

**Meeting:** 3/19/2025  
**Applicant:** Josh Braden Braden Family Properties, LLC  
**Owner:** Josh Braden Braden Family Properties, LLC  
**District:** Oakwood/Lincoln Park Infill Housing Overlay District

---

## Property Information

**Location:** 212 E. Morelia Ave. **Parcel ID:** 81 F T 009  
**Zoning:** RN-2 (Single-Family Residential Neighborhood)  
**Description:**  
New primary structure

---

## Description of Work

Level III New Primary Structure

New primary structure (duplex) fronting East Morelia Avenue. Two-story building features a side-gable roof (6/12 pitch), an exterior of lap siding with corner boards and cedar-texture accent boards at the top of each story, and a block foundation clad in stucco. The duplex is 34'-5" wide by 50' deep (two adjacent units of 17' wide by 50' deep) and will be set 54.9' from the front lot line. Each unit features a 6'-9" wide by 4'-5" deep front porch at the edge of the façade, and the porches are recessed under a front-gable roof supported two square posts. Parking is two adjacent 18' wide by 35' deep concrete pads and is accessed via the rear alley.

The façade (south) features four bays, and the two central bays contain a two-story, paired front-gable massing that projects 4'-5" from the façade, with two windows on each story. The left and right bays each feature a porch with a paneled door and a window on the second story. All windows on the duplex are 1/1 and double-hung. The left and right elevations each feature three windows on the first story, one of which is a box bay window that projects 1'-6" from the main massing with a half-hipped roof, and there are two windows on the second story. Side elevations feature large swaths of "cedar texture architectural ascent board" as trim between the first and second stories. The rear elevation features two windows and a secondary entrance for each unit on the first story, and the second story features four windows.

---

## Applicable Design Guidelines

Heart of Knoxville Infill Housing Design Guidelines

### 10. Multi-Unit Housing

- Multi-unit housing (where permitted by zoning) should have similar front yard space to that of the traditional single-family houses along the street.
- In zoning districts where multi-unit housing is permitted, the height of the new housing should be similar to the original houses along the street.
- Multi-unit housing should be designed to continue the architectural rhythm of the block. In addition to the same build-to line, porches, bays and breaks in the front façade should be created to mimic the look of older homes when

looking down the block. This should be done by dividing the building into separate sections that are proportionally similar to original houses on the block.

- Parking should be provided behind apartments with access from the alley.
- Landscaping, including shade trees, should be planted in both front and back yards.

#### 1. Front Yards

- Consistent front yard space should be created along the street with the setback of a new house matching the older houses on the block.
- A walkway should be provided from the sidewalk or street to the front door. Along grid streets, the walk should be perpendicular to the street.
- Healthy trees that are outside the building footprint should be preserved. The root area should be marked and protected during construction.

#### 2. Housing Orientation

- New housing should be proportional to the dimensions of the lot and other houses on the block.
- On corner lots, side yard setbacks should be handled traditionally (that is, closer to the side street). The zoning requirement to treat corner lots as having two frontages should not apply in Heart of Knoxville neighborhoods.
- Side yard setbacks should be similar to older houses on the block, keeping the rhythm of spacing between houses consistent.

#### 3. Alleys, Parking, and Services

- Parking should not be in front yards.
- Alley access should be used for garage or parking pad locations. On level ground, pea gravel or similar material may be used as a parking pad off alleys.
- On streets without alleys, garages or parking pads should be at least 20 feet behind the front façade of the infill house with access limited to one lane between the street and the front façade.
- Garages which are perpendicular to the alley should be about 18 feet from the center line of the alley pavement, allowing a comfortable turning radius for a driver to enter a garage.
- Alley-oriented parking pads, garbage collection points, and utility boxes should be screened with a combination of landscaping and fencing.
- On those streets which have alleys, driveways should not be permitted from the front of the house.
- On corner lots, a driveway to the garage may be provided off the side street.

#### 4. Scale, Mass, and Foundation Height

- The front elevation should be designed to be similar in scale to other houses along the street.
- The front façade of new houses should be about the same width as original houses on the block.
- New foundations should be about the same height as the original houses in the neighborhood.
- If greater height is to be created (with new construction or an addition), that portion of the house should be located toward the side or rear of the property.

#### 5. Porches and Stoops

- Porches should be part of the housing design in those neighborhoods where porches were commonplace.
- Porches should be proportional to original porches on the block, extending about 8-12 feet toward the street from the habitable portion of the house.
- Porches should extend into the front yard setback, if necessary, to maintain consistency with similarly sited porches along the street.
- Porch posts and railings should be like those used in the historic era of the neighborhood's development. Wrought iron columns and other materials that were not used in the early 1900's should not be used.
- Small stoops centered on entry and no more than 5 feet deep are appropriate on blocks where porches were not traditional.

## 6. Windows and Doors

- When constructing new houses, the window and door styles should be similar to the original or historic houses on the block.
- To respect the privacy of adjacent properties, consider the placement of side windows and doors.
- The windows and doors on the front facade of an infill house should be located in similar proportion and position as the original houses on the block.
- Attention should be paid to window placement and the ratio of solid (the wall) to void (the window and door openings).
- Contemporary windows such as "picture windows" should not be used in pre-World War II neighborhoods.

## 7. Roof Shapes and Materials

- New roofs should be designed to have a similar pitch to original housing on the block
- More complex roofs, such as hipped roofs and dormers, should be part of new housing designs when such forms were historically used on the block.
- Darker shades of shingle were often used and should be chosen in roofing houses in Heart of Knoxville neighborhoods.

## 8. Siding Material

- Clapboard-like materials (such as cement fiberboard) should be used in constructing new housing where painted wood siding was traditionally used.
- Brick, wood shingle, and other less common material may be appropriate in some older neighborhoods, particularly those with a mix of architectural styles.
- Faced stone, vertical siding, and other non-historic materials should not be used in building new houses. In 1930-1950 era neighborhoods, faced stone may be appropriate (see Section 12).

## 11. Landscape and Other Considerations

- One native or naturalized shade tree should be planted in the front and rear yards of in fill lots with 25 feet or more in depth to front of house

---

## Comments

1. The applicant intends to use Section 4.6 of the zoning code, the Middle Housing standards, which are "intended to promote the development of neighborhood-scale housing forms which are compatible with existing housing in the surrounding area," and "may allow more flexible development of land than is possible under the base district zoning regulations," subject to additional dimensional, design, and parking standards. Middle Housing review occurs separately through Planning staff; the DRB review focuses on how the project meets the Infill Housing design guidelines. However, some elements of Middle Housing review may trigger site plan and building elevation revisions, which would require additional review by the DRB.

2. The house is proposed to be set 54.9' from the front property line. The average of the blockface is 18.4', with the adjacent houses at 20' and 22'. The house should be moved to be aligned with the front setback pattern of the block, to meet Infill guidelines and Middle Housing standards. The final site plan should include a walkway from the front porches to the street.

3. The guidelines for multi-unit housing recommend that "new multi-family buildings be designed in scale and context with the early architectural features of the neighborhood." The block to receive new construction is characterized by Craftsman bungalows, modified Queen Anne cottages, and infill construction. Almost all houses on the block are one or one-and-a-half story, except for a six-unit apartment complex at the intersection with McMillan St. The duplex is proportionate to the dimensions of the lot and to other houses on the block. It does not incorporate any details which align with the architectural context. Additional design elements are also required by the Middle Housing standards.

4. Parking is two adjacent 18' wide by 35' deep concrete pads and is accessed via the rear alley, which meets the design guidelines.
5. The 35'-4" wide duplex is compatible in façade width with original houses in the neighborhood and meets the maximum building width requirements in Article 4.6, Middle Housing standards, for a side-by-side duplex. The side elevations are large in scale but attempt to break up the massing with a bay window on each side and trim separating each story. The building is within the maximum depth for a side-by-side duplex in the Middle Housing Standards. Guidelines also recommend that multi-unit housing be similar in height to original houses on the street. The two-story building is taller than the surrounding context, as the block only features one and one-and-a-half story houses, except for the two-story, six unit apartment complex at the intersection with McMillan Street. The Board should discuss the height of the duplex. The duplex also features a 2' tall foundation, which increases the building's overall height.
6. While the proposed entry stoops are not 8' deep per the guidelines, similarly-designed entry stoops have been approved for multi-unit buildings in the Infill Housing overlay. The entry stoops are relatively small in scale.
7. At least a 6/12 roof pitch is required in the Middle Housing standards to fill the "steep" category of roofline; 6/12 is also the minimum pitch approved by the Infill Housing guidelines. The large building may also benefit from additional variations in roofline, particularly on the larger side elevations.
8. Guidelines recommend window and door styles be similar to historic houses on the block, with similar placement and ratio of solid to void. While all four elevations feature sufficient transparency for the historic context, some revisions may be necessary to better align the buildings with the historic context (including the irregular placement of windows on the side elevations).
9. The elevation drawings feature horizontal siding (no materials provided) and a stucco-clad CMU foundation. The siding should feature a horizontal overlap similar to wood siding instead of Dutch lap or flush panes.
10. Guidelines state that there should be a native or naturalized shade tree in the front and rear yards, and they also state that "Healthy trees that are outside the building footprint should be preserved. The root area should be marked and protected during construction." There was a mature oak tree in the back yard that was recently cut down. The remaining mature maple tree in the front yard should be retained and a new native or naturalized shade tree should be added to the rear yard. Both trees should be indicated on the revised site plan.

---

## Recommendation

Staff recommends approval of Certificate 3-A-25-IH, subject to the following conditions: 1) final site plan to meet City Engineering standards, with major changes to the site plan to return to the DRB; 2) front setback to be revised to align with the front setback pattern of the blockface; 3) incorporation of additional design elements to meet Middle Housing standards, with minor revisions to be approved by staff; 4) the final site plan to include a walkway from the porches to the street; 5) the final site plan to include the existing mature tree in the front yard and a new native or naturalized shade tree in the rear yard; 6) revision to side elevation window placement; 7) the siding to be lap siding with an overlap instead of Dutch lap or flush panel; 8) meeting all relevant standards of Article 4.6. and Article 9.3.J.



**3-A-25-IH**

**APPLICATION FOR CERTIFICATE OF APPROPRIATENESS**

Applicant: Josh Braden Braden Family Properties, LLC

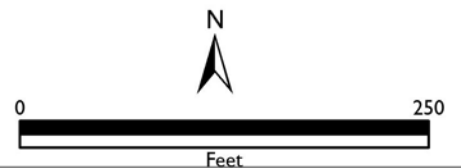
**DOWNTOWN  
DESIGN  
REVIEW  
BOARD**



Oakwood/Lincoln Park Infill Housing Overlay District

Original Print Date: 3/6/2025  
Knoxville/Knox County Planning - Infill Housing Design Review Committee

Revised:





# DESIGN REVIEW REQUEST

- DOWNTOWN DESIGN (DK)
- HISTORIC ZONING (H)
- INFILL HOUSING (IH)

Braden Family Properties, LLC.

Applicant

02/24/25

3-A-25-IH

Date Filed

Meeting Date (if applicable)

File Number(s)

## CORRESPONDENCE

All correspondence related to this application should be directed to the approved contact listed below.

- Owner
- Contractor
- Engineer
- Architect/Landscape Architect

Josh Braden

Braden Family Properties, LLC.

Name

Company

303 Bob Smith Lane

Knoxville

TN

37924

Address

City

State

Zip

865.696.7343

joshuabradens4@gmail.com

Phone

Email

## CURRENT PROPERTY INFO

Braden Family Properties, LLC.

