

ANN ARBOR HOUSING BOARD OF APPEALS

STAFF REPORT

Meeting Date: January 21, 2021

Type of Request: APPEAL

Building Board of Appeals Request **BBA21-001** at 830 Henry, ANN ARBOR, MI 48104.

(Parcel Identification Number: **09-09-33-316-016**)

DESCRIPTION AND DISCUSSION

Property Owners Name and Address:

Prentice Partners of Ann Arbor, LLC
P.O. Box 70
Port Costa, CA 94569

BACKGROUND

The property at 830 Henry is a mixed-use building containing R-2, A-3, B and S-2 occupancy classifications as described by the 2015 Michigan Building code. Building Permit BLDG19-2148 was issued 11/20/2019. 830 Henry has been approved for some occupancy only unit 11 has noncompliant stairways. At final inspection of Unit 11 the building inspector cited stairway measures thirty-five inches wide not meeting the minimum requirement of Section 1011.2 exception 1 of the 2015 Michigan Building Code which requires a stairway not have a width of less than thirty-six inches. The applicant requests relief from this code requirement.

Standards for Approval:

1. *The True intent of the code or the rules governing construction have been incorrectly interpreted.*
2. *The provisions of the code do not apply; and*
3. *An equal or better form of construction is proposed*

STAFF RECOMMENDATION

Staff recommends this application be denied as it does not meet the standards for approval, the code has not been misinterpreted, the provisions of the code do apply and the reduction in stairway width is less safe than that required by the governing code (2015 Michigan Building Code).

While the applicant states the unit is designed as a townhouse this is not possible in a multi-use building the 2015 Michigan Residential Code is a standalone code that only pertains to single family houses, duplexes and townhouses and offers no provisions for mixed-use structures the Introduction to the 2015 Michigan Residential Code states:

“This comprehensive, stand-alone residential code establishes minimum regulations for one- and two-family dwellings and townhouses using prescriptive provisions.”

Furthermore, a townhouse is defined as a single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with a yard or public way on not less than two sides. 830 Henry does not meet this definition and therefore is not a townhouse. The mixed-use nature of this building including R-2, A-3, B and S-2 has increased safety concerns that are not considerations in the 2015 Michigan Residential Code which is why it is regulated by the 2015 Michigan Building Code.

Because 830 Henry is not under the prevue of the 2015 Michigan Residential Code it must comply with the minimum code requirements of the 2015 Michigan Building code, which per section 101.3 states:

101.3 Intent. The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, public health and general welfare through structural strength, *means of egress* facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

Per section 1011.2 of the 2015 Michigan Building Code the minimum width of a stairway cannot be not less than forty-four inches, with the exception that Stairways serving an occupant Load of less than fifty shall have a width of not less than thirty-six inches.

1011.2 Width and capacity. The required capacity of *stairways* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). See Section 1009.3 for accessible *means of egress stairways*.

Exceptions:

1. *Stairways* serving an *occupant load* of less than 50 shall have a width of not less than 36 inches (914 mm).

The Residential code is not intended to be used in commercial buildings. It is a standalone code that is not to become the standard when the requirements of the building code are not being met. Because the 2015 Michigan Building Code is a minimum standard and the code governing this project, it does not meet the standards of approval. The code has not been misinterpreted, the provisions of the 2015 Michigan Building Code do apply, and the reduced stairway width is neither equal to or better than the code requirements.

PROPOSED MOTION

APPEAL GRANTED

That in Case BBA21-001, **the appeal of the Building Official's decision** that the work to be performed at **830 Henry** is **GRANTED** relief from section 1011.2, and the Building Board of Appeals **REVERSES** the Building Official's decision for the reason(s) that *[state reason in motion]*:

- ☐ (1) The true intent of the 2015 Michigan Building Code and section 1011.2 governing the construction 830 Henry have been incorrectly interpreted by the Building Official;
- ☐ (2) The provisions of 2015 Michigan Building Code section 1011.2 does not apply to the construction at 830 Henry;
- ☐ (3) The applicant has proposed an equal or better form of construction.

Stipulations – If Applicable:

[Chairman to check box(es) following vote]

OR

APPEAL DENIED

That in Case BBA21-001 **the appeal of the Building Official's decision** that the work to be performed at **830 Henry** is **DENIED** and the Building Board of Appeals **AFFIRMS** the Building Official's decision for the reason(s) that *[state reason in motion]*:

- ☐ (1) The true intent of the 2015 Michigan Building Code and section 1011.2 governing the construction at 830 Henry have been correctly interpreted by the Building Official;

- ☐ (2) The provisions of 2015 Michigan Building Code section 1011.2 applies to the construction at 830 Henry;
- ☐ (3) The applicant has not proposed an equal or better form of construction;

Stipulations – if Applicable:

[Chairman to check applicable box(es) following vote]

Yeas:

Nays:

Absent for this vote:

Date

Paul Darling, Chairperson
Building Board of Appeals



City of Ann Arbor
PLANNING & DEVELOPMENT SERVICES
301 E. Huron St. | P.O. Box 8647 |
Ann Arbor, Michigan 48107-8647
p. 734.794.6263 | f. 734.994.8460 | building@a2gov.org
APPLICATION FOR BUILDING/CONSTRUCTION CODE APPEAL

Facility Information				
Facility Name			County	
Facility Street Address			City	Zip
Permit Number				
Building Data				
New Building <input type="checkbox"/>		Addition <input type="checkbox"/>	Alteration <input type="checkbox"/>	Repair <input type="checkbox"/>
Classification Per Building Code Building Use	No. Of Floors	Construction Type	Area/Floor	No. Of Occupants
Permit Holder				
Name (Company or Individual)			Contact Name	
Street Address	City	State	Zip	
Phone	Fax		Email	
Building Owner				
Name (Company or Individual)			Contact Name	
Street Address	City	State	Zip	
Phone	Fax		Email	
Summary Of Appeal				
CODE SECTION(s)			<i>Provide copies of the following as appropriate:</i> Statement of Facts and Reasoning <input type="checkbox"/>	
DESIRED RELIEF (State Briefly)				
BASIS OF APPEAL (State Briefly)			Supporting Material <input type="checkbox"/>	

Applicant (all correspondence will be sent to this address)			
Name (company or individual)		Applicant Name	
Street Address	City	State	Zip
Phone	Fax	Email	
Application Fee (applicant is responsible for paying fee)			
Residential \$250.00 <input type="checkbox"/>		Commercial \$500.00 <input type="checkbox"/>	
<p>Note: You have the right to appeal the City of Ann Arbor's Building Boards of Appeals decision to the State of Michigan. If you choose to appeal this decision, then application must be made within 10 days of the decision to the address listed below, in accordance with Section 16 of 1972 PA 230. Michigan Department of Labor & Economic Growth, Bureau of Construction Codes, P.O. Box 30255, Lansing, MI 48909 517-241-9303, www.michigan.gov/bcc</p> <p>Note : Reasons for Appeal (Per MRC, Section R112.2, MBC, Section 113.2) include:</p> <ol style="list-style-type: none"> 1. The true intent of the code or the rules governing construction have been incorrectly interpreted. 2. The provisions of the code do not apply. 3. An equal or better form of construction is proposed. 			
Applicant Signature		Date	

Summary of Appeal (Continuation sheets)

MBC Section 1011.2 Stairway Width and Capacity

1011.2 Width and capacity. The required capacity of *stairways* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). See Section 1009.3 for accessible *means of egress stairways*.

Exceptions:

1. *Stairways* serving an *occupant load* of less than 50 shall have a width of not less than 36 inches (914 mm).
2. *Spiral stairways* as provided for in Section 1011.10.
3. Where an incline platform lift or stairway chairlift is installed on *stairways* serving occupancies in Group R-3, or within *dwelling units* in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

Statement of Facts and Reasoning

Statement of Facts:

Unit 11 is a multi-story dwelling unit designed as a townhouse. Townhouses are typically considered to function as a single-family household per the MBC. Bedrooms (3 total) are all located on the lower level of this unit. The unit is suppressed with an NFPA 13R fire suppression system. This is a single exit structure per the MBC – the stairs converge on the main level which is the primary point of exit discharge. The total occupant load as calculated is 8 persons. Per Zoning Ordinance, the maximum occupant load is capped at 6 persons.

See attached plans for reference to the constructed configuration.

The stairs in question are fully constructed at this time. This by itself does not justify the nature of this request but is a fundamental hardship, admittedly self-induced, related to any outcome. In order to make the stairs compliant, 1" of additional width would need to be added to the stair section. This is virtually unattainable at this time without a complete modification to not only the conventional wood framed walls but more so the removal of additional sections of precast slab and concrete covering. This is presently over 12" in total thickness. Only the western side of this slab opening is even accessible for additional inches as the eastern side is supported by a W8x31 steel beam which sits at the edge of this opening. Additionally, the western wall of the stair between the main level and the upper terrace is a load bearing wall that supports the roof framing. We certainly acknowledge that making a modification of this nature is not clinically impossible, but we cannot begin to understand the complications implicit in attempting this level of invasive surgery particularly in relation to the concrete core section that would require the most extensive modification.

Accommodation for reduction of required stairway width from 36" to 35" was determined by building inspector during final inspection. Partial and final Rough Framing inspections were conducted with formal approval granted on 10/15/2020. Final inspections commenced in December 2020. The building inspector noted the following issue on 12/11/2020 during which the final inspection of this unit failed:

In addition to the standard code violations on other units from 12/8/2020, the stairs to 2nd floor and basement 35in wide.

The stair is fully compliant in all other measures related to code requirements.

Through no fault of any single entity or construction occurrence, the stair was inadvertently constructed with such a tight tolerance that it has limited the capacity of the width to be compliant with the minimum standard dimension of 36". The following construction components compounded and have led to this outcome.

- The lower level to main level stair sets the dimension for both this and the upper stair – both are contingent upon the vertical framing to support both the load of the stair as well as the roof load.
- The "plinth" level that separates the lower and main floors is composed of a 10" precast concrete deck with a 2" concrete topping. The lower level stair penetrates through this condition and is contained within factory formed opening that ultimately establishes the
- There is an 8x31 precast concrete beam framing the eastern opening of the stair and supporting the deck and vertical fire separation assemblies above.

All of these exceedingly tight variables have compounded to render the current outcome.

Statement of Reasoning:

We are requesting an exception of 1" in minimum stair width – from the prescribed 36" to 35". We feel that the provisions of the code do not apply to this specific adaptation based upon the following findings:

1) The occupant load is at the extreme low end of the prescribed number.

1011.2, Exception 1 is provided to reduce the minimum stair width from 44" to 36" presuming the maximum occupant is 50 or less. In this case, the occupant load is at the extreme low end of any calculation – there is a total of 6 persons by Zoning or a maximum of 8 persons per combined occupant load as established by measurement of all floors. While the code does not take into account a sliding scale in regards to width reduction, it needs to be reiterated that the requested exception of 1" of width needs to be understood in conjunction with an occupant load that is at the extreme low end of the prescribed range. It is clearly more than 0 but far less than 50.

2) The stairs in question will serve primarily a single flow of traffic relative to the level of exit discharge.

Per the IBC Code Commentary outlined with Section 1011.2, the design of stairs is predicated upon the safe and efficient flow of two-way traffic. One-way traffic is not identified but could be presumed to be compliant with dimensions less than those prescribed owing the reduced occupants and likewise by the arrangement of spaces between the two habitable floors.

This unit is functionally a two-story townhouse. Townhouses are consistently viewed by MBC as a single-family residence. In this case, the lower level is primarily the sleeping level and is where

the 3 bedrooms are located. The main level contains the primary entry/exit (formal level of exit discharge) and contains the kitchen and dining zones. The upper level, which is not internal habitable space, is an outdoor terrace limited to use by the inhabitants of the unit.

Owing to the arrangement of the spaces, the fact that is a residential use, as well as the fact that both stairs converge at the level of exit discharge, the flow of traffic between levels would innately be limited to a very small number. Additionally, in the case of an emergency situation, it would be presumed that occupants on the main level would be exiting out of the primary exit and those on the lower or upper levels would either be converging to exit at the main level rather than the main level exiting in the opposite direction. Two-way flow on the respective stairs would be functionally negated based upon these existing conditions and displacement of floors and uses.

3) Secondary means of egress are provided as part of the primary sleeping level.

It should be additionally noted that ALL of the bedrooms, the spaces of greatest concern for egressing based upon the inherent danger of inhabitants being asleep during an emergency situation, are contained within the lower level. Per MBC Section 1030, emergency escape and rescue openings are required in each bedroom - each of the three bedrooms provides compliant emergency egress windows and wells. Additionally, a fourth emergency egress window and well is likewise provided in the common living area. This provides additional redundancy for egressing from this level of the structure.

A final note. While the project has been designed and reviewed under the auspices of the MBC, the code itself clearly and consistently defines townhouses specifically as single-family residential units. As a result, it is interesting to understand some of the subtle variations related to review of the width dimension reviewed in conjunction with the Michigan Residential Code.

Regarding and specific to the stair width, the MRC does offer up a uniquely different dimension for the width between handrails:

R311.7.1 Width. Stairways shall be not less than 36 inches (914 mm) in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4 1/2 inches (114 mm) on either side of the stairway and the clear width of the stairway at and below the handrail height, including treads and landings, shall be not less than 31 1/2 inches (787 mm) where a handrail is installed on one side and 27 inches (698 mm) where handrails are provided on both sides.

This provides much tighter accommodation of clearance between handrails, potentially making the functional width of the stair as small as 27". In the case of this stair, only one handrail has been provided meaning that the operable dimension between handrail and wall is equal to 30 1/2" which is well above the minimum of 27" width.

Floor Plans and Drawings (Note: Unit 11 plans highlighted by opaque box to delineate from other plans)

Fire-rated Separation Notes

Garage Level Construction

Per MBC 510.2, 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.

Townhouse / Garage Separation

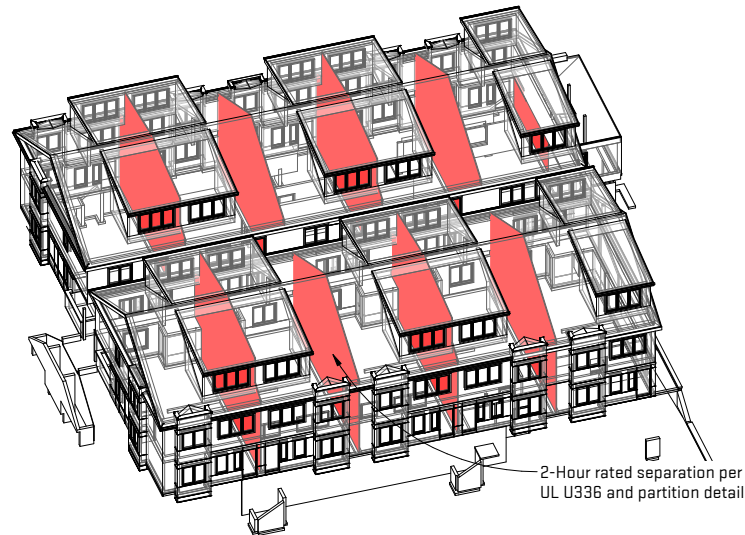
The Townhouses and Garage Level are separated by a 10-inch thick precast hollow core concrete plinth with 2" concrete topping slab designed to meet or exceed a 3-hour fire rating (required by MBC 510.2)

Townhouse Fire-resistance Rated Construction

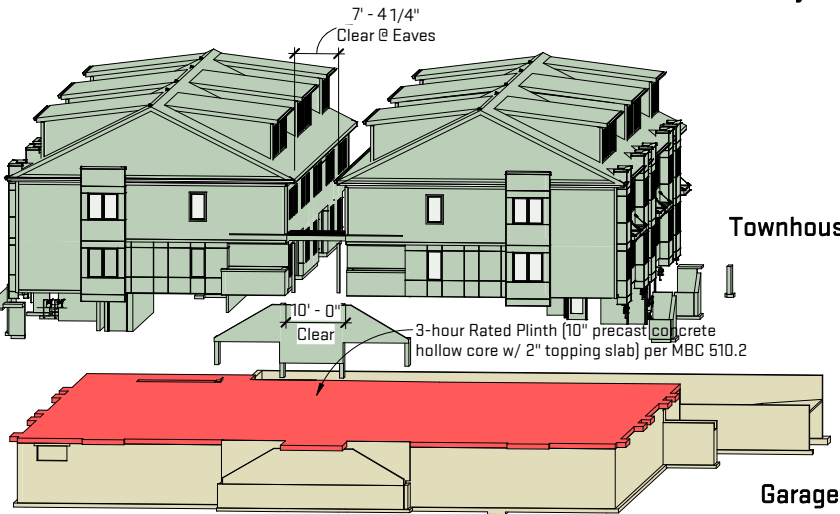
Each townhouse shall be considered a separate building and shall be separated by a 2-hour fire-resistance rated wall assembly. This shall be accomplished with a partition assembly per UL U336. Smoke alarms shall be provided.

Townhouse Fire-rated Parapet Exception

Per 2015 MBC 705.11, Exception 5, 5.1
A parapet is not required where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and fire-retardant-treated plywood for a distance of not less than 4 feet on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet of the common walls.



