

## *Other Collapses in Perspective: An Examination of Steel Structures Collapsing due to Fire and their Relation to the WTC*

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One of the arguments that has been raised over the years by members of the 9/11 Truth Movement in regards to the collapse\* of the three WTC buildings is that, if the official story is correct, they were the first steel-framed high-rise skyscrapers in history to collapse because of fire. Indeed, in all of the history of structural engineering, not a single steel-framed skyscraper has ever totally collapsed due to fire.[1] However, in an attempt to invalidate this argument, numerous supporters of the official story of 9/11 have pointed out that there are several smaller steel structures that have collapsed due to fire. Journalist Chris Mohr, for example, cited numerous steel structures in his debate with architect Richard Gage.[2] The following are the most often cited steel structures that have collapsed due to fire (Chris Mohr referenced the first six in his debate with Richard Gage):

- Sight and Sound Theater (1/28/1987)
- McCormick Place (1/16/1967)
- Kader Toy Factory (5/10/1993)
- Mumbai High North Platform (7/27/2005)
- Interstate 580 (4/29/2007)
- World Trade Center 5 (9/11/2001)
- Dogwood Elementary School (11/27/2000)
- Windsor Tower (2/12/2005)
- Faculty of Architecture Building (5/13/2008)

It will be demonstrated why these structures cannot be justifiably used as comparisons to the WTC buildings, based on the estimated damage parameters and fire severity for these structures.

### **A note about steel failing due to fire**

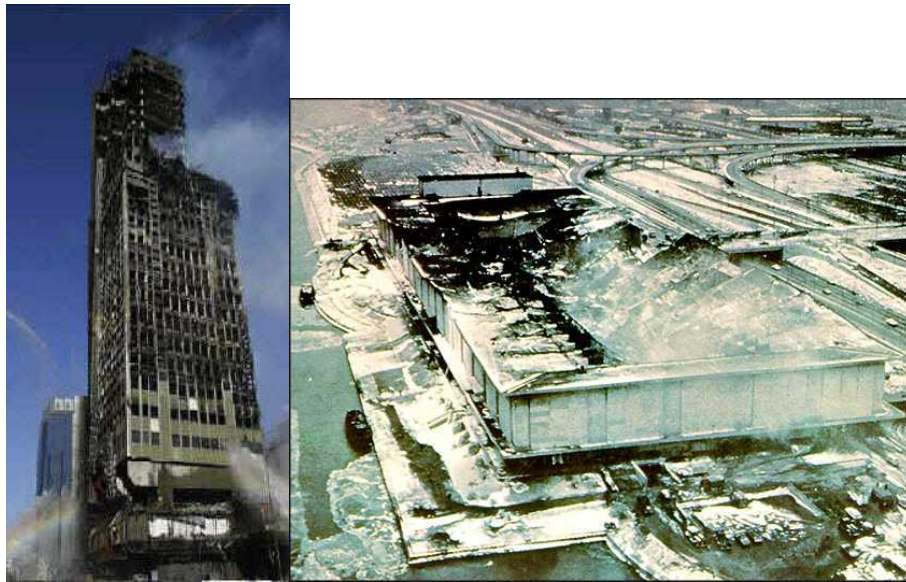
A common misconception about this argument regarding other steel skyscrapers not collapsing is that it implies that steel cannot under any circumstances fail from being weakened by fire. But this idea is incorrect. Steel, while very strong, is not immune to the effects of fire, which is why fire-proofing is applied to many steel structures. The main argument that is really being presented is this: other steel-framed high-rise skyscrapers have never collapsed from fires that,

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\* Though it is more appropriate to refer to the WTC event as “destruction” rather than “collapse,” we will refer to the WTC incidents as “collapses” for the sake of discussion in this paper.

upon careful examination, appear to be far more severe than the fires exhibited in the WTC buildings. Therefore, it is reasonable to assume that the WTC buildings should not have collapsed from the types of fires that were seen on 9/11. Of course, this argument must take other factors into consideration, including the construction of other buildings and the behavior of the fires themselves. However, these factors have already been examined and dealt with accordingly.[3]

This issue raises an interesting point. When one examines the list of other steel structures that have collapsed from fire that are often cited by critics of the 9/11 Truth Movement, one thing immediately catches the eye: almost none of them are high-rise skyscrapers. The only building cited by these critics that is a high-rise is the Windsor Tower in Madrid, and this building did not suffer a complete collapse. Jim Hoffman has examined the partial collapse of the Windsor Tower [4], and notes that all this incident proves is that a huge building-consuming fire, after burning for many hours, can produce the collapse of parts of a building with weak steel supports lacking fire protection, and that the collapse events that do occur are gradual and partial. Hoffman has also examined the McCormick Place roof collapse that is often cited by critics, and has shown why this structure is also not comparable to the WTC buildings.[5] Aside from the Windsor Tower, none of the other structures cited by supporters of the official story are high-rises, and some of them are not even buildings.

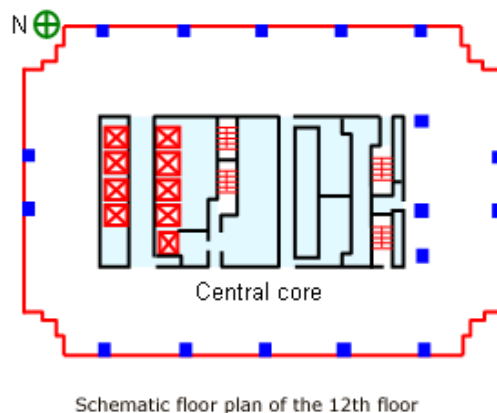


**The Windsor Tower (left) and McCormick Place (right). Note that neither building suffered a total collapse. The overall structures remained standing.**

It's interesting to note that critics are quick to point to these smaller and more poorly designed steel structures as valid comparisons to the WTC, while at the same time they have argued that other actual high-rises engulfed in fire are not comparable to the WTC due to "differences in design." If we are to draw comparisons between the WTC skyscrapers and other structures, then

we would logically want to compare them to other skyscrapers. Several of these critics have demanded that those advocating the “no other high-rise collapses” argument provide an example of a skyscraper fire that matches almost exactly the conditions of the WTC on 9/11. The website debunking911.com, for example, has a detailed list of conditions which the anonymous author feels need to be met before drawing any comparisons.[6] But again, this same author has no problem offering drastically differently constructed structures that have collapsed from fire as valid comparisons to the WTC.