303 Bob Smith Lane, Knoxville, TN 37924

865.696.7343

Owner Name (if different from applicant)

Owner Address

Owner Phone

212 E. Morelia Avenue, Knoxville, TN 37917

081FT009

Property Address

Parcel ID

CB Atkins Addition

Neighborhood

Zoning

## AUTHORIZATION

*Lindsay Lanois*  
Staff Signature

Please Print

Date

Joshuabradens4@gmail.com

02/24/25

Applicant Signature

Please Print

Date

# REQUEST

DOWNTOWN DESIGN

**Level 1:**

- Signs     Alteration of an existing building/structure

**Level 2:**

- Addition to an existing building/structure

**Level 3:**

- Construction of new building/structure     Site design, parking, plazas, landscape

*See required Downtown Design attachment for more details.*

Brief description of work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

HISTORIC ZONING

**Level 1:**

- Signs     Routine repair of siding, windows, roof, or other features, in-kind; Installation of gutters, storm windows/doors

**Level 2:**

- Major repair, removal, or replacement of architectural elements or materials     Additions and accessory structures

**Level 3:**

- Construction of a new primary building

**Level 4:**

- Relocation of a contributing structure     Demolition of a contributing structure

*See required Historic Zoning attachment for more details.*

Brief description of work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

INFILL HOUSING

**Level 1:**

- Driveways, parking pads, access point, garages or similar facilities     Subdivisions

**Level 2:**

- Additions visible from the primary street     Changes to porches visible from the primary street

**Level 3:**

- New primary structure  
      Site built     Modular     Multi-Sectional

*See required Infill Housing attachment for more details.*

Brief description of work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

STAFF USE ONLY

**ATTACHMENTS**

- Downtown Design Checklist  
 Historic Zoning Design Checklist  
 Infill Housing Design Checklist

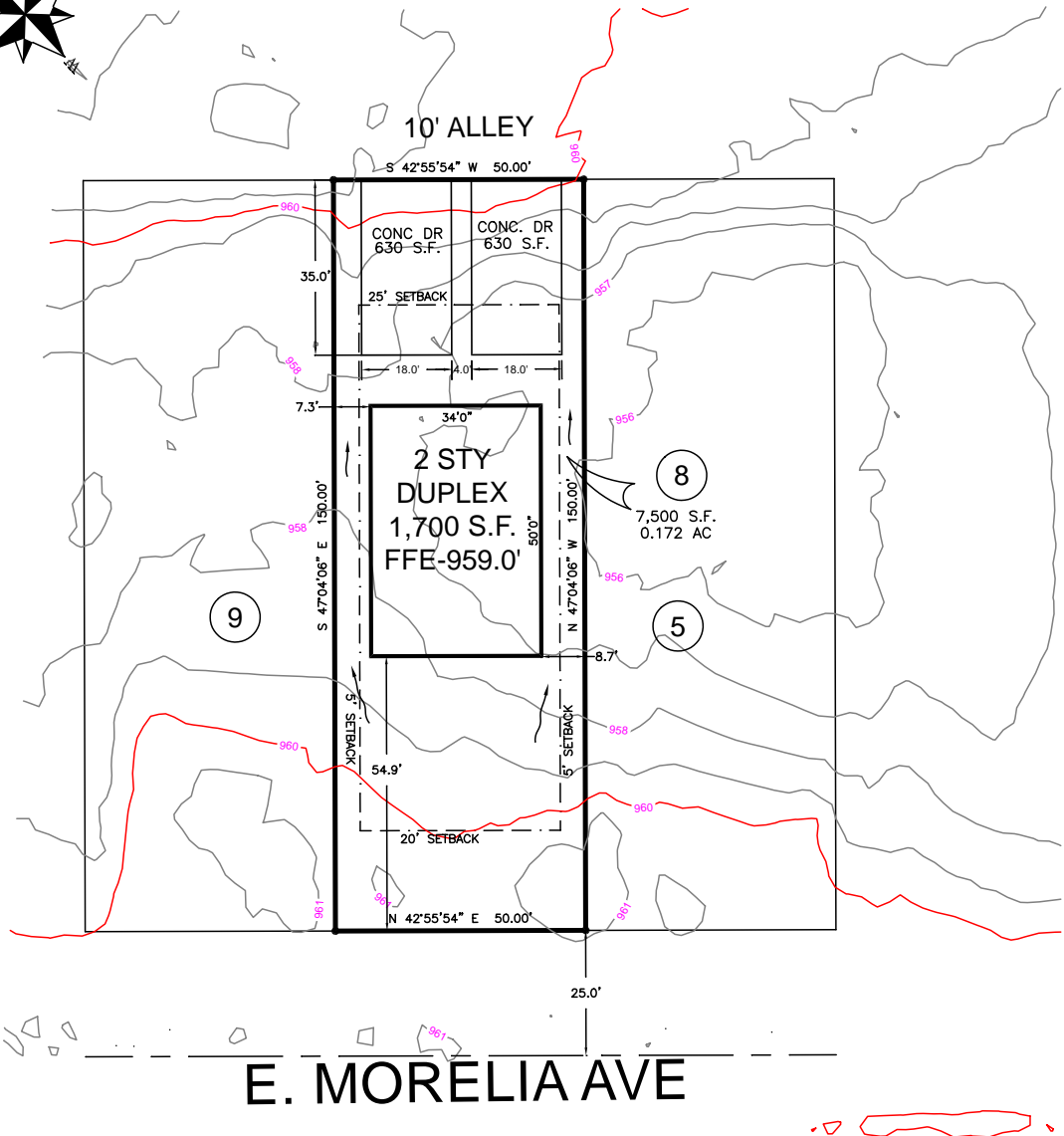
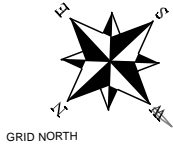
**ADDITIONAL REQUIREMENTS**

- Property Owners / Option Holders

**Level 1:** \$50 • **Level 2:** \$100 • **Level 3:** \$250 • **Level 4:** \$500

<b>FEE 1:</b>		<b>TOTAL:</b>
<b>FEE 2:</b>		
<b>FEE 3:</b>		





**E. MORELIA AVE**

SITE DATA:  
 TOTAL MAX COVERAGE(40%)3,000 S.F. [2,960 S.F.]  
 MAX. BLDG COVERAGE(30%)2,250 S.F. [1,700 S.F.]

DATE: 02/18/25

SITE PLAN

DRAWING NUMBER 494325

FOR BRADEN FAMILY HOMES LLC  
 ADDRESS 212 E. MORELIA AVENUE  
 DISTRICT 7th COUNTY KNOX CITY KNOXVILLE STATE TN ZIP 37917  
 LOT NO. 8 BLOCK "11" C.B. ATKINS ADD. S/D  
 WARD 17th CITY BLOCK 17201 DRAWN BY SWA  
 MAP CAB. P.C. A, SLIDE 144B  
 TAX MAP 081F GROUP PARCEL 009.00  
 WARRANTY DEED BK. 202308240010468  
 MORTGAGE CO.

SCALE 1" = 30'  
 ABBOTT LAND SURVEYING LLC  
 STEVEN W. ABBOTT JR, RLS  
 1109 E. WOODSHIRE DRIVE  
 KNOXVILLE, TN 37922  
 OFFICE: (865) 671-1149  
 EMAIL: survmap@tds.net

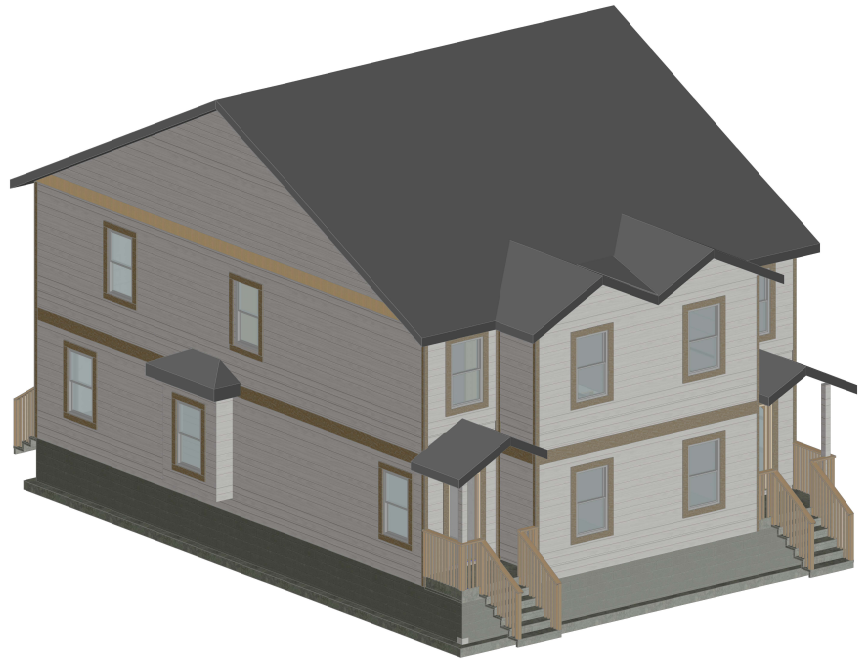


THIS IS TO CERTIFY THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR THE STATE OF TENNESSEE. THIS IS TO CERTIFY THAT ON THE DATE SHOWN, I MADE AN ACCURATE SURVEY OF THE PREMISES SHOWN HEREON USING THE LATEST RECORDED DEED AND OTHER INFORMATION FURNISHED TO ME, THAT THERE ARE NO EASEMENTS, ENCROACHMENTS OR PROJECTIONS EVIDENT OTHER THAN THOSE SHOWN. THE SURVEY WAS DONE UNDER THE AUTHORITY OF TCA 62-18-126; AND THE SURVEY IS NOT A GENERAL PROPERTY SURVEY AS DEFINED UNDER RULE 0820-3-07. THIS IS TO CERTIFY THAT I HAVE EXAMINED THE FEDERAL INSURANCE ADMINISTRATION FLOOD HAZARD MAP AND FOUND THE DESCRIBED NOT TO BE LOCATED IN A SPECIAL FLOOD HAZARD AREA.





ISO View  
Scale: NTS

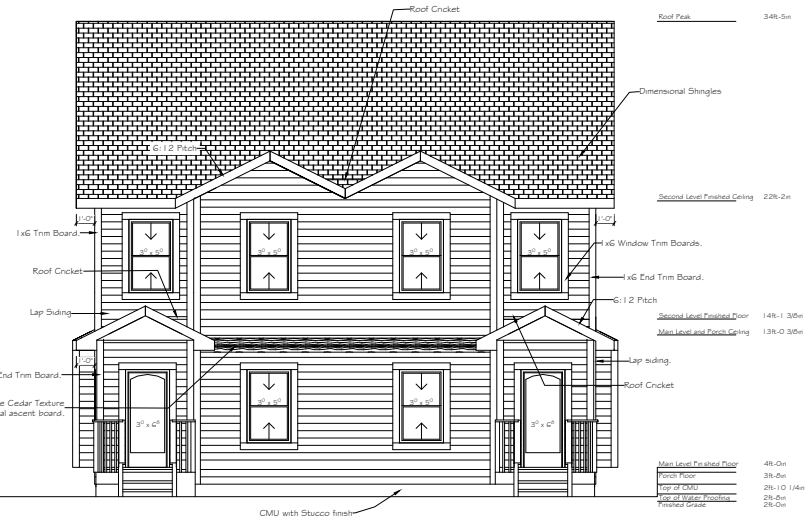


ISO View  
Scale: NTS

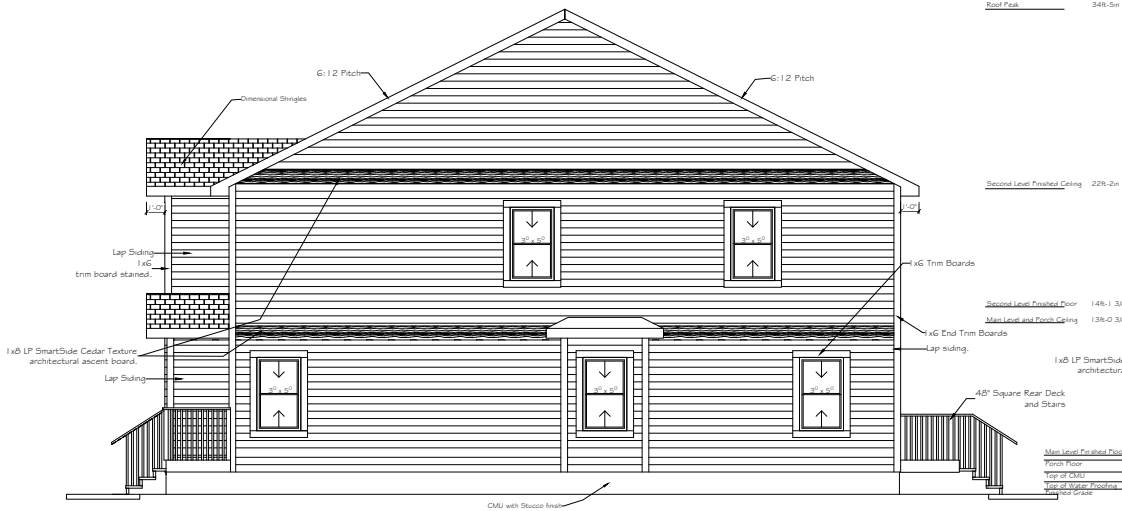
Project Name and Address	Project Number
New duplex 14641 146th Ave NW Burien	2022-0041
Contractor	Client Name, Address and Phone Number
Budde Family Properties and Son	14641 146th Ave NW Burien WA 98148 Phone: 206-835-1111
Plan ID: 20220124-01-A08	Sheet Number
Issued Date: December 9, 2022	
Revision 1 Date:	
Revision 2 Date:	
Revision 3 Date:	
	A1-01
<small>© 2022 by AEC-ONE</small>	