Dwelling Unit Separations



Applicable Codes & Building Data Summary

Project Zoning:
R4C - Multi-Family Use

Townhouses

Applicable Building Codes
2015 Michigan Building Code
2015 Michigan Mechanical Code
2017 National Electrical Code (NEC)
2015 Michigan Plumbing Code
2015 Michigan Uniform Energy Code

Occupancy Group
R-2
Townhouses not more than 3 stories above grade plan
Construction Type
V-B
Allowable Building Height
Allowable: 60 ft (S/S13R)
Proposed: 29'-9" to Roof Mid-point
Allowable Building Area
5,310 sf (Largest Story)
12,626 sf Total Proposed (North)
13,433 sf Total Proposed (South)

Allowable Stories Above Grade
Allowable: 3
Project: 3 Proposed
Fire Suppression (Sprinklers)
Suppressed per NFPA 13R
Fire Alarm
Yes
Fire Separation Required
2-Hour between Dwelling Units

Garage

Applicable Building Codes
2015 Michigan Building Code
2015 Michigan Mechanical Code
2017 National Electrical Code (NEC)
2015 Michigan Plumbing Code
2015 Michigan Uniform Energy Code

Occupancy Group
S-2 (Private Parking)
A-3 (Fitness/Gym)
B (Work/Activity Space)
Construction Type
I-A
Allowable Building Height
Allowable: Unlimited
Project: 10 ft Proposed
Allowable Building Area
Allowable: Unlimited
Project: 10,473 Proposed
Allowable Stories Above Grade
Allowable: Unlimited
Project: 1 Proposed
Fire Suppression (Sprinklers)
Suppressed per NFPA 13R
Fire Alarm
Yes
Fire Separation Required
Per MBC Table 508.4
1-Hour between S-2 & B
Not Req'd between S-2 & A-3
1-Hour between S-2 & R-2
1-Hour between B & R-2
3-Hour Structural/Load-bearing elements

Area Schedule (Code Analysis)	
Name	Area
Garage Level	
Elec. (S-2)	186 SF
Fitness (A-3)	502 SF
Garage (S-2)	7,551 SF
Mech. (S-2)	343 SF
Residence	1,157 SF
Work/Activity (B)	1,326 SF
Work/Activity (B)	524 SF
	11,590 SF

Level 1	
North Building: Residential	4,685 SF
South Building: Residential	5,085 SF
	9,770 SF

Level 2	
North Building: Residential	4,903 SF
South Building: Residential	5,310 SF
	10,213 SF

Level 3	
North Building: Residential	3,038 SF
South Building: Residential	3,038 SF
	6,076 SF
Grand total	37,648 SF

Accessibility General Notes

Per 2015 MBC 1107.6.2.2.1
No Type A units are required (less than 20 dwelling units).

Per 2015 MBC 1107.7.2
Multistory dwelling units that are not provided with elevator service are not required to be Type B units.

Setback Calculations

R4C Multi-Family Schedule of Area, Height and Placement Regulations:

Per 5:34
Minimum Lot Area per Dwelling Unit = 2,175 sf
Minimum Usable Open Space in Percentage of Lot Area = 40%
Required Setback Line Minimum, Front Yard = 25 ft
Required Setback Line Minimum, Side Yard = 12 ft
Required Setback Line Minimum, Rear Yard = 30 ft
Maximum Building Height in Feet = 30 ft
Minimum Gross Lot Size, Area in Square Feet = 8,500 sf
Minimum Gross Lot Size, Width in Feet = 60 ft

Existing Front Yard Setback Table:

Per 5:57 - Averaging an existing front setback line:

In a residential zoning district, where the average of the established from setbacks of structures on all adjacent lots, which are located within 100 feet of either side of a lot and on which there are existing buildings, is greater than the required front setback specified in this chapter, a required setback line shall be provided on the lot equal to this greater average depth but not to exceed 40 feet. Where such average of the established front setbacks is less than minimum required front setback, the required setback line may be reduced to this lesser average depth, but in no case to less than 10 feet. For the purpose of computing such average, an adjacent vacant lot shall be considered as having the minimum required front setback specified for that zoning district, in which it is located.

Address	Existing Front Setback	Address	Existing Front Setback
812 Henry St	19' - 1"	S Industrial Hwy	24' - 5"
810 Henry St	16' - 8"	S Industrial Hwy	22' - 5"
808 Henry St	25' - 0"		
Average Setback:	20' - 3"	Average Setback:	23' - 5"

Side Yard Setback Calculation:

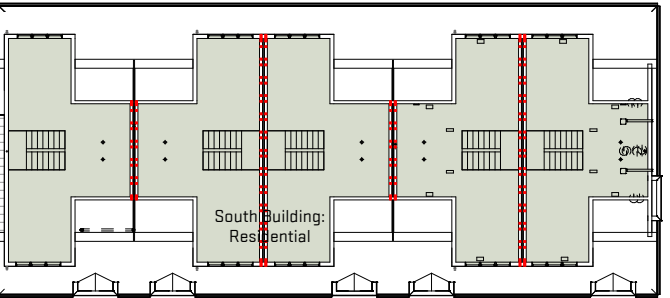
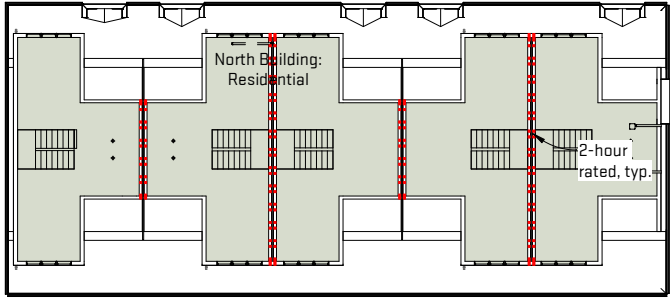
Per 5:34 R4C - Building Setbacks:

(1) In the R3, R4A, R4B, R4C, R4D, and R4E multiple family dwelling districts, the required side setback line minimum dimension, as set forth in the schedule of area, height and placement regulations (sections 5:25 through 5:49), shall be increased 3 inches for each foot of building height above 35 feet and 1 1/2 inches for each foot of building length over 50 feet. The rear required setback line the minimum dimensions, as set forth in the schedule of area, height and placement regulations (section 5:25 through 5:49), shall be increased 1 1/2 inches for each foot of building height over 35 feet and 1 1/2" for each foot of building width over 50 feet. The building length shall be the dimension of that side, which is parallel to the side lot line, of a rectangle within which the building may be located. The building width shall be the dimension of that side which is parallel to the front lot line, of a rectangle within which the building may be located.

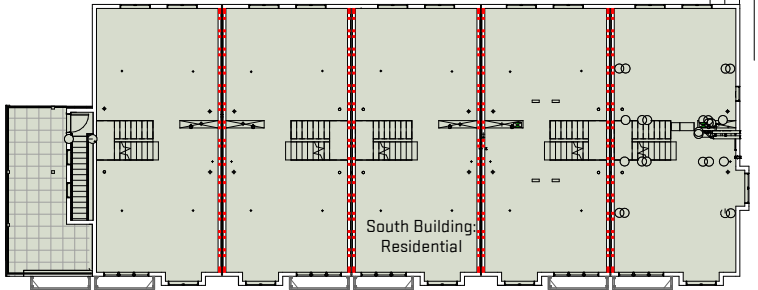
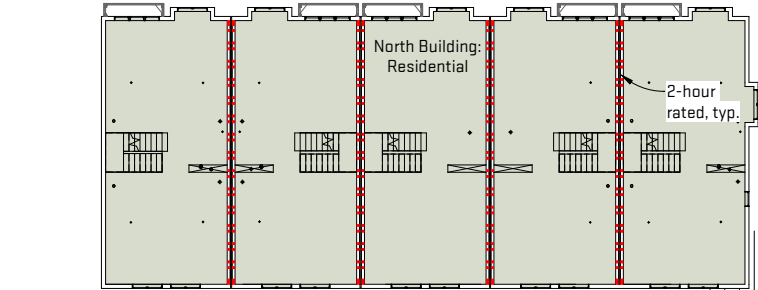
Building Length = 122' - 0" --> 122' - 50' = 72' --> 1.5" x 72 = 108" or 9' --> Side Yard Setback = 12' + 9' = 21'

Area Schedule (Unit Designations)	
Level	Area

Deck	
Level 2	404 SF
	404 SF
Unit 1	
Level 1	951 SF
Level 2	991 SF
Level 3	618 SF
	2560 SF
Unit 2	
Level 1	950 SF
Level 2	989 SF
Level 3	617 SF
	2556 SF
Unit 3	
Level 1	957 SF
Level 2	989 SF
Level 3	617 SF
	2563 SF
Unit 4	
Level 1	950 SF
Level 2	989 SF
Level 3	617 SF
	2556 SF
Unit 5	
Level 1	938 SF
Level 2	1001 SF
Level 3	617 SF
	2557 SF
Unit 6	
Level 1	931 SF
Level 2	1001 SF
Level 3	617 SF
	2550 SF
Unit 7	
Level 1	957 SF
Level 2	989 SF
Level 3	617 SF
	2563 SF
Unit 8	
Level 1	950 SF
Level 2	989 SF
Level 3	617 SF
	2556 SF
Unit 9	
Level 1	957 SF
Level 2	989 SF
Level 3	617 SF
	2563 SF
Unit 10	
Level 1	943 SF
Level 2	991 SF
Level 3	618 SF
	2553 SF
Unit 11	
Garage Level	1157 SF
Level 1	413 SF
	1570 SF



Level 3 Plan



Level 2 Plan

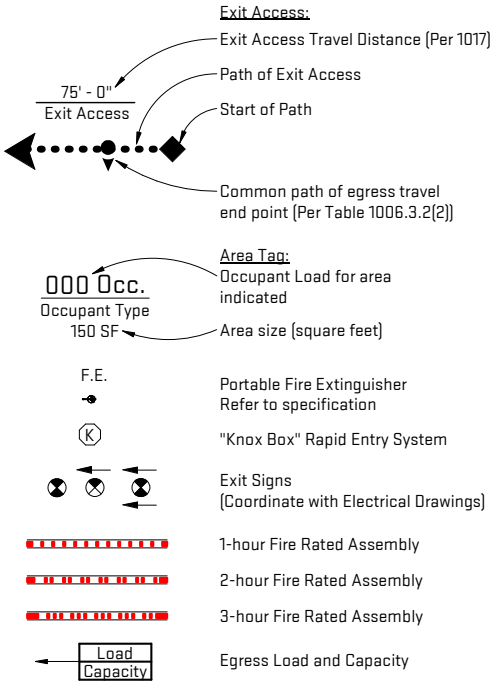


Level 1 Plan



Garage Level Plan

Code Analysis Plan & Fire Safety Legend

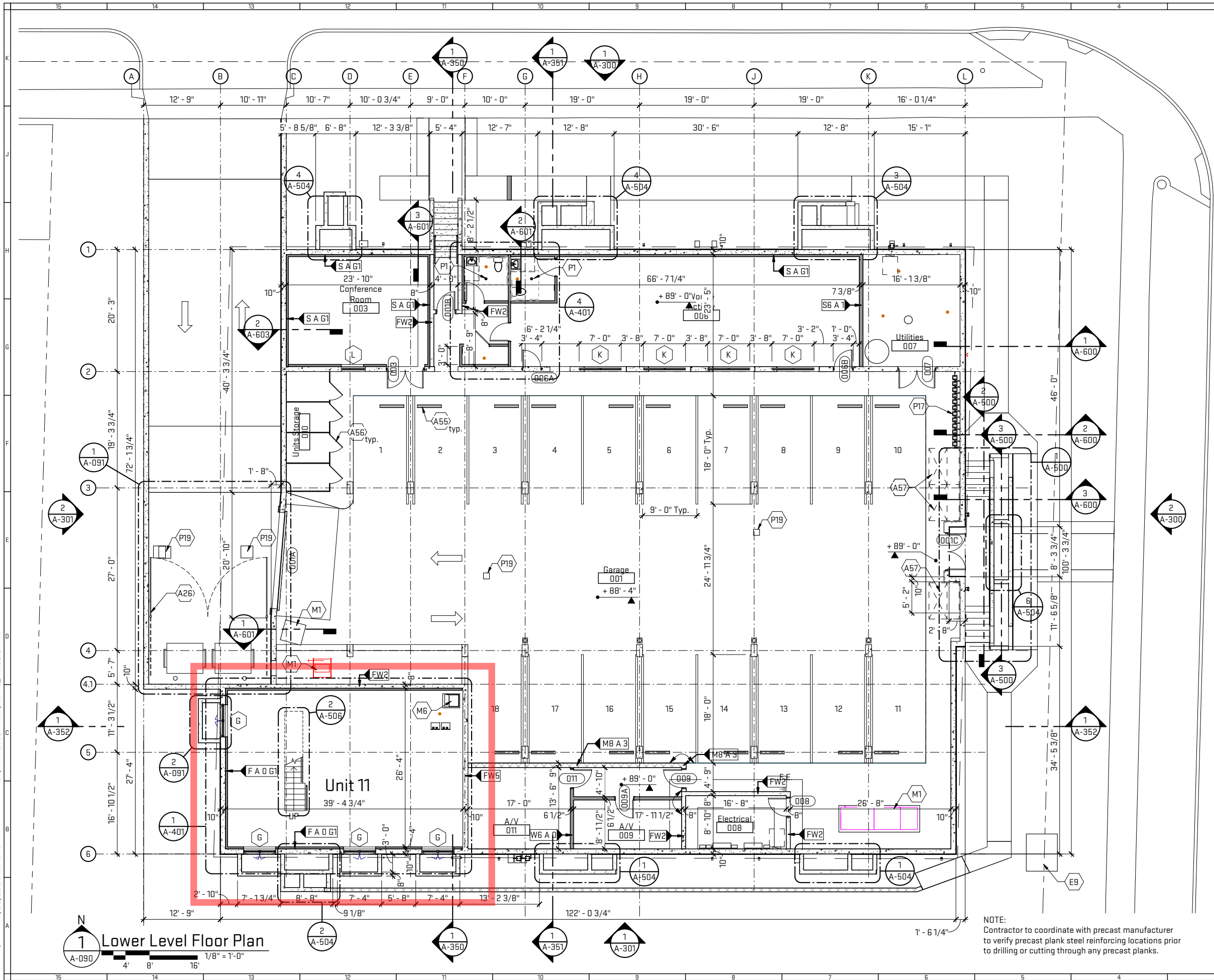


Garage Level Occupant Load (Table 1004.1.1)						
Use	Area	% of Total	Floor Area per Occupant	Net or Gross	Design Occupant Load	Comments
Garage Level						
A-3	502 SF	5%	50	Gross	11	
B	1326 SF	13%	100	Gross	14	
B	524 SF	5%	100	Gross	6	
S-2	7551 SF	72%	200	Gross	38	
S-2 (Mech./Elec.)	186 SF	2%	300	Gross	1	
S-2 (Mech./Elec.)	343 SF	3%	300	Gross	2	
Grand total	10433 SF	100%			72	

Area Schedule (Code Analysis)	
Name	Area
Garage Level	
Elec. (S-2)	186 SF
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Level 2	
North Building: Residential	4,903 SF
South Building: Residential	5,310 SF
	10,213 SF
Level 3	
North Building: Residential	3,038 SF
South Building: Residential	3,038 SF
	6,075 SF
Grand total	37,648 SF

Occupancies Legend	
A-3	
B	
Residence	
S-2	
S-2 (Mech./Elec.)	

Plot Date/Time: 7/20/2020 10:49:18 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



General Sheet Notes:

- Site plan provided for reference only. Refer to civil engineering drawings for specifics of site design, building locations, property line, setbacks, parking and utility information.
- All curb ramps shall have a maximum slope of 1:12 in direction of travel with a maximum cross-slope of 1:50. Maximum rise of all curb ramps shall be 6".
- All paving on accessible route shall have a maximum slope of 1:20 in direction of travel with a maximum cross-slope of 1:50.
- Maximum slope of all accessible parking spaces and access aisles shall be 1:50 in any direction.
- All accessible route and parking elements shall be designed and constructed in accordance with 2010 ADA Standards for Accessible Design and Chapter 11 of the Michigan Building Code (ICC/ANSI A117.1 2009).
- Contractor to review site conditions, including slopes and elevations, prior to construction. Coordinate any discrepancies with Architect.
- All slopes indicated show arrow pointing in the down slope direction.
- All lighting on this site shall be shielded and not encroach upon abutting properties or right-of-ways. Site lighting poles shall not be higher than 20 feet. All glare shall be eliminated from all light fixtures. Upward directed lighting shall not be permitted.
- All landscape areas shall be automatically irrigated. Irrigation system shall be designed and installed by design-build irrigation contractor.
- Exterior lighting is for indication only. Reference electrical drawings for actual locations and types of lighting.
- Provide control joints in new concrete paving at 5'-0" on center, maximum 3/8" joint width.
- Refer to sheet A-800 for partition details.
- Refer to sheet A-701 for door schedule.
- Dimensions are to finished face of wall at all locations. At exterior walls, finished face of wall include exterior cladding. Assume horizontal siding to be 5/8" thickness.

Required Parking Spaces:

- (10) 6-Bedroom Units x 1.5 spaces per unit = 15 spaces
(01) 3-Bedroom Unit x 1.5 spaces per unit = 1.5 spaces
Total of 17 parking spaces required, 18 provided.

