Not Listed	Not Listed	Loss of Habitat Due to Lack of Fire	Patch burning improves habitat
Pink Sallow (*Psectraglaea carnosa)*	Blocks N/O/R (2013)	Not Listed	Not Listed	Loss of Habitat Due to Lack of Fire	Patch burning improves habitat
Herodias or Pine Barrens Underwing (*Catocala herodias gerhardi*)	Blocks N/O/R (2006)	Not Listed	Special Concern	Loss of Habitat Due to Lack of Disturbance	Patch burning improves habitat / Have adjacent unburnt
Chuck-wills-widow (*Antrostomus carolinensis*)	Blocks S/T/W on (2005)	Migratory Treaty	Protected	Loss of Habitat Due to Lack of Disturbance	Patch burning improves habitat/ Ground nesting May/June
Small White Snakeroot (*Ageratina aromatica var. aromatica*)	Dry Locations (1952)	Not Listed	Endangered	Unknown	If present it flowers/fruits Aug-Oct

c) Wetland Species of Concern: Other plants that are listed of concern that are nearby or inside the burn unit are wetland species and the wetlands occurring within the burn unit have been designated as non-prescribed burn zones, and as such will not be impacted by prescribed fire.

2. Vegetative Community: This entire burn unit is composed Pitch Pine – Oak Forest and Pitch Pine Oak-Heath Woodlands; which are forest communities identified as special habitats. Prescribed fire is a management tool used to restore and maintain forest health in these communities and restoring/maintaining these habitats are part of the objectives of this burn plan.

3. Soils: Another special value protected in this plan is soil health particularly by limiting as much as possible soil disturbance. Soil disturbance caused by digging or bulldozing fire lines and fire breaks can lead to illegal use and land damage by all-terrain vehicle users, soil erosion and invasions of non-native plants. This plan states that constructed handline will not need to be cut to mineral soil unless absolutely necessary. For the most part, masticated check lines will be constructed rather than dozer lines and these check lines can be supported by sprinklered lays or hose lays. In the burn blocks that have already been mechanically thinned, check lines to limit fire to interior patches may only be wet lined or sprinklered with limited mastication needed. These actions will mitigate the need for soil disturbance and thus proactively limit the above documented concerns.

4. Aesthetics: There is also a concern for protecting a quality forest "appearance" for the adjacent homeowners and recreational visitors. The goal is not to have people perceive or misunderstand that the prescribed fires kill trees and leave the forest charred. To achieve both ecological and aesthetic perception goals, burns will for the most part be conducted in patches within the burn blocks versus broadcast burning of the entire burn block. This will build a mosaic pattern of burned and unburned areas on the landscape and will promote species diversity and stages of succession. Crown fire avoidance is another aspect of protecting this public perception value and in response dry end prescription variables for areas were carefully limited to prevent crown fires and to minimize mature pitch pine tree mortality.

D. (Attached in Appendix A):

1. Vicinity (Required)
2. Project/Ignition Unit(s) (Required)
3. Values (Optional): ☒ Included ☐ Not Included
4. Significant or Sensitive Features (Optional): ☒ Included ☐ Not Included
5. Fuels or Fuel Model(s)(Optional): ☒ Included ☐ Not Included
6. Smoke Impact Area (Optional): ☒ Included ☐ Not Included

Element 5: Objectives

Leaders Intent: The intended outcome of this prescribed burn project is to reduce the future chance that a large wildfire will carry through this state-owned forest tract and cause damages to adjacent private and public lands and transportation infrastructure as well as threatening public safety. In the process of reducing this risk, the project will correct the existing fire return interval departure (the area is 30-50 years overdue for large fire); reduce unnatural accumulations of both live and dead forest fire fuels; create a mosaic of burned and unburned forest stands; maintain and expand herbaceous cover in the forest and pine savanna understory, and will improve resistance to invasive pests while supporting native habitats that house endemic rare species.

A. Resource Objectives:

- In 40-60% of Burn Blocks C, D, G and the treated portions of N and O, reduce existing litter consisting of 1- and 10-hour fuels by 50 - 80% as measured one-week post burn.
- On 40-60% of Burn Blocks C, D, G and treated portions of N and O, use fire to treat and transition fuels currently rated as Moderate Load Activity Fuel (SB2) to fuels rated as Low Load, Humid Climate Timber-Shrub (SH4) with visual re-evaluation one-year post burn.
- Restore and maintain the pitch pine forests and help improve and increase resilience to southern pine beetle and other pests by top killing 50 – 70% of understory sapling trees and shrubs in all portions of burn blocks treated as measured one week post burn.
- In all untreated burn blocks, reduce fuel loading by using fire to transition fuels currently rated as High Load or Very High Load Humid Climate Shrub (SH8 and SH9 respectively) to Low Load, Humid Climate Shrub (SH6) with a visual re-evaluation one-year post burn.
- In all untreated burn blocks that are currently rated as Moderate Load Humid Climate Shrub (SH3), use fire to transition fuels to Low Load Humid Climate Timber-Shrub (SH4) with visual re-evaluation 1-year post burn.
- In all untreated burn blocks that are currently rated as Moderate Load Broadleaf Litter (TL6) and/or combination of Moderate Load Broadleaf Litter (TL6) and Low Load Humid Climate Shrub (SH6), use fire to transition the fuels to Low Load Broadleaf Litter (TL2) and/or Low Load Humid Climate Timber-Shrub (SH4) with visual re-evaluation 1-year post burn.

B. Prescribed Fire Objectives:

1. Overall Objectives

- Ensure the safety of prescribed burn staff by providing an accurate implementation Incident Action Plan and operational period briefings to all resources; by adhering to the standard fire orders; by putting lookouts, communications, escape routes and safety zones in place and communicating them to all resources prior to fire engagement and by ensuring that holding resources dictate the speed of ignitions, with the goal to ensure in no lost time injuries to burn staff.
- Minimize smoke impacts to roadways and surrounding area including, but not limited to visibility, duration and smoke density by utilizing best smoke management practices.
- Enhance wildfire protection to private and public property and infrastructure adjacent to the David Sarnoff Pine Barrens State Forest by reducing fuel loadings and fuel bed continuity through December 2030.

- Provide training for basic, intermediate, and advanced wildland fire personnel such as practical work for courses offered by the New York Wildfire and Incident Management Academy or other training sessions and trainee assignments for wildland fire positions.
- Provide opportunities for expanding fire effects and forest health monitoring and research.

2. Prescribed Fire First Treatment Goals and Objectives

(Entry Level Fire Treatments Conducted Throughout the Period of Ten Years)

Leaders Intent Goals:

- Within the Sarnoff West Burn Unit, the first entry goal is to reduce the probability of a large wildfire burning from Sarnoff Pine Barrens State Forest onto adjacent private and public lands and infrastructure by creating a landscape patchwork of burned and untreated forests that will reduce fuel continuity and the risk of a major wildfire.
- In the mechanically treated burn blocks, the first entry burn goal is to create a mosaic of burned and unburned fuels within each Burn Block in order to break up the continuity of fuels available to wildfires.
- Reduce the fuel loadings by consumption of 1 and 10 hour fuels that are residuals of mechanical treatments.
- When burning with KBDI's above 250 consume duff and other surface organic materials to expose a bare mineral soil and enhance savanna habitat with herbaceous and low shrub understory post burn.
- In the untreated burn blocks, the first entry burn goal is to reduce fuel continuity by burning patches that reduce the excessive fuel buildup caused by the high Fire Return Interval Departure and to interweave these patches in a checkerboard mosaic on the landscape.
- Eliminate the 30-50 year Fire Return Interval Departure gap on 70% of the burn unit by December 2030.

Objectives to Achieve these First Treatment Goals:

- In Burn Blocks C, D, G and the mechanically treated portions of N, burn 40-70% of the 75 treated acres as measured by accurate mapping of burn treatments by November 15, 2022.
- In Burn Block O, burn 40-70% of the area that was mechanically treated in March 2021 by November 2023 as measured by accurate mapping of burn treatments.
- In the untreated Burn Blocks adjacent to the Truck Trail, burn 90 acres by November 15, 2022 as measured by accurate mapping of burn treatments.
- By November 15, 2025. first treatment fires shall have been applied to 450 acres within the Sarnoff West Burn Unit as measured by accurate mapping of burn treatments.
- Within the Sarnoff West Burn Unit, a total of 750 acres will have received fire entry burn treatments between August 01, 2021 and November 15, 2030, as measured by accurate mapping of burn treatments.

3. Subsequent Prescribed Fire Treatment Goals and Objectives
(Second or Third Fire Treatments to Areas Conducted Throughout the Period of Ten Years)

Leaders Intent Goals:

- Maintain existing grasslands and expand the acreage of pitch pine savannas.
- Continue to reduce fuel loadings of both live and dead fuels, reduce duff and expose mineral soils post burn.
- Maintain Low Load, Humid Climate Timber-Shrub (SH4) in areas that have been converted by first entry treatments.

Objectives to Achieve Subsequent Treatment Goals:

- In the treated Burn Blocks C, D, G and the mechanically treated portion of N, a total of 25 acres shall have received a second burn treatment by November 15, 2025 as measured by accurate mapping of burn treatments.
- The pine savanna of Burn Block F and the grassland of Burn Block L shall have received a second burn treatment by November 15, 2025 and a third burn treatment by November 15, 2029 as measured by accurate mapping of burn treatments.
- A minimum of 8 acres of previously burned untreated pitch pine or pitch pine oak forest have received a second burn treatment by November 15, 2028 as measured by accurate mapping of burn treatments.

Element 6: Funding

A. Cost:

Table 3 estimates the full cost of implementing this prescribed burn plan over the next ten years (2021-2030). The estimate includes costs of work and equipment provided by cooperating agencies as well as estimated $308,000 total ($30,800 / year) prescribed fire related costs for the Central Pine Barrens Commission. In addition, a cost of $408,000 has been detailed to perform three additional and necessary future thinning and mastication projects on a total of 136 acres which accounts for 48% of the total estimated cost of this burn project. The cost of this mechanical treatment is based upon NYS-DEC estimate of $3000 / acre for this work performed using NYSDEC employees and equipment. If performed by contractors, the costs will be higher.

Table 3: Costs of Planning and Implementing Prescribed Fire at Sarnoff West from 2021-2030.

COOPERATING AGENCY COSTS		CPBC SALARY & EQUIPMENT COSTS		PLANNING & OTHER CPBC COSTS	
RXB2	$10,977	RXB2	$21,954	CPBC	$6,110
FFT1	$66,528	FEMO	$13,306	PUBLIC OUTREACH	$4,500
FFT2	$57,024	PIO3	$8,316		
ENG4	$3,800	FFT1	$23,760		
MECH TREATMENTS	$408,000	FFT2	$137,808		
		TENDER	$13,500		
		SQUAD	$55,000		
		ENG7	$23,760		
TOTAL	**$546,329**	**TOTAL**	**$297,404**	**TOTAL**	**$10,610**
FULL TOTAL	**$854,343**	**COSTS/ACRE------>**	**$705**	**COST/YEAR 2021-2030**	**$85,434**
ACRES	**1,212**	**COSTS/ACRE (IF MECH NOT INCLUDED)----->**		**$368**	

B. Funding Source:

From 2020 through March 31, 2023, the Central Pine Barrens Commission's incurred costs will be paid by the commission's NYS-DEC Prescribed Fire Program Contract (DEC01-C00620GG-3350000) and General State Contract Cooperator costs are borne through normal personnel and equipment operating fund sources however after the expiration of Prescribed Fire Contract in March 2023, sources of funding to cover the costs of commission operations especially staffing and mechanical treatments will need to be allocated and funded.

Element 7: Prescription

A. Prescription Narrative:

There are two separate prescriptions in this plan. The prescriptions are based on fuel model, location and treatment objectives. The prescriptions are delineated as follows:

Prescription 1: Mechanically Treated Pitch Pine Forests; Pitch Pine Savannas and Grasslands
Prescription 2: Untreated Pitch Pine, Pitch Pine – Oak; Oak – Pitch Pine and Oak Forests

B. Prescription Parameters:

1. Environmental

PRESCRIPTION 1: **Mechanically Treated Pitch Pine Forests, Pitch Pine Savannas and Grasslands** **Based on Fuel Models SB1 / SB2 / SH4 / TL1 / GR6 and GR3** **Burn Blocks C, D, G and Portions of N, A and O** **Totaling 10% of the Burn Unit Acres**		
Required Parameters	**Acceptable Range**	**Comments**
Time of Year	August 1 to May 31 (no burning June 1-July 31)	Two primary burn seasons: Mid-March thru May; August thru October with fire otherwise permitted other than closed period June 1- July 31.
Wind Direction	Any	These fuel beds are interspersed with jackpots of 100 + hr fuels. When smoke is blowing toward adjacent smoke receptors, compensate by burning small patch sizes, moderate availability of large fuels w/ KBDI levels and totally mop up heavies (prevailing wind is SW).
Mid-Flame Windspeed MPH	1 - 5	Live herbaceous fuel moistures vary by the season from dormant (30-60%) to full vigor (250%). The extreme low ends in this prescription are included to allow for winter burning in dormant fuels in patches or in piles. Live woody fuel moistures vary by the season from dormant (60%) to full vigor (300%) and can be at the low end even in summer during extreme drought. The extreme low ends in this prescription are included to allow for winter burning in dormant fuels in patches or in piles. Live woody andfoliar moistures are important factors in reducing mature tree mortality and crowning potential during burns.
1 Hour. Fuel Moisture %	5 - 15	
10 Hour Fuel Moisture %	6 - 20	
100 Hour Fuel Moisture %	8 - 25	
Live Herbaceous Fuel Moisture %	30-250	
Live Woody Fuel Moisture %	60-300	
Keech-Byrum Drought Index	0-500 overall	<100 = 100/1000 hr. fuels will not burn 100-250 = good (ideal) burning range >250 = reduce burn patch size depending on available staff in order to reduce mop-up time required
Air Temperature (F) at Ignition	50-95 degrees March 1-Nov 30 33 degree min. Dec 1 – Feb 28(29)	Ignition temperatures are based on Northern Long Eared Bat constraints, equipment freeze concerns below 33 degrees and crown fire potential / unacceptable mature tree mortality above 95 degrees.
Guidance Parameters		
Relative Humidity %	25-80	25-50 ideal
Atmospheric Mixing Height AGL	1500’ or greater	2000’- 5000’ ideal
Days Since Wetting Rain (Greater than 0.1”)	2 days or greater	4 days or greater ideal

PRESCRIPTION 2:
Untreated Pitch Pine, Pitch Pine – Oak, Oak – Pitch Pine and Oak Forests
Based on Fuel Models SH3 / SH8 / TL6 / SH9 - Includes 20 of the 23 Burn Blocks Totaling 90% of the Burn Unit Acres

Required Parameters	**Acceptable Range**	**Comments**
Time of Year	August 1 to May 31 (no burning June 1-July 31)	Two primary burn seasons: Mid-March thru May; August thru October with fire otherwise permitted (other than closed period June 1- July 31)
Wind Direction	Any	These fuel beds are interspersed with jackpots of 100 + hr. fuels. When smoke is blowing toward adjacent smoke receptors compensate by burning small patch sizes, moderate availability of large fuels w/ KBDI levels & totally mop up heavies. (prevailing wind is SW).
20' Windspeed MPH Mid-Flame Windspeed MPH	5 – 25 1 - 5	In these sheltered heavy fuels, the 20' windspeed reduction factor is set as 0.2.
1 Hour. Fuel Moisture %	5 - 18	Live herbaceous and live woody fuel moistures vary by the season from dormant (60%) to full vigor (300%) and can be at the low end even in summer during extreme drought. Use live fuel moistures to moderate fire intensity, scorch height and mortality. The extreme low ends in this prescription are included to allow for winter burning in dormant fuels in patches or in piles and not intended for use during growing season burns. Live woody and foliar moistures are important factors in reducing mature tree mortality and crowning potential during burns. Folial moisture estimates = Dormant – 100%; Summer – 150-200%; Fall – 120%.
10 Hour Fuel Moisture %	6 - 20	
100 Hour Fuel Moisture %	8 - 24	
Live Herbaceous Fuel Moisture %	60 - 300	
Foliar Moisture %	100 -300	
Live Woody Fuel Moisture %	60 - 300	
Keech-Byrum Drought Index	0-500	<100 = 100/1000 hr. fuels will not burn 100 – 250 = limit patches dependent on available staffing. 251- 500 = limit patch size to manageable mop-up
Air Temperature (F) at Ignition	50-95 degrees March 1-Nov 30 33 degrees min. temp Dec 1 – Feb 28/29.	Ignition temperatures are based on Northern Long Eared Bat constraints, equipment freeze concerns below 33 degrees and crown fire potential / unacceptable mature tree mortality above 95 degrees.
Guidance Parameters		
Relative Humidity %	25-80	25-35 ideal
Atmospheric Mixing Height AGL	1500' or greater	2000' - 5000' ideal
Days Since Wetting Rain (Greater than 0.1")	2 or greater	4 or greater ideal

Notes: Be mindful of the annual "spring dip" in needle moisture, occurs in mid-April through May when live needle moisture drops below 100%, increases the possibility/higher likelihood of crown fire.

2. Fire Modeling and Empirical Documentation:

Behave Plus 6.0.0 modeling runs for both prescriptions in Appendix E display the outputs for highs and lows of the established environmental parameters. These Behave runs include outputs for both head fires and backing fires. Bear in mind that backing fire is the ignition technique recommended for most of the burning.

From the empirical experience viewpoint, these shrubby, volatile "live to crown fuels" (much like other chaparral type fuels) require abundant applications of both caution and common sense. SH8 and SH9 fuel models are "Dynamic" as the live fuel moistures and foliar needle moistures drive both fire intensity, scorch, mortality, as well as potential for crowning. During wildfires, pitch pine often burns with stand replacement intensity. Much of how the fire will behave on a given day is vested in live moistures and the alignment of various factors. Therefore, this prescription allows for a wide range of factors and it is incumbent upon both the burn boss and fire program manager to interpret the factors in applying them on a given day or season of burning. Prescribed burning in May 2021 also revealed that optimal forest burning conditions may be related to 100 hour fuel moistures. It was observed that burning went well and achieved objectives with 100 hour fuel moistures at 15% or lower, while one and ten hour fuels had relatively moderate moistures at 10% or higher. As long as the one and ten hour fuels would carry fire, the lower 100 hour moistures proved valuable.

If both live and dead fuel moistures are at the low end of the prescription you would not burn if you are on the high end of the permitted wind speeds. Pitch pine foliar moistures below 100% during the "spring dip" of mid-April through May increase the susceptibility of crown fire. As such, needle foliar moisture is another important consideration to determine the overall "alignment" of factors. Conversely if both live and dead fuel moistures are at the high end of the prescription, the higher end of the winds in the prescription will be needed in order to carry fire in the block.

A premise is that much of the burning will be conducted with backing fires, lit off a downwind sprinkler lay or hose lay line. However, it should be noted that the prescription was built wide enough to allow for more aggressive ignition patterns when the environmental factors are at the low end of the spectrum. The prescription is also wide enough to enable burning in blocks where a limited amount of crown fire is acceptable (in a very confined situation) when it is desirable for diversifying habitat or research purposes.

Element 8: Scheduling

A. Implementation Schedule (Ignition Time Frames or Season(s) or both):

This burn may be conducted at any time of the year, except for the period from June 1 to July 31, when burning is not permitted during the Northern Long Eared Bat maternity period. Any deviations require consultation and permission from NYS-DEC and may require an Incidental Take Permit.

1. Projected Duration:

This plan is valid from burn approval date in 2021 through December 31, 2030. It is expected that there will be 5-10 burns per year conducted inside the Unit and that some burn blocks or portions of burn blocks will be burned repeatedly during that decade.

2. Constraints:

No burning June 1 through July 31. No cutting of trees March 1 through November 30, but mastication of shrub fuels is permitted during this period.

Element 9: Pre-burn Considerations and Weather

A. Considerations:

1. On-site: Pre-burn Prep Work (Figure 35):

a) Prepare Fire Break Lines: A series of fire breaks may be cleared ten feet wide to create fuel breaks, provide firefighters access and create paths for hose lays and sprinkler systems as needed. These treatments should be done the winter before they are needed for holding. As can be seen in the map (Figure 35) they would be done the winters of 2021/2022 (1500 feet in length), 2022/2023 (6000 feet in length), 2024/2025 (1500 feet in length) and 2027/2028 (850 feet in length).

b) Broadcast Thinning and Mastication of Shrub Understory: A total of three broadcast thinning and shrub mastication projects will be needed. One would be conducted during the winter of 2021/2022 in the eastern half of Block R (17 acres total). The second would be conducted during the winter of 2024/2025 in the northeast and southwest quarters of block V (36 acres total). The third would be done during the winter of 2026/2027 on the eastern half of Block W (65 acres total). It is noteworthy to state here that the intent is that areas that are thinned and masticated during a given winter will be used as holding sites against adjacent blocks being burned the following spring. The thinned and masticated blocks will then be treated with prescribed burning the subsequent spring.

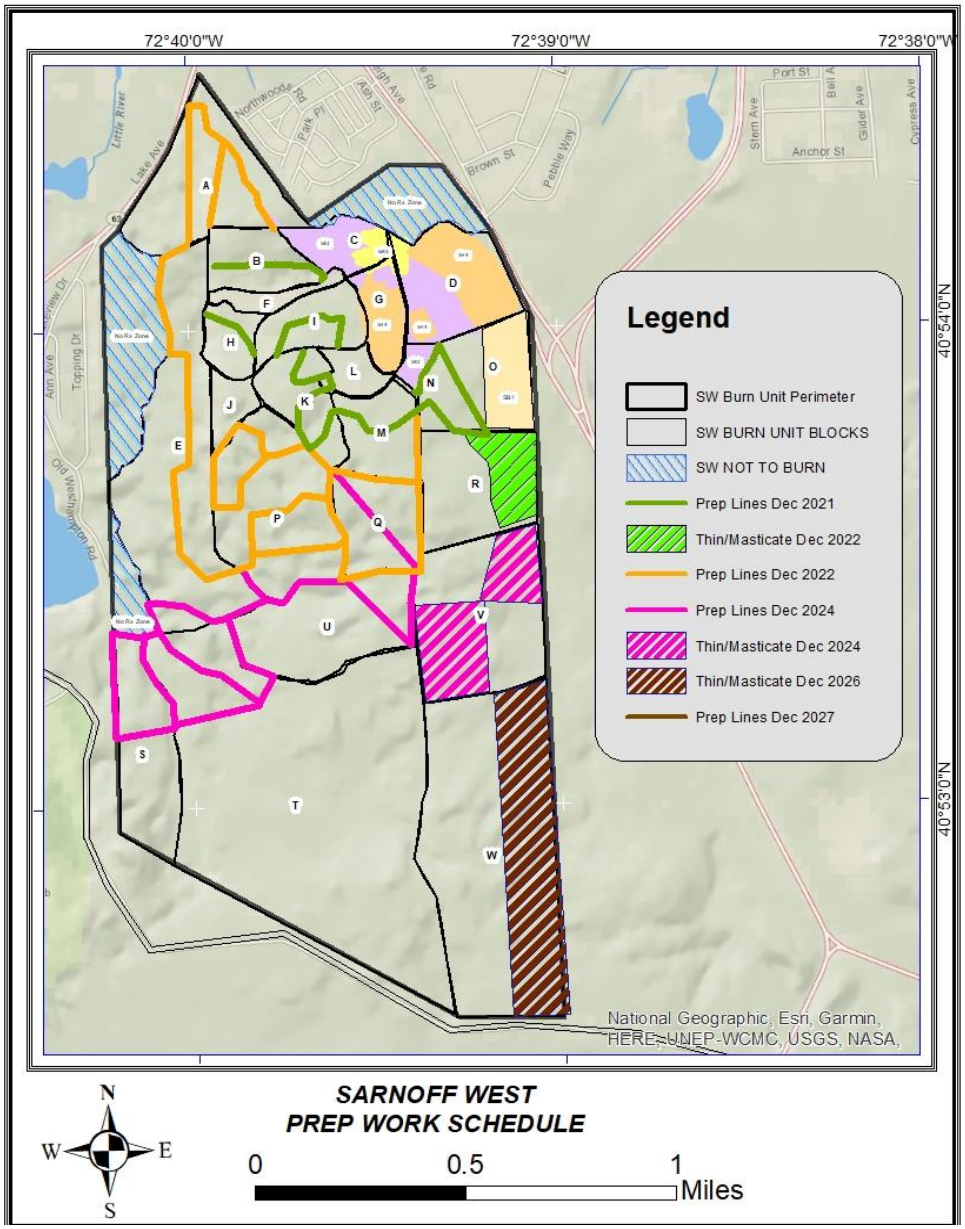


Figure 35: Prep Work Schedule

2. Off-site: Awareness and Prevention Outreach:

a) Advanced Notifications: Two months before burning is planned, the NYS-DEC and/or the Central Pine Barrens Commission should actively provide prescribed fire awareness information and tentative burn dates for the homeowners immediately adjacent to the burn unit in the Riverwoods Mobile Home Community, Riverside West and Pine Valley East. Figure 36 identifies five distinct zones for distribution of information but note that information distribution is limited to those areas immediately adjacent to the burn unit boundary. Information would only be provided to those residential zones adjacent to burn blocks planned for burning in the coming year. Much of the needed public notifications would be in the form of a press release identifying prescribed burn areas planned for the upcoming year. General public and recreational user notifications about upcoming prescribed burns may be in the form of press releases in advance of the burning activities issued by NYS-DEC or the Central Pine Barrens Commission.

b) Annually before hunting seasons notification of burn locations and potential dates will be posted at all Sarnoff West public access points.

c) Burn Day Notifications: All five areas identified on the map would receive burn day notifications in the form of reverse 911 calls from Suffolk County Fire Rescue and Emergency Services dispatch.

