



# ANN ARBOR FIRE DEPARTMENT

## Standard Operating Procedures – 3.192 High-Rise Fire Operations



### MABAS DEPLOYMENT

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Effective: February 8, 2019  
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Replaces: 801 High Rise Structure Fire  
202 High Rise Kit  
Approved: Fire Chief Mike Kennedy

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#### I. PURPOSE

The purpose of this document is to identify key strategic and tactical objectives in Ann Arbor Fire Department operations in high-rise buildings. These include initial and ongoing building size-up, assessment of occupant location and removal, and effective sectorization within the incident structure. In the City of Ann Arbor, a high-rise building is defined as six (6) elevator stops or greater or 75 feet in height or greater.

#### II. ARRIVAL AND DEPLOYMENT

- A. Locate the Fire - Initial companies shall determine the location and extent of the fire as rapidly as possible. Methods of size up shall include exterior observation, enunciator panel investigation, interview of occupants self-evacuating, as well as interior observation.

As soon as feasible, companies will determine and identify an “attack stairwell” and “evacuation stairwell”

- i. Attack Stairwell - The stairwell where the fire attack will commence so as to limit smoke travel to other protected or compartmented areas of the building.
  - ii. Evacuation Stairwell - Second stairwell used as an evacuation route out of the building or to an area of refuge. Every attempt should be made to keep this stairwell free from smoke and fire doors kept closed.
- B. Evacuate Relocate or Shelter Occupants – Early fire suppression hopefully confining the burn area is the best rescue effort the first-in company can make. Additional crews shall rescue the most endangered occupants closest to the fire as rapidly as possible while conducting a primary search. The IC shall determine which occupants not in immediate danger shall be relocated within the building or sheltered in place. This decision shall be based on type of building construction, location and extent of the fire, occupancy, and ability to control HVAC system, condition of stairwells or elevators and available personnel. Whenever safe and practical the IC shall endeavor to expose as few occupants as possible to travel within the fire building.
- C. Building Systems - Members will note that not all buildings contain the same level of building systems and services. Companies must be familiar with the particulars of the buildings in their district in order to quickly know which systems may be an asset or an impediment to fire department operations.
- i. HVAC: Many residential occupancies have individually controlled HVAC for each occupancy unit. These systems will generally not affect travel of smoke or products of combustion throughout the building. In common areas or buildings with centrally controlled HVAC systems dampers may be installed to close automatically upon activation of a heat or smoke detector.



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- ii. The IC shall immediately request the presence of a building engineer to brief the fire department on the capabilities of the HVAC system.
  - iii. Firefighters should advise the building engineer of any changes in air flow, or systems shut down necessary to safely mitigate the incident.
- D. Sprinklers & Standpipes - As soon as practical the IC should assign a firefighter to investigate the fire pump room to be sure the fire pump (if equipped) is operational and all required valves are open. A firefighter should standby sprinkler/standpipe riser valves so they are not closed prematurely.
- i. The second arriving engine company shall establish a water connection to the standpipe and / or sprinkler systems. This company will secure its own hydrant source and shall establish two supply lines from the hydrant to the engine company.
  - ii. Sprinkler control valves shall not be closed until authorized by the IC after confirmation from the Division Officer on the fire floor where the sprinklers are operating. A radio equipped firefighter shall remain at the valve until companies are clear of the fire area.
- E. Elevators - Modern elevator cars will return to their terminal point in the event of elevator lobby smoke detector activation. In the case of activation on the terminal floor they will respond to a pre-determined secondary floor (usually the floor above).
- i. This recall is known as phase 1 operation. Recalled cars will be checked for victims and hoist ways will be checked for smoke (shinning a hand light in space between car and hoist way) and water (from sprinklers).
  - ii. When staffing allows, a firefighter will be assigned as an elevator operator.
  - iii. This firefighter will engage phase 2 operation (firefighter service). The car will be tested by ascending to the floor above the terminal point and returned to the lobby to stage for further use.
  - iv. Occupants of the car will wear full PPE/SCBA and equip themselves with a radio, hand light, forcible entry tools and an extinguisher at all times while using the car.
  - v. Elevators will be stopped at least two floors below the lowest fire floor. Once determined safe, the elevator may be used to transport personnel and equipment. Prior to fire control, the staging floor shall be the highest point for elevator travel.
  - vi. Never overload an elevator (as a general rule - six firefighters plus equipment).
  - vii. All “up” passengers will be masked-up in a standby position.
  - viii. Elevators not in use by the fire department shall be called to the ground floor lobby and shut down.
- F. Confine & Extinguish - A minimum of two companies shall investigate any incident. The point of attachment to the standpipe system will ideally be at least one floor below the fire floor and entering from the attack stairwell so as limit smoke travel to unaffected sections.



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However, some situations may allow operation from a standpipe on the fire floor if the connection is located in a protected position and if a stretch from a lower floor is of such a distance it would allow a manageable fire to propagate into a public hall or other large non-compartmented area. Extra hose shall be advanced up one flight and back down to the fire floor.

### III. COMMAND CONSIDERATIONS

The IC shall be aware that for each hand line or search team in operation a back-up team shall be assembled in the Attack Staging Area (two floors below the fire floor) for immediate relief when the operating company becomes fatigued or low on air.

Although sufficient personnel may not be immediately available the IC must consider for longer fire attacks, the recommended deployment strategy for continuous operation of one attack line requires three attack teams.

