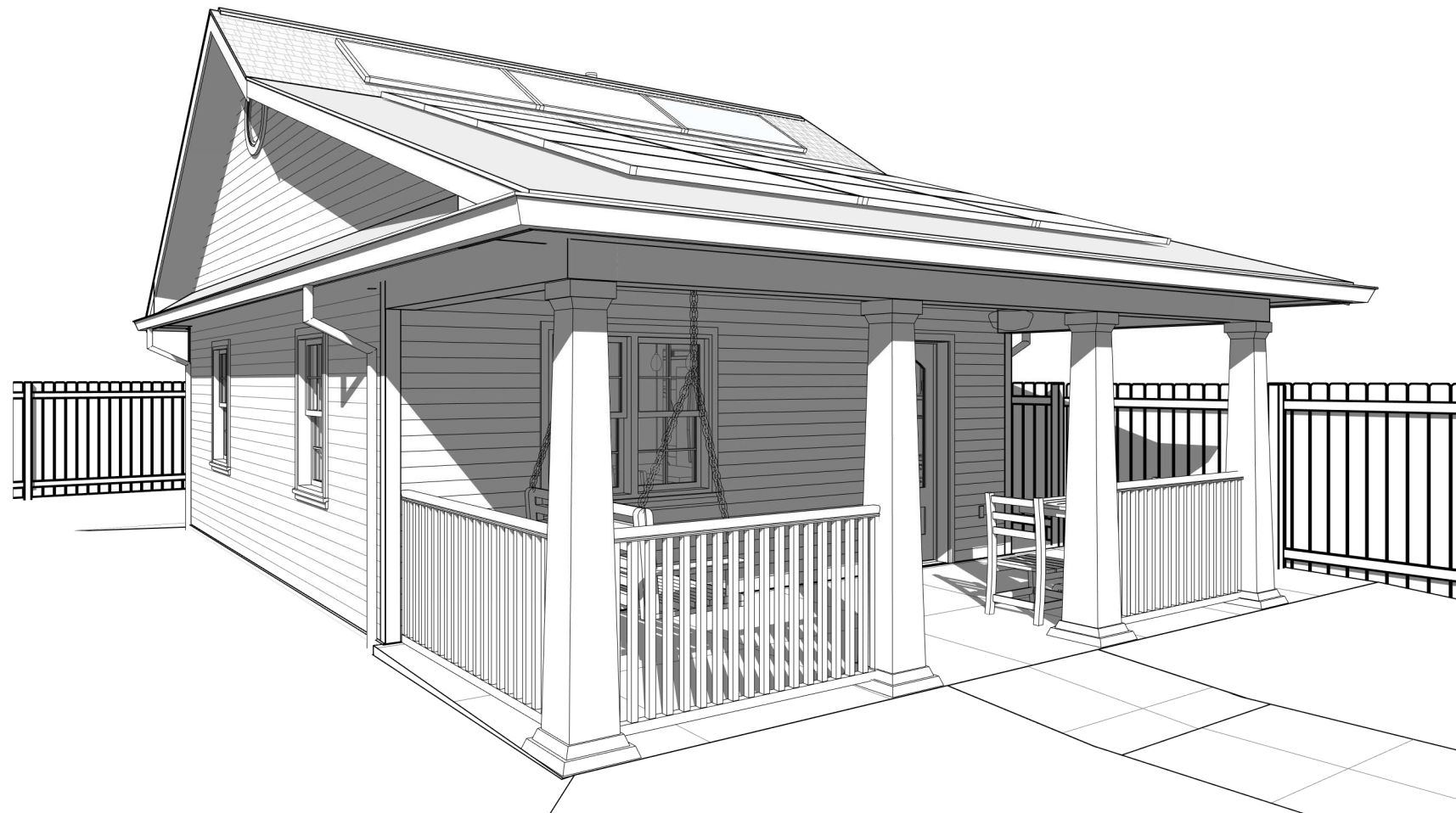


TERRAZIA ADU



1 3D View 1

SHEET LIST	
Sheet Number	Sheet Name
A100	COVER SHEET
A101	FLOOR, CEILING & ROOF PLANS
A102	BUILDING SECTIONS
A103	BUILDING ELEVATIONS
A104	DETAILS
A105	ALTERNATE ROOF ORIENTATION
A106	RENDERINGS

HIGH-PERFORMANCE PROJECT OBJECTIVES:

- Primary Objective:** Our intent is to design a resilient building that saves money, improves people's lives and pursues a sustainable future. Durable construction, locally resourced materials, effective thermal/air barriers, water/energy efficient systems/appliances and fresh air ventilation are key to creating a high-performance building that is prepared for the future.
- Save Money:** The initial construction cost may have a slight premium over traditional residential construction, but the design's low maintenance and energy conservation measures will pay back any initial premium in a relatively short period of time and have a positive "Return On Investment" (ROI) for the life of the building. Increased property value and lower insurance rates are expected. Operational costs account for about 85% of the Life Cycle Cost of a typical building.
- Improve People's Lives:** Low maintenance, minimal air infiltration, maximum thermal insulation and mechanically filtered fresh air ventilation with humidity control provide for the greatest occupant comfort and health. Durable passive structures are safer because they can remain operational and recover quickly when hazards strike. We must be prepared to face future climate change impacts.
- Sustainable Future:** There is no greater blow to sustainability than destruction. Therefore a resilient structure that conserves resources and minimizes greenhouse gas emissions throughout its life cycle is key to long term personal & community sustainability. A low carbon footprint can help reduce global warming.

BUILDING SYSTEMS NOTES: All structural, mechanical, electrical and plumbing systems must be engineered and/or verified by the builder to meet or exceed local codes and zoning ordinances at time of construction. All materials/systems shall be installed per manufacturer's recommendations.

PROJECT INFORMATION:

- This project is designed as a new detached approximately 453 SF single-story, one bedroom, one bathroom Accessory Dwelling Unit (ADU). It can also be easily adapted as an addition to an existing building. It is sized such that an existing typical attached or detached two-car garage can be readily renovated to accommodate this basic floor plan with minor layout modifications required. It is a simple rectangular plan with very efficient building systems for ease of construction, durability and low life cycle costs.
- The design character of this ADU is sympathetic to many typical existing older neighborhood homes in Roanoke. The final design may be modified to accommodate specific site/building conditions (orientation, setbacks, relation to existing home, etc.), owner preferences (materials/systems quality), code updates and budget constraints.
- The ADU is fully accessible by incorporating Universal Design principles throughout.
- This total electric high-performance building is designed for energy efficiency and user health, comfort and safety. Features include Structural Insulated Panels (SIPs) for the conditioned building envelope (exterior walls & ceiling), continuous air and thermal barriers (including under slab/footings), insulated entrance door & windows, tankless water heater, energy recovery ventilator (ERV), ductless split heat pump and optional roof mounted solar Photo Voltaic (PV) energy system. The attic space maximizes passive ventilation and provides for storage as well as the ERV (ducts are within the thermal envelope).