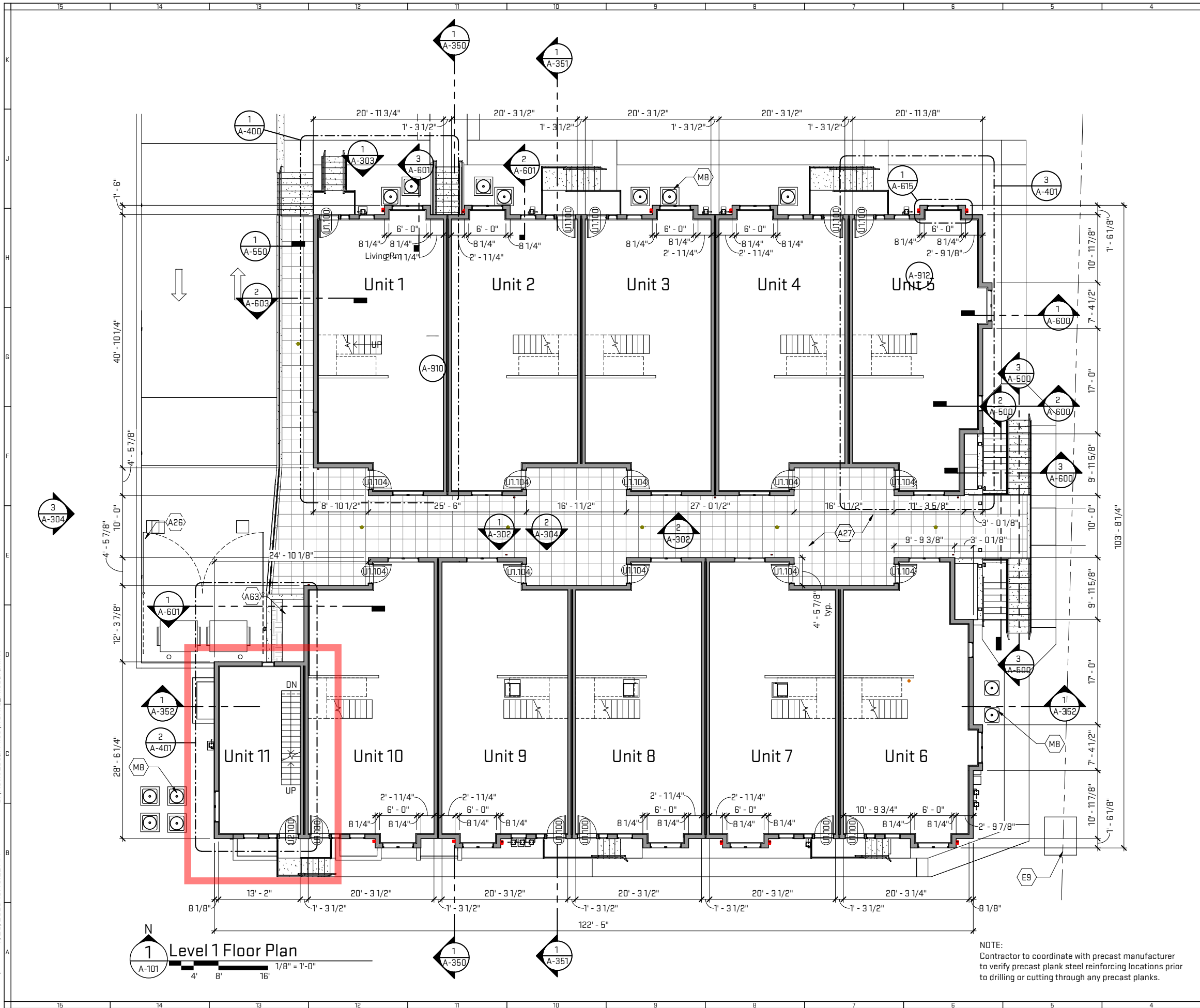
Required Bicycle Spaces:

- 1 per every 5 unit = 3 Bicycle Spaces

Sheet Keynotes

- A26 Dumpster gate, retractable when fully open. Refer to details.
A55 Parking bumper.
A56 Wire mesh fencing and gate by owner.
A57 Class A bike storage.
E9 Transformer, refer to electrical drawings.
M1 HVAC equipment, refer to mechanical drawings.
M6 Furnace, refer to mechanical drawings.
P1 Drain, refer to plumbing drawings.
P17 Gas Meter, refer to plumbing drawings.
P19 Catch basin, refer to plumbing drawings.

Plot Date/Time: 7/20/2020 10:49:22 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



- General Sheet Notes:**
- A. 2x6" (nom) wood stud construction at exterior wall and 2x4" (nom) wood stud throughout interior unless noted otherwise.
 - B. Center windows in rooms unless dimensions/noted otherwise.
 - C. One window per bedroom (min.) shall have a max. sill height of 44" for egress. Minimum net clear openable height dimension shall be 24". Minimum net clear openable width shall be 20".
 - D. Refer to A-400 & A-401 for Enlarged Unit Plans.
 - E. Refer to sheet A-700 for Door Schedule.
 - F. Refer to sheet A-701 for Window Schedule.
 - G. Refer to sheet A-800 for Partition Types.
 - H. Dimensions are to finished face of wall at all locations. At exterior walls, finished face of wall includes exterior cladding. Assume horizontal siding to be 5/8" thickness.
 - I. Provide Huber ZIP insulated R-sheathing, model R6, 1-1/2" thick at entire exterior of exterior wall assembly U.N.O. Provide model R3, 1" thick at shear walls to maintain flush exterior face.

- # Sheet Keynotes**
- A26 Dumpster gate, retractable when fully open. Refer to details.
 - A27 Paver over adjustable pedestal support system, refer to details.
 - A63 Planter, refer to section.
 - E9 Transformer, refer to electrical drawings.
 - M8 Condensing unit, refer to mechanical drawings.

Architectural Floor Plan Legend

- New wall construction.
- Target Elevation
- Wall type tag, refer to interior partition types
- Align symbol

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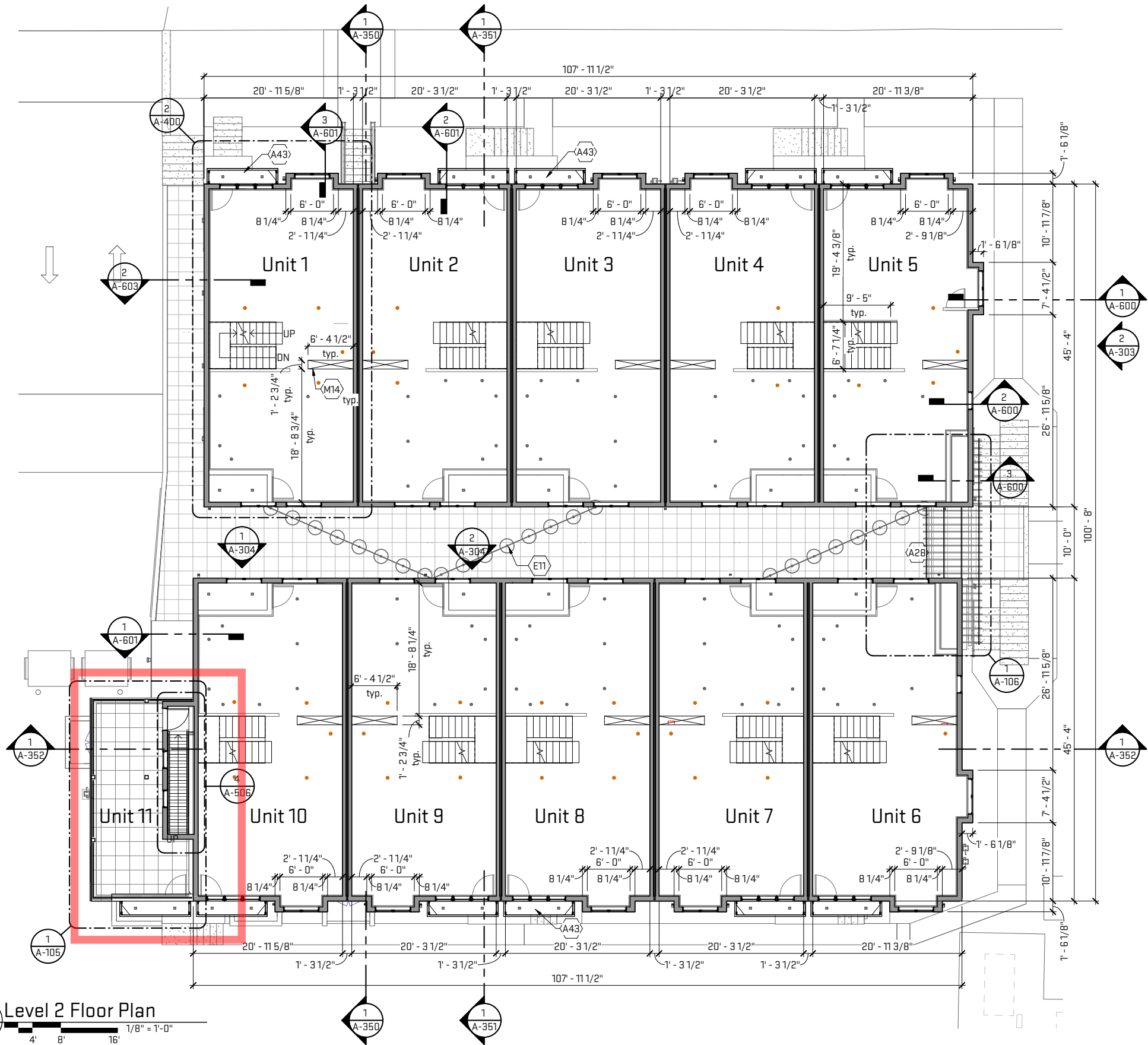
Job Title:	Henry Street Residential	830 Henry Street - Ann Arbor, MI
Sheet Title:	First Floor Plan	Released For: Bulletin 07
04/03/2020	PPA-HSR18	A-101

Dwg Date

Project #

Dwg Date

Plot Date/Time: 7/20/2020 10:49:25 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



General Sheet Notes:

A. Refer to general sheet notes on sheet A-101.

Sheet Keynotes

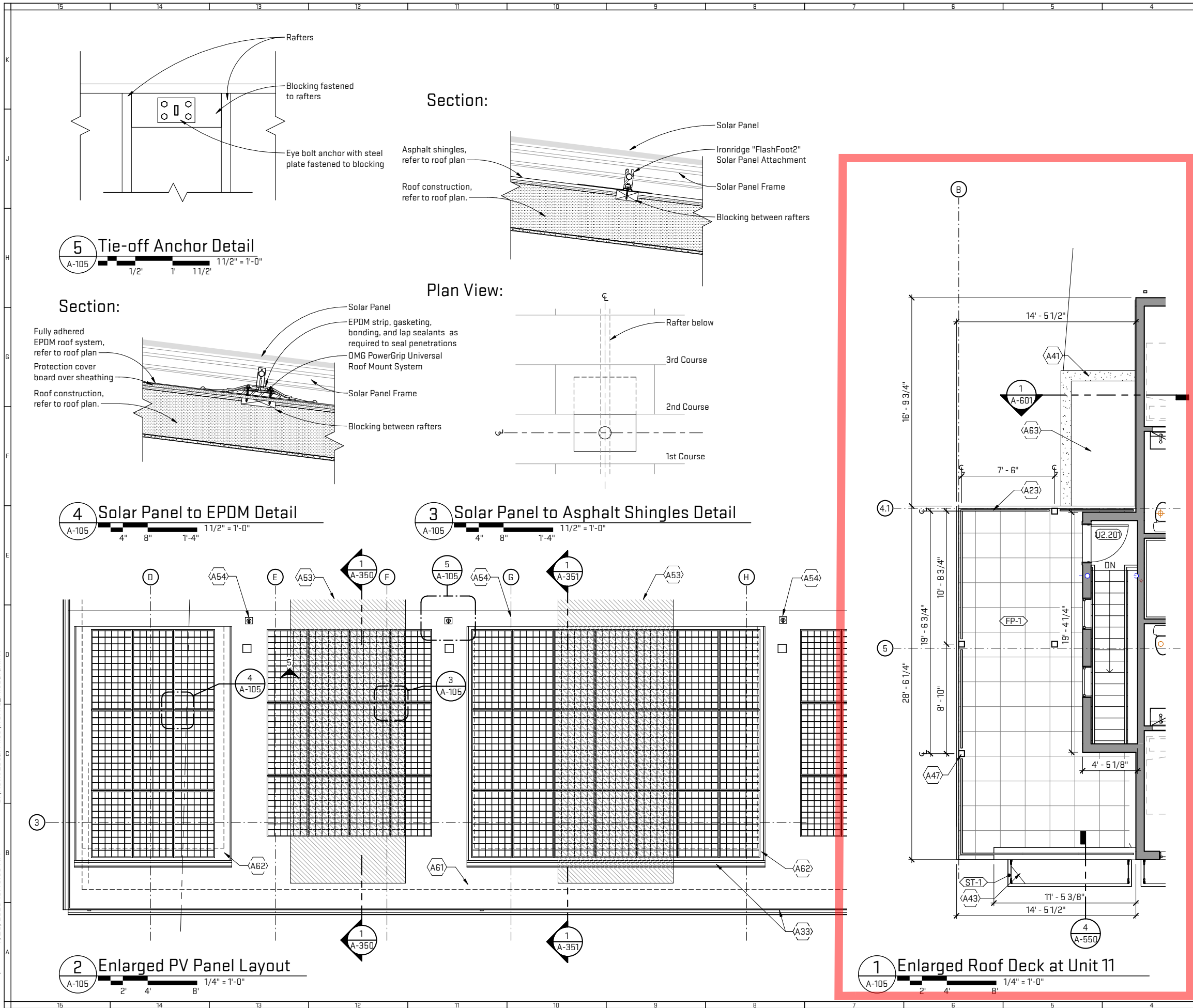
A43 Steel 'C' Channel canopy, refer to details.
M14 Shaft opening.

Architectural Floor Plan Legend

- New wall construction.
- Target Elevation
- Wall type tag, refer to interior partition types
- Align symbol

Scales listed are for 22x34 drawing size

Plot Date/Time: 7/20/2020 10:49:30 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



General Sheet Notes:

Sheet Keynotes

- A23 Metal railing.
- A33 Continuous prefinished metal gutter and downspout.
- A41 Cast stone cap.
- A43 Steel 'C' Channel canopy, refer to details.
- A47 Wood column, refer to details.
- A53 No penetrations allowed in shaded area, typ.
- A54 Tie-off anchor.
- A61 Line of wall below shown dashed, typ.
- A62 EPDM roof system over plywood sheathing.
- A63 Planter, refer to section.

Architectural Roof Plan Legend

- Asphalt shingles over 15# underlayment over roof sheathing, provide ice and water shield at eaves, valleys, overhangs, and all other vulnerable areas prone to ice dams and wind driven rain damage.
- Standing seam metal roof system over manufacture approved underlayment over sheathing, provide high temperature ice and water shield at eaves.
- Fire-retardant-treated roof sheathing per 2015 MBC 705.11 Exception 5, 5.1
- Photovoltaic Panel System
Jinko Solar, Eagle 60M (300-320 Watt)
Jinko Solar, Eagle 72M G2 (375-395 Watt)
- DS Pre-finished aluminum Downspout
- Tie off anchor, galvanized

Scales listed are for 22x34 drawing size

Job Title:

**Henry Street
Residential**

830 Henry Street - Ann Arbor, MI

Sheet Title:

**Enlarged Exterior Floor
Plans**

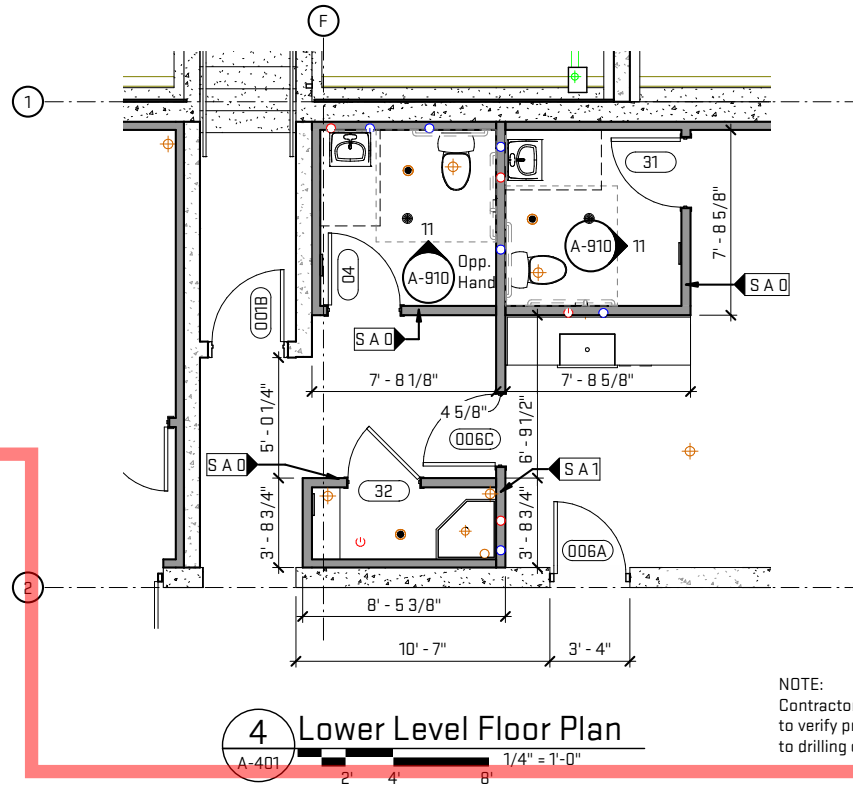
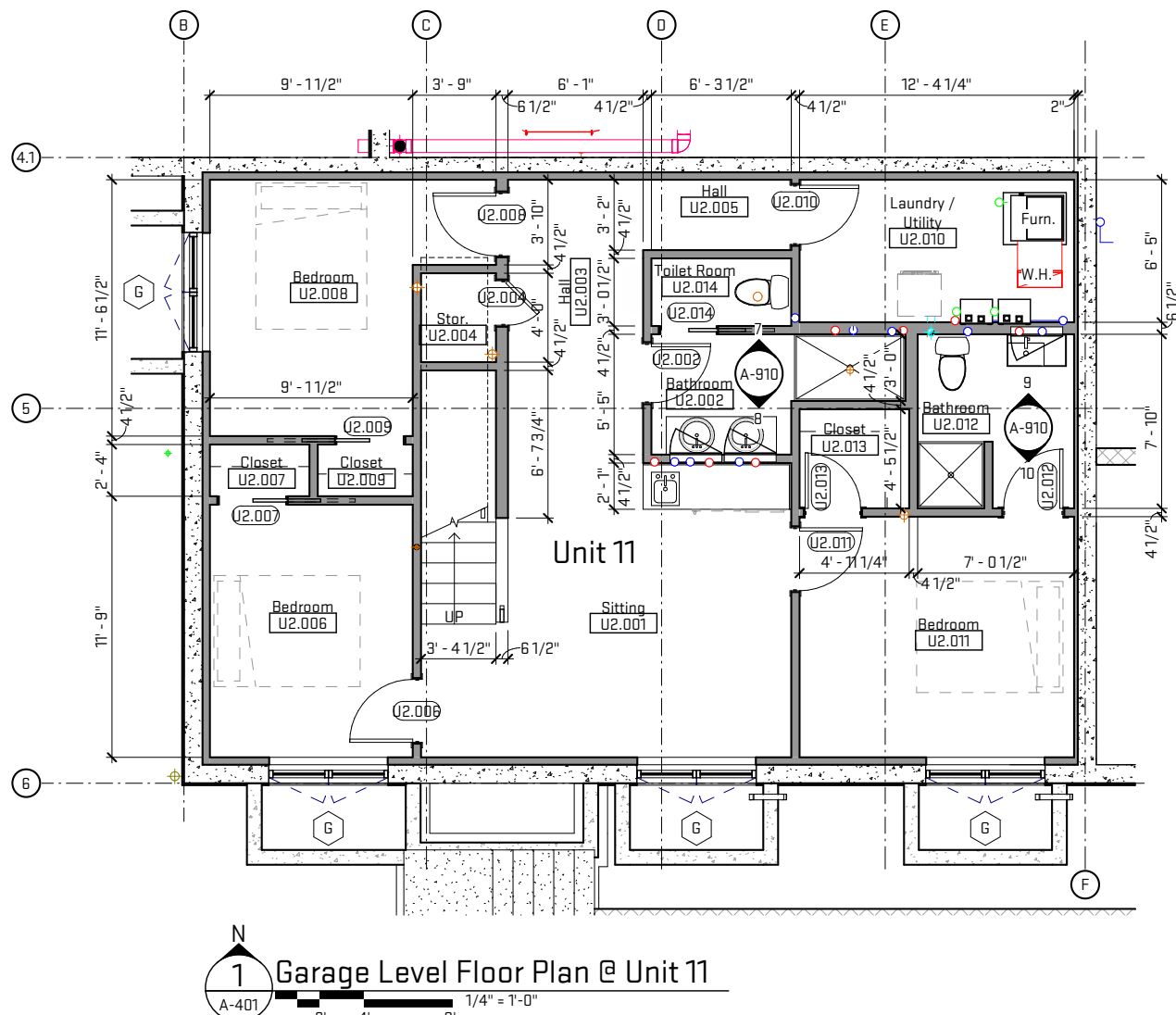
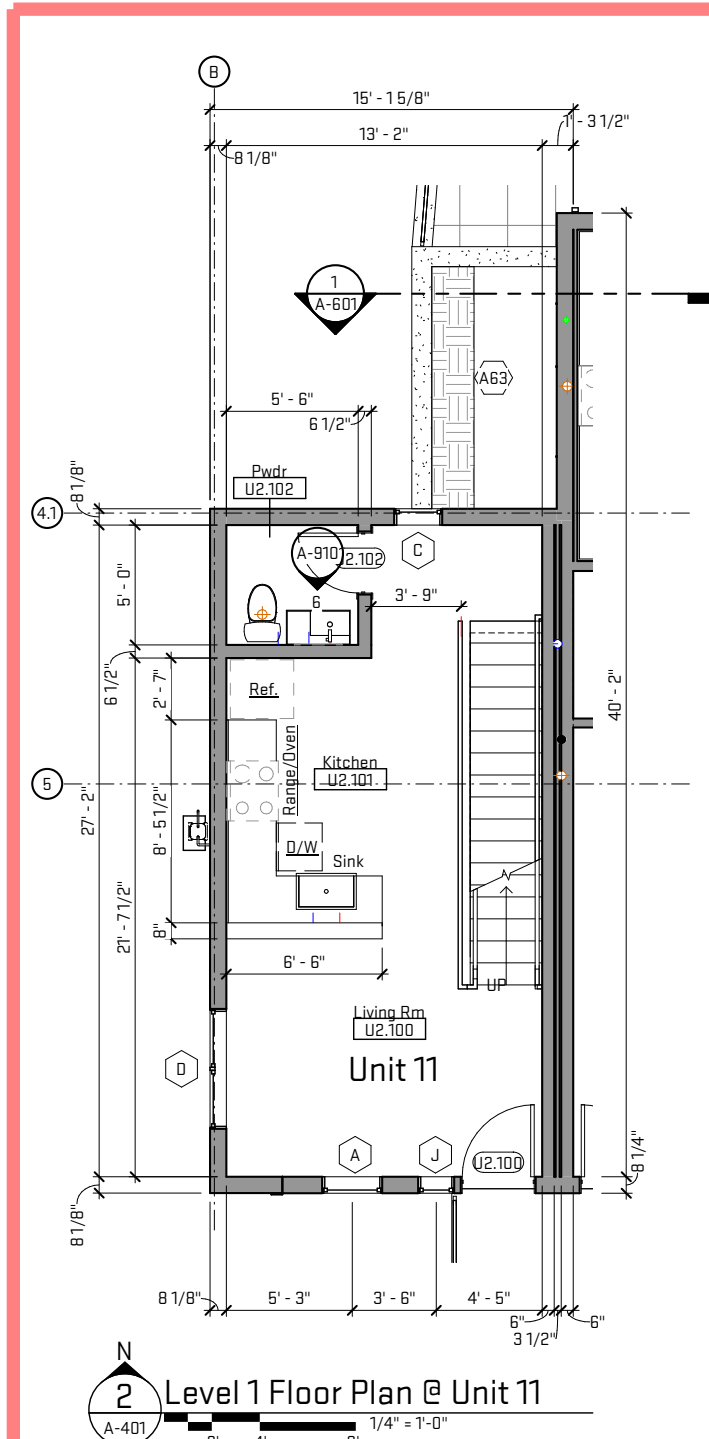
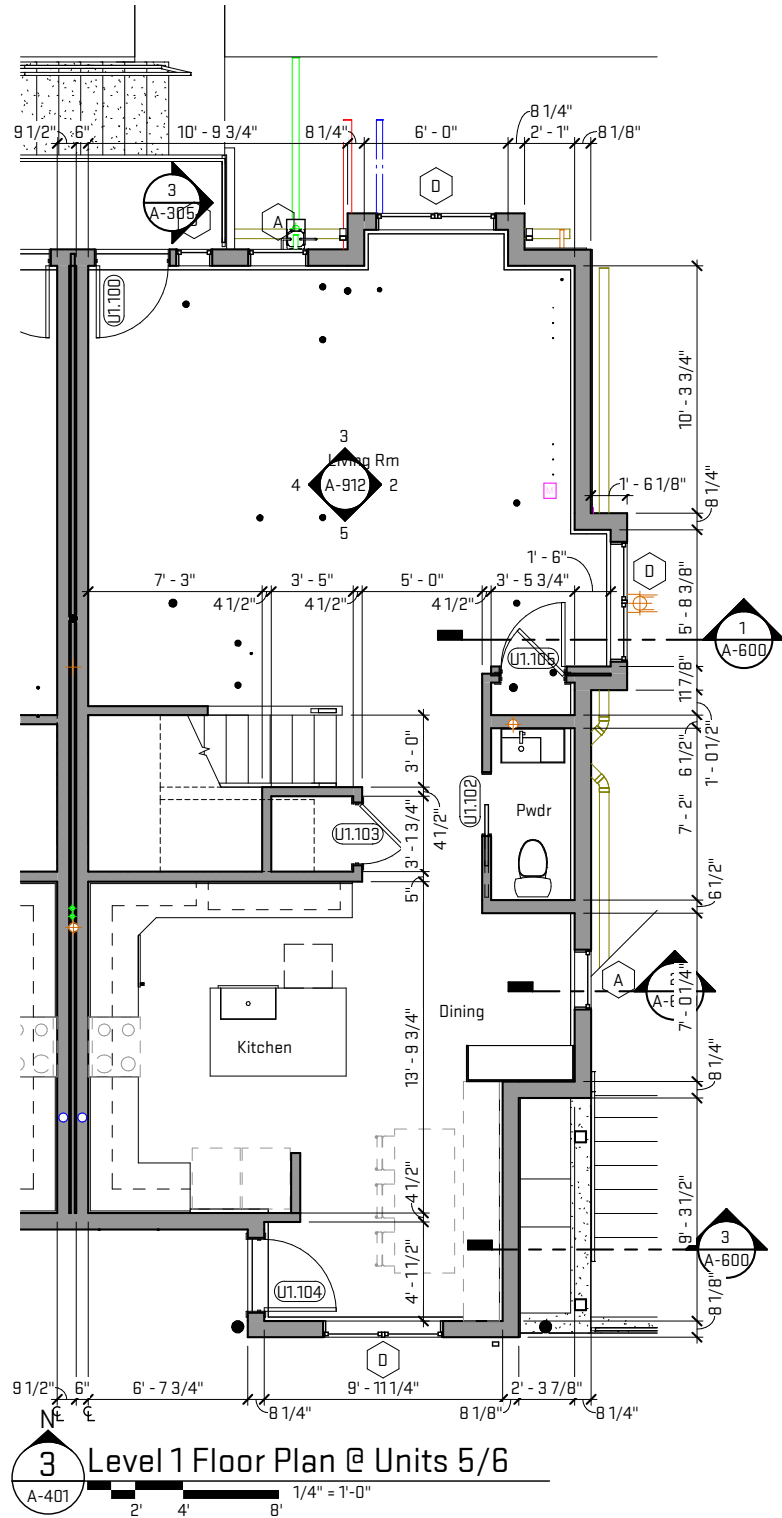
Released For: Bulletin 06

02/03/20

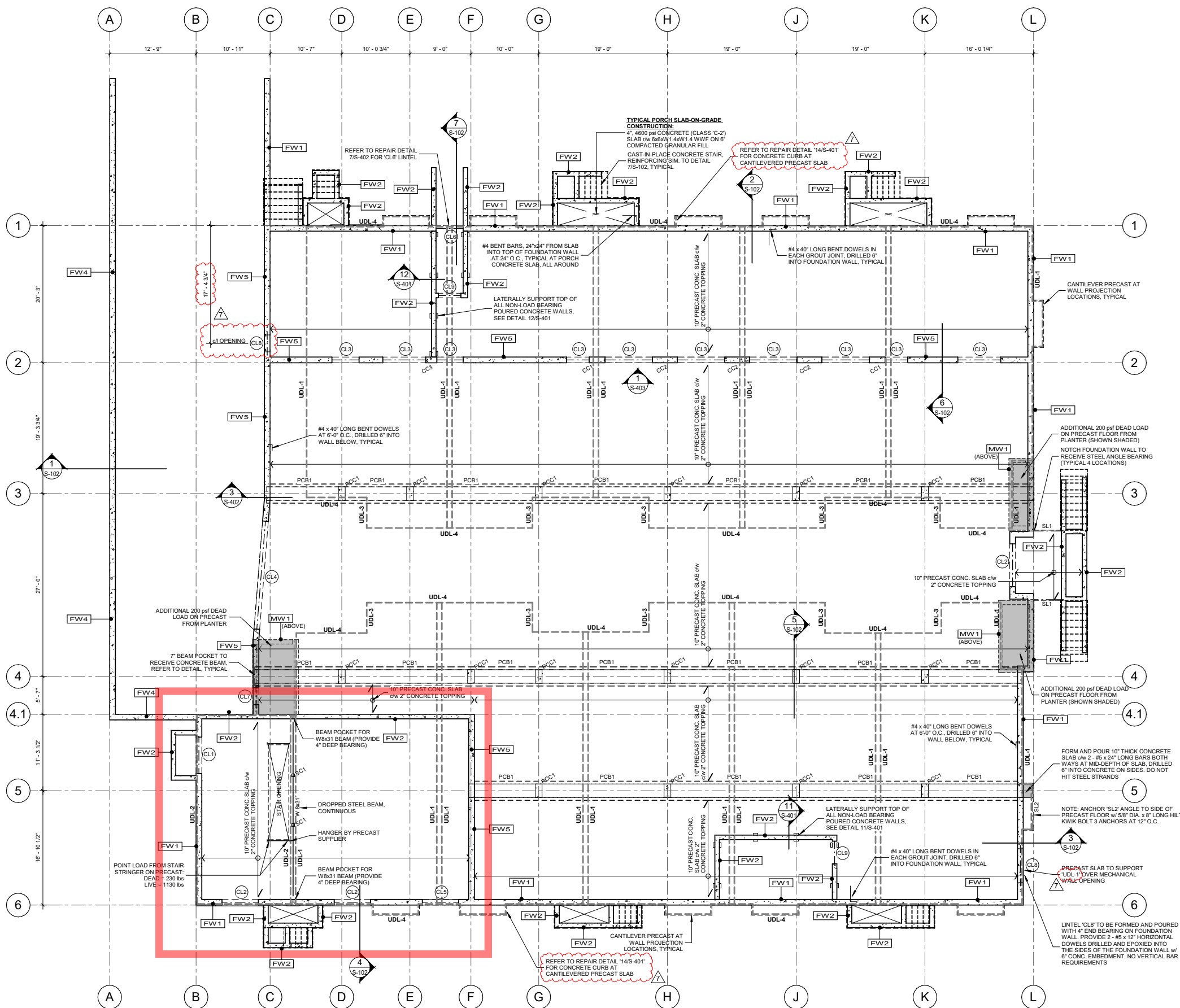
PPA-HSR18

A-105

Plot Date/Time: 7/20/2020 10:50:55 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



- General Sheet Notes:**
- A. Refer to general sheet notes on sheet A-101.
- Architectural Floor Plan Legend**
- New wall construction.
 - Window Type number. Refer to window schedule on A-701.
 - Door Type number. Refer to door schedule on A-700.
- NOTE:**
Contractor to coordinate with precast manufacturer to verify precast plank steel reinforcing locations prior to drilling or cutting through any precast planks.



MAIN FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"

FOUNDATION WALL SCHEDULE		
MARK	WALL TYPE	REINFORCING
FW1	10" CONCRETE	#5 VERT. AT 16" O.C. #5 HORIZ. AT 16" O.C. 1 1/2" CONC. COVER TO INSIDE FACE
FW2	8" CONCRETE	#5 VERT. AT 16" O.C. #5 HORIZ. AT 16" O.C. CENTERED IN WALL
FW3	12" CONCRETE	2 MATS OF #5 BAR AT 16" O.C. BOTH WAYS
FW4	10" CONCRETE (RETAINING WALL)	#5 VERT. AT 16" O.C. #5 HORIZ. AT 16" O.C. 1 1/2" CONC. COVER TO HIGH SOIL SIDE
FW5	10" CONCRETE	2 MATS OF #5 AT 24" O.C. BOTH WAYS 1 1/2" CONC. COVER EACH FACE

MASONRY WALL SCHEDULE		
MARK	WALL TYPE	REINFORCING
MW1	8" CONCRETE BLOCK GROUT BLOCK SOLID	#5 VERT. AT 24" O.C. CENTERED IN WALL #5 HORIZ. REBAR @ EVERY OTHER BLOCK COURSE. PLACE HORIZ. BARS ON EXTERIOR SIDE OF VERT. BAR (FAR SIDE OF PLANTER)

NOTES:
1. PROVIDE #5 x 24" LONG DOWELS DRILLED & EPOXIED 6" INTO PRECAST @ 24" O.C.
2. PLANTER WALLS AND PRECAST SLABS ARE DESIGNED TO SUPPORT A 2'-0" HEIGHT OF SOIL. FILL SPACE BELOW SOIL WITH FOAM.

PRECAST CONC. COLUMN SCHEDULE		
MARK	COLUMN SIZE	REINFORCING
PC1	12" x 24" PRECAST CONCRETE COLUMN	BY PRECAST MANUFACTURER

CONCRETE COLUMN SCHEDULE		
MARK	COLUMN SIZE	REINFORCING
CC1	10" x 28" CONCRETE COLUMN (POURED IN WALL)	8 - #6 REBAR, #4 TIES AT 10" O.C.
CC2	10" x 40" CONCRETE COLUMN (POURED IN WALL)	10 - #6 REBAR, #4 TIES AT 10" O.C.
CC3	10" x 20" CONCRETE COLUMN (POURED IN WALL)	6 - #6 REBAR, #4 TIES AT 10" O.C.
CC4	10" x 42" CONCRETE COLUMN (POURED IN WALL)	10 - #6 REBAR, #4 TIES AT 10" O.C.

NOTES:
1. PROVIDE FULLY DEVELOPED DOWELS FROM COLUMN INTO BEAM AND FOOTING. MATCH COLUMN VERTICAL REBAR.

PRECAST CONCRETE BEAM SCHEDULE		
MARK	SIZE	REINFORCING
PCB1	SIZE TO SUIT LOADING CONDITIONS 5/8" HAUNCH ON BOTH SIDES FOR PRECAST SLAB BEARING	BY PRECAST MANUFACTURER

CONCRETE LINTEL SCHEDULE		
MARK	SIZE	REINFORCING
CL1	10" WIDE x 16" DEEP (MIN.)	2 - #5 BOTTOM BARS
CL2	10" WIDE x 16" DEEP	2 - #5 BOTTOM BARS, 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL3	10" WIDE x 28" DEEP	4 - #6 BOTTOM BARS (2 UPPER, 2 LOWER), 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL4	10" WIDE x 22" DEEP	2 - #6 BOTTOM BARS, 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL5	10" WIDE x 16" DEEP	4 - #6 BOTTOM BARS (2 UPPER, 2 LOWER), 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL6	10" WIDE x 12" DEEP	2 - #6 BOTTOM BARS, 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL7	10" WIDE x 11" DEEP	2 - #5 BOTTOM BARS, 1 - #5 TOP BAR SEE SECTION DETAIL
CL8	10" WIDE x 5" DEEP	2 - #5 BOTTOM BARS
CL9	8" WIDE x 12" DEEP	2 - #5 BOTTOM BARS NO STIRRUPS, 1 1/2" BOTTOM COVER

NOTES:
1. EXTEND HORIZONTAL BARS 24" PAST FACE OF OPENING, U.N.O.
2. EXTEND STIRRUPS TO FACE OF OPENING, U.N.O.