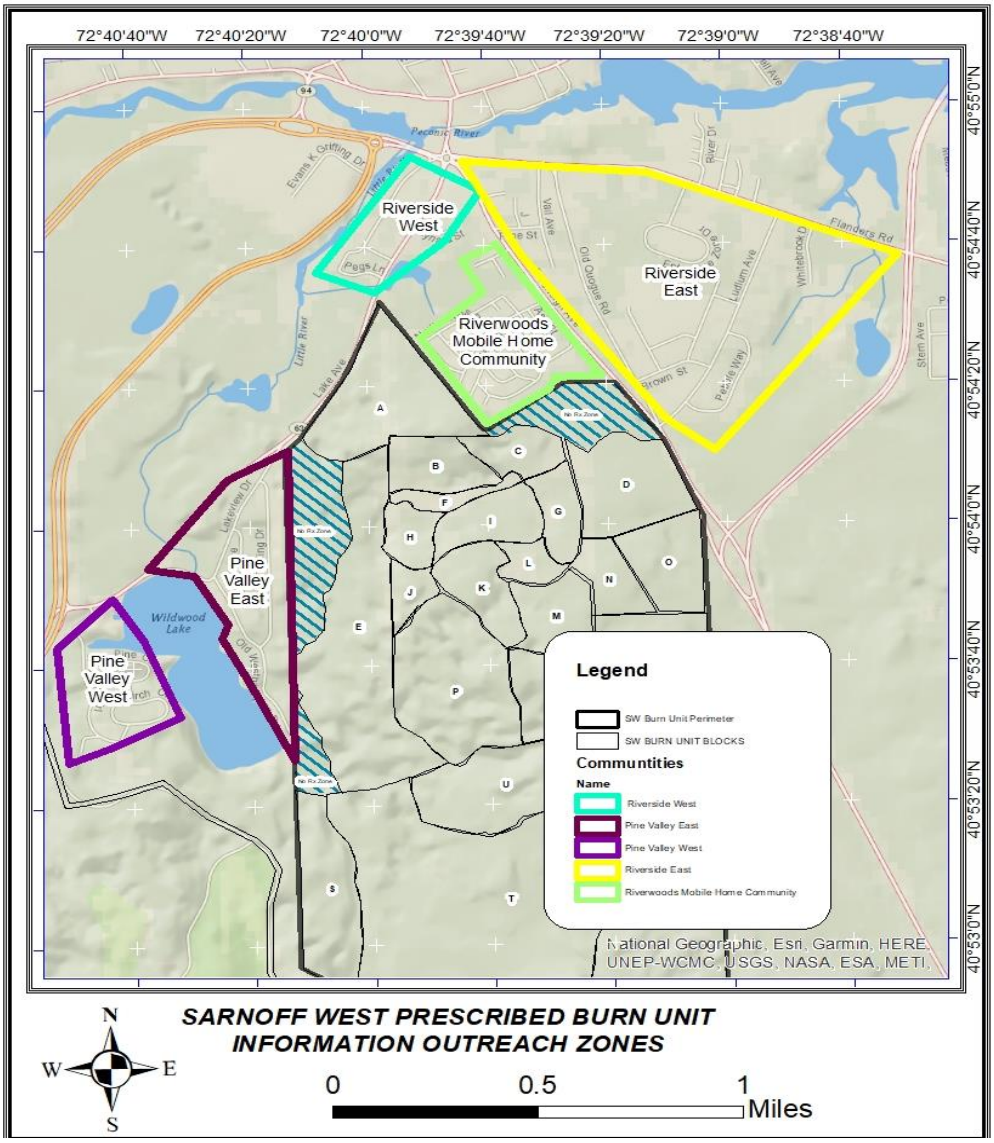


Figure 36: Information Outreach Zones

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

On an ongoing basis, the Central Pine Barrens Commission's Fire Management Specialist, NYS-DEC Prescribed Burn Boss or other designee will:

- Monitor the Central Pine Barrens Commission Remote Automatic Weather Station (Eastport RAWS) for fuel moistures, KBDI conditions and overall trends to establish potential prescribed burn windows.
- Conduct foliar moisture analysis on a mid-monthly basis from March until May 31 to estimate pitch pine crowning potential. If this moisture level dips below 100%, redo the analysis weekly if burns are planned especially during the "spring dip" from mid-April to the end of May.
- Monitor the National Weather Service (NWS) New York Office Fire Weather Forecast and other predictive products to a certain windows for burning.
- Work with the designated prescribed Burn Boss to obtain Spot Weather Forecasts from the NWS both the day before and day of burning.

The Prescribed Burn Boss will:

- Prior to igniting the test fire, take and record (on the CPBC Fire Weather Form) onsite fire weather readings using a belt weather kit (or similar portable weather device). Evaluate whether the weather conditions are within the prescription. If ignition is a go, record the weather every 60 minutes (or more frequently at the discretion of the Burn Boss). The Burn Boss may delegate this duty to a Fire Monitor or Crewmember.
- The following parameters shall be recorded: time, dry bulb temperature, relative humidity, wind speed, wind direction, and sky conditions. One-hour fuel moisture, fire type, flame length, and rate of spread may be reported if requested by the Burn Boss or desired for research documentation.

C. Pre-burn Day and Burn Day Notifications:

Table 4 identifies the list of notifications to be made pre-burn day, burn day and post burn. A complete checklist for printing and recording of notifications each burn day is in Appendix D.

Table 4: Pre-burn Day, Burn Day and Post Burn Notifications

Notice Pre-Day	Notice Burn Day	Notice Post Burn	Notifications	Title / Entity
	X	X	Merlange Genece, Acting Regional Director	NYS-DEC Executive
X	X	X	John Solan, Director	NYS-DEC Forest Protection
X	X	X	Central Office Duty Officer	NYS-DEC Forest Protection
X	X	X	Rob Marsh, Regional Supervisor	NYS-DEC Natural Resources
	X		Bill Fonda, Citizen Participation Specialist (and backup RERC)	NYS-DEC Public Affairs
	X		Nick Acampora, Regional Emergency Response Corrdinator	NYS-DEC Spills
X	X	X	Executive Director Judith Jakobsen	Central Pine Barrens Commission
	X		Donald Lynch, Chief Fire Marshal	Suffolk Fire Marshals
	X	X	Duty Dispatcher	Suffolk Fire, Rescue & Emergency Services
	X	X	Suffolk County Police Dept. Communication Center	Suffolk County Police
	X		Fire Chief Flanders VFD	Flanders Fire Dept.
	X		Fire Chief Riverhead FD	Riverhead Fire Dept.
	X		Fire Chief Westhampton Beach VFD	Westhampton Beach VFD
	X		John Rankin, Chief Fire Marshal	Southampton Town Fire Marshal
	X		Craig Zitek, Chief Fire Marshal	Riverhead Town Fire Marshal
	X		Riverhead Police Department	
	X		Southampton Town Police Department	
X			Adjacent homes and businesses	Reverse 911 via FRES w/in 0.5 mi of burn

Element 10: Briefing

The Briefing Checklist includes the following elements (but is not limited to - additional items may be added):

- ☐ Burn organization and assignments
- ☐ Prescribed fire objectives and prescription
- ☐ Description of prescribed fire project area
- ☐ Expected weather and fire behavior
- ☐ Communications
- ☐ Ignition plan
- ☐ Holding plan
- ☐ Contingency plan and assignments
- ☐ Wildfire declaration
- ☐ Safety and medical plan and medical staff
- ☐ Aerial ignition briefing (if aerial ignition devices will be used)

Element 11: Organization and Equipment

A. Staffing and Equipment:

Staffing and equipment for a given burn day will be determined by the Burn Boss by evaluating:

- current weather and fuels indices to determine anticipated fire behavior
- the size of the prescribed burn area that will be burned that day
- anticipated ignition methodology
- holding actions needed
- stakeholder visibility and interest
- the anticipated time duration of actions

If burning small areas or blacklining (e.g., 5 acres or less), staffing may be limited to Burn Boss, Firing Boss (FIRB or FFT1), Holding Supervisor (TFLD or FFT1), 2 FFT2 Crewmembers, T6 Engine with operator, Tender with operator and a holding line sprinkler lay or hose lay system. On larger burn days (e.g., more than 5 acres), the staffing will likely be larger. Supervisory span of control shall be limited to 3-7 directly reporting individuals that are participating in the operation which will in turn drive the need for the number of fireline supervisors. Activities may be organized geographically (staff on separate flanks performing both ignition and holding in an assigned area) or functionally (an Ignitions Group and a Holding Group). The Command Staff position of Fire Monitor may sometimes be filled and/or delegated by the Burn Boss depending upon need for systematic observations of fire behavior in new fuel types, smoke monitoring documentation, weather observation recording. A Public Information Officer (PIO) shall/may be filled when burns are occurring near homes and businesses or when there is special stakeholder interest. Depending upon the burn, a variety of single resource equipment with operator or full staffing may be required. The minimum engines required are either two (2) Type 7 engines (UTVs meeting NWCG Type 7 engine specifications are acceptable) or one (1) Type 6 engine. The Tender is a non-tactical water transport (i.e.towed transport tank on a trailer, water buffalo or a bladder).

Table 5 is an example of estimated resources for small patch burning in any burn block (5 acres or less). These are not absolute numbers but are provided to assist in planning for a specific day's burn implementation.

Table 5: Estimated Resources for Small Patch Burning

Sarnoff West Prescribed Burn - Minimal Allowable Resources Summary													
BURN BLOCK	**RXB2**	**FEMO**	**PIO3**	**TFLD**	**FFT1**	**FFT2**	**SQUAD**	**ENG7-UTV**	**ENG7-UTV**	**ENG6**	**ENG4**	**TENDER**	**WATER SHOW**
ALL	1	0	0	0	2	4	0	*1	*1	*1	0	**1	***0
If using these minimal resources the burn boss will evaluate current KBDI and limit the burn acres for the day so that setup, ignitions, mop-up and backhaul can be completed													
without exceeding 10 hr day. FEMO should be added when burning in new fuel model type or new tactical approach. PIO3 should be added when burning next to urban interface.													
				*Note: Minimum for Engines is either 2 ENG7 or 1 ENG6									
				**Note: Tender is non tactical water transport such as a water buffalo									
				*** Water Show is installed hose lay or sprinkler system w/ installed portable water tank & pump									

Tables 6 - 8 are intended to work as staffing guides. These are not absolute staffing requirements but are intended to reflect recommended staffing for differing implementation levels of complexity.

Table 6: Sequence A and B Staffing and Equipment Guidelines

	TOTAL	**RXB2**	**FEMO**	**PIO3**	**IG MOD**	**TFLD**	**SQUAD**	**ENG7-UTV**	**ENG7-UTV**	**ENG6**	**ENG4**	**TENDER**	**WATER SHOW**
STANDARD	12	1	1	1	FFT1		FFT1	FFT2	FFT2			FFT2	
(For most burns in Sequence A, B and I)					FFT2		FFT2	FFT2	FFT2				

Most of the burning in Sequences A and B are in mechanically thinned fuels or other lighter fuel beds, so lighter staffing is acceptable (Table 6). It is recommended during Sequence A and B to have a Fire Effects Monitor (FEMO) assigned to record fire weather, fire characteristics and smoke generation and movement. It is also recommended to have a PIO3 assigned since this will be some of the first burning near adjacent communities and transportation corridors.

When burning blocks near the urban interface (primarily in Burn Blocks A, B, D and E; Table 7) regardless of which burning sequence, it is recommended to have an ENG4 staffed to provide high visibility to the surrounding public and to have a hose lay or sprinkler lay installed on any critical flank.

Table 7: Staffing and Equipment Guidelines for Burning Near the Urban Interface (Blocks A, B, D, E)

	TOTAL	**RXB2**	**FEMO**	**PIO3**	**IG MOD**	**TFLD**	**SQUAD**	**ENG7-UTV**	**ENG7-UTV**	**ENG6**	**ENG4**	**TENDER**	**WATER SHOW**
NEAR INTERFACE	15	1		1	FFT1		FFT1	FFT2	FFT2		FFT1	FFT2	1
(For most burns in Blocks A / B / D / E)					FFT2		FFT2	FFT2	FFT2		FFT2		
							FFT2				FFT2		

When planning to burn ten acres or more on a given burn day (most larger burns occur during Sequences F through H), or when burning in remote portions of the burn unit larger staffing and additional equipment should be considered (Table 8). Adding a ENG6 to the staffing should be considered, but it is important that this engine have access to the burn site. Otherwise, additional ENG7 (UTVs) should be added to ensure access. A squad of five firefighters is also recommended as part of holding. Since the RXB2 has seven direct reports in this organization (which pushes the limit of span of control), adding a Task Force Leader (TFLD) to serve as the Holding Supervisor might be considered. The Burn Boss should also consider adding a line Safety Officer (SOF3) and line EMT(s), especially if working in remote areas of the Burn Unit.

Table 8: Staffing and Equipment Guidelines for Treating Units of 10 acres or More (Sequences F-H)

	TOTAL	**RXB2**	**FEMO**	**PIO3**	**SOF3**	**TFLD**	**IG MOD**	**SQUAD**	**ENG7-UTV**	**ENG7-UTV**	**ENG6**	**TENDER**	**WATER SHOW**
TEN ACRES +	17	1	1		???	???	FFT1	FFT1	FFT2	FFT2	FFT1	FFT2	1
(For most burns 10 ac. or greater in Sequences D through H)							FFT2	FFT2	FFT2	FFT2	FFT2		
							FFT2	FFT2					
								FFT2					
								FFT2					

B. Supplies:

Supply needs will vary with patch burn size and duration of active burning. Recommended supplies are identified on Table 9.

Table 9: Recommended Supplies for Prescribed Fire Operations at Sarnoff West

Supplies Recommended Hand Tools	Supplies Recommended Ignition Devices	Supplies Recommended Holding Apparatus
Tools on Engine 7	3 Drip Torch	4 Backpack Pump
1 Flapper	5 gallons Drip Torch Fuel	1000 gal Portable Tank
1 Council Rake	12 Fusees	Portable Pump - Mini Striker+
1 Pulaski		Hose 1.5" 1000'
1 Shovel		Hose 1" 650'
Belt Wx Kit	**Supplies**	Hose 5/8" 1000'
Tools on Engine 6	**Minimum Public Information**	Sprinklers 20
2 Flapper	Signs	Nozzles: 1.5" Size / #4
2 Council Rake	Smoke On Road Ahead / #2	1" Size / #4
2 Pulaski	Prescribed Fire for Resource	5/8"Size /#10
2 Shovel	Management / # 2	Fittings/ Gated Wyes
Belt Wx Kit		Adaptors
Crewmember Tools		5 Hose Clamp
2-Pulaski		
3-Council Rake		
3-Shovels		
2-Flapper		
2-Leaf Rake		
Special Tools		
1 Chainsaw - 16"+		
Leaf Blower		
First Aid Kit,		
10-25 Person Belt Type		

Element 12: Communication

A. Frequencies:

The available radio channels are available for prescribed fire operations are identified on Table 10. Key overhead prescribed fire personell and crew members will all have radios as needed. Additional radios will be issued to fireline personnel based on availability. The Burn Boss and Fire Monitor may also use cell phones as back-up to communicate successfully. A Communications Plan (ICS Form 205) will be prepared and included in the Incident Action Plan for each burn operation.

Table 10: Available Radio Channels and Frequencies

Radio Channel Title	Frequencies		
Fire Command Repeater VHS:	RX: 159.435	TX: 151.220	PL 103.5
Fire Command Simplex VHS:	RX: 151.280	TX: 151.280	
EMS Low Band Command:	RX: 46.46	TX: 46.46	
Tactical:	RX: 151.220	TX: 151.220	
Air-to-Ground:	RX: 159.435	TX: 151.220	PL 103.5

B. Telephone Numbers:

Telephone numbers are for command and tactical resources and other participants as needed and will be included in the Incident Action Plan prepared for implementation day.

Element 13: Public and Personnel Safety Medical

A. Safety Hazards:

- Identify and Review LCES
- Snags
- Dehydration and Fatigue
- Footing and Obstacles (holes, downed logs, fences, slope)
- Poison Ivy
- Flashy and jackpots fuels, watch for high rates of spread and flame lengths
- PPE must be worn at all times, from test fire until mop up is complete
- Allergies or other medical conditions
- Lyme disease and other tick-borne maladies - Take tick precautions
- Smoke - Health/Performance
- Traffic and Traffic Congestion

B. Mitigation: Measures Taken to Reduce the Hazards:

- LCES - Implemented and in place prior to engagement
- Snags - Look Up Look Down and Around
- Dehydration and Fatigue – Drink water, rotate crewmembers to reduce fatigue
- Footing and Obstacles – Look Up, Look Down and Around
- Poison Ivy – Identify, Avoid, Barriers, Wash
- Jackpots / Flashy Fuels – Direct vs. Indirect, Spotters, Communications, Exclusion
- PPE – Keep it on
- Allergies / Medical – Medications and personal epi pens of individuals
- Lyme / tickborne maladies – Barriers, repellants, tick checks, proper removal
- Smoke – Rotate crewmembers
- Traffic and Traffic Congestion – Do not park vehicles in the middle of the roads or fire lines. Always park vehicles facing out to permit easy exit access if needed.

C. Emergency Medical Procedures:

An Incident Action Plan (IAP) will be written for every burn conducted in this unit. The emergency medical procedures will be described in detail on a complete Medical Plan (ICS 206WF) that will be included in the IAP. These emergency medical procedures will be covered during every operational period briefing conducted before the start of burning.

<u>When burning in the southern half of the burn unit consider adding a dedicated line EMT(s) to the staffing.</u>

The basic medical plan is to utilize the established EMS response which would be initiated by a call to 911 and may be augmented by direct radio contact with Suffolk County Fire, Rescue and Emergency Services. The medical plan will direct identification of all burn participants who are EMTs or Advanced First Aiders and what function they are performing during operations in the event of a medical emergency, so the Burn Boss is aware of onsite medical resources.

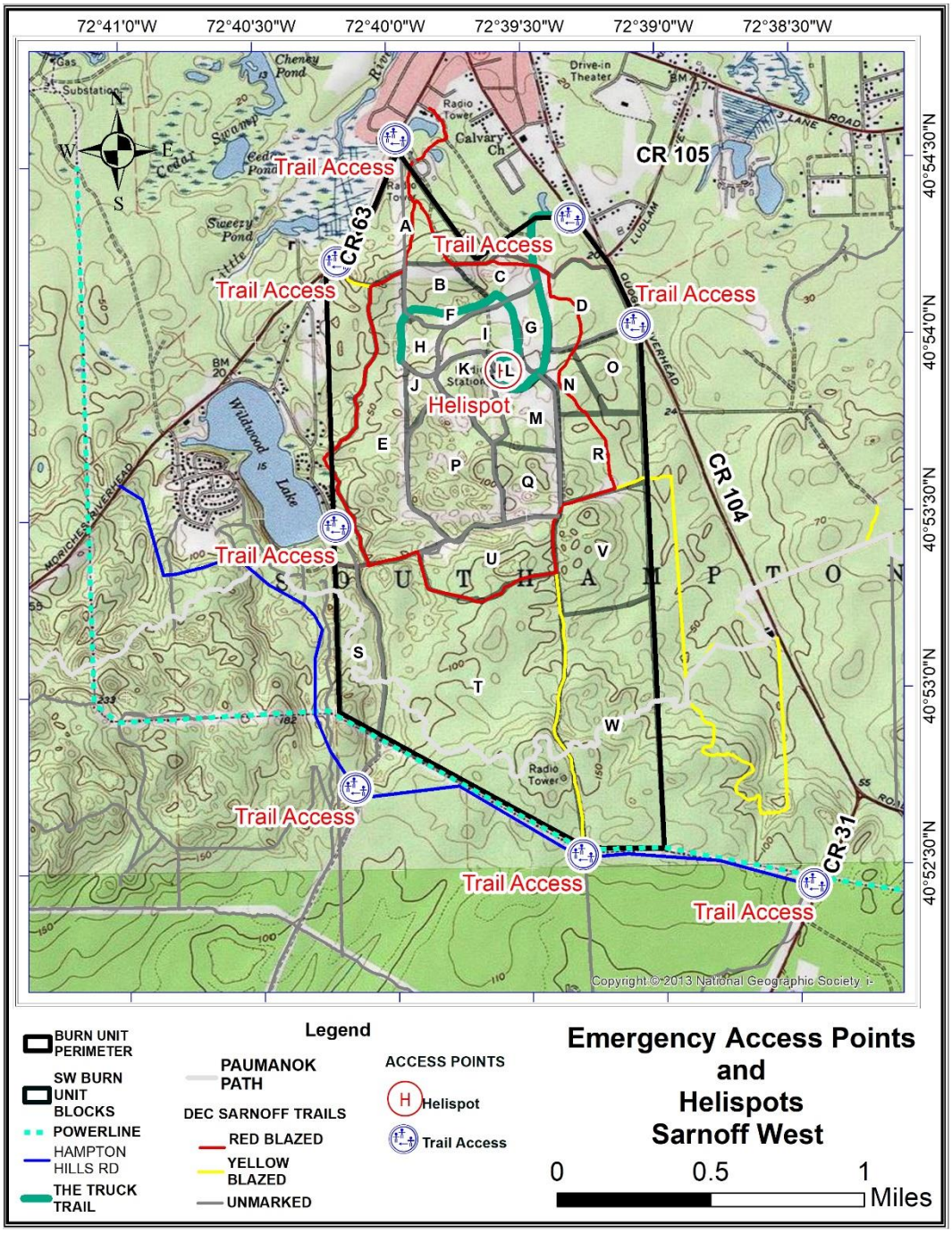


Figure 37: Emergency Access Point, Helispots and Trail Systems of Sarnoff W

The medical plan will also include the locations of onsite emergency medical equipment. In the event of major injury(s) onsite medically trained personnel will perform assessments and provide immediate assistance and will use the "8 Line" assessment and notification process.

