CONSTRUCTION CODE APPEALS COMMITTEE

The Construction Code Appeals Committee meeting was held on February 23, 2016 at 3:00 p.m. with Chairman Sudler presiding. Mr. Koenig was present. Mr. Lewis was absent.

AGENDA ADDITIONS/DELETIONS
By unanimous consent, the agenda was adopted as presented.

Appeal of Requirement for Places of Assembly to be Sprinklered (Chapter 46 - Fire Prevention and Protection, Article IV - Public Occupancies, Section 46-162 - Sprinkler Requirements) - 518 and 524 South Bay Road *(Proverbs 356 Properties, LLC)*

Mr. Timothy Mullaney, Fire Marshal, advised members that the City's ordinance regarding sprinkler requirements was adopted on March 14, 2005 and that the National Fire Protection Association (NFPA) also has code related to sprinkler and fire alarm requirements, as does the International Building Code (IBC). He explained that in 2005 the City of Dover Fire Marshal requested that these provisions be included in the Dover Code to provide protection in places of assembly and education by providing for a fire suppression system to suppress the fire early and make sure occupants could get out before they are harmed or the entire occupancy fills with smoke. Mr. Mullaney acknowledged that the City's requirement was more restrictive than the NFPA codes, stating that the City took this stance after there were several major fires throughout the United States and other jurisdictions. He explained that many agencies and jurisdictions made changes to codes after a landmark fire occurred at The Station Night Club in West Warwick, Rhode Island, to make sure that their local government and communities were safer. Mr. Mullaney stated that related requirements through NFPA and the IBC had changed; however, the City's stance at that time was to make the code stringent to make sure that occupants of buildings are safe. He stated his understanding that the requirements were reviewed at the time the plans for 518 and 524 South Bay Road were being submitted, but the sprinkler system was not factored into the original plans. Mr. Mullaney stated his understanding that further analysis had been done; however, in his opinion as the authority having jurisdiction and after noting the items that were added or stressed in the appeal, the sprinkler system would still be the number one (1) choice to save lives in this scenario.

Mr. Evan Smith, owner of the property located at 518 and 524 South Bay Road and of Evan W. Smith Funeral Services in Wilmington, stated that the property sat vacant for four (4) years and was registered as a vacant building before he purchased it. He explained that the condition of the building was deplorable, noting that it was a residence for squatters, showed signs of drug and sexual activity, and had been pillaged. Mr. Smith advised members that he was trying to purchase this building that is an eyesore for Dover and was spending money to bring it up to code to make sure that it is safe. He stated that he was being held to code but the previous owner had not been, and this seemed to be a lack of consistency. Mr. Smith indicated that if he had not purchased the building, it would still be sitting and would be a hazard to the City and its occupants. Mr. Smith requested that the City step in and help him try to figure out how to bring the building up to code and ensure that it is not an eyesore. He requested that he not be held to a far-reaching code that he felt really did not apply to this structure.

Responding to Mr. Sudler, Mr. Smith stated that the building was previously used as a restaurant that went out of business in 2008.

Mrs. Ann Marie Townshend, Director of Planning and Community Development, indicated that the property had been used consistently as a restaurant for many years and there had been multiple restaurants at that location.

Mr. Sudler questioned if the previous owner was required to put in a sprinkler system when the restaurant changed ownership. Responding, Mr. Mullaney explained that the use of the building had never been changed from that of a restaurant.

Mr. David Dubroff, contractor for the project, stated that buildings are grand-fathered in until there is an addition or change of use, which would trigger the need to bring it up to current code.

Mrs. Townshend concurred that change of ownership does not require the owner to bring it up to code unless there is a change in use involved.

Mr. Dubroff informed members that he has had a business license since 1989 and had always dealt in construction; however, in the last 20 years, he had gone from residential to commercial. He explained that commercial real estate brokers bring him prospective buyers or tenants for buildings that need renovations. Mr. Smith had indicated to him that he was thinking of buying this building for a funeral home. Mr. Dubroff advised members that the code is very simple and involves two (2) major entities: the NFPA and IBC. He noted that all jurisdictions adopt the code from these two (2) entities, which had been around for generations and have a large number of engineers and do code analysis and testing.

Mr. Jim Davidson, Fire Protection Engineer, Davidson Associates Consulting Engineers, stated there are also Delaware State Fire Prevention standards in Delaware, and this is a third set of standards that Dover has to meet or exceed. He indicated that these regulations do not have anything to do with the building code but reference the NFPA 101 - Life Safety Code, which is what Dover also references in its fire code and under the IBC.