DESIGN LOAD SCHEDULE FOR PRECAST FLOOR		
MARK	UNFACTORED VERTICAL LOAD ON SLABS (lbs/ft) (NOTE 1)	FACTORED HORIZONTAL SHEAR LOAD ON SLABS (lbs/ft) (NOTE 1) LOAD IS PARALLEL WITH LINE LOAD
UDL-1	DEAD LOAD = 715 lbs/ft LIVE LOAD = 1100 lbs/ft	WIND = 254 lbs/ft
UDL-2	DEAD LOAD = 280 lbs/ft LIVE LOAD = 960 lbs/ft	WIND = 254 lbs/ft
UDL-3	DEAD LOAD = 165 lbs/ft LIVE LOAD = 440 lbs/ft	NO WIND LOAD
UDL-4	DEAD LOAD = 360 lbs/ft LIVE LOAD = 320 lbs/ft	NO WIND LOAD

NOTES:
1. LOADING ABOVE IS FROM TOWNHOUSE FRAMING ONLY. MAIN FLOOR LOADS MUST BE ADDED IN ADDITION TO THE LOADING ABOVE. SEE DRAWING S-001 FOR MAIN FLOOR DESIGN LOADS.

STEEL COLUMN SCHEDULE		
MARK	COLUMN SIZE	NOTES
SC1	HSS 54x114	10" x 5/8" x 10" BASEPLATE c/w 4 - 3/4" DIA. x 8" LONG WEDGE ANCHORS 8" WIDE x 1/2" x 10" CAP PLATE c/w 4 - 3/4" DIA. BOLTS IN BOTTOM FLANGE OF BEAM

STEEL LINTEL SCHEDULE		
MARK	SIZE	NOTES
SL1	L 6x6x3/8"	4" MIN. END BEARING, EACH END
SL2	L 6x6x1/2" (LLV)	ANCHOR ANGLE TO SIDE OF PRECAST (SEE PLAN)

REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS

LEGEND

WT-
L
UDL-xx

TYPICAL LEVEL 1 PRECAST FLOOR:
10" PRECAST CONCRETE SLAB
2" CONCRETE TOPPING
4" RIGID INSULATION (SEE ARCHITECTURAL FOR EXTENTS)
2" CONCRETE TOPPING (SEE ARCHITECTURAL FOR EXTENTS)
REFER TO ARCHITECTURAL DRAWINGS FOR EXTENTS OF SLOPED CONCRETE TOPPING IN EXTERIOR COURTYARD AREAS

NOTES:
DENOTES WALL TYPE. REFER TO WALL TYPE SCHEDULE FOR REINFORCING REQUIREMENTS
DENOTES LINTEL TYPE. REFER TO LINTEL TYPE SCHEDULE FOR SIZE AND REINFORCING.
DENOTES LINE LOAD ON PRECAST FLOOR. REFER TO DESIGN LOAD SCHEDULE FOR DETAILS

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PROJECT NORTH

No.	Date	Revision / Issued for
1	MAR. 8, 2019	ISSUED FOR FOUNDATION PERMIT
2	APR. 8, 2019	REVISED STRUCTURAL DESIGN PARAMETERS
3	MAY 1, 2019	PRECAST DESIGN REVISIONS & FOUNDATION COORDINATION
4	MAY 3, 2019	CORE & SHELL PERMIT
5	AUG. 9, 2019	BULLETIN 02
6	SEPT. 13, 2019	BULLETIN 03
7	DEC. 6, 2019	BULLETIN 05

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RESIDENTIAL DEVELOPMENT

HENRY STREET DEVELOPMENT
814-830 HENRY ST. ANN ARBOR, MICHIGAN

MAIN FLOOR FRAMING PLAN

Scale: AS NOTED
Project No: TM-0021-19
Date: OCT. 2019

S-201

2015 IBC Code Commentary

1011.2 Width and capacity.

The required capacity of stair-ways shall be determined as specified in section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). See Section 1009.3 for accessible means of egress stairways.

Exceptions:

1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).
2. Spiral stairways as provided for in Section 1011.10.
3. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

Commentary:

*To provide adequate space for occupants **traveling in opposite directions** and to permit the intended full egress capacity to be developed, minimum dimensions are dictated for means of egress stairways. A minimum width of 44 inches (1118 mm) is required for stairway construction to permit two columns of users to travel in the same or opposite directions. The reference to Section 1005.1 is for the determination of stairway width based on the occupant load it will serve (i.e., capacity). The larger of the two widths is to be used.*

Exception 1 recognizes the relatively small occupant loads of less than 50 that permit a staggered file of users when traveling in the same direction. When traveling in opposite directions, one column of users must stop their ascent (or descent) to permit the opposite column to continue. Again, considering the relatively small occupant loads, any disruption of orderly flow will be infrequent. The use of this exception is limited to buildings where the entire occupant load of each upper story and/or basement is less than 50.

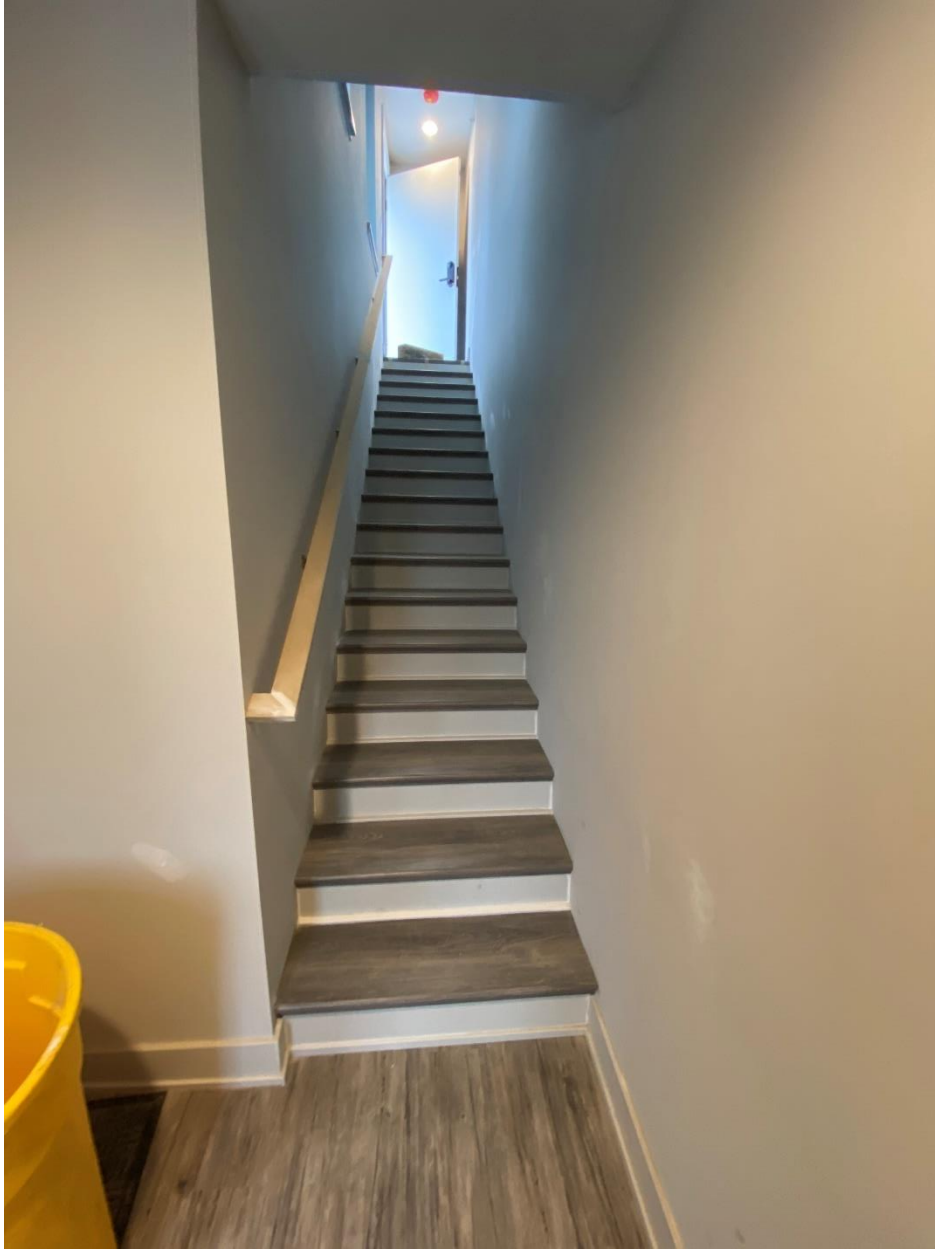
Existing Condition Photographs



1. View of stair from main level to lower level



2. View of stair from lower level to main level



3. View of stair from main level to upper level (outdoor terrace)



4. View of stair from upper level (outdoor terrace) to main level



5. View of egress window/well from Bedroom 1



6. View of egress window/well from Bedroom 2



7. View of egress window/well from Bedroom 3



8. Views of egress window/well from lower level living space

Fire-rated Separation Notes

Garage Level Construction

Per MBC 510.2, 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.

Townhouse / Garage Separation

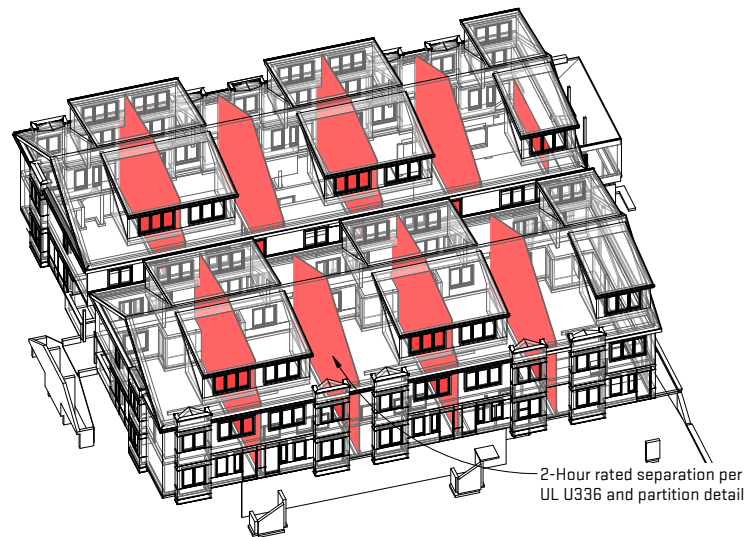
The Townhouses and Garage Level are separated by a 10-inch thick precast hollow core concrete plinth with 2" concrete topping slab designed to meet or exceed a 3-hour fire rating (required by MBC 510.2)

Townhouse Fire-resistance Rated Construction

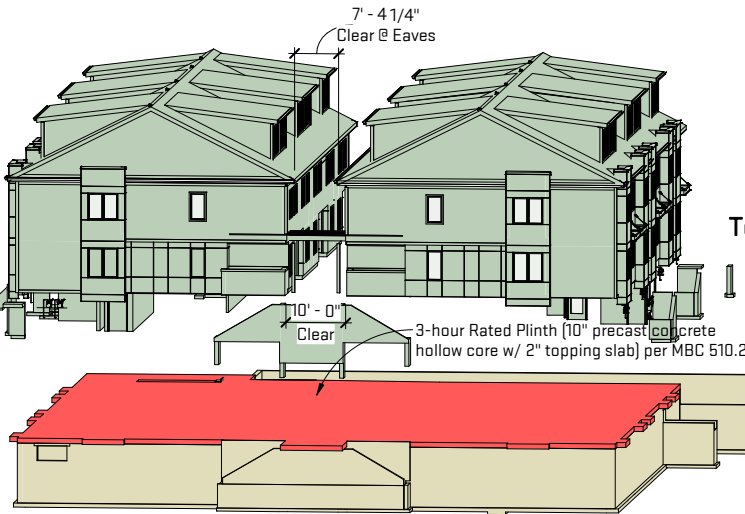
Each townhouse shall be considered a separate building and shall be separated by a 2-hour fire-resistance rated wall assembly. This shall be accomplished with a partition assembly per UL U336. Smoke alarms shall be provided.

Townhouse Fire-rated Parapet Exception

Per 2015 MBC 705.11, Exception 5, 5.1
A parapet is not required where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and fire-retardant-treated plywood for a distance of not less than 4 feet on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet of the common walls.



Dwelling Unit Separations



Applicable Codes & Building Data Summary

Project	Zoning: R4C - Multi-Family Use								
	Applicable Building Codes	Occupancy Group	Construction Type	Allowable Building Height	Allowable Building Area	Allowable Stories Above Grade	Fire Suppression (Sprinklers)	Fire Alarm	Fire Separation Required
Townhouses	2015 Michigan Building Code 2015 Michigan Mechanical Code 2017 National Electrical Code (NEC) 2015 Michigan Plumbing Code 2015 Michigan Uniform Energy Code	R-2 Townhouses not more than 3 stories above grade plan	V-B	Allowable: 60 ft (S/S13R) Proposed: 29'-9" to Roof Mid-point	5,310 sf (Largest Story) 12,626 sf Total Proposed (North) 13,433 sf Total Proposed (South)	Allowable: 3 Project: 3 Proposed	Suppressed per NFPA 13R	Yes	2-Hour between Dwelling Units
Garage	2015 Michigan Building Code 2015 Michigan Mechanical Code 2017 National Electrical Code (NEC) 2015 Michigan Plumbing Code 2015 Michigan Uniform Energy Code	S-2 (Private Parking) A-3 (Fitness/Gym) B (Work/Activity Space)	I-A	Allowable: Unlimited Project: 10 ft Proposed	Allowable: Unlimited Project: 10,473 Proposed	Allowable: Unlimited Project: 1 Proposed	Suppressed per NFPA 13R	Yes	Per MBC Table 508.4 1-Hour between S-2 & B Not Req'd between S-2 & A-3 1-Hour between B & R-2 3-Hour Structural/Load-bearing elements

Area Schedule (Code Analysis)	
Name	Area
Garage Level	
Elec. (S-2)	186 SF
Fitness (A-3)	502 SF
Garage (S-2)	7,551 SF
Mech. (S-2)	343 SF
Residence	1,157 SF
Work/Activity (B)	1,326 SF
Work/Activity (B)	524 SF
	11,590 SF

Level 1	
North Building: Residential	4,685 SF
South Building: Residential	5,085 SF
	9,770 SF

Level 2	
North Building: Residential	4,903 SF
South Building: Residential	5,310 SF
	10,213 SF

Level 3	
North Building: Residential	3,038 SF
South Building: Residential	3,038 SF
	6,076 SF
Grand total	37,648 SF

Accessibility General Notes

Per 2015 MBC 1107.6.2.2.1
No Type A units are required (less than 20 dwelling units).

Per 2015 MBC 1107.7.2
Multistory dwelling units that are not provided with elevator service are not required to be Type B units.

Setback Calculations

R4C Multi-Family Schedule of Area, Height and Placement Regulations:

Per 5:34	
Minimum Lot Area per Dwelling Unit	= 2,175 sf
Minimum Usable Open Space in Percentage of Lot Area	= 40%
Required Setback Line Minimum, Front Yard	= 25 ft
Required Setback Line Minimum, Side Yard	= 12 ft
Required Setback Line Minimum, Rear Yard	= 30 ft
Maximum Building Height in Feet	= 30 ft
Minimum Gross Lot Size, Area in Square Feet	= 8,500 sf
Minimum Gross Lot Size, Width in Feet	= 60 ft

Existing Front Yard Setback Table:

Per 5:57 - Averaging an existing front setback line:
In a residential zoning district, where the average of the established from setbacks of structures on all adjacent lots, which are located within 100 feet of either side of a lot and on which there are existing buildings, is greater than the required front setback specified in this chapter, a required setback line shall be provided on the lot equal to this greater average depth but not to exceed 40 feet. Where such average of the established front setbacks is less than minimum required front setback, the required setback line may be reduced to this lesser average depth, but in no case to less than 10 feet. For the purpose of computing such average, an adjacent vacant lot shall be considered as having the minimum required front setback specified for that zoning district, in which it is located.

Address	Existing Front Setback	Address	Existing Front Setback
812 Henry St	19' - 1"	S Industrial Hwy	24' - 5"
810 Henry St	16' - 8"	S Industrial Hwy	22' - 5"
808 Henry St	25' - 0"		
Average Setback:	20' - 3"	Average Setback:	23' - 5"

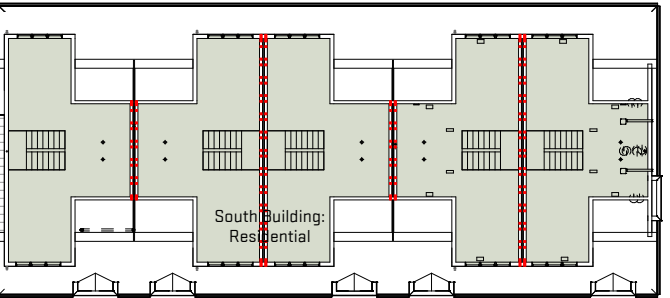
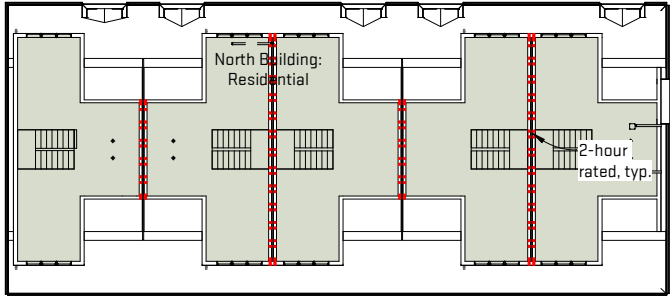
Side Yard Setback Calculation:

Per 5:34 R4C - Building Setbacks:
(1) In the R3, R4A, R4B, R4C, R4D, and R4E multiple family dwelling districts, the required side setback line minimum dimension, as set forth in the schedule of area, height and placement regulations (sections 5:25 through 5:49), shall be increased 3 inches for each foot of building height above 35 feet and 1 1/2 inches for each foot of building length over 50 feet. The rear required setback line the minimum dimensions, as set forth in the schedule of area, height and placement regulations (section 5:25 through 5:49), shall be increased 1 1/2 inches for each foot of building height over 35 feet and 1 1/2" for each foot of building width over 50 feet. The building length shall be the dimension of that side, which is parallel to the side lot line, of a rectangle within which the building may be located. The building width shall be the dimension of that side which is parallel to the front lot line, of a rectangle within which the building may be located.