To find a skyscraper matching the same conditions as the WTC is a difficult task. In terms of finding a building of similar design and structure, this is very difficult, as almost no two buildings are built exactly the same (except of course for the Twin Towers). There are, however, other skyscrapers that have been true infernos that can be considered comparable to the Towers and WTC7. For example, the One Meridian Plaza [7] and the First Interstate Bank [8], two skyscrapers that had huge fires, were core and perimeter structures like the Towers and Building 7, although not quite the same. Here is a schematic of the design of the First Interstate Bank, a building that had a severe fire which lasted almost four hours:



Now compare this to the design of the Twin Towers and Building 7:



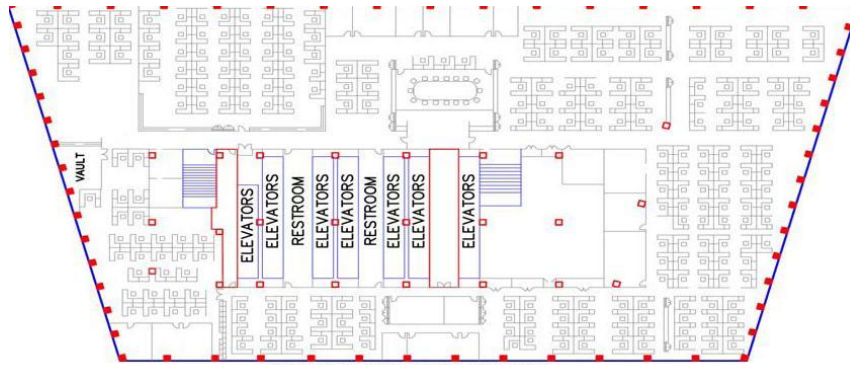


Figure 1-8. Schematic of Floor 8.

The construction these buildings was similar in terms of the core and perimeter. In terms of fire severity, even NIST has admitted that the fires in the First Interstate Bank and the One Meridian Plaza were likely more severe than the fires in at least WTC7.

“NIST therefore concluded that the fires in First Interstate Bank and One Meridian Plaza were at least as severe, and probably more severe, than the fires in WTC 7.”[9]

The author of the previously mentioned debunking911.com article claims that:

“The statement that the WTC buildings were the first high-rise buildings to collapse from fire is deceptive because it purposely doesn’t take [other] factors into account.”

As we will see, it is in fact supporters of the official story who have ignored specific factors when comparing the WTC buildings to other steel structures. To simply brush off other high-rise fires by making claims about how the Twin Towers were hit by planes or that the buildings were constructed differently is by itself deceptive. Claims like this fail to specifically address the actual factors involved in determining just how different and similar the WTC buildings really were compared to other incidents. We will therefore move on to address these specific points regarding the structures normally cited by critics and other defenders of the official story. Having already covered the Windsor Tower and McCormick Place, the structures we shall examine are: the Sight and Sound Theater, the Kadar Toy Factory, the Mumbai High North Platform, Interstate 580, World Trade Center 5, the Dogwood Elementary School and the Faculty of Architecture Building.

### **The Sight and Sound Theater**

On January 28, 1997, the Sight and Sound Theater in Pennsylvania suffered a collapse from a fire which lasted approximately 3½ hours. The building was a rectangular shaped structure that was approximately 100 feet wide and approximately 74 feet tall. The fire was started by welding operations occurring at the theater.

Like the collapse of the McCormick Place exhibition hall, it was not a total building collapse-- it was only a roof collapse. Much less was it the total collapse of a high-rise building. Photographs taken after the collapse show that the roof of one section of the structure failed due to the fire.



**Aerial view of theater**



**Front view of theater**

As we can see from these photos, this collapse could at best be described as a partial collapse of the structure. Only the roof collapsed, leaving the surrounding walls standing. Also, not only was the building not a high-rise, it was not even a multi-story structure. The building section that collapsed only had one floor that was open spaced, therefore the collapse of this structure is not comparable to the “global collapse” of the WTC, which resulted in not only the failure of the floors, but also the failure of the buildings’ major support columns.

The FEMA report on the Sight and Sound Theater noted several issues that led to the building’s collapse [10], including:

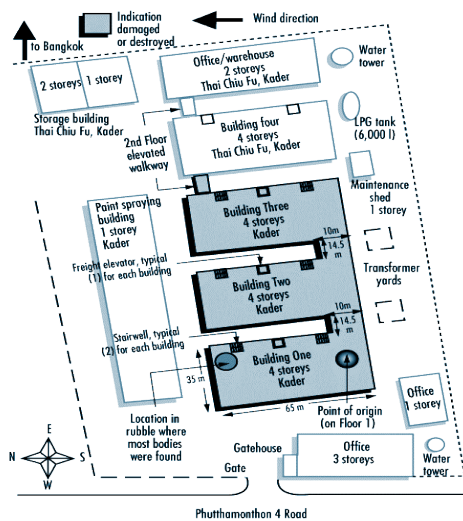
- The building did not have a sprinkler system
- Construction on the stage floor damaged the sprayed-on fire-resistant coating of steel structural members
- The building was under construction and fire doors were not yet installed, allowing the fires to pass through these openings freely

While there is no denying that the fires were severe enough to cause the steel to fail, this should be no surprise regarding this particular structure.

### **The Kader Toy Factory**

On May 10, 1993, the Kader Toy Factory in Thailand collapsed after suffering one of the worst industrial factory fires in history. Although the factory was technically a series of four structures, the part of the factory which was on fire and collapsed was actually a single E-shaped structure which connected Buildings One, Two and Three. Building Four was a separate nearby structure.





This building is often cited by supporters of the official story due to the fact that the factory was a multi-story building which collapsed due to fire alone. However, according to official reports on the incident [11], the factory was poorly designed and built. The steel frame-work was weak and none of the steel was insulated. The building also lacked any sprinklers. Also, the factory had apparently been damaged by a series of other smaller fires in the past. At the time of the May 10 fire, parts of the building were still being repaired from a fire which occurred in February of that same year. Ultimately, this structure had a completely different set of variables from that of the three WTC buildings, and therefore seems to be a very weak example to use as a comparison.

### **The Mumbai High North Platform**

On July 27, 2005, the Mumbai High North Platform in India's Arabian Sea completely collapsed due to a severe fire. A multi-purpose support vessel collided with the offshore platform, causing a major fire which caused the platform to collapse after two hours of burning.



