# Orchard Farm Fire Protection District Standard Operating Procedure

**Division: 200 Emergency Operations**
**Section: 202 Fire & Rescue**
**Subject: 202.13 High-Rise Operations**

**Supersedes: N/A**

**Approved By:**

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**PURPOSE:**

To define the District's response to high rise structures

**RESPONSIBILITY:**

All District Personnel

**PROCEDURES:**

SAFETY NOTE:

Safety is a primary concern because of poor egress/escape, unforgiving fire behavior, excessive heat, smoke, panic of occupants, and fatigue of fire fighters. Providing ventilation for attacking crews, without extending the fire to upper floors, is also very difficult and labor intensive. Considerations must be given immediately to mutual aid and/or call outs for a working structure fire in a high-rise structure, especially when evacuation is needed.

EVACUATION:

The evacuation routes available to occupants of a high-rise building are normally limited to two stairways. The stairways are also the prime access route for firefighting forces to make an attack. Occupants in the immediate fire area should first be evacuated as quickly as possible to three floors below the fire floor or other safe environment. Further evacuation should be based on risk to the occupants, since premature evacuation often hinders fire control efforts and adds to the general confusion at the scene. The determination of risk and the decision to evacuate should be made by personnel on the floor and coordinated by Command.

TACTICAL OBJECTIVES:

1. Secure and maintain a viable exit stairwell
2. Rescue any immediately threatened occupants
3. Stop the production of life threatening heat and smoke by extinguishing the fire

4. Manage the spread of existing heat and smoke throughout the building by pressurizing the stairwells, and by controlling the building HVAC.
5. Start property conservation early and address loss control in all objectives.

IMMEDIATE PRIORITIES:

1. Requesting additional resources if there is evidence of a working fire.
2. Establishing Command.
3. Assess the lobby conditions.
4. Locating the fire panel/control room, verifying actual fire and fire location(s).
5. Providing, or verifying a continuous water supply.
6. Supporting the fire suppression system (if present)
7. Identifying the fire floor
8. Providing for the life safety of persons in immediate danger
9. Obtaining keys from interior lockbox. Distributing keys and stair phones where applicable.
10. Recalling and assuming control of the elevators.
11. Providing for search and extinguishment on the fire floor.
12. Providing for fire fighter safety, survival, accountability, and welfare.

ELEVATORS:

To expedite time of arrival to the fire floor and to avoid the occupants descending the stairs, crews may use elevators whenever safe and possible. Erratic elevator operation, however, has been the cause of numerous fire fighter deaths, therefore, the following conditions must be met before use.

- Only elevators having A.N.S.I. II “fire feature” may be used for fire district use. (Phase II provides for key activation and use of the recalled elevators)
- The shaft must be clear of fire, smoke, and water.
- Only one crew (with the operator) and equipment at a time will use the car to avoid overload, and to prevent emergency maneuvers in the car.
- Crew and operator must be fully dressed with S.C.B.A. face pieces in position for quick donning before ascent.
- A radio, forcible entry tools, step ladder, water extinguisher, and spare bottle should remain in the car with the operator.
- Know where the stairwells are prior to entering the elevator.

Crews beginning the ascent should attempt to stop the car at a lower floor to verify that the “fire feature” is working. While stopped at that floor, note the relationship of the elevator to the closest exit stairs in the event the car becomes erratic or the door opens into flame on the fire floor.

*CHECK THE SHAFT FOR FIRE, SMOKE, OR WATER EVERY TIME YOU OPEN THE DOOR*

STAIRWELLS:

A first priority for on-scene Command is the identification of the attack and evacuation stairwells and a size-up of smoke conditions in each. If the stairs exit into the lobby, the size up can be made by the Commander. If the stairs exit to the exterior the Commander must send runners with keys to assess each stair condition. A primary objective of the first arriving units is to maintain a smoke-free exit way both for occupants leaving the building and for fire fighters staging and preparing to extend hose. A large volume fan should be placed at the opening to all stairs to pressurize the stairwell and to provide an upward current of air. This will help to hold the smoke out of the stairs and will allow the occupants to descend into a cleaner environment with every step. In buildings where the stairs continue to the basement level(s), the fans should be placed at that location to keep the noise out of the lobby. Gas fans placed in stairs without a roof opening should be replaced as soon as possible with electric fans to prevent an accumulation of carbon monoxide in the shaft. A company with radio, keys, and spare bottles should be sent to the roof door as soon as possible as Roof Sector. Their task is to open the stair door or hatch at the roof and provide an outlet for smoke.

STAGING FLOOR:

Early establishment of a staging area two floors below the fire floor is essential to reduce the time needed to place crews in fire attack positions. Fire personnel and equipment (i.e., SCBA, hose, tools, etc.) should be deployed after the fire floor has been identified and an action plan has been outlined by command.

