

One-Bedroom ADU - Bungalow Style

Master Permit Set

Richmond, CA

How To Use This Permit Set

Have you decided to build an ADU in Richmond from this pre-approved plan? Congratulations! This pre-approved plan saves you design fees and simplifies the permitting process.

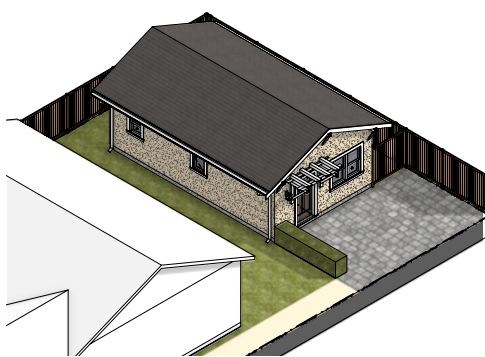
You will need to decide where the ADU will be located on your lot and fill out the required information on Sheet A1.0. To complete the site specific components of your ADU, you will need to hire a General Contractor or Civil Engineer (to prepare site specific foundation details), a Title 24 Energy Consultant (to produce a Title 24 report), and a certified HERS Rater (to conduct any required HERS testing). You won't need to edit any of the other pages of this permit set, unless you decide on changes.

For more information on the permitting process, including a how-to guide for drawing your own site plan, see the City of Richmond's ADU Guidebook which can be found on the City's website.

ADU Siting Options

You have several options for how to orient this ADU on your lot. Choose the option below that meets your needs, then use that information to inform your site plan. You may also want to consider solar orientation (how to orient your building to best take advantage of sunlight) which will depend on the orientation of your particular lot.

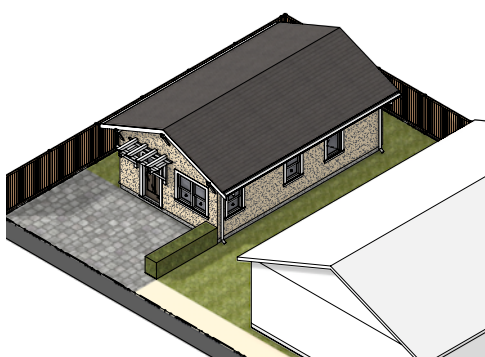
Option A: Maximize privacy for the ADU resident(s)



The ADU's front door opens onto a semi-private side yard. The side of the ADU that faces the house has smaller windows to preserve privacy for the ADU resident(s) - and for the resident(s) of the primary house.

You might choose this option if you're planning to rent the ADU to a tenant and want to enhance privacy between the primary house and ADU.

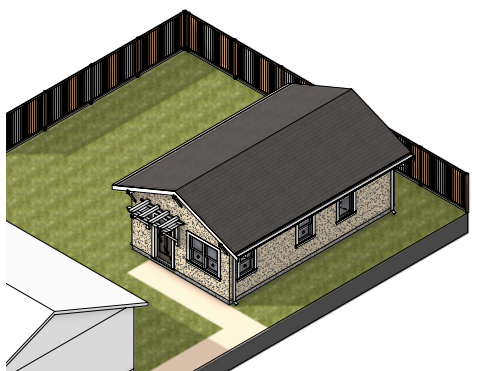
Option B: Maximize connection between the ADU and primary house



The ADU's front door opens onto a semi-private side yard. The side of the ADU that faces the house includes full-sized windows that open into the living room and one of the bedrooms.

You might choose this option if you're planning for friends or family to live in the ADU and want a greater connection between the ADU and the primary house.

Option C: Orient perpendicular to primary house



The short side of the ADU faces the primary house and a side yard is preserved for the entire depth of the lot. This option will only be possible for unusually deep lots.

You might choose this option if you have a very deep lot and want to preserve a large side yard or if you have a narrow lot.

Use of These Documents

These plans are for use only in the City of Richmond, California. By using these standard plans (ADU Plans), the user agrees to release, indemnify, defend and hold harmless the City of Richmond, California, its elected officials, employees and consultants, including the architect, its officers, directors, employees, agents and subconsultants (collectively, City) from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury or death, or economic losses, arising out of the use of the ADU Plans. The use of the ADU Plans does not eliminate or reduce the user's responsibility to verify any and all information.

It is understood and agreed that the ADU Plans do not include project observation or review of any contractor's performance or any other construction phase services, and that such services will be provided for by the person or entity who has received a permit to construct the ADU (Permittee). Any use of these documents, or modifications thereto, by the Permittee, property owner, contractors, builders, or others (User), is performed at their own risk. The User assumes all responsibility for use and interpretation of these documents and for construction observation and waives, to the fullest extent permitted by law, any claims or causes of action of any nature against the architect, its officers, directors, employees, agents and subconsultants (collectively, Consultant), which may arise out of or that may be in any way connected thereto.

The construction of an ADU requires technical knowledge and expertise. Unless the User has the requisite construction knowledge and expertise it is recommended that a contractor be engaged. Neither the City or its consultants will provide further information or assistance nor will building inspectors provide advice or direction of any sort. Any construction defects or variances are the responsibility of the User.



Project Summary

Project Description

This is a prototype for a dwelling unit that is accessory to a primary dwelling unit. It is the owner's responsibility to submit a site plan for approval in addition to any other permits required.

Building Info	Proposed	Required
Occupancy	R-3	-
Construction Type	V-B	-
Stories	1	-
Height	13'9"	16'0" max
Area	493 gsf	-

Symbol Directory

Elevation	Section	Detail	Level
Window Type	Door Type	Key Note	

Abbreviations

A.F.F.	Above Finished Floor
CLR.	Clear
E.Q.	Equal
FRT	Fire-Retardant-Treated
FSD	Fire Separation Distance
FSL	Fire Separation Line
H.B.	Hose Bibb
O.C.	On Center
S.S.D.	See Structural Drawings
T.O.F.F.	Top of Finished Floor
TYP.	Typical
U.O.N.	Unless Otherwise Noted

Required Items for Permit Submittal	Site Plan	Project Data on Sheet S1	Engineering Foundation Design Form for Soil Inspection per CBC Table 1705.6
	☐	☐	☐
Items Eligible for Deferral Submittal	Solar Photovoltaic System	☐	Sewer Certification of Compliance (Check with Utility Company for the Requirements)
	☐	☐	☐

Submittals and Revisions

Master Permit Set

Cover Sheet

G 0.0

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One-Bedroom ADU
Bungalow Style
Richmond, California

Architect/Owner/Contractor Agreement Notes

- Contractor is responsible for thorough review of these documents including all plans, notes, details, elevations and information provided by owner prior to the commencement of any work.
- The Contractor is responsible for thorough review of compliance with the soils investigation report, the structural calculations report, and any other consultant reports listed. All report recommendations are to be considered part of these construction documents.
- The Contractor shall notify the Architect immediately of any discrepancies or conflicts found in these drawings.
- The Contractor shall give the Architect adequate notice (min. 3 business days) for any necessary site visits or drawing revisions.
- Should the Contractor or Owner disagree with any of the requirements of this set he/she shall notify the Architect in writing prior to signing of the contract for construction and the Architect shall be contracted to provide additional or alternative information needed or requested.
- By using these documents for the construction, the Contractor and Owner warrant that they have read, do understand, and agree to these conditions.

General Notes

- Do not scale drawings.
- All work depicted on these drawings is required to comply with the 2022 California Residential Code. Construction is to comply with all volumes, sections and subsections of that code. It is the Contractor's responsibility to be familiar with the standard requirements for construction, and to maintain a copy of the 2022 California Residential Code at all times. The code(s) is/are to be considered a part of this set.
- These drawings and specifications are the property and copyright of the Architect and shall not be used on any other work or project except by written agreement with the Architect.
- Contractor is responsible for thorough review of, and familiarity with, these documents, including plans, elevations, notes, details, consultant reports, and supporting documents prior to the commencement of any work. Any discrepancy in this set of construction documents is to be brought to the immediate attention of the Architect.
- If specifications vary within this set, the most stringent is said to apply unless clarified in writing by the Architect.
- If any details are noted to be missing or incomplete, written questions are to be directed to the Architect for clarification prior to the signing of any contract for construction.
- The General Contractor is required to notify the Architect in writing of any substitution, revision, or proposed alternate at least two weeks prior to the expected date at order or installment of said alternate in order to allow adequate time of coordination and approvals by the Architect, any professional consultants as well as the local code enforcement agency. A two weeks response is not guaranteed, so the greater the notice period, the better.
- The General Contractor shall be responsible for scheduling and being present for all required inspections.
- Written dimensions shall take precedence over scaled dimensions and shall be verified on the job site. Where appropriate, alignments to existing walls and finishes should govern. Any discrepancy shall be immediately brought to the attention of the Architect prior to the commencement of any work. The General Contractor shall verify all dimensions and site/grade conditions prior to commencing any work. The General Contractor shall keep a set of these plans and specifications on the job site as reference at all times. The General Contractor and Framing Contractor are responsible for working to coordinate shear wall lengths and hold-down locations with plumbing and mechanical infrastructure. Furring and soffits should be framed as required with verification of Owner or Architect.
- The Construction Contractor and his subcontractors agree that in accordance with generally accepted construction practices, the construction practices, the Construction Contractor, and his subcontractors will be required to assume sole and complete responsibility for the job site conditions during the course of the construction of the project, including safety and security of all persons and property. This requirement shall be made to apply continuously and not limited to normal working hours, and Construction Contractor and his subcontractors further agree to defend, indemnify, and hold the Architect harmless and from any and all liability, real or alleged, in connection with the performance of work on the project, except liability arising from the sole negligence of the Architect.
- The General Contractor is required to designate a contact person for the project to receive all the information related to job site information. The contact's name and phone number are to be given to the Owner and the Architect. Unless specified by the Owner, the General Contractor is to provide responsible, appropriate supervision on the job site for the duration of the project. General Contractor is to provide and maintain a job site phone number, e-mail, or fax. Contractor is responsible for adequate supervision of all sub-trades.
- The Contractor shall confine operations to the site areas permitted by law, ordinances, permits, and the contract documents and shall not unreasonably encumber the site with any materials or equipment.
- No portion of the work requiring a shop drawing or sample submission (per the request of the Owner, General Contractor, or Architect) shall be commenced until the submission has been reviewed and acted upon by the said party. All such portions of the work shall be in accordance with the approved shop drawings and samples.
- General Contractor is responsible for visiting the job site prior to bidding and conducting reasonable inspection of existing conditions for the purpose of accurately assessing the scope of work, site conditions and overall project intent. Questions arising from this site visit are to be directed to the Architect for clarification prior to bid.