The actions planned also includes using crewmember to lead ground ambulance(s) to the victim(s), carrying medical personnel to victims or victims to ambulances located on paved roads and assisting in establishing a helispot if needed for air rescue. For minor injuries, inform the Burn Boss of any reportable injuries.

D. Emergency Evacuation Methods:

The evacuation methods for this burn unit include driving out minor injuries to advanced medical care, ground ambulance transport by Flanders Northampton Volunteer Rescue Squad or other mutual aid or medivac provided by Suffolk County Fire, Rescue, and Emergency Services (Figure 37). Evacuation of injured personnel in this burn unit is exacerbated by limited vehicle access in the southern half of the burn unit. Improvements to foot trails in the form of mastication will help make remote burn blocks more accessible to vehicles. The grassland and cleared areas in the middle of Block L can be used as a helispot for medivac purposes and it is possible that parking lots or other open spaces on the grounds of the Hampton Hills Country Club could also serve as an emergency helispot.

Use the "Golden Hour" evacuation timeframe as a rule; that is, ensure a seriously injured person or persons can be evacuated to definitive advanced medical care within 1 hour of injury or do not proceed with operations.

As described in *Element 17 Contingency Actions*, special actions might be needed to direct emergency medical personnel to the victim(s) location such as posting a firefighter at one of the trail access points to direct responding medical resources to the scene. Fire vehicles may also need to either transport medical personnel to the scene or to transport victims to trail access points. Emergency evacuation methods will be a part of the burn day Incident Action Plan in the ICS206 Medical Plan and will be covered during the operational period briefing with all resources prior to activities.

E. Emergency Facilities:

A listing of the local ambulance and hospitals for the West of Sarnoff Burn unit are identified below in Table 11.

Table 11: Local Emergency Facilities

Ambulance	
Flanders Northampton Volunteer Ambulance Corps, 641 Flanders Road, Flanders, NY 11901	911 / non-emergency 631-727-6930
Riverhead Volunteer Ambulance Corps, Inc., 1111 Osborn Ave., Riverhead, NY 11901	911/ non-emergency 631-727-1686
Hospital	
Peconic Bay Medical Center, 1300 Roanoke Avenue, Riverhead, NY 11901	631.548.6000
University Hospital at Stony Brook, 101 Nicolls Road, Stony Brook, NY 11794	631.689.8333

Element 14: Test Fire

A. Planned Location:

For each burn implementation, a test fire will be ignited in fuels representative of the burn. Generally, the test burn will be conducted against the holding edge of the downwind side of the burn.

B. Test Fire Documentation:

1. Weather Conditions On-site: The Burn Boss, Fire Monitor or other person designated by the Burn Boss will confirm that current and predicted weather conditions are within the prescription parameters and record the current weather observations on a Central Pine Barrens Fire Weather Data Form (see Appendix D).

2. Test Fire Results: The Burn Boss will evaluate and determine if the test fire shows that a burn that day will achieve burn objectives and document that decision using the day's copy of "Element 2B: Prescribed Fire Go/No-Go Checklist"

All documentation will be submitted by the Burn Boss to the Central Pine Barrens Fire Management Specialist (or designee) for inclusion in the Unit's Woodlands Prescribed Burn project files.

Element 15: Ignition Plan

A. Firing Methods (Techniques, Sequences, and Patterns):

The Firing Boss (FFT1 or FIRB) will confer with the Burn Boss on ignition strategies, tactics and techniques that will be used based upon the operational objectives and environmental conditions. The Firing Boss will describe the ignition plan, holding plan, priorities, and critical areas to all burn personnel at the pre-burn briefing. (Note: the Burn Boss may fill the position of Firing Boss or may direct other resource(s) to fill that role). Various burn patterns including but not limited to backing, flanking, strip head and spot ignitions may be employed to achieve objectives depending on site conditions.

Typically, in pine dominated stands, (whether mechanically treated or untreated), the downwind perimeter line will be ignited, and the fire will be allowed to back through the block. Ignitions may be accomplished by starting a backing fire along the downwind flank of the treatment area against an adjacent area that is unavailable to burn due to fuel status, a minimum 10' wide control line, a sprinkler or hose lay. When using a hose or sprinkler lay, ignitions will generally commence just upwind of these sprinkler lays or hose lay lines and fires will back across the treatment areas. Holding resources may employ a "mop as you go" strategy by continually moving the sprinkler lay or hose lay to follow the backing fire across the treatment area. This technique can be supplemented as needed by flanking ignitions on the right and left flanks to protect the edges and by using strip heads to achieve special fire effects as directed by the Firing Boss or Burn Boss.

The Firing Boss will be responsible for communication and coordination between igniters as well as with holding resources. If so staffed, fire behavior and effects will be observed by the Fire Monitor to ensure that the desired objectives are being met.

Modifications of ignition patterns or methods may be made to achieve objectives, but only if they can be made without jeopardizing firefighter and public safety. If objectives are not being met, the Burn Boss, in consultation with the Firing Boss, shall modify or terminate ignition operations until conditions become more favorable. If the project area comes back into prescription, ignition operations may then continue. If not, the unit shall be placed in a mop-up and patrol status. Holding actions shall maintain control of the fire until a decision is made to continue, postpone, or suppress the fire.

B. Devices:

Ignition devices that may be employed include drip torches, propane torches, fusees, ignition launchers and other specialty devices including remotely operated drones. Firing operations may employ a combination of these tools to achieve burn objectives. Established safety practices for the use of these ignition devices will always be observed.

C. Minimum Ignition Staffing:

The minimum staffing chart lists the option of one (1) FFT1 to serve as Firing Boss. Additional personnel may be utilized as needed, so long as communication and span of control can be maintained for safe operations.

Element 16: Holding Plan

A. General Procedures for Holding:

The Holding Supervisor and Burn Boss will decide the strategies and tactics for holding. The Holding Supervisor and Burn Boss will determine the pace of ignitions based upon holding capabilities and communicate that with the Firing Boss.

Holding actions include all standard fire suppression actions. In general, the emphasis on managing holding actions will be the use of Minimum Impact Suppression Tactics (MIST). Holding resources may include engines, water tenders, hand crews or squads and specialized equipment such as hose lays and sprinkler systems. Holding resources will work to ensure that the prescribed burn is contained within the specified area and to protect infrastructure, private property, cultural sites, monuments, research equipment, and other values at risk. Known values at risk and water sources will be identified and communicated at briefings. Line construction for prescribed fires may be accomplished by removing the top layer(s) of accumulated fine fuels, especially when supported by water applications. Holding lines may be mechanically masticated and then supported by water applications (See Hydrant locations Figure 38). Construction of fire line to mineral soil depth is an option when needed.

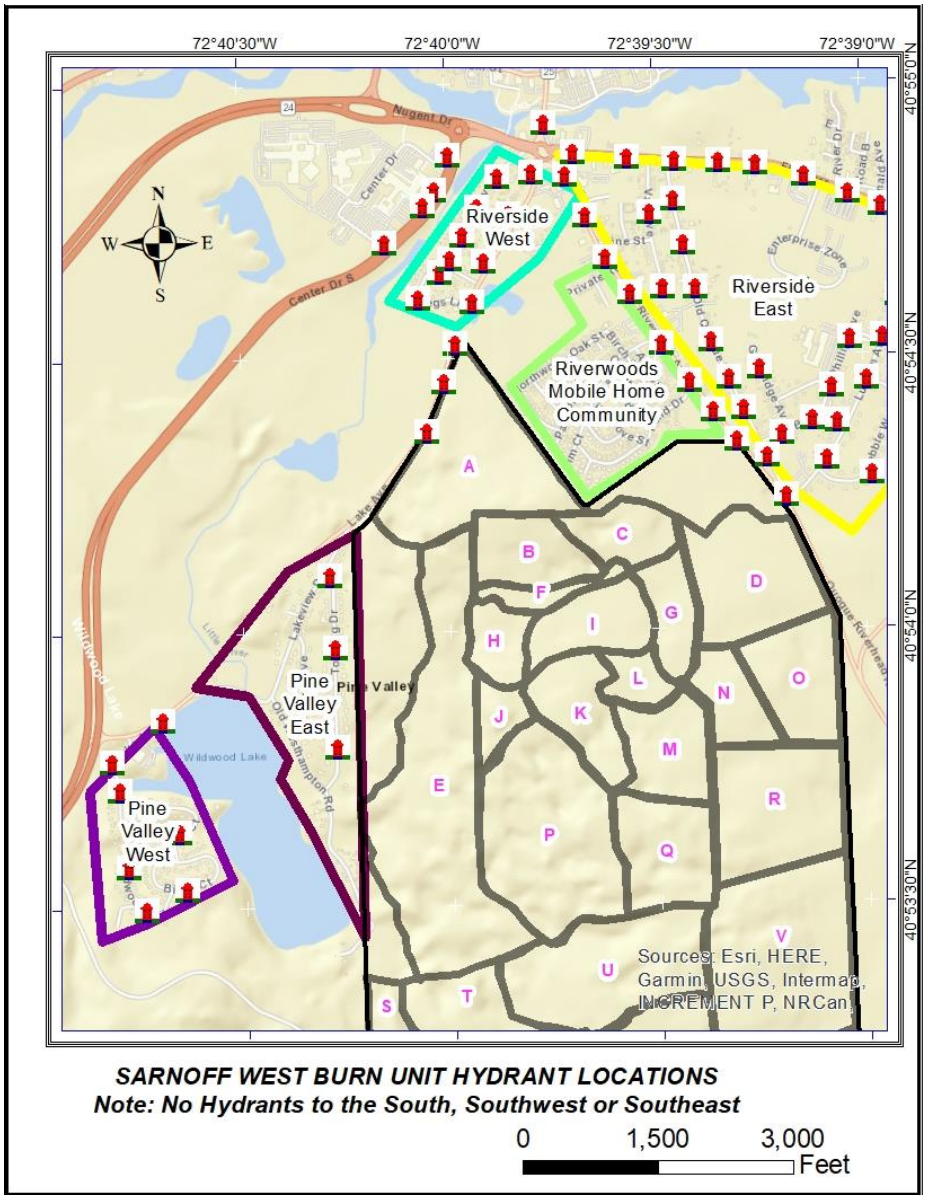


Figure 38: Hydrant Locations in the Vacinity of the Sarnoff West Burn Unit

Holding on many burns may be accomplished by the installation of a sprinkler lay or hose lay on the downwind flank of the fire. Ignitions will commence just upwind of these sprinkler lays or hose lay lines and fires will back across the treatment areas. As the burn progresses, the end of the sprinkler lay or hose lay (along the flanks) will generally arc ahead of the fire, in essence creating a bow shaped holding line allowing protection along the flanks. Holding resources may employ a "mop as you go" strategy by continually moving the sprinkler lay or hose lay to follow the backing fire across the treatment area.

B. Critical Holding Points and Actions:

Critical holding areas include portions of the prescribed fire perimeter that are adjacent to the NYS-DEC lands boundary as well as private and commercial property. A minimum burn isolation distance of 75 feet from any adjacent landowner will be guaranteed unless permission is provided by the adjacent landowner. Each burn block may have additional critical holding areas that will be identified during the briefing.

Actions taken to mitigate these areas of concern will include reconnaissance prior to ignition by burn personnel to both verify that adequate unit preparation has taken place and to familiarize burn personnel with both location of and access to these critical holding areas. Additionally, the Holding Boss may choose to staff these areas with additional personnel and/or stage additional equipment or personnel to be ready to respond to holding problems in these areas.

C. Minimum Organization or Capabilities Needed:

The minimum staffing chart lists a Holding Supervisor and one Holding Crewmember. Additional personnel may be utilized as needed so long as communication and proper span of control can be maintained for safe operations. See *Element 11 – Organization and Equipment* for the staffing chart.

Element 17: Contingency Plan

A. Contingency Plan Considerations:

In general, there are multiple reasons a contingency plan may be implemented, and many of those reasons are listed below:

- approved prescription parameters are exceeded
- serious smoke issues are developing
- negative impacts to sensitive areas being reported
- objectives of the burn plan are not being met
- capabilities of on-scene resources are being exceeded
- unknown hazardous materials are encountered within the burn unit

There are several mitigating factors to consider regarding the likelihood and response to contingencies.

The first factor is the planned burning sequence. Fires will be ignited against holding lines and trails or previously burned areas. The burning sequence directs burning of blocks that have had mechanical treatment as the first blocks to burn. These blocks are easiest to control and will create burned buffer areas that will be unavailable fuel beds for a period of time. Fires will generally be patch burns versus broadcast burning. This will create a mosaic of unavailable fuels within a burn block.

The series of tables below list management actions for contingency threats (Table 12).

Table 12: Management Action Points or Limits:

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	**Adjacent Burn Block that is part of the Sarnoff West Rx Unit**
Condition:	**Fire spots into a burn block adjacent to the burn block being burned and has similar fuel model**
Management Intent:	**Minimize spot fire size**
Recommended Action(s) to Consider:	**Immediate direct attack if feasible / Indirect if previous burn mosaic is in the adjacent burn block**
Recommended Resources:	**ENG6 or ENG7 or Squad of 3**
Time Frame:	**Confine and contain spot fire before sundown**
Describe the Consequences of not Taking the Recommended Action(s) (Optional):	**Fire may continue to burn and spread causing prescribed fire to be declared a wildfire and command transferred to Flanders VFD**
Responsibility:	**Burn Boss**
Success / Failure Decision Point:	**If spot cannot be contained by sunset, consider Wildfire Declaration**

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	**Adjacent Burn Block that is part of the Sarnoff West Rx Unit**
Condition:	**Fire spots into a burn block adjacent to the burn block being burned and has a similar fuel model**
Management Intent:	**Confine and contain the spot fire to within this adjacent burn block**
Recommended Action(s) to Consider:	**Combination strategy with both direct and indirect attack**
Recommended Resources:	**ENG6 or ENG7 or Squad of 3**
Time Frame:	**Confine spot fire within the adjacent burn block before sundown**
Describe the Consequences of not Taking the Recommended Action(s) (Optional):	**Fire may continue to burn/spread causing prescribed fire to be declared a wildfire and command transferred to Flanders VFD**
Responsibility:	**Burn Boss**
Success / Failure Decision Point:	**If spot cannot be contained by sunset, consider Wildfire Declaration**

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	**Adjacent Burn Block that is part of the Sarnoff West Rx Unit**
Condition:	**Fire Spots into a burn block adjacent to the burn block being burned and that new burn block has SH3 / SH8 / SH9 fuels.**
Management Intent:	**Confine and contain the spot fire to within this adjacent burn block**
Recommended Action(s) to Consider:	• **Prioritize flanks regarding ROS** • **Suppress flanks with direct attack** • **If one flank is burning into prior burn site consider allowing it to burn out on its own.**
Recommended Resources:	**ENG6 or ENG7 or Squad of 3**
Time Frame	**Confine flanks before sundown**
Describe the Consequences of not Taking the Recommended Action(s) (Optional):	**Fire may continue to burn/spread causing prescribed fire to be declared a wildfire and command transferred to Flanders VFD**
Responsibility:	**Burn Boss**
Success / Failure Decision Point:	**If spot cannot be contained, consider Wildfire Declaration**

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	**Crown fire is threatening to occur**
Condition:	**Single tree torching leading to possible multiple tree torching**
Management Intent:	**Prevent crown fire**
Recommended Action(s) to Consider:	• **Suppress leading edge of the burn with direct attack** • **Wet down and/or isolate jackpots before they get established** • **Wet down / foam crown / thin ladders near concentrations of heat**
Recommended Resources:	**ENG6 or ENG7 or Squad of 3**
Time Frame:	**Immediately before crown fire gets established**
Describe the Consequences of not Taking the Recommended Action(s) (Optional):	**Crown fire is undesired unless specifically wanted under certain conditions where it is intended to happen**
Responsibility:	**Burn Boss**
Success / Failure Decision Point:	**If crown fire establishes consider Wildfire Declaration**

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	**Serious smoke issues are developing**
Condition:	**Smoke is threatening to obscure highway or excessively impact a subdivision, commercial establishment or highway.**
Management Intent:	**Mitigate smoke problem**
Recommended Action(s) to Consider:	• **Cease ignitions, suppress active flanks and mop up** • **Take actions before smoke is enough to close roadways**
Recommended Resources:	**ENG6 or ENG7 or Squad of 3**
Time Frame:	**Immediately**
Describe the Consequences of not Taking the Recommended Action(s) (Optional):	**Smoke could cause safety issues to public**
Responsibility:	**Burn Boss**
Success / Failure Decision Point:	**If smoke abates determine if burning can continue. If smoke persists terminate the prescribed burn immediately.**

Management Action Point– Documentation Element	Management Action Point Narrative
Designator and Description:	**Medical emergency**
Condition:	**Severe injury / injuries to fire personnel**
Management Intent:	**Provide lifesaving care to crew members**
Recommended Action(s) to Consider:	• **EMS action by line EMT's assisted by other crewmembers** • **Activation of 911 response using the 8 Line** • **Send vehicle and FFT2 to nearest access point for ground ambulance to lead ground ambulance in** • **Cease burning operations and close off the burn.**
Recommended Resources:	**EMT's / First Responders with Squad to assist patient care and evacuation.** **Engine T6 or 2 ENG7 or Squad to confine active burn**
Time Frame:	**"Golden Hour" (advanced treatment w/in 1 hour of injury)**
Describe the Consequences of not Taking the Recommended Action(s) (Optional):	**Possible delay of advanced care to injured persons beyond the "Golden Hour". Wildfire is declared.**
Responsibility:	**Burn Boss**
Success / Failure Decision Point:	**Patient care and evacuation is first priority over suppressing remaining active fire.**

B. Actions Needed:

If a fire escapes the Burn Unit, any active ignition would stop and resources will be redirected to contain the spot fire under the direction of the Burn Boss and other qualified line overhead. An evaluation of the holding resources that would be required to hold the prescribed burn would immediately be conducted and assigned, and the remaining resources would be assigned to the spot fire.

The Burn Boss will decide whether the spot fire can be contained with currently available resources or whether contingency resources would be needed to contain the spot.

C. Minimum Contingency Resources and Maximum Response Time(s):

If deemed necessary by the Burn Boss, additional NYS-DEC, Central Pine Barrens Commission or Volunteer Wildland firefighters may be ordered to complete spot fire suppression and then commence with the mopping up of the prescribed burn. A maximum response time of 60 minutes would be established for fire suppression. If contingency resources cannot be there in 60 minutes and spot fire is continuing to grow, it may be necessary to then declare the fire a wildfire suppression operation in unified command with Flanders Volunteer Fire Department.

D. Comprehensive List of Contingency Resources:

A comprehensive list of contingency resources is identified below in Table 13.

Table 13: Type, Number and Response Time of Contingency Resources by Agency

Type of Resources	#	Agency	Location	Response Time (Minutes)
Type 4 Engines	2	Flanders VFD	Flanders	15 - 20
Type 3 Dozer	1	NYS-DEC	Ridge	45 - 60
Type 1 Water Tender (Tanker)	1	Flanders VFD	Flanders	15 - 20
Type 6 / 7 Engine and/or Portable Pumps	2	NYS-DEC or Mutual Aid	Ridge	20
Type 3 Helicopter (aerial observation only)	1	Suffolk County PD	Westhampton Beach	5 - 20
UAV drone	1	NYS-DEC/CPBC	Various	60
Type 4 Engines	15	Mutual Aid Companies	Various	15 -30

Element 18: Wildfire Declaration

A. Declariation Authority:

The authority to declare a wildfire is held by the Burn Boss for the operation.

B. IC Assignment:

If spot fires and/or slop-overs cannot be contained within the burn block being burned, adjoining burn blocks of the prescribed fire unit or on immediately surrounding NYS-DEC owned lands with initial and extended efforts of on-scene resources, the Burn Boss will convert the fire to wildland fire suppression status. The situation will be assessed using the format in the Incident Response Pocket Guide and a request for additional resources will be made, as required to suppress the wildfire. This will be communicated directly to Suffolk County Fire, Rescue and Emergency Services via low band radio or cell phone (911).

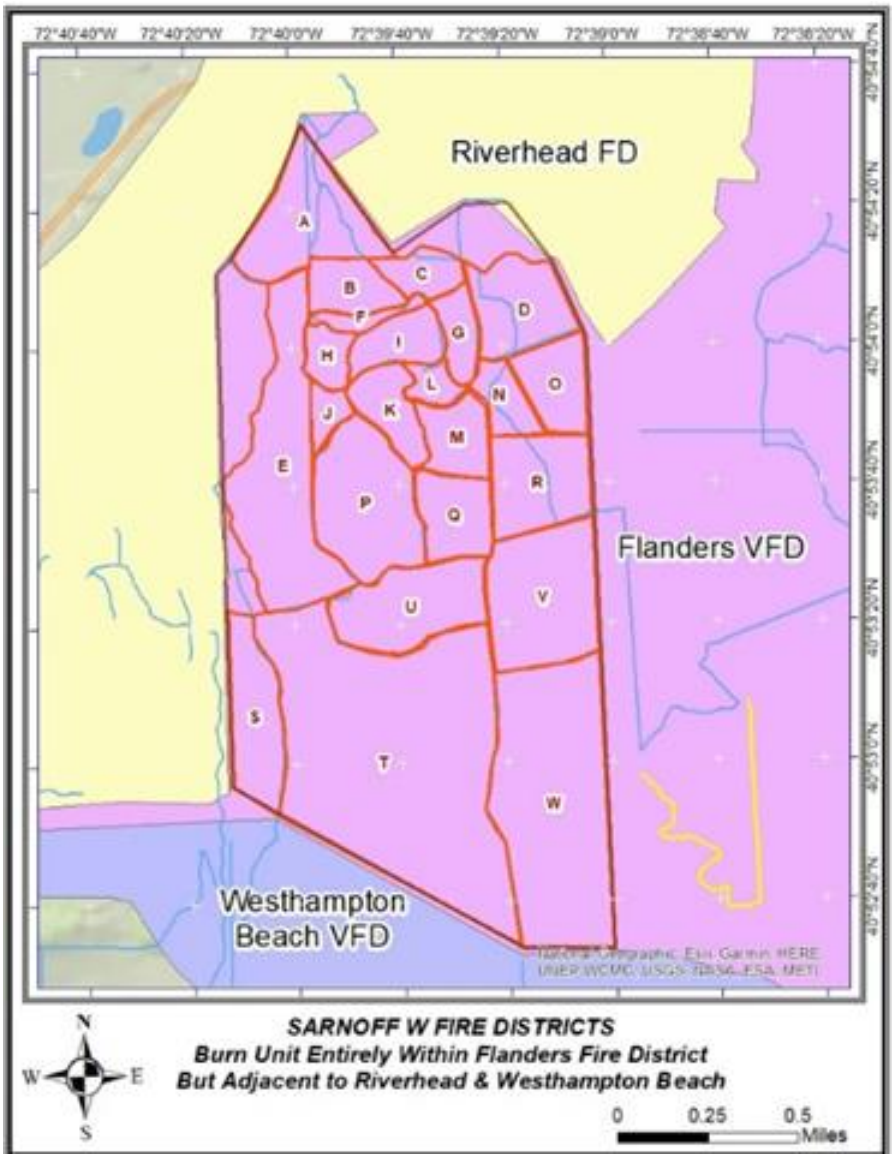


Figure 39: Fire Districts

If the declared wildfire is within the Sarnoff West Burn Unit boundary Flanders VFD would be the responding agency (Figure 39). If it was west or north / northeast of the burn unit boundary Riverhead FD would be the responding agency. If it was south of the burn unit boundary, Westhampton Beach VFD would be the responding agency. All of these Fire Departments have various suppression resources available such as brush trucks (engines), tankers (water tenders) and other wildland equipment and this terminology should be used when ordering resources, in order to receive the correct equipment. All referenced Fire Departments' response time is generally 15 to 25 minutes, if no personnel are on site of the Fire Department.

