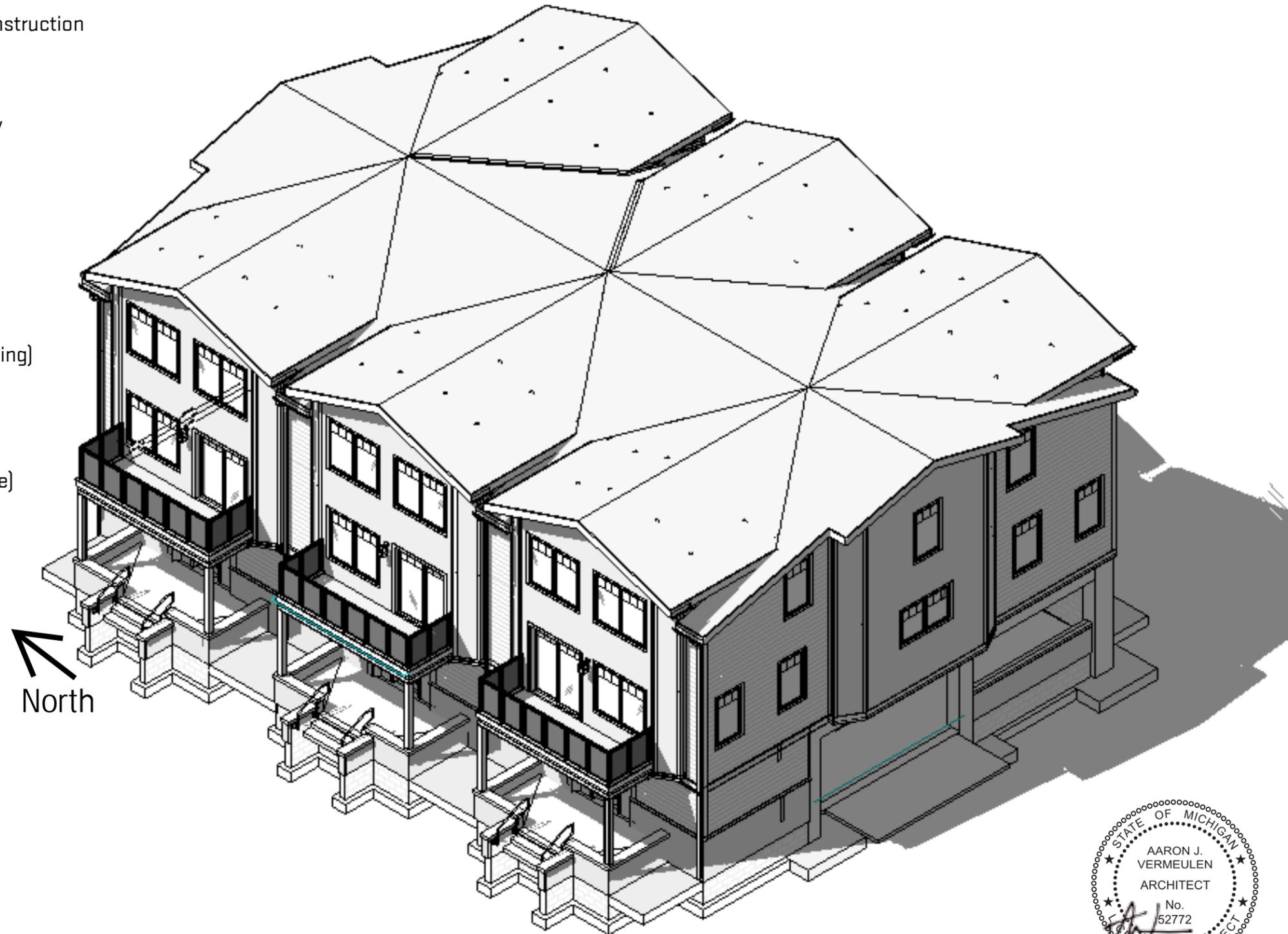


# 1211 White Street - Life Safety Summary

Use Group:	R-2 & S-2 Mixed-Occupancy, Separated
Zoning:	R4C
Construction Type:	Type V-B Over I-A Podium Construction
Height, Building:	30'-0"
Area, Building:	11,414 sf
Fire Suppression:	NFPA 13R in R-2 Occupancy per NFPA 13 in S-2 Occupancy
Fire Alarm:	Yes (Manual)
ZBA Approval:	Approved ZBA22-2007 (June 23, 2022)

## Area Tabulation:

Level 1:	3,563 sf (including 2,642 sf parking)
Level 2:	3,925 sf
Level 3:	3,925 sf
TOTAL LIVABLE:	8,772 sf
TOTAL AREA:	11,414 sf (includes parking garage)