General Notes Continued

- These drawings are intended to illustrate a complete job. Unless specified, work is to include all common and necessary accessories (i.e. toilet roll holders, towel bars, mirrors, etc.) as well as all components required to meet current code requirements in the jurisdiction work is being performed. Contractor is responsible for including sub-structure furring including floor, wall, or ceiling padding to assure surfaces are plumb, level, and aligned with 1/4" on a 8' measure. Concealment of steel structural brackets, beams, tabs, bolts, and protruding elements are to be considered at the time of rough frame bidding and are to be included in the construction. Furring, notching, alternative welding, and other means may be considered pending approval of Structural Engineer.
- Certain items, materials, and features represented within this set may not be approved as part of the building permit. Questions regarding the specifics of approval shall be directed to local jurisdiction.
- Notice: This set has been produced for the purpose of obtaining a building permit. These drawings are not intended to be accurate "as-builts", nor inclusive of designs, drawings, material specifications, etc. needed to address all possible construction issues.
- These working drawings are not to be used in any construction for which building permits have not been obtained. Additionally, the Architect is not responsible for the correctness of any work undertaken prematurely if it is based on plans that have not been reviewed and approved by the building department. The stipulation applies to original submittal drawings and revisions. All drawings are preliminary until a permit is issued.

Site Development Notes

- Verify locations of all underground utilities and services prior to excavation.
- Contractor shall confirm the locations of all property boundaries for the site and verify all setback and easement locations prior to construction. Owner is responsible for providing a licensed survey and title report for Contractor use, or as required by local jurisdiction. Any discrepancies should be brought to the attention of the Architect before the commencement of the work.
- Contractor is responsible for notifying and scheduling the project Geotechnical Engineer for site inspections and observations of excavations, drilling, drainage, backfill etc.
- Soil compaction for grading or backfilling shall be placed in accordance with the Soil Engineer's recommendations. If there is no Soil Engineer, use 6" lifts to 90% compaction.
- Temporary earth shoring is the responsibility of the Contractor.

Finish Notes

- All gypsum wallboard shall be installed in accordance with the provisions of the CBC, applicable edition, state and local codes.
- Provide moisture resistant gypsum board at walls adjacent to plumbing fixtures.
- Side walls, ceilings, and soffits of closet and any other usable space beneath interior stairs shall be protected with one layer type "X" gypsum board taped and finished.
- Gypsum wallboard shall not be installed until weather protection for the installation is provided.
- All edges and ends of gypsum wallboard shall occur on the framing members, except those edges and ends that are perpendicular to the framing members. All edges and ends of gypsum wallboard shall be in moderate contact except in concealed spaces where fire-resistive construction or diaphragm action is not required.
- Cement-fiber or glass mat gypsum backer board shall be used as a base for wall tile in tub and shower area and wall and ceiling panels in shower areas. Shower area walls shall be finished with a non-absorbent surface to a height not less than 6 feet above the floor (Per CRC R307).
- Tub enclosure: stone or glazed wall tile extending to ceiling, typical. Thinset wall tile on cement backer board.
- Ceramic and stone floor tiles to be thickset mortar bed (owner to select tile).
- Exterior paint: two (2) coats elastomeric paint over primer sealer recommended for painted cement plaster surfaces. Assume two (2) paint colors, including trim color.
- Interior paint: Low V.O.C., two (2) coats paint over primer sealer recommended for each surface.
- All interior painted wood / formaldehyde-free M.D.F. boards and trim to have final coat of paint applied with brush.
- Stucco finish shall be fine sand and include three (3) coats of stucco over metal or wire fabric lath over two (2) layers of grade "D" paper.
- Flooring material to be selected by owner.
- All exterior wood trim, molding, and boards shall be back-primed.

Plumbing Notes

- Plumbing system shall be design/build by plumbing subcontractor (including but not limited to water distribution, drainage, and venting systems, and installation of plumbing fixtures and accessories).
- Drain systems within the building shall be hubless cast iron, including all fittings and traps. Vent systems may be schedule 40 ABS DWV pipe. Drain and vent piping shall be isolated from the building structure.
- All water supply piping shall be metal.
- Hot water distribution piping shall be insulated.
- All plumbing fixtures and fittings shall be certified by the California energy commission. All shower heads, lavatory faucets and sink faucets shall be certified by the manufacturer as complying with applicable California appliance efficiency standards. All toilets shall use 1.28-gallon maximum per flush, typical. All faucets shall have flow control aerators that limit water delivery to no more than 1.2 gallons per minute for sinks and lavatories, and 1.8 gallons per minute for showers.
- Shower control valves and showerheads shall be located so that the showerhead does not discharge directly at the entrance to the compartment and the bather can adjust the valve prior to stepping into the shower spray.
- Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strappings shall be at points within the upper one-third and lower one-third of its vertical dimensions. At the lower point, a minimum distance of four inches shall be maintained above the controls with the strapping (Per CPC 507.2).
- Install a watertight pan of corrosion-resistant materials beneath all water heaters with a minimum 3/4" drain, separate from relief valve drain to an approved location.
- Plumbing fixtures shall be in compliance with the most restrictive flow rate of CGBSC 4.303.1, CPC 401.3.
- All sinks to have cleanouts and all faucets shall have air chambers. Install all hot water pipes with pipe insulation equal to the diameter of the pipe up to 2 inches.
- The maximum hot water temperature discharging from the bathtub filler shall be limited to 120 degrees F (Per CPC 409.4).
- Hand shower(s) shall be equipped with an approved backflow prevention device or assembly (Per CPC 602 and 603).
- All toilets to have 15" minimum clearance from the centerline of fixture to each side. Provide 24" minimum clearance from the front edge of fixture (Per CPC 402.5).
- No domestic dishwashing machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher air gap fitting on the discharge side of the dishwashing machine (Per CPC 807.3).
- See plan for location of hose bibs (verify with owner). Provide a listed non-removable backflow preventer or atmospheric vacuum breaker installed in accordance with their listing requirements and the manufacturer's installation instructions per CPC 603.4.6.
- Install approved type of cleanout fitting between the building drain and the building sewer per CPC 707.4.
- Prior to close in, the contractor shall perform air pressure and water pressure tests to ensure there are no leaks in plumbing and drainage systems. The owner shall be informed when such testing will occur so he can plan to visit the site.
- Confirm that all plumbing fixtures will be able to drain to the public sewer by gravity.
- Sewer connections shall comply with CPC 311.1. Accessory dwelling units are not required to have independent service utility (drainage) connections provided they meet the specific requirements in Government Code Section 65852.2 per CPC 311.1.

These plans are for use only in the City of Richmond for the purpose of obtaining a building permit for the construction of a One-Bedroom ADU (Accessory Dwelling Unit) in accordance with the City of Richmond's ADU Ordinance. The user agrees to release, defend, and hold harmless the City of Richmond, California, its elected officials, employees, and consultants, including the architect, engineer, and other professionals, from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury or death, arising from the use of these plans for any purpose other than that intended. The user agrees to eliminate or reduce the user's responsibility to verify any and all information.

One-Bedroom ADU
Bungalow Style

Richmond, California

Submittals and Revisions

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Master Permit Set

General Notes

Electrical Notes

1. All equipment and fixtures shall run on electricity (no gas line to unit).
2. Ground fault circuit interrupter protection shall be provided for all 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground installed in the following locations: bathrooms, kitchens where receptacles are installed to serve countertops, sinks where receptacles are installed within 6 ft from the top inside edge of the bowl of the sink, bathtubs or shower stalls where receptacles are installed within 6 ft of the outside edge of the bathtub or shower stall, and laundry areas [CEC 210.8(A)]. Receptacles in kitchens shall be placed no more than 20 inches above the counter top nor more than 12 inches below it [CEC 210.52(C)(3)].
3. All 120V, single phase, 15 and 20 amp branch circuits supplying outlets and devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms shall be protected by a listed arc-fault circuit interrupter, combination type, or a listed outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit installed to provide protection of the branch circuit. CEC 210.12(A).
4. Metal water piping and other interior metal piping shall be bonded to service equipment. The points of attachment to the bonding jumper shall be accessible.
5. Provide at least one 20 amp circuit without other outlets on the circuit, for bathroom receptacles. CEC 210.11(C)(3).
6. Outlet spacing shall not exceed 12'-0" O.C. per CEC. All outlet plates to be bright white U.O.N. Receptacles shall be placed such that no point along the floor line in any wall space is more than 6 feet and at all 2 foot lengths of wall. [CEC 210.52(A)].
7. Provide at least two separate 20 amp circuits for small appliances in kitchen, dining, and similar areas with no other outlets on the circuit per CEC 210.11(C) and 210.52(B).
8. Provide at least one 20 amp branch circuit to the laundry room per CEC 210.11(C)(2).
9. Install UFER ground in new foundation per CEC 250.52(A)(3).
10. All exterior outlets to have waterproof plate covers.
11. All 15 and 20 amp receptacles installed in a wet location shall have an enclosure that is weatherproof whether or not an attachment plug cap is inserted.
12. All 125-volt receptacles in any dwelling unit shall be tamper-resistant. CEC 406.12.
13. Electrical sub panel bus rating shall be a minimum 150 amps.
14. New two-meters electrical service shall comply with CEC 230.85.

Mechanical Notes

1. Verify all equipment sizes before beginning work. Install all equipment and materials per manufacturer's instructions and recommendations.
2. Mechanical equipment shall be fixed in position and securely fastened in place per CMC 303.4. 3"x3"x1/4" stl. angle welded to furnace frame and lagged down to framing with 5/8" diameter lag bolts on four sides, typical.
3. Verify electrical, water stub-outs at all air handlers, heaters, air conditioners, and all appliances of similar equipment with manufacturer's recommendations and owner's requirements.
4. Install all thermostats at 64" A.F.F. from centerline of plate to finish floor. All thermostats to be bright white finish, field verify locations with owner.
5. Bathroom fans shall be connected directly to the outside. Fans and other exhaust systems exhausting air from conditioned space to the outside shall be provided with backdraft dampers to prevent air leakage.
6. Ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials, or other devices that meet one of the following requirements:

1. Listed vents complying with ASTM E2886 with the following results:

The Ember Intrusion Test shall have no flaming ignition of the cotton material.

There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test. The maximum temperature of the unexposed side of the vent shall not exceed 662° F (350°C).

2. Vents complying with all of the following:

The dimensions of the openings therein shall be a minimum of 1/16" and shall not exceed 1/8".

The materials used shall be noncombustible. Exception: Vents located under the roof covering, along the ridge of roofs, with the exposed surface of the vent covered by noncombustible wire mesh, may be of combustible materials.

The materials used shall be corrosion resistant. CRC R337.6.2.1.
- Fire Notes
1. An automatic sprinkler system shall be installed in one- and two-family dwellings. Exception for ADUs that meet all of the following criteria (Per CRC R313.2):

The unit meets the definition of an Accessory Dwelling Unit as defined in the Government Code Section 65852.2.