ACKNOWLEDGMENT & DISCLAIMER:

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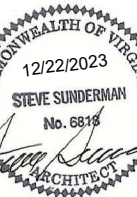
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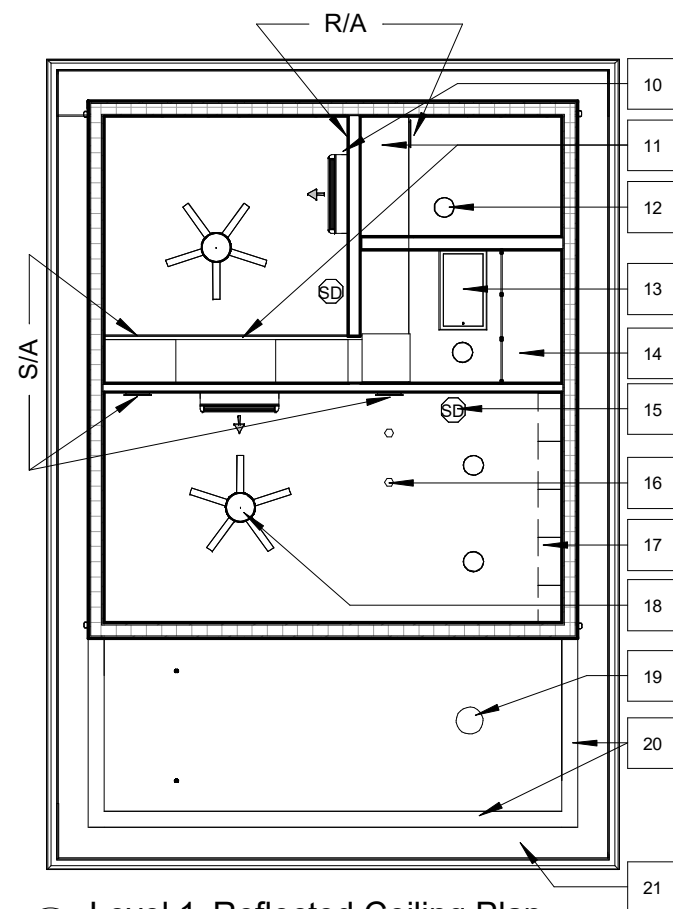
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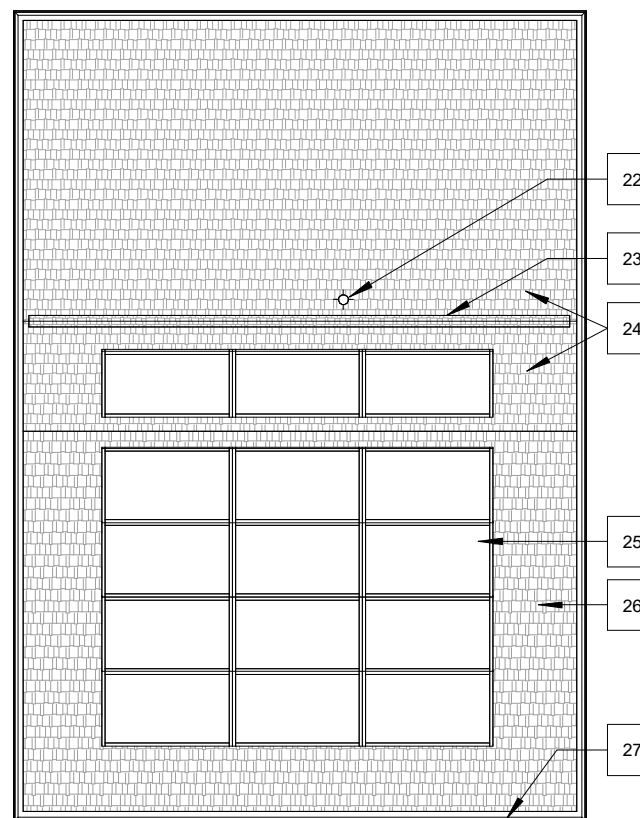
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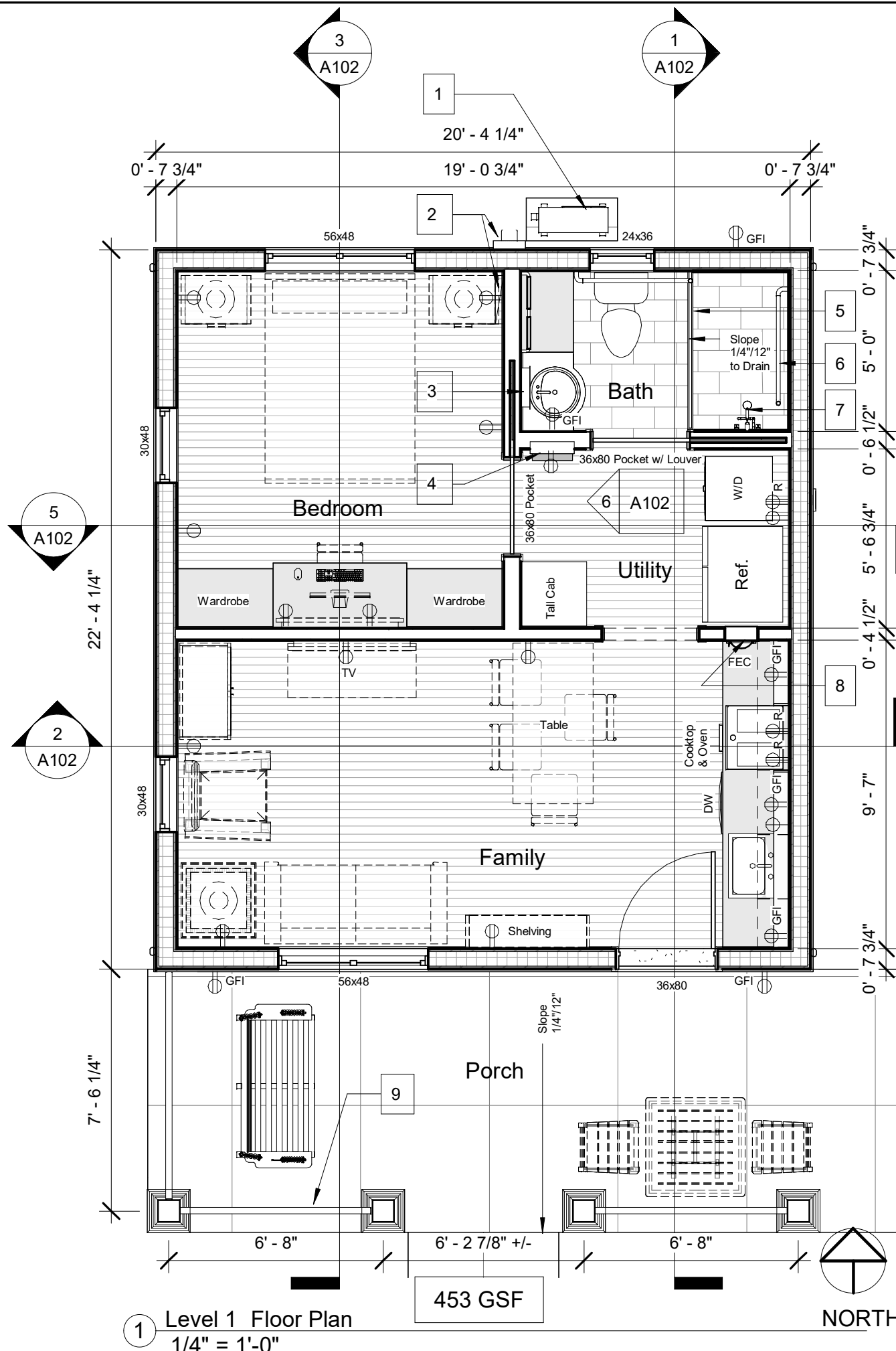
A100