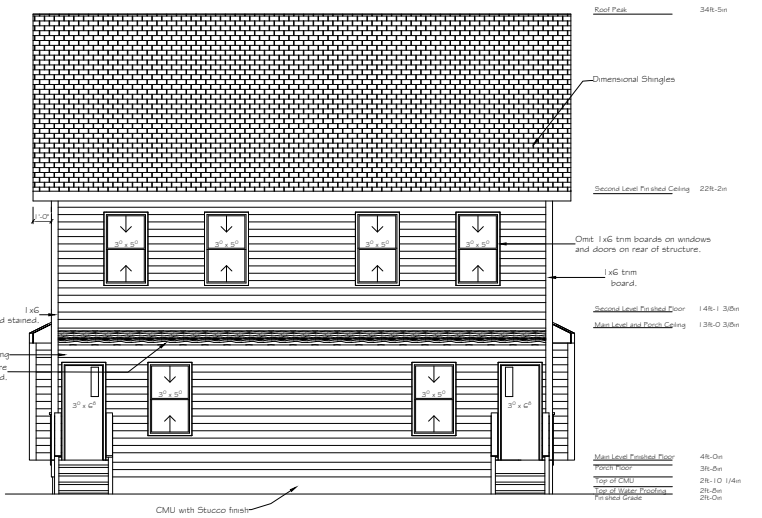
Left Exterior Elevation  
Scale: 1/4" = 1'-0"



Front Exterior Elevation  
Scale: 1/4" = 1'-0"

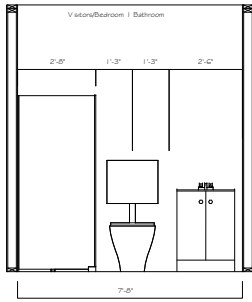


Right Exterior Elevation  
Scale: 1/4" = 1'-0"

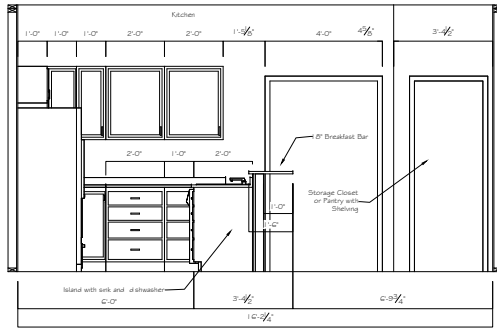


Rear Exterior Elevation  
Scale: 1/4" = 1'-0"

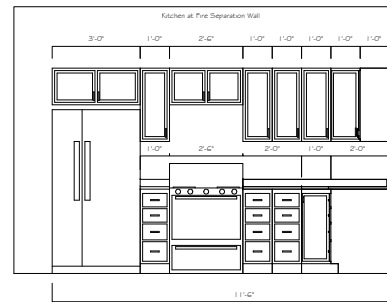
Project Name and Address	Project Number
New Dublin 18401 North The Valley	2023-0001
Client: See Drawing	Contractor:
Builder: Family Properties and Subs	Architect: See Drawing
Per ID: 20230124-0000	Revision 1 Date:
Printing Date: 08/29/2023	Revision 2 Date:
Revision 1 Date:	Revision 3 Date:
Revision 2 Date:	Revision 4 Date:
Revision 3 Date:	Revision 5 Date:



Visitor Bathroom Elevation  
Scale: 1/4" = 1'-0"

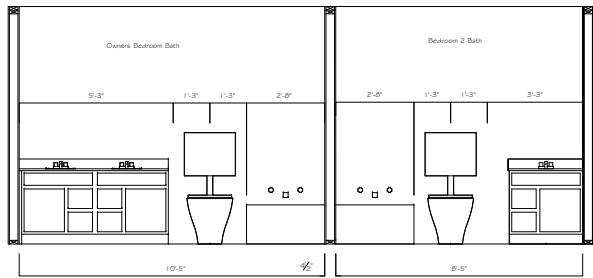


Kitchen Elevation 1  
Scale: 1/4" = 1'-0"



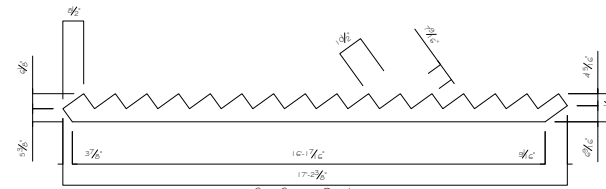
Kitchen Elevation 2  
Scale: 1/4" = 1'-0"

Stair Stringer Detail  
Scale: 1/2" = 1'-0"

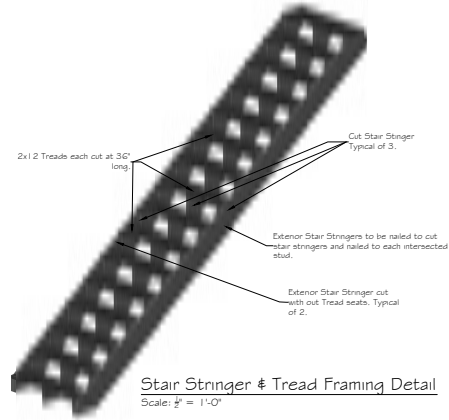


Owners Bathroom  
Scale: 1/4" = 1'-0"

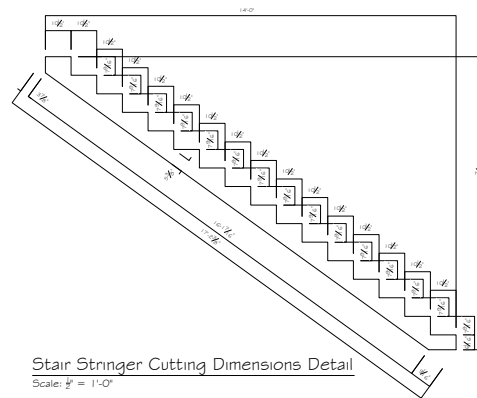
Bedroom 2 Bathroom  
Scale: 1/4" = 1'-0"



Stair Stringer Cut layout Detail  
Scale: 1/2" = 1'-0"

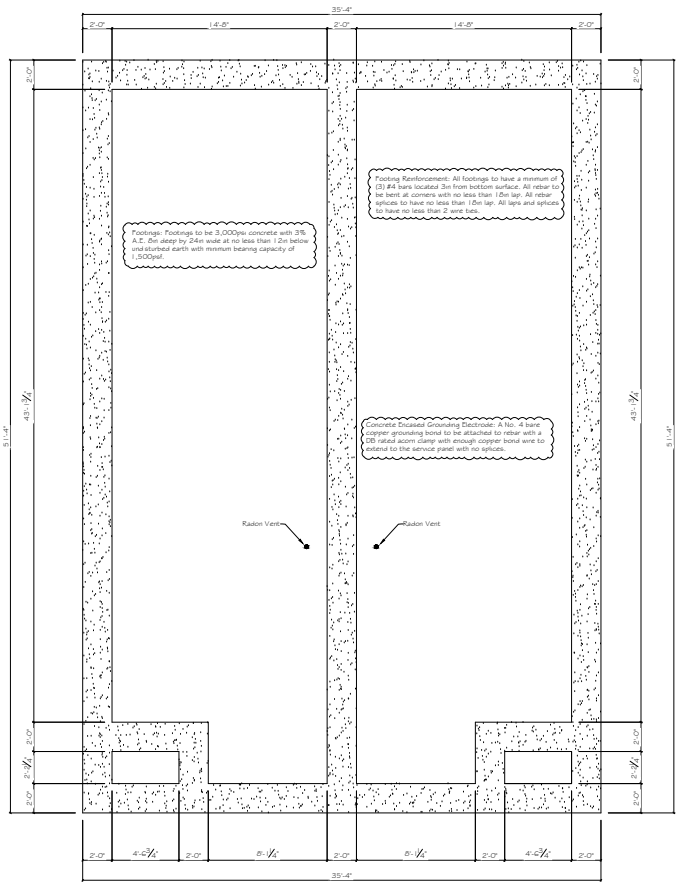


Stair Stringer & Tread Framing Detail  
Scale: 1/2" = 1'-0"

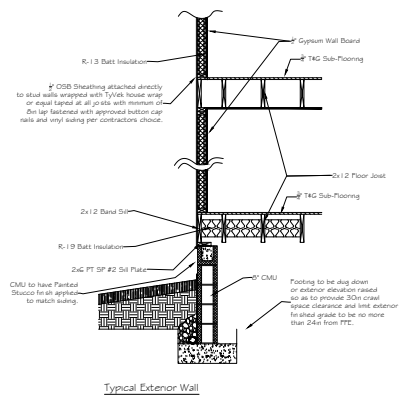


Stair Stringer Cutting Dimensions Detail  
Scale: 1/2" = 1'-0"

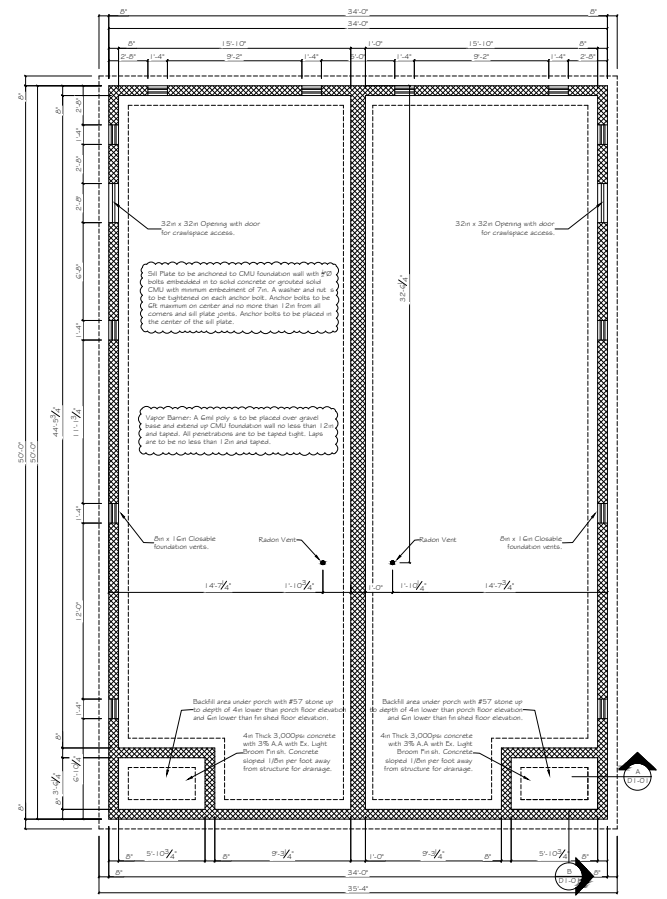
Project Name and Address	Project Number
New Duplex 18411 North 7th Street Bellevue	2023-001
Contractor	100% Design
Builder/Property Owner	100% Design
Drawn By: 2023/05/18	100% Design
Checked By: 2023/05/18	100% Design
Revision 1 Date:	100% Design
Revision 2 Date:	100% Design
Revision 3 Date:	100% Design
A1-03	