This incident is another favorite of those critical of the 9/11 Truth Movement as evidence that steel structures can collapse from fires. However, when one examines the specifics of this incident, it becomes obvious that this structure is not even remotely comparable to the WTC. We note that, once again, this structure was not a high-rise skyscraper, but merely a seven story structure.

The intensity of the fire was clearly due to the fact that the platform was a major oil rig. The platform was used to produce 80,000 barrels of oil per day.[12] 80,000 barrels is roughly 3,360,000 gallons of oil. Now, compare that to the less than 10,000 gallons of jet fuel that entered each of the Twin Towers. Being that this structure was engulfed in a fire that had an unlimited source of fuel and air to sustain it, it is no surprise that this structure collapsed. It is hardly comparable to the WTC buildings, as it has almost nothing to do with the self-crushing steel building theory in which a tall structure crushes and shreds itself from top to bottom.

### **Interstate 580**

On April 29, 2007, the Interstate 580 in Oakland, California collapsed from a fire started by a gasoline tanker truck which crashed on the interstate. The interstate collapsed after about 19 minutes of burning.



This incident is often cited by supporters of the official story due to the fact that it shows a steel structure collapsing after a relatively short period of burning. However, shortly after this incident occurred, the website [prisonplanet.com](http://prisonplanet.com) posted an article addressing critics' claims that the interstate collapse added validity to the "natural collapse" theory for the WTC.[13] As noted by the article:

"Professor Steven Jones, a Ph.D. physicist and cold fusion expert, joined Alex Jones on the air yesterday to talk about the monumental differences between the two collapses.

Jones said that the notion that steel supporting columns completely melted from fire is impossible and that what actually happened was that thin supporting bolts were warped, resulting in the collapse of the bridge section..."

"The freeway section was made of highly flammable asphalt and took the brunt of a gigantic gasoline explosion with open air fires shooting 200 feet in the air. In comparison, the twin towers were impacted by aluminum planes filled with significantly less flammable kerosene and suffered limited fires that were oxygen-starved and almost out before the collapses occurred.

Building 7 was not hit by anything save a small amount of debris from the towers and suffered limited fires across just eight floors. In addition, explosions were being reported by occupants within WTC 7 before the towers had even collapsed."

"Halfway through the discussion with Steven Jones, a steel welding expert joined the conversation to express his incredulity at the fact that Fox News was comparing the collapse of the highway with the World Trade Center buildings.



‘You can’t even begin to compare 5 inch thick steel plate core columns, approximately 2 foot by 5 foot rectangle 5 inch thick boxes to quarter inch and 3 quarter inch dowels that connect the steel to the support members,’ said the steel expert.

‘The logical deduction is that the rebar steel was exposed horizontally, that whole bridge surface and it was exposed intention, not like the fires that were lapping up fire-proofed 5 inch thick plate columns in the World Trade Center - these little bars had no heat sink and after two hours with all that weight on them they fell.’

Debunkers have also failed to acknowledge the fact that freeways in the San Francisco area have already been weakened by multiple earthquakes and regularly collapse entirely of their own accord by accident.”

The prisonplanet.com article also cited an analysis done by stopthelie.com [14], which noted several differences between this incident and the WTC collapses, including:

1. This was an open air fire, where the flames could reach higher temperatures.



2. The flames were focused on a single section of the bridge, unlike the randomly spread fires in the Towers and Building 7.



3. There were no reports of molten metal being found after the bridge collapsed.



4. The collapse of the upper freeway onto the lower freeway did not cause the lower freeway to collapse (i.e. no “global” or “pancake” collapse). The concrete was also not pulverized.

5. The columns of the bridge remained standing, unlike the Towers and Building 7.

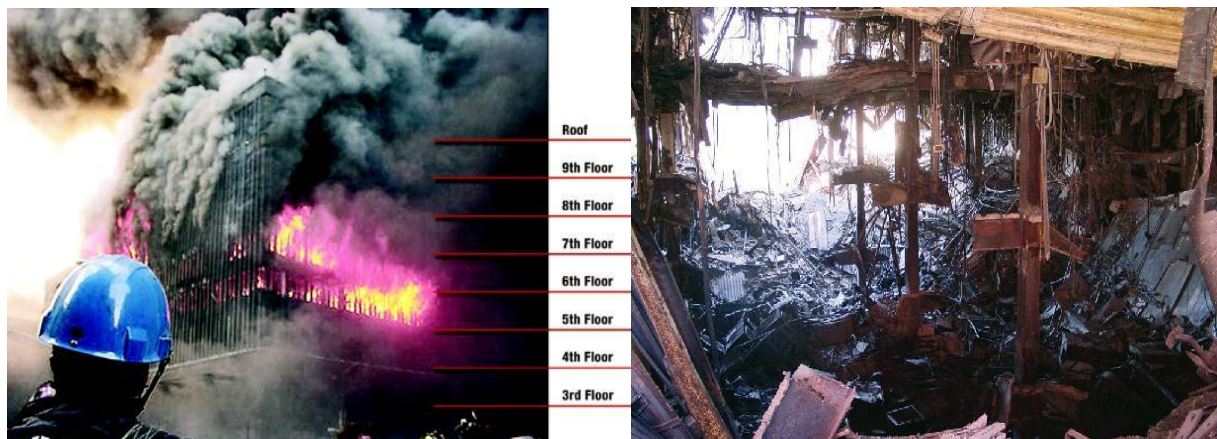


It's also worth noting that the investigation carried out by the Office of Nuclear Material Safety and Safeguards [15] documented that the steel from the interstate had been heated to temperatures ranging from 850 °C (1,562 °F) to as high as 1,000 °C (1,832 °F). In contrast, the NIST investigation into the collapse of the WTC showed that there was no evidence that the steel had exceeded temperatures of 600 °C (1112 °F). The highest temperatures estimated for the

samples examined by NIST was 250 °C (482 °F).[16] Ultimately, this incident is yet another example of a steel structure collapsing from fire that is not comparable to the destruction of the WTC. Not only was this structure not a high-rise, it was not even a building.