The existing primary residence does not have automatic fire sprinklers.

The accessory detached dwelling unit does not exceed 1,200 square feet in size.

The unit is on the same lot as the primary residence.
- Definition of Fire Separation Distance (FSD) per CRC R202:
-
- Fire Separation Distance measured to an interior lot line
-
- Fire Separation Distance measured to an imaginary line between two buildings on the same lot
- Note:
For adjacent detached buildings, delineate the fire separation line between the buildings on the Site Plan and indicate on the construction drawings how each building complies. Please note that a project cannot be approved if it makes the existing building less compliant. CRC A102.1 and CBC 107.2.1. In most cases that means delineating the fire separation line min. 5 feet from the existing building's eave and designing the new building based on the distance to that imaginary fire separation line. Please note that openings are not allowed less than 3 feet from the fire separation line and projections are not allowed to be closer than 2 feet to the fire separation line. CRC R302.1 and R201.
-
- Fire Separation Distance measured to the centerline of adjoining street
- These plans are for use only in the City of Richmond for the construction of accessory dwelling units (ADUs) in single-family homes. The user agrees to release, indemnify, defend and hold harmless the City of Richmond, California, its elected officials, employees and consultants, including the City Engineer, from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury or death, arising out of the use of these plans for the construction of ADUs. The use of the ADU Plans does not eliminate or reduce the user's responsibility to verify any and all information.
- One-Bedroom ADU
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- Master Permit Set
- General Notes
- G 0.2

Applicant to fill out this information:

Site Plan



Vicinity Map	Owner Information	Applicant Information	Parcel Information	Energy Efficiency HERS Verification	Energy Efficiency Special Features
	Name: Address: Phone: Email:	Name: Address: Phone: Email:	APN: Site Address: General Plan Designation: Zoning District: Lot Size: Lot Width: Number of Parking Spaces:	Specify as indicated in CF1R Form (Title 24): • Duct Sealing (Y or N); • Refrigerator Charge (Y or N); • Cooling System Airflow (Y or N); • Cooling System Unit Fan Efficacy (Y or N); • Cooling Systems Seer And/Or EER Above Min. (Y or N); • Whole-Building Ventilation Airflow (Y or N); • Building Envelope Air Leakage (Y or N); • Quality Insulation Installation (Y or N); • Other (Specify Below): Properly completed and signed certificates of installation (CF2R forms) shall be provided to the inspector in the field. For projects requiring HERS verification, the CF2R forms shall be registered with a California-approved HERS provider data registry. Properly completed certificates of verification (CF3R forms) shall be provided to the inspector in the field for items requiring HERS verification. CF3R forms shall be registered with a California-approved HERS provider data registry.	Specify as indicated in CF1R Form (Title 24): • • •

Reference Information:

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G0.2	General Notes
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A1.1	Floor Plan
A1.2	Electrical Plan
A1.3	Roof Plan
A2.1	Elevations
A2.2	Elevations
A3.1	Sections
A5.1	Details
A5.2	Fire-Resistance Rated Details
S1.0	Structural Title Sheet
S1.1	General Structural Notes
S2.1	Hold Down Plan
S2.2	Roof Framing Plan
S8.1	Wood Details
S8.2	Wood Details
S8.3	Wood Details

Building Codes

This project shall comply with the following building codes and associated City of Richmond amendments:

- 2022 California Building Code
- 2022 California Residential Code
- 2022 California Electrical Code
- 2022 California Plumbing Code
- 2022 California Mechanical Code
- 2022 California Administrative Code
- 2022 California Energy Code
- 2022 California Green Building Standards Code
- 2022 California Fire Code

Project Scope

Proposed 493 SF Detached Accessory Dwelling Unit

Pervious/Impervious Area Information

This project does not trigger Stormwater C.3 Control Plan requirements as it is not creating or replacing more than 2,500 square feet of impervious surface. See Stormwater C.3 Guidebook for more information.

Site Specific Foundations

This plan set does not include site specific foundations. Site specific foundation details are required for ADUs in the City of Richmond. The applicant must hire a General Contractor or Civil Engineer to prepare site specific foundation details and include the details with the application for approval by the City of Richmond.

Site Specific Utilities

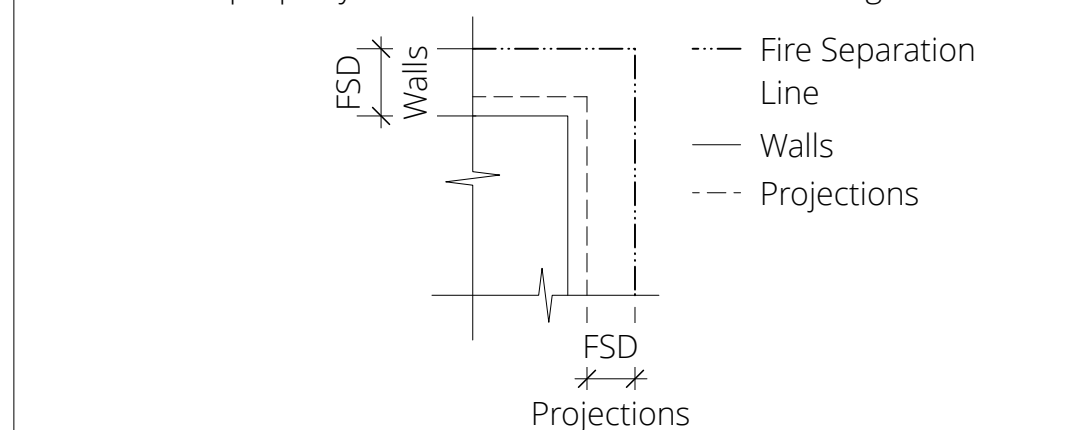
Owner and/or General Contractor shall coordinate with utility companies (water, sewer, and electric) for site specific requirements for connections.

Site Specific Solar Photovoltaic

This plan set does not include a site specific solar photovoltaic system. New residential buildings are required to have a solar photovoltaic system installed. The applicant must include site specific solar photovoltaic system for approval by the City of Richmond.

Fire Resistant Construction

Walls, projections, openings in walls, and penetrations must comply with the minimum fire separation distances (FSD) outlined in Section R302 of the 2022 CRC. Openings in walls are limited to a maximum of 25% of the wall area when the dwelling does not have fire sprinklers, has a fire-resistance rating of 0 hours, and has a fire separation distance $\geq$ 3 feet and $<$ 5 feet (per Table R302.1(1) of the 2022 CRC). Disclaimer: This set has been designed for projections to be at least 5 feet from the property lines so that no fire-resistance rating is needed.



These plans are for use only in the City of Orange, California. By using these standard plans, ADU Planholders agree to indemnify, defend and hold harmless the City of Orange, its elected officials, its employees and consultants, including the architect, its officers, directors, employees, agents and subcontractors (collectively, City) from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury or death, or economic losses, arising out of the use of the ADU Plans. The use of the ADU Plans does not eliminate or reduce the user's responsibility to verify any and all information.

One-Bedroom ADU

Bungalow Style

Richmond, California

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Submittals and Revisions

Master Permit Set

Site Plan

A 1.0

Door Schedule

	Unit Size	Type	Notes
101	3'- 0" x 6'- 8"	Swing	Exterior, Panel, Tempered Glazing in Top Panel
102	2'- 10" x 6'- 8"	Swing	Interior, Single Panel
103	2'- 6" x 6'- 8"	Swing	Interior, Single Panel
104	4'- 0" x 6'- 8"	Bi-Swing	Interior, Single Panel

Recommended maufacturer and product line:
-Therma-Tru Smooth-Star doors

Window Schedule

	Unit Size	Head Height	Type	Egress	Notes
A	2'- 6" x 4'- 0"	6'- 8"	Single-Hung	No	
B	2'- 6" x 4'- 0"	6'- 8"	Casement	Yes	
C	5'- 0" x 4'- 0"	6'- 8"	Ganged Single-Hung	No	
D	2'- 0" x 3'- 0"	6'- 8"	Casement	No	
E	2'- 0" x 3'- 0"	6'- 8"	Single-Hung	No	Tempered

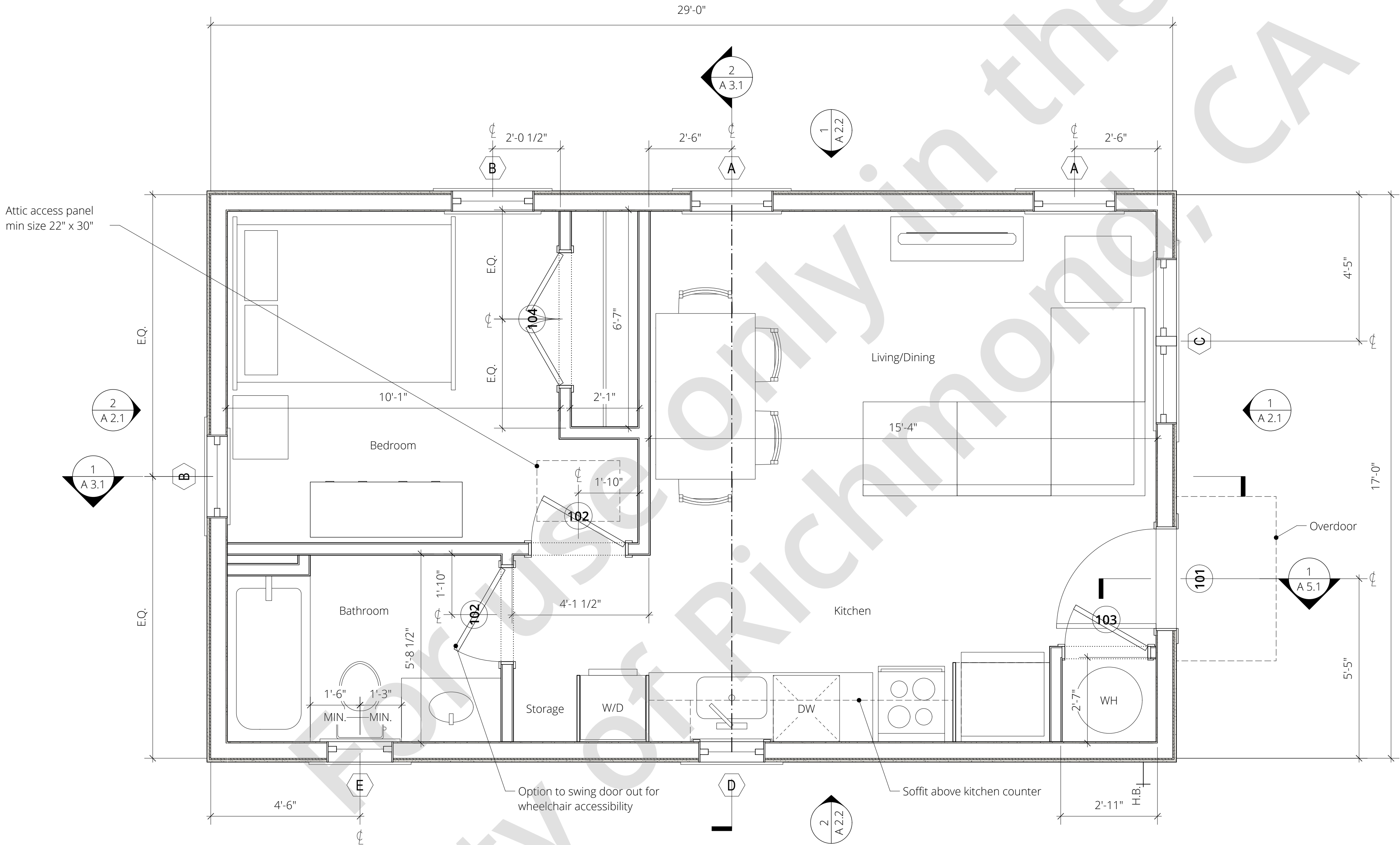
Recommended maufacturer and product lines:
-Marvin Essential windows
-Andersen 100 Series windows