**FOOTING PLAN**  
Scale:  $\frac{1}{4}'' = 1'-0''$

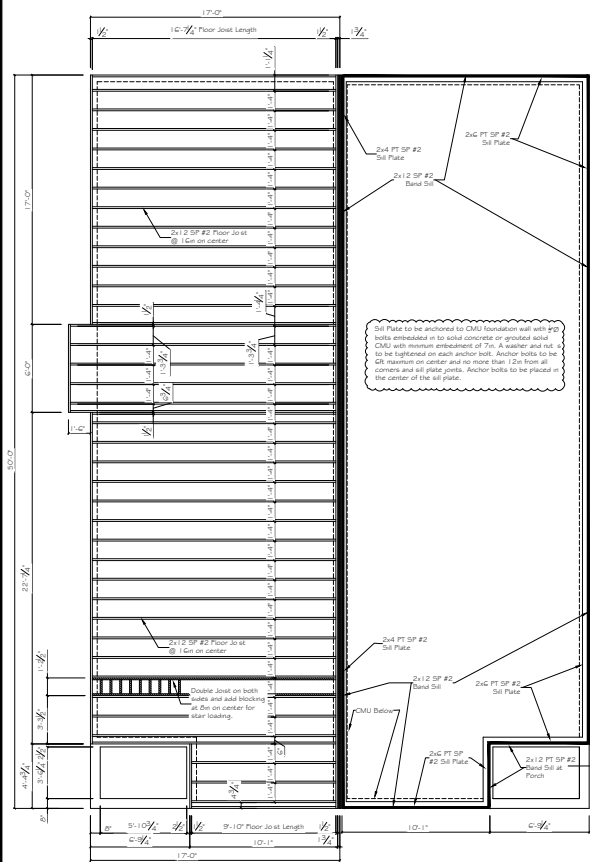


Typical Exterior Wall

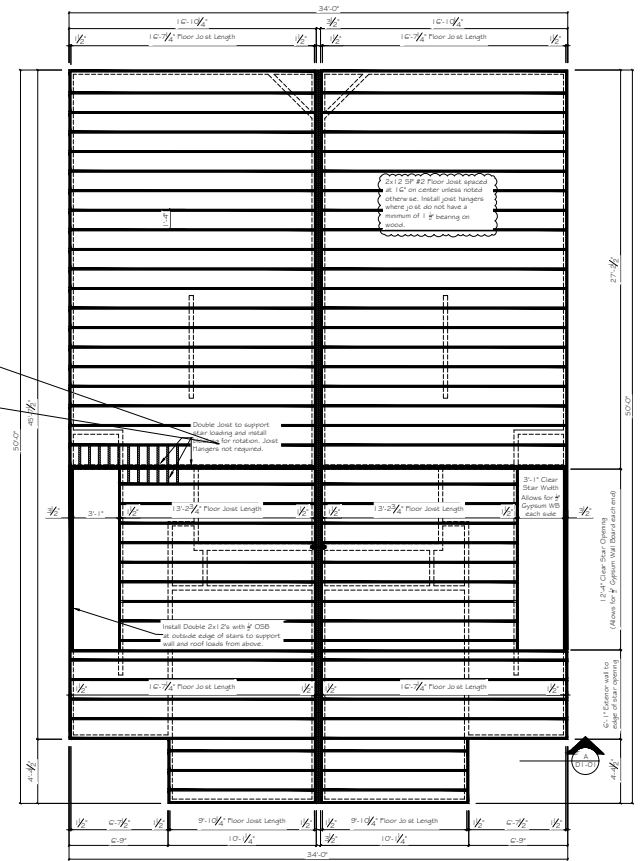
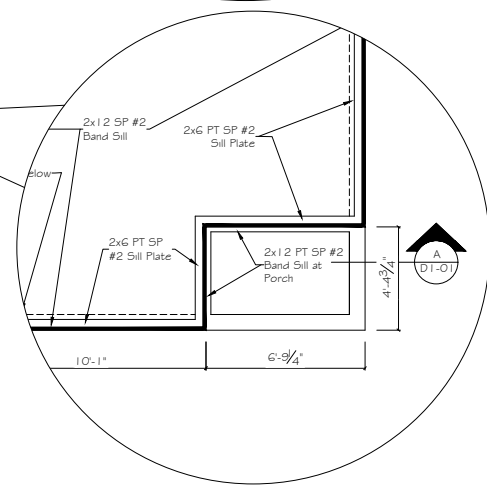
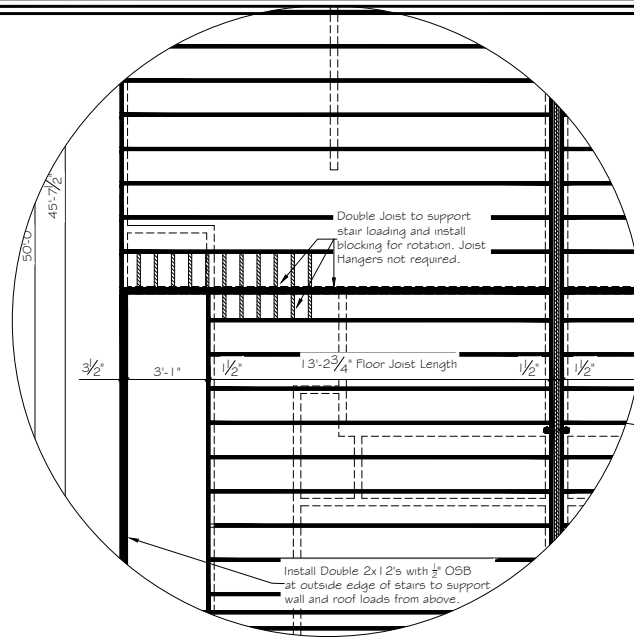


**FOUNDATION/CMU PLAN**  
Scale:  $\frac{1}{4}'' = 1'-0''$

Project Name and Address	Project Number
New Duplex 1840 West 7th Street Baltimore	2023-001
Contractor	Client Site Drawing
Balks Family Project and Partner	Client Name
Plan ID: 20230124-EX-A08	Client Address
Drawing Date: December 9, 2023	Client Phone
Revision 1 Date	Client Email
Revision 2 Date	Client Website
Revision 3 Date	Client Notes
Notes: 20-400-001	

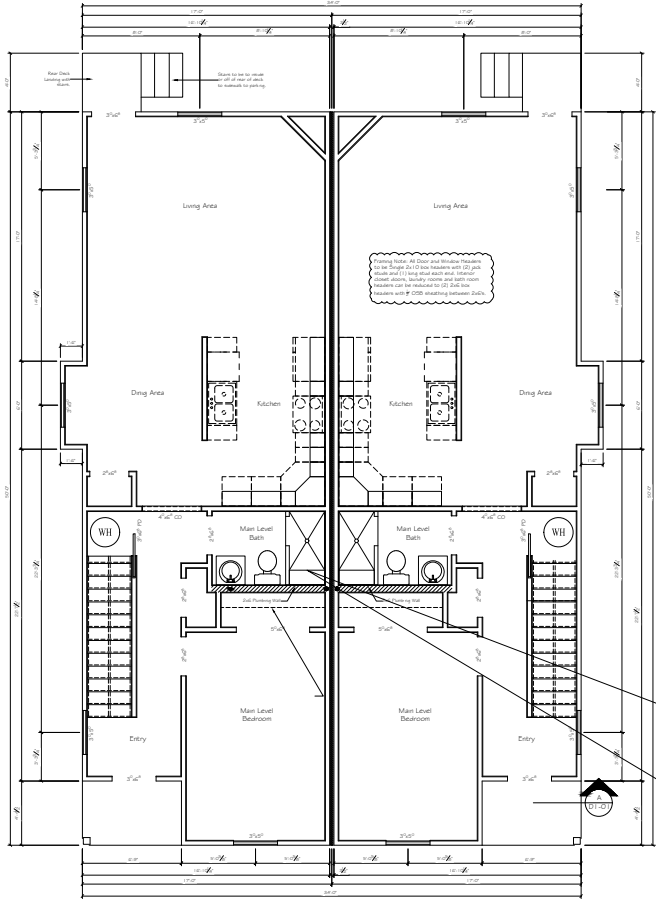


FIRST FLOOR FRAMING PLAN  
Scale:  $\frac{1}{4}" = 1'-0"$

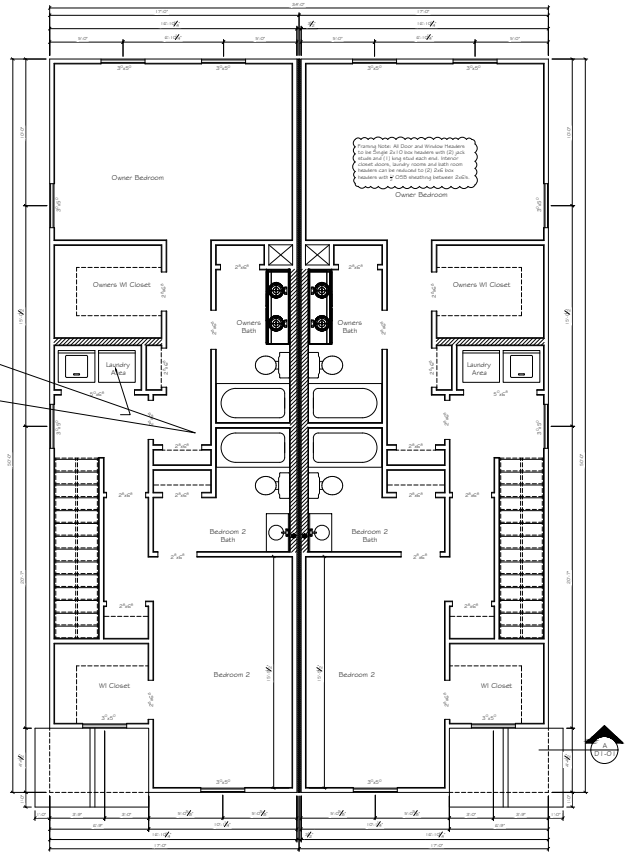
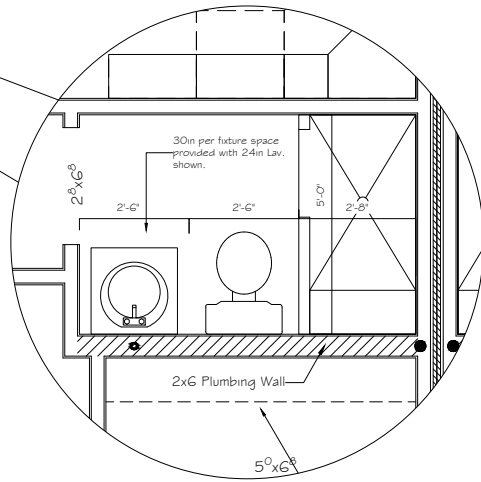
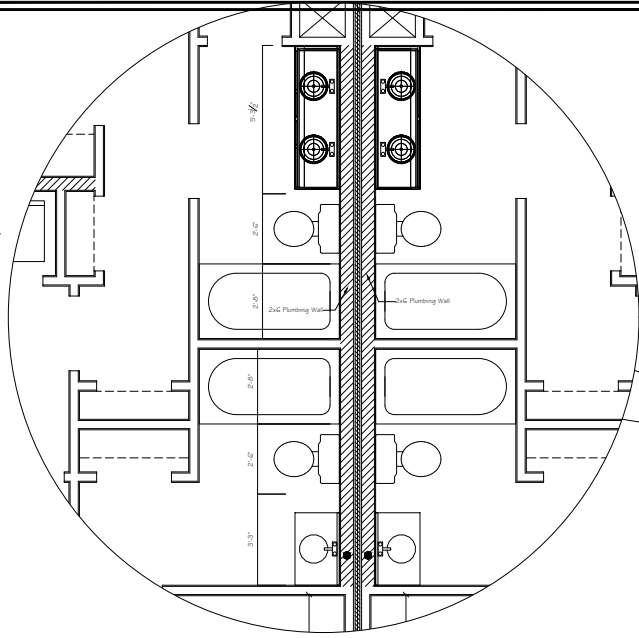


SECOND FLOOR FRAMING PLAN  
Scale:  $\frac{1}{4}" = 1'-0"$

Project Name and Address	Project Number
New Duplex 18411 North 14th Street Bellevue	2323-001
Contractor	Client: See Drawing
Book's Family, Properties and Scales	File's Owner: See Drawing This drawing is not to be used in any other project without written permission of the contractor or other party in control of the drawing.
Plan ID: 18411FLX.A08	Sheet Number
Drawing Date: January 9, 2025	A2-02
Revision 1 Date:	
Revision 2 Date:	
Revision 3 Date:	

