



Leland Township Fire & Rescue

203 Grand Avenue
P.O. Box 578
Leland, MI 49654
(231) 256-7760

Plan Submittal Review

Property ID: "Leland Mixed Use"
211 N. Main Street
Leland Township (Leland); MI 49654

Per the plans submitted this is a conceptual design for a C-1 zoned property north of downtown Leland. There is no specific property site listed but the property is easy to locate and, as stated above, is conceptual in nature.

Submitted by: J. Peterson Home
ATTN: Joel Peterson
516 E. Front Street
Traverse City, MI 49686

On Behalf of:
AMDG Architects
Grand Rapids, MI

Plans Submitted: Conceptual Floor Plan of

- Main Level Garage and Retail
- Second Level Living
- Third Level Living
- Conceptual Elevation

References: Michigan Building Code 2015
National Fire Protection Association (NFPA)
1 – *Fire Prevention Code* (2009) and 101- *Life Safety Code* (2009)

Reviewed by: Fire Chief Dan Besson
- Certified Fire Inspector - Michigan
- Certified Fire Inspector I - NFPA
- Certified Fire Plans Examiner - NFPA

PLAN REVIEW

Background: The fire department was contacted, via telephone and subsequent follow-up email, on February 2nd, by Joel Peterson of J. Peterson Homes, requesting a review of a proposed mix-used building project for the vacant property located at 211 N. Main Street in Leland. 100 block of St. Joseph Street in Lake Leelanau. Although the projected address on the plans will be 211 N. Man Street it is understood that this building will have multiple tenants and, therefore, multiple addresses when complete.

J. Peterson Homes requested that I complete a review of the plans, specifically with the intent of identifying where we would want the “sprinkler connection”, also known as the Fire Department Connection – referred as the FDC from here on out. I have reviewed the plans as requested and am offering this written letter with my findings to them – a simple and not unusual request. The below information is a synopsis of my review.

Our review of the plans predominately references the NFPA *Fire Prevention Code* (NFPA 1), which was adopted by the state of Michigan as its fire prevention code on March 18th, 2011, and NFPA *Life Safety Code* (NFPA 101). We specifically reference Chapter 36, of the Life Safety Code, regarding the *New Mercantile Occupancy* and Chapter 30, *New Apartment Buildings*. As noted on the plans, this is plan calls for a multi-occupied/mixed used occupancy.

It should be noted that the plans were submitted electronically and were “scaled down” for emailing size and printing purposes it is difficult to read some wording/graphics.

Additional Terminology References: It is not uncommon for us, as fire service professionals, to use terms that may not be familiar to other building, planning, or construction experts (and vice versa too). We have tried to eliminate those wherever possible but we know they will appear. For instance, we follow a common identification of sides of a building, as compared to “north, south, and etc.”, to systematically work through the building. For this review we will start with “Alpha” as the Main Street front side, where the proposed commercial business entries are, and work *clockwise* from Alpha, Bravo, Charlie to Delta. The side where the building would have a neighbor to the south would be the Bravo side and so on.

Building Class: Mr. Peterson’s email indicated that the occupancy was being classified as a “mixed” use group where the occupant load, per business, was less than 50 persons. The plans identify the mixed use as R-2 (residential) and B (business). It should be noted that the type of “business” that may be established there could very well be a mercantile classification – based on what type of occupancy Mr. Peterson sees moving in. As we get closer to reality involving this project I can review it as a business occupancy if the design changes. There is no reference to the code he used in order for me to verify his classification however I reviewed it as a mixed occupancy. I cannot confirm the exact needs for the first level (i.e.: number of egress points, fire alarm reporting criteria, or exit signs) because I do not know the

type of occupancy that will be in the first-floor businesses. Assumably I reviewed it based on a mercantile occupancy.

According to the 2009 edition of the NFPA 101, based on the intended use, the fact that the sales area is at street level, and square footage we have classified this as Mercantile Occupancy Subclass C. This reference can be located in **NFPA 101:36.1.2.2(3). It appears to be sprinkled on the first floor (mercantile businesses) but it is not clear.** This classification and the references to and from other recommendation found in NFPA 1 and 101 are the platforms for our review.

The review of the plans submitted, as identified on page 1, led us to determine the following key areas regarding fire prevention and life-safety initiatives:

Occupancy Load: Based on presented plans and factors used in the Michigan Building Code and the National Fire Protection Association I cannot determine the total overall occupancy load without a lay of the land per se. Once the project appears closer to being a “go” I’d be happy to determine the occupant load.

Occupant Load Posting: Per **NFPA 101-12.7.9.3.1** – The occupant load (62) shall be posted in a conspicuous place. We require “where approved by the fire department”.

Exit Signs: Exits signs are needed for the display rooms. We suggest:

- Consider combining emergency lights with exit signage where applicable.
- Exit signage is required where the exit is not readily apparent to the occupants according to **NFPA 1:14.14.1.5.1**. We cannot tell by the overhead interior floor plan exactly how tall the dividing wall (assumably all the way from ceiling to floor) but we want to make sure there will be **no** areas where the exits are not apparent during an emergency.

Per **NFPA 101-12.2.10.1** – the means of egress shall be marked by exit signs (in compliance with **NFPA 101-7.10**) and meet the illumination, height, and posting requirements.

This includes:

- Approved exit light above the exit doors
- They must be tested monthly for 30 seconds (keep records on hand for inspection)
- They must be illuminated at all times and readily visible and unobstructed

We are requiring exit signs over the four alpha side egress doors as indicated below.

Emergency Egress Lighting: **NFPA 101-7.9.2.1** – Emergency lighting shall be provided for a minimum of 1.5 hours in the event of failure of normal lighting. Due to the egress requirements additional egress lighting will be required in the receiving area, at the main entry/vestibule door, the proposed exit door on the “bravo” side of display room (exit to receiving) and the bathroom.