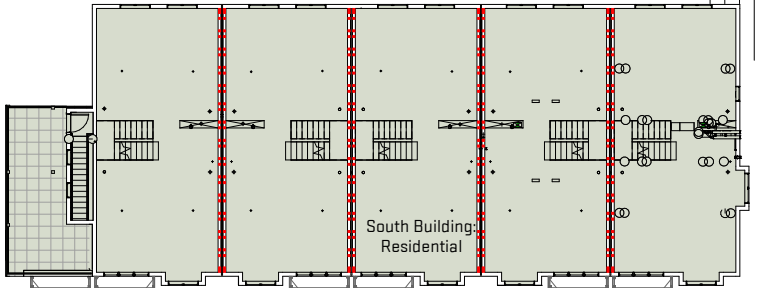
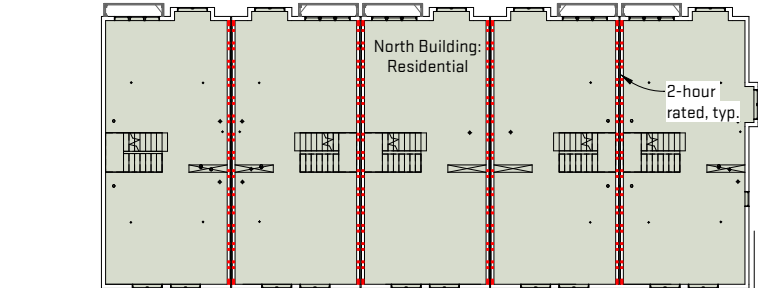
Building Length = 122' - 0" --> 122' - 50' = 72' --> 1.5" x 72 = 108" or 9' --> Side Yard Setback = 12' + 9' = 21'

Area Schedule (Unit Designations)	
Level	Area

Deck	
Level 2	404 SF
	404 SF
Unit 1	
Level 1	951 SF
Level 2	991 SF
Level 3	618 SF
	2560 SF
Unit 2	
Level 1	950 SF
Level 2	989 SF
Level 3	617 SF
	2556 SF
Unit 3	
Level 1	957 SF
Level 2	989 SF
Level 3	617 SF
	2563 SF
Unit 4	
Level 1	950 SF
Level 2	989 SF
Level 3	617 SF
	2556 SF
Unit 5	
Level 1	938 SF
Level 2	1001 SF
Level 3	617 SF
	2557 SF
Unit 6	
Level 1	931 SF
Level 2	1001 SF
Level 3	617 SF
	2550 SF
Unit 7	
Level 1	957 SF
Level 2	989 SF
Level 3	617 SF
	2563 SF
Unit 8	
Level 1	950 SF
Level 2	989 SF
Level 3	617 SF
	2556 SF
Unit 9	
Level 1	957 SF
Level 2	989 SF
Level 3	617 SF
	2563 SF
Unit 10	
Level 1	943 SF
Level 2	991 SF
Level 3	618 SF
	2553 SF
Unit 11	
Garage Level	1157 SF
Level 1	413 SF
	1570 SF



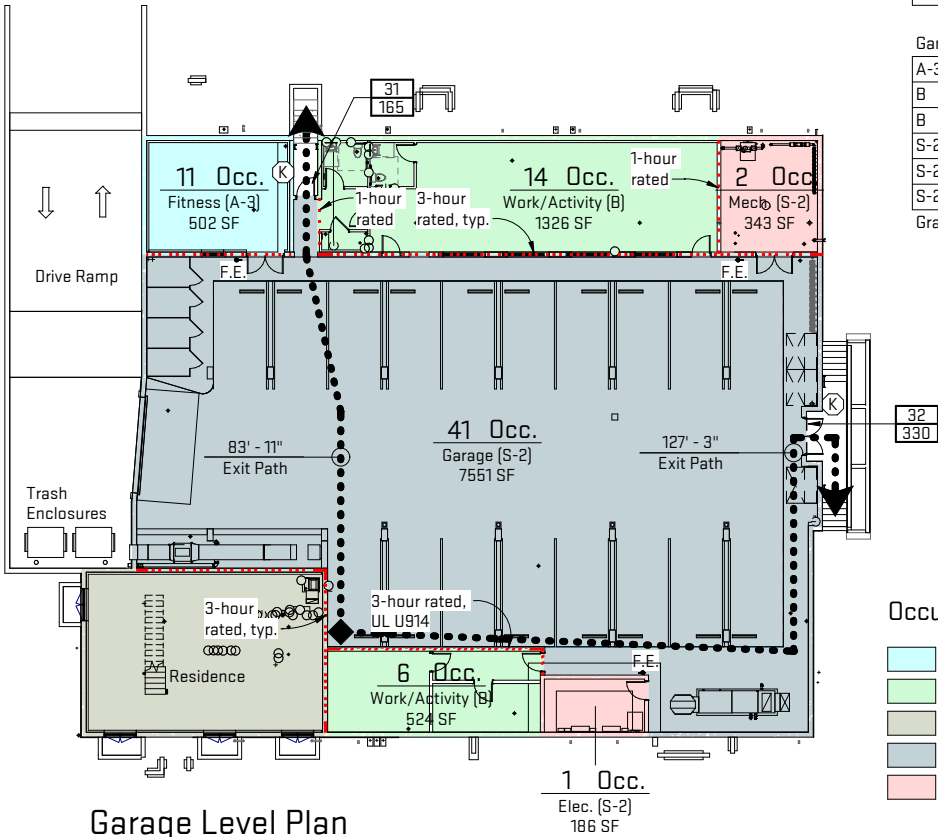
Level 3 Plan



Level 2 Plan

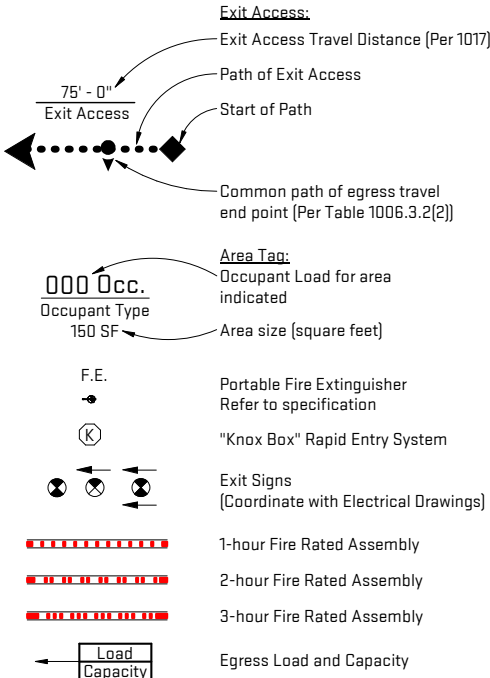


Level 1 Plan



Garage Level Plan

Code Analysis Plan & Fire Safety Legend

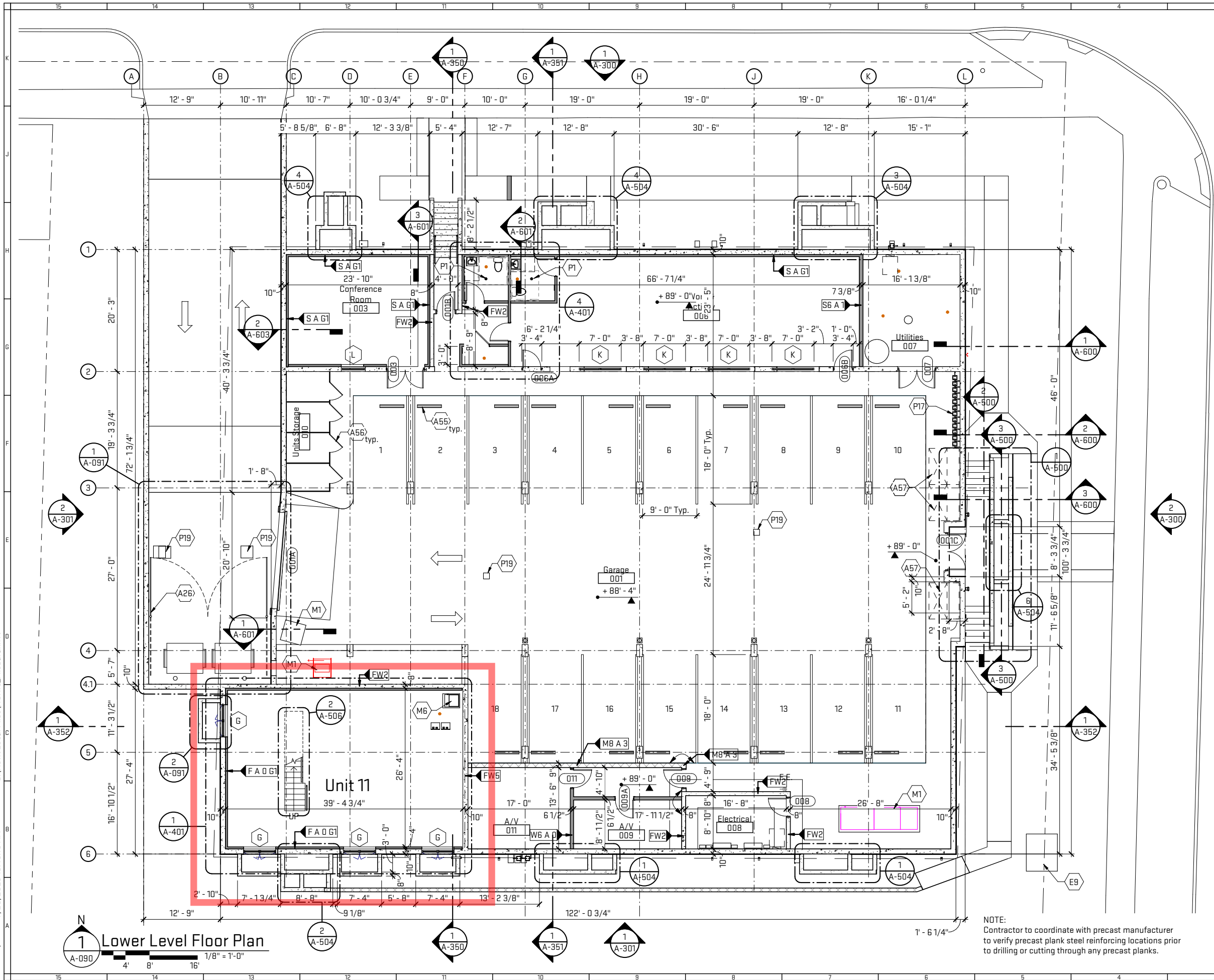


Garage Level Occupant Load (Table 1004.1.1)						
Use	Area	% of Total	Floor Area per Occupant	Net or Gross	Design Occupant Load	Comments
Garage Level						
A-3	502 SF	5%	50	Gross	11	
B	1326 SF	13%	100	Gross	14	
B	524 SF	5%	100	Gross	6	
S-2	7551 SF	72%	200	Gross	38	
S-2 (Mech./Elec.)	186 SF	2%	300	Gross	1	
S-2 (Mech./Elec.)	343 SF	3%	300	Gross	2	
Grand total	10433 SF	100%			72	

Area Schedule (Code Analysis)	
Name	Area
Garage Level	
Elec. (S-2)	186 SF
Fitness (A-3)	502 SF
Garage (S-2)	7,551 SF
Mech. (S-2)	343 SF
Residence	1,157 SF
Work/Activity (B)	1,326 SF
Work/Activity (B)	524 SF
	11,590 SF
Level 1	
North Building: Residential	4,685 SF
South Building: Residential	5,085 SF
	9,770 SF
Level 2	
North Building: Residential	4,903 SF
South Building: Residential	5,310 SF
	10,213 SF
Level 3	
North Building: Residential	3,038 SF
South Building: Residential	3,038 SF
	6,075 SF
Grand total	37,648 SF

Occupancies Legend	
A-3	
B	
Residence	
S-2	
S-2 (Mech./Elec.)	

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General Sheet Notes:

- Site plan provided for reference only. Refer to civil engineering drawings for specifics of site design, building locations, property line, setbacks, parking and utility information.
- All curb ramps shall have a maximum slope of 1:12 in direction of travel with a maximum cross-slope of 1:50. Maximum rise of all curb ramps shall be 6".
- All paving on accessible route shall have a maximum slope of 1:20 in direction of travel with a maximum cross-slope of 1:50.
- Maximum slope of all accessible parking spaces and access aisles shall be 1:50 in any direction.
- All accessible route and parking elements shall be designed and constructed in accordance with 2010 ADA Standards for Accessible Design and Chapter 11 of the Michigan Building Code (ICC/ANSI A117.1 2009).
- Contractor to review site conditions, including slopes and elevations, prior to construction. Coordinate any discrepancies with Architect.
- All slopes indicated show arrow pointing in the down slope direction.
- All lighting on this site shall be shielded and not encroach upon abutting properties or right-of-ways. Site lighting poles shall not be higher than 20 feet. All glare shall be eliminated from all light fixtures. Upward directed lighting shall not be permitted.
- All landscape areas shall be automatically irrigated. Irrigation system shall be designed and installed by design-build irrigation contractor.
- Exterior lighting is for indication only. Reference electrical drawings for actual locations and types of lighting.
- Provide control joints in new concrete paving at 5'-0" on center, maximum 3/8" joint width.
- Refer to sheet A-800 for partition details.
- Refer to sheet A-701 for door schedule.
- Dimensions are to finished face of wall at all locations. At exterior walls, finished face of wall include exterior cladding. Assume horizontal siding to be 5/8" thickness.

Required Parking Spaces:

- (10) 6-Bedroom Units x 1.5 spaces per unit = 15 spaces
(01) 3-Bedroom Unit x 1.5 spaces per unit = 1.5 spaces
Total of 17 parking spaces required, 18 provided.

Required Bicycle Spaces:

1 per every 5 unit = 3 Bicycle Spaces

Sheet Keynotes

- A26 Dumpster gate, retractable when fully open. Refer to details.
A55 Parking bumper.
A56 Wire mesh fencing and gate by owner.
A57 Class A bike storage.
E9 Transformer, refer to electrical drawings.
M1 HVAC equipment, refer to mechanical drawings.
M6 Furnace, refer to mechanical drawings.
P1 Drain, refer to plumbing drawings.
P17 Gas Meter, refer to plumbing drawings.
P19 Catch basin, refer to plumbing drawings.



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Job Title:

Henry Street
Residential

830 Henry Street - Ann Arbor, MI

Sheet Title:

Garage Level Floor
Plan

Released For: Bulletin 08

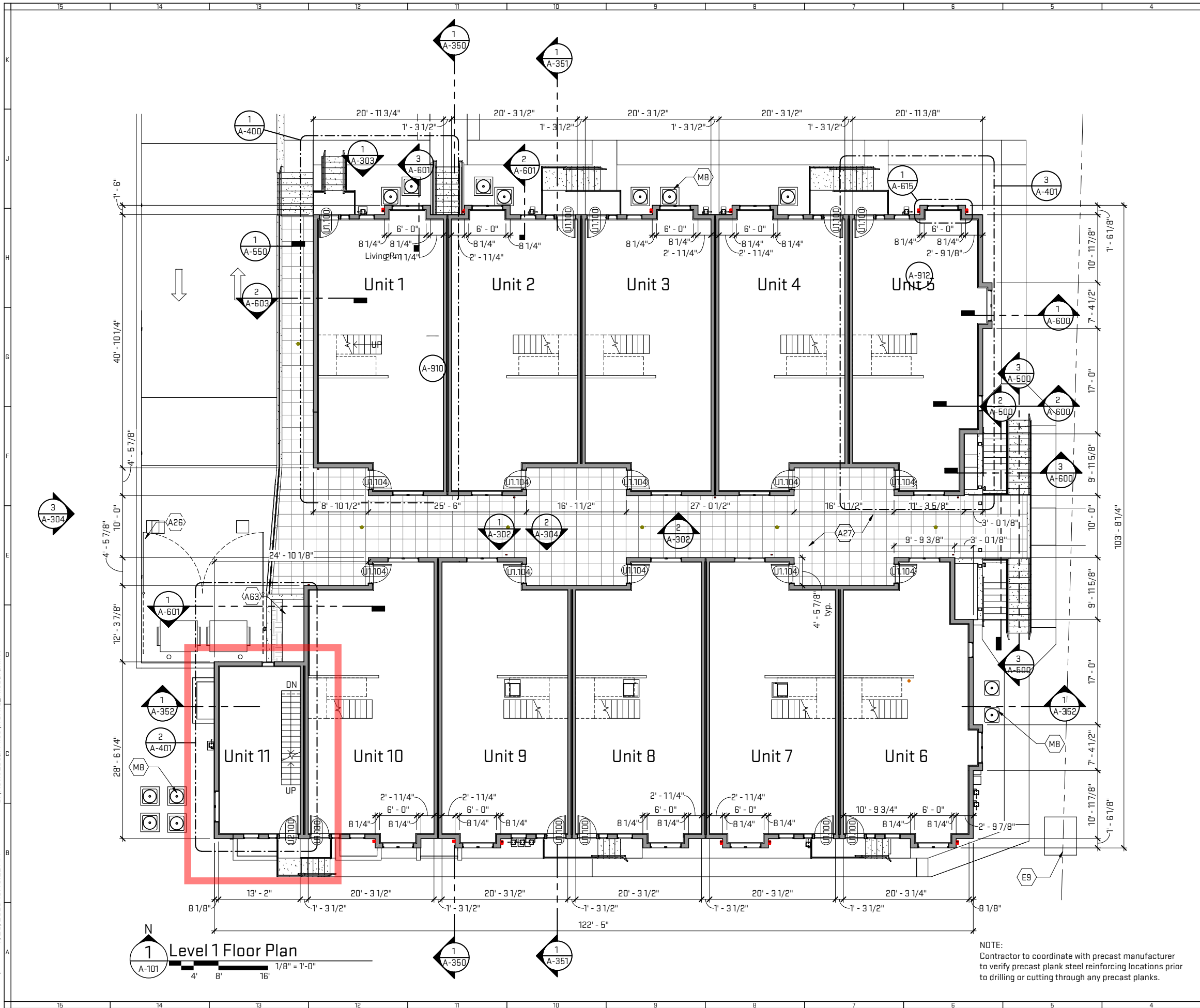
05/13/2020

PPA-HSR18

A-090

Scales listed are for 22x34 drawing size

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- General Sheet Notes:**
- A. 2x6" (nom) wood stud construction at exterior wall and 2x4" (nom) wood stud throughout interior unless noted otherwise.
 - B. Center windows in rooms unless dimensions/noted otherwise.
 - C. One window per bedroom (min.) shall have a max. sill height of 44" for egress. Minimum net clear openable height dimension shall be 24". Minimum net clear openable width shall be 20".
 - D. Refer to A-400 & A-401 for Enlarged Unit Plans.
 - E. Refer to sheet A-700 for Door Schedule.
 - F. Refer to sheet A-701 for Window Schedule.
 - G. Refer to sheet A-800 for Partition Types.
 - H. Dimensions are to finished face of wall at all locations. At exterior walls, finished face of wall includes exterior cladding. Assume horizontal siding to be 5/8" thickness.
 - I. Provide Huber ZIP insulated R-sheathing, model R6, 1-1/2" thick at entire exterior of exterior wall assembly U.N.O. Provide model R3, 1" thick at shear walls to maintain flush exterior face.