② Level 1 Reflected Ceiling Plan
1/8" = 1'-0"



③ Level 2 Roof Plan
1/8" = 1'-0"



① Level 1 Floor Plan
1/4" = 1'-0"

- # **Call-Out Legend:**
- Split Unit Condenser on Pad
 - Electric Meter & Panel
 - Medicine Cab
 - Tankless Water Heater
 - French Drain
 - Grab Bars
 - Handheld Shower
 - Fire Extinguisher Cabinet
 - Guardrail
 - Wall Mount Split Unit (typ of 2)
 - Drywall Furr Down for supply & return air
 - Surface Mount LED Light Fixture (Typ. of 4)
 - Attic Access with Collapsible Ladder
 - Storage Above W/D & Fridge
 - Smoke Detectors (Typ of 2)
 - Pendant LED Light Fixtures (Typ of 2)
 - Wall Cabinets
 - Ceiling Mount Fan and LED Light Fixture (Typ of 2)
 - Ceiling Mount LED Light Fixture w/ Photo Cell
 - Box Beam
 - Vented Soffit (Entire Perimeter)
 - ERV Fresh Air Intake Pipe and Raincap
 - Ridge Vent
 - Roof @ 8:12 Pitch
 - Optional Solar PV Energy Panels.
 - Roof @ 4:12 Pitch
 - Continuous Metal Gutter with 4 Downspouts

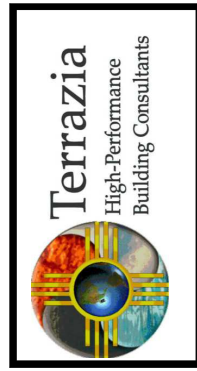
- Floor Finishes:**
- T&G Bamboo or Wood (glued along joints) on pad or Laminate on Pad.
 - Ceramic Tile (8x16) with thin-set Mastic on Concrete Slab, except Showers stall shall be thick-set to achieve slope to drain.
 - Epoxy Paint at Porch Concrete Slab.

- Interior Wall, Ceiling, Door & Trim Finishes:**
- Low VOC Flat Latex Paint on 1/2" Gypsum Board at Walls & Ceilings, except in Shower.
 - Ceramic Tile (8x16) with thin-set Mastic on Cement Board in Shower.
 - Low VOC Satin Latex Paint on Wall Bases, Window Trim, Door Trim and Doors.

- Electrical Notes:**
- Power outlets and lighting are only suggestions. Contractor shall coordinate with owner for types and locations to meet or exceed code requirements. Provide infrastructure for future solar panels and emergency generator.
 - Provide communications outlets per owner requirements.
 - All light fixtures shall be LED with dimmer switches.
 - Exterior lights shall have a switch and photo cell.
 - Under-cabinet light strips in Kitchen behind applied apron.

- Plumbing Notes:**
- All fixtures shall be low-flow type, HC accessible and code compliant.
 - Water Heater: Electric tankless type. Sized to meet owner requirements and code.

NOTE: Dashed furniture shown in plan are by Owner.

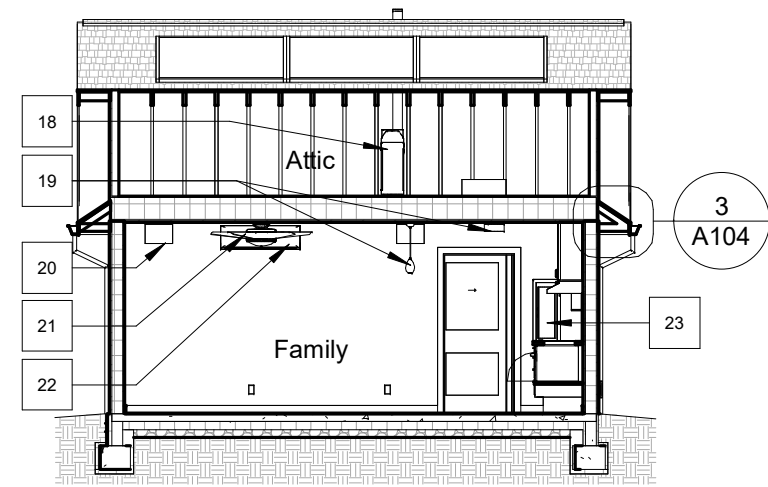


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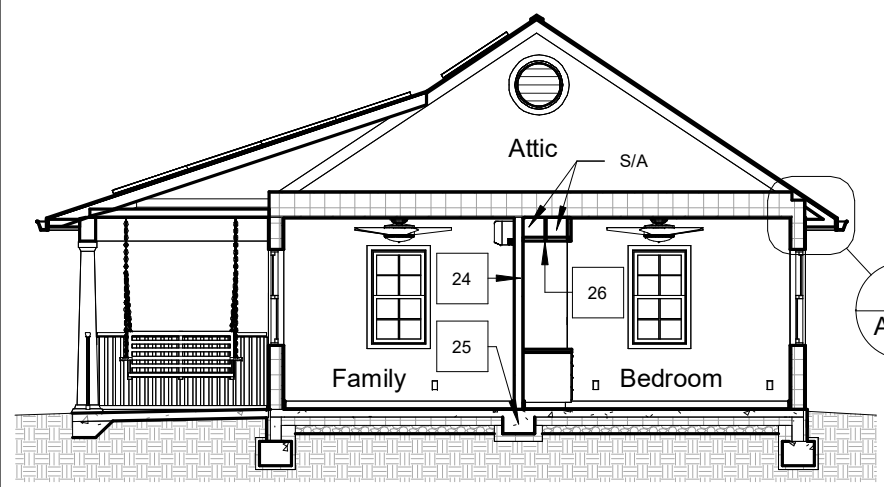
TERRAZIA ADU
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FLOOR, CEILING & ROOF PLANS