General Notes

- All dimensions are shown to face of stud or centerline, U.O.N.
- Exterior windows, exterior glazed doors, glazed openings within exterior doors, glazed openings within exterior garage doors, and exterior structural glass veneer shall be NFRC rated with U-factor = 0.30 and SHGC = 0.35
- Exterior windows, exterior glazed doors, glazed openings within exterior doors, glazed openings within exterior garage doors, and exterior structural glass veneer shall comply with the following:
Multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, and where any glazing frames made of vinyl materials shall have welded corners, metal reinforcement in interlock area, and be certified to AAMA/WDMA/CSA 101/I.S.2/A40
- Provide blocking in bathroom to be adaptable for future grab bars per CRC R327.1
- Sliding doors with or without mirrors are an option at closets

Site Specific Notes

- Fire protection at Walls:
 - Dwelling without fire sprinkler protection: exterior walls with a FSD ≥ 0 feet and < 5 feet require 1-hour fire-resistance rating with exposure from both sides
 - Dwelling with fire sprinkler protection: exterior walls with a FSD ≥ 0 feet and < 3 feet require 1-hour fire-resistance rating with exposure from the outside (see CRC Table R302.1(2) for exceptions)
- Fire protection at Projections:
 - Prohibited when FSD < 2 feet
 - Dwelling without fire sprinkler protection: projections with a FSD ≥ 2 feet and < 5 feet require 1-hour fire-resistance rating on the underside, or heavy timber, or FRT wood (see CRC Table R302.1(1) for exceptions)
 - Dwelling with fire sprinkler protection: projections with a FSD ≥ 2 feet and < 3 feet require 1-hour fire-resistance rating on the underside, or heavy timber, or FRT wood (see CRC Table R302.1(2) for exceptions)
- Fire protection for Openings:
 - Prohibited when FSD < 3 feet
 - Dwelling without fire sprinkler protection: maximum 25% of wall area when FSD ≥ 3 feet and < 5 feet
- Fire protection for Penetrations:
 - Fire-resistance rating in compliance with CRC R302.4 when FSD < 3 feet (see CRC Table R302.1(2) for exceptions)
- Concrete landing with min 36" depth and a maximum of 1-1/2" lower than top of door threshold. The landing or floor on the exterior side shall be not more than 7-3/4" below the top of the threshold provided that the door does not swing over the landing or floor



1 Floor Plan

A 1.1 Scale: 1/2" = 1'-0"

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One-Bedroom ADU
Bungalow Style
Richmond, California

Submittals and Revisions

Master Permit Set

Floor Plan

A 1.1

1. Water Heating:
 - a. Efficiency: Generic Tier 3 Heat Pump
 - b. Volume: 50 gallon
2. Mini split:
 - a. Efficiency: 7.5 HSPF2, 14.3 SEER2, 10 EER2
 - b. Heat pump heating: 18,000 Btu/hr @ 47°F; 11,800 Btu/hr @ 17°F
 - c. Distribution: Ductless
3. Mini splits must comply with the Building Energy Efficiency Standards (Energy Code)
4. Ventilation:
 - a. IAQ: Continuous exhaust fan shall be installed in the bathroom with minimum airflow of 30 CFM, 1.0 sone or better. Exhaust rate for intermittent operation shall be no less than 50 CFM.
 - b. Kitchen hood: HVI certified, Electric- 65% CE or 160 CFM and 3 sones max.
5. An intermittently or continuously operating local mechanical exhaust ventilation system shall be installed in each bathroom with a bathtub, shower, or similar moisture source in compliance with ASHRAE Standard 62.2 as adopted by the California Energy Commission. Kitchen shall include a hood over range.
6. Per ASHRAE 62.2.4.2, local exhaust airflow may be credited towards the dwelling-unit ventilation airflow requirement and intake air is assumed to enter via infiltration. Exhaust ventilation is provided using a continuously-operating ceiling-mounted exhaust fan in the bathroom; this same fan meets both dwelling unit and local bathroom exhaust ventilation requirements.
7. Fan and light combination in bathroom shall be moisture sensing and controlled by a humidistat.

1. All fixtures to be high efficacy (no exceptions) per CENC Section 150.0(k)(1).
2. Clothes closet light fixture clearances shall conform to CEC 410.16(C).
3. Light fixtures in tub or shower enclosures or other wet/damp locations shall be labeled "suitable for damp locations" per CEC 410.10(A).
4. Per CENC 150.0(k)(3), Outdoor lighting permanently mounted to buildings shall be controlled by a manual ON and OFF switch that permits the automatic actions of either:
 - Photocell and either a motion sensor or an automatic time switch control
 - Astronomical time clock control
5. Airtight - recessed fixtures installed in an insulated space shall be certified airtight in accordance with ASTM E283.
6. Outlet spacing shall not exceed 12'-0" O.C. per CEC.
7. All outlets 250 volts and less and within 6 feet of the kitchen sink shall be GFCI protected
8. Electrical receptacle outlets, switches, and controls shall be located no more than 48 inches measured from the top of the outlet box and no less than 15 inches measured from the bottom of the outlet box above the finished floor per CRC R327.1.2. See "Exceptions" listed under CRC R327.1.2 for exceptions allowed.

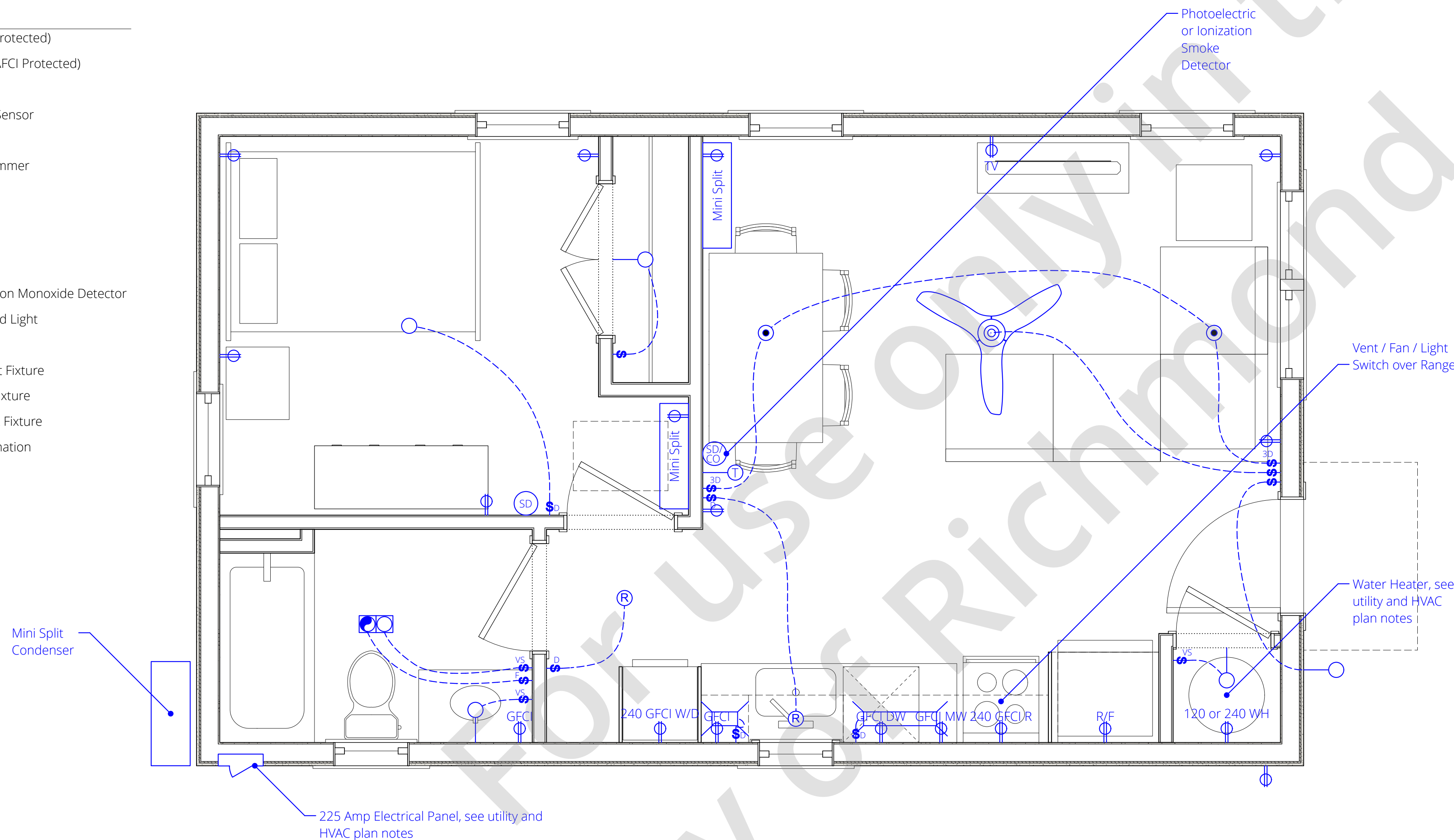
1. At least one of the following shall be provided:
 - i. ESS ready interconnection equipment with a minimum backed up capacity of 60 amps and a minimum of four ESS supplied branch circuits, or
 - ii. A dedicated raceway from the main service to a panelboard (subpanel) that supplies the branch circuits in 150.0(s)2. All branch circuits are permitted to be supplied by the main service panel prior to the installation of an ESS. The trade size of the raceway shall be not less than one inch. The panelboard that supplies the branch circuits (subpanel) must be labeled "Subpanel shall include all backed-up load circuits."
2. A minimum of four branch circuits shall be identified and have their source of supply collocated at a single panelboard suitable to be supplied by the ESS. At least one circuit shall supply the refrigerator, one lighting circuit shall be located near the primary egress, and at least one circuit shall supply a sleeping room receptacle outlet.
3. The main panelboard shall have a minimum busbar rating of 225 amps.
4. Sufficient space shall be reserved to allow future installation of a system isolation equipment/transfer switch within 3 feet of the main panelboard. Raceways shall be installed between the panelboard and the system isolation equipment/transfer switch location to allow the connection of backup power source.

