

# Midtown Manhattan Crane Collapse Wreaks Havoc

by Deputy Chief James Hodgens

**B**attalion Chief Gerry Koziak was on duty in Battalion 8, monitoring the Department scanner while performing administrative duties, on Saturday, March 15, 2008. At 1422 hours, he began to hear some urgent transmissions. Chief Koziak immediately tuned into the transmissions as he heard some frantic calls regarding a large crane collapse on 51st Street and 2nd Avenue. Knowing that this location was only one block from quarters, he called the Manhattan Communications Office to inquire if they were getting any calls on this incident.

## Response

As he was speaking to the fire dispatcher, calls were coming into the Manhattan CO. The dispatcher confirmed the calls and Chief Koziak requested a response ticket. The members of Engine 8, Ladder 2 and Battalion 8 were all in quarters at the time of the initial call and they were all assigned to respond. As Chief Koziak



Photo #2--Tower crane leans on occupied, 23-story multiple dwelling at 300 East 51st Street.

arrived on the front apron of quarters, he looked in the direction of the reported crane collapse. The sight he saw amazed him--One block from quarters was a 200-foot, 250-ton tower crane that had broken away from a building under construction. (See Photo #1.) This tower crane now was leaning on a high-rise multiple dwelling on the opposite side of the street. This situation looked extremely dangerous. He wanted to get to the scene as quickly as possible and establish command of the incident.

Chief Koziak directed his Aide, FF Jack O'Connor, to respond left out of quarters, against traffic. As FF O'Connor headed north on 3rd Avenue, the Chief began planning his strategy. He knew that the Fire Department would be in charge of this incident and he would be the Incident Commander per CIMS protocols. (See sidebar on page 3.) Contacting the dispatcher, he learned he was getting a Minor Building Collapse Response Matrix, which included Engines 8, 21 and 65, Ladders 2 and 4, Rescues 1 and 4,