Mr. Dubroff advised members that municipalities generally base their code on these large entities and then tweak it. He indicated that when he looked at the subject building, he looked at the maximum occupancy of 300 before a sprinkler system would be needed in the NFPA and the IBC codes and never thought that Dover's Code would cut this maximum in half to 150, noting that some codes use 200. Mr. Dubroff advised members that the NFPA and IBC, with all their resources, think that the 300 maximum is safe and that even Mr. Davidson, who is a fire engineer, had not picked up Dover's requirement. Mr. Dubroff also noted that if the building were located two (2) miles down the same highway, just outside City limits, a sprinkler would not be needed. He stated that no one would argue if simple things, such as an extra exit or a change in the hallway were needed; however, a sprinkler system is a monumental cost.

Referring to his correspondence dated February 19, 2016, Mr. Davidson stated that of the major fires that the NFPA reacted to, the worst case was the West Warwick, Rhode Island fire at the Station Night Club. Experiments related to this fire were done at the National Institute of Standards and Technology (NIST) using a large hangar lent by the Air Force. The Station Night Club was actually built in the hanger and tested in modeling to find out what happened there and why. Mr. Davidson

explained it was found that the night club had a combustible concealed space open to the stage with a ceiling that was dropped four (4) feet, a combustible wood deck, an empty space, and no sprinklers. The stage was surrounded with polyurethane foam, which is called solid gasoline in the industry because it burns with the same heat release rate as a pool of gasoline. Mr. Davidson informed members it was estimated that there were 300-400 people in the night club, of whom100 died and 200 were injured. This led to the first tentative interim amendment issued by the NFPA that used the number 300 as a standard, and all fire marshals throughout throughout the United States modified their codes to state that assemblies with 300 occupants had to have sprinklers. Mr. Davidson informed members that in the 2003 or 2007 edition of their code, the NFPA eliminated the number occupancy requirement. Rather than using the 300 figure, they changed the requirement to indicate that four (4) specific types of assembly occupancy must be sprinklered, including night clubs, discotheques, dance halls, and bars. Mr. Davidson stated that this was done because night clubs have combustible interior finishes and people who cannot recognize and respond to hazardous and threatening conditions. He advised members it is said in the fire protection community that everyone in a bar or restaurant at 9:00 p.m. can respond to a threatening event; however, they may not recognize or respond to such an event from midnight to closing time at 2:00 a.m. Mr. Davidson explained that the videotapes of the Station Night Club fire showed that occupants did not leave until a quarter of the stage was on fire, thinking the fire was part of the display.

Mr. Davidson informed members that the funeral home could possibly be occupied by 229 people once per day, five (5) or six (6) days per week. Occupants would be capable of self-preservation and cognizant of what was happening. The chairs would be limited combustible loading, and modeling had been done that indicated if the sofas were placed three (3) feet apart, fire would not spread from one (1) sofa to the other because there would not be the ability to get the energy up. Mr. Davidson indicated that it was modeled with 10-foot high ceilings; however, it was being said that ceilings in the building would go to 12 feet. He indicated that he could not get a sprinkler head to work at the 12-foot height because a sofa fire would not generate enough heat to get a 155 degree head to work two (2) feet from the center of the sofa; however, the smoke detectors went off in 30 to 60 seconds. Mr. Davidson stated, when looking at the level of life safety, that sprinklers are number one (1) if there are people not cognizant of what is going on, in hospitals where people cannot get up and leave, in restaurants where nobody is paying attention, in dance halls where there has been drinking, when people are sleeping, or when there are high hazards present. He expressed his opinion that sprinklers are good for heavy industry and other uses, noting that a life safety quick response sprinkler was developed in the early 1980s which can protect occupants in a sleeping area or dwelling unit. Mr. Davidson indicated that these sprinklers are now being used in dwellings and offices. He advised members that in other occupancies where people are not sleeping or incapable of self preservation, the desire is to get people out of the building and call the fire department right away. In his opinion, sprinklers in the funeral home would provide property protection but would not provide an additional level of life safety because people should be out of the room by the time the sprinkler goes off.