In converting the prescribed burn to an uncontrolled wildfire status, the Burn Boss will make the declaration and assume the role of Incident Commander (IC). The Burn Boss may delegate command to a more experienced resource on scene if deemed appropriate. Upon arrival of the appropriate Fire Department(s), a Unified Command will be set up to manage the wildfire.

C. Notifications:

The Burn Boss or designee will notify local fire officials; Suffolk County Fire, Rescue and Emergency Services; the NYS-DEC Regional Emergency Response Coordinator (RERC). The RERC will notify the Regional Director and Regional Forest Ranger Captain of NYS-DEC. The Captain is responsible for contacting the Director of Forest Protection. If the Commission is bossing the burn, the Executive Director of the Central Pine Barrens Commission shall also be contacted by the RERC.

Element 19: Smoke Management and Air Quality

A. Compliance:

New York Codes, Rules and Regulations, Title 6 - Environmental Conservation, Part 215 Open Fires, exempts prescribed burning conducted in accordance with Part 194. Do not burn on days that NYS-DEC issues an Air Quality Alert.

B. Permits to be Obtained:

The review and approval of this burn plan by NYS-DEC represents a delegation of authority and full permission to implement the plan. (See Authority to Burn Statement below in Element 21).

C. Smoke-Sensitive Receptors:

A list of potential smoke sensitive receptors (Table 14) and areas (Table 15) are found below, as well as within the residental areas map in Appendix A.

Table 14: Potential Smoke Sensitive Areas

X	Residential areas	X	Commercial areas		Hospitals
X	Recreational areas	X	Airports		Nursing homes
X	Government	X	Highways/Roads		

Table 15: Smoke Sensitive Areas (Downwind, Down Drainage or Visual Impact)

Sensitive Area(s)	Direction from Burn Unit	Distance from Center of Burn Unit
State Route 51 (Center Drive S)	W	0.5 to 2.0 miles
County Road 63 (Lake Ave)	W	Adjacent to 2.0 miles
County Road 104 (Riverleigh Ave)	E	Adjacent to 0.5 miles
County Road 105 (Cross River Dr)	E	Adjacent to 1.0 miles
Riverwoods Mobile Home Community	N/NE	Adjacent to 2.0 miles
Riverside West	SSW	0.1 to 2.7 miles
Riverside East	E / S / W NW	Adjacent to 2.0 miles
Pine Valley East	E / S / W	Adjacent to 2.0 miles
Pine Valley West	E / NE	0.33 to 1.6 miles
Gabreski Airport	SE	2 to 4 miles

D. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

- Acres: Acres burned on most days will be small and predominantly use backing fires. These small acres will allow for good fuel consumption with little residual. The acreage burned per operation will be dependent upon the rate at which the burn advanced, the number of resources available and time needed for complete mop up to reduce smoke issues before the end of the operational period. If more staffing is available, larger patches can be burned.
- Burn Patches / Jackpot Avoidance: Many of the burn targets are patch burns interior to the burn block and not

broadcast burns. When prescribed wind vectors direct smoke toward target areas, restrict patch size, avoid jackpots and actively mop up behind backing fires during the burning period.

- KBDI: KBDI adjusts smoke in several ways. With KBDI's below 100, the 100 and 1000 hour fuels are unavailable (will not burn) and therefore will not contribute smoke. At KBDI's above 250, these heavy fuels will burn and may be consumed. With KBDI's above 250, the total target acres should be reduced to allow fire to consume as much available fuels possible and assure time for complete mop up.
- Mop as You Go: In many cases burning will occur off active sprinkler lay or hose lay lines on the lee flank of the burn area. These sprinkler lays or hose lays can be progressed to follow the backing fire through the burn area, facilitating the use of "mop up as we go" strategy through the burn area. Even if there are no sprinklers used during operations, it is recommended to continually mop up behind progressing backing fires to minimize smoke and increase operational efficiency.
- Prescription Wind Vectors: In some cases the prescribed wind vectors move smoke away from occupied/sensitive areas and allow the smoke to disperse in the large interior of the Sarnoff Pine Barrens State Forest.
- Ventilation: The prescription requires good ventilation for atmospheric lift and dispersion of smoke.
- Notification and Signage: Adjacent stakeholders and the Sarnoff Pine Barrens State Forest users will be made aware of smoke created by the prescribed burn by posting of signs and notices.

Element 20: Monitoring

A. Fuels Information Required and Procedures:

The monitoring of fuels within this unit will be led by the CPBC Science and Stewardship Program or NYS-DEC. The fuels will be monitored pre-burning, immediately post burning, 6 months post burning and annually post burning.

B. Weather Monitoring (Forecasted and Observed) Required and Procedures:

Weather will be monitored by the designated Burn Boss starting at least one week in advance of a planned burn. The CPBC's Eastport RAWS unit will be the primary weather station used for monitoring. The NWS Weather Forecast and Fire Weather Forecasts are also important resources to monitor. A spot weather forecast will be requested the day before and for the morning of the burn. Weather will be monitored and recorded on-site by the Burn Boss or their designee on an hourly frequency or as otherwise designated by the Burn Boss. Weather recordings will be documented on the Central Pine Barrens Weather Form (Appendix D) for future reference and analysis.

C. Fire Behavior Monitoring Required and Procedures:

If desired, the CPBC Science and Stewardship staff or NYS-DEC staff will coordinate on site monitoring and recording fire behavior during burns. Additionally, a Fire Monitor may be assigned to the burn for recording fire behavior, weather and smoke dispersal information. This fire monitor does not have to meet national fire monitor training standards.

D. Monitoring Required to Ensure that Prescribed Fire Plan Objectives are Met:

The Burn Boss, the CPBC Science and Stewardship Program or NYS-DEC will conduct monitoring on site to measure and document success of meeting burning objectives.

E. Smoke Dispersal Monitoring Required and Procedures:

The Burn Boss or their designate (e.g. Fire Monitor / Crew Member) may be directed to monitor and document smoke offsite if deemed necessary by the Burn Boss.

Element 21: Post-burn Activities

A. Post-Burn Activities that must be Completed:

- The Burn Boss will identify any needs for rehabilitation and that activity will be completed onsite by tactical resources prior to release.
- The Burn Boss will ensure that trainee task book evaluations and performance evaluations are written and recorded for all trainees assigned to the burn.
- The Burn Boss is responsible for preparation of NYS Fire Report including obtaining incident number and submission of those documents to NYS-DEC Region 1 Captain or designated individual.
- The fire perimeter will be mapped electronically or otherwise hand drawn and that data will be sent to the CPBC Fire Management Specialist (or CPBC designee) for inclusion into the comprehensive fire history database.
- The CPBC Science and Stewardship Program will coordinate the monitoring as stated above.

Plan Modifications and Authority to Burn Information

B. Plan Modifications:

Modifications to this plan can be expected to occur in the future. Examples of modifications include but are not limited to: future mechanical treatments which alter existing fuel types and models; changes to the prescription such as altering permissible wind vectors or wind speeds based on experience learned by burning portions of the burn unit; increasing or relaxing special constraints for flora or fauna. In accordance with 6 NYCRR Part 194.3 (w) modifications to this plan may be approved by the NYS-DEC Region One Forester.

C. Authority to Burn Statement:

The approved prescribed fire plan constitutes a delegation of authority to burn. No one has the authority to burn without an approved plan or in a manner not in compliance with the approved plan. Actions taken in compliance with the approved prescribed fire plan will be fully supported. Personnel will be held accountable for actions taken that are not in compliance with elements of the approved plan regarding execution in a safe and cost-effective manner.

SIGNATURE PAGE

REQUIRED SIGNATURES AND APPROVALS

Prepared By	Typed Name	Signature	Date
Prescribed Fire Burn Boss (RXB2)	Robert Panko		07/12/2021
Technical Reviewer – (RXB2)	Bryan Gallagher		07/09/2021
Reviewed By	**Regional Review**		
Executive Director Central Pine Barrens Commission	Judith Jakobsen		09/30/2021
Regional Forest Ranger	Timothy Byrnes	Email received stating approval	12/16/2021
Regional Forester	John Wernet	Email received stating approval	11/02/2021
Regional Wildlife Manager	Michelle Gibbons	Email received stating approval	11/05/2021
Natural Resource Supervisor	Rob Marsh	Email received stating approval	11/04/2021
Reviewed By	**Central Office Review**		
NYS-DEC Fire Management Officer	Jaime Laczko		2/1/22
Lands & Forests	Robert Messenger		1/12/22
Fish, Wildlife & Marine Resources	James Farquhar		1/14/22
Approved By	**Central Office Approval**		
Lands & Forest, Division Director	Robert Davies		1/12/22
Forest Rangers, Division Director	John Solan		2/1/22
Fish, Wildlife & Marine Resources, Division Director	Tony Wilkinson		1/14/22

Prescribed Fire Plan Appendices

Appendix A: Maps - Vicinity, Project, Ignition Units, Smoke Impact Areas, Information Outreach Map, Fuel Models, Emergency Assess Points and Helispot

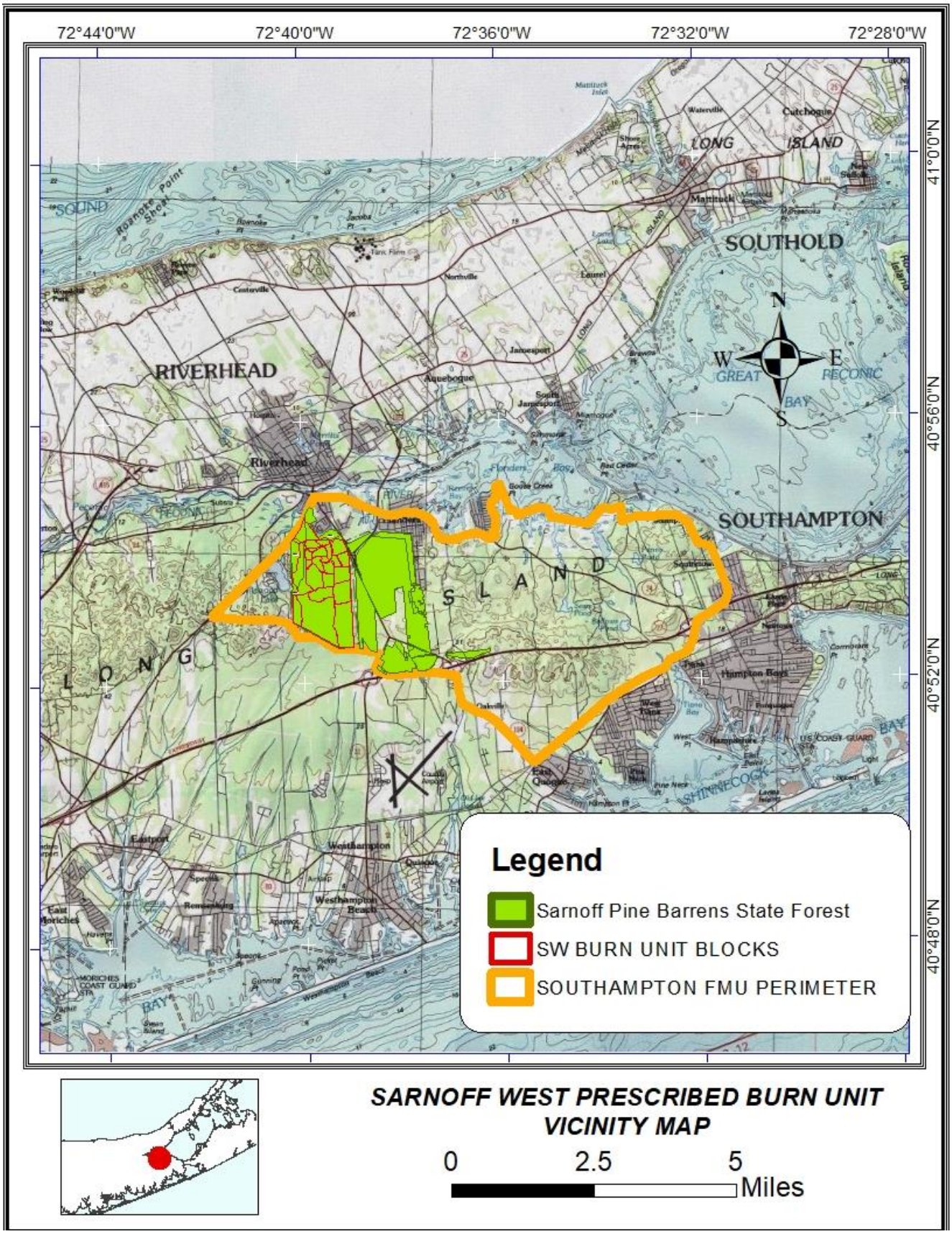
Appendix B: Technical Reviewer Checklist & NY State Part 194.3 Checklist

Appendix C: Complexity Analysis

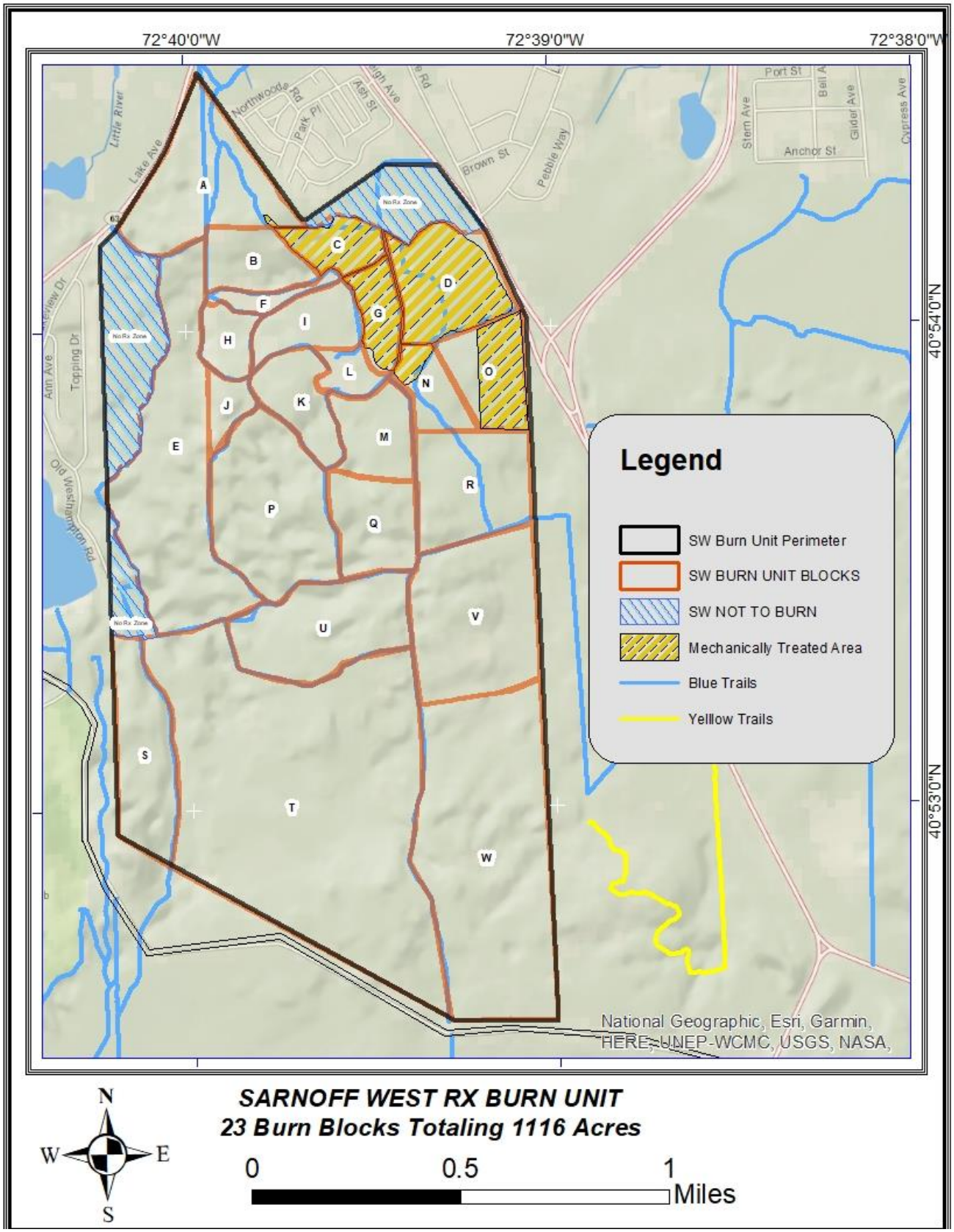
Appendix D: Agency-Specific Forms / Burn Day Forms Package

Appendix E: Fire Behavior Modeling Documentation

Appendix A-1: Vicinity Map

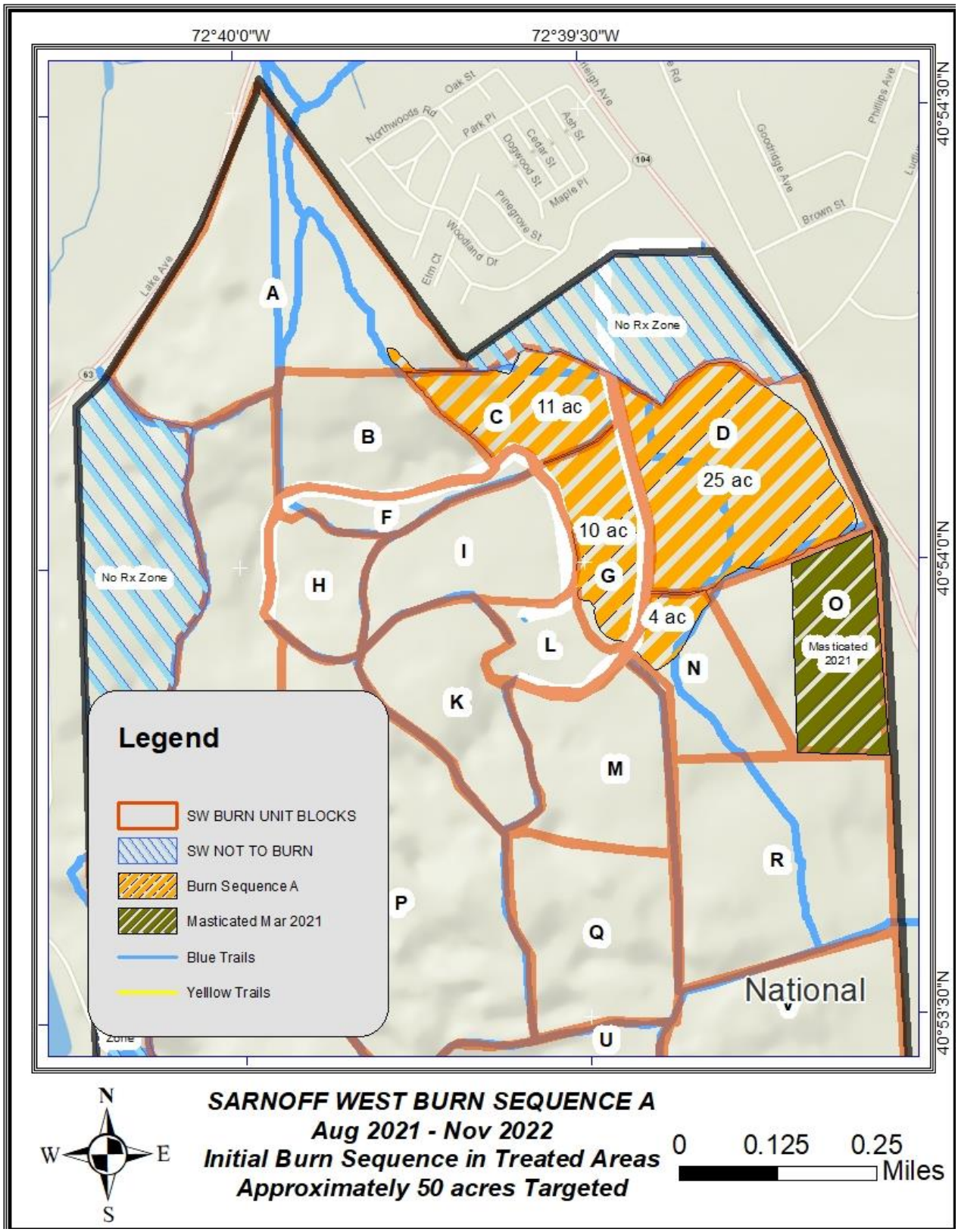


Appendix A-2: Project (Ignition Units) Maps



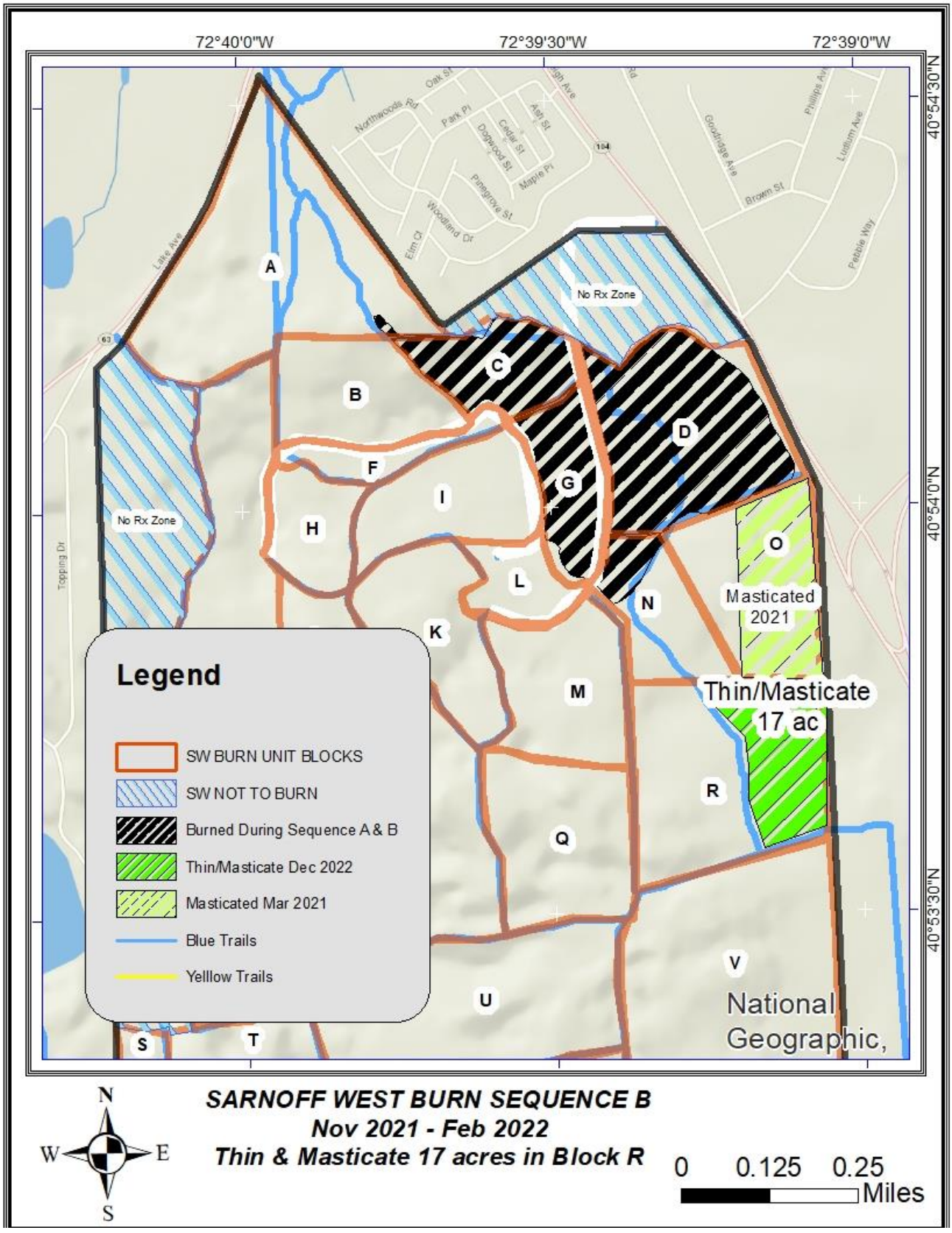
The following maps (Appendix A-2 – Sequence A- I) are examples of a burning sequence that is recommended. This sequence is theoretical and would likely be adjusted based upon lessons learned from burning and newly identified priorities.