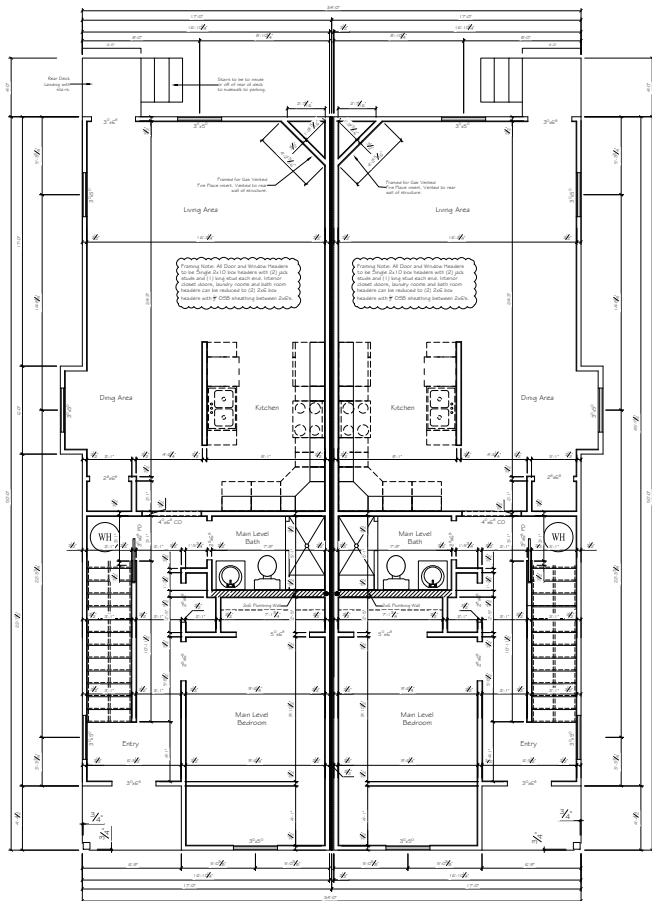


MAIN FLOOR PLAN  
Scale:  $\frac{1}{4}'' = 1'-0''$

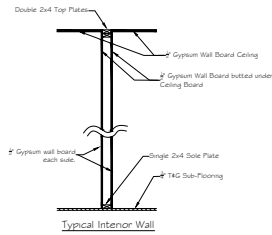


SECOND FLOOR PLAN  
Scale:  $\frac{1}{4}'' = 1'-0''$

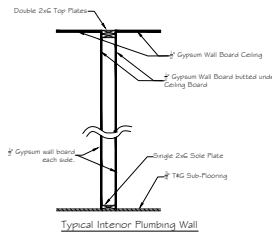
Project Name and Address	Project Number
New Duplex 1400 West 10th Street Minneapolis	2023-001
Contractor	2023-001
Builder/Property Owner	
Plan ID: 202302EX-A08	
Issued Date: January 9, 2023	
Revision 1 Date:	
Revision 2 Date:	
Revision 3 Date:	
A2-03	



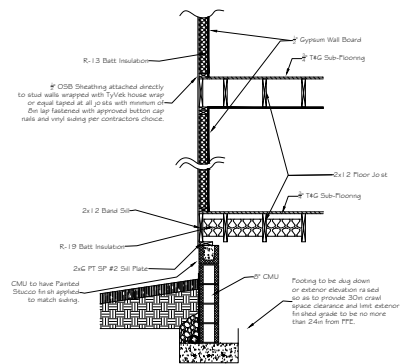
MAIN FLOOR WALL FRAMING PLAN  
Scale: 1/4" = 1'-0"



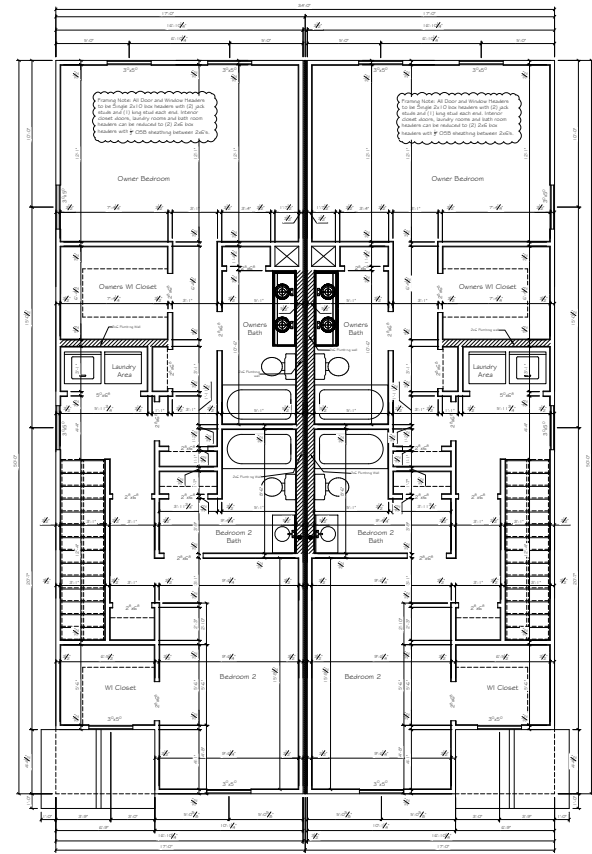
Typical Interior Wall



Typical Interior Plumbing Wall



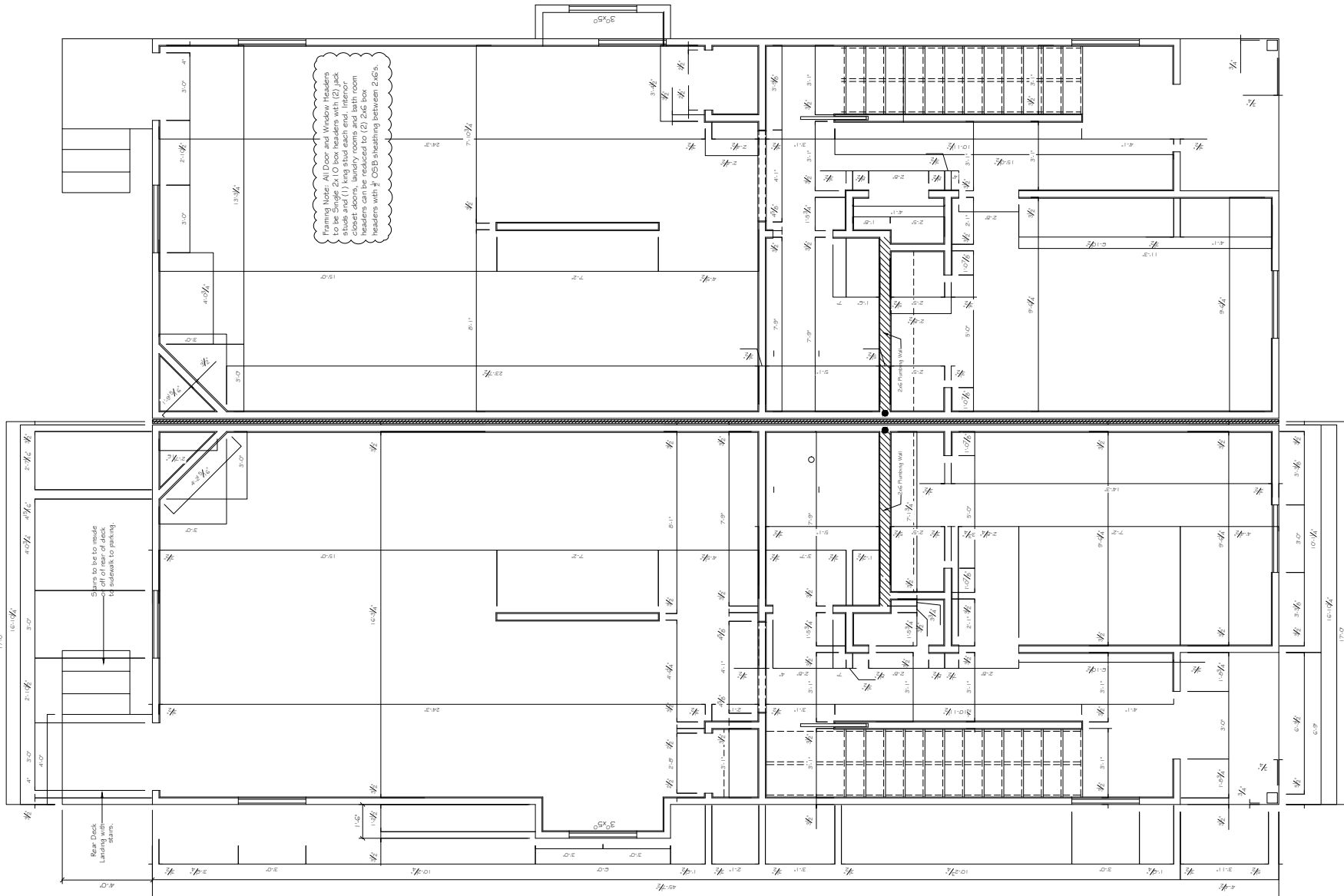
Typical Exterior Wall



SECOND FLOOR WALL FRAMING PLAN  
Scale: 1/4" = 1'-0"

Project Name and Address	Project Number
New Duplex 1841 West 7th Hwy Bismarck	2023-001
Contractor	Client Name
Bailey Family Projects and Son	1841 West 7th Hwy Bismarck, ND 58502
Plan ID: 202301EX-A08	Revision 1 Date
Issuing Date: December 9, 2023	Revision 2 Date
Revision 1 Date	Revision 3 Date
Revision 2 Date	Sheet Number
Revision 3 Date	A2-04
Drawn By: ACP/SLP	

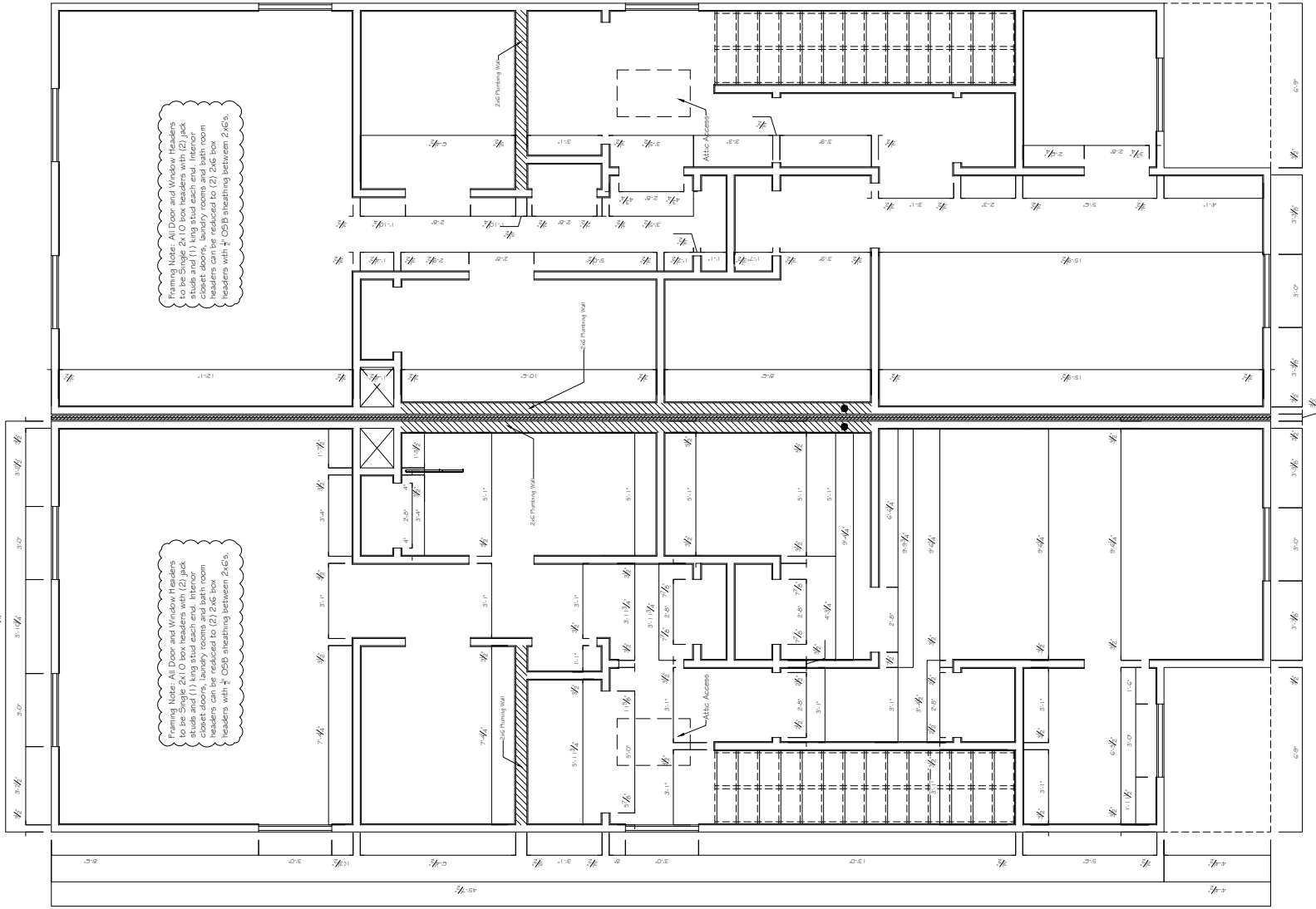




ENLARGED MAIN FLOOR WALL FRAMING PLAN  
 Scale: 1/4" = 1'-0"