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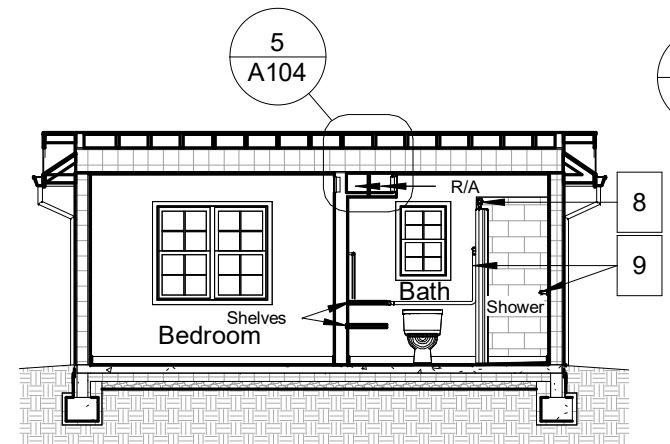
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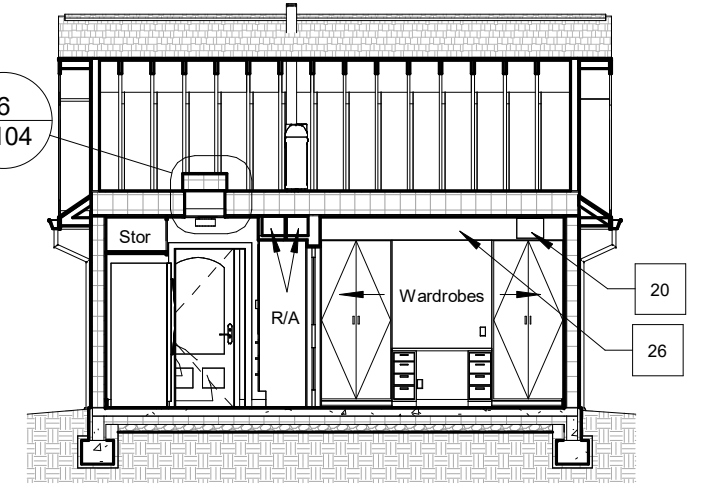
2 Section 2 See Sections 1 For Call-Outs
1/8" = 1'-0"



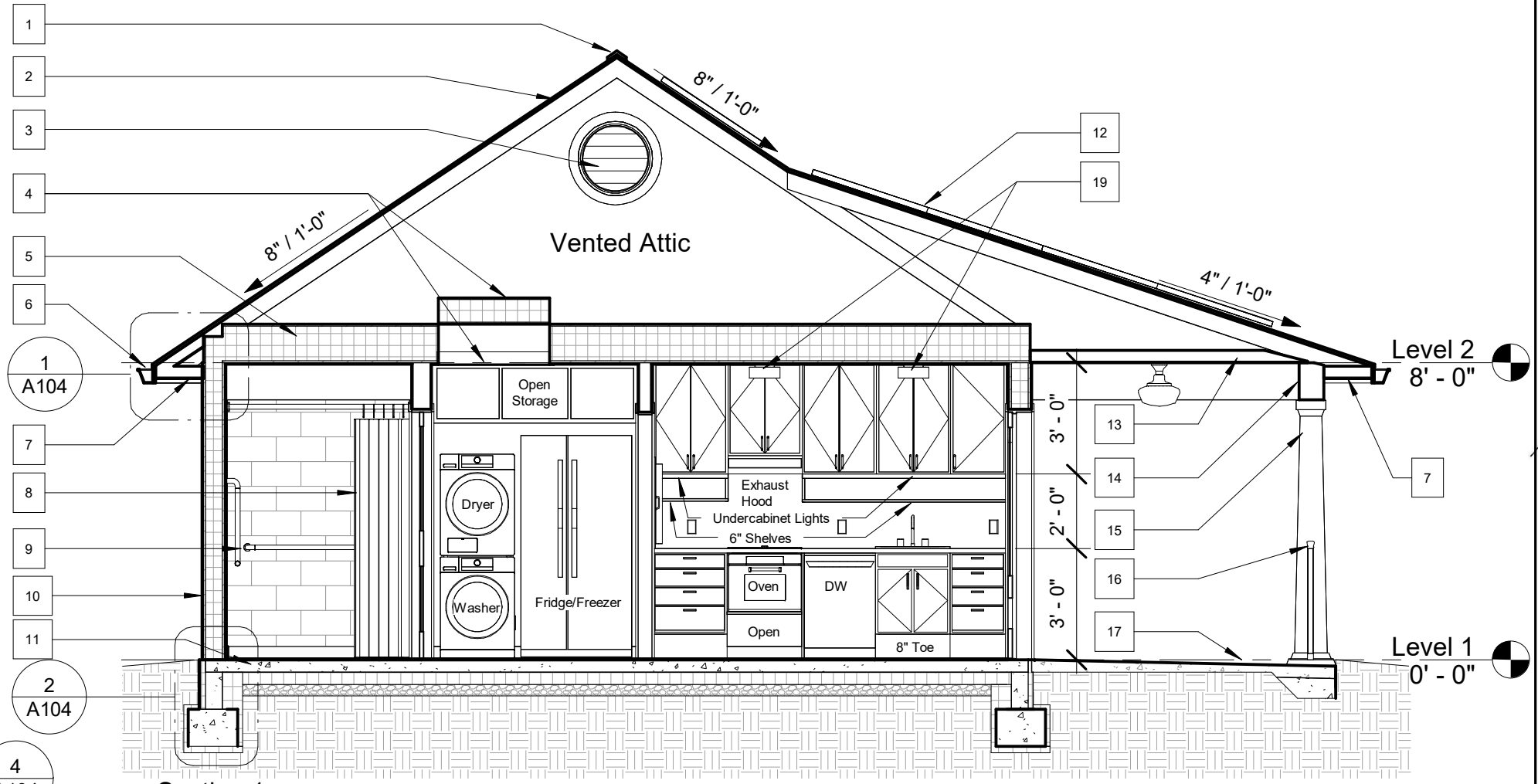
3 Section 3 See Sections 1 & 2 For Typical Call-Outs
1/8" = 1'-0"



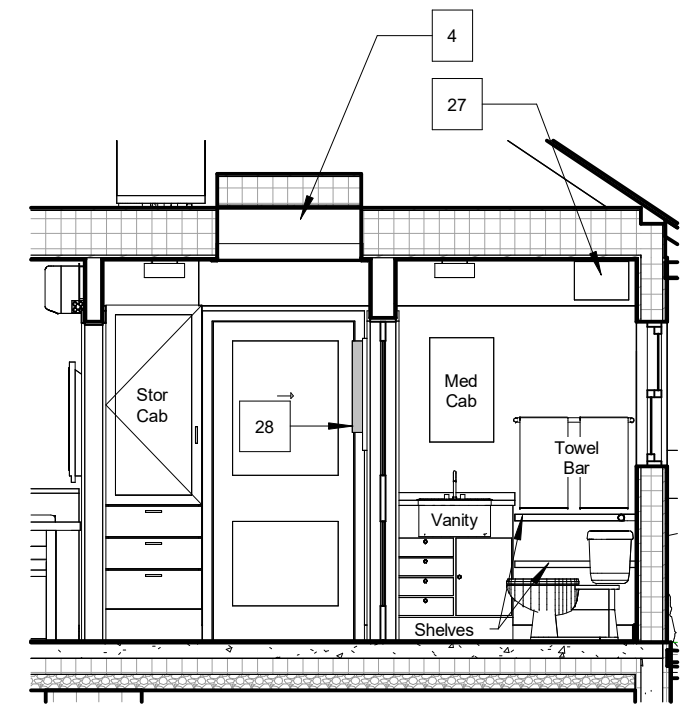
4 Section 4 See Sections 1-3 For Typical Call-Outs
1/8" = 1'-0"