Appendix A-2 – Sequence A



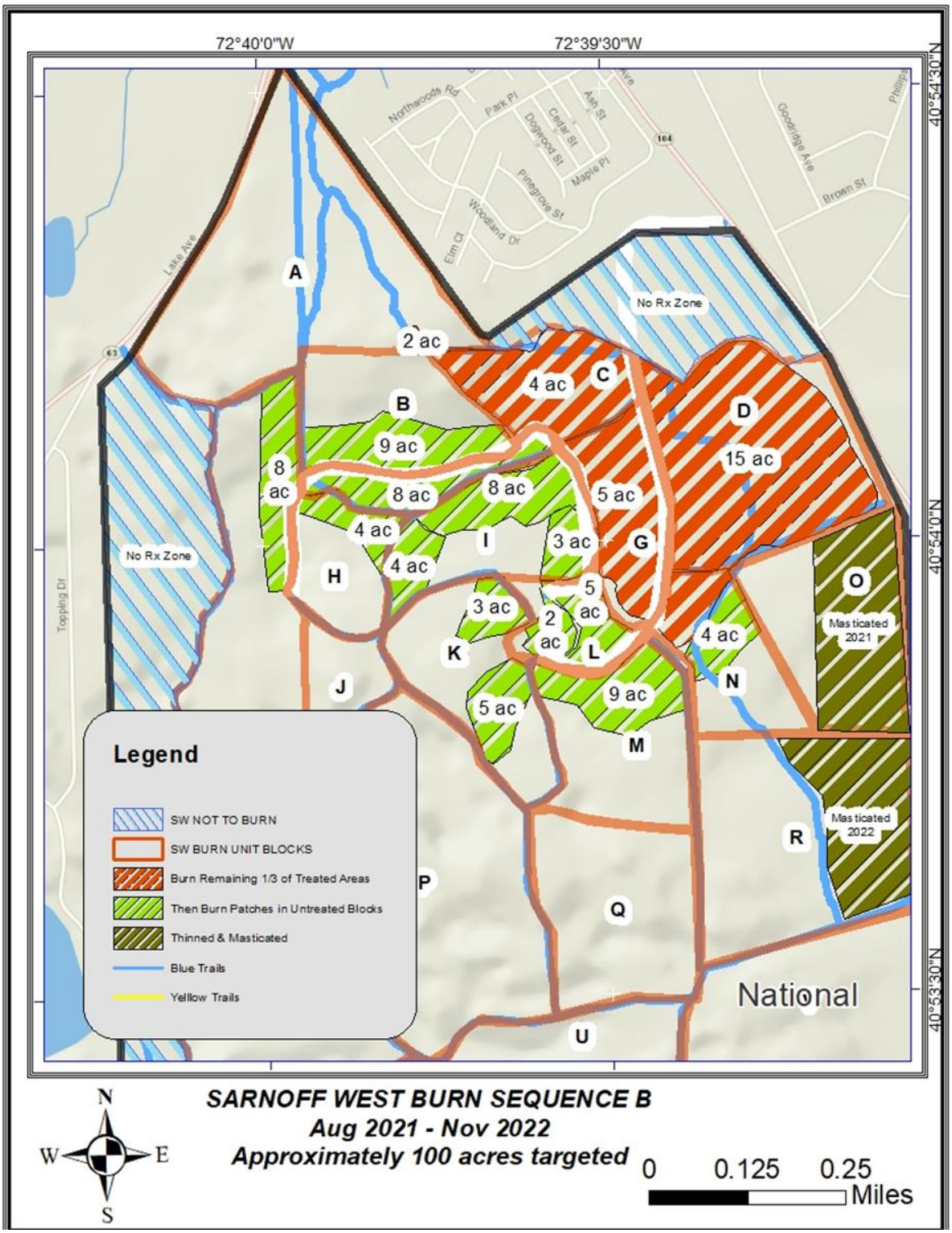
Burn Sequence A would commence as soon as the plan is approved and run until Nov 2022. This first treatment would focus on burning patches in the areas that were mechanically treated, burning about 2/3 of the area treated (Burn Blocks C, D, G, and portions of A and N). Patches of other untreated burn blocks would be targeted for ignition during this sequence after the treated areas are burned.

Appendix A-2 – Sequence B



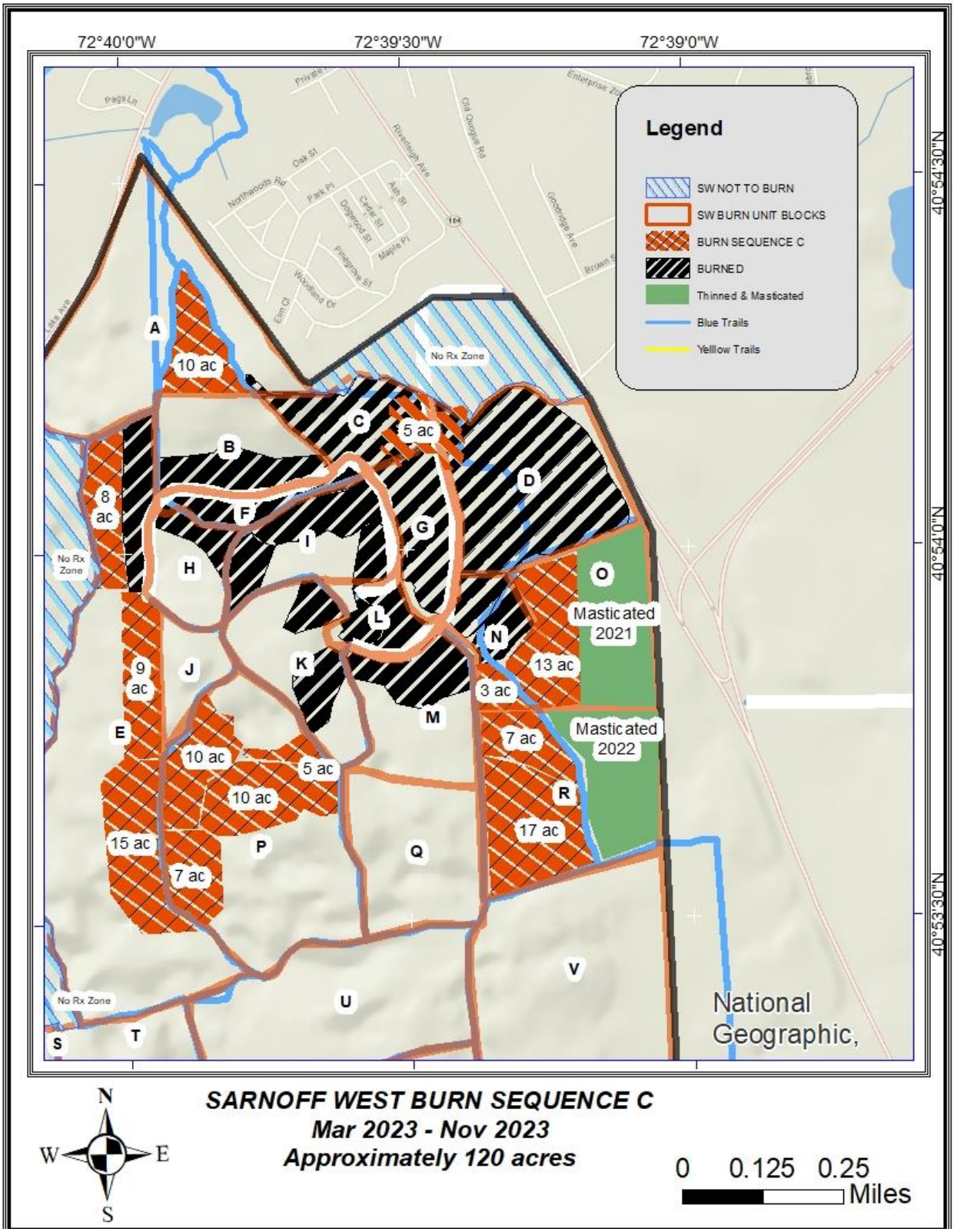
During this mechanical treatment phase of Sequence B, the eastern half of Burn Block R would be thinned and masticated.

Appendix A-2 – Sequence B



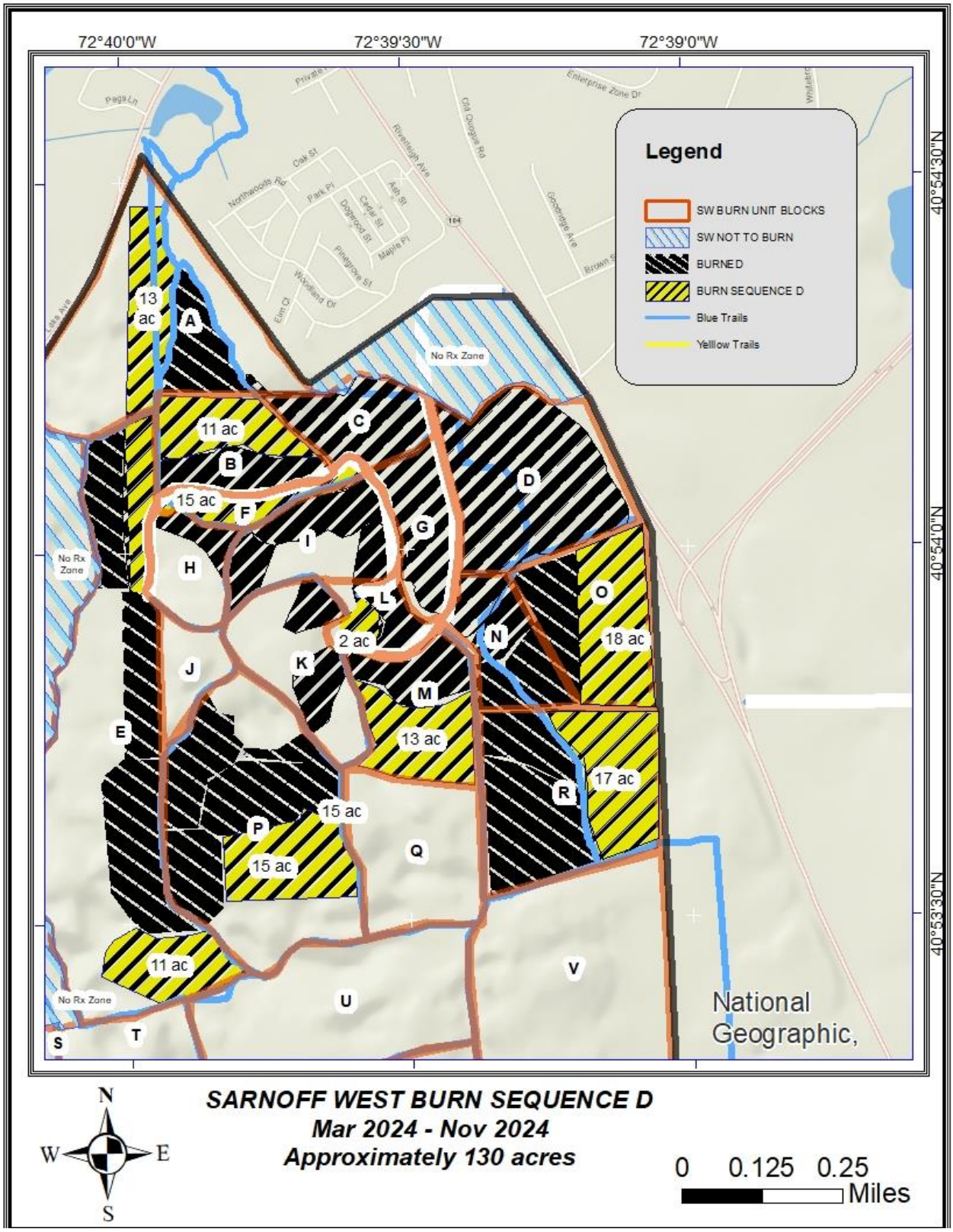
Burn Sequence B would be during the bulk of 2022, following behind the completion of Sequence A. Operations would continue with burning the unburned patches within the original treatment area (Burn Blocks C, D, G and portions of A and N). Patches of other untreated burn blocks would be targeted for ignitions during this sequence after the treated areas are burned.

Appendix A-2 – Sequence C



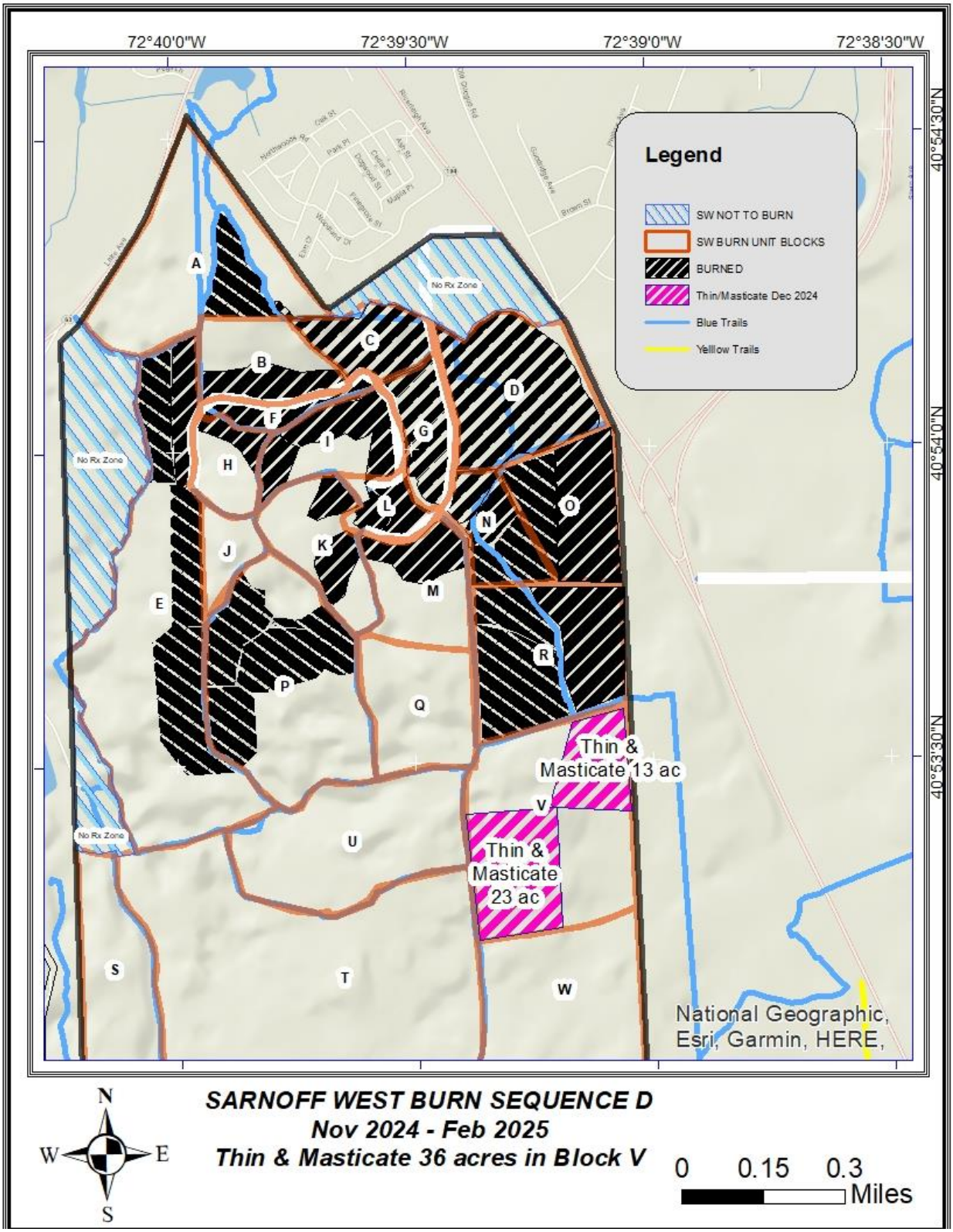
During Sequence C, burning is targeted to build off existing black from prior burns; to burn against the mechanically treated areas in Blocks O and R and to pioneer patch burns working toward the southern half of the burn unit. There would also be a reburn of the grassy area in Blocks C and D and a burn in Block A to expand protections for the Riverwoods Mobile Home community.

Appendix A-2 – Sequence D



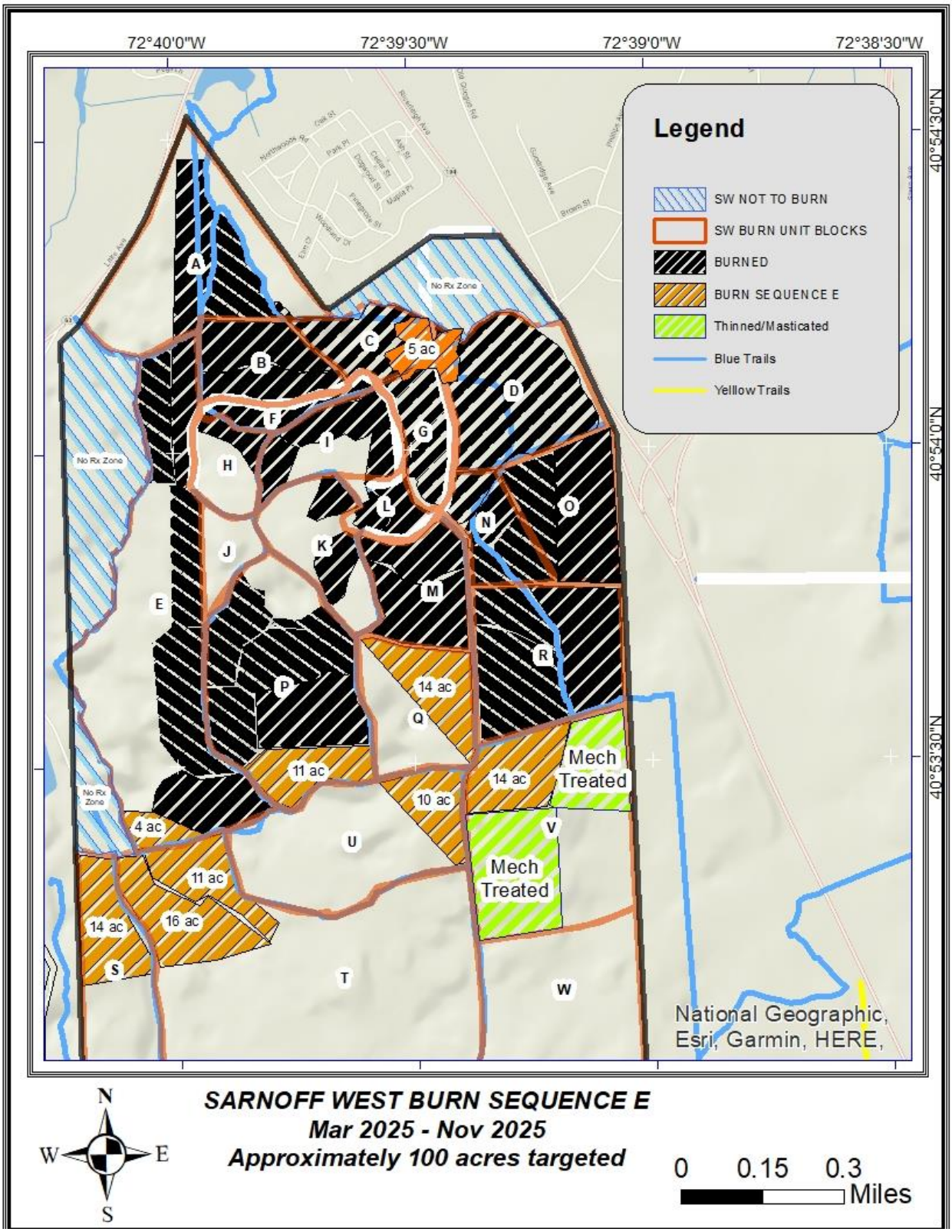
Sequence D includes reburns of the grasses in Block L and the pine savannas of Blocks F and A. The mechanically treated areas of Blocks O and R are burned. Additional burning builds upon recently burned areas in Blocks A, B, E, M and P. Again these sequences are recommended and may be altered by lessons learned and updated priorities.

Appendix A-2 – Sequence D



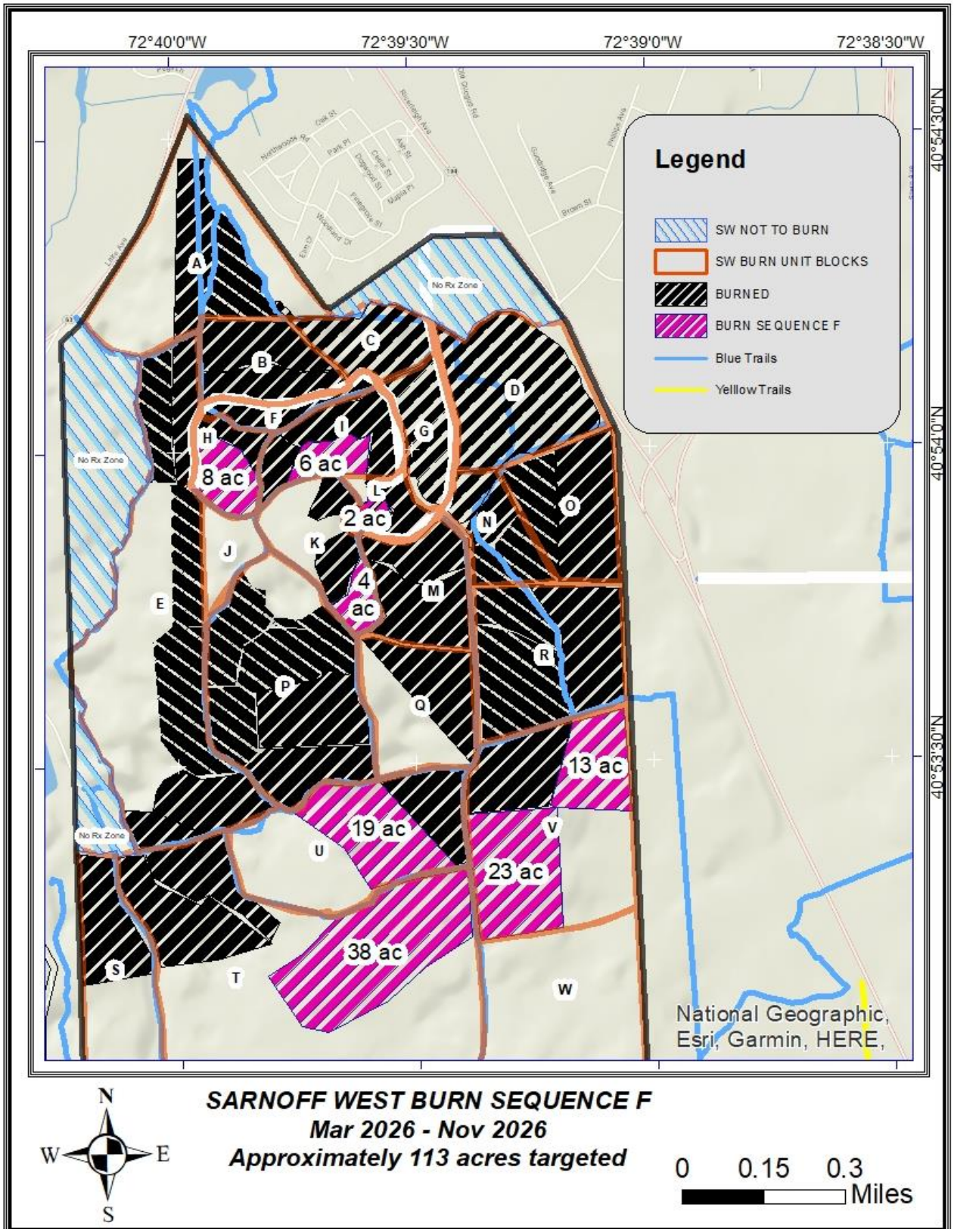
This mechanical treatment phase of Sequence D, would see the NE and SW quarters of Block V thinned and masticated.