Responding, Mr. Mullaney stated that “should” was the key word. He indicated that the idea in reviewing and enforcing code was to provide the extra ability to get people out in the early stages. Mr. Mullaney stated his understanding of the dynamics of fire models, having seen plenty of them

in his career. He stated that the intent of the Dover Code was to make the City the safest it can be. Mr. Mullaney stated that this code was adopted for the occupancies involved in this situation, noting that there are many codes that may not make sense and that people do not want to comply with, but they are there for a reason. He indicated that there were several buildings in the City that had to meet this criteria and when staff walked away, these buildings were safer because of this code.

Mr. Scott Koenig, City Manager, stated his understanding that this property had been a restaurant on and off for the past 25 years, was the former Captain John's Restaurant and Capitol Diner, and that this project would involve change of use occupancy that would require a certificate of occupancy and a number of other things.

Mr. Greg Akers, Chief Building Inspector, advised members that a restaurant and funeral home were in the same Assembly Group in the IBC.

Mr. Koenig questioned who performed the due diligence for the property and who was involved from the real estate side. He inquired if Mr. Smith approached the realtor or if the realtor brought the property to him. Responding, Mr. Smith indicated that he had approached the realtor.

In response to Mr. Koenig as to when the contractor and engineer got involved with the project, Mr. Smith stated that this occurred after there was a sales agreement. Before the contractor and engineer became involved, his attorney called to check occupancy and other requirements to make sure Mr. Smith could use it for this purpose.

Mr. Koenig questioned at what point Mr. Smith contacted the City about the type of use he was hoping for. Responding, Mr. Smith indicated that this occurred before he filed for the building permit in September 2015. He stated that his lawyer called the City before the building was purchased; however, he was unsure whom the lawyer talked to.

Mr. Koenig questioned if anyone from Mr. Smith's company met with the City prior to submission of the Building Permit Application dated September 24, 2015 relating to building fit-out, and at what point a sales contract was signed. Responding, Mr. Smith stated that the sales agreement was signed in March 2015 and he closed on the property in July 2015.

Mr. Mullaney stated that Mr. Akers' notes indicated that the first on-site meeting was October 9, 2015 at 1:30 p.m. Another meeting, due to be held on January 7, 2016, was canceled and a second meeting was held on January 27, 2016.

In response to Mr. Koenig regarding what was driving the occupant load of 229 people, Mr. Smith indicated that it was the size of the chapel and confirmed that this was the discretionary size that he had requested.

Mr. Dubroff explained that the square footage of a building with a business, assembly, institutional, or educational use is taken and there is a chart in the code book that shows how many occupants per

square foot are allowed. In a funeral home the chapel is the assembly area and a number per person is calculated for that room. A different number is determined for work space and these amounts are added together.

Mr. Koenig asked if the number was being driven by the size of the existing building and if they could reduce their occupant load to under 150 by making a smaller chapel and reducing the size of the building. Responding, Mr. Dubroff stated that this could be done.

In regard to Mr. Davidson's previous comments regarding a 10-foot ceiling height, Mr. Koenig stated his understanding that enough heat would not be generated to pop a sprinkler head at a height of 10 feet because of the fire load related to furniture, carpeting, etc. In response, Mr. Davidson stated this was the case for a ceiling height of 10 or 12 feet.

Mr. Koenig questioned at what height a sprinkler head would need to be set. Responding, Mr. Davidson explained that this involved the volume of the room. He stated that a heat source like a sofa would drive a plume of heat to rise, entraining the heat in the room. In a typical living room, which is 12 x 10 feet or 15 x 10 feet with a 9-foot ceiling, Mr. Davidson noted there are less cubic feet and the air heats faster. In a room that is 43 x 48 feet with a 10-foot ceiling, there are more cubic feet, entraining more heat into the fire plume. He stated that more air has to be heated up the ceiling plume to get the sprinkler head to work.

Mr. Koenig questioned how sprinklers would be deployed in a large church hall because of the large volume of air and low load of furniture or fuel at the base, or in a movie theater where there is a large volume of air and relatively sparse furniture. In response, Mr. Davidson advised members that this was a conversation that the fire protection community was having. He indicated that most movie theater fires are arson fires or occur in a large storage room that is breached and fire gets into the theater. Sprinklers are used in an effort to cool the environment and to prevent flashovers so that everyone can get out of a building or apartment. Mr. Davidson stated that once flashover occurs, survivability is very limited in a compartment where the fire has originated. He noted that if a Christmas tree is lit in a 10 x 15 foot living room with an 8-foot ceiling and typical furnishings, the tree will give off enough heat to cause a ceiling plume to come down and ignite all the furniture. In actual test fires in a residential room, there are two (2) sprinkler heads operating to put a Christmas tree out, but usually only one (1) is needed when using a sofa. Mr. Davidson indicated that a smoke detector will pick up a fire faster than a sprinkler head. In their model with a sofa fire, the temperature of the upper layer only got to 80 degrees and did not reach a flashover stage.