One-Bedroom ADU

Bungalow Style

Richmond, California

	Duplex Outlet (AFCI Protected)
	Duplex GFCI Outlet (AFCI Protected)
	Wall Switch
	Switch with Vacancy Sensor
	Dimmer Switch
	3-Way Switch with Dimmer
	Fan Switch
	Supply
	Thermostat
	Smoke Detector
	Combo Smoke / Carbon Monoxide Detector
	High Efficacy Recessed Light
	Pendant Light Fixture
	Ceiling Mounted Light Fixture
	Wall Mounted Light Fixture
	Linear Strip LED Light Fixture
	Fan and Light Combination
	Fan / Light



A 1.2 Scale: 1/2" = 1'-0"

A 1.2

1. Solar Photovoltaic min size required 2.0 kWdc with the following:
 - a. Array Type: Fixed
 - b. Power Electronics: None
 - c. Inverter: None
 - d. Azimuth: 105 - 300
 - e. Tilt: ≤ 7.12
 - f. Inverter Eff: 96%
 - g. Shade factor: 10%
2. Use Zone A or B depending on orientation

1. All dimensions to fire separation line (FSL) are shown from face of deepest projection. When the building is not equipped with fire sprinkler protection, a minimum FSD of 5 feet is needed to eliminate the need for fire-rated construction. When the building is equipped with fire sprinkler protection, the minimum FSD is reduced to 3 feet to eliminate the need for fire-rated construction.
2. Per CRC 2022 Section R202 Definitions, fire separation distance is defined as: The distance measured from the building face to one of the following:
 1. To the closest interior lot line.
 2. To the centerline of a street, an alley or public way.
 3. To an imaginary line between two buildings on the lot.The distance shall be measured at a right angle from the face of the wall.

—— — FSL (see 3 types of FSL noted in General Note 2)



A 1.3 Scale: 1/2" = 1'-0"

Attic Ventilation Required

Net Free Cross Ventilation Area = 1/150
Vent Area Required = 451.7 sf / 150 = 3.0 sf x 144 = 432 sq in
Intake Area Required = 432 sq in / 2 = 216 sq in
Exhaust Area Required = 432 sq in / 2 = 216 sq in

NFVA = 3.5 sq in
Qty = 84 vents
Vent Area Provided = 84 x 3.5 sq in = 294 sq in

NFVA = 336 sq in
Qty = 1 vent
Vent Area Provided = 1 x 336 sq in = 336 sq in

NFVA = 6 sq in
Qty = 42 vents
Vent Area Provided = $42 \times 6 \text{ sq in} = 252 \text{ sq in}$

Exhaust from Ridge Vents = 336 sq in
Exhaust from Vented Blocking = 252 sq in
252 sq in < 336 sq in
Total Exhaust = 252 sq in

Intake: 294 sq in > 216 sq in
Exhaust: 252 sq in > 216 sq in

*Assumes 1/16" mesh screens at 71% net free area

Attic Ventilation Required

Net Free Cross Ventilation Area = 1/150
Vent Area Required = 451.7 sf / 150 = 3.0 sf x 144 = 432 sq in
Intake Area Required = 432 sq in / 2 = 216 sq in
Exhaust Area Required = 432 sq in / 2 = 216 sq in

NFVA = 21 sq in
Qty = 11 vents
Vent Area Provided = 11 x 21 sq in = 231 sq in

NFVA = 336 sq in
Qty = 1 vent
Vent Area Provided = 1 x 336 sq in = 336 sq in

NFVA = 6 sq in
Qty = 42 vents
Vent Area Provided = 42 x 6 sq in = 252 sq in

Exhaust from Ridge Vents = 336 sq in
Exhaust from Vented Blocking = 252 sq in
252 sq in < 336 sq in
Total Exhaust = 252 sq in

Intake: 231 sq in > 216 sq in
Exhaust: 252 sq in > 216 sq in

*These ventilation calculations are only applicable when using the fire-resistant rated details included on Sheet A5.2. If not using fire-resistant rated details, refer to the standard attic ventilation calculations above

**Assumes specs for 57 in long eyebrow vents at 21 NFVA each

These plans are for use only in the City of Richmond, California. By using these standard plans (ADU Plans), the user agrees to release, indemnify, defend and hold harmless the City of Richmond, California, its elected officials, employees and consultants, including the architect, its officers, directors, employees, agents and subcontractors (collectively, City) from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury, damage, or economic losses, arising out of the use of the ADU Plans. The use of the ADU Plans does not eliminate or reduce the user's responsibility to verify any and all information.

One-Bedroom ADU

Bungalow Style

Richmond, California

Richmond, California

Submittals and Revisions

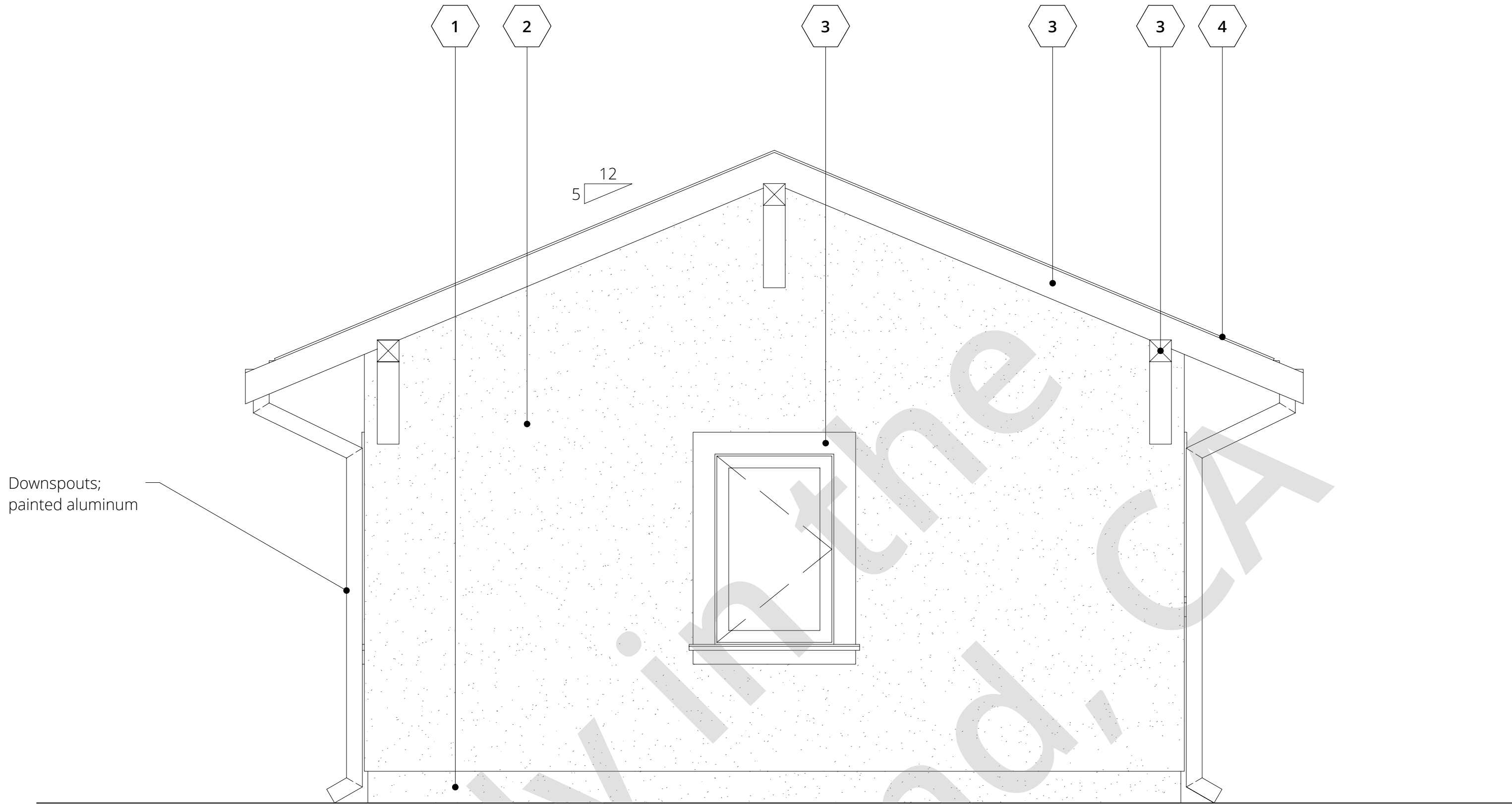
Master Permit Set

Roof Plan

A 1.3

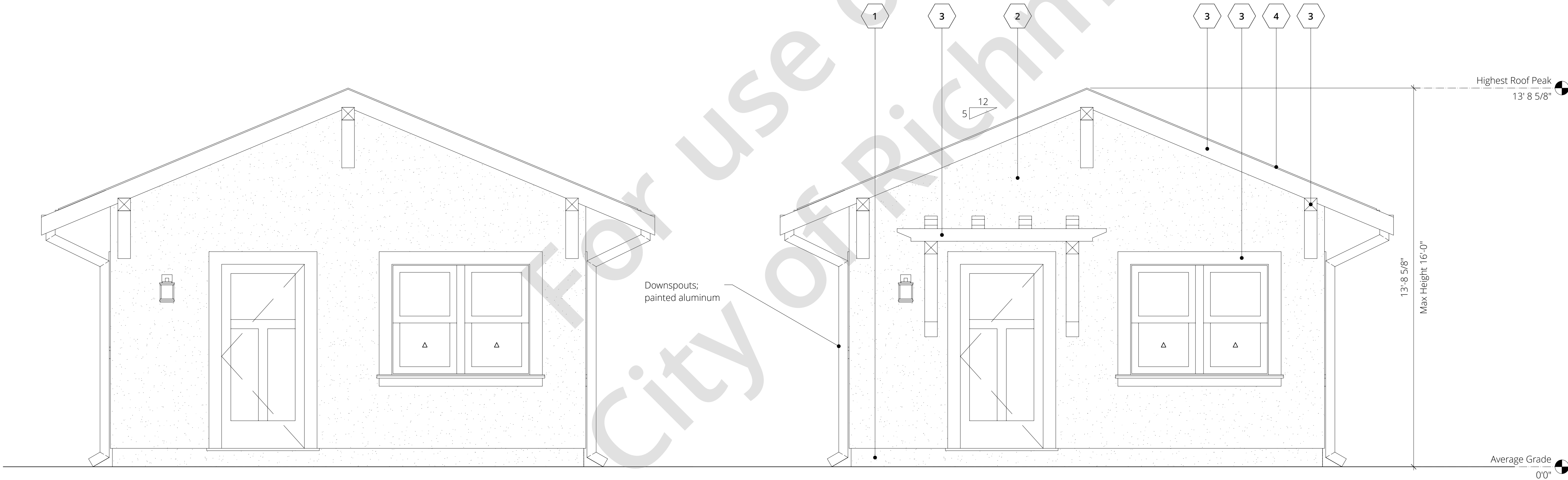
Material Schedule

	Material	Finish
1	Concrete	-
2	Stucco	Sand, Painted
3	Wood	Painted
4	Comp shingle	-



2 Rear Elevation

A 2.1 Scale: 1/2" = 1'-0"



3 Front Elevation without Overdoor*

A 2.1 Scale: 1/2" = 1'-0"

*Overdoor must be omitted if siting of the ADU does not leave sufficient space for the overdoor projection. The overdoor is not allowed if the FSD to the overdoor projection is < 2 feet. Overdoor may be omitted if siting of the ADU requires the overdoor to be fire-resistance rated. Refer to Sheet A1.1 Site Specific Note 2b and 2c for fire protection requirements at projections.