Appendix A-2 – Sequence E



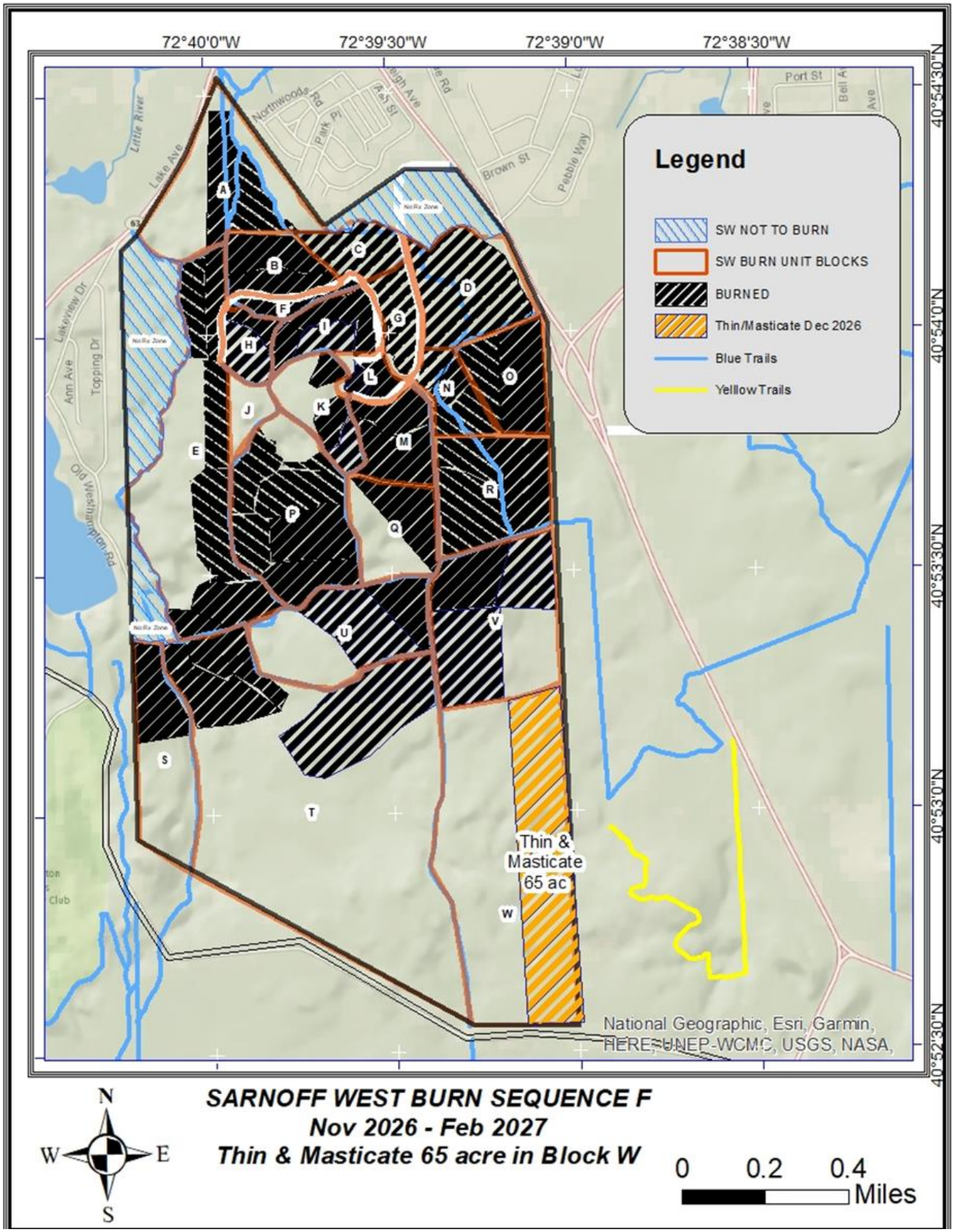
During Sequence E, the grassy portion of Blocks C and D would be reburned. Burns in Blocks P, Q, V and U would be conducted against mechanically treated or otherwise burned patches. Burns in the southern area in Blocks E, T and S would expand on recently burned areas sequentially.

Appendix A-2 – Sequence F



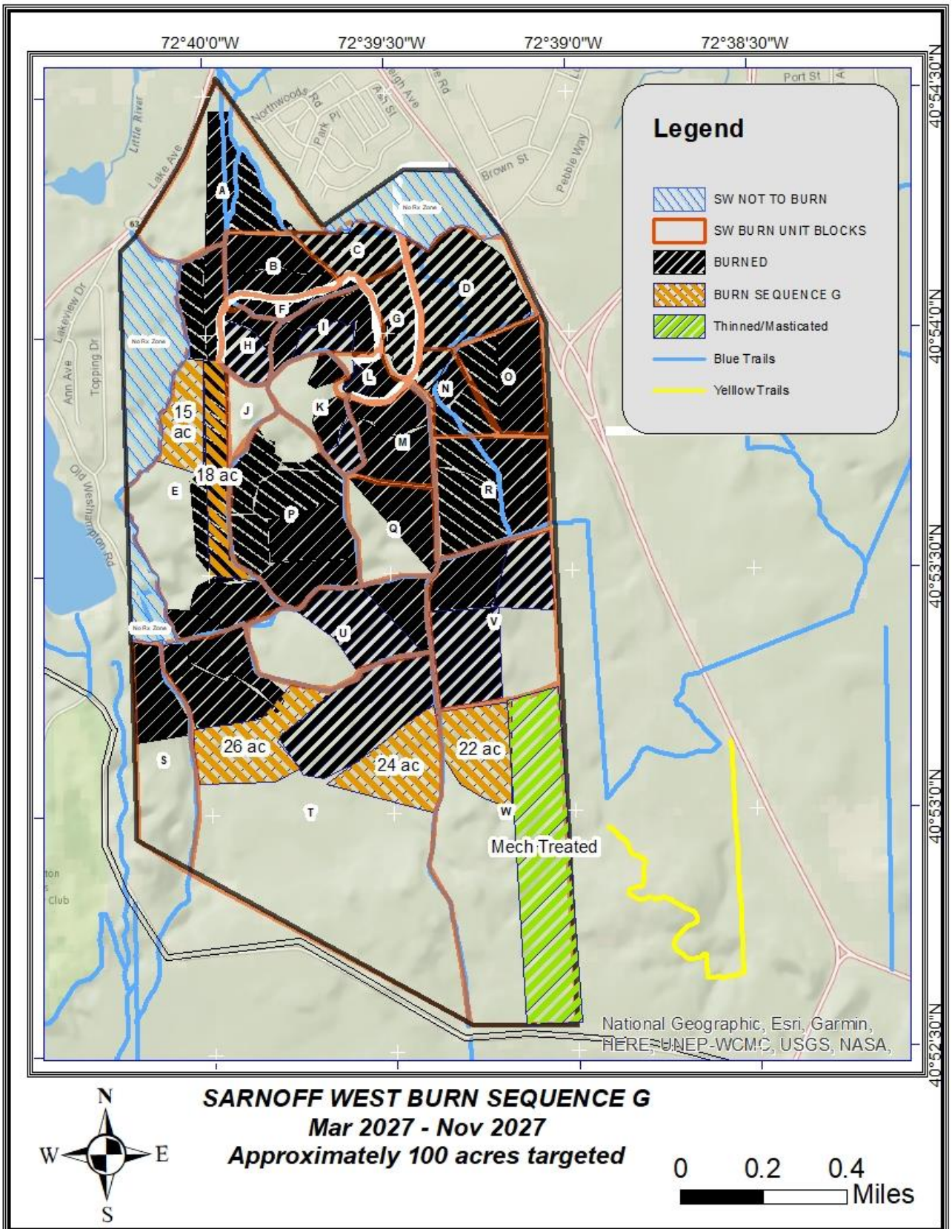
During Sequence F. the grassy patch in Block L would be reburned and the mechanically treated portions of Block V would also be burned. Other burns would fill in burning the patches of unburnt areas in the blocks in the northern half of the unit.

Appendix A-2 – Sequence F



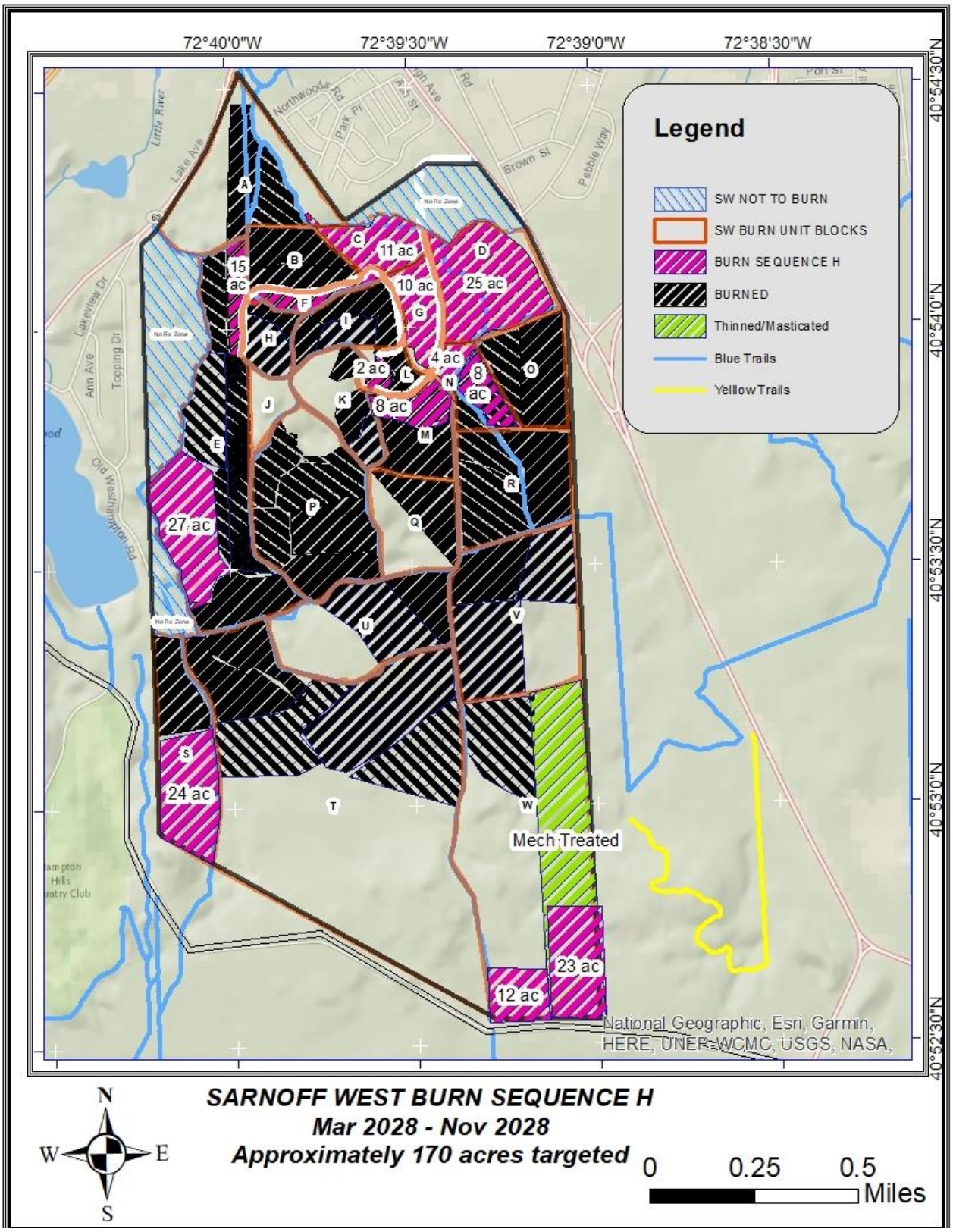
During this mechanical treatment phase of Sequence F, the eastern half of Block F would be thinned and masticated.

Appendix A-2 – Sequence G



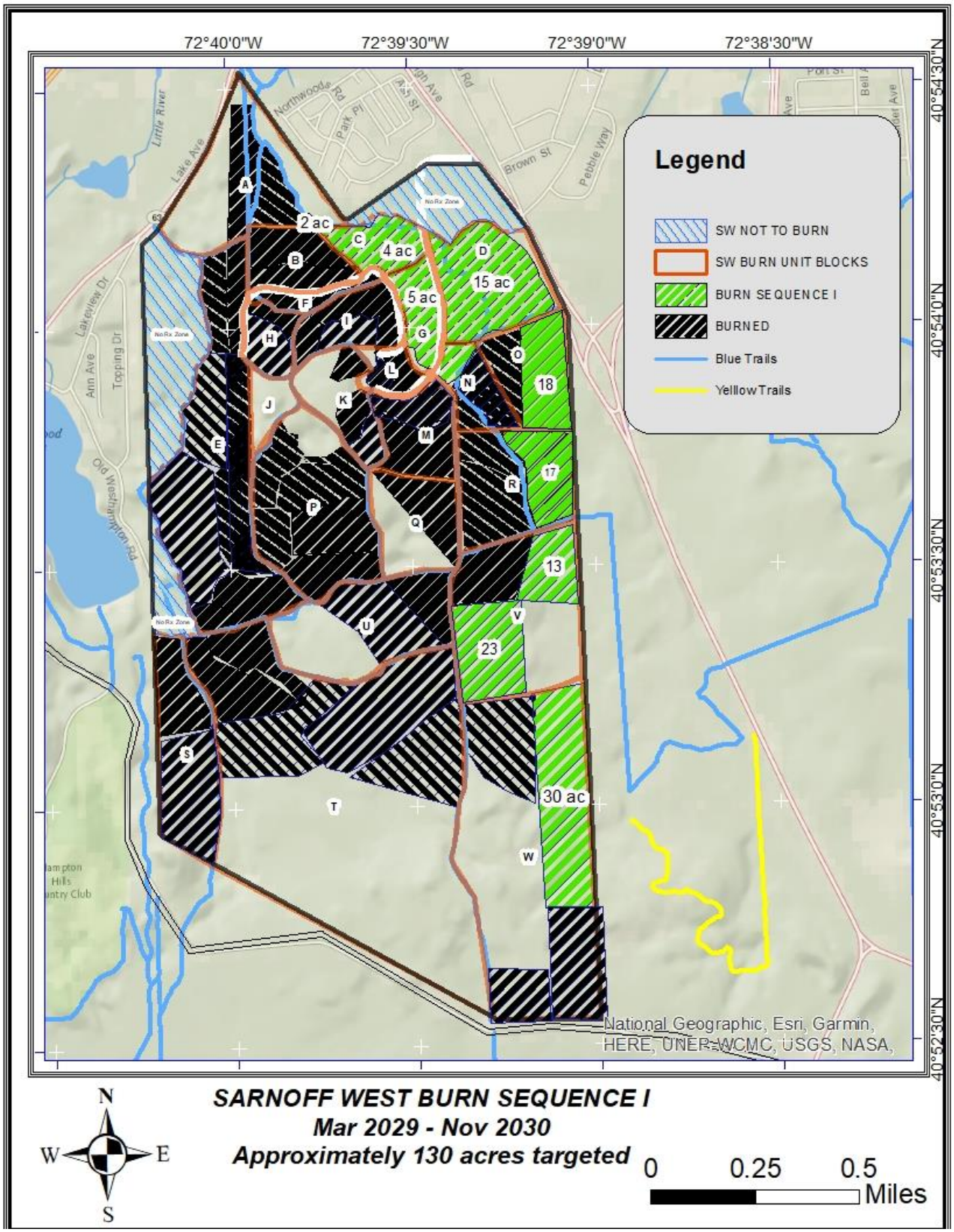
The burning phase of Sequence G would include reburning of areas burned in savanna like areas of Block E and burning a portion of Block E into an area just burned. Other burns would include burning in Block W into the mechanically treated area adjacent and burning in Block T into adjacent recently burned areas.

Appendix A-2 – Sequence H



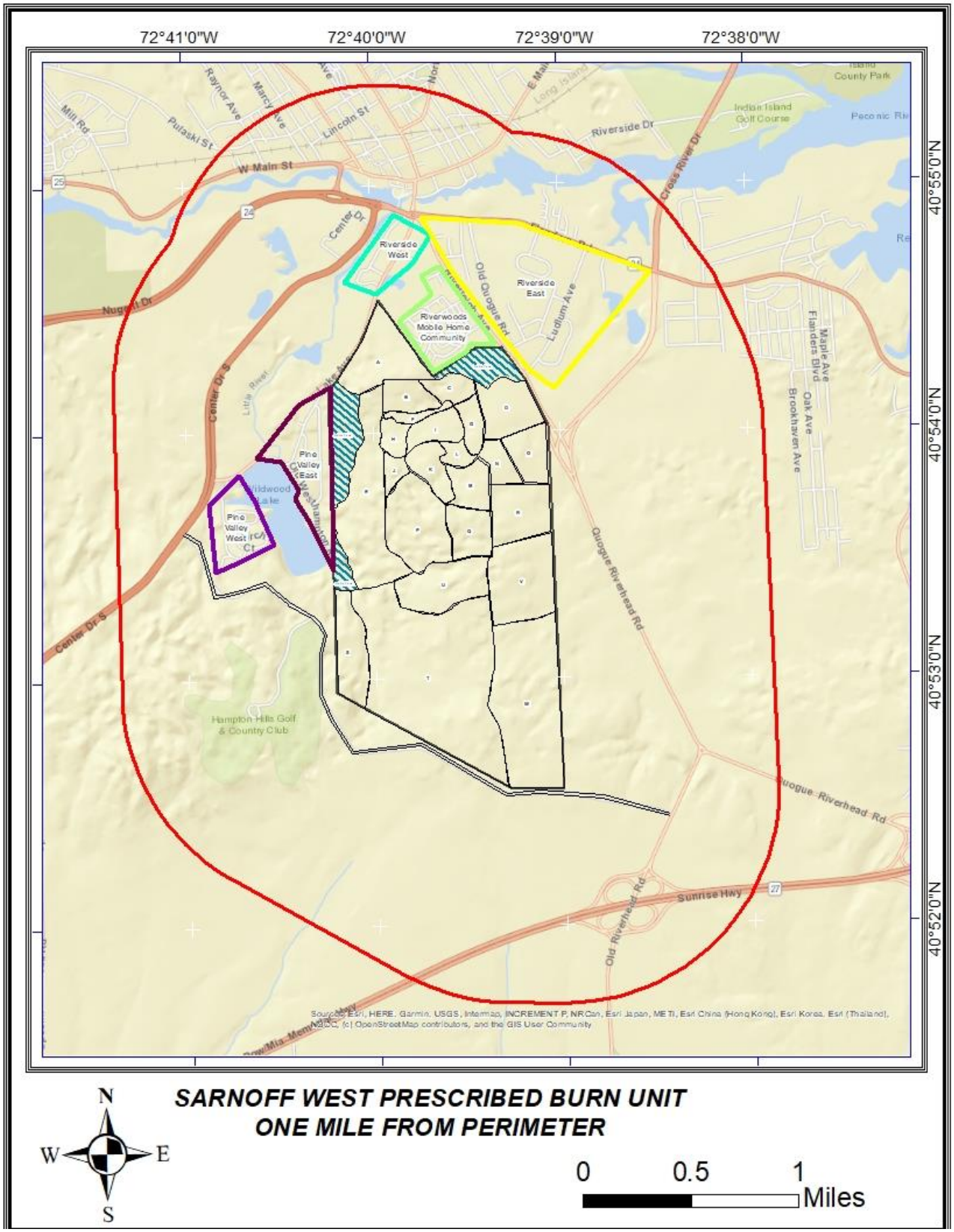
During Sequence H, many areas previously burned in the northern half of the burn unit are targeted for maintenance reburning. That includes the original mechanically treated areas, the grassy areas, the pine savannas and a portion of Block M burned during Sequence B. Burns also include a portion of Block W that was mechanically treated, an untreated area immediately adjacent to that and the southern portion of Block S.

Appendix A-2 – Sequence I



Sequence I would be the last burn sequence of this decade long burn plan. Burns would include the remaining mechanically treated area in Block W and reburns of portions of Blocks V, R and O. Reburns of patches remaining in the original mechanical treatment area (Blocks D, G, N, A and C) would also be targeted for maintenance burn treatments.

Appendix A-3: Smoke Receptors



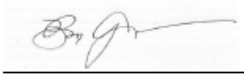
Appendix B: Technical Reviewer Checklist, Comments and Notes

Fill out this checklist based on the guidance provided in the Technical Review section in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484. Rate each element in the following table with an "S" for Satisfactory or "U" for Unsatisfactory. Use Comment field as needed to support the element rating.