The company operating the attack line is backed up by a company standing by in a fire rated enclosure (stairwell) ready to immediately relieve the attack team (on deck company).

A third company is staged in attack staging to deploy to the backup position (back-up company).

### IV. BASIC GROUP FUNCTIONS: (LARGER SCALE INCIDENTS)

The Incident Commander and Operations Section should be staffed to manage divisions and sectors. For all working fires the IC shall establish at a minimum the “ALS-Base” command deployment model: Attack, Lobby Control, Staging (two floors below) and Base.

- A. Base - The base area outside the structure will serve as a point of assembly and initial deployment for personnel and equipment. The functions of a Base and responsibilities of the Base Manager include:
  - i. Ensuring a safe location approximately 200 feet from the structure, as well as determining safe ingress and egress for apparatus and a safe approach route for firefighters deploying into the building.
  - ii. The Base Manager shall also maintain accountability for personnel and resources deployed to and from base, also ensuring adequate reserves of personnel and equipment, e.g., air supply units to refill SCBA, sufficient hose, and radio equipment.
- B. Lobby Control - This function shall be established forthwith. The duties of Lobby Control include:
  - i. Assign staff to the “fire command center” or “control room.” This room will contain communication devices (phones to plug into jacks), elevator controls, HVAC system controls, keys, public address systems, and other critical items for us to use in the event of an emergency.
  - ii. Monitoring the continued safety and serviceability of elevators. Lobby Control will delegate which elevators are designated for firefighter use.
  - iii. Consideration should be made to control the stairwells exiting to the interior of the building. Fire companies shall be properly directed to ascend the firefighting stairwell and civilian evacuation maintained in the evacuation stairwell.



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- iv. Insure civilians completely exit the building via the determined safe route and keep a path of access open for firefighters to enter the building.
  - v. Keeps an accountability log for fire companies ascending the stairs or elevator noting approximate time in/out, unit designation and assignment
  - vi. Remind ascending companies reporting to Attack Staging that no firefighter shall report to Attack Staging empty handed. Additional tools, hose, SCBA cylinders, lights, etc. are always needed for the Attack Staging Area.
  - vii. During certain incidents the Lobby Control Manager may be assigned the duties of system control. This may include acting as a liaison with the building engineer to coordinate control of HVAC, electrical, gas, water, or other service functions.
- C. Ground Support - This function is established to provide transport and accountability for equipment moved from Base to Attack Staging. Ground Support operating in the firefighting stairwell can also serve to redirect any civilian evacuees attempting to use this means of egress. For intermediate vertical distances one firefighter every two or three floors can be used to relay equipment need at Staging. This operation may be supervised by a Manager roving in the stairwell to monitor atmospheric conditions and the physical well-being of the Ground Support members
- D. Attack Staging - The Attack Staging Area is a point of deployment for fire companies en-route to the fire floor as well as a rehab area where firefighters relieved from the fire floor may rest, obtain hydration, and receive medical evaluation and initial treatment
- i. An Attack Staging Area shall be established as soon as possible by the IC at any working fire in a high rise structure. The location shall be two floors below the lowest fire floor unless deemed unsafe or impractical by the IC.
  - ii. The Attack Staging manager shall be responsible for maintaining accountability of personnel in and out of the Attack Staging Area.
  - iii. A location as close as practical to the firefighting stairwell shall serve as a cache for spare equipment to be deployed. An area away from the “ready cache” shall contain used/spent equipment.
  - iv. Firefighters awaiting deployment to the fire floor shall maintain a state of readiness near the firefighting stairwell.
- E. Rehab: shall be established in Attack Staging Area at a location remote from firefighters awaiting deployment. This area shall be staffed with rescue personnel sufficient to support the number of companies deployed on the fire floor. The Attack Staging Manager shall maintain a supply of beverages and any sustenance required based on the expected duration of the incident
- F. EMS/Medical: The EMS/ Medical Group may operate in several locations with supervisors in Attack Staging-Rehab and EMS Branch for civilian evacuees. When EMS personnel are deployed at both Interior Rehab in Attack Staging and EMS Branch, an overall Medical Manager may be established
- i. The Medical manager must access the appropriate personnel for on-scene evaluation and treatment of firefighters and civilians as well as transport capability based on incident dynamics.



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- ii. Resources capable of treating a large number of heat stresses and shortness of breath and chest pain cases should be expected, as high rise operations are particularly taxing on firefighters.

G. Communications: The key to a successful high rise operation hinges on good communication between the IC, Central Fire Dispatch, and units deployed throughout the building. Separate talkgroups should be considered for managing different groups, e.g., fire attack, EMS and rehab.

### V. STANDPIPE KIT

Each engine, ladder, and tower shall have one (1) standpipe kit on their apparatus. Two staff should be assigned to carry the standpipe kit in an effort to not overly fatigue a single firefighter.

#### A. Contents

- i. Two (2) 75-foot lengths of 1 $\frac{3}{4}$ " hose. The standpipe kit shall not be used as a second bundle for the leader line. These two hose lengths shall be stored in the bag unconnected.
- ii. One (1) 5/8" smooth-bore tip nozzle without pistol grip
- iii. One (1) y-gate with short section of 2 $\frac{1}{2}$ " hose
- iv. Assortment of standpipe fittings
- v. Wrenches bundled together