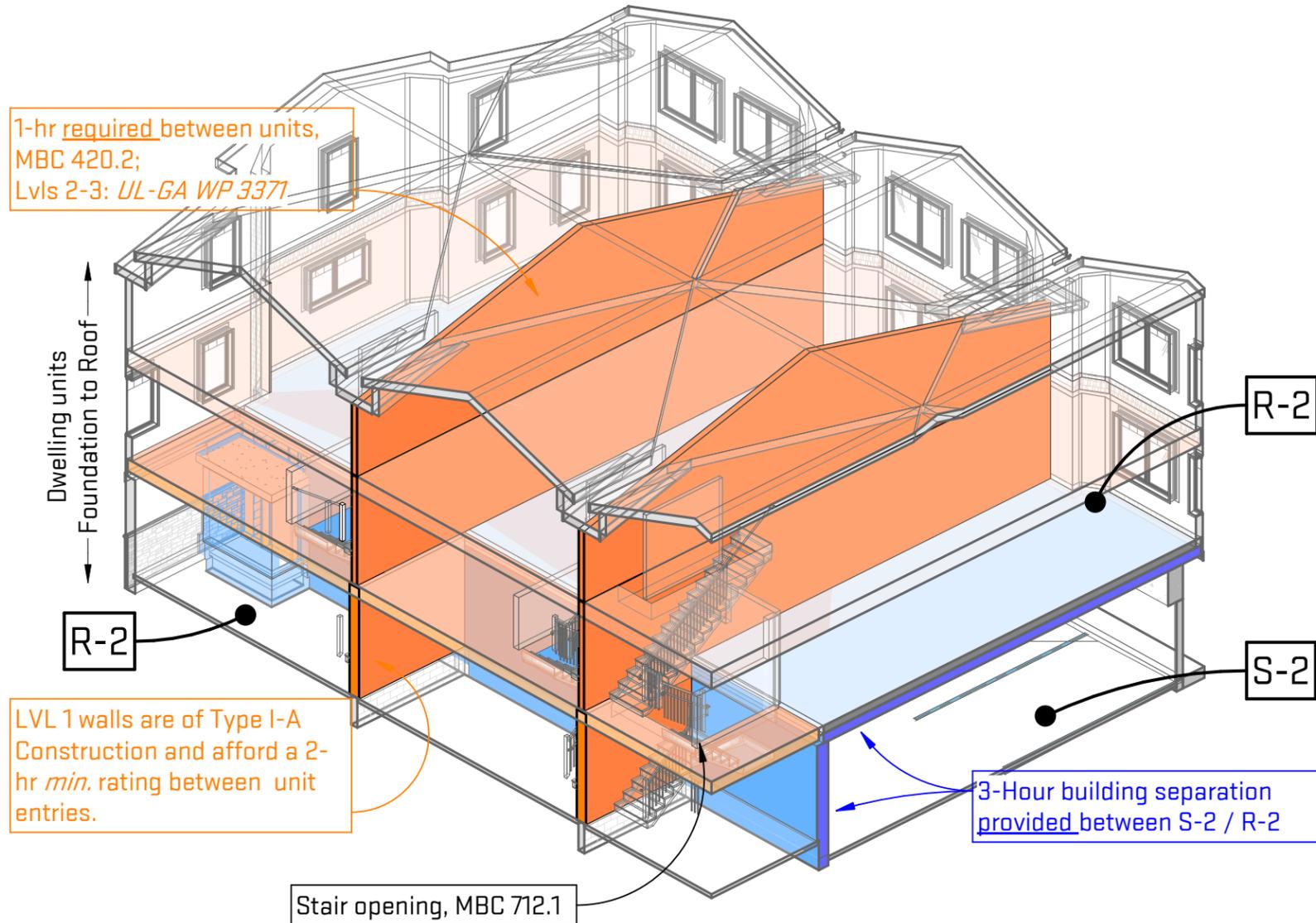


BLDG22-2422



Occupancy Group	Construction Type	Allowable Building Height	Allowable Building Area	Allowable Stories Above Grade	Fire Suppression (Sprinklers)	Fire Alarm	Fire Separation Required
R-2 Dwelling units	Type V-B (Lvl 1 entry walls: I-A)	Allowable: 60 ft  Proposed: 30' to Roof Mid-point	Allowable: 7,000 sf per story (x3) 21,000sf allowable (Eq.5-2) no frontage increase Project: 8,772 sf Proposed	Allowable: 3  Project: 3 Proposed	Suppressed NFPA 13R	Yes	1-Hour between Dwelling Units (MBC 420.2)  Exceeds req. per MBC Table 601, Type VB: 0-Hour Primary Structural Frame 0-Hour Bearing Walls 0-Hour Floor 0-Hour Roof
S-2 Open Private Parking	Type I-A per MBC 406.5	Allowable: Unlimited  Proposed: 9' - 0"	Allowable: Unlimited sf Project: 2,642 sf Proposed	Allowable: Unlimited  Project: 1 Proposed	Per NFPA 13	Yes	2-Hour between S-2 & R-2 (MBC 508.4)





## Fire-rated Separation Notes

### Garage Level Construction

Per MBC 406.5, Garage Level construction to be Type 1-A construction. All bearing walls and primary structural framing elements shall be of 3-hour fire-resistance rated construction.

### Dwelling Units / Garage Separation

The dwelling units and Garage Level are separated by a 10-inch thick precast hollow core concrete plinth with restrained ends and 2" concrete topping slab designed to meet or exceed a 3-hour fire rating (2-hr required by MBC 508.4 and 510.4, 3-hr required by MBC 510.2) Per MBC 707.3.9 a *fire barrier* with a min. 2-hour rating is required to separate mixed occupancies. A 3-hr fire barrier is provided, exceeding the required separation from R-2 and S-2 occupancies.

### Dwelling Unit Fire-resistance Rated Construction

Each dwelling unit shall be separated by a continuous, fire partition with a minimum 1-hr fire-rated assembly per 2015 MBC 420.2 and 708. A 2-hr resistance is to be provided at the first floor to separate individual dwelling units' exits. Smoke alarms shall be provided. Refer to Partition Type sheet for UL assembly numbers and fire-resistance.

1-hr required between units,  
MBC 420.2;  
Lvls 2-3: UL-GA WP 3371

Dwelling units  
Foundation to Roof

R-2

LVL 1 walls are of Type I-A  
Construction and afford a 2-  
hr *min.* rating between unit  
entries.