### **World Trade Center 5**

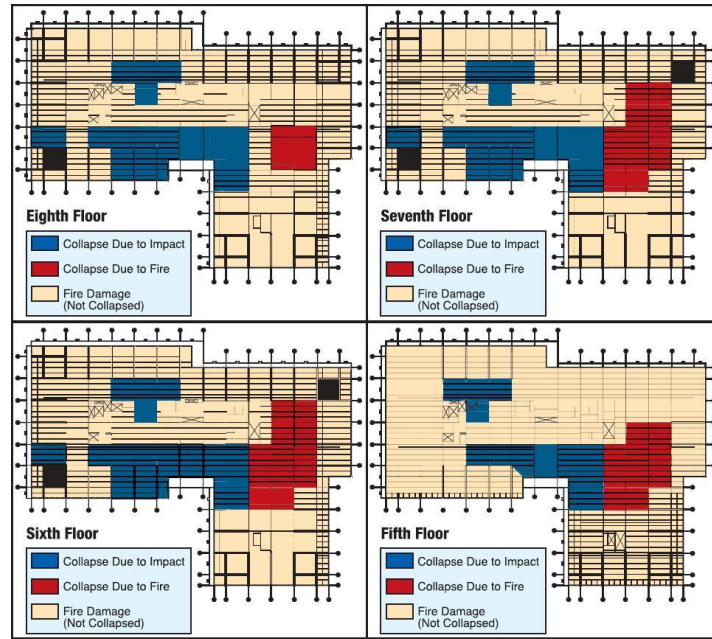
On September 11, 2001, World Trade Center 5, a nine-story building that stood east of the North Tower, suffered a partial collapse after being damaged from falling debris from the collapse of the WTC. According to the FEMA report, the local collapse of four floors inside the building was caused by intense fires.



**Exterior of World Trade Center 5**

**Interior of World Trade Center 5**

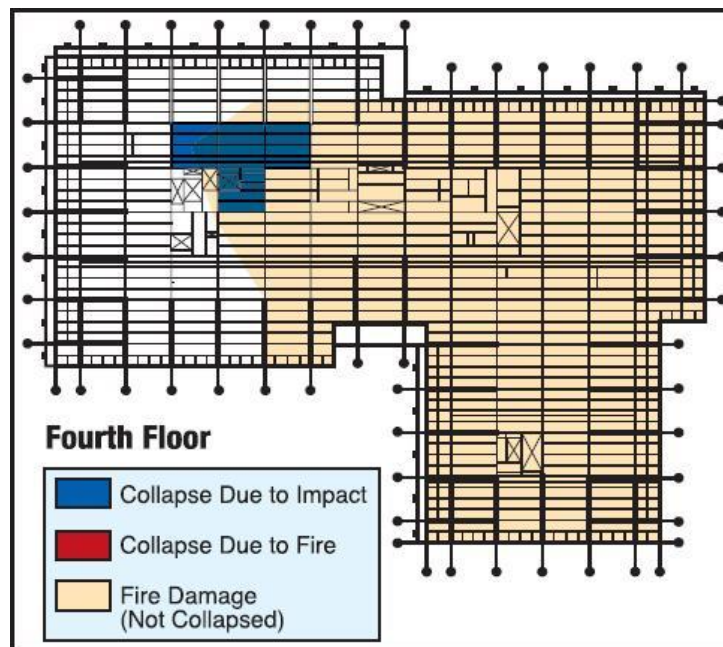
Like many other incidents cited by supporters of the official story, this was not a total building collapse. Only four floors in one section of the building collapsed due to fires. According to the FEMA report [17], the eighth floor of WTC5 collapsed down onto the seventh floor, and then both of those floors collapsed onto the sixth floor, and so on, down to the fourth floor.



**Images from the FEMA WTC report, chapter 4**

One reason critics are fond of citing this structure is because they feel it lends credibility to the idea of a “pancake” type of collapse, or “global” collapse as it is also referred to. However, upon closer examination of the building, it becomes apparent why the structure collapsed the way it did.

The pancake collapse only progressed to the fifth floor. The fourth floor of WTC5 did not collapse.



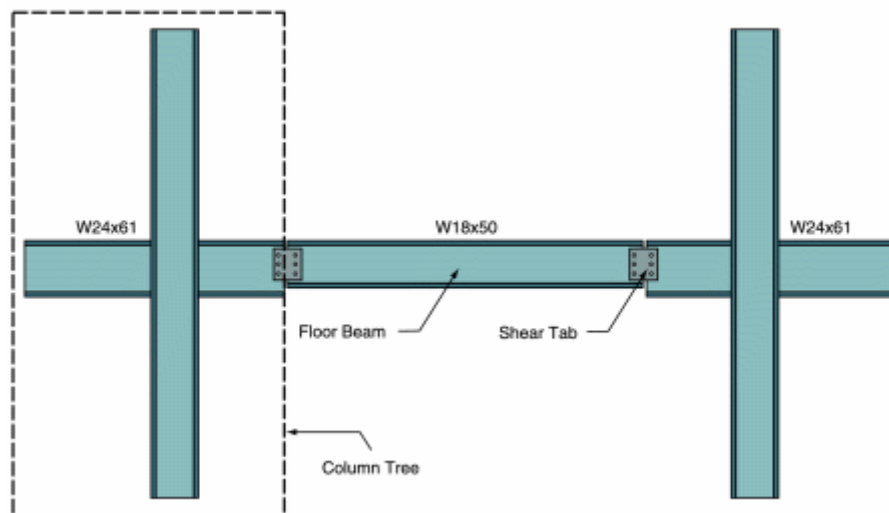


Why didn't the floors pancake all the way down to the bottom floor? Why didn't the fourth floor collapse? After all, the fourth floor had to sustain the loads of four floors which had collapsed on top of it. It's interesting to note that the ninth floor also did not collapse from the upper layer temperature of the fires on the lower floors. So why did only floors five through eight collapse? As we read in the FEMA report, there was no fire on the third floor, which meant that there was no heat to weaken the fourth floor from below.



**Third floor of WTC5**

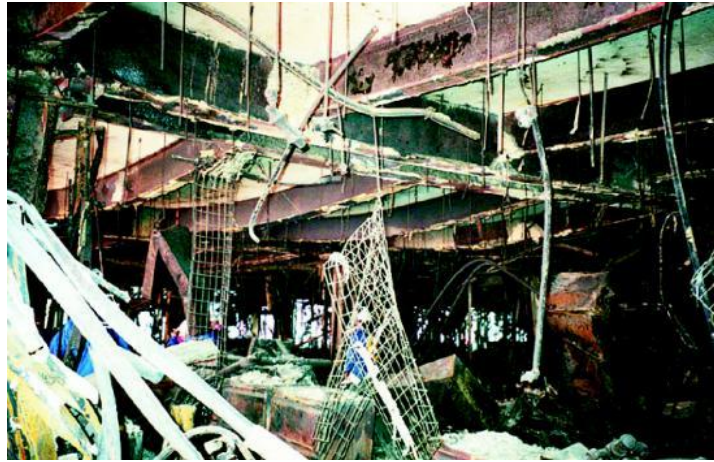
But the main reason that only floors five through eight collapsed seems to be due to the type of connections those floors used. The local collapse due to fire appeared to have occurred at the field connections, where the beams were connected to the shear tabs for floors four through eight.