1 Front Elevation

A 2.1 Scale: 1/2" = 1'-0"

These plans are for use only in the City of Richmond, California, for the purpose of obtaining a permit for a single-family detached accessory dwelling unit (ADU) in a single-family detached house. The user agrees to release, defend, and hold harmless the City of Richmond, California, its elected officials, employees and consultants, including the City of Richmond, its elected officials, agents and subcontractors (collectively, City) from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury or death, arising out of the use of the ADU Plans. The use of the ADU Plans does not eliminate or reduce the user's responsibility to verify any and all information.

One-Bedroom ADU
Bungalow Style

Richmond, California

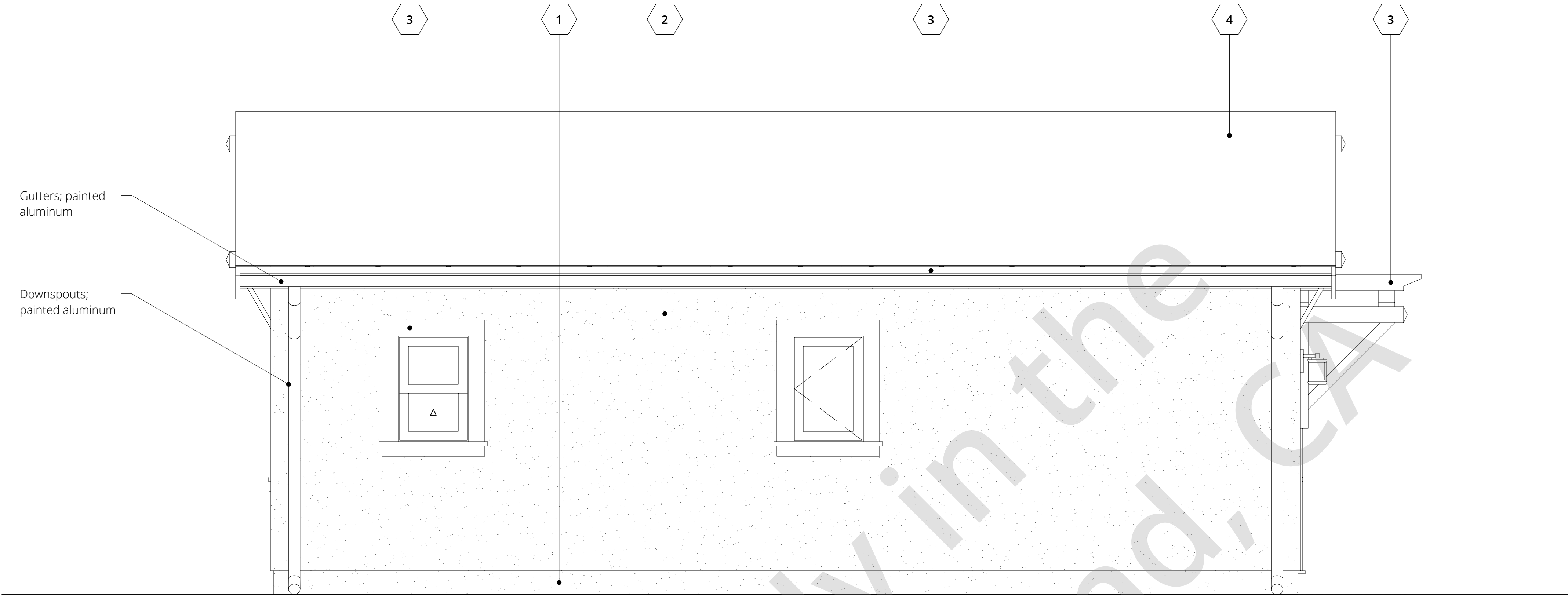
Submittals and Revisions

Master Permit Set

Elevations

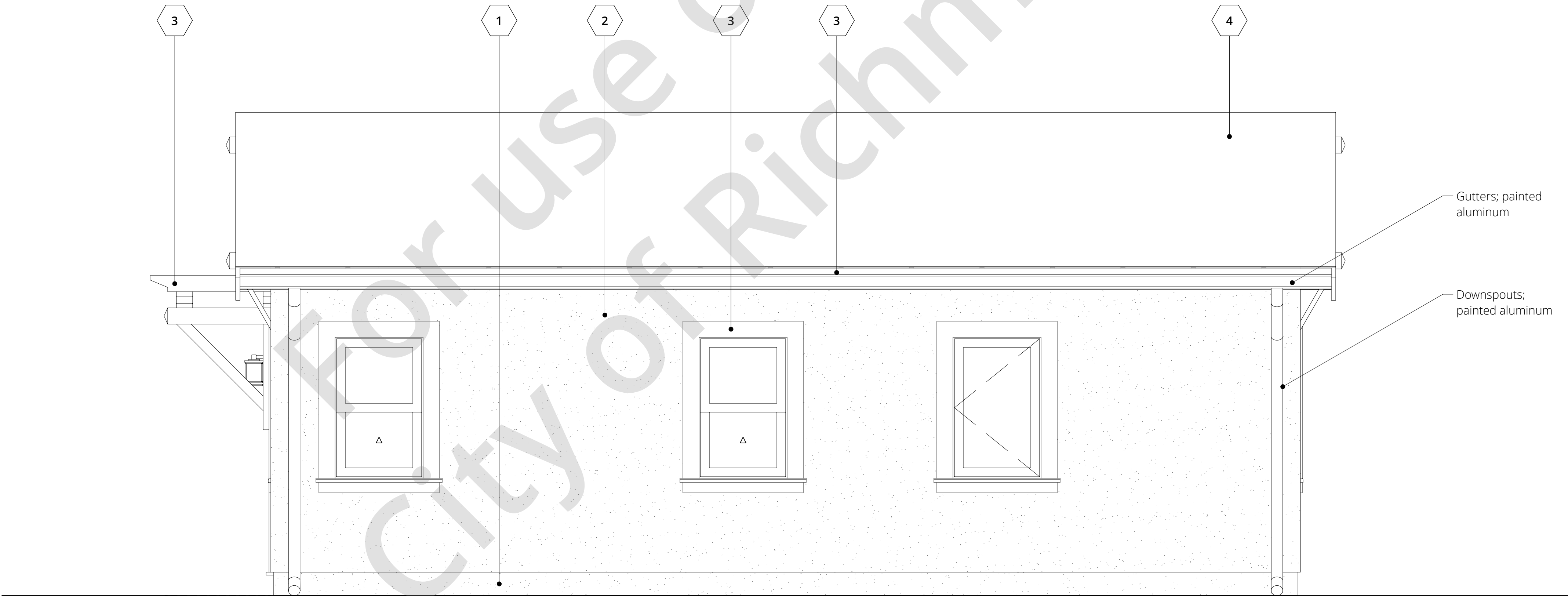
Material Schedule

	Material	Finish
1	Concrete	-
2	Stucco	Sand, Painted
3	Wood	Painted
4	Comp shingle	-



2 Left Elevation

A 2.2 Scale: 1/2" = 1'-0"



1 Right Elevation

A 2.2 Scale: 1/2" = 1'-0"

These plans are for use only in the City of Richmond for the purpose of obtaining a permit for a One-Bedroom ADU. The user agrees to release, defend, indemnify and hold harmless the City of Richmond, California, its elected officials, employees and consultants, including the City's attorneys, from and against any and all claims, liabilities, suits and demands on account of any injury, damage or loss to persons or property, including injury or death, arising out of the use of these plans for the ADU. The use of the ADU Plans does not eliminate or reduce the user's responsibility to verify any and all information.

One-Bedroom ADU
Bungalow Style

Richmond, California

Submittals and Revisions

Master Permit Set

Elevations

Section Key Notes

- 1

Wall Insulation: R-21
- 2

Ceiling Insulation: R-30
- 3

Stucco System: 7/8" cement plaster over type "D" building paper over sheathing (S.S.D.) over stud wall (S.S.D.)
- 4