R-2

S-2

3-Hour building separation  
provided between S-2 / R-2

Stair opening, MBC 712.1



## Section 510: Special provisions

### 510.1 General.

The provisions in Sections 510.2 through 510.9 shall permit the use of special conditions that are exempt from, or modify, the specific requirements of this chapter regarding the allowable building heights and areas of buildings based on the occupancy classification and type of construction, provided the special condition complies with the provisions specified in this section for such condition and other applicable requirements of this code. The provisions of Sections 510.2 through 510.8 are to be considered independent and separate from each other.

### 510.2 Horizontal Building Separation Allowance

A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of fire walls, limitation of number of stories and type of construction where all of the following conditions are met:

1. The buildings are separated with a horizontal assembly having a fire-resistance rating of not less than 3 hours.
2. The building below the horizontal assembly is of Type IA construction.
3. Shaft, stairway, ramp and escalator enclosures through the horizontal assembly shall have not less than a 2-hour fire-resistance rating with opening protectives in accordance with Section 716.5.

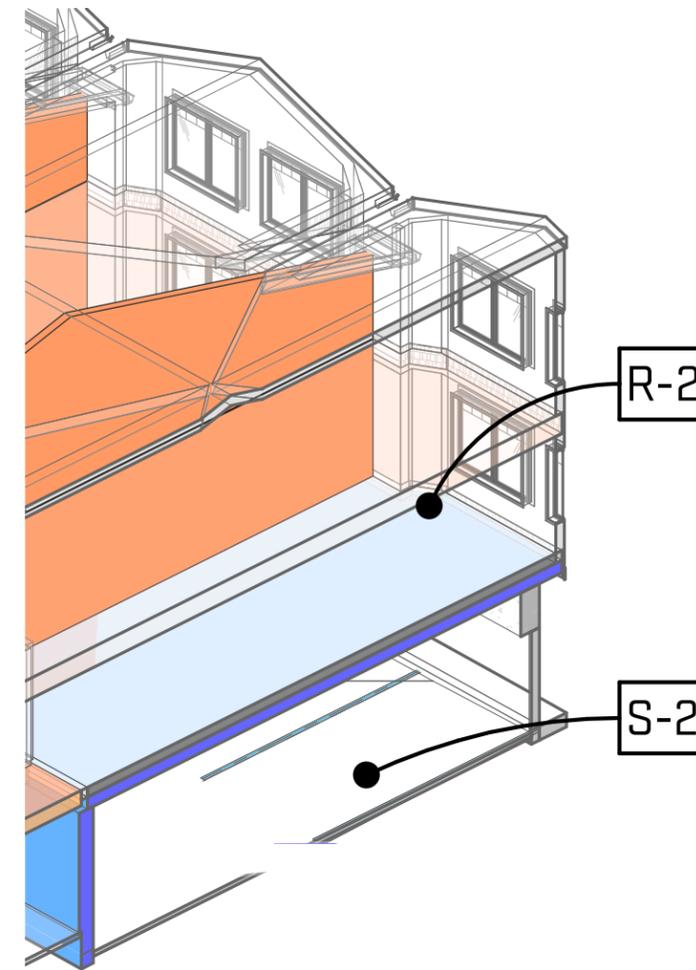
Exception: Where the enclosure walls below the horizontal assembly have not less than a 3-hour fire-resistance rating with opening protectives in accordance with Section 716.5, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire-resistance rating, provided:

- i. The building above the horizontal assembly is not required to be of Type I construction;
- ii. The enclosure connects fewer than four stories; and
- iii. The enclosure opening protectives above the horizontal assembly have a fire protection rating of not less than 1 hour.

4. The building or buildings above the horizontal assembly shall be permitted to have multiple Group A occupancy uses, each with an occupant load of less than 300, or Group B, M, R or S occupancies.

5. The building below the horizontal assembly shall be protected throughout by an approved automatic sprinkler system in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.

6. The maximum building height in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the grade plane.



### 510.4 Parking Beneath Group R.

Where a maximum one story above grade plane Group S-2 parking garage, enclosed or open, or combination thereof, of Type I construction or open of Type IV construction, with grade entrance, is provided under a building of Group R, the number of stories to be used in determining the minimum type of construction shall be measured from the floor above such a parking area. The floor assembly between the parking garage and the Group R above shall **comply with the type of construction required for the parking garage** and shall also provide a fire-resistance rating not less than the mixed occupancy separation required in Section **508.4**.

*OXS: 2-hr separation is required between R-2 and S-2 per table 508.4, a 3-hr separation is provided, exceeding requirements. Additionally, per 510.1, these provisions permit the modification of requirements based on occupancy and type of construction; per 406.5, open parking garages can only be of Types I, II, or IV.*



## Section 711: Floor and Roof Assemblies

### 711.1 General.

Horizontal assemblies shall comply with Section 711.2.

### 711.2 Horizontal assemblies.

Horizontal assemblies shall comply with Sections 711.2.1 through 711.2.6.

#### 711.2.2 Continuity.

Assemblies shall be continuous without vertical openings, except as permitted by this section and Section 712.

#### 711.2.4.1 Separating mixed occupancies.

Where the horizontal assembly separates mixed occupancies, the assembly shall have a fire-resistance rating of not less than that required by Section 508.4 based on the occupancies being separated.