<b>Project Name and Address</b>	Project Number
1400 North West Hwy Fort Lauderdale, FL 33311	2000-2001
<b>Contractor</b>	Contract Date
Burke Family Properties and Subsidiary	12/15/2010
<b>Revision 1 Date</b>	<b>Revision 2 Date</b>
12/15/2010	12/15/2010
<b>Revision 3 Date</b>	<b>Revision 4 Date</b>

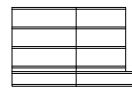
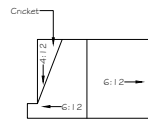
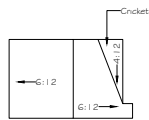
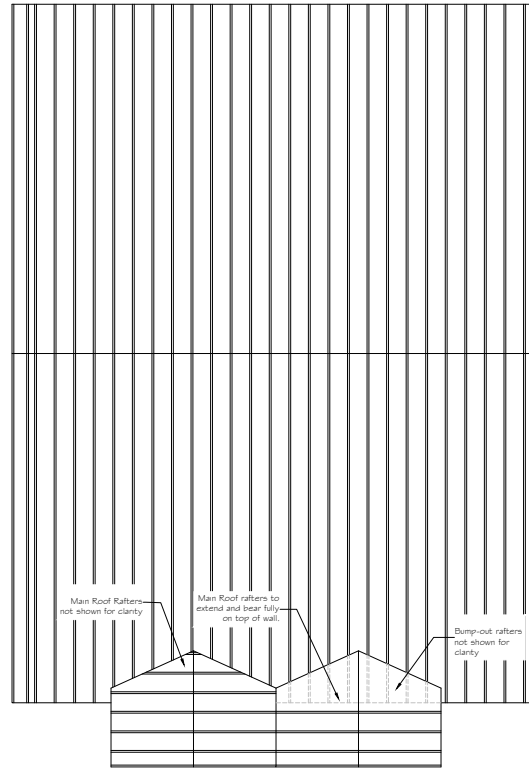
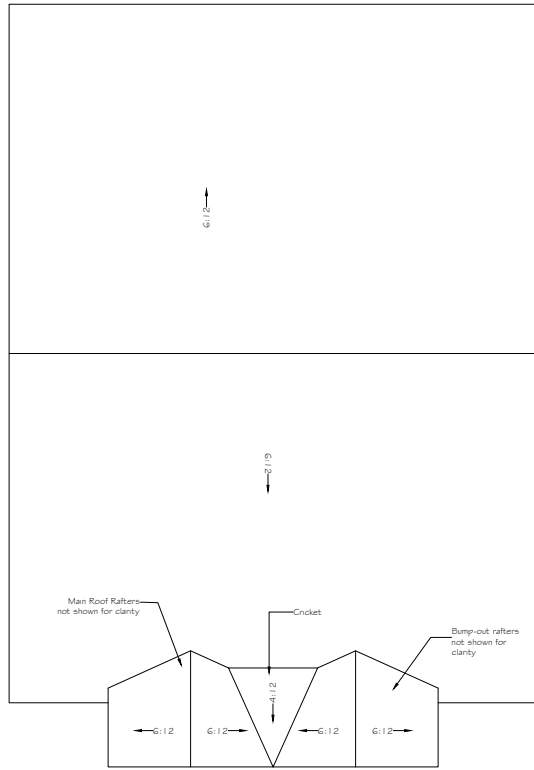
Drawn By: J. R. ...  
 Checked By: ...  
 Date: ...  
 Plot: A2-05



ENLARGED SECOND FLOOR WALL FRAMING PLAN

Scale: 1/4" = 1'-0"

Project Name and Address	Project Number
New Duplex 1441 West Van Horn Bismarck	2024-001
Contractor	Client: Mr. & Mrs. [Name]
Builder/Property and Owner	100% Cash Payment
Plan ID: 202401EX-A08	The contractor is not liable for errors and omissions.
Printing Date: January 8, 2025	Revision 1 Date:
Revision 2 Date:	Revision 3 Date:
Revision 3 Date:	Sheet Number: A2-06
Drawn By: ACP/SS	



**ROOF PLAN**  
Scale:  $\frac{1}{4}'' = 1'-0''$

**ROOF RAFTER LAYOUT PLAN**  
Scale:  $\frac{1}{4}'' = 1'-0''$

Project Name and Address	Project Number
New Austin 1841 East Van Horn Bldg 100	2025-0001
Contractor	Client: See Drawing
Book Family, Ferguson and Baker	Drawn by: See Drawing
Drawn by: SEE DRAWING	Checked by: SEE DRAWING
Project Date: January 9, 2025	Revision 1 Date:
Revision 1 Date:	Revision 2 Date:
Revision 2 Date:	Revision 3 Date:
Revision 3 Date:	Sheet Number
	<b>A2-07</b>

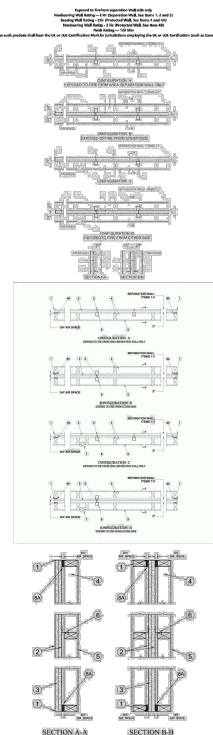
UL Product ID\*



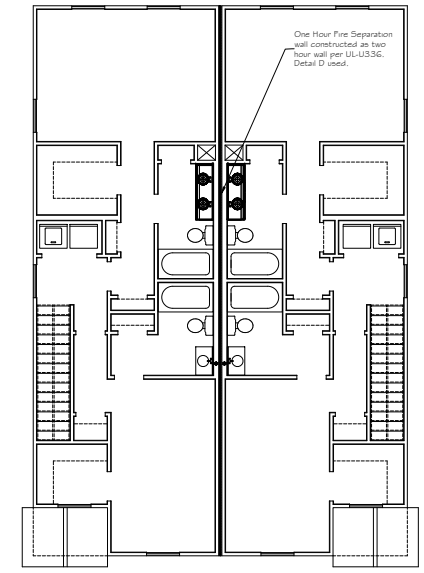
1. Architecture/Engineering Firm... 2. Architect/Engineer... 3. UL Product ID...

Design No. U336

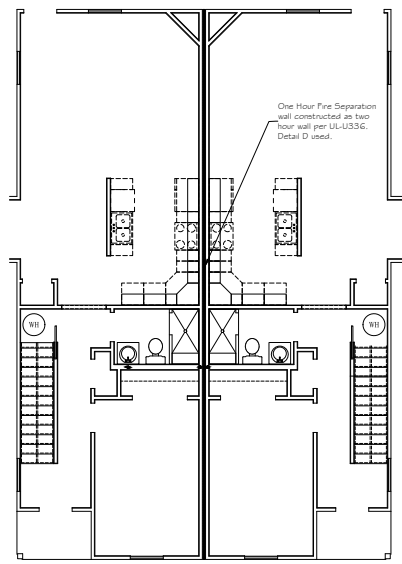
UL-U33G to extend from Footing continuous to underside of roof sheathing. Any gaps between bottom of roof sheathing and top of wall are to be fire caulked.



1. Three... 2. Material... 3. Details... 4. Details... 5. Details... 6. Details... 7. Details... 8. Details... 9. Details... 10. Details... 11. Details... 12. Details... 13. Details... 14. Details... 15. Details... 16. Details... 17. Details... 18. Details... 19. Details... 20. Details...

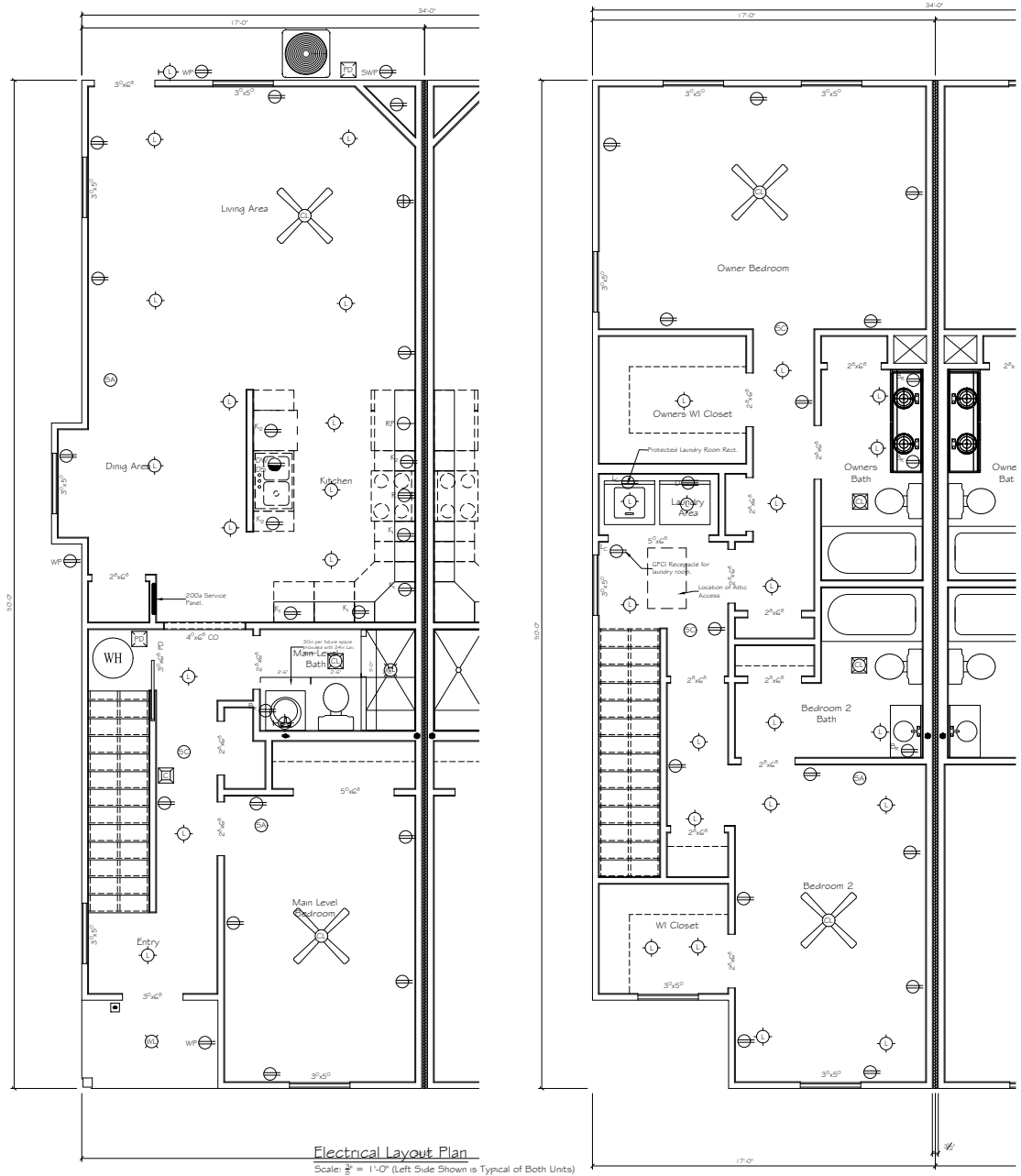


SECOND LEVEL FIRE SEPARATION WALL Scale: NTS



MAIN LEVEL FIRE SEPARATION WALL Scale: NTS

Project information table with fields for Project Name and Address, Project Number, Designer, Contractor, and Revision dates.