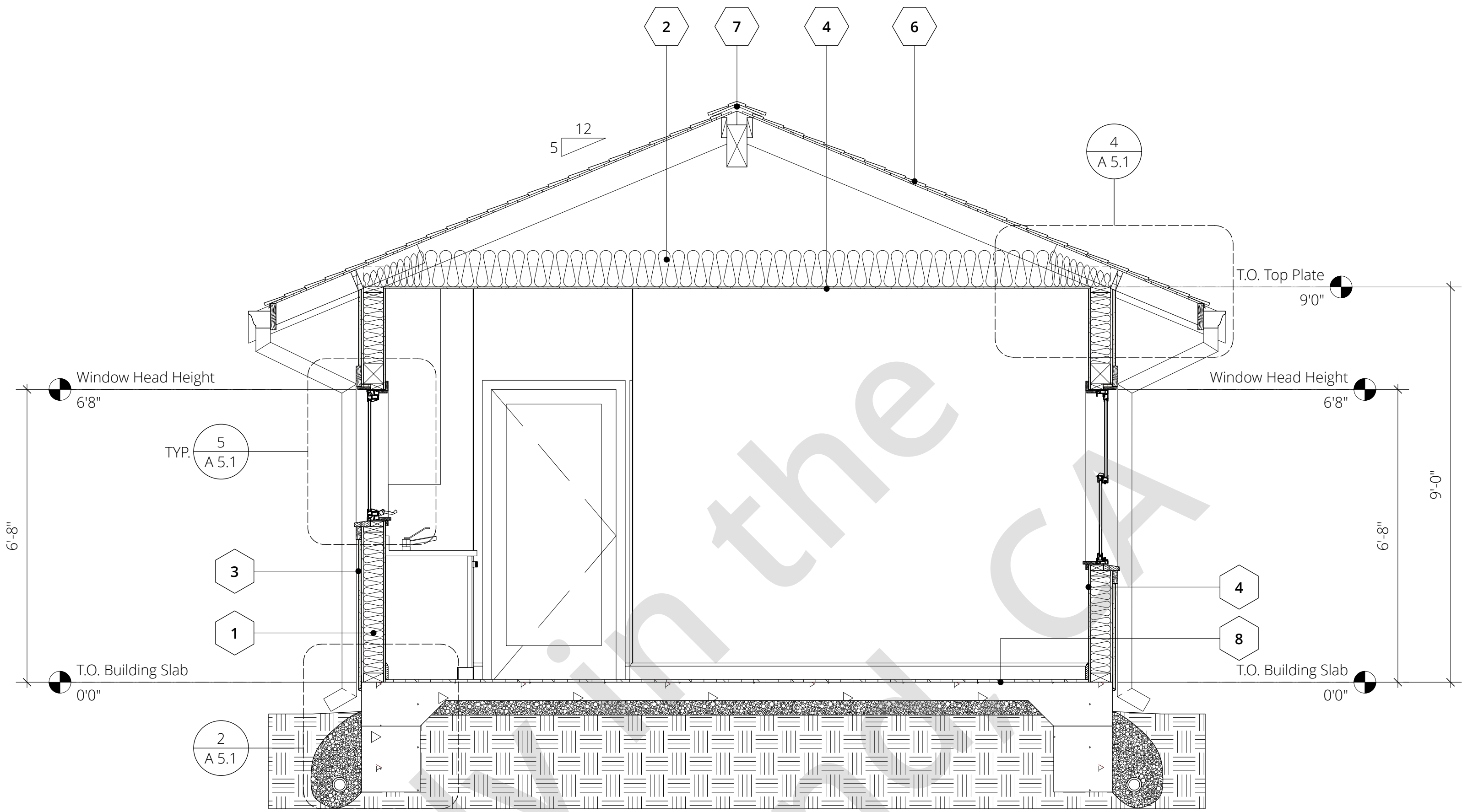
Interior Finish: 1/2" gypsum board
- 5

Interior Wall: 2 x 4 stud wall (S.S.D.)
- 6

Roofing System: Comp shingle over waterproofing membrane over sheathing over rafters with a radiant barrier (S.S.D.)
- 7

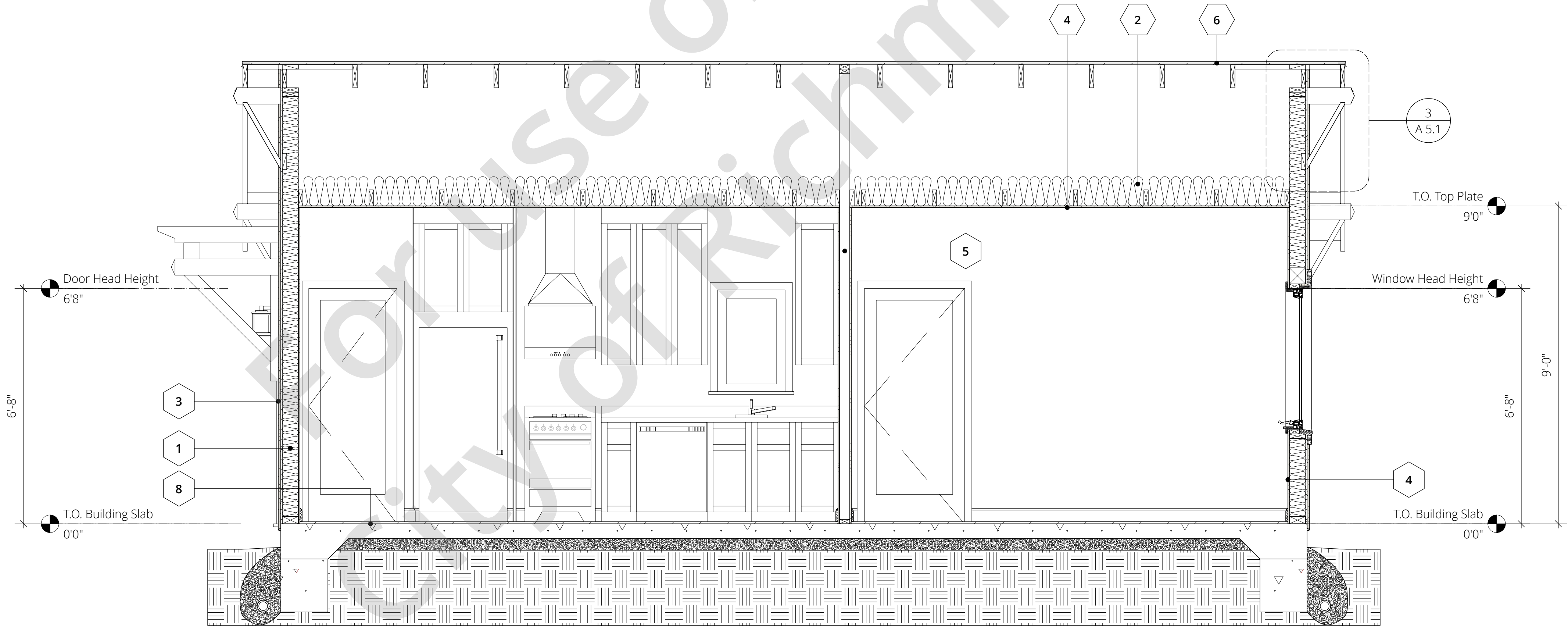
Rolled Ridge Vent
- 8

Floor System: Engineered LVL over concrete slab (S.S.D.) over vapor barrier over gravel base



2 Transverse Section

A 3.1 Scale: 1/2" = 1'-0"



1 Longitudinal Section

A 3.1 Scale: 1/2" = 1'-0"

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One-Bedroom ADU
Bungalow Style
Richmond, California

Submittals and Revisions

Master Permit Set

Sections

A 3.1

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One-Bedroom ADU Bungalow Style