5 Section 5 See Sections 1-3 For Typical Call-Outs
1/8" = 1'-0"

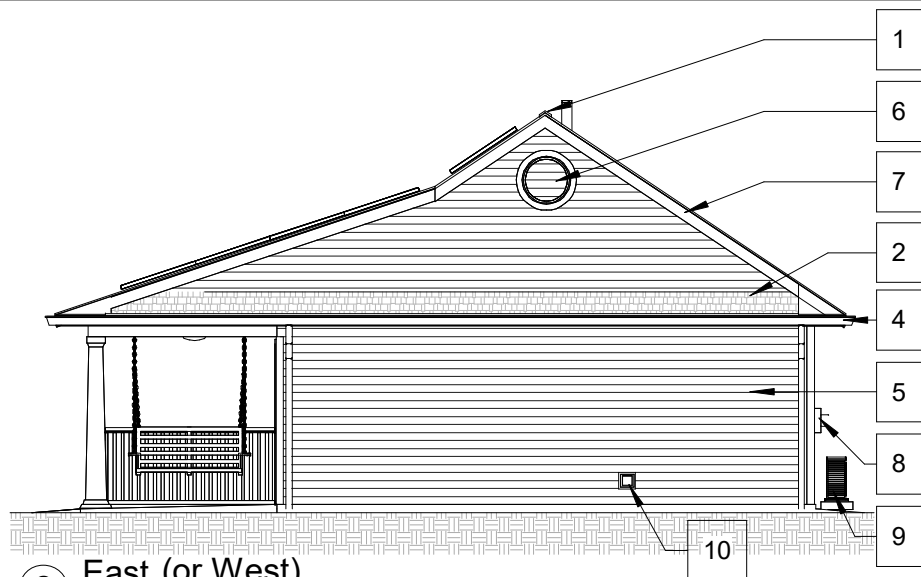


1 Section 1
1/4" = 1'-0"

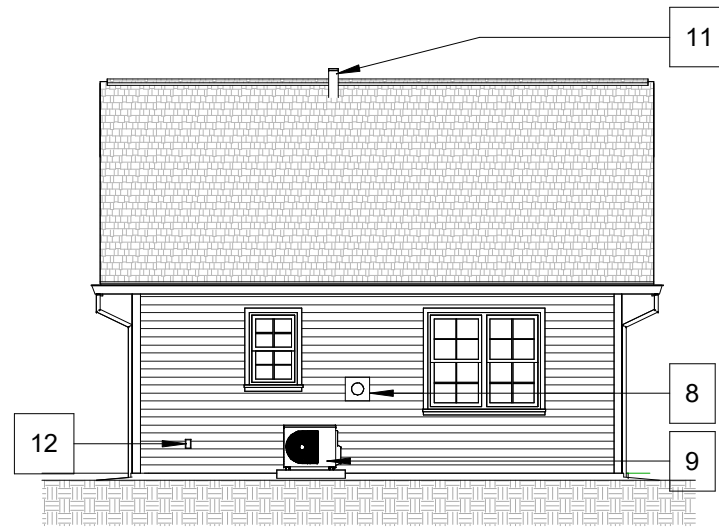


6 Elevation 1 - a See Sections 1-3 For Typical Call-Outs
1/4" = 1'-0"

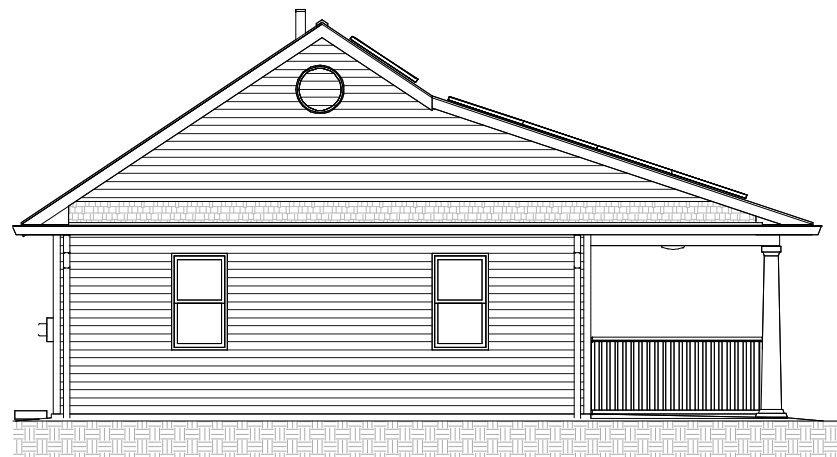
- # **Call-Out Legend:**
1. Ridge Vent
 2. Roofing
 3. Attic Vent: Round Louver
 4. Attic Access Panel: Hinged w/ Ladder & Sliding Insulated Cover
 5. Ceiling/Floor: Structural Insulated Panels
 6. Gutter & Downspouts
 7. Vented Soffit: Continuous
 8. Shower Rod & Curtain
 9. Grab Bars
 10. Wall: Structural Insulated Panels (SIPs)
 11. Floor: Concrete Slab
 12. Optional Solar PV Panels
 13. Ceiling: Beadboard on Wood Framing
 14. Box Beam
 15. Columns
 16. Guardrail
 17. Concrete Slab (Sloped)
 18. Energy Recovery Ventilator
 19. Light Fixtures
 20. Supply Air Registers: 2 Family & 1 BR
 21. Ceiling Fan w/ Light
 22. Split Head Unit: 1 @ Family & 1 @ BR
 23. Fire Extinguisher Recessed Cabinet
 24. Bearing Wall (Studs & Drywall)
 25. Thickened Concrete Slab for Bearing Wall
 26. Drywall Furr Down for Air Ducts (2'x1')
 27. Return Air Register: 1 @ Bath & 1 @ BR
 28. Tankless Water Heater



② East (or West)
1/8" = 1'-0"



③ North (or South) See Elevations 1 & 2 For Typical Call-Outs
1/8" = 1'-0"



④ West (or East) See Elevations 1-3 For Typical Call-Outs
1/8" = 1'-0"

Level 2
8' - 0"



Level 1
0' - 0"