PRESCRIBED FIRE PLAN ELEMENTS	RATING	COMMENTS
1. Signature Page	S	
2. A. Agency Administrator Ignition Authorization	S	
2. B. Prescribed Fire GO/NO-GO Checklist	S	
3. Complexity Analysis Summary	S	
4. Description of Prescribed Fire Area	S	See attached comments, pages 1-2
5. Objectives	S	See attached comments, page 2
6. Funding	S	
7. Prescription: Prescription Narrative and Prescription	S	See attached comments, page 2
8. Scheduling	S	See attached comments, page 2
9. Pre-Burn Considerations and Weather	S	See attached comments, pages 2-3
10. Briefing	S	
11. Organization and Equipment	S	See attached comments, page 3
12. Communication	S	
13. Public and Personnel Safety, Medical	S	See attached comments, page 3
14. Test Fire	S	See attached comments, page 3
15. Ignition Plan	S	
16. Holding Plan	S	
17. Contingency Plan	S	See attached comments, page 3
18. Wildfire Declaration	S	See attached comments, page 3
19. Smoke Management and Air Quality	S	See attached comments, page 3
20. Monitoring	S	
21. Post-Burn Activities	S	
Appendix A: Maps	S	
Appendix C: Complexity Analysis	S	
Appendix D: Agency-Specific Job Hazard Analysis or Risk	S	
Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation	S	See attached comments, page 3
Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)	S	
Other		

☒ **Approval is recommended** subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

☐ **Recommendation for approval is not granted**. Prescribed Fire Plan should be re-submitted for technical review subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Technical Reviewer Signature: 

Qualification and Currency: RXB2, current to 2026

Date Signed: July 9, 2021

6 NYCRR-Part 194.3 Prescribed Fire Management Plan
for State Lands Under the Jurisdiction of the Department of Environmental Conservation
Required Element Verification Checklist

Element	**Location in Burn Plan**
A. Fire Unit Description	Pages 6-24
B. Vicinity Map	Pages 6 & Appendix A
C. Project Map	Pages 7 & Appendix A
D. Goals and Objectives	Pages 30-31
E. Cost	Page 32
F. Equipment and Personnel	Page 39-40
G. Fire Prescription	Pages 32-35
H. Weather Information	Page 37-38
I. Preparation Work	Page 36
J. Protection of Special Features	Page 28-29
K. Smoke Management	Page 51-52
L. Prefire Coordination and Public Involvement	Pages 37-38
M. Fire Day Notification	Pages 38 & Appendix D
N. Public and Personnel Safety	Pages 41-43
O. Communications	Page 41
P. Briefing Guidelines and Go-No-Go Checklist	Page 4 & 38 & Appendix D
Q. Test Fire	Page 44 & Appendix D
R. Firing, Containment, Mop Up and Patrol	Pages 44-46
S. Contingency	Pages 46-49
T. Monitoring and Evaluation	Page 52-53
U. Rehabilitation	Page 53
V. Necessary Support Documentation	Appendices A / B / C / D / E
W. Required Signatures and Approvals	Page 54

SARNOFF WEST TECHNICAL REVIEWER NOTES, BRYAN GALLAGHER, JULY 9, 2021 (ALL IMPLEMENTED – RAP 7/13/21)		
Page	Location	Description
7	Element 4, Figure 3	Maps show only blue and yellow hiking trails but many of the blue trails are inaccurately represented. It appears you were provided anoutdated / incomplete trails layer for your mapping work. On the ground at Sarnoff West, there is a red blazed foot trail, some yellow foot trails and the Paumanok Path, another foot trail. There areno blue trails on the west side of Sarnoff – the blue trail is located onlyon the east side of Sarnoff. I will send a map to you with the most up to date trails under separate cover.
11	Element 4, Figure 8	
12	Element 4, Figure 9	
19	Element 4, SH4 bullet, last sentence	"Pitch pine mortality is a minimum of 30% and would be much higher with low live fuel~~s~~ moistures."
19	Element 4, TL6 bullet, last sentence	"Rates of spread and flame lengths increase the least when the litter layer is compacted by snow or age".
22	Element 4, Burn Block E, 3rd sentence	"The block is bounded on the west and north by ~~blue~~ red blazed foottrails…"
22	Element 4, Burn Block N,2nd sentence	Replace "footrail" with "foot trail". I would recommend doing a FIND of "footrail" and REPLACE with "foottrail", because there are many instances throughout the plan.
22	Element 4, Burn Block N, sentences 5,7 and 8	References are made to "blue blazed trails". Replace blue with redblazed foot trails.
23	Element 4, Burn Block O,2nd sentence	"The block is bounded to the north by the mechanically treated **BlockD** and red and yellow blue blazed foot trails,"
23	Element 4, Burn Block P, 1st sentence	"Burn Block P (67 ac.) is an oval shaped block bounded on all sidesby unmarked foot trails blue blazed trail."
23	Element 4, Burn Block Q, 1st sentence	"Burn Block Q (29 ac.) is a square shaped block bounded on the east,south and west by unmarked blue blazed foot trails."
23	Element 4, Burn Block R, Sentences 1,2 and 3 Figure 29	"Burn Block R (46 ac.) is a rectangular block bounded on the west by an unmarked foot trail, on the ~~and~~ south by red and yellow blue blazedfoot trails and on the north and east by future masticated lines. A red ~~blue~~ blazed foot trail transects the block from south to north in the middle. The eastern half of this block, the area east of the red blue blazed foot trail, …" Figure 29 – change footrail to foot trail.
24	Element 4, Burn Block S, 2nd sentence	"…Hampton Hills Country Club road and on the east by an unmarked foot trail blue footrail"
24	Element 4, Burn Block T, 2nd sentence	"It is bounded by ~~blue~~ an unmarked foot trail to the west, a red foot trail to the north, a yellow foot trail to the east and the powerline right of way to the south." (Also the Paumanok Path winds it way through the western and southern quarters of the unit if you want to mention itOR consider splitting Blocks T and W north and south into another 2 blocks so you have two blocks north of the Paumanok and two south

		of the Paumanok. Take a look at Block S, you can do the same withthat block. (Then you would have Blocks X, Y and Z)
25	Element 4, Adjacent Fuels Data	The combination of your description and the telling Google maps photo and fuels map do an excellent job of painting the picture aroundthe Riverwoods Mobile Home Community. A great best practice moving forward. The Google maps photo is currently labeled Figure 5: Fuels SBoundary when it should be labeled Figure 34.
27	Element 4, Percent of Vegetation Type and Fuel Model(s)	Great summary in table format to what is a very involved burn plan
30	Element 5, Leader's Intent, 1st sentence	"infrastructure as well as threatening public safety."
30	Element 5, Section B - Prescribed Fire Objectives, 1st bullet	Take another look at the phrase "resulting in no public accidents attributed to conditions caused by the burn". Potential liability issue - when I read this, it appears to me that outreach efforts alone will guarantee no accidents will happen. We cannot control how people drive – good or bad. Despite our best communication and signage efforts, sometimes the public won't get our message, particularly transient vehicles who may not be paying attention and are just passing through. Suggest simplifying wording along the lines of "Minimize smoke impacts to roadways and surrounding area including,but not limited to, visibility, duration, etc. by utilizing best smoke management practices."
31	Element 5, Treatment Goals and Objectives	Excellent leader's intent and clearly defined road map laying out thefuture of the project
33-34	Element 5, Prescription Parameters	Good flexibility built into the prescriptions. Are there any restrictiveparameters?
35	Element 7, Fire Modeling & Empirical Documentation	"I live to crown fuels"
35	Element 8, Implementation Schedule, 1st paragraph, 2nd sentence	"…and may require and Incidental Take Permit."
38	Element 9, Section B,5th bullet	The Prescribed Fire Burn Boss will… • If ignition is a go, record the weather every 60 minutes or more frequently at the discretion of the ~~as~~ Burn Boss)

38 Also Page 80	Element 9, Section C Notifications	John Solan was recently promoted to Director of Forest Rangers (notActing Director) John Rankin is now Chief Marshal for Southampton Town Fire Marshals, Cheryl Kraft retired. Add Southampton Town Police and Riverhead Town Police to thenotifications on Burn Day. (they will be the first to get the 911 calls from passersby reporting smoke/fire)
40	Element 11, Near Interface and Ten Acres + tables	The Near Interface and Ten Acres + staffing tables have 5 FFT1's identified. A FFT1 is identified for each ENG7-UTV as well as the ENG4 which I think can be done with experienced FFT2's with a FFT1 serving as supervision. Requiring 5 FFT1's may severely limit the number of days you can staff a burn without relying on resourcesoutside the region.
42	Element 13, 2nd paragraph, 5th sentence	"…medical personnel or crew members carrying victim or victims to ambulances located on paved roads…"
44	Element 14, Section A, 1st sentence	a test fire will be ignited in fuels representative ~~of the fuels~~ of the burn
46	Element 17, Section A, 1st sentence	In general, there are multiple reasons a contingency plan may beimplemented, and many of those reasons are ~~the~~ listed below:
50	Element 18, Section B - Notifications	"…(RERC). The RERC will notify the Regional Director and RegionalForest Ranger Captain of NYS-DEC. The Captain is responsible for contacting the Director of Forest Protection. If the Commission is bossing the burn, the Executive Director of the Central Pine Barrens Commission shall also be contacted by the RERC."
51	Element 19, Section C – Smoke Sensitive Receptors	Gabreski Airport is about 3 miles from Sarnoff. Include it in your list ofsensitive smoke receptors as aircraft normally take a northern approach when coming into Gabreski.
53	Additional Information	In accordance with 6 NYCRR ~~-NY~~ Part 194.3 (w) modifications to thisplan may be approved by the NYS-DEC Region One Forester.
56-72	Appendix A	There are 17 maps in Appendix A. For easier referencing purposes,consider labeling each map uniquely i.e. Appendix A-1 Vicinity Map Appendix A-2A Project Ignition Map – Sequence A Appendix A-2B Project Ignition Map – Sequence B and so on…Appendix A-3 Smoke Receptors Map Appendix A-4 Information Outreach MapAppendix A-5 Fuel Models Map If you do this, update Element 1's Table of Contents to reflect the same. It currently shows three Appendix A's
84-92	Appendix E	Fire Behavior modeling looks solid. I did not see runs for untreated pine, pine-oak, oak-pine, oak for high moisture, low wind scenarios for backing or head fires.

Appendix C: Complexity Analysis

Post Plan Reassessment of Risk Ratings and both Preliminary and Post Plan Descriptions of Rating Rationale

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the RX Fire Plan that Address Risk Mitigation
Safety	Low	Low	• Safety issues and hazards are easily identifiable, addressed in briefings, and managed. • Minimal organization produces little exposure of personnel to hazards. • Adverse impacts to public health and safety are unlikely. • Activities are high frequency/low risk. • Fatigue and exposure to hazards are limited. • Standard safety briefings and attention to Lookouts, Communications, Escape blocks, and Safety Zones (LCES) are sufficient. The descriptions above reflect post plan risks to safety. While this is a large burn unit and project it is broken into multiple small day projects with minimal staffing and overall resources. Fireground risks are mitigated by standard wildland fire safety practices and procedures.	As pointed out in the post plan risk element of safety the plan breaks this large burn unit into multiple small day projects for implementation with relatively small numbers of resources. The largest safety threat is the remote nature of the southern half of the burn unit which will be mitigated by access clearing and pre-planning for evacuations of personnel from remote locations.
Fire Behavior	Low	Mod	• Fuels vary within the unit, both in loading and arrangement. • Fire behavior may present control challenges that are easily mitigated. • Medium fuel loadings with some high concentrations are present. • Variable terrain features may significantly affect fire behavior and present moderate ignition and control problems. • Local winds and burning conditions may vary enough to cause shifts in fire behavior that briefly exceed modeled fire behavior and threaten controllability. • Periodic torching can be expected either as isolated points or in limited areas. • Probability of ignition outside of the unit is low and any spotting is expected to be short-range. The descriptions above are accurate for the most part upgrading this from Preliminary Low rating to Moderate. See remarks at right.	I upped the rating of Post Plan risk in this element to Moderate from Low. I found in writing the plan that there was more variety in the fuels present than I anticipated. The Moderate level statements more accurately reflected the burn unit fire behavior situation. Essentially the prescription parameters helped constrain spotting and the plans standard use of backing ignitions vs. head or flanking helped mitigate fuels concerns that could have made this post rating higher. These are high shrub level fuels, but the plan calls for cautious application of fire.
Resistance to Containment	Low	Mod	Potential for multiple wildfire mechanisms such as spot fires or slopovers that can propagate at moderate rates of spread but can be held by prompt holding actions. • Some fuel concentrations or ladder fuels exist near critical holding points. • Expected fire intensities in the primary fuel type create little potential to challenge standard fire lines. • The probability of ignition in fuels outside of control lines is low to moderate. • Some dependency on natural fuel breaks to hold the prescribed fire. • Local drought and or fire indices are expected to be moderate to high. These are high energy fuels and significant fuel loading in most burn blocks, but the potential for problems is minimized by a few elements of the burn plan (see remarks at right)	Mitigations in Plan: the burn rotation identifies starting with areas that have been mechanically enhanced and are accessed easily. After that the subsequent burn rotation calls for burning off of or into adjacent previously burned areas minimizing escape or spotting concerns. While there are ladder fuels and this forest loves to torch/crown, the ladders are not along the perimeter of the burn blocks. Prescription parameters and lighting techniques also give extra protection. The holding plan also calls for hose lays or sprinkler lays where threats are highest. The ignition method of backing fires limits likelihood of intense fire behavior.
Ignition Procedures and Methods	Low	Low	• An unexpected or adverse event is unlikely and coordination of firing sequence, patterns and timing is not critical to meet project objectives. • Specific fire intensities or rate of spread (ROS) are not critical for meeting resource objectives. The objectives are for the most part simple; get burned acres on the ground in first fire treatment areas. This can be achieved at many different times of the year and using a prescription that allows a wide range of parameters. Although the burn unit is surrounded by smoke receptors it is a large burn unit. Broadcast burning is the exception vs the rule and patch fire implementations will allow for a wide variety of conditions. Many areas that have the high volume of shrub understory that are present in this burn unit question whether it is possible to reduce shrub oak. This plan calls for low intensity long heat duration fires that may help combat the shrub regeneration issue.	The plan calls for lots of small size patch burns in order to achieve the objective of getting first treatment acres on the ground. This gives a lot of flexibility in achieving the objectives. The objectives do not require high intensity fire and the prescription and ignition methods in the plan call for creating lower intensity fires which will still achieve the objectives.

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the RX Fire Plan that Address Risk Mitigation
Prescribed Fire Duration	Low	Mod	• Active ignition, fire spread, and patrol is expected to occur for several operational periods. • Some residual burning (heavy fuel smoldering, stump holes, etc.) is expected to occur for several days after the primary burn out of the unit. • Mop-up and patrol is typical with minimal resource and equipment needs. • Primary holding phase is expected to be completed within reasonably predictable local weather forecasts. • The prescribed fire depends on accurate forecasts through three days. This is a ten year burn plan, not based on the idea that there will be a couple of large scale rx burns that will complete the acreage, but rather that it will take ten years of persistent small patch burning to achieve the objectives. Mop up volume will depend upon the size of the burns and KBDI levels. Although there are lots of heavy fuel sources on the ground in these burn blocks (especially the treated burn blocks) burning under low KBDI as prescribed in the plan will reduce smoke persistency issues. Burns will be discrete one day events, so multi day forecasts are not considered critical.	I raised the Post Plan Risk for Prescribed Fire Duration from the preliminary assessment of Low to Moderate. I did this in deference to the duration of years it will take to conduct this burn as it is truly a decade long commitment to a series of small patches tied together to bring treatment to a large landscape. This presents a long duration risk level to fire personnel rather than just single day broadcast burning events. The rating was also increased as it is anticipated as the years progress the burn area on a given day of patch burning will increase and the burn areas are increasingly remote. The easiest burning is the first couple of years
Smoke Management	High	Mod	• Noticeable smoke will be produced creating at least some public concern. • Short-term health or safety concerns related to smoke exposure may occur if actual weather deviates from forecasted. • Nearby communities are highly conscious of smoke from wildland fire. • Some possibility for a NAAQS exceedance violation. • The prescription or ignition portions of the plan need to consider smoke management. The moderate descriptors above best meet the actual conditions. The burn unit is surrounded by smoke receptors, and the best advantage the plan has is the fact that much of the smoke can be kept on the 1000 plus acres of the burn unit. Generally this burn unit can expect prevailing SW winds. Most of the concentration of smoke receptors are to the north and northeast. By planning, however, the burn blocks most adjacent to these receptors have been designed to be quite small and by ignition plan it would be rare to have a broadcast burn on an entire block on a given day. Saying that the plan designed to have pulses of diffused or diffusing smoke rather than generating a column.	The big key to smoke issue avoidance comes from the idea that burns are done in patches rather than burning entire burn blocks. This allows the burn boss to titrate the permissible amount of smoke emissions produced, allows for rapid shutdown if smoke issues arise, allows to burn small portions under the hotter end of the prescription which might tend to produce less smoke and residual. It basically creates conditions of smoke pulses vs smoke columns which is far more manageable.
Number and Dependence of Activities	Low	Low	• Activities are mostly independent from each other. • Coordination of activities is simple and straightforward. • The project does not involve another land management agency or jurisdiction. The plan calls for simple and straightforward implementation methods on lands within a single ownership/jurisdiction.	The plan creates a simple organization for ignition and holding that works cohesively. Ignition, holding and mop up are constantly working as one throughout a day's burn cycle. The designed ignition sequence keeps building upon its own black, and does not move forward to the next burn location until the prior patch is now the anchor point for the next day of patch burning. One could say that sounds interdependent, but that would be the case if burning more than one patch in a day. Instead it is methodic and simple.
Management Organization	Mod	Mod	• Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist, and/or Holding Specialist, plus lighters and holders). • Special skills or supervision required for one function (RXB2 is suggested). For the most part this plan calls for organization levels as described above, to wit, a Burn Boss with subordinate supervisors so it meets the definition for Moderate risk for Management Organization at both the supervision and Burn Boss 2 levels.	The plan does allow for a simple supervision organization with the Burn Boss supervising both ignition and holding directly but I cannot imagine that would be the case for most burn days. The plan also identifies having a Fire Monitor, Smoke Monitor and a Public Info Officer for some burn days. So I kept the rating post plan as Moderate.

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptor	Elements and Actions in the RX Fire Plan that Address Risk Mitigation
Treatment/Resource Objectives	Low	Low	• Issues are present that hamper or may prevent meeting treatment resource objectives. • Failure to meet objectives could have short-term adverse impacts. • Associated resources could be damaged if the prescribed fire did not meet resource objectives. • Few critical holding points. The above statements are not entirely descriptive of this element post planning but are a much better fit than the Moderate descriptors. There are likely to be one or more critical holding points, but I have never had a burn than did not. Since the plan is written to be a series of burns over the course of a decade, minor setbacks of resource achievements can be expected along the way, but would not derail the overall process. The resource objectives were written to be achievable in both acreage of first treatments and surface fuel reductions.	This rating stayed at low for many of the reasons written in the post plan risk assessment at left. The objectives are straightforward, and this is not a one shot broadcast burn but is a series of interconnected burns throughout the course of a decade. The plan is flexible enough in both prescription and in ignition planning to allow for using different tactical approaches if initial actions are not achieving the objectives. This is an adaptable plan.
Constraints	Mod	Low	• Constraints exist with little impact on implementing the prescribed fire or achieving objectives. The major constraint identified in the plan is the prohibition from burning in June and July due to northern long eared bat maternity period. That is unfortunate since burning in both those months would likely be a time when other resource objectives could be achieved based on past Central Pine Barrens fire history. Given that there are still 10 other months for burning and those will allow for first and secondary fire entry treatments allowing for achieving objectives.	50 degree Fahrenheit restriction at time of ignition may restrict burn days or total acreage especially in March and April. Plan allows for burning smaller patches if ignition delayed till temps warm up. These overall factors lowered rating post plan.
Project Logistics	Low	Mod	• Some phases of the prescribed fire may require logistical support in order to safely meet project objectives. • Limited amount of special equipment or communication equipment requiring more intensive logistical support may be needed to complete the project. Development of the plan caused this rating to increase due to the increased logistical requirements of burning in remote burn blocks in the southern half of the burn unit. The increases in logistics are due to harder access, increased difficulty in water supply for holding resources, and remote nature of the southern burn units.	In Elements 11 and 13 it is recommended that a line EMT(s) be dedicated to the burn. The Element 13 identifies remote evacuation procedures and access points.

Post Plan Technical Difficulty Evaluation Ratings and Post Plan Descriptions of Technical Difficulty Rating Rationale

Element	Post-Plan Risk	Technical Difficulty	Rating Descriptors
Safety	Low	Low	• No special actions are required to mitigate potential minor accidents or injuries identified in the risk assessment/Job Hazard Analysis (JHA). • Safety concerns can be easily mitigated through LCES. • No preparation work or special project design features are required. Safety is very straightforward. These are small organizations performing high frequency / low risk tasks. The plan elements allow for adding a line Safety Officer for larger staffing and/or in more remote burn blocks. The contingency plans outline safety steps. The safety objectives in the plan call for thorough briefings, public notifications and signage and implementation of LCES prior to engagement.
Fire Behavior	Mod	Low	• Standard fire safety precautions are adequate to ensure personnel safety. • No fire behavior variations are expected and numerous barriers to fire spread exist. • The number, size or likelihood of spot fires and slop overs is minimal and don not require additional suppression resources. • Fire behavior is such that holding forces can easily control spot fires and slop overs using direct tactics. • No on-site operational fire behavior specialists are required. The above statements adequately characterize fire behavior concerns. I lowered this rating post plan because the anticipated fire behavior is relatively straightforward in accordance with the above statements.
Resistance to Containment	Mod	Mod	• Several types of resources are involved in the holding operation. • Some portions of the burn unit and project area are not easily accessible to the holding resources. • Expected fire behavior outside the unit may require developing indirect attack options. • Areas outside of the project area have specific suppression action constraints or are on other jurisdictional lands that may limit containment efforts. • Some site prep is required. • Expected fire behavior outside of the unit requires moderate contingency planning. Although this Element is rated Low in the implementation rating, I selected Moderate for the Technical Difficulty for this primarily based on the fact that some of the burn blocks are remote and will require a mix of holding resources, that these remote areas are not easily accessible to holding forces, and that considerable site preparation is required over a number of years for this decade long project.
Ignition Procedures and Methods	Low	Low	• There is no need for special firing equipment, techniques, or patterns. • Firing procedures are simple and ignition team is small. • Use of only one type of ignition device is planned. • The ignition pattern requires minimal supervision of the lighters to achieve project objectives and manage safety concerns. • Communications are easily maintained with a single tactical frequency. • The entire project area is readily visible to the Firing/Burn Boss. The technical difficulty here remained low post plan. Ignition procedures are simple and straightforward and no special ignition tools are needed. As stated in the above statements, there is a small ignition organization that may be handled as a function or be assigned to different flanks as a combination holding/ignition crew. For the most part these will be small patch ignitions with good visibility between resources and a single tactical frequency if needed.
Prescribed Fire Duration	Low	Low	• Ignition and mop-up operations are usually completed in 1 to 2 operational periods. • Mop-up and patrol is typical with minimal resource and equipment needs. • Standard press release is sufficient for public notification. Statements above are correct, other than the fact that ignition to mop up in a burn target will be in one operational period. The public notification is not by press release but the local notification system using Suffolk County Fire Rescue Reverse 911 is commonly used for prescribed burning here.

Element	Post-Plan Risk	Technical Difficulty	Rating Descriptors
Smoke Management	Mod	Low	• ERTs and SMTs are simple, routine and straightforward to achieve and will provide desirable smoke management outcomes. • Some limitations may be present in the plan. • Wind and dispersion parameters are not constrained. • No sensitive receptors exist. • Minimal coordination with air quality officials is required. I lowered this post plan technical difficulty rating below the post plan risk rating level of Moderate because the statements above accurately reflect the conditions described in the burn plan.
Number and Dependence of Activities	Mod	Mod	• Holding and lighting require close coordination and are dependent on each other to prevent spots or slop overs. • Continuous communication is necessary for successful project completion. • Some pre-burn considerations are required before ignition. Once again the above statements accurately reflect what is in the burn plan as far as technical difficulty. The establishment of sprinklered hose lays on the downwind flank supporting a line of fire backing away from the sprinklers is essential to the plan. The progressive advancing of the sprinkler lay behind the backing fireline is also a critical and essential element.
Management Organization	Low	Low	• All team members are available within the local unit and are familiar with local factors affecting project implementation. • Several qualified personnel are available. • The operation is carried out employing a small burn crew. • There is no special pre-burn preparation organization is required. Statements above are true. The burn plan does show hirer staffing levels for some of the segments and burn days, but it is still a direct supervision organization well within span of control. On the largest staffing days the burn boss would have 2 command staff positions filled (PIO, FEMO) and 2 tactical subordinate supervisors.
Treatment/Resource Objectives	Mod	Mod	• There are several resource objectives to meet. • Measures to achieve the objectives are either 1) easy to complete but there are restrictions on the techniques or 2) moderately difficult to complete and there are few or no restrictions on techniques. • Additional monitoring of fire behavior and weather is needed to determine if prescribed fire objectives are being met. • Other opportunities to meet objectives are very limited in a given year. Technical difficulty to achieve objectives is kept at moderate post planning as the objectives are very detailed and require periodic monitoring and re-monitoring. This is important though as this burn plan is multiyear and allows for adaptive management based upon the assessment of objectives. If major changes are needed the plan will be amended to reflect new or changing objectives, strategies and tactics.
Constraints	Low	Low	• Constraints are easily accommodated and do not increase the difficulty of completing the project or achieving objectives. • Required weather and fuel conditions are locally very common. These above statements are true. The prescription was written intending nearly year round implementation, so the parameters can be met at different times of the year. The prevailing winds are SW but are subject to both cold front passages and sea breezes.
Project Logistics	Mod	Mod	• Project implementation requires a small logistical support operation. • Logistical support may be combined with other functions. • Obtaining some personnel may require additional contacts and advanced scheduling. • Additional support may be needed for out-of-area personnel. Yes this is a moderate for logistics technical difficulties. The statements above are true and the on-going staffing of this burn units activities may require outside resources and the coordination of students, instructors and overhead involved with the New York Wildfire and Incident Management Academy. There is also a high demand for an extensive sprinklered hose lay that will require a lot of water and constant refilling of a 1000 gallon foldatank. This may be accomplished through a non-tactical water tender supplied by the Suffolk County Water Authority, a portable bladder either trailered or haul by Central Pine Barrens Commission staff or possibly worked out with Ridge and Middle Island VFD's. There are, however, multiple fire hydrants located nearby the burn unit.