**Connection for floors four through eight**



What this shows us is that any other type of connection in the building did not fail due to fires. The ninth floor of WTC5 was described by the FEMA report as “conventional for steel-frame construction and did not include a column-tree system.” The ninth floor did sag due to the upper layer temperatures of the five burning floors below, but the connections did not fail and the floor did not collapse.



**Ninth floor of WTC5**

The main cause of the localized collapse was evidently due to the fact that floors five through eight were connected with shear tabs, as photos show that the beam stubs connected to the columns did not fail from the fires.



And lastly, the reason that the fourth floor did not collapse appears to be because its connections had not been weakened by heat and fires from below.

The local collapse of WTC5 cannot be seen as comparable to any of the WTC buildings. With regard to the Twin Towers, the official explanation for the cause of collapse was not that the floors had pancaked, as was previously believed. Rather, the explanation given was that the connections did not fail, and that they pulled on the exterior columns, causing them to bow inward and break. This scenario has been largely challenged.[18, 19, 20] With regards to WTC7, NIST claims that the collapse was initiated by the failure of floor 13, which pancaked all the way down to the fifth floor. This left column 79 unsupported, which caused the column to buckle, which led to a progression of failures spreading from the east side of the building to the west side. Many have also challenged this scenario presented by NIST.[21, 22] But the main point is that this description of the floors pancaking due to the heat is in stark contrast to the behavior of the floors in WTC5. The beams and girders in WTC7 were not connected with shear tabs, as was the case in WTC5. In fact, evidence suggests that, by NIST's own admission, the connections in WTC7 should have resisted the effects of the fires.[23] And in WTC7 there weren't more than three floors on fire, one above the other.

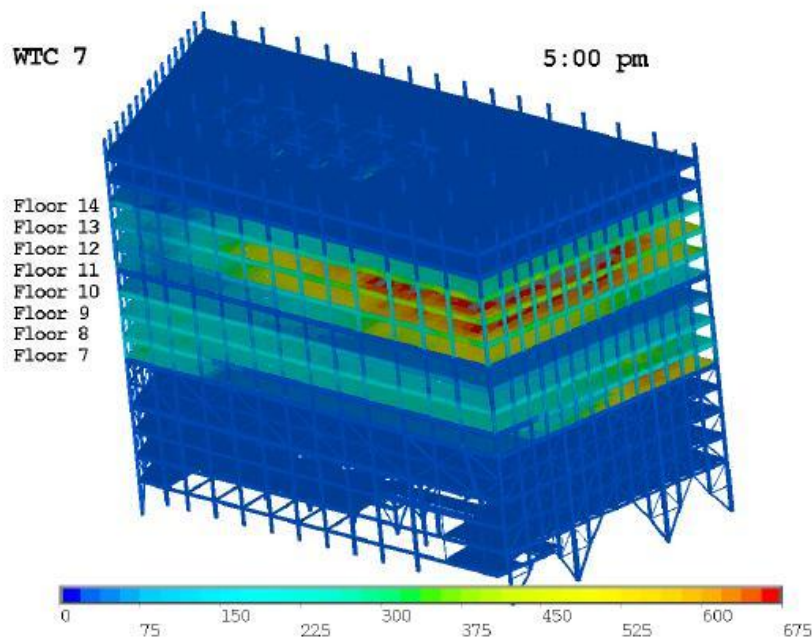


Figure 10–1. View from the southeast of the computed thermal loading of the 16 lower floors of WTC 7 at 5:00 p.m. (Case A).

**Image from NCSTAR 1-9, page 389**

Based on the differences in the fire conditions and construction of the buildings, we can conclude that the circumstances surrounding WTC5's partial collapse are ultimately not comparable to the conditions of the other WTC buildings. [For more information, see: <http://www.youtube.com/watch?v=FwXuagCxM-E>]

### **The Dogwood Elementary School**

On November 27, 2000, a fire broke out in the Dogwood Elementary School in Reston, Virginia. The fire, believed to have been caused by an electric short, caused many of the steel sections of the building to collapse after around a half hour of burning.



This incident is another favorite of critics, as it shows a steel structure collapsing from fire in a relatively short amount of time. However, there are several issues regarding this building that need to be taken into account.

The investigation carried out by the U.S. Fire Administration [24] noted numerous key issues that contributed to the severity of the fire and the collapse. One of the main issues the report noted was that the building was not subjected to current fire code regulations.

“Dogwood Elementary School, as well as other schools of similar construction in Fairfax County, was not subject to current code regulations since it was built in 1974.”

Other issues noted by the report included:

[Sprinklers]

“When Dogwood Elementary School was constructed, the benefit of sprinklers in schools was not fully recognized. Moreover, the cost and expense were still too high to make mandating them practical. When codes requiring sprinklers were put into place, Dogwood was not required to retrofit with sprinklers in order to be code-compliant. While sprinklers would not have prevented the fire, they certainly could have minimized the destruction caused by it. Additionally, the activation of sprinkler heads would have provided information that a fire did, in fact, exist at Dogwood.”



[Firewalls]

“Further contributing to the size of the fire at Dogwood Elementary was the lack of firewalls or fire stops in the building. As noted previously the school was essentially a large, open area with a high fire load of high surface area to mass ratio combustibles, many of which were high BTU-generating fuels. There was over 1.1 million cubic feet of air available to fuel the fire—even more, if a window was open or after the roof collapsed. Firewalls could have limited the rapid growth and spread of the fire by containing it to smaller areas of the school.”

As this was yet another example of a single story building that was built far more poorly than any of the WTC buildings, we can conclude that comparing this structure to the Twin Towers and Building 7 is unjustifiable.

### **The Faculty of Architecture Building**

On May 13, 2008, a fire started in a coffee vending machine on the sixth floor of the 13-story Faculty of Architecture Building at the Delft University of Technology in the Netherlands. After burning for more than seven hours, a section of the building collapsed from the fires.