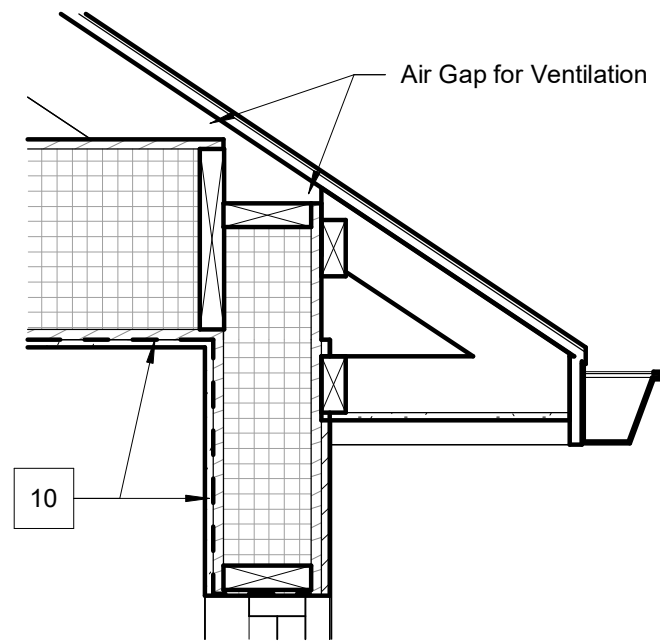
① South (or North)
1/4" = 1'-0"

Call-Out Legend:

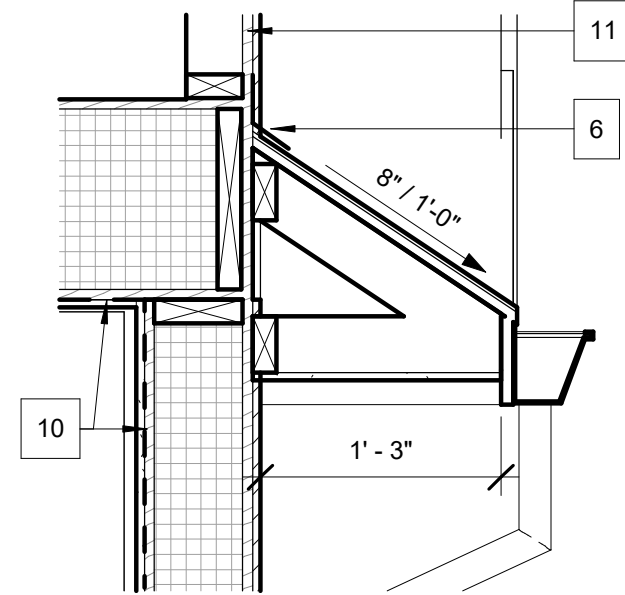
1. Ridge Vent
2. Roof
3. Optional Solar PV Panels
4. Gutter on Fascia with Downspouts
5. Siding
6. Columns
7. Guardrail
8. Electric Meter
9. Mini-Split Heat Pump Unit
10. Dryer Vent
11. Fresh Air Pipe with Raincap for ERV
12. Power outlet for Emergency Generator

Exterior Materials Notes:

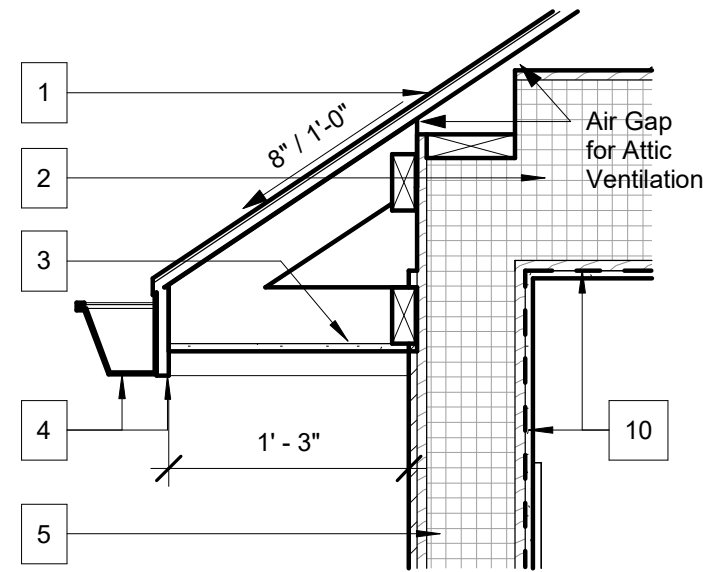
1. Roof: Shingles (or metal standing seam) similar to existing
2. Gutter: Metal similar to existing
3. Downspouts: Metal similar to existing
4. Siding: Shiplap vinyl, composite, cement board, or similar to existing. Trim shall be minimum of 3 1/2". Zoning requires exterior wooden elements on a dwelling's façade facing a required front yard be painted or stained with an opaque stain.
5. Columns: Fiberglass, composite or similar to existing
6. Guardrail: Vinyl, composite or similar to existing
7. Fascia: 1x6 cement board or composite
8. Windows: Double hung vinyl or composite, insulated Low-E glazing with minimum 3 1/2" exterior trim. Sealed at air barrier & exterior sheathing. Muntins similar to existing.
9. Vent Louver: Metal or vinyl with insect screen
10. Porch Concrete Slab: 4" thick unreinforced on compacted grade with 8'x8' sawed control joints.
11. Exterior Door: Metal or composite, insulated includes weatherstripping and threshold. Trim shall be min. 3 1/2".
12. Optional Solar Photo Voltaic (PV) Panels: Provide proper structural support and electrical infrastructure for future installation.



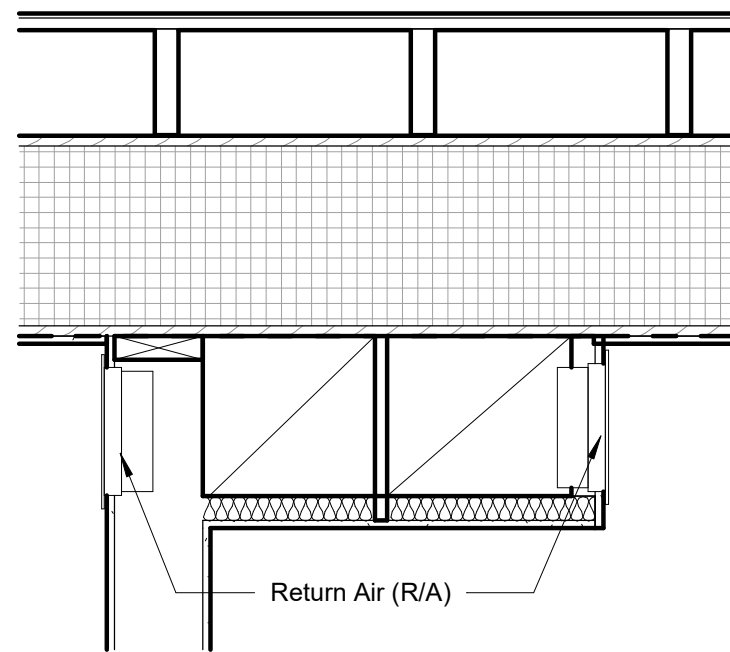
4 Section 3 - Callout 1
1" = 1'-0"