Mr. Koenig stated that the City is protected entirely by an all-volunteer fire service and does not have paid staff in the fire station waiting to respond to emergencies. He indicated his belief that this was one (1) of the determining items that supported the reduction in the numbers when this code recommendation was adopted. Mr. Koenig advised members that the City as a whole wanted to maintain a volunteer fire service into the future. This places a burden on the individual properties to provide the first level of protection, which is offered by correctly installed and tested sprinkler

systems. Mr. Koenig asked the other communities mentioned by Mr. Davidson were protected by paid or volunteer fire companies.

Responding, Mr. Davidson indicated that volunteer firemen's associations in each of the Delaware counties had provided input for State Fire Prevention regulations. He estimated that 90% of these departments are volunteer and still have the 300 occupant limit. Mr. Davidson stated his belief that only Wilmington has a paid fire department.

Mr. Mullaney stated that every department has paid employees. Responding, Mr. Davidson stated that all departments other than Wilmington were hybrid.

Referring to Page 1 of Mr. Davidson's letter dated February 19, 2016, Mr. Koenig noted that the total project cost was listed at $156,900 and there were also costs listed for a sprinkler and sprinkler system water supply and questioned the differences. Responding, Mr. Davidson explained that he had estimated the sprinkler cost for an approximately 7,000 square foot building at approximately $21,000. This was subtracted from the total estimated project cost of approximately $136,435 to obtain the cost of the water supply. Mr. Davidson noted that a 15% contingency for problems that may occur was included.

In response to Mr. Koenig, Mr. Davidson indicated that the total cost of compliance would be $136,435.

Responding to Mr. Mullaney, Mr. Davidson stated his belief that the figures used were based on the City's Water/Wastewater Handbook, which specifies that within three (3) feet of the property line a water meter pit must be put in with a proper backflow preventer. The costs were for meter pit providers that will put in an Ames double check backflow preventer with a bypass meter on it.

Responding to Mr. Mullaney regarding the underground supply going into the building, Mr. Davidson stated his understanding that there was no fire protection supply going to the building.

Mr. Akers indicated that there was a one (1) inch line running to the building.

Mr. Davidson stated his understanding that, according to the City's Water/Wastewater Handbook, a minimum of a four (4) inch tap and feed must be provided for a sprinkler system. Responding, Mr. Mullaney stated that the size varies throughout the handbook.

Mr. Sudler stated that the City appreciated Mr. Evans trying to bring business to the City and asked how much had been put into the project. Responding, Mr. Smith indicated that he had put in $750,000 to date and counting the upgrades almost $1M.

Mr. Sudler inquired if there was anything that the City could do from a building perspective to assist the owner in addressing the sprinkler system in terms of decreasing the cost, taking into consideration the study and the Fire Marshal's concerns in addressing the safety issue. Responding,

Mr. Akers indicated that this could not be done with the City ordinance being as restrictive as it currently is.

Mr. Sudler inquired what the safest way to address the situation would be if the restrictions of the ordinance were set aside. Responding, Mr. Akers stated that in a case scenario, not the situation that currently existed, the building would be constructed of noncombustible materials with separation requirements between the first and second floors. He noted that an area on the second floor of Mr. Smith's property could be used as a residence. Mr. Akers indicated that if these rules were not in place, construction without a sprinkler system could be achieved with certain changes to the plans that were sent to his office.

Mrs. Townshend expressed her opinion that the testimony provided by Mr. Davidson would be compelling if the matter under consideration was whether or not to adopt the ordinance that was adopted in 2005. She indicated that typically with an appeal members are looking at either an alternative that meets the same objective or a special case that is specific to the property that makes it difficult to comply. Mrs. Townshend expressed concern about granting an appeal based on testimony from a fire protection engineer saying the City's code is excessive.