**Electrical Layout Plan**  
 Scale: 1/8" = 1'-0" (Left Side Shown is Typical of Both Units)

**Electrical Notes:**  
 \* All Wiring to be Per IRC 2018 and Local and State Requirements  
 \* Ground Sources used will be Concrete Encased Ground as shown on Footing Section and One Ground Rod  
 \* GFCI Circuits to include all Receptacles in Bathrooms, Outdoor, Kitchen, Laundry Room, Dishwasher and any other Wet Locations  
 \* AFCI Circuits to include all Receptacles Kitchen, Living Room, Dining Room, Bed Rooms, Laundry Room and Mud Room  
 \* Attic will require Switched Light and Two Receptacles, one for equipment and one for radon power supply  
 \* All 1/2" AWG Wire with ground for all 12 amp circuits  
 \* IBT to be installed on Ground System at Service Panel

- Smoke Alarm on Non-Switched Circuit
- Smoke Alarm CO<sup>2</sup> Detector Combo on Non-Switched Circuit
- Door Chime
- Door Chime Button
- S<sub>1</sub> Single Pole Switch
- S<sub>2</sub> Double Pole Switch
- S<sub>3</sub> Three Way Switch
- S<sub>4</sub> Four Way Switch
- Switched LED Luminary
- Wet Location Switched LED Luminary
- Switched Wall LED Luminary
- Exterior LED Flood Luminary
- Switched Ceiling Fan Only
- Switched Ceiling Fan & LED Luminary
- Switched Bath Exhaust Fan & LED Luminary
- S Single Receptacle
- S Duplex Receptacle
- D Single Receptacle
- DW Single Dishwasher Receptacle
- DW Duplex Receptacle Split for Dishwasher and for Switched Side for Disposal
- DS Duplex Receptacle
- K<sub>1</sub> Kitchen Small Appliance Circuit One Duplex Receptacle
- K<sub>2</sub> Kitchen Small Appliance Circuit Two Duplex Receptacle
- RF Dedicated Single Refrigerator Receptacle
- B<sub>k</sub> Bathroom Receptacles all on same Circuit
- WP Weather Proof Duplex Receptacle
- SWP Weather Proof Duplex Equipment Service Receptacle
- Floor Receptacle
- Double Duplex Receptacle
- GFCI Duplex Receptacle
- L<sub>c</sub> Laundry Room Circuit
- D Clothes Dryer Receptacle
- R Range Receptacle
- PD Pull Disconnect for Water Heater
- FD Fused Disconnect for HVAC Unit

Project Name and Address	Project Number
New Duplex 18411 North Van Horny Bismarck	2024-0001
Contractor	Client: See Client's Manual
Builder/Property Owner and/or	Builder/Property Owner: See Client's Manual
Plan ID: 240001EX-AAB	Revision 1 Date: 08/20/24
Revision 2 Date: 08/20/24	Revision 3 Date: 08/20/24
E1-01	

IRC 2018 Code Requirements for Smoke Alarms and Carbon Monoxide Detectors

**R314 Smoke Alarms**

**R314.1 General.** Smoke alarms shall comply with NFPA 72 and Section R314.

**R314.1.1 Listings.** Smoke alarms shall be listed in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be listed in accordance with UL 217 and UL 2034.

**R314.2** Where required, smoke alarms shall be provided in accordance with this section.

**R314.2.1** New construction. Smoke alarms shall be provided in dwelling units.

**R314.2.2 Alterations, repairs and additions.** Where alterations, repairs or additions requiring a permit occur, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings.

**Exceptions:**

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of a porch or deck.
2. Installation, alteration or repairs of plumbing or mechanical systems.

**R314.3 Location.** Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless the would prevent placement of a smoke alarm required by this section.

**R314.3.1 Installation near cooking appliances.** Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section R314.3.

1. Location smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.
2. Location smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.
3. Photoelectric smoke alarms shall not be installed less than 6 feet (1828 mm) horizontally from a permanently installed cooking appliance.

**R314.4 Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

**R314.5 Combination Alarms.** Combination smoke and carbon monoxide alarms shall be permitted to be used in lieu of smoke alarms.

**314.6 Power source.** Smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

**Exceptions:**

1. Smoke alarm shall be permitted to be battery operated where installed in buildings without commercial power.
2. Smoke alarms installed in accordance with Section R314.2.2 shall be permitted to be battery powered.

**R314.7 Fire alarm systems.** Fire alarm systems shall be permitted to be used in lieu of smoke alarms and shall comply with Sections R314.7.1 through R314.7.4.

**R314.7.1 General.** Fire alarm systems shall comply with the provisions of this code and the household fire warning equipment provisions of NFPA 72. Smoke detectors shall be listed in accordance with UL 268.

**R314.7.2 Location.** Smoke detectors shall be installed in the locations specified in Section R314.3.

**R314.7.3 Permanent fixture.** Where a household fire alarm system is installed, it shall become a permanent fixture of the occupancy, owned by the homeowner.

**R314.7.4 Combination detectors.** Combination smoke and carbon monoxide detectors shall be permitted to be installed in fire alarm systems in lieu of smoke detectors, provided that they are listed in accordance with UL 268 and UL 2075.

**R315 Carbon Monoxide Alarms**

**R315.1 General.** Carbon monoxide alarms shall comply with Section R315.

**R315.1.1 Listings.** Carbon monoxide alarms shall be listed in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be listed in accordance with UL 2034 and UL 217.

**R315.2** Where required, carbon monoxide alarms shall be provided in accordance with Sections R315.2.1 and R315.2.2.

**R315.2.1** New construction. For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following conditions exist:

1. The dwelling unit contains a fuel-fired appliance.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

**R315.2.2 Alterations, repairs and additions.** Where alterations, repairs or additions requiring a permit occur, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

**Exceptions:**

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
2. Installation, alteration or repairs of plumbing or mechanical systems.

**R315.3 Location.** Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bath room, a carbon monoxide alarm shall be installed within the bedroom.

**R315.4 Combination Alarms.** Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

**R315.5 Interconnectivity.** Where more than one carbon monoxide alarm is required to be installed within an individual dwelling unit in accordance with Section R315.3, the alarm devices shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of carbon monoxide alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

**Exception:** Interconnection of carbon monoxide alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available that could provide access for interconnection without the removal of interior finishes.

**R315.6 Power source.** Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

**Exceptions:**

1. Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Carbon monoxide alarms installed in accordance with Section R315.2.2 shall be permitted to be battery powered.

IRC 2018 Code Requirements to be aware of during construction:

**R403.1 General.** All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, crushed stone footings, wood foundations, or other approved structural systems that shall be of sufficient design to accommodate all loads according to Section R301 and to transmit the resulting loads to the soil within the limitations as determined from the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill. Concrete footing shall be designed and constructed in accordance with the provisions of Section R403 or in accordance with ACI 312. Footing shall be continuous across garage doors.

**R403.1.4** Minimum depth. Exterior footings shall be placed not less than 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to Sections R403.1.4.1 through R403.1.4.2.

**R403.1.4.1** Minimum depth. Exterior footings shall be placed not less than 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to Sections R403.1.4.1 through R403.1.4.2.

**R403.1.4.2** Wood sole plates at all exterior walls on monolithic slabs, wood sole plates of braced wall panels at building interiors on monolithic slabs and all wood sill plates shall be anchored to the foundation with minimum 1/2-inch-diameter (12.7 mm) anchor bolts spaced not greater than 6 feet (1828 mm) on center or spaced and anchored vertically from concrete slabs as required to provide equivalent anchorage to 1/2-inch-diameter (12.7 mm) anchor bolts. Bolts shall extend not less than 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. The bolts shall be located in the middle third of the width of the plate. A nut and washer shall be tightened on each anchor bolt. There shall be not fewer than two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundation that are not part of a braced wall panel shall be positively anchored with approved fasteners. Sill plates and sole plates shall be protected against decay and termites where required by Sections R317 and R318.

**R317.1** Location required. Protection of wood and wood-based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1:

1. Wood joists or the bottom of a wood structural floor where closer than 18 inches (457 mm) or wood girders where closer than 12 inches (305 mm) to the exposed ground in crawl spaces or unenclosed areas located within the perimeter of the building foundation.
2. Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 6 inches (203 mm) from the exposed ground.
3. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.
4. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch (12.7 mm) on tops, sides and ends.
5. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches (152 mm) from the ground or less than 2 inches (51 mm) measured vertically from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather.
6. Wood structural members supporting no-stone-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
7. Wood framing strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the framing strips or framing members.

**R302.5.1** Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1.38 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1.38 inches (35 mm) thick, or 20-minute fire-rated doors, equipped with a self-closing or automatic-closing device.

**R302.13** Fire protection of floors. Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wall-board membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electric outlets, lighting devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

**Exceptions:**

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section F2904, NFPA 13D, or other approved equivalent sprinkler system.
2. Floor assemblies located directly over a crawl space not intended for storage or for the installation of fuel-fired or electric-powered heating appliances.
3. Wood floor assemblies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.

**Key Sections in R31 Means of Egress:**

- R311.1 Means of Egress
- R311.3 Floors and landings at exterior doors
- R311.7 Stairways
- R311.7.2 Headroom
- R311.7.5 Stair treads and risers
- R311.7.6 Landings for stairways
- R311.7.6 Handrails
- R311.7.8.1 Height
- R311.7.8.2 Projection
- R311.7.8.4 Continuity
- R311.7.8.5 Grip Size

**Key Sections in R312 Guards and Window Fall Protection:**

- R312.1 Guards
- R312.1.1 Where Required
- R312.2 Window fall protection

**TABLE N102.4.1 AIR BARRIER AND INSULATION INSTALLATION - Approved Air Barrier required between Tub/Shower and Exterior wall studs when tub/shower is located on an exterior wall.**

**N103.4 Mechanical system piping insulation (Mandatory).** Mechanical system piping capable of carrying fluids greater than 105°F (41°C) or less than 55°F (13°C) shall be insulated to an R-value of not less than R-3.

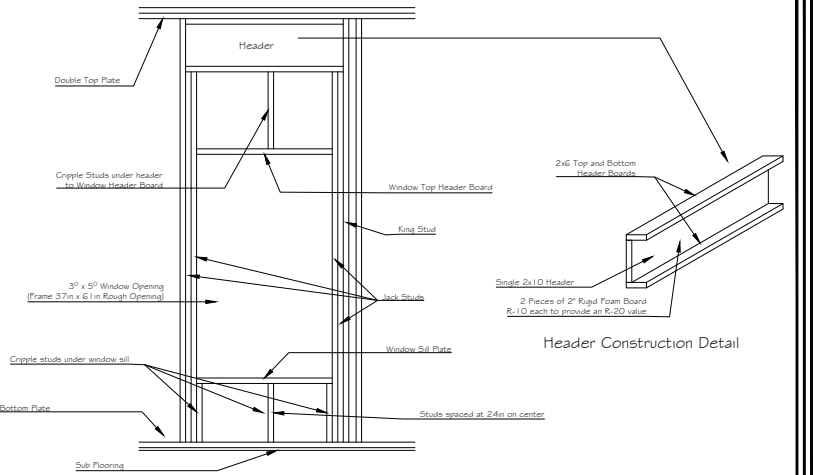
**N103.4.1 Protection of piping insulation.** Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind. The protection shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall be prohibited.

**2603.5 Freezing.** Locations having a winter design temperature of 32°F (0°C) or lower as shown in Table R301.2(1) of this code, a water, soil or waste pipe shall not be installed outside of a building, in an attic or crawl spaces, or in any other place subjected to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall be installed not less than 12 inches (305 mm) deep and not less than 6 inches (152 mm) below the frost line. Knoxville, TN meets and requires the water supply lines to be insulated however waste and soil piping are currently excluded. Knoxville, TN frost line is 12" below undisturbed earth.

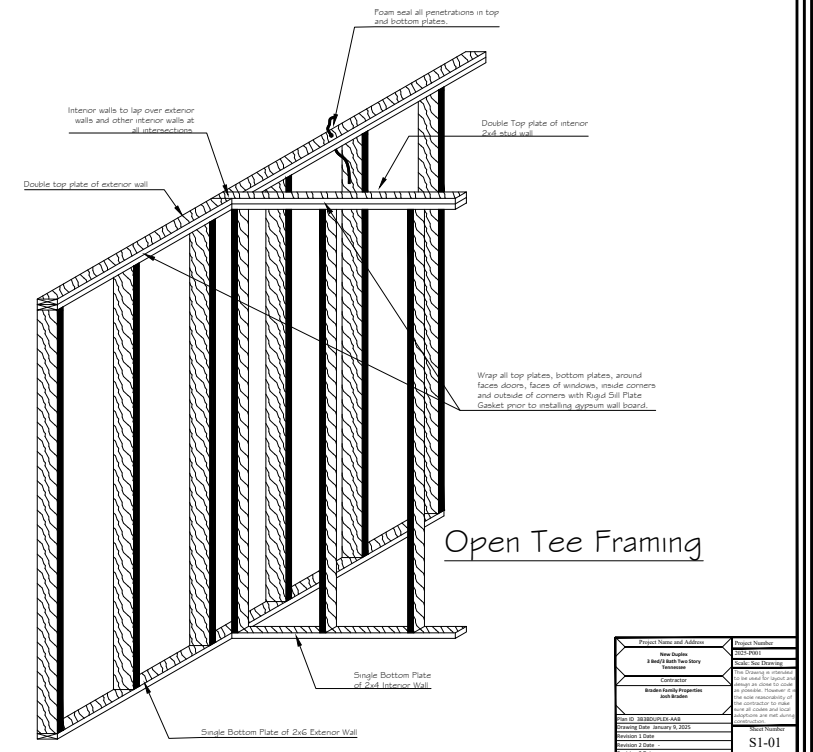
**N103.5.3 (R403.5.3) Hot water pipe insulation (Pre-emptive).** Insulation for hot water piping with a thermal resistance, R-value, of not less than R-3 shall be applied to the following:

1. Piping 3/4 inch (19 mm) and larger in nominal diameter.
2. Piping serving more than one dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.
5. Piping located under a floor slab.
6. Buried piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

**Note:** It is the general contractor and each sub-trade contractors responsibility to know, construct and install as required by the required code adopted by the jurisdiction and any amendments adopted where construction is to be performed. Do not go solely on construction drawings.