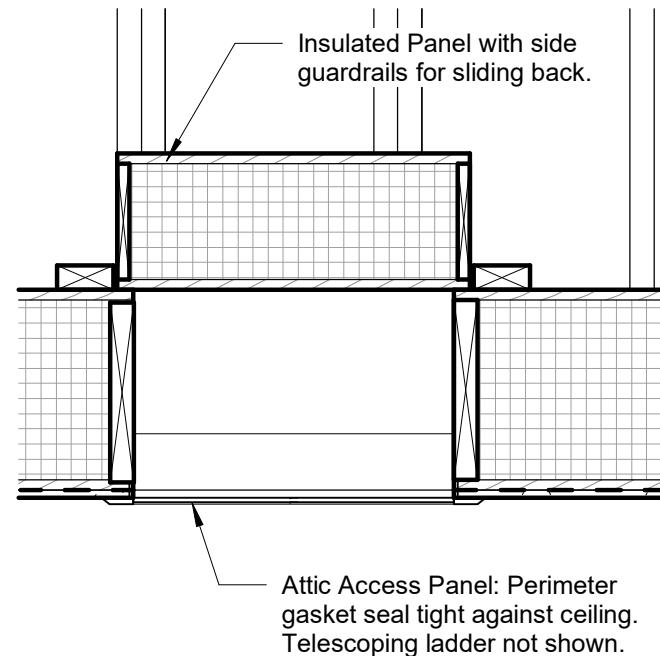
3 Section 2 - Callout 1
1" = 1'-0"



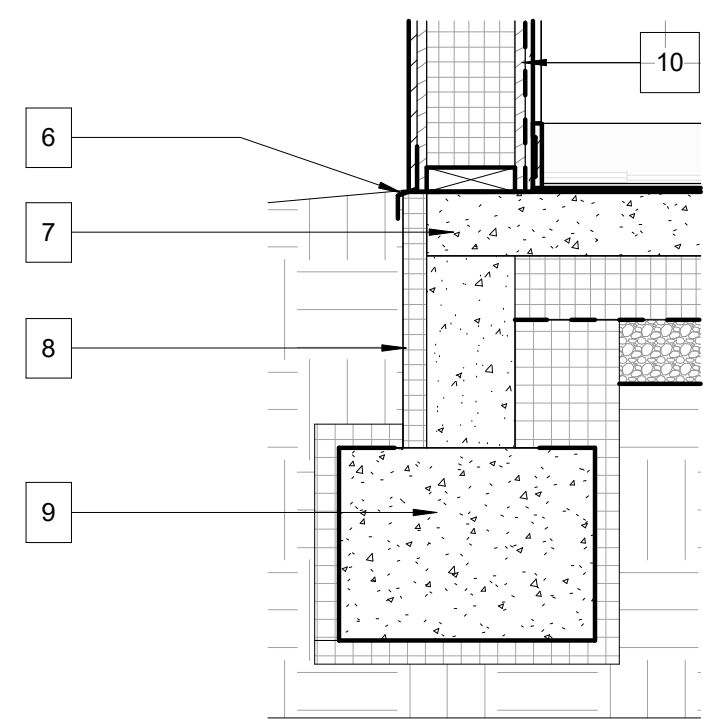
1 Section 1 - Callout 1
1" = 1'-0"



5 Section 4 - Callout 1
1" = 1'-0"



6 Section 5 - Callout 1
1" = 1'-0"



2 Section 1 - Callout 2
1" = 1'-0"

CALL-OUT LEGEND:

1. Roofing on Water Barrier on Sheathing on Wood Framing
2. Ceiling/Attic Floor: Structural Insulated Panels
3. Soffit: Continuous Vented on Wood Framing
4. Metal Gutter on 1x6 Cement Fascia
5. Wall: Siding on Moisture Barrier on Structural Insulated Panels with Air Barrier & GB Finish
6. Flashing: Continuous Metal under Siding
7. Floor: 4" concrete slab on 4" high density EXP Insulation on sealed vapor barrier on 4" gravel on compacted grade
8. Insulation: Minimum 1 1/2" high density EXP
9. Foundation: Reinforced concrete per code
10. Air Barrier: Continuous Vapor Permeable. All joints, openings & penetrations lapped & sealed
11. Stud Wall: Siding on Moisture Barrier on sheathing on wood framing.

HVAC Notes:

1. Mechanical Cooling & Heating shall be provided via a high efficiency (Energy Star) mini-split ductless heat pump system sized according to calculated requirements of the final building envelope design.
2. Fresh air ventilation shall be provided via a high efficiency (Energy Star) Energy Recovery Ventilator (ERV). Supply and return air shall be within the building thermal envelope similar to suggested furrdown locations. Control shall be automatic via Carbon Dioxide sensor(s) and a motion sensor located in the Bathroom. Also provide manual override and other features as recommended by manufacturer.

Appliances Notes:

1. All appliances shall be electric high efficiency Energy Star certified with finishes and features per owner requirements.
2. Cooktop: electric induction
3. Exhaust Hood: Ductless with high efficiency activated charcoal filter.
4. Oven: 24" wide electric convection.
5. Dishwasher: 24" wide.
6. Refrigerator: Side-by-side refrigerator-freezer. Size & features per owner requirements.
7. Washer/Dryer: Stackable front loading.

Note: Proposed Thermal Envelope Exceeds Code Minimum. The final design & constructed building shall have at least the following minimum U-Factor Values or current code values:

Ceiling - 0.024
Walls - 0.079
Floors - 0.047



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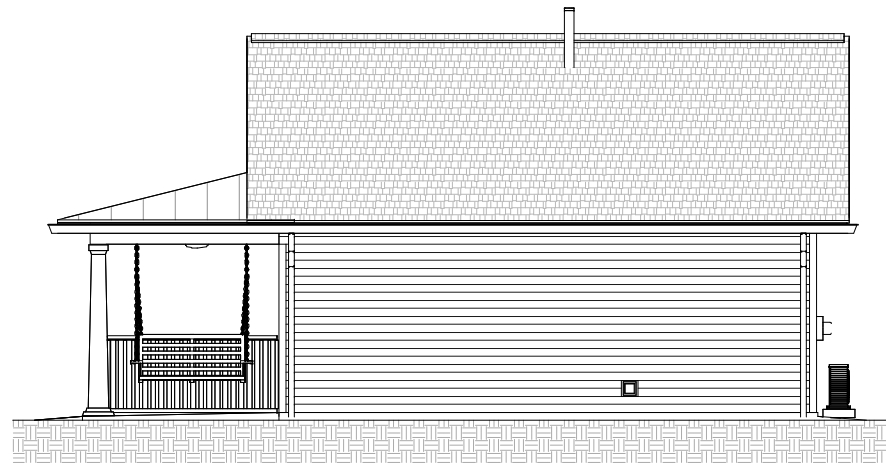
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DETAILS