- # Sheet Keynotes**
- A26 Dumpster gate, retractable when fully open. Refer to details.
 - A27 Paver over adjustable pedestal support system, refer to details.
 - A63 Planter, refer to section.
 - E9 Transformer, refer to electrical drawings.
 - M8 Condensing unit, refer to mechanical drawings.

Architectural Floor Plan Legend

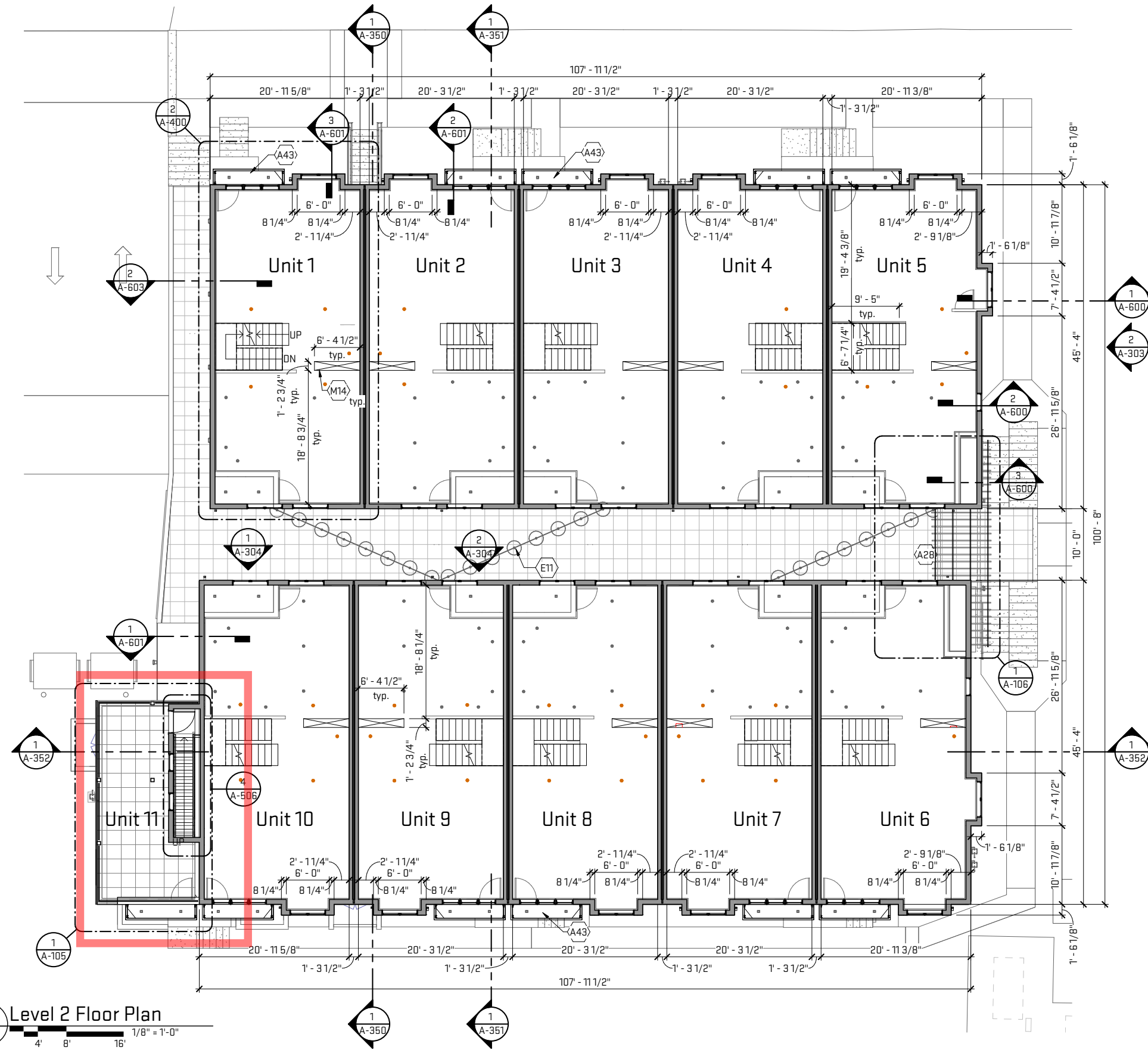
- New wall construction.
- Target Elevation
- Wall type tag, refer to interior partition types
- Align symbol





NOTE:
Contractor to coordinate with precast manufacturer to verify precast plank steel reinforcing locations prior to drilling or cutting through any precast planks.

Scales listed are for 22x34 drawing size

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Job Title:	Henry Street Residential	830 Henry Street - Ann Arbor, MI
Sheet Title:	First Floor Plan	Released For: Bulletin 07
04/03/2020		
PPA-HSR18		
A-101		



	New wall construction.
	Target Elevation
	Wall type tag, refer to interior partition types
	Align symbol

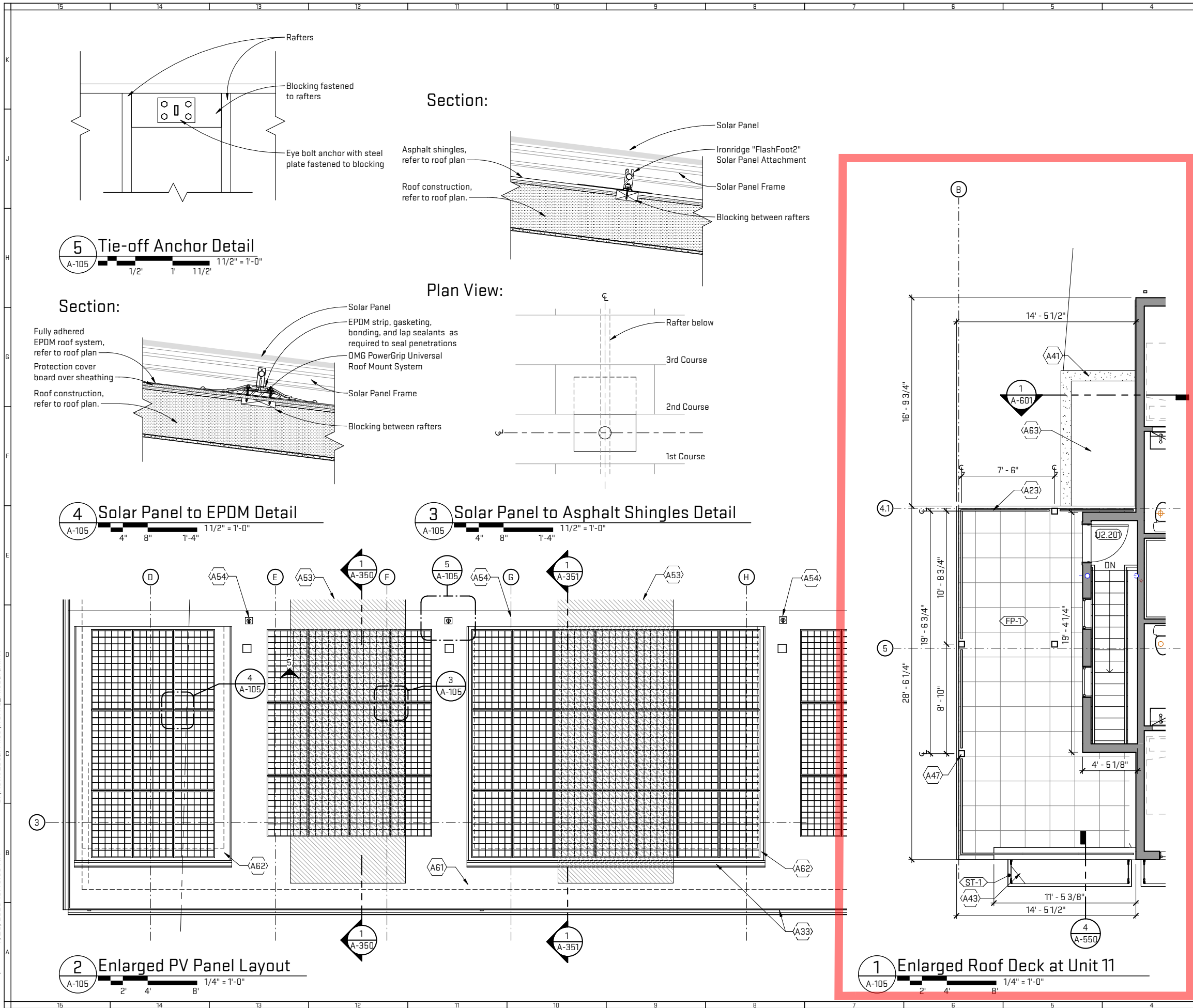
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830 Henry Street - Ann Arbor, MI

Released For: Bulletin 06

A-102

Plot Date/Time: 7/20/2020 10:49:30 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



General Sheet Notes:

Sheet Keynotes

- A23 Metal railing.
A33 Continuous prefinished metal gutter and downspout.
A41 Cast stone cap.
A43 Steel 'C' Channel canopy, refer to details.
A47 Wood column, refer to details.
A53 No penetrations allowed in shaded area, typ.
A54 Tie-off anchor.
A61 Line of wall below shown dashed, typ.
A62 EPDM roof system over plywood sheathing.
A63 Planter, refer to section.

Architectural Roof Plan Legend

- Asphalt shingles over 15# underlayment over roof sheathing, provide ice and water shield at eaves, valleys, overhangs, and all other vulnerable areas prone to ice dams and wind driven rain damage.
- Standing seam metal roof system over manufacture approved underlayment over sheathing, provide high temperature ice and water shield at eaves.
- Fire-retardant-treated roof sheathing per 2015 MBC 705.11 Exception 5, 5.1
- Photovoltaic Panel System
Jinko Solar, Eagle 60M (300-320 Watt)
Jinko Solar, Eagle 72M G2 (375-395 Watt)
- DS Pre-finished aluminum Downspout
- Tie off anchor, galvanized

Scales listed are for 22x34 drawing size

Job Title:

Henry Street
Residential

830 Henry Street - Ann Arbor, MI

Sheet Title:

Enlarged Exterior Floor
Plans

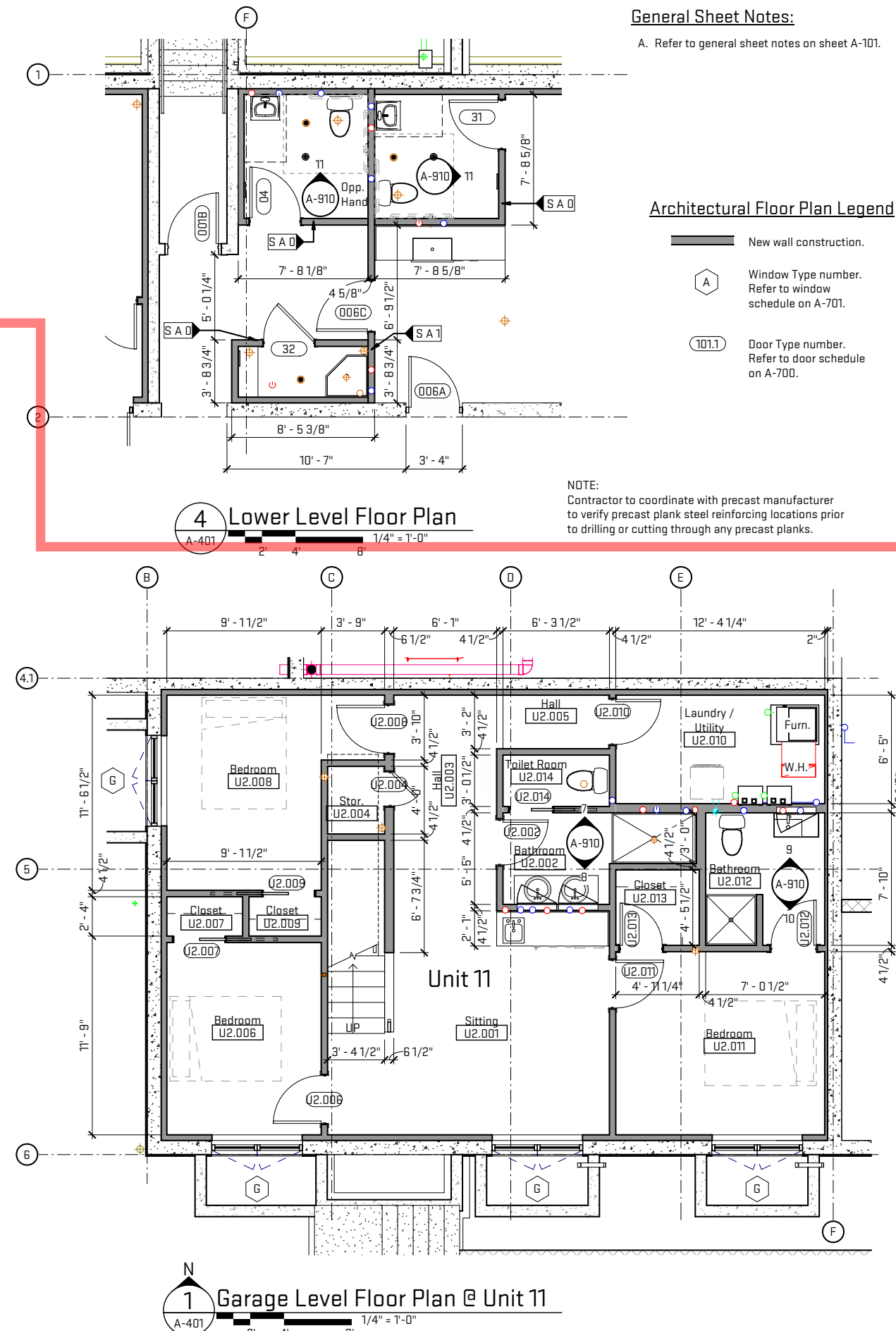
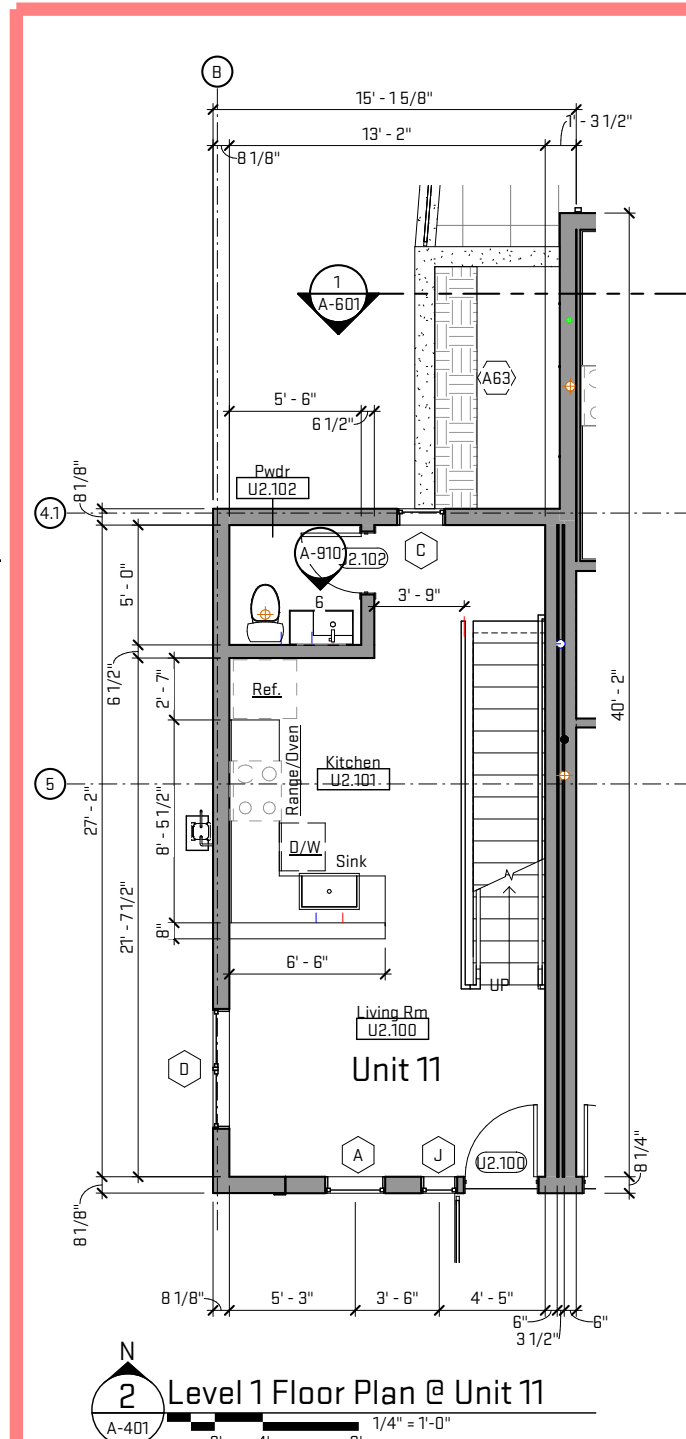
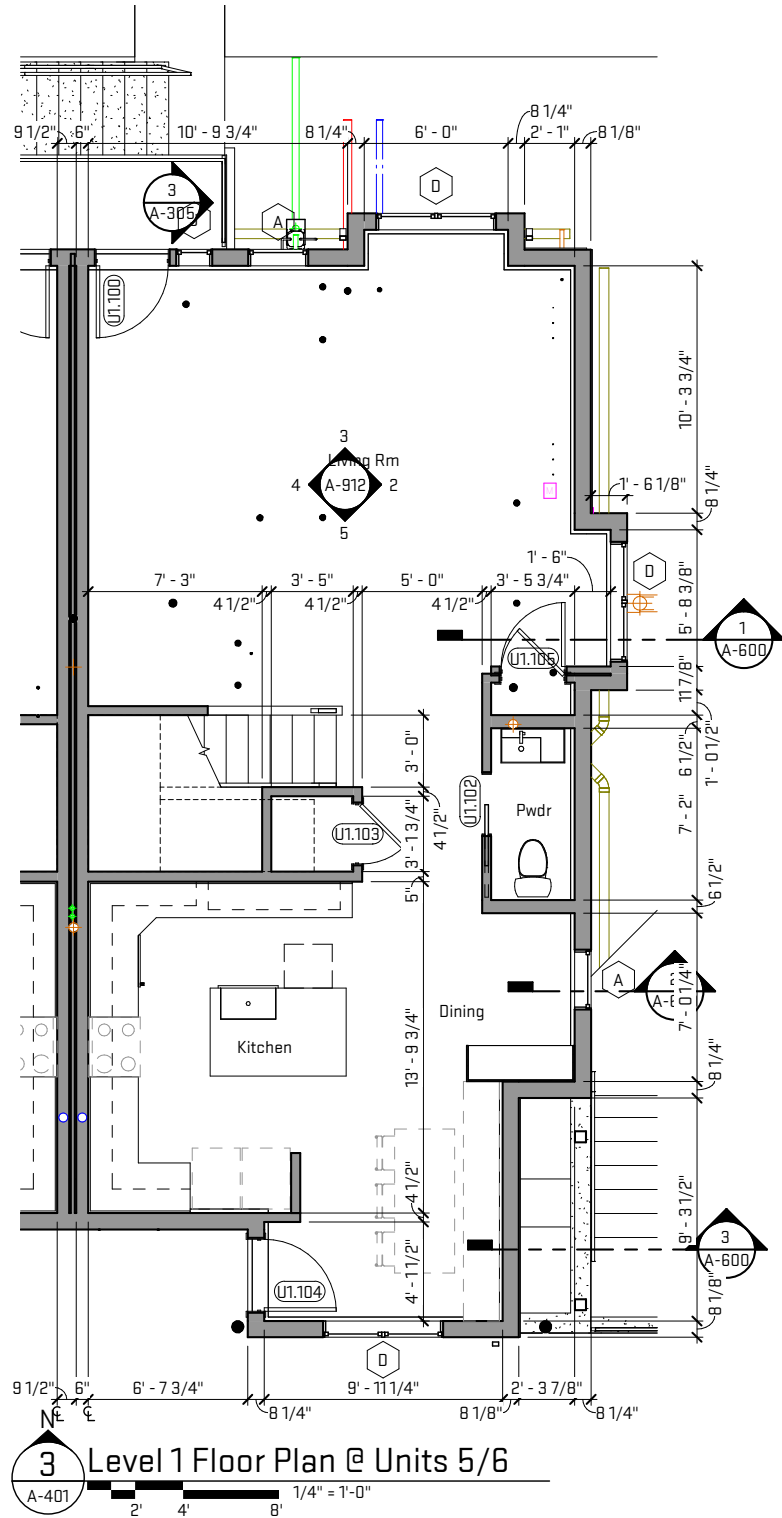
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02/03/20