Exit Doors/ Egress: According to **NFPA 1:14.9.1.1** there shall be an adequate number of egress doors, not less than 36 inches wide (**NFPA 1:14.8.3.4.1**), that will allow for the safe evacuation in the event of an emergency. Upon review of the plans, the intended use, and projected occupant load we are requiring at least two egress doors. We would allow the egress paths to be through the front door(s) and through the receiving doors – provided the proposed inward swinging doors in the receiving area be changed to outward swinging for egress purposes. The doors must remain unlocked during normal business hours.

In compliance with **NFPA 101:36.2.5.5** all aisles/egress paths must maintain a 36 inches clearance however in Class C mercantile occupancies the main aisle through the storage room shall not be less than 44 inches and must be defined, direct, and unobstructed in accordance with **NFPA 101:36.2.5.11**.

Travel Distance: The travel distance to exits shall not exceed 150 feet according to **NFPA 101:36.2.6.1** and the plans seem to comply with that.

Fire Extinguisher Mounting, Posting, and Annual Inspection: NFPA requires one (1) 5 pound ABC extinguisher within 75 foot travel distance. We have no preference where in the open space it is mounted as long as it meets the placement requirements of NFPA 1-13.6.3.1.3.8 and 13.6.3.1.3 (i.e. not above 5 feet from the floor, not obscured from view, minimum rating of 2A). Fire extinguisher shall be inspected annually by a company authorized (licensed) to do that type of work. The owner must maintain the records. NFPA 101:9.7.4.1 offers more guidance as well.

Fire Detection, Alarm, and Communication Devices: Per **NFPA 101 – 36.3.4.1** a fire alarm system that is monitored and notifies the occupants is not required. We strongly encourage hardwired fire detectors shall be able to alert occupants of a systematic detection of smoke or fire. This will include visual and audible notifications (horns and strobes) for the hearing and visually impaired.

Fire Suppression Systems: Due to the number of residential occupancies (multi-family) we are requiring the installation of an automatic fire suppression system. A fire suppression system is noted in the design specification plans for the upstairs apartments – it is tough to determine if there are plans to have them installed in the retail occupancies too – we strongly recommend them in order to prevent any fire spread from the retail stores up to the living areas above. Fire suppression sprinklers need an inspector test/drain site.

There is no identification of where a FDC is going to be installed, presumably because Mr. Peterson is looking for me to make that recommendation. Since the well is projected to be put on the delta side (Williams Street) it makes sense to us to put the FDC/sprinkler/riser room on that side.

Since the sprinklers being installed will need to travel to the 3rd floor – we will work with a licensed fire suppression company to make sure the water pressure from the well is strong enough to operate the sprinkler system as designed. An additional pump may be necessary depending on the specifications/system design.

Requirements of Management/Staff: Per NFPA Life Safety Code standards the staff of the mercantile businesses will be required to:

- Be trained regularly on how to use a fire extinguisher (NFPA 101:36.7.3) and there shall be in effect an approved written plan for the emergency egress...of occupants. NFPA 101:36.4.5.6.1

Additional Requirements/Notes:

- Posted Address: The building's address, or in this case "addresses", shall be posted on the building – minimum of 3-inch-high numbers and must contrast their background. The address shall be posted and visible at the street as well - if the address cannot be read from the road. An example of this would be reflective numbers on the mailbox or the green 9-1-1 address signs.
- Access Boxes: The AHJ shall have the authority to require access boxes to be installed in an accessible location...according to NFPA 1:18.2.2.1. Leland Township, through Leelanau County, recognizes Knox-Box as its approved access box vendor. Additional information regarding the specifications and approval process is available through the fire department.
- There must be a fire stop wall created in the attic space of the building, above the apartments, to prevent the spread of heat, smoke, gasses, and flames to travel in an unsuppressed, unmonitored, and unoccupied space.
- Fire Detection Connection (FDC): The fire department connection shall be marked with a reflective sign that reads "Fire Department Connection" and meets the design specifications (to be announced later) of the fire department's "authority having jurisdiction". The FDC will be able to be supplied by a single 5-inch large diameter hose equipped with a "Stortz Connection".
- According to NFPA 101:30:1:2:3 Multiple dwelling units shall be permitted above a nonresidential occupancy if...(a) the residential occupancy is separated from the nonresidential occupancy by having a minimum 1-hour fire resistance rating (construction) or (b) the nonresidential section is protected by an approved; supervised automatic sprinkler system (per section 9.7 of NFPA 101; Chapter 30).

Additionally, the fire department requires involvement in the continuing plan review, inspection, and a Certificate of Occupancy process and will require various inspections during the construction phases and immediately prior to opening to verify compliance with the appropriate codes. One set of "as built" construction drawings, schedules, and details, as it relates to construction, fire protection and response, will be required, as well as a **digital cad layout** of the building by this department prior to our final C of O inspection. The fire department will require a site inspection prior to opening in order to obtain pre-incident response plan information.

Review and approval by the *Authority Having Jurisdiction* shall not relieve the applicant of the responsibility of compliance with these codes.

If you have any questions about this plan review report, please feel free to contact me at (231) 994-3229 or at (231) 866-6248.

Respectfully submitted,



Daniel C. Besson; Fire Chief

Michigan Licensed Fire Inspector #: 05-645

NFPA Certified Fire Inspector #: CFI-12-0217

NFPA Certified Fire Plan Examiner #: CFPE-12-0025

NFPA 72 Correlating Committee Member (IAFC)

Cc: Greg Johnson – LTFR; Tony Calappi – LTFR; Zoning Administrator – Leland Township; Building & Safety – Leelanau County