WILDLAND FIRE OPERATIONS

This guideline establishes Dix Hills Fire Department procedures for operating wildland fire incidents. It is a department procedure to attack wildland fires aggressively with a primary focus on safety. The Incident Commander must base his incident action plan on factors such as weather, fuel type, rate of spread, exposures, topography, and availability of resources. The Dix Hills Fire Department uses the Incident Command System and recognizes the ICS Field Operations SOP 701 as the reference for operations. All personnel should be familiar with this SOP.

KEY FACTORS INFLUENCING FIRE BEHAVIOR

All personnel should be familiar with local weather conditions, specifically wind, temperature and relative humidity. The Dix Hills Fire District dispatcher will notify the Chief's and Company Captains, via phone , whenever weather conditions warrant a high potential for wildland fires. On days of high potential for wildland fire, all company officers may wish to limit outside activities that may cause a delayed response. Routine training or other activities may be deferred, and personnel should pay close attention to hydration and fatigue factors.

Fuel

Fuels vary throughout the department's protection area. The varieties of fuels include light grass to heavy brush up to 20 feet high. Though fuel moisture content and live-dead ratios are important fire behavior components, fuel temperature is one of the most important fuel flammability factors. The following general guidelines on wildland fuel temperatures should be considered when planning and undertaking fire suppression efforts.

- Fine fuels are quickly and easily heated by direct sunlight while heavy fuels react more slowly. Thus, fine fuels will usually have a lower fuel temperature than adjacent heavy fuels in the daytime. The reverse is usually true at night.
- During the hottest part of the day, fuels on South and West facing slopes will have higher fuel temperatures than those on north and east facing slopes.
- Of fuels exposed to direct sunlight, ground fuels will usually have a higher temperature than those above the ground (aerial).

Topography

Topography often causes problems in wildland fire situations. Topography can cause access problems, safety problems and often contribute to fire spread. The following general rules regarding topography should be kept in mind:

- The steepness of a slope is one of the most important topographic features affecting wildland fire behavior. The steeper the slope, the more likely the fire will drive upward in a narrow head, often causing in-drafts on the flanks. When in-drafts occur, spot fires ahead of the main fire are likely.
- At the crest of a slope, it is normal for the fire to meet opposing air currents sweeping upward from the other side of the hill. It is the most logical place to stop and hold a slope driven fire.

- Narrow canyons are more likely to have independent wind currents than wider ones. Sharp breaks in the canyon may produce turbulent winds and eddies. Spot fires across narrow, "V-shaped" canyons are common.
- Prevailing winds are usually much less turbulent in wide canyons. The wider the canyon, the less danger of fire spotting across to the opposite slope.

URBAN INTERFACE

The encroachment of urban development into wildland areas and the resulting potential for high valued property loss necessitates a rapid and aggressive attack on wildland incidents whenever possible. This will minimize risk to citizens, firefighting personnel and property. All companies are to be familiar with interface areas and should pay particular attention to access, fuel arrangement and type, water supply, and escape routes.

Wildland fires in the areas of Otsego Park and Edgewood Properties present areas of wildland/urban interface within the Dix Hills Fire District. A sector officer and engine crew shall be placed at any adjacent structure that borders the wildland property at which there is a wildland fire. It shall be the sector officer's job to continually monitor the progression of the fire towards that structure and report all information to the Incident Commander (IC). At no time shall the sector officer risk the safety of his/her crew to prevent loss of a structure at a wildland/urban interface fire.

It is the policy of the Dix Hills Fire Department that all citizens are to be removed from all structures within potential proximity of the fire as deemed by the IC. All citizens shall be removed with the assistance of Suffolk County Police Department. Protection of property shall come secondary to the prevention of any loss of life at a wildland/urban interface fire. Any wildland fire as such will require a defensive attack from the urban areas and shall consist of large diameter hose, master streams, class B foam operations and numerous engines and personnel.

FIRE STRATEGIES

It is department policy to stop the forward progress of the fire as quickly as possible and to bring the fire under control. The protection of exposures, improvements or the need for evacuation may play a determining factor and become the primary goal when immediate control is not possible. The Incident Commander shall be responsible for identifying which strategy to use and will coordinate all fire operations. One of the following fire attack strategies should be used:

- DIRECT
- INDIRECT
- PARALLEL
- COMBINATION OF ANY OF THE ABOVE.

FIRE ATTACK TACTICS

Several tactics are available to accomplish these strategies. They include wet line, construction of fire line, backfiring and burning out. Tactics must match the Incident Commander's chosen strategy. For example, a wet line often has little effect on an indirect line unless it is in direct support of a backfiring operation.

Wet Line

Wet line tactics include running attacks, using preconnected lines, hose lays, and all other forms of stopping the fire's spread with water. The size of hose and volume of water used are left to the company officer's discretion, however the following guidelines should be considered.

- Fires burning in heavy fuels require more water to suppress than those in light fuels.
- A minimum of an 1¾" line with a 50 GPM nozzle should be used on fires that are fast moving, of high intensity, are threatening high-valued exposures, or have the potential for any of these conditions.
- Progressive hose lays require 1¾" hose.
- Anytime firefighter safety or the amount of water required is in question a 1¾" line or larger line should be used. Regardless of the size of hose used however, firefighter safety should never be solely dependent on the hose line.

Construction of Fire Line

Fire line should be constructed-around any wildland fire that has the potential to escape or that cannot be completely controlled by a wet line and the use of natural and preexisting manmade barriers. A constructed fire line is often not necessary on fires that can be completely controlled and mopped-up with water. When a fire line is needed, it should be constructed only as wide as is necessary based on the current and expected behavior of the fire.