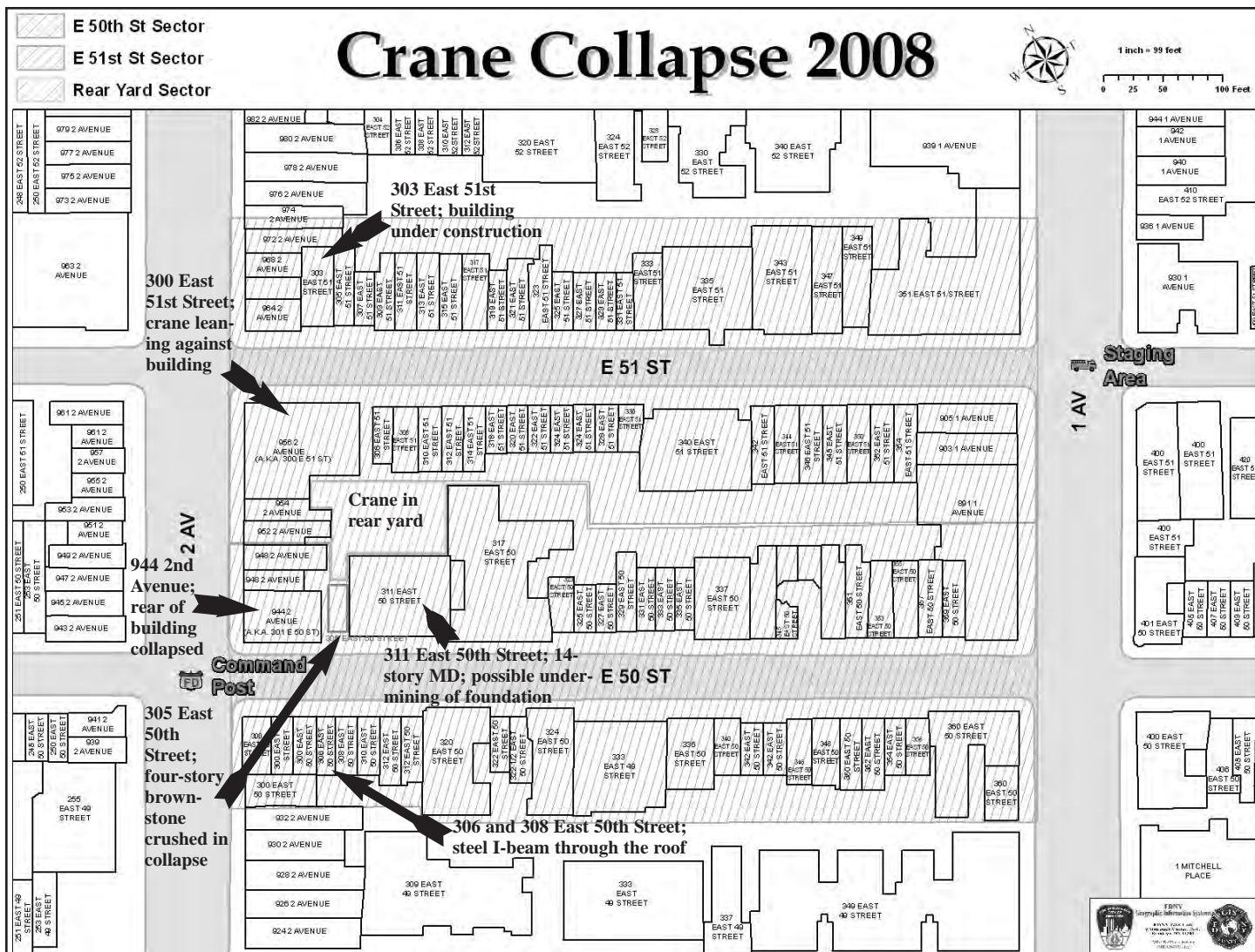


Photo #3--The crane cab and boom were severed from the tower and landed on the roof of a four-story brownstone.



Photo #1--The 200-foot, 250-ton tower crane had broken away from a building under construction.

photos by FDNY Photo Unit unless indicated otherwise



Rescue Operations Battalion, Ladders 25 and 116 with their Collapse Response vehicles, Tactical Support Vehicle 1 and the Safety Battalion.

As Chief Koziak arrived at the corner of 51st Street and 2nd Avenue, he was able to get a closer look at the building under construction and the huge tower crane that was leaning on 300 East 51st Street, a fully occupied, 23-story multiple dwelling. (See Photo #2.) He noted that the tower crane appeared to have crushed the penthouse apartment of this building. At this point, Chief Koziak was concerned about the very tenuous position of the tower crane and the structural stability of the building. He processed this information, conducted a size-up and developed a plan of attack.

The Chief immediately called for the NYPD for traffic control and Con Edison for a heavy gas odor in the area. He was unaware at this time that the boom and the cab of the crane were completely severed from the tower and landed on the roof of a four-story brownstone, located at 305 East 50th Street. (See photo #3.)

At this time, Deputy Chief James Hodgens was monitoring the Department radio in the quarters of Division 3. The Manhattan dispatcher was filling out the Box due to numerous phone calls. Chief Hodgens called the dispatcher and requested a response ticket for Box 861.

En route, Chief Hodgens contacted the Manhattan dispatcher to have Battalion 8 close off the street and allow only Fire Department apparatus into the block. He also requested the location of the Command Post and the staging area for all incoming units. He attempted to get a rundown of all units from the MDT.

He notified Division 3 Aide, FF Jack Gleason, that the Command board had to be set up as soon as possible and he needed help keeping track of the location of all units throughout the operation. Deputy Chief Steve Moro was working in Division 3 on this day tour and while en route, he and Chief Hodgens formulated a plan of attack.

Meanwhile, Engine 8 arrived on-scene and immediately transmitted the 10-60 signal at 1426 hours. (See sidebar on this page.) The incident also went to a second alarm at this time. Captain Bill Dudley, Engine 8, and Lieutenant Eric Smith, Ladder 2, responded from quarters in the opposite direction of Battalion 8. They knew it would be more difficult to follow Battalion 8, due to the traffic and size of the apparatus, which would make navigating turns more difficult. They responded right out of quarters and with the direction of traffic, heading south on Lexington Avenue and east on 50th Street.

As they came to the intersection of 50th Street and 2nd Avenue, they encountered conditions that were more severe than those facing Chief Koziak at 51st

- Code 10-60, Major Emergency**
- Three engines
  - Two ladders
  - FAST unit
  - Five Battalion Chiefs
  - One Deputy Chief
  - Haz-Mat 1
  - Two Rescues
  - HMTU
  - One Squad
  - SO01
  - TSU
  - Safety Battalion 1
  - FieldComm
  - RS03
  - RC01
  - SQ01
  - TR01

- CIMS Protocols-- Incidents at which FDNY is the Primary Agency**
- Confined Space Rescue
  - Elevator Incident or Emergency
  - Entrapment/Impalement
  - Fire
  - Structural Collapse



# The Safety Perspective at Crane Collapses

by Assistant Chief Allen S. Hay, Chief of Safety

The Safety Officer who initially responded to the March 15, 2008, crane collapse had to identify and assess potential hazards spread across the three-block span of the incident. The original structure under construction and all structures surrounding the incident had to be assessed on both the interior and exterior for structural stability, as well as the portions of the crane after the collapse. The crane contained several hundred gallons of fuel, which also created a safety hazard.