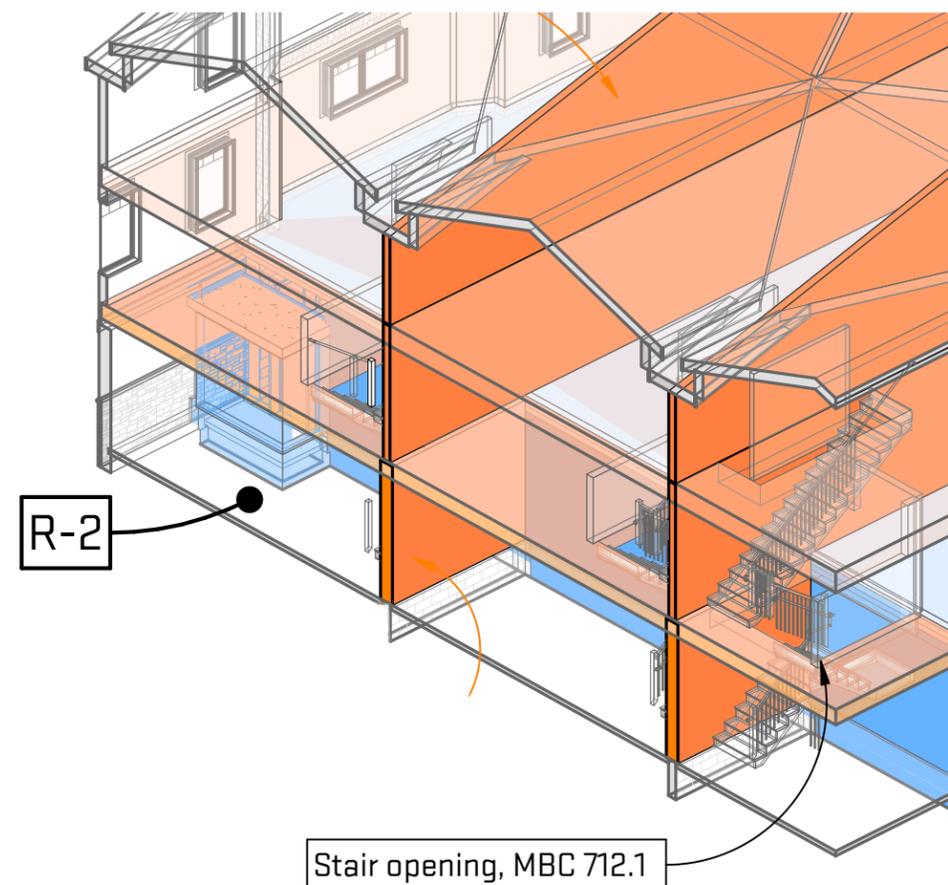
#### 711.2.4.3 Dwelling units and sleeping units.

Horizontal assemblies serving as dwelling or sleeping unit separations in accordance with Section 420.3 shall be not less than 1-hour fire-resistance-rated construction

## Section 712: Vertical Openings

### 712.1.2 Individual dwelling unit.

Unconcealed vertical openings totally within an individual residential dwelling unit and connecting four stories or less shall be permitted.



18" square conc. cols. 4-hr fire resistance rating (per MBC 722.2.4) provided.

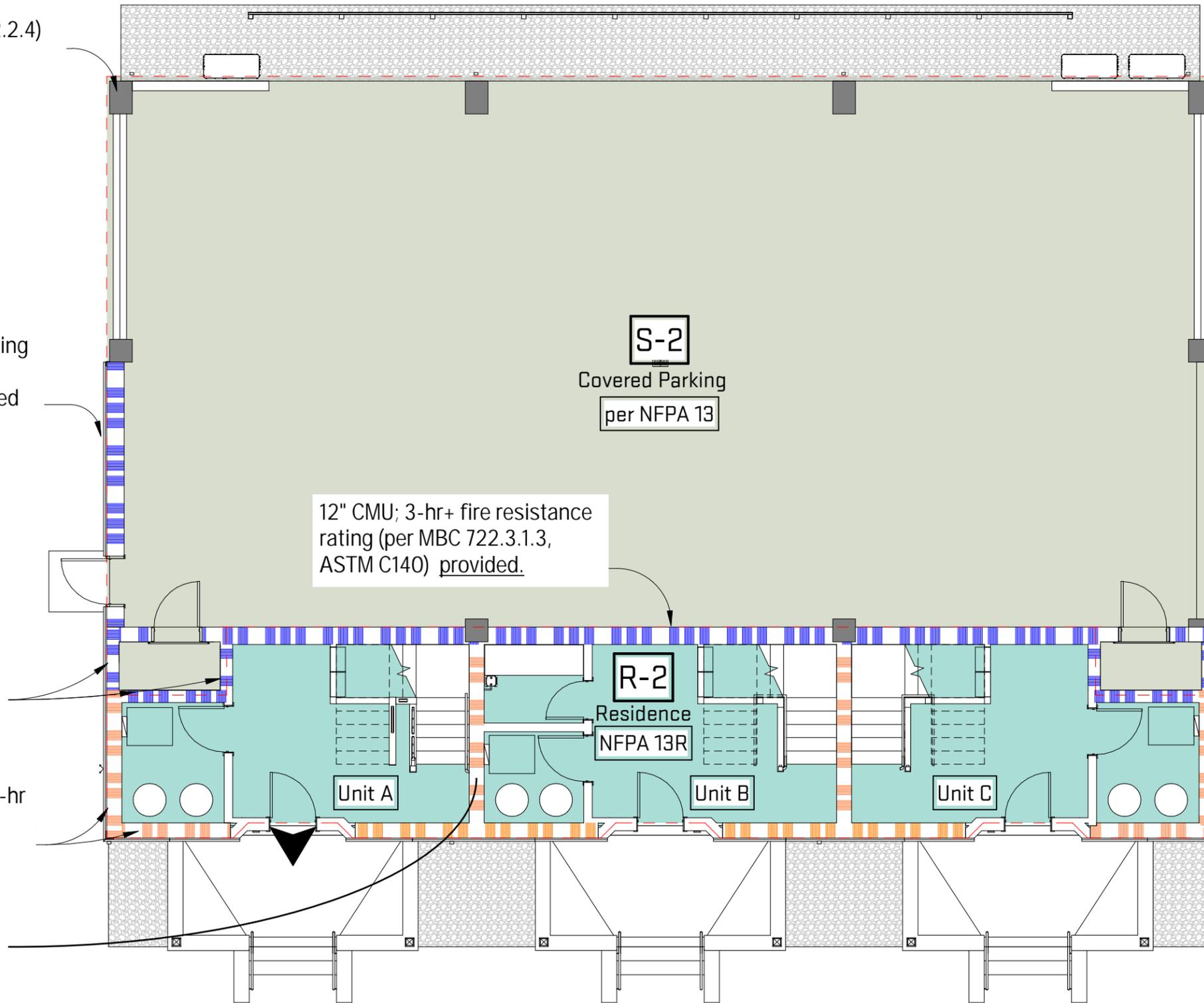
12" CMU; 3-hr fire resistance rating (per MBC 722.3.1.3, ASTM C140) provided; 1-hr min. rating required in Type I-A construction