PPA-HSR18

A-105

Plot Date/Time: 7/20/2020 10:50:55 AM File Path: C:\Revit Local Files\HSR18_MisSarah.rvt



General Sheet Notes:
A. Refer to general sheet notes on sheet A-101.

- Architectural Floor Plan Legend
- New wall construction.
 - Window Type number. Refer to window schedule on A-701.
 - Door Type number. Refer to door schedule on A-700.

NOTE:
Contractor to coordinate with precast manufacturer to verify precast plank steel reinforcing locations prior to drilling or cutting through any precast planks.

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Job Title:
Henry Street Residential

Sheet Title:
Enlarged Floor Plans

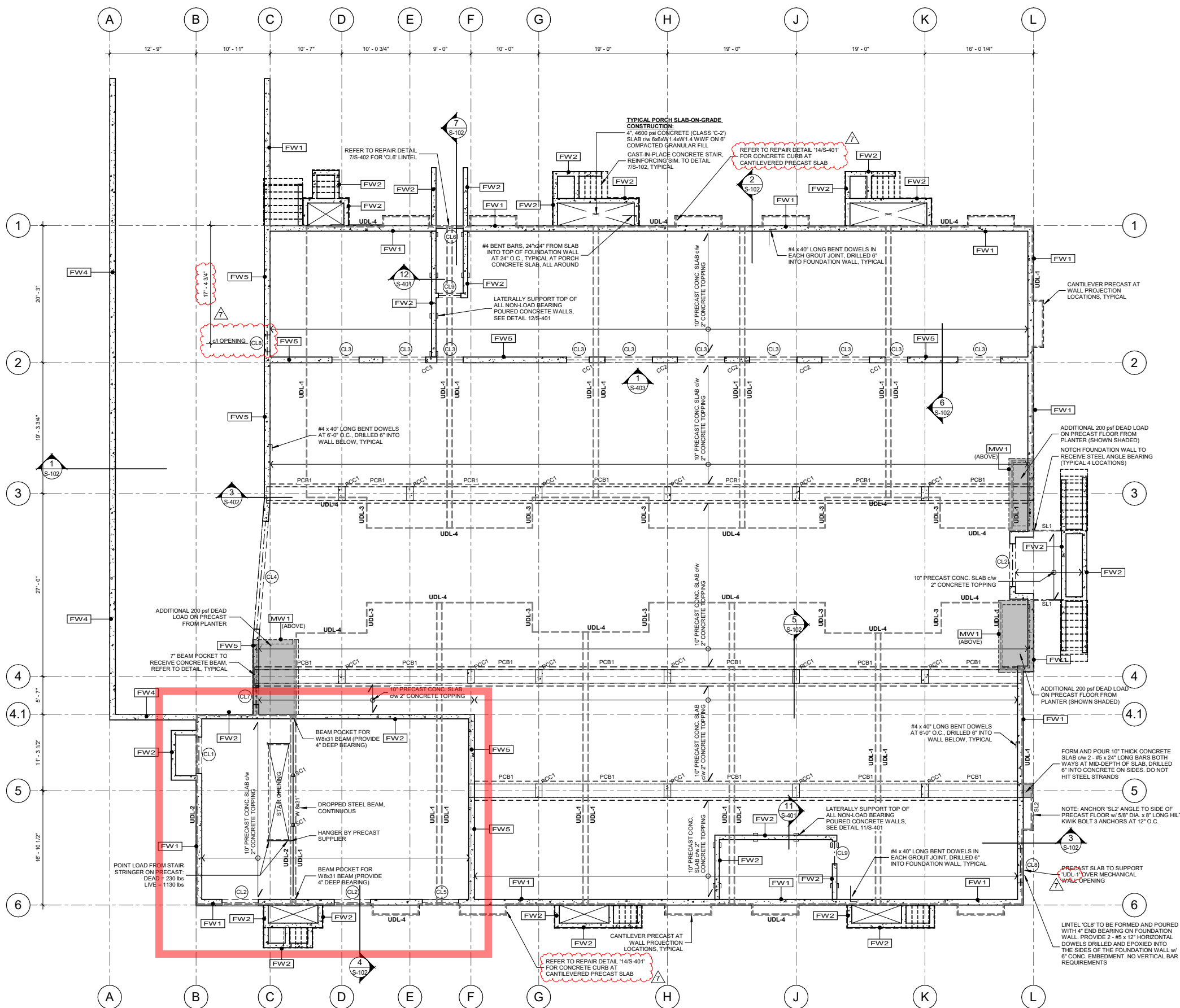
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04/03/2020
PPA-HSR18
A-401

830 Henry Street - Ann Arbor, MI

Project #

Dwg Date



MAIN FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"

FOUNDATION WALL SCHEDULE		
MARK	WALL TYPE	REINFORCING
FW1	10" CONCRETE	#5 VERT. AT 16" O.C., #5 HORIZ. AT 16" O.C., 1 1/2" CONC. COVER TO INSIDE FACE
FW2	8" CONCRETE	#5 VERT. AT 16" O.C., #5 HORIZ. AT 16" O.C., CENTERED IN WALL
FW3	12" CONCRETE	2 MATS OF #5 BAR AT 16" O.C. BOTH WAYS
FW4	10" CONCRETE (RETAINING WALL)	#5 VERT. AT 16" O.C., #5 HORIZ. AT 16" O.C., 1 1/2" CONC. COVER TO HIGH SOIL SIDE
FW5	10" CONCRETE	2 MATS OF #5 AT 24" O.C. BOTH WAYS, 1 1/2" CONC. COVER EACH FACE

MASONRY WALL SCHEDULE		
MARK	WALL TYPE	REINFORCING
MW1	8" CONCRETE BLOCK GROUT BLOCK SOLID	#5 VERT. AT 24" O.C. CENTERED IN WALL, #5 HORIZ. REBAR @ EVERY OTHER BLOCK COURSE, PLACE HORIZ. BARS ON EXTERIOR SIDE OF VERT. BAR (FAR SIDE OF PLANTER)

NOTES:
1. PROVIDE #5 x 24" LONG DOWELS DRILLED & EPOXIED 6" INTO PRECAST @ 24" O.C.
2. PLANTER WALLS AND PRECAST SLABS ARE DESIGNED TO SUPPORT A 2'-0" HEIGHT OF SOIL. FILL SPACE BELOW SOIL WITH FOAM.

PRECAST CONC. COLUMN SCHEDULE		
MARK	COLUMN SIZE	REINFORCING
PC1	12" x 24" PRECAST CONCRETE COLUMN	BY PRECAST MANUFACTURER

CONCRETE COLUMN SCHEDULE		
MARK	COLUMN SIZE	REINFORCING
CC1	10" x 28" CONCRETE COLUMN (POURED IN WALL)	8 - #6 REBAR, #4 TIES AT 10" O.C.
CC2	10" x 40" CONCRETE COLUMN (POURED IN WALL)	10 - #6 REBAR, #4 TIES AT 10" O.C.
CC3	10" x 20" CONCRETE COLUMN (POURED IN WALL)	6 - #6 REBAR, #4 TIES AT 10" O.C.
CC4	10" x 42" CONCRETE COLUMN (POURED IN WALL)	10 - #6 REBAR, #4 TIES AT 10" O.C.

NOTES:
1. PROVIDE FULLY DEVELOPED DOWELS FROM COLUMN INTO BEAM AND FOOTING, MATCH COLUMN VERTICAL REBAR.

PRECAST CONCRETE BEAM SCHEDULE		
MARK	SIZE	REINFORCING
PCB1	SIZE TO SUIT LOADING CONDITIONS 5/8" HAUNCH ON BOTH SIDES FOR PRECAST SLAB BEARING	BY PRECAST MANUFACTURER

CONCRETE LINTEL SCHEDULE		
MARK	SIZE	REINFORCING
CL1	10" WIDE x 16" DEEP (MIN.)	2 - #5 BOTTOM BARS
CL2	10" WIDE x 16" DEEP	2 - #5 BOTTOM BARS, 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL3	10" WIDE x 28" DEEP	4 - #6 BOTTOM BARS (2 UPPER, 2 LOWER), 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL4	10" WIDE x 22" DEEP	2 - #6 BOTTOM BARS, 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL5	10" WIDE x 16" DEEP	4 - #6 BOTTOM BARS (2 UPPER, 2 LOWER), 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL6	10" WIDE x 12" DEEP	2 - #6 BOTTOM BARS, 2 - #4 TOP BARS, #4 STIRRUPS AT 8" O.C.
CL7	10" WIDE x 11" DEEP	2 - #5 BOTTOM BARS, 1 - #5 TOP BAR, SEE SECTION DETAIL
CL8	10" WIDE x 5" DEEP	2 - #5 BOTTOM BARS
CL9	8" WIDE x 12" DEEP	2 - #5 BOTTOM BARS, NO STIRRUPS, 1 1/2" BOTTOM COVER

NOTES:
1. EXTEND HORIZONTAL BARS 24" PAST FACE OF OPENING, U.N.O.
2. EXTEND STIRRUPS TO FACE OF OPENING, U.N.O.

DESIGN LOAD SCHEDULE FOR PRECAST FLOOR		
MARK	UNFACTORED VERTICAL LOAD ON SLABS (lbs/ft) (NOTE 1)	FACTORED HORIZONTAL SHEAR LOAD ON SLABS (lbs/ft) (NOTE 1) LOAD IS PARALLEL WITH LINE LOAD
UDL-1	DEAD LOAD = 715 lbs/ft LIVE LOAD = 1100 lbs/ft	WIND = 254 lbs/ft
UDL-2	DEAD LOAD = 280 lbs/ft LIVE LOAD = 960 lbs/ft	WIND = 254 lbs/ft
UDL-3	DEAD LOAD = 165 lbs/ft LIVE LOAD = 440 lbs/ft	NO WIND LOAD
UDL-4	DEAD LOAD = 360 lbs/ft LIVE LOAD = 320 lbs/ft	NO WIND LOAD

NOTES:
1. LOADING ABOVE IS FROM TOWNHOUSE FRAMING ONLY. MAIN FLOOR LOADS MUST BE ADDED IN ADDITION TO THE LOADING ABOVE. SEE DRAWING S-001 FOR MAIN FLOOR DESIGN LOADS.

STEEL COLUMN SCHEDULE		
MARK	COLUMN SIZE	NOTES
SC1	HSS 54x114	10" x 5/8" x 10" BASEPLATE c/w 4 - 3/4" DIA. x 8" LONG WEDGE ANCHORS 8" WIDE x 1/2" x 10" CAP PLATE c/w 4 - 3/4" DIA. BOLTS IN BOTTOM FLANGE OF BEAM

STEEL LINTEL SCHEDULE		
MARK	SIZE	NOTES
SL1	L 6x6x3/8"	4" MIN. END BEARING, EACH END
SL2	L 6x6x1/2" (LLV)	ANCHOR ANGLE TO SIDE OF PRECAST (SEE PLAN)

REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS

LEGEND		
WT-	10" PRECAST CONC. SLAB c/w 2" CONCRETE TOPPING	TYPICAL LEVEL 1 PRECAST FLOOR: 10" PRECAST CONCRETE SLAB 2" CONCRETE TOPPING 4" RIGID INSULATION (SEE ARCHITECTURAL FOR EXTENTS) 2" CONCRETE TOPPING (SEE ARCHITECTURAL FOR EXTENTS) REFER TO ARCHITECTURAL DRAWINGS FOR EXTENTS OF SLOPED CONCRETE TOPPING IN EXTERIOR COURTYARD AREAS
L		DENOTES LINTEL TYPE. REFER TO LINTEL TYPE SCHEDULE FOR SIZE AND REINFORCING.
UDL-xx		DENOTES LINE LOAD ON PRECAST FLOOR. REFER TO DESIGN LOAD SCHEDULE FOR DETAILS

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No.	Date	Revision / Issued for
1	MAR. 8, 2019	ISSUED FOR FOUNDATION PERMIT
2	APR. 8, 2019	REVISED STRUCTURAL DESIGN PARAMETERS
3	MAY 1, 2019	PRECAST DESIGN REVISIONS & FOUNDATION COORDINATION
4	MAY 3, 2019	CORE & SHELL PERMIT
5	AUG. 9, 2019	BULLETIN 02
6	SEPT. 13, 2019	BULLETIN 03
7	DEC. 6, 2019	BULLETIN 05

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RESIDENTIAL DEVELOPMENT
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814-830 HENRY ST. ANN ARBOR, MICHIGAN

MAIN FLOOR FRAMING PLAN

Scale:	Drawn By:
AS NOTED	EO
Project No:	Date:
TM-0021-19	OCT. 2019

S-201