INITIAL FIRE ATTACK:

The attack line and the back-up line should be connected to a gated wye on the floor below the fire floor. The initial attack line will be charged before entering the floor. A back-up hose line should be in place before opening the door to advance the attack line, both to protect the attack crew and the firefighters in the stairwell. A rapid intervention team should be staged in the stairwell with quick access to the fire floor, but not in the way of charged hose lines. Fire personnel should assume a position below the level of the fire floor door as it is opened or forced. Fire personnel should clear the stairwell above the fire floor of occupants or redirect occupants prior to initiating a fire attack. Crews preparing to enter the fire floor should be aware of the floor layout, including the locations of elevators, stairs, and floor subdivisions or zones. Be aware that fire can spread overhead in the voided space above the dropped ceiling. An additional line may be required to cool and protect this area. Crews extinguishing a high-rise fire should employ a straight stream or narrow angle fog when possible. This is both to reduce the amount of local steam production and to provide the maximum reach and volume for hose streams. Providing ventilation on the fire floor is extremely difficult. Every effort must be made not to break the glass with hose streams until knockdown is achieved or wind conditions are known, as the sudden addition of wind driven oxygen may accelerate the fire beyond

the limits of the attack line. Building exhaust systems, if present, may be employed to some advantage and the windows may be broken from above or below in a coordinated manner after wind direction and intensity are verified or after fire control. The severity of the heat in a serious fire may limit the time a firefighter can be on the fire floor to ten minutes or less. Command should provide for rotation of crews from the staging area to

the attack line. Command must provide for the immediate and continuous relief of these initial crews until fire control is achieved.

FLOOR ABOVE FIRE:

The objectives of the crews operating on the floor above are:
- Evacuate the floor
- Assess and control vertical extension of the fire
- Provide ventilation for the floor below when possible

The officers on the fire floor and the floor above the fire must continuously assess the progress of the fire. If multiple lines are in place, and the control on the fire floor is marginal, a defensive position must be put in place on the next floor up in anticipation of fire extending to that level. Ventilation on the floor above the fire can be performed if no significant wind is present and the officer on the attack line and command call for ventilation. Be prepared for tempered and even double-pane, insulated glass to be difficult to break with lightweight tools such as a pike pole. Recessed windows and decorative screens will make this task even more difficult. If strong winds are encountered at the upper level, crews must first locate the lee side of the building. If the lee side proves to be at the unburned end of the floor, it is inadvisable to vent until fire control is achieved, as smoke and heat will flow to the reduced pressure at the opening; quite possibly right over or through the attack team(s). If ventilation is not possible and there is excessive heat on the fire floor, withdraw the firefighters.

FIREFIGHTER SAFETY:

Safety is a primary concern because of poor egress and escape routes for occupants and firefighters. The suppression efforts will be delayed because of the travel time to the fire floor, staging of equipment and manpower, etc. This suppression delay may produce excessive heat and smoke, panic of occupants, and fatigue of firefighters. Fire personnel should follow these basic safety procedures:

Any crew or individual operating in the building shall have full protective gear, radio, forcible entry, and/or keys, and where possible, spare air cylinders Maintain full PASSPORT accountability, PASS alert, and radio protocols. Do not operate alone. A minimum for any task, except the elevator person, is two firefighters with a radio. Do not operate on an involved floor without a charged hose line. Do not allow doors to lock behind you. Be alert to backdrafts; high-rises are tightly sealed buildings. Be cautious of open shafts or windows. Monitor your air supply closely.

COMMAND STRATEGIES:

The first arriving engine or ladder units are likely to be the most familiar with the specific characteristics of the involved building, and when they are the first to arrive, they should retain Command until the first Officer arrives. If possible, company level Command can be mobile. The logical place for the initial arriving Company Officer to establish Command in a high-rise is in the lobby. Most of the information needed by Command is available in the lobby/fire Control Room (verification of actual fire and fire location/s, number, and conditions of occupants exiting into lobby, location of elevators, status of fire pumps, stair pressurization, emergency generators, air handlers, etc.). By locating the initial company-level Command in the lobby, much unnecessary radio traffic and confusion are eliminated. Command can communicate directly to crews on the fire floor by stair phone if portables prove unsatisfactory. At the first indication of actual fire or smoke, Command should escalate the response and strongly consider mutual aid. Command must inform the assigned Staging Officer what crews and equipment he/she wants in lobby and how many alarms to maintain in staging. The first arriving Chief Officer will establish a Command location in the street. This location should provide the best visual advantage, but be clear of any falling glass and debris. The first arriving Chief Officer should relieve the initial incident commander of the Command function and assign that officer to Lobby only.

Basic Tenets for the Command Officers :

1. Establish strong Command position and transfer Command.
2. Call for additional resources as needed.
3. Verify smoke/fire conditions and location..
4. Develop a strategic plan to address, rescue, fire control, and property conservation.
5. Provide for safety and accountability of fire fighters.
6. Develop a strong Command organization