12" CMU; 3-hr+ fire resistance rating (per MBC 722.3.1.3, ASTM C140) provided.

8" CMU grouted solid at garage closets; 3-hr+ fire resistance rating (per MBC 722.3.1.3, ASTM C140) provided.

8" CMU construction at LVL 1; 2-hr fire resistance rating (per MBC 722.3.1.3, ASTM C140) provided.

1-hr Min. fire separation required between dwelling units; 2-hr provided at LVL 1



S-2  
Covered Parking  
per NFPA 13

R-2  
Residence  
NFPA 13R

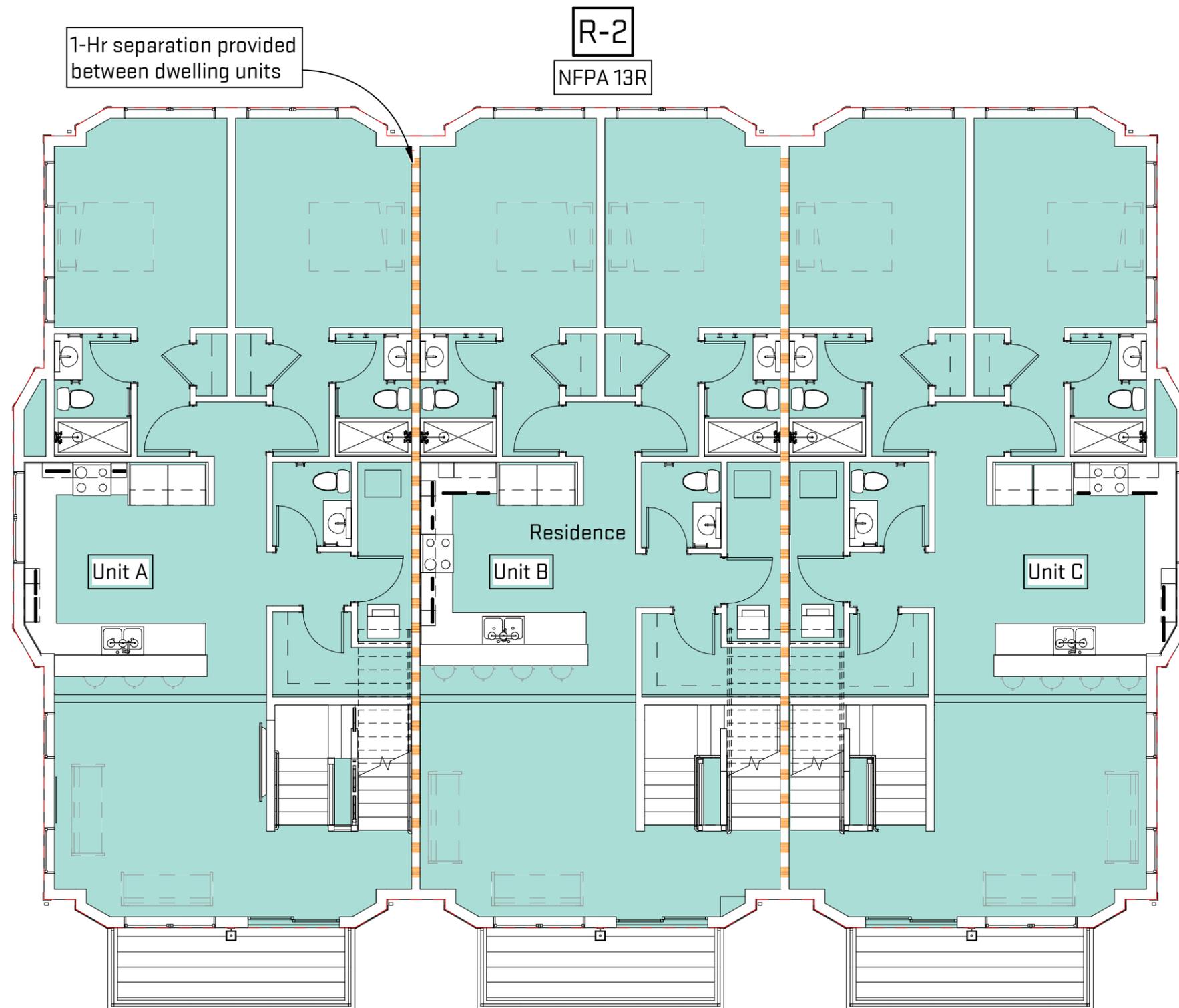
Unit A

Unit B

Unit C

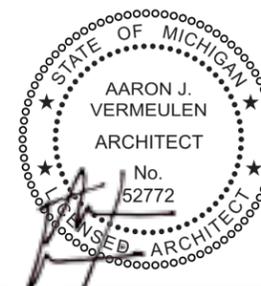
Level 1	
Covered Parking	2,642 SF
Residence	922 SF
	3,563 SF