3. Appendix D: Agency-Specific Forms / Burn Day Forms Package

The following forms will be printed for each burn day and the Burn Boss is responsible to ensure:

- All forms are completed
- Digital mapping is completed
- All forms and map files are submitted to the Central Pine Barrens Fire Management Specialist for inclusion into the S of Currans Field Woodlands Rx Plan Project File

Pre-Burn Day Notifications:

Sarnoff West Prescribed Burn Pre-Day Notification List									
Notice Pre-Day	Notifications	Title / Entity	Phone	Email	Cell Phone	Notifier	Date	Time	Method
X	John Solan, Director	NYS-DEC Forest Protection	518.402.8836	john.solan@dec.ny.gov					
X	Central Office Duty Officer	NYS-DEC Forest Protection	518.402.8839						
X	Rob Marsh, Regional Supervisor	NYS-DEC Natural Resources	631.444.0270	rob.marsh@dec.ny.gov					
X	Executive Director Judith Jakobsen	Central Pine Barrens Commission	631.563.0306	Judy.Jakobsen@SCWA.com					
X	Adjacent homes and businesses	Reverse 911 via FRES w/in 0.5 mi of burn	631.852.4815	Duty Dispatcher					

Burn Day Notifications:

Sarnoff West Post Burn Notification List									
Notice Post Burn	Notifications	Title / Entity	Phone	Email	Cell Phone	Notifier	Date	Time	Method
X	Merlange Genece, Acting Regional Director	NYS-DEC Executive	631.444.0200	merlange.genece@dec.ny.gov					
X	John Solan, Director	NYS-DEC Forest Protection	518.402.8836	john.solan@dec.ny.gov					
X	Central Office Duty Officer	NYS-DEC Forest Protection	518.402.8839						
X	Rob Marsh, Regional Supervisor	NYS-DEC Natural Resources	631.444.0270	rob.marsh@dec.ny.gov					
X	Judy Jakobsen, Executive Director	Central Pine Barrens Commission	631.563.0306	Judy.Jakobsen@SCWA.com					
X	Duty Dispatcher	Suffolk Fire, Rescue & Emergency Services	631.852.4815						
X	Suffolk County Police Dept. Communication	Suffolk County Police	631.852.6400						

Post Burn Notifications:

Sarnoff West Prescribed Burn Day Notification List									
Notice Burn Day	Notifications	Title / Entity	Phone	Email	Cell Phone	Notifier	Date	Time	Method
X	Merlange Genece, Acting Regional Director	NYS-DEC Executive	631.444.0200	merlange.genece@dec.ny.gov					
X	John Solan, Director	NYS-DEC Forest Protection	518.402.8836	john.solan@dec.ny.gov					
X	Central Office Duty Officer	NYS-DEC Forest Protection	518.402.8839						
X	Rob Marsh, Regional Supervisor	NYS-DEC Natural Resources	631.444.0270	rob.marsh@dec.ny.gov					
X	Bill Fonda, Citizen Participation Specialist (ar	NYS-DEC Public Affairs	631.444.0350	bill.fonda@dec.ny.gov	516.808.2731				
X	Nick Acampora, Regional Emergency Respor	NYS-DEC Spills	631.444.0320	nick.acampora@dec.ny.gov	631.445.2862				
X	Judy Jakobsen, Executive Director	Central Pine Barrens Commission	631.563.0306	Judy.Jakobsen@SCWA.com					
X	Donald Lynch, Chief Fire Marshal	Suffolk Fire Marshals	631.852.4855	dlynch@suffolk countyny.gov					
X	Duty Dispatcher	Suffolk Fire, Rescue & Emergency Services	631.852.4815	SCDFRES@SuffolkCountyny.gov					
X	Suffolk County Police Dept. Communication	Suffolk County Police	631.852.6400	SCPD.3RDPRECINCT@suffolkcountyny.gov					
X	Fire Chief Flanders VFD	Flanders Fire Dept.	631-727-2280						
X	Fire Chief Riverhead FD	Riverhead Fire Dept.	631-727-2750	info@riverheadfire.org					
X	Fire Chief Westhampton Beach VFD	Westhampton Beach VFD	631.288.1255	info@westhamptonbeachfd.org					
X	John Rankin, Chief Fire Marshal	Southampton Town Fire Marshal	631.728.1088	JJRankin@southamptontownny.gov					
X	Craig Zitek, Chief Fire Marshal	Riverhead Town Fire Marshal	631.727.3200	zitek@townofriverhead.gov					
X	Riverhead Police Department		631.727.4500						
X	Southampton Town Police Department		631.728.3400						

Burn Day Go-No-Go and Test Fire Documentation:

Preliminary Questions	**Circle YES or NO**
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If **NO** proceed with the Go/NO-GO Checklist below, if **YES** go to item B.	YES NO
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If **YES**, proceed with checklist below. If **NO, STOP: Implementation is not allowed. An amendment is needed.**	YES NO
GO/NO-GO Checklist	**Circle YES or NO**
Have ALL permits and clearances been obtained?	YES NO
Have ALL the required notifications been made?	YES NO
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	YES NO
Have ALL required current and projected fire weather forecast been obtained and are they favorable?	YES NO
Are ALL prescription parameters met?	YES NO
Are ALL smoke management specifications met?	YES NO
Are ALL planned operations personnel and equipment on-site, available and operational?	YES NO
Has the availability of contingency resources applicable to today's implementation been checked and are they available?	YES NO
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	YES NO

If all the questions were answered "**YES**" proceed with a test fire. Document the current conditions, location and results. If any questions were answered "**NO**", DO NOT proceed with the test fire: Implementation is not allowed.

After evaluating the test fire, in your judgment can the prescribed fire be carried out according to the prescribed fire plan and will it meet the planned objective? **Circle: YES or NO**

Burn Boss Signature:_____ Date:_____

CPBC Fire Weather Recording Form:

Burn Unit / Fire Name – Number:_____/_____

Recorder / Position on Fire:_____/_____

Type of Weather Instrument (e.g. Belt Wx Kit, Kestral)_____

Date	Time (24 hr)	Wind Speed (MPH)	Wind Dir.	Dry Bulb(F)	Wet Bulb(F)	Rel. Hum %	Cloud Cover %	Location / Comments

CPB COMMISSION PRESCRIBED FIRE DAILY BURN REPORT

BURN UNIT NAME: DATE: TIME START: TIME END:

SEGMENT: ACRES INTENDED: ACRES BURNED:

NY DEC BURN #: DIGITAL MAPPING SUBMITTED TO CPBC FMS:

STAFFING TOTALS BY NUMBERS COOPERATORS INVOLVED:

RXB2	FEMO	PIO3	TFLD	FFT1	FFT2	ENG7-UTV	ENG6	ENG4	TENDER	SPRINKLERS	VOLUNTEERS	OTHER

TEST FIRE LOCATION: IGNITION TIME: GO/NO-GO TIME:

IGNITIONS COMPLETED TIME: MOP-UP COMPLETED TIME: RESOURCES RELEASED TIME:

INJURIES / DAMAGES / DECISIONS:

WHAT WAS PLANNED:

WHAT ACTUALLY HAPPENED:

WHY DID IT HAPPEN:

WHAT DO WE DO NEXT TIME:

ADDITIONAL COMMENTS:

BURN BOSS NAME: BURN BOSS SIGNATURE/DATE:

4. Appendix E: Fire Behavior Modeling Documentation

BEHAVE 6.0.0 MODELING

MECHANICALLY TREATED AREAS LOWEST MOISTURES (5,6,8,30,60) AND LOWEST WINDS (1) MF, (3) 20 FOOT)

Inputs: SURFACE, CROWN, MORTALITY

Description		MECHANICALLY TREATED AREAS LOW MOISTURE, LOW WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SB1,SB2,GR3,SH4
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	5
10-h Fuel Moisture	%	6
100-h Fuel Moisture	%	8
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60
Foliar Moisture	%	100
Weather		
20-ft Wind Speed (upslope)	mi/h	3
Wind Adjustment Factor		.3
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

MECHANICALLY TREATED AREAS LOW MOISTURE, LOW WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sb1	1.3	1.5	Surface	30
sb2	2.8	2.8	Surface	30
gr3	11.8	3.6	Surface	30
sh4	6.0	3.5	Surface	30

MECHANICALLY TREATED AREAS LOW MOISTURE, LOW WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sb1	0.3	0.8	Surface	30
sb2	0.7	1.5	Surface	30
gr3	3.2	1.9	Surface	30
sh4	1.6	1.9	Surface	30

MECHANICALLY TREATED AREAS LOWEST MOISTURES (5,6,8,30,60) AND HIGHEST WINDS (5) MF, (17) 20 FOOT)

Inputs: SURFACE, CROWN, MORTALITY

Description		MECHANICALLY TREATED AREAS LOW MOISTURE, HIGH WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SB1,SB2,GR3,SH4
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	5
10-h Fuel Moisture	%	6
100-h Fuel Moisture	%	8
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60
Foliar Moisture	%	100
Weather		
20-ft Wind Speed (upslope)	mi/h	17
Wind Adjustment Factor		.3
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

MECHANICALLY TREATED AREAS LOW MOISTURE, HIGH WIND

Head Fire

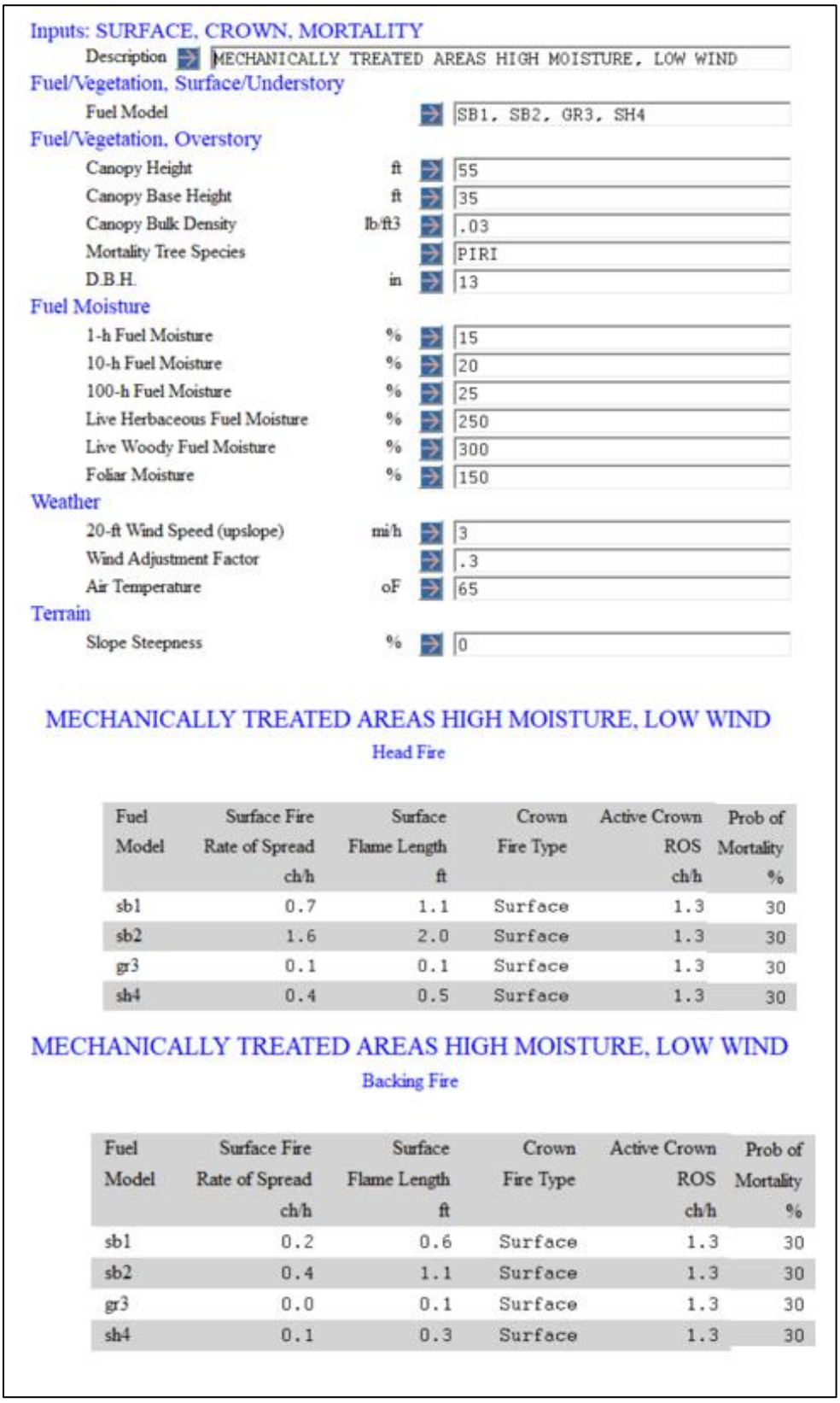
Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sb1	7.1	3.3	CondCrown	30
sb2	17.2	6.5	CondCrown	30
gr3	78.1	8.5	CondCrown	99
sh4	46.3	9.1	CondCrown	99

MECHANICALLY TREATED AREAS LOW MOISTURE, HIGH WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sb1	0.4	0.9	CondCrown	30
sb2	0.9	1.7	CondCrown	30
gr3	4.2	2.2	CondCrown	30
sh4	2.5	2.4	CondCrown	30

MECHANICALLY TREATED AREAS HIGHEST MOISTURES (15,20,25,250,300) AND LOWEST WINDS (1) MF, (3) 20 FOOT)



Inputs: SURFACE, CROWN, MORTALITY

Description		MECHANICALLY TREATED AREAS HIGH MOISTURE, LOW WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SB1, SB2, GR3, SH4
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	15
10-h Fuel Moisture	%	20
100-h Fuel Moisture	%	25
Live Herbaceous Fuel Moisture	%	250
Live Woody Fuel Moisture	%	300
Foliar Moisture	%	150
Weather		
20-ft Wind Speed (upslope)	mi/h	3
Wind Adjustment Factor		.3
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

MECHANICALLY TREATED AREAS HIGH MOISTURE, LOW WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
sb1	0.7	1.1	Surface	1.3	30
sb2	1.6	2.0	Surface	1.3	30
gr3	0.1	0.1	Surface	1.3	30
sh4	0.4	0.5	Surface	1.3	30

MECHANICALLY TREATED AREAS HIGH MOISTURE, LOW WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
sb1	0.2	0.6	Surface	1.3	30
sb2	0.4	1.1	Surface	1.3	30
gr3	0.0	0.1	Surface	1.3	30
sh4	0.1	0.3	Surface	1.3	30

MECHANICALLY TREATED AREAS HIGHEST MOISTURES (15,20,25,250,300) AND HIGHEST WINDS (5) MF, (17) 20 FOOT

Inputs: SURFACE, CROWN, MORTALITY

Description		MECHANICALLY TREATED AREAS HIGH MOISTURE, HIGH WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SB1, SB2, GR3, SH4
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	15
10-h Fuel Moisture	%	20
100-h Fuel Moisture	%	25
Live Herbaceous Fuel Moisture	%	250
Live Woody Fuel Moisture	%	300
Foliar Moisture	%	150
Weather		
20-ft Wind Speed (upslope)	mi/h	17
Wind Adjustment Factor		.3
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

MECHANICALLY TREATED AREAS HIGH MOISTURE, HIGH WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
sb1	4.1	2.3	Surface	9.5	30
sb2	10.0	4.6	Surface	9.5	30
gr3	0.1	0.1	Surface	9.5	30
sh4	3.1	1.3	Surface	9.5	30

MECHANICALLY TREATED AREAS HIGH MOISTURE, HIGH WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
sb1	0.2	0.6	Surface	9.5	30
sb2	0.5	1.2	Surface	9.5	30
gr3	0.0	0.1	Surface	9.5	30
sh4	0.2	0.3	Surface	9.5	30

PITCH PINE, OAK/PINE, PINE OAK, OAK LOWEST MOISTURES (6,7,10,30,60) AND LOWEST WINDS (1) MF, (5) 20 FOOT

Inputs: SURFACE, CROWN, MORTALITY

Description		UNTREATED PINE,OAK/PINE,OAK/PINE,OAK LOW MOIST LOW WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SH3,SH8,TL6,SH9
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	5
10-h Fuel Moisture	%	6
100-h Fuel Moisture	%	8
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60
Foliar Moisture	%	100
Weather		
20-ft Wind Speed (upslope)	mi/h	5
Wind Adjustment Factor		.2
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

UNTREATED PINE,OAK/PINE,OAK/PINE,OAK LOW MOIST LOW WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sh3	1.0	1.3	Surface	30
sh8	5.9	5.7	Surface	30
tl6	1.2	1.3	Surface	30
sh9	11.0	9.5	Surface	99

UNTREATED PINE,OAK/PINE,OAK/PINE,OAK LOW MOIST LOW WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sh3	0.3	0.7	Surface	30
sh8	1.5	3.0	Surface	30
tl6	0.3	0.7	Surface	30
sh9	2.7	5.0	Surface	30

PITCH PINE, OAK/PINE, PINE OAK, OAK LOWEST MOISTURES (6,7,10,30,60) AND HIGHEST WINDS (5) MF, (25) 20 FOOT

Inputs: SURFACE, CROWN, MORTALITY

Description		UNTREATED PINE,OAK/PINE,OAK/PINE,OAK LOW MOIST HI WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SH3,SH8,TL6,SH9
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	5
10-h Fuel Moisture	%	6
100-h Fuel Moisture	%	8
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60
Foliar Moisture	%	100
Weather		
20-ft Wind Speed (upslope)	mi/h	25
Wind Adjustment Factor		.2
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

UNTREATED PINE,OAK/PINE,OAK/PINE,OAK LOW MOIST HI WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sh3	5.6	2.8	CondCrown	30
sh8	32.3	12.5	CondCrown	99
tl6	6.5	2.9	CondCrown	30
sh9	59.9	20.7	Crowning	99

UNTREATED PINE,OAK/PINE,OAK/PINE,OAK LOW MOIST HI WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sh3	0.3	0.7	CondCrown	30
sh8	1.8	3.3	CondCrown	30
tl6	0.4	0.8	CondCrown	30
sh9	3.3	5.5	CondCrown	30

PITCH PINE, OAK/PINE, PINE OAK, OAK HIGHEST MOISTURES (18,20,24,300,300) AND HIGHEST WINDS (5) MF,(25) 20 FOOT

Inputs: SURFACE, CROWN, MORTALITY

Description		UNTREATED PINE,OAK/PINE,PINE/OAK,OAK HI MOIST HI WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SH3,SH8,TL6,SH9
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	18
10-h Fuel Moisture	%	20
100-h Fuel Moisture	%	24
Live Herbaceous Fuel Moisture	%	300
Live Woody Fuel Moisture	%	300
Foliar Moisture	%	150
Weather		
20-ft Wind Speed (upslope)	mi/h	25
Wind Adjustment Factor		.2
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

UNTREATED PINE,OAK/PINE,PINE/OAK,OAK HI MOIST HI WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
sh3	1.1	1.1	Surface	14.1	30
sh8	2.6	2.2	Surface	14.1	30
tl6	3.2	1.7	Surface	14.1	30
sh9	4.9	4.0	Surface	14.1	30

UNTREATED PINE,OAK/PINE,PINE/OAK,OAK HI MOIST HI WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
sh3	0.1	0.3	Surface	14.1	30
sh8	0.1	0.6	Surface	14.1	30
tl6	0.2	0.5	Surface	14.1	30
sh9	0.3	1.1	Surface	14.1	30

PITCH PINE, OAK/PINE, PINE OAK, OAK HIGHEST MOISTURES (18,20,24,300,300) AND LOWEST WINDS (1); MF (5)

Inputs: SURFACE, CROWN, MORTALITY

Description		UNTREATED PINE,OAK/PINE,PINE/OAK,OAK HI MOIST LOW WIND
Fuel/Vegetation, Surface/Understory		
Fuel Model		SH3,SH8,TL6,SH9
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	18
10-h Fuel Moisture	%	20
100-h Fuel Moisture	%	24
Live Herbaceous Fuel Moisture	%	300
Live Woody Fuel Moisture	%	300
Foliar Moisture	%	150
Weather		
20-ft Wind Speed (upslope)	mi/h	5
Wind Adjustment Factor		.2
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

UNTREATED PINE,OAK/PINE,PINE/OAK,OAK HI MOIST LOW WIND

Head Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sh3	0.2	0.5	Surface	30
sh8	0.5	1.0	Surface	30
tl6	0.6	0.8	Surface	30
sh9	0.9	1.8	Surface	30

UNTREATED PINE,OAK/PINE,PINE/OAK,OAK HI MOIST LOW WIND

Backing Fire

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
sh3	0.1	0.3	Surface	30
sh8	0.1	0.5	Surface	30
tl6	0.1	0.4	Surface	30
sh9	0.2	1.0	Surface	30

UNTREATED PITCH PINE SAVANNA, LOWEST MOISTURES (5,6,8,30,60) WINDS LOWEST (1) & HIGHEST (5)

Inputs: SURFACE, CROWN, MORTALITY

Description		UNTREATED PITCH PINE SAVANNA LOW MOISTURE WINDS LO & HI
Fuel/Vegetation, Surface/Understory		
Fuel Model		TL1
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	5
10-h Fuel Moisture	%	6
100-h Fuel Moisture	%	8
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60
Foliar Moisture	%	100
Weather		
20-ft Wind Speed (upslope)	mi/h	5,25
Wind Adjustment Factor		.2
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

UNTREATED PITCH PINE SAVANNA LOW MOISTURE WINDS LO & HI

Head Fire

20-ft Wind Speed mi/h	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
5	0.2	0.3	Surface	30
25	1.0	0.6	CondCrown	30

UNTREATED PITCH PINE SAVANNA LOW MOISTURE WINDS LO & HI

Backing Fire

20-ft Wind Speed mi/h	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Prob of Mortality %
5	0.1	0.2	Surface	30
25	0.1	0.2	CondCrown	30

UNTREATED PITCH PINE SAVANNA, HIGHEST MOISTURES (15,20,25,250, 300) / LOWEST (1) & HIGHEST (5) WINDS

Inputs: SURFACE, CROWN, MORTALITY

Description		UNTREATED PITCH PINE SAVANNA,HIGH MOISTURE WINDS LO&HI
Fuel/Vegetation, Surface/Understory		
Fuel Model		TL1
Fuel/Vegetation, Overstory		
Canopy Height	ft	55
Canopy Base Height	ft	35
Canopy Bulk Density	lb/ft3	.03
Mortality Tree Species		PIRI
D.B.H.	in	13
Fuel Moisture		
1-h Fuel Moisture	%	15
10-h Fuel Moisture	%	20
100-h Fuel Moisture	%	25
Live Herbaceous Fuel Moisture	%	250
Live Woody Fuel Moisture	%	300
Foliar Moisture	%	150
Weather		
20-ft Wind Speed (upslope)	mi/h	5, 25
Wind Adjustment Factor		.2
Air Temperature	oF	65
Terrain		
Slope Steepness	%	0

UNTREATED PITCH PINE SAVANNA,LOW MOISTURE WINDS LO & HI

Head Fire

20-ft Wind Speed mi/h	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
5	0.2	0.3	Surface	13.0	30
25	0.9	0.6	CondCrown	98.0	30

UNTREATED PITCH PINE SAVANNA,HIGH MOISTURE WINDS LO&HI

Backing Fire

20-ft Wind Speed mi/h	Surface Fire Rate of Spread ch/h	Surface Flame Length ft	Crown Fire Type	Active Crown ROS ch/h	Prob of Mortality %
5	0.0	0.1	Surface	2.1	30
25	0.0	0.1	Surface	16.1	30