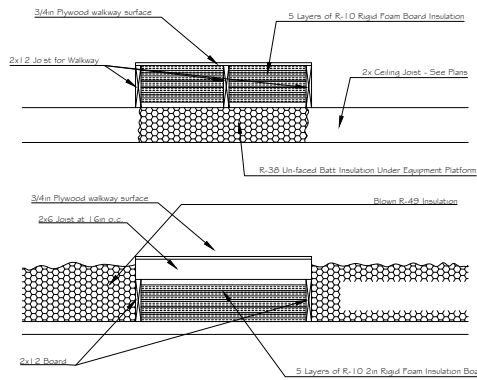


# Typical Wall Framing and Header Construction

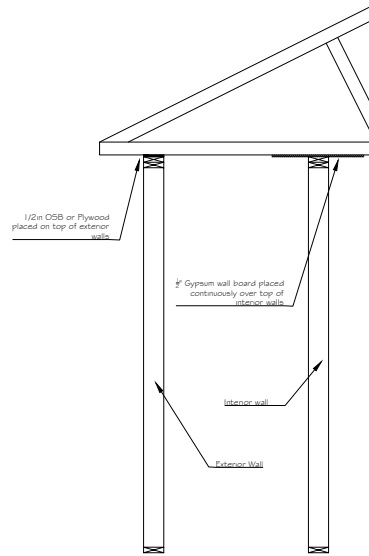


# Open Tee Framing

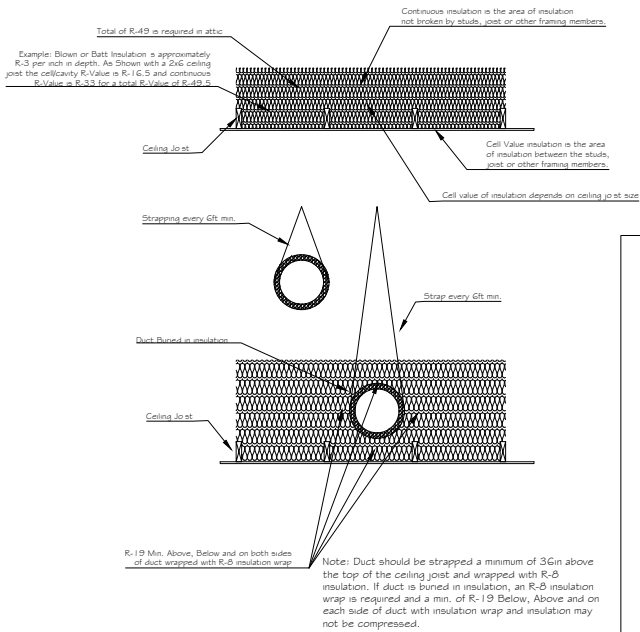
Project Name and Address	Project Number
New Dublin 16401 South Park Drive	2023-0040
Client Name	Client Use / Drawing
Contractor	Issued for Construction
Builder/Architect/Engineer/Inspector	Not to be used for any other purpose without the written consent of the contractor or other party to whom the contract was issued.
Permit ID: 20230024500	
Issuing Date: October 9, 2023	
Revision 1 Date	
Revision 2 Date	
Revision 3 Date	
Drawn By: GPC/SS	Sheet Number <b>SI-01</b>



Detail for Elevated Attic Equipment Access Walkway



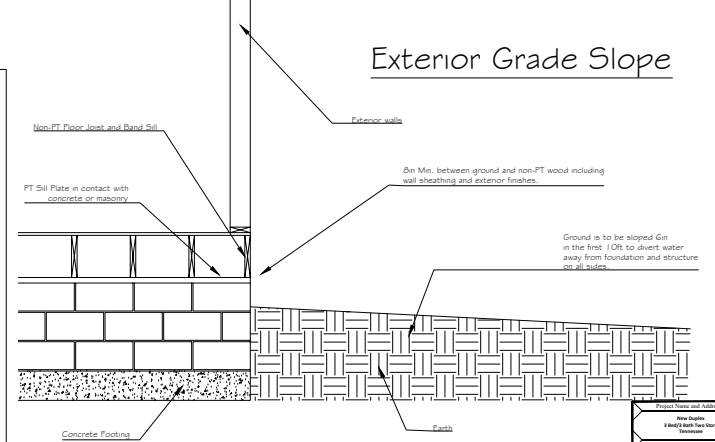
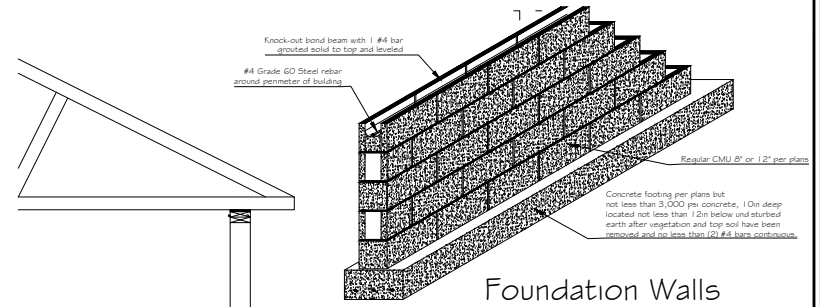
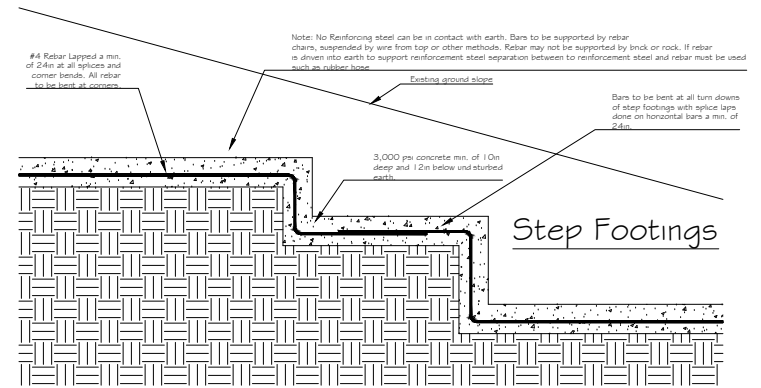
Alternative construction method for sealing thermal envelope at top of walls



Detail for Duct in Attic

Ref: IRC 2018 Chapter 11 Section N1103.3.C

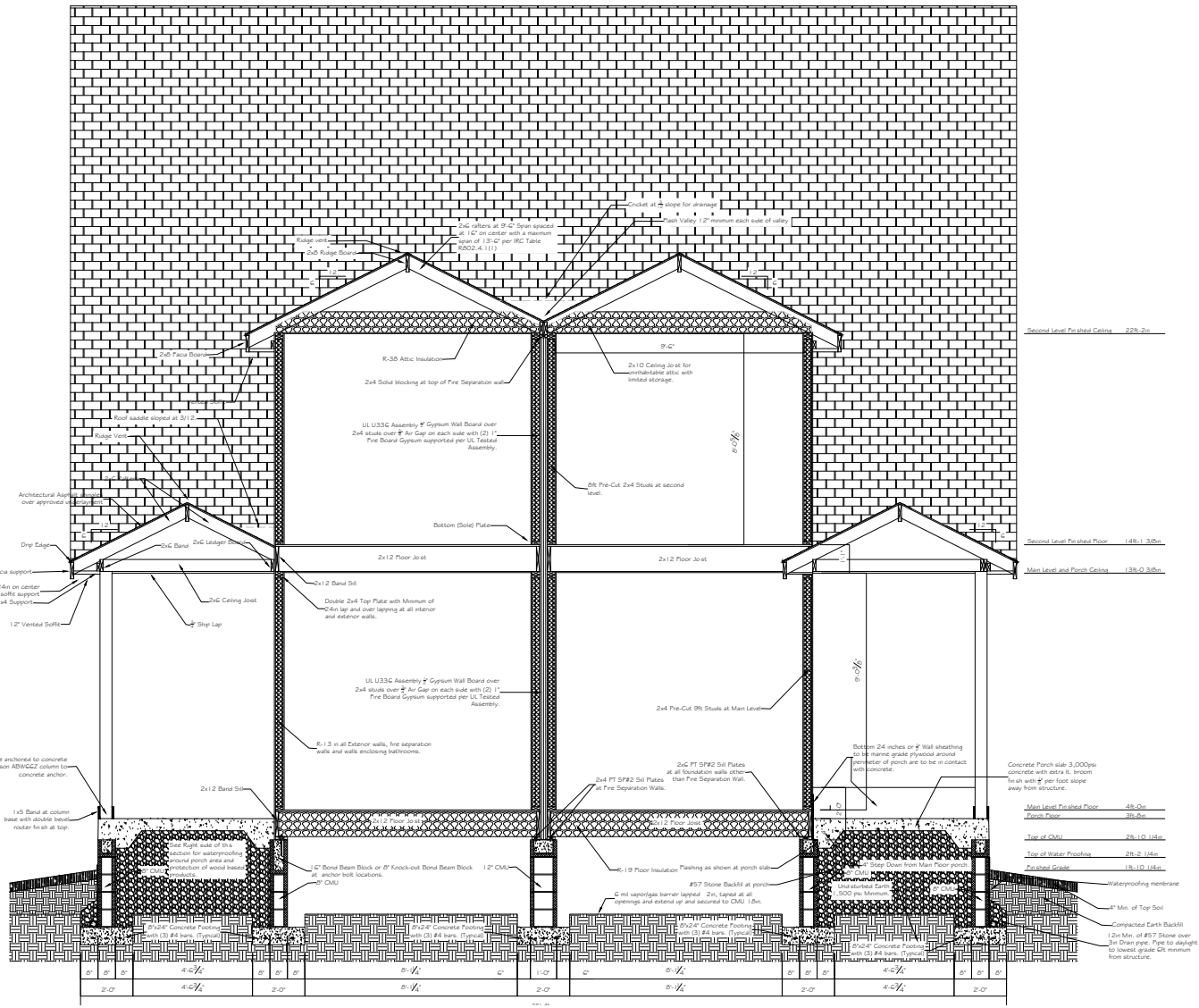
..\Simpson 1.PNG



Project Name and Address		Project Number
New Duplex 1400 East 10th Street Portland, OR 97214		2024-001
Contractor		10/15/2024
Block Family Project and Sill		10/15/2024
Per ID: 20240101-001		10/15/2024
Drawing Date: Revised: 10/20/24		10/15/2024
Revision 1 Date:		10/15/2024
Revision 2 Date:		10/15/2024
Revision 3 Date:		10/15/2024
Notes		10/15/2024

S1-02





**Building Section A / DI-01**  
 Scale: 1/8" = 1'-0"

Second Level Finished Ceiling	22ft-2in
Second Level Finished Floor	14ft-1 3/8in
Main Level and Porch Ceiling	13ft-0 3/8in
Main Level Finished Floor	4ft-0in
Porch Floor	3ft-0in
Top of CMU	2ft-10 1/2in
Top of Water Proofing	2ft-2 1/4in
Finished Grade	1ft-10 1/2in

Project Name and Address	Project Number
New Austin 1401 East Van Horn Bldg	2102-001
Contractor	Client Use Only
Boske Family Properties and Subs	1. This drawing is valid only as shown on the project. 2. The responsibility of the contractor to check for any updates or corrections to this drawing is the contractor's responsibility.
Per ID: 202007EX-008	Rev: 000
Drawing Date: December 9, 2025	Revision 1 Date:
Revision 2 Date:	Revision 3 Date:
Revision 3 Date:	Sheet Number
Drawn By: AOC/SS	<b>DI-01</b>