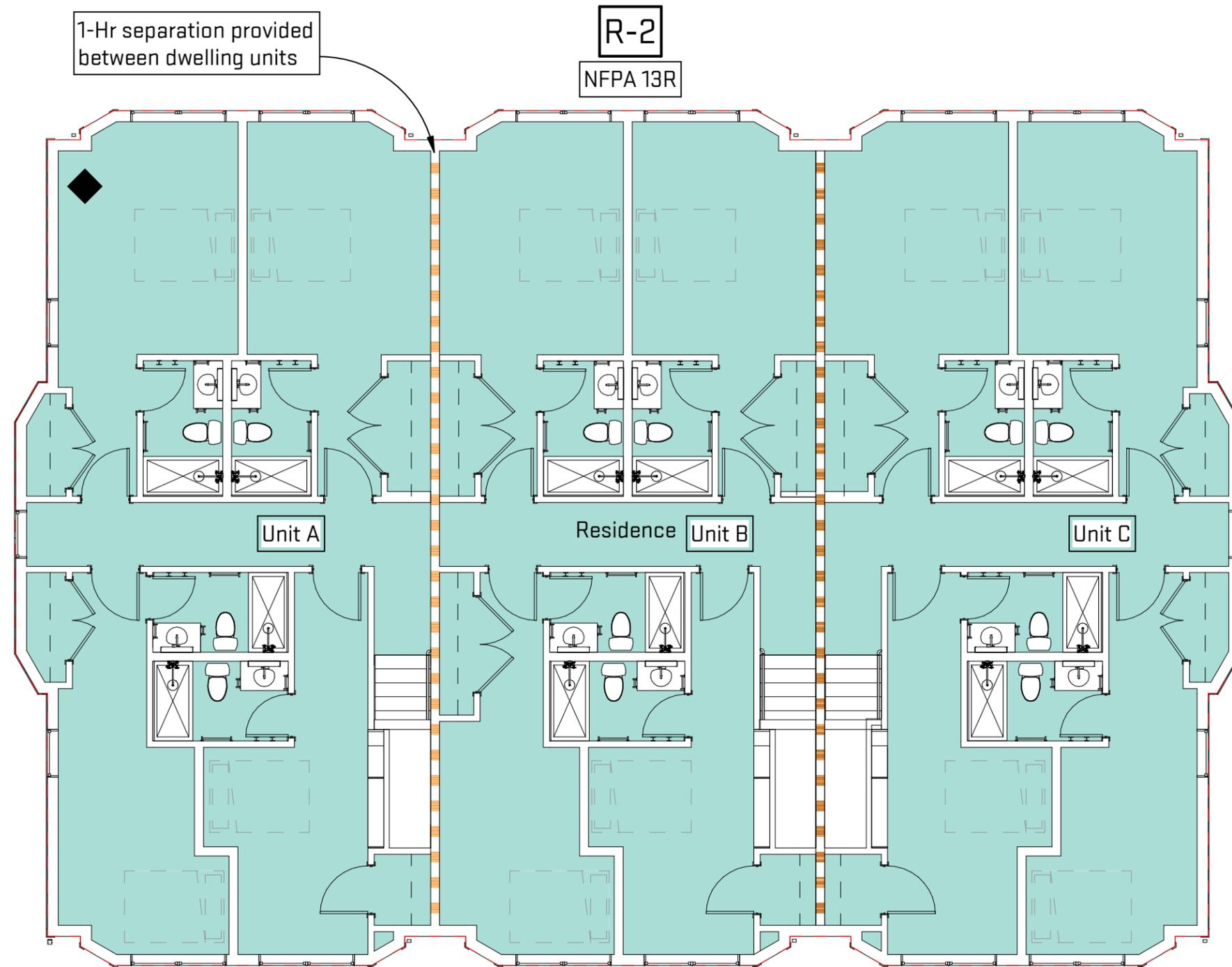




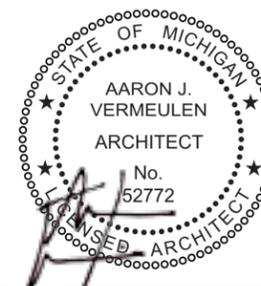
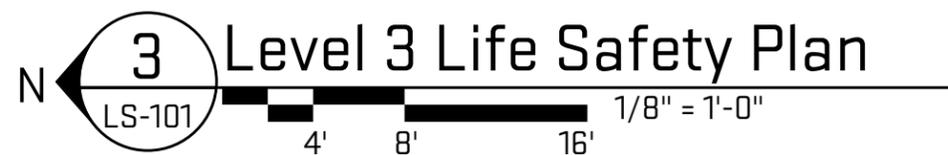
Level 2	
Residence	3,925 SF
	3,925 SF