**Before collapse**



**After collapse**

Out of all the structures referenced by supporters of the official story, this appears to be the only one that can be seen as possibly comparable to the WTC buildings in terms of how the structure collapsed. The collapse started on the tenth floor of the building and progressed down to the bottom. Critics note that this collapse was similar to the top-down collapse exhibited by the

WTC. However, upon close examination, this incident contrasts in many important aspects to the WTC.

First of all, the structure burned far longer than either of the Towers. It did burn for roughly the same amount of time as Building 7, but the characteristics of the collapse are focused on more in relation to the Twin Towers. The official study [25] into the collapse documented a large amount of data on the building, but was unable to examine any parts of the building due to the fact that it was demolished right after the fire as it was structurally unsafe. As a result, further research into the building is not possible. The study stated that a likely cause of collapse was the heat-induced spalling of the concrete support columns.

Although this structure did collapse in a way that looked similar to the destruction of the Twin Towers, there are significantly important differences between the incidents, including:

- The building burned much longer than either of the Towers
- The collapse was localized, leaving most of the main structure standing
- The building was constructed very differently from the Towers
- The collapse took approximately 10 seconds. Unlike many of the other structures referenced, we have several videos of this collapse, and they show that the collapse of the 13-story section took roughly 10 seconds from start to finish.[26] However, the Twin Towers, which were each 110-storys tall, each collapsed in approximately 15 seconds.[27] Building 7, a 47-story building, collapsed in less than seven seconds.[28] This contrasts strongly with the collapse of the Faculty building. If the Towers and Building 7 were truly gravity driven collapses, as was the case for this incident, then we would expect them to have taken far longer to totally collapse than they actually did.

Although there are undoubtedly similarities between the Faculty of Architecture Building collapse and the WTC collapses, it becomes apparent that under careful examination, the differences outweigh the similarities.

### **The Twin Towers and World Trade Center 7 in perspective**

We often hear arguments from critics about how the conditions of the WTC buildings were far different from other high-rise fires, such as “the planes did a lot of damage and dislodged fire-proofing” or “those other buildings didn’t have jet fuel dumped into them.” However, although these were the circumstances for the WTC, this does not automatically mean that their conditions were more severe than other high-rise fires. Likewise, it also does not necessarily mean that the conditions of the WTC were far worse than the conditions of the other smaller steel structures we have discussed. Let us establish what the actual conditions were for the Towers and Building 7.



## **The Jet Fuel**

Although the official reports do not claim that the fires were fueled primarily by the jet fuel, it is useful to assess how much fuel actually entered each building, as the fuel was at the very least the main source that started the fires. (Note that this issue applies only to the Twin Towers, as Building 7 was not struck by an aircraft.)

According to an anonymous author, the amount of fuel that actually remained within each building was so small it would have fit into the back of a mid-sized U-Haul truck.[29] The author estimates that, after the initial impacts, approximately 929 cubic feet volume of jet fuel remained in WTC 1 and 793 cubic feet volume of jet fuel remained in WTC 2. The author also estimates that:

“If 900 cubic feet of fuel was spread evenly over just one 40,000 square feet floor of a Tower, it would result in a film 0.27 inches thick, about the thickness of a pencil.”

This assumes that all the fuel was confined to one floor. In reality, the fuel was spread out over numerous floors.

The author then goes on to claim that:

“Even NIST admits in its *Final Report*, ‘The initial jet fuel fires themselves lasted at most a few minutes.’ The only remaining source of fuel for the fires was common office furnishings. The idea that a few floors of common office furnishings burning for 56 minutes could result in the demolition of the South Tower is phenomenally ludicrous. If true, then every high-rise steel tower ever constructed should be immediately demolished as a hazard to public safety. Of course, that is unnecessary because **no** high-rise steel structure has ever collapsed as a result of fire.”

The total amount of fuel that remained in each of the impacted areas as estimated by the author was approximately 3,474 gallons for WTC1 and 2,966 gallons for WTC2. Now we need to determine how much fuel was on the floors where the collapses initiated.

According to an article written by Kevin Fenton [30], the collapse of the North Tower started at the 98<sup>th</sup> floor, and the collapse of the South Tower started at the 82<sup>nd</sup> floor. As for the amount of fuel that remained on those floors, Fenton writes:

[For WTC1] “Although the role of the jet fuel, which is said to have burned up within a few minutes of the initial impact, is not thought to have been large, the amount of fuel spilled on floor 98 and that on the central impact floors can also be compared. According to NIST’s severe case scenario, only 454 gallons of jet fuel were spilled on floor 98, which had an area of over 40,000 ft<sup>2</sup>, whereas over 1,905 gallons – over four times more

– were spilled on each of floors 94, 95 and 96. This indicates that the jet fuel could not have been the major cause of the collapse.”

[For WTC2] “According to the severe case, more fuel – 1,495 gallons – was deposited on floor 82 than on either of the central impact floors, although the floor that received the largest amount of fuel was 79 (note: the numbers are similar for the base cases for both towers).”

When we recognize how much fuel actually remained in the buildings, we can see how unreasonable it is to compare the Towers to these other steel structures. How can it possibly be justifiable to compare the Towers, which each had only about 3000 gallons of jet fuel remain on the fire floors, to structures like the Mumbai High Platform, which likely had over 1,000,000 gallons of oil to fuel the fires, or the Interstate 580, which had 8600 gallons of gasoline fueling the fires below it? Likewise, the heat from these fires has been greatly disputed. NIST has no evidence of high temperatures in either building. Their estimates of 482 °F as the highest temperature the steel in the buildings reached is consistent with estimates of the maximum temperatures reached by the jet fuel fires.[31]

### **The Structural Damage**

The next aspect of the WTC Twin Towers incident that must be examined is the amount of structural damage the buildings suffered. These are the damage parameters as estimated by NIST:

#### **WTC 1:**

35 exterior columns severed, 2 heavily damaged (out of 240)

6 core columns severed, 3 heavily damaged (out of 47)

43 of 47 core columns stripped of insulation on one or more floors.