Burning Out

The term burning out is often confused with the term backfire. To avoid this confusion, firefighters should use the following definitions:

- Burning out- To clean up a line by the use of fire, of any residue of fuel between the control line and the fire's edge.
- Backfire: Any fire set to consume fuel in the path of a free burning wildfire.

Burning out is often an excellent way to clean up an irregular line. However, the risks of lighting additional fires may outweigh the benefit of making a straight fire line. New fires create an escape hazard, As a rule, never start a new fire if the main fire is out. Additional firefighters can be called for to clean up irregular lines by hand if need be.

Backfiring

Indirect attack generally requires a backfire. Backfiring on a broad scale requires skill and knowledge of fire behavior. If it is done carelessly, backfiring may have serious consequences. The Dix Hills Fire Department shall only backfire an area of wildland if the Department of Environmental Control (DEC) and New York State Department of Forest Rangers have been notified and are present. In addition, when a backfire is undertaken, it should be done with the following rules in mind:

- Control lines are to be complete or barriers in existence all around the area of fuel to

be consumed by the backfire.

- Both ends of a backfire line must have anchor points.
- Backfires are to be done under the supervision of a Company or Chief Officer.
- Backfires set near chimneys or saddles, on midslope roads or on descending lines above the main fire require special handling.
- Backfiring is a specialized maneuver that deserves the best skill, tools and firefighters available to complete the control lines and get the firing done. If you lack experience or are unsure of your actions, a backfire should not be attempted.

STRUCTURE PROTECTION GUIDELINES

1. Always stay mobile.
2. Back your engine in so you can get out quickly.
3. Don't make long hose lays.
4. Check road conditions before the fire hits.
5. Check each home for defense; move patio furniture into the house or away from the structure, close windows and doors.
6. Check for hazardous materials, LPG, fuel etc.
7. If a home becomes well involved, leave it and move on to one you can save.
8. Always wear full wildland safety gear. No one shall fight an interior structural fire without proper structural firefighting gear, SCBA and necessary manpower.

Firefighter safety is always the number one priority.

Quickly and accurately size up the incident. Size up that should be done continuously includes the following:

- Enroute to the location of the alarm, based on available information and experience.
- At first sight of the smoke from the location of the alarm.
- On arrival at the location of the alarm.
- Continual re-evaluation during the incident.

Responsibilities of the Incident Commander during a wildfire operation include the following:

1. The Incident Commander is also responsible for assuring that the fire is scouted, exposures have been identified and an evaluation of potential is made.
2. The Incident Commander is responsible for establishing command and providing an accurate report on conditions. The IC is also responsible for establishing incident objectives, assigning resources and considering additional resource needs.
3. The Incident Commander must be alert to weather conditions and fire behavior. He must also consider safety at all times and keep an alternate attack plan in mind. Additionally, it is important to manage through an "effective span of control".

USE OF AIRCRAFT

Aircraft does not fall under normal mutual aid agreements. An aircraft unit or helicopter may

be requested for observation. The request must be made following normal mutual aid request procedures, via a Suffolk County police office at the location or a Dix Hills Fire District dispatcher. The following information shall be given to the aircraft unit(s):

- Name and rank of officer making request.
- Location of incident.
- Radio frequency and ground contact.

The radio frequency should be the command channel in use. The Incident Commander may change radio frequency after making initial contact with the air unit. Aircraft can be of great use to a major wildland incident. If an IC should require the use of air attack units, the New York State Department of Forestry Rangers shall be contacted to assist in coordination of operations. The Incident Commander must remember that without aggressive around tactics, air drops become useless.

TEN STANDARD FIRE ORDERS

Firefighter safety is the primary concern of the Incident Commander and is the responsibility of all personnel at a wildland incident. All planning should keep pertinent safety considerations in mind. Personnel should be familiar with the Ten Standard Fire Orders and the 18 Situations that shout, "Watch Out".

1. Fight fire aggressively but provide for safety first.
2. Initiate all action based on current and expected fire behavior.
3. Recognize current weather conditions and obtain forecasts.
4. Ensure instructions are given and understood.
5. Obtain current information on fire status.
6. Remain in communication with crew members, your supervisors and adjoining forces.
7. Determine safety zones and escape routes.
8. Establish lookouts in potentially hazardous situations.
9. Always retain control.
10. Stay alert, keep calm, think clearly, and act decisively.

EIGHTEEN WATCH-OUT SITUATIONS

1. Fire not scouted and sized up.
2. In the country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behavior.
5. Uninformed on strategy, tactics, and hazards.
6. Instructions and assignments are not clear.
7. No communication link with crew members / supervisors.
8. Constructing line without safe anchor point.
9. Building a fire line downhill with fire below.
10. Frontal assault on fire.

11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below,
14. The weather is getting hotter and drier.
15. Wind increases and / or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zones difficult.
18. Taking a nap near the fire line.

Additional Safety-Procedures

- All personnel are to wear all of their wildland fire safety equipment.
- When working in an extended wildland firefighting operation, a 1¾" hose line should be charged and coiled on top of engines for immediate use and protection.
- Personnel are not to stand up on moving apparatus.
- Personnel responding back as part of a general alarm call back are to report to staging. If staging has not been established, report directly to the Incident Commander.
- At no time is any firefighter to assign himself directly to an engine, other apparatus or to the fire line without direction from the Incident Commander.

HIGH WILDLAND CONDITIONS

The following actions are to be considered by the Chief's and Company Officers when weather conditions dictate a high wildland fire status.

- Limit details of fire units away from quarters.
- Notify the mechanic and cancel all scheduled routine service or maintenance and put back into service all out of service units if possible.
- Assess available manpower.
- Issue no burning permits and cancel all existing permits.
- Notify dispatch of all apparatus status.