Mr. Davidson, referring to Page 5 of his letter dated February 19, 2016, indicated that he had included recommendations that would apply if there was no sprinkler ordinance, stating that they were asking for an alternative. He explained that if there were no sprinklers required by the Dover Code and the Code specified an occupancy of 300 rather than 150, they would not need to put in a fire protection system. They would only have to put in manual pulls per the IBC and the Delaware State Fire Prevention regulations in 101 - Life Safety; however, Mr. Davidson stated that they would still want to provide the additional levels of safety included in his recommendations. He indicated that more egress was being provided than needed by the City. Although the City would allow passage through the lobby area to go out the front door, he wanted another way out, and there would be an additional egress door from the sanctuary directly to the outside. Mr. Davidson explained that all codes from the 1800s until the present were originally called egress analysis codes and were developed to try to get people out of the building, which was the point of life safety. He stated that they were looking at a two (2) hour fire-rated partition wall that would separate the sanctuary from the rest of the building, and going up to the ceiling with four (4) feet of gypsum wings. This would meet the IBC requirement of a two (2) hour partition wall, so that there would not be the communication of fire from one (1) construction assembly to the other. There would also be a full smoke detection system in all areas of the building, so there would be quick notification even if a fire occurred in an unoccupied area. Mr. Davidson stated his belief that when the codes were originally developed, detectors were required only in unoccupied storage rooms and other unoccupied work areas. He advised members that he would like to provide a one (1) hour fire-rated partition around all the storage rooms, and the three (3) rooms in the back of the sanctuary would be separated with a one (1) hour fire-rated construction assembly.

Responding to Mr. Sudler regarding the cost of implementing these recommendations, which would be apart from a sprinkler system, Mr. Dubroff estimated the cost at under $20,000.

Mr. Koenig questioned Mr. Davidson regarding the liability that the City would incur if the requested waiver were granted, if the City laid aside its current, more restrictive Code, and if someone were to be injured or killed in a fire. Responding, Mr. Davidson expressed his opinion that this would be more his own liability relating to his errors and omissions coverage as the engineer who signed the document.

Mr. Koenig stated that the City would incur the liability by issuing the permit and assembly documents and signing off on the Certificate of Occupancy. He felt the liability would not stop with Mr. Davidson and the City's liability would continue in this case.

Mr. Davidson noted that he does not practice in this field and had not been involved in something like this.

Mr. Sudler questioned if the City had previously been involved in something like this and if a legal opinion could be obtained.

Mr. Koenig stated that the City had considered waivers from the Code before and by doing so was accepting a level of liability.

Mr. Sudler asked if the City had been in a situation before where this had occurred and someone was hurt. Responding, Mr. Koenig stated that he had not been in this situation.

Mr. Sudler asked if a legal opinion could be sought, stating that he likes to deal with facts.

Mr. Koenig expressed his opinion that the only way to develop a fact to support this scenario would be through a real loss and a real lawsuit, and then this could be determined.

Mr. Davidson suggested the possibility of referring to the Station Night Club fire, noting that there were a lot of related cases. He indicated that the West Warwick, Rhode Island building code official had been held not liable for the installation of polyurethane foam.

Mr. Koenig noted that this did not mean that they did not have to defend that liability.

Mr. Davidson stated that defending someone was different. He stated that in the One Meridian Plaza fire in Philadelphia, the Licenses and Inspections Department was brought in because there was an equivalency granted and they defended but did not pay.

By unanimous consent, members recessed to obtain a legal opinion on this matter.

Meeting recessed at 3:45 p.m.

Mr. Sudler moved to reconvene the meeting, seconded by Mr. Koenig and unanimously carried.

The meeting reconvened at 3:56 p.m.

Mr. Sudler stated that a legal opinion had been obtained. He stated his understanding that whether or not a waiver was granted, the City would not be liable.

Mr. Koenig stated that, according to the attorney, the City would not incur any additional liability and would technically be immune. He indicated that the City could be sued whether the Code was in place or waived. Mr. Koenig noted that the opinion was that, in the long run, the City would not have the liability but would have to defend a suit.

Mr. Koenig stated that, from his standpoint, this portion of the Code was important to enforce.

Mr. Koenig moved to affirm the Fire Marshal's decision to require the building to be sprinklered. The motion failed for lack of a second.

Mr. Sudler stated his understanding that since Councilman Lewis, the third member of the Construction Code Appeals Committee, was not present and there was a split decision between members, staff's recommendation would supercede and the sprinkler system was still required.

Mr. Koenig moved for adjournment, seconded by Mr. Sudler and unanimously carried.

Meeting adjourned at 3:58 p.m.

Roy Sudler, Jr.
Chairman

RS/JS/dd
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