#### **WTC 2:**

33 exterior columns severed, 1 heavily damaged

10 core columns severed, 1 heavily damaged

39 of 47 core columns stripped of insulation on one or more floors [32]

These damage parameters estimated by NIST have been disputed.[19, 33] However, it is generally accepted that the structural damage was not a major factor in the collapse of the buildings. As Thomas Eagar of MIT writes:

“While the aircraft impact undoubtedly destroyed several columns in the WTC perimeter wall, the number of columns lost on the initial impact was not large and the loads were shifted to remaining columns in this highly redundant structure.”[34]

What is generally seen as truly damaging to the structures was the fire-proofing dislodged by the airplane impacts. The NIST report itself states that:

“The WTC towers likely would not have collapsed under the combined effects of aircraft impact and damage and the extensive, multi-floor fires if the thermal insulation had not been widely dislodged or had been minimally dislodged by aircraft impact.”[35]

This is also a major argument raised by supporters of the official story as to why the structures collapsed. But how much fireproofing was actually dislodged? Fenton also examines the structural damage and the loss of fire-proofing in his article, and writes that:

[For WTC1]

“Floor 98 was not in the centre of the impact area, but was struck by a portion of the aircraft. The fuselage and the engines hit floors 95 and 96, whereas floor 98 was only hit by the outer section of the plane’s starboard wing. Five of the perimeter columns on floor 98 were severed. If 50% of the building’s gravity load is assumed to be carried by the columns in the building’s core and 50% by the 236 perimeter columns, the five severed perimeter columns would have degraded floor 98’s ability to bear the gravity load it supported by slightly more than 1%. The central impact floors, where 15-18 perimeter columns were severed, suffered more damage. The damage suffered by the central impact floors was therefore at least three times worse than that suffered by floor 98.”

“According to NIST’s severe case simulation, on floor 96, ‘The insulation was knocked off nearly all the core columns and over a 40 ft width of floor trusses from the south end of the core to the south face of the tower.’ On the contrary, the alleged damage to the fireproofing on floor 98 was much less, ‘The debris cut a shallow path through the west and center array of trusses, damaging the insulation up to the north wall of the building core.’ Even if NIST’s simulations can be successfully challenged, it is logical to assume that the potential for damage to the fireproofing was greater on the central impact floors than on floor 98.”

[For WTC2]

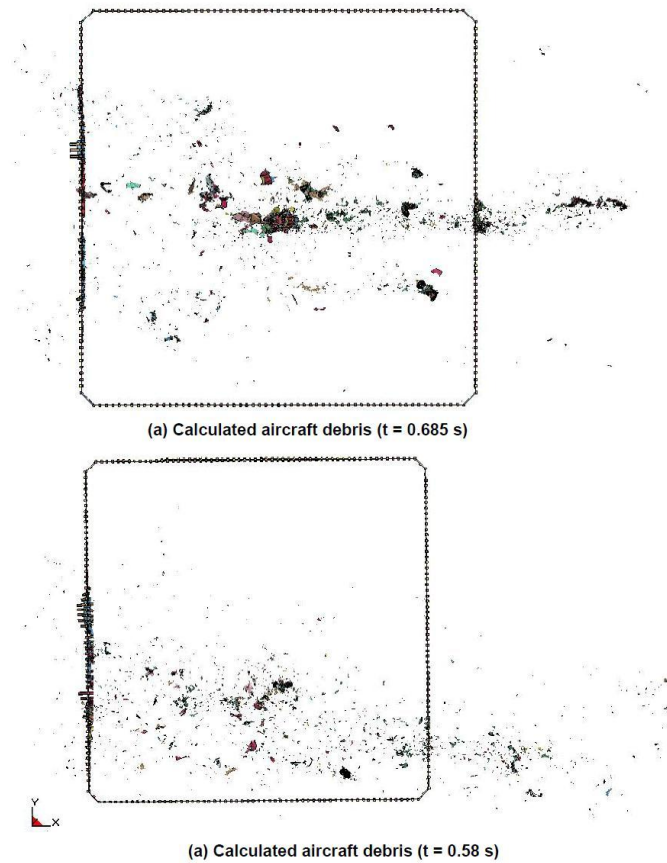
“NIST’s severe case scenario predicts ten severed core columns on floor 80, but only 5 on floor 82.”

“[F]loor 82 only received a total of 1,400 lb of aircraft debris in this case, whereas floor 80 received over 40,000 lb, making it likely that any damage to fireproofing would have been significantly more severe on floor 80.”

The amount of fire-proofing dislodged on the collapse initiation floors was evidently much less than on the other floors. There are other reasons for believing that the fire-proofing could not have been widely dislodged in the structures:

- In the case of the North Tower, the collapse initiated on the side of the building opposite to where the plane entered. With the amount of energy that would have been dissipated as the plane entered the building, it is unlikely that much of the fire-proofing would have been dislodged all the way on the other side of the structure.

- NIST’s scenario requires that the planes be shredded into small pieces as they enter the buildings to widely dislodge the fire-proofing.[36]



**Images from NIST report NCSTAR 1-2, pages 271 (top; WTC1) and 283 (bottom; WTC2)**

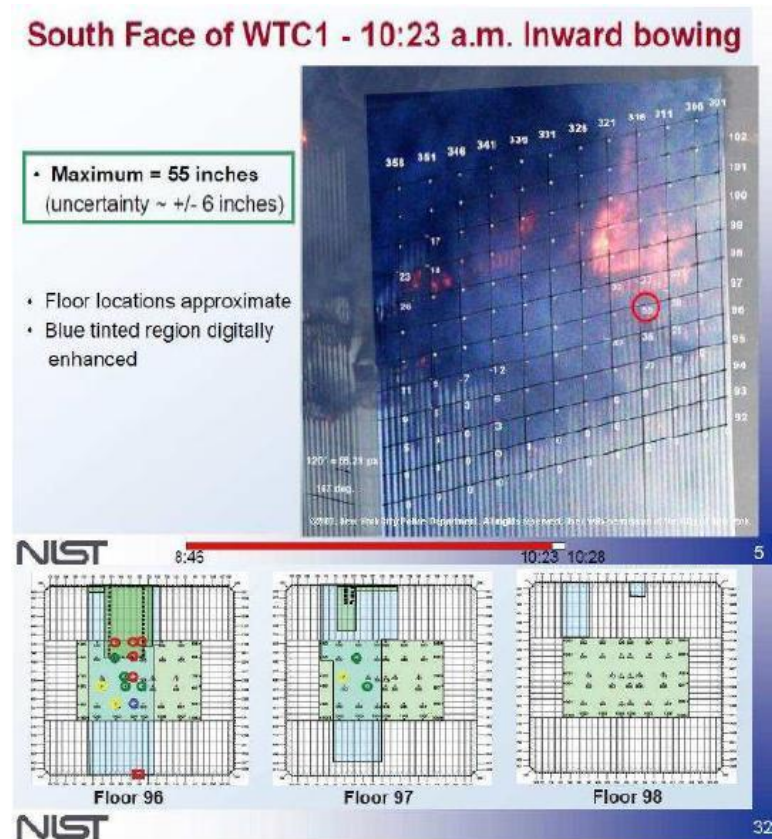
However, witnesses who escaped the South Tower described seeing intact portions of the aircraft, meaning that it is likely that the planes were not shredded into small pieces.