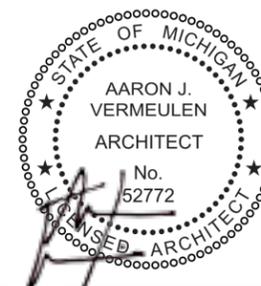
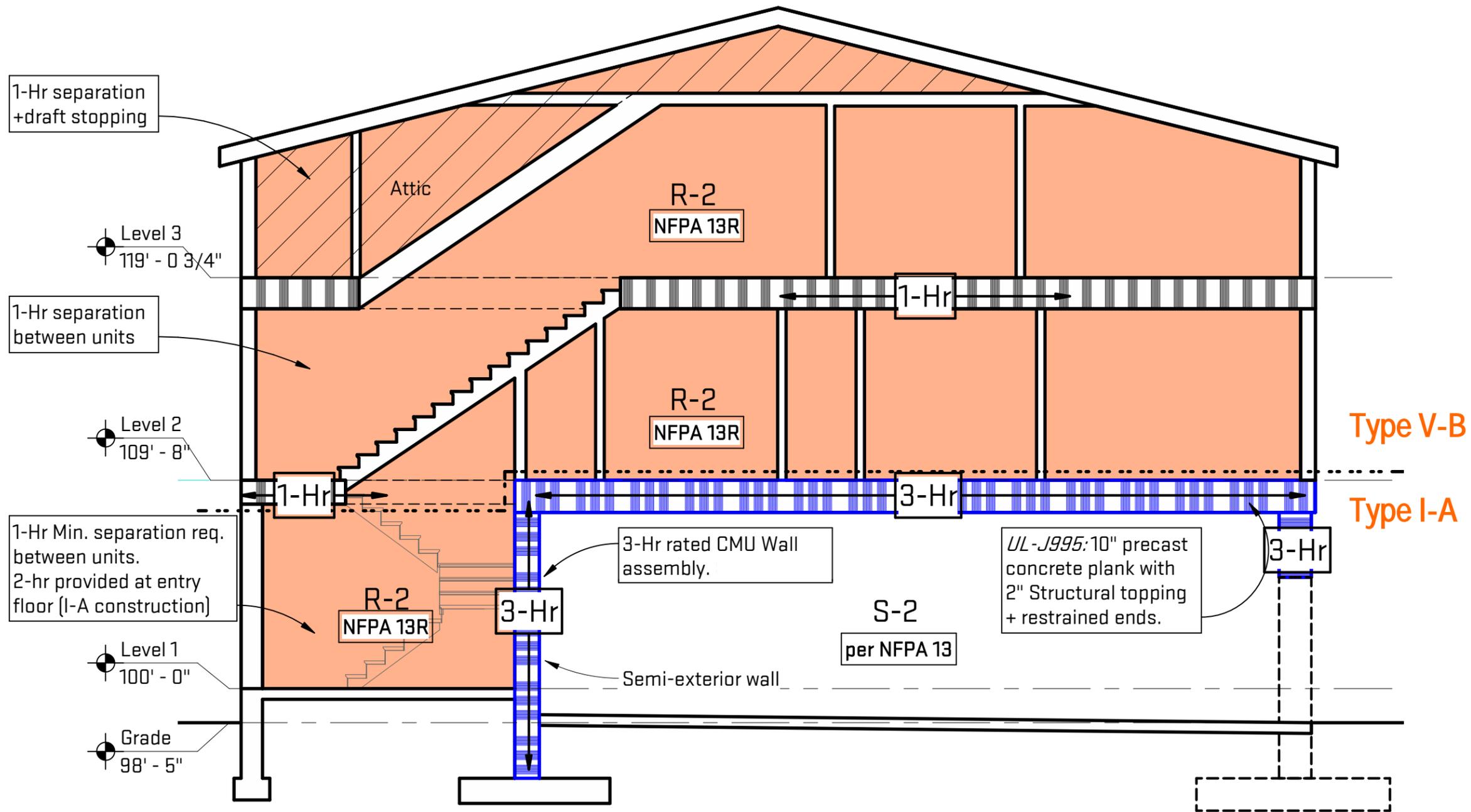
2 Level 2 Life Safety Plan  
 N LS-101