Several Safety Sectors were created and an Assistant Safety Officer was assigned to each Sector. Hazardous conditions were identified in each Sector and this information was transmitted to the Incident Commander (IC) and all Assistant Safety Officers through the Safety Officer. Assistant Safety Officers kept Operation Sector Chiefs advised of any hazards that could affect their operations. This increased the situational awareness of hazardous conditions for greater on-scene safety. Due to the many hazards associated with the collapse, the number of members allowed to work on or in the debris pile was limited to the minimum necessary to accomplish the tasks.

A few portions of the collapsed brownstone were still attached to the side-wall of the 14-story multiple dwelling at 307 East 50th Street. Several pieces of roof sheathing hung from the sidewall three stories above the debris pile. Approximately two hours into the rescue operation of a confirmed viable victim, a very small piece of the roof sheathing fell and struck a member operating on top of the debris pile.



Incident Commanders and Safety Officers make decisions based on the viability of victims and the operational safety of members. One of these decisions is defining the size of safety zones. The initial safety zones at this incident were established based upon a risk-benefit analysis that included the knowledge of live victims trapped in the debris pile. This allowed for rescue operations to be conducted in hazardous areas of the debris pile. Whenever a victim was removed, the risk-benefit analysis was updated to the current state of operations. As the last known live victims were removed from a specific area, rescue operations were

Chiefs Allen Hay and Stephen Raynis confer at scene of the March 15, 2008, crane collapse.

halted, the safety zone was expanded and members withdrawn from that area.

There had been a report of another victim within the debris pile, but there had been no signs of life. The members who had removed the live victim from within the debris pile reported that the chance of the second victim being alive was minimal. Risk-benefit analysis no longer could justify exposing members conducting rescue operations to high hazards when there was little likelihood of finding additional live victims.

Rescue operations transitioned and a calculated decision was made to conduct limited searches using two of the resources at FDNY disposal. A small team of dog handlers was allowed to search the debris pile for a short period of time, followed by a small group of members employing search cameras to check some individual voids. After both of these searches proved negative, all active Fire Department rescue or recovery operations on the site were halted. The most likely benefit to be realized by continued operations was a recovery and this was not worth the risk to members until the hazards of associated damaged structures was addressed.

Within 20 minutes after completing rescue operations, Safety Officers started receiving verbal reports from various members about hazardous conditions they had just noticed. This shows the level of intensity and focus of members during the prolonged rescue efforts. It was only after being removed from those areas that they became aware of the hazardous conditions that existed overhead.

The Safety Officer must stay focused on assessing the entire incident scene for hazardous conditions. This is a strong example of why Safety Officers must not enter an "operational" mode at an incident scene. Information on existing or potential hazards must be given to the IC and Operations Chiefs to increase their situational awareness.

Safety points to remember include the following:

- A crane collapse usually affects and compromises many structures, increasing the many hazardous conditions that will be encountered.
- Cranes contain several hundred gallons of fuel. Additionally, cranes collapse in two or more pieces.
- Size-up and communication of scene hazards is essential before proceeding.
- Utilities must be shut down immediately.
- Train traffic and air (helicopter) traffic in the immediate vicinity must be halted.
- Don't stand in danger zones awaiting orders. Maintain safe distances and focus on operations and identifying hazards.
- Dangers will continue to exist many hours into operations.
- Establish controlled access and egress points for accountability and to minimize the exposure of members to hazards.



#### About the Author...

Assistant Chief Allen S. Hay is the Chief of Safety, in charge of the Safety/Inspection Service Command. He is a 34-year veteran of the FDNY. He is an Editorial Advisor to WNYF and a regular contributor.

Street and 2nd Avenue. Captain Dudley was astounded as he confronted the destruction. He quickly determined that the rubble in front of him was once a four-story, fully occupied brownstone building with a bar and restaurant on the first floor. He notified

Chief Koziak of a total pancake collapse of the brownstone building, with a heavy odor of gas in the area. Additionally, the Captain advised the Chief that he was stretching a 2 1/2-inch hand-line and that there were people visibly trapped on the pile.

This information from Captain Dudley completely changed the situation and prompted Chief Koziak to alter his plan of attack. He now realized he also had a very serious condition on 50th Street that had to be addressed.

#### Incident Command System established

Chief Hodgens arrived on-scene at 1434 hours and notified the dispatcher to have all Battalion Chiefs go to a command channel. He met Chief Koziak at the Command Post at 50th Street and 2nd Avenue and received a briefing of existing conditions and location of FDNY units operating. With two major operations on two different streets to manage, both Chiefs understood that this would be an extremely challenging incident to supervise. Establishing Sectors limited the span of control and assisted in effectively managing this incident. (See organization chart on page 5.)

Chief Moro was assigned the 51st Street Sector; Chief Koziak



Photo #4--The rear wall of 944 2nd Avenue sustained heavy damage to the top floor.