“The plane impacts. I try to get up and then I realize that I’m covered up to my shoulder in debris. And when I’m digging through under all this rubble, **I can see the bottom wing starting to burn, and that wing is wedged 20 feet in my office doorway.**” ~Stanley Praisnath, who was on the 81st floor of the South Tower.[37]

Furthermore, Purdue University’s own simulation of Flight 11’s impact into the North Tower (which was described by the University as “[having] a realism never seen before”) showed the aircraft being shredded into large chunks, rather than the much smaller debris suggested by NIST.[38]

- NIST asserts that the inward bowing of the Towers’ perimeter columns initiated the collapse of the structures. However, we can see from NIST’s own estimates that the

major inward bowing occurred in the area of the North Tower where evidently no fireproofing was dislodged.



**Images from: Observations for Structural Response—Structural and Fire Protection Damage Due to Aircraft Impact, by Therese McAllister**  
<http://www.nist.gov/el/disasterstudies/wtc/upload/6McAllister.pdf> (Note: The blue areas indicate dislodged fireproofing.)

This indicates that the inward bowing was caused by something other than the fires.[39]

To summarize:

The amount of jet fuel that remained on the fire floors of the Towers was minimal in comparison to the total fuel from each plane. The heat from the fires appears to have been too weak to cause the buildings to collapse. The structural damage of the collapse initiation floors was less than that of the other more heavily damaged floors. The amount of fire-proofing dislodged from the collapse initiation floors appears to have been minimal compared to other impacted floors.



## **World Trade Center 7**

With regard to WTC7, there has been considerable dispute over the cause of the collapse of the building. It was claimed years ago that Building 7 was severely damaged by falling debris from the collapse of WTC1. However, NIST now admits that the structural damage to WTC7 played little to no role in the collapse of the building.[40] As for the fires, NIST claims that there were 10 floors on fire, with six of those fires being out of control. NIST estimated that the temperature of the fires which initiated the collapse were at roughly 600 °C. However, others have challenged this claim, including chemists Kevin Ryan and Dr. Frank Greening:

“[R]aising those five floor beams to a temperature of 600 °C would require an enormous amount of energy, far more than was available from the burning of the office furnishings underneath the floor beams.” –Kevin Ryan [21]

“NIST’s collapse initiation hypothesis *requires* that structural steel temperatures on floors 12/13 significantly exceeded 300 °C (570 °F) - a condition that could never have been realized with NIST’s postulated 32 kg/m<sup>2</sup> fuel loading.” –Dr. Frank Greening [22]

NIST has openly admitted that the fires were likely less severe than the fires in other steel-framed skyscrapers. Furthermore, scientists in the 9/11 Truth Movement have shown evidence that the fires claimed by NIST to have initiated the collapse would have burned themselves out before the time of collapse.[41]

## **Conclusion**

In light of everything we have seen, it appears that comparing the numerous steel structures cited by supporters of the official story to the WTC buildings is not justifiable. We must assume that the steel structures we have covered are the best examples these critics can find. But upon careful examination, these examples do not support their claims. The circumstances surrounding the collapse of the three WTC buildings were clearly far too different from these other structures. Even if these structures were in some way more comparable to the Towers and Building 7, the manner in which the buildings collapsed does not match the manner of the WTC collapses at all. Critics of the 9/11 Truth Movement have yet to cite a single steel-framed structure collapse that exhibited all of these characteristics:

- The collapses were very rapid
- The collapses were mostly symmetrical
- The collapses exhibited a smooth downward acceleration
- The collapses produced huge clouds of pulverized debris
- The structures were totally dismembered, leaving no major structural supports standing
- The collapses showed ejections of dust and debris
- Witnesses described explosions as the buildings collapsed
- The collapses produced chemical residues of explosives and/or incendiaries[42]

These were all features exhibited by the three WTC buildings. Supporters of the official story may be able to cite a steel-structure collapse exhibiting some of these features, but to date they have not been able to cite a steel-structured collapse exhibiting all of these features outside of controlled demolitions.

<b>Comparative Analysis of Steel Structure Fires</b>							
<b>Structure</b>	<b>Skyscraper</b>	<b>Building</b>	<b>Total dismemberment (beams and columns)</b>	<b>Clouds of pulverized debris</b>	<b>Explosions reported by witnesses at the onset of collapse</b>	<b>Chemical residues of explosives/incendiaries</b>	<b>Smooth downward acceleration for multiple floors</b>
Twin Towers	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WTC 7	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Windsor Tower	Yes	Yes	No	No	No	No	No
McCormick Place	No	Yes	No	No	No	No	No
Sight and Sound Theater	No	Yes	No	No	No	No	No
Kader Toy Factory	No	Yes	No	No	No	No	N/A
Mumbai High North Platform	No	No	No	No	No	No	N/A
I-580 Bridge	No	No	No	No	No	No	No
WTC 5	No	Yes	No	No	No	No	No
Dogwood Elementary School	No	Yes	No	No	No	No	N/A
Faculty of Arch. Building	No	Yes	No	Yes	No	No	No

The reader is encouraged to take into account the information we have examined about these steel-framed structures, and readers may decide for themselves how comparable they are to the Twin Towers and World Trade Center 7. We close with a quote from stopthelie.com for your consideration:

“For the record, few in the scientific community doubt that it’s *theoretically possible* for a building to experience failure if it is subjected to devastating heat for a sufficient period of time. And additional factors like no fire-proofing, no sprinkler systems, insufficient steel to ‘bleed off’ heat or inferior construction greatly increase the possibility. However, what is ‘doubted’ (or more accurately; considered downright impossible) is that such a failure would resemble anything like what was witnessed on 9/11. Gradual, isolated, asymmetrical failures spread out over time...perhaps. Simultaneous disintegration of all

load bearing columns (leaving a pile of neatly folded rubble a few stories high)...no way.”[43]

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