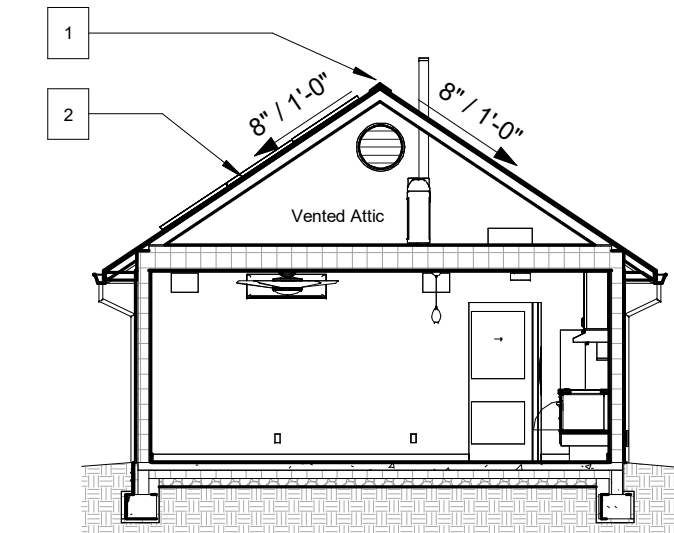
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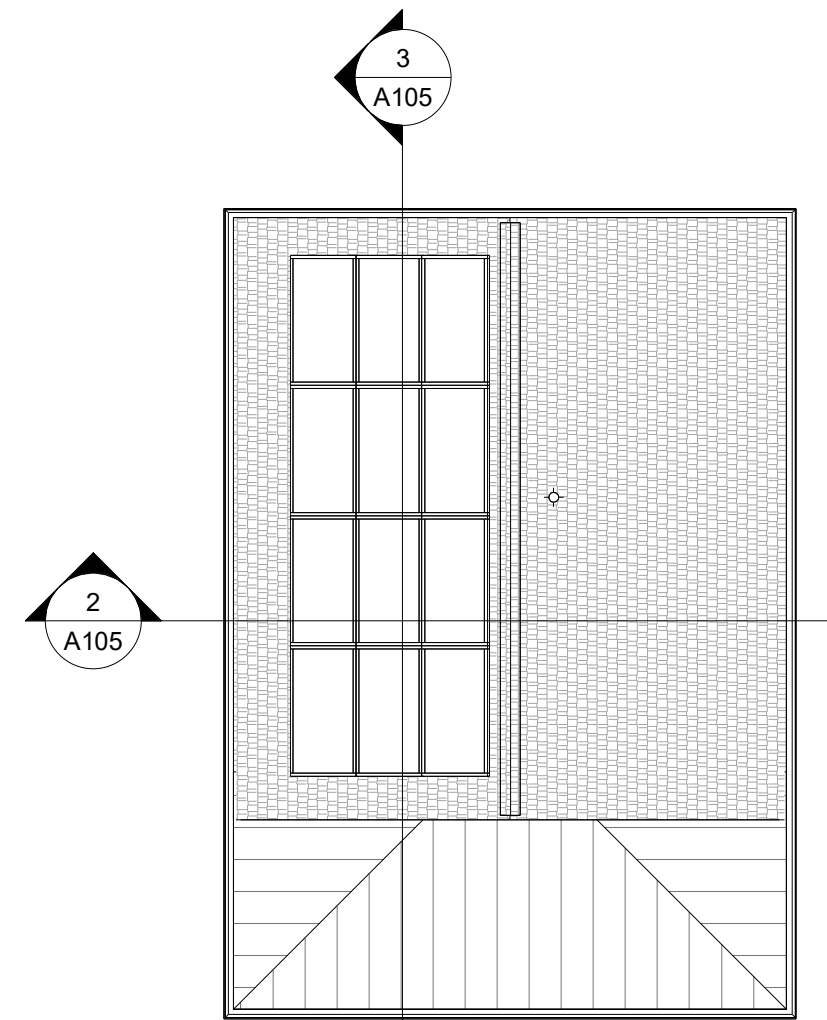
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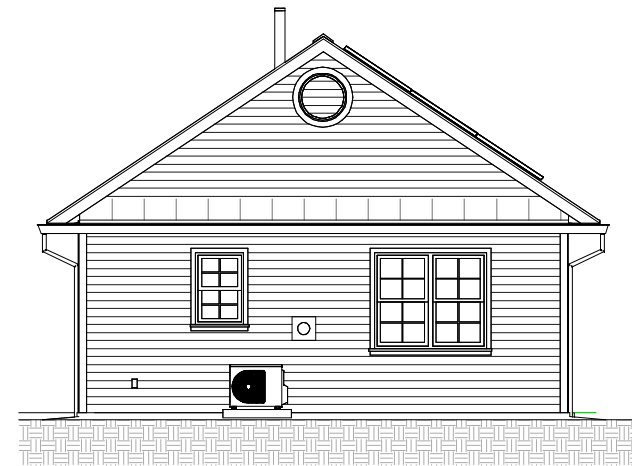
5 East Alternate
1/8" = 1'-0"



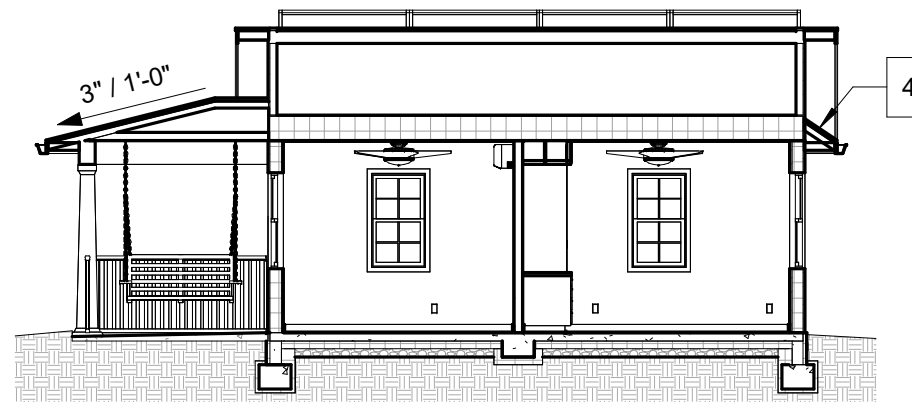
2 Section 2 Allternate
1/8" = 1'-0"



1 Level 2 Alternate
1/8" = 1'-0"



6 North Alternate
1/8" = 1'-0"



3 Section 3 Alternate
1/8" = 1'-0"

Alternate Roof Option:

Due to likely different orientations on a variety sites, it is advisable to alter the default roof design to provide for optimal solar orientation and potential for solar PV placement on a southerly facing roof. If the building entrance will be facing predominately north or south, use the default roof design. If the building entrance will be facing predominately east or west, we recommend using the Alternate roof design as shown on this sheet.

All notes and details provided in the drawings for the default roof layout apply to these elevation and section drawings, except as applicable to the Alternate roof.

Call-Out Notes:

1. Ridge Vent
2. Main Roof: Shingle or Metal at 8:12 Pitch
3. Porch Roof: Metal at 3:12 Pitch
4. Low Roof: Metal or Shingle at 8:12 Pitch



7 West Alternate
1/8" = 1'-0"



4 South Alternate
1/8" = 1'-0"



② 3D View 1 Default Roof
12" = 1'-0"



① 3D View 2 Default Roof
12" = 1'-0"



④ 3D View 1 Alt Roof
12" = 1'-0"



③ 3D View 2 Alt Roof
12" = 1'-0"