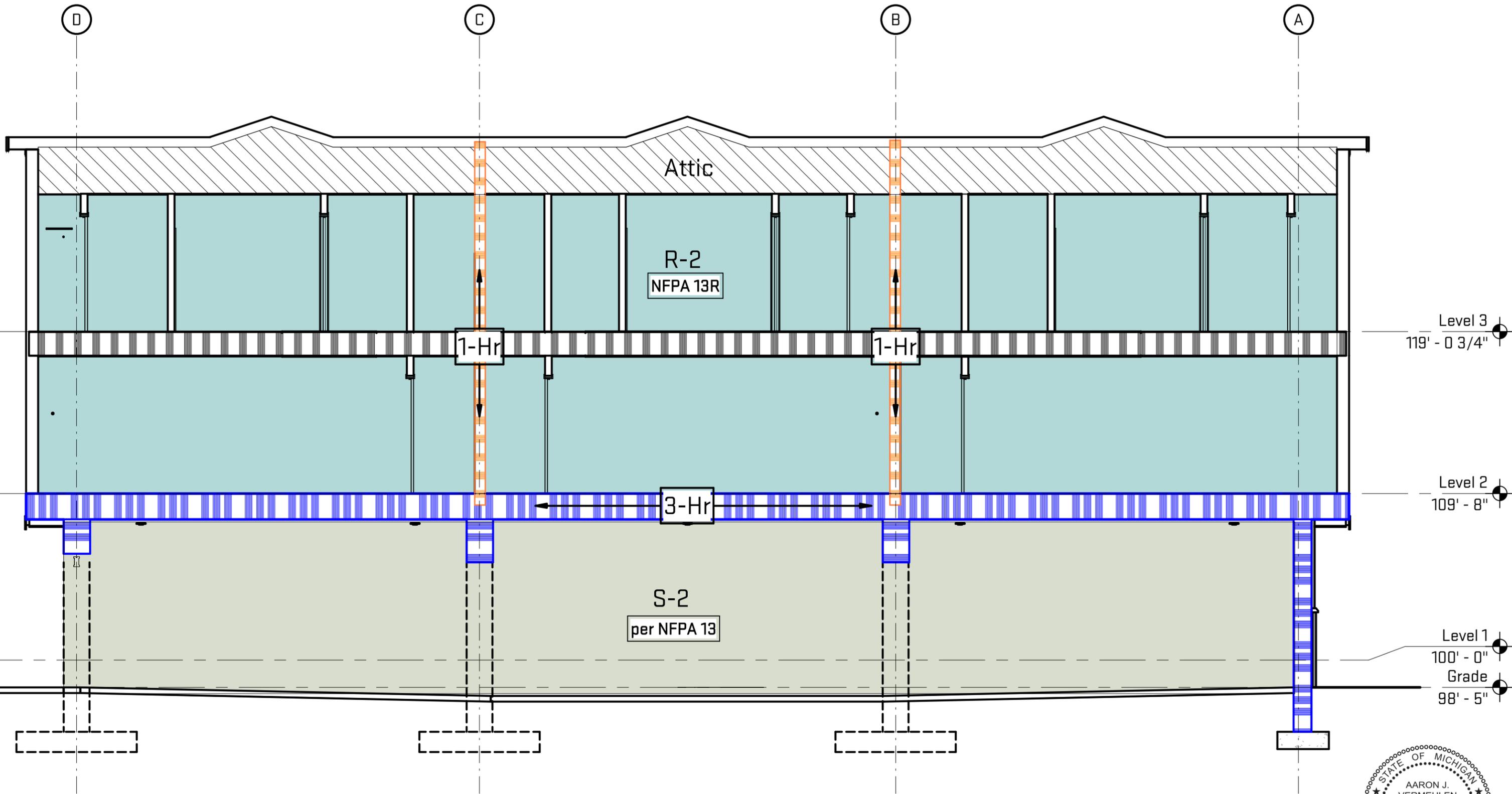




Level 3	
Residence	3,925 SF
	3,925 SF
Grand total	11,414 SF







# 2015 MBC & IBC

**510.2 Horizontal building separation allowance.** A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours.
2. The building below the *horizontal assembly* is of Type IA construction.
3. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5.

**Exception:** Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716.5, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided:

1. The building above the *horizontal assembly* is not required to be of Type I construction;
  2. The enclosure connects fewer than four *stories*; and
  3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.
4. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies.
  5. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
  6. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the

# 2018 IBC

**510.2 Horizontal building separation allowance.** A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where all of the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours. **Where vertical offsets are provided as part of a horizontal assembly, the vertical offset and the structure supporting the vertical offset shall have a fire-resistance rating of not less than 3 hours.**
2. The building below, including the *horizontal assembly*, is of Type IA construction.
3. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.

**Exception:** Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided:

1. The building above the *horizontal assembly* is not required to be of Type I construction;
  2. The enclosure connects fewer than four *stories*; and
  3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.
4. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies.
  5. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
  6. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the *grade plane*.

# 2021 IBC

**510.2 Horizontal building separation allowance.** A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of fire walls, limitation of number of stories and type of construction where the following conditions are met:

1. The buildings are separated with a horizontal assembly having a fire-resistance rating of not less than 3 hours. **Where vertical offsets are provided as part of a horizontal assembly the vertical offset and the structure supporting the vertical offset shall have a fire-resistance rating of not less than 3 hours.**
2. The building below, including the horizontal assembly, is of Type IA construction.
3. Shaft stairway, ramp and escalator enclosures through the horizontal assembly shall have not less than a 2-hour fire-resistance rating with opening protectives in accordance with Section 716.

**Exception:** Where the enclosure walls below the horizontal assembly have not less than a a-hour fire-resistance rating with opening protectives in accordance with Section 716, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire-resistance rating, provided that the following conditions are met:

1. The building above the horizontal assembly is not required to be of Type I construction.
  2. The enclosure connects fewer than four stories.
  3. The enclosure opening protectives above the horizontal assembly have a fire protection rating of not less than 1 hour.
4. Interior exit stairways located within the Type IA building are permitted to be of combustible materials where the following requirements are met:
    - 4.1. The building above the Type IA building is of Type III, IV, or V construction
    - 4.2. The stairway located in the Type IA building is enclosed by a-hour fire-resistance-rated construction with opening protectives in accordance with Section 716
  5. The building or buildings above the horizontal assembly shall be permitted to have multiple Group A occupancy uses, each with an occupant load of less than 3007 or Group B, M, R or S occupancies.
  6. The building below the horizontal assembly shall be protected throughout by an approved automatic sprinkler system in accordance with Section 903.3 and shall be permitted to be any occupancy allowed by this code except Group H.
  7. The maximum building height in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the grade plane.

# 2018 IBC - commentary

1. Separation of upper and lower buildings by a 3-hour fire-resistance-rated horizontal assembly. This otherwise horizontal separation can have vertical offsets. Such offsets can be used to facilitate designs for hillside locations, allowing a building to staircase down the slope. There may be other reasons why a designer may want part of the lower building to be two stories and part of it only a single story. The offset will allow such designs.