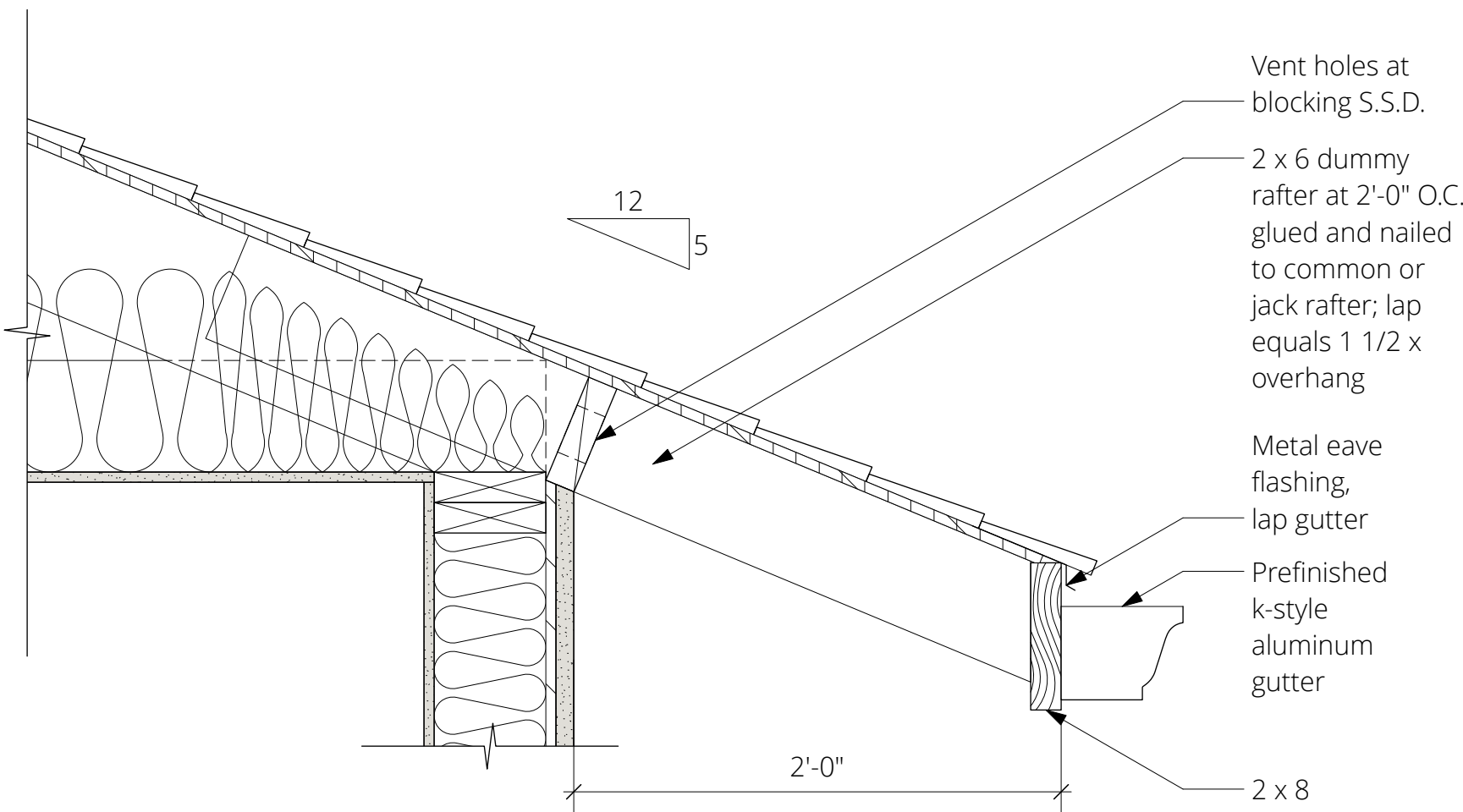
Richmond, California

Submittals and Revisions

Master Permit Set

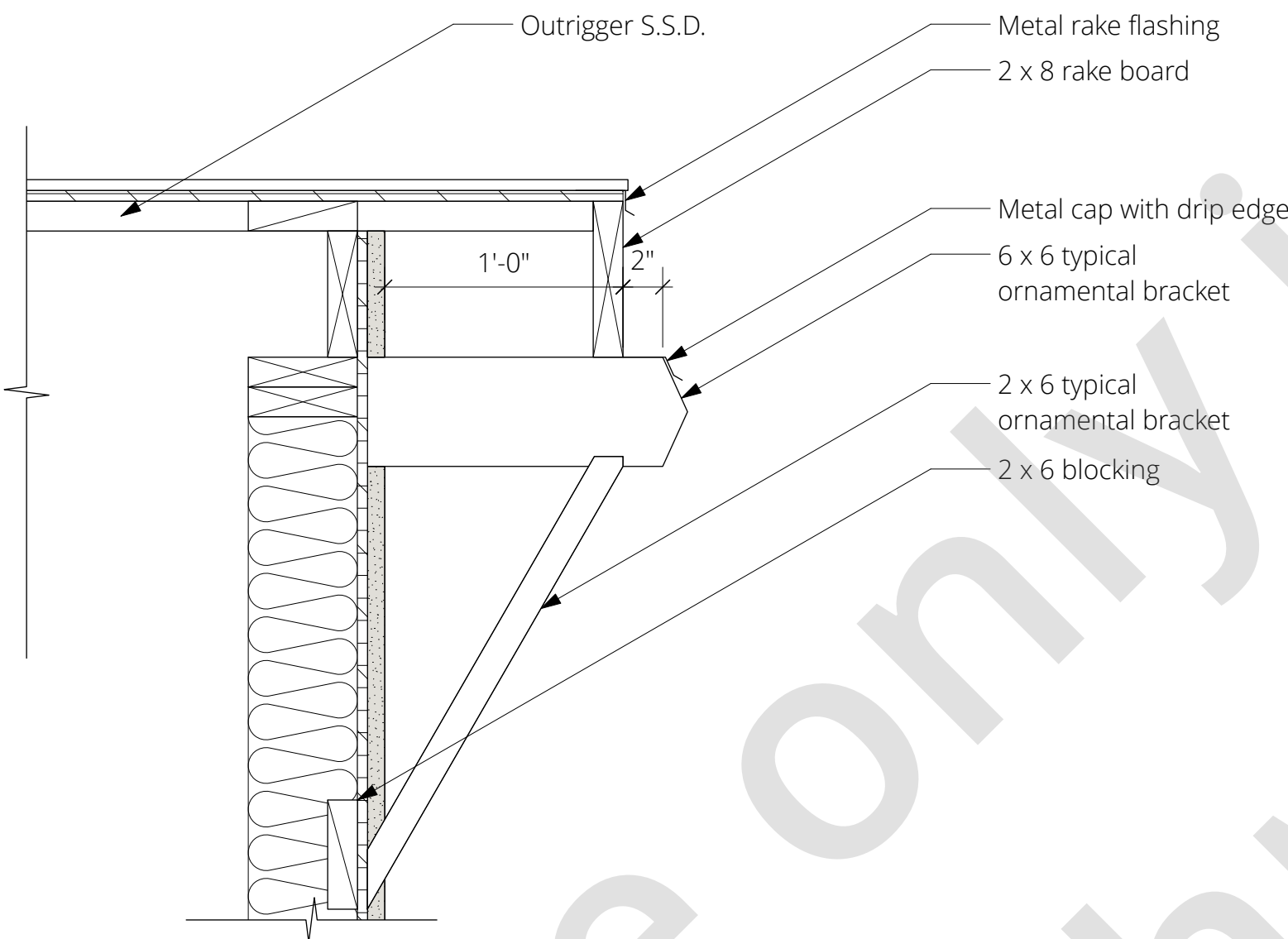
Details

A 5.1



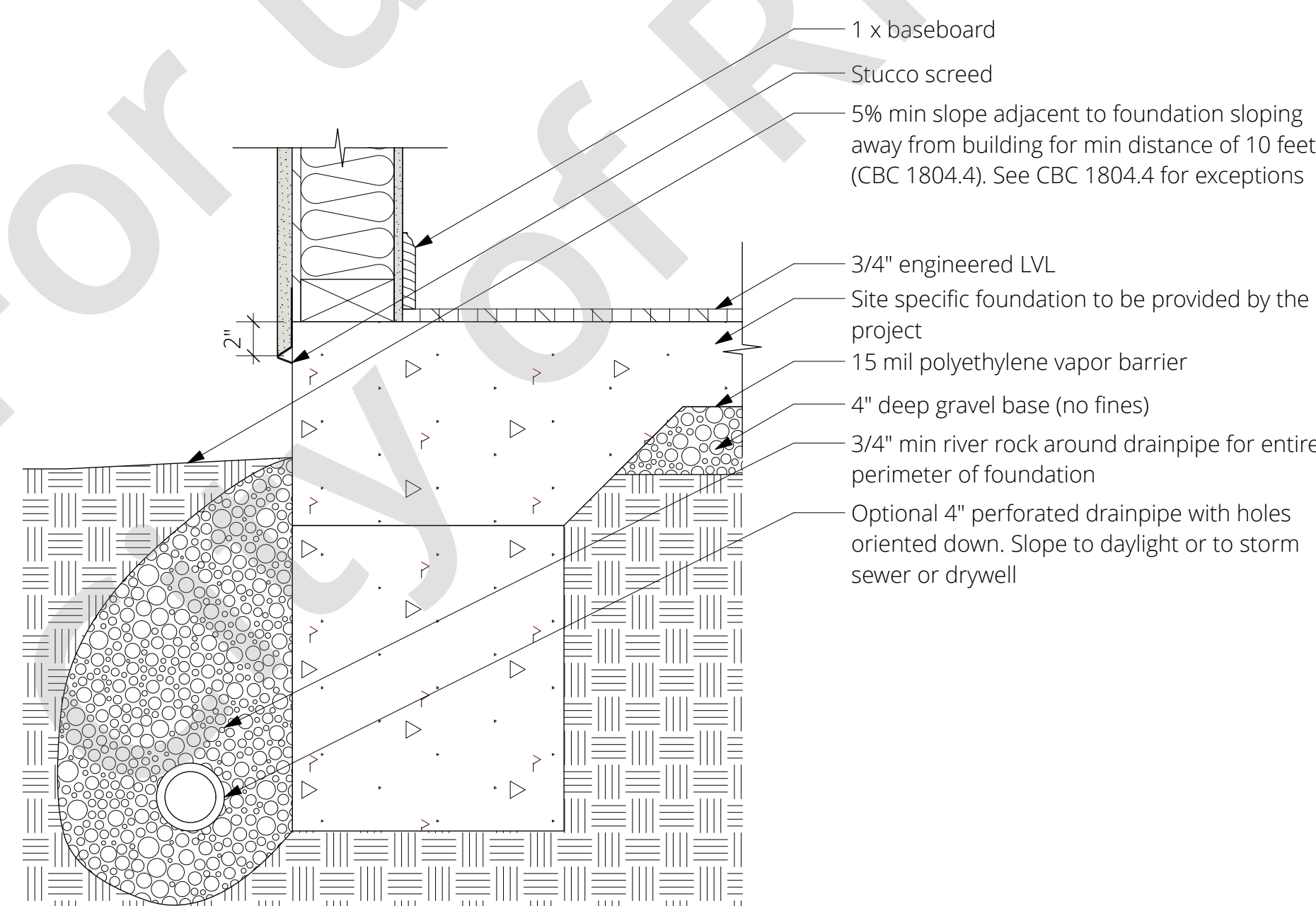
4 Typical Eave

A 5.1 Scale: 1-1/2" = 1'-0"



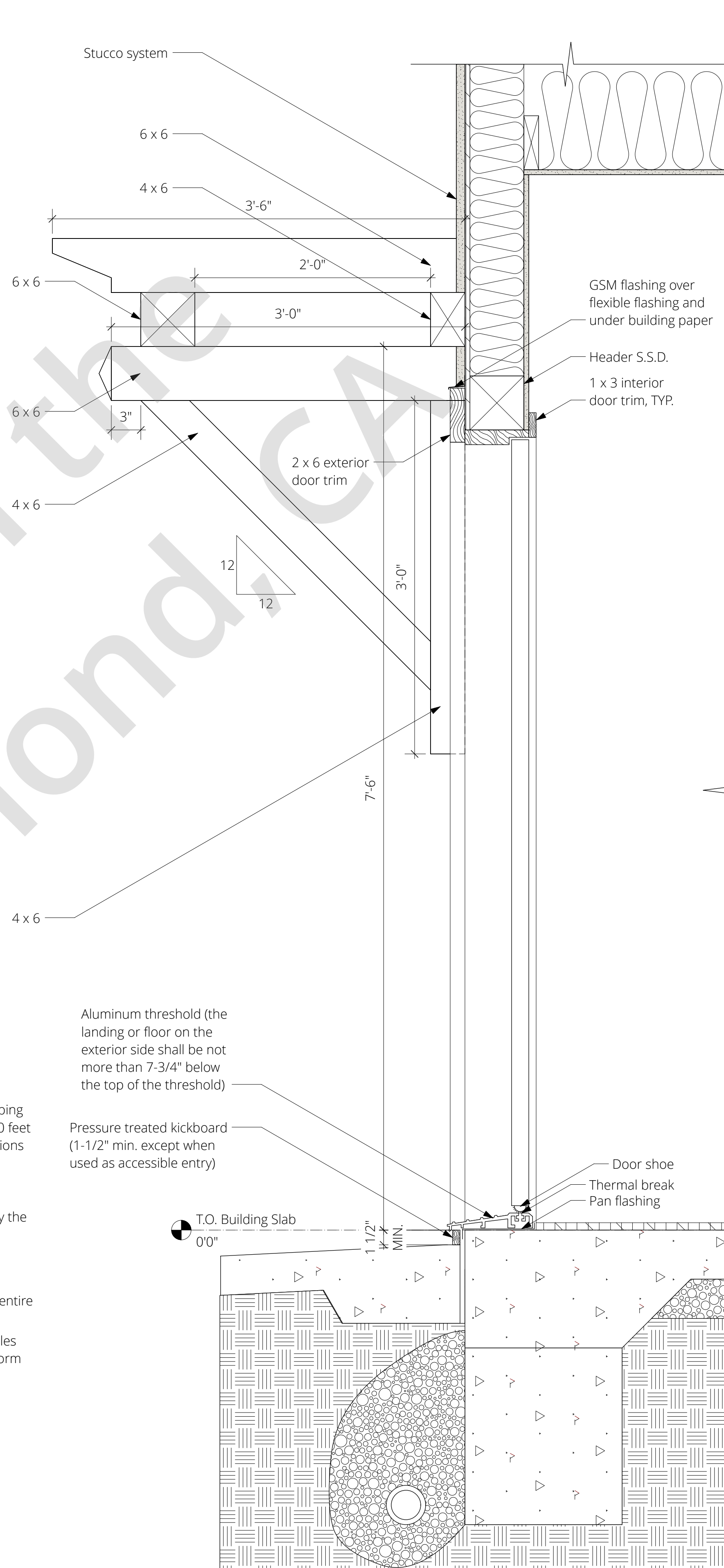
3 Typical Rake with Bracket

A 5.1 Scale: 1-1/2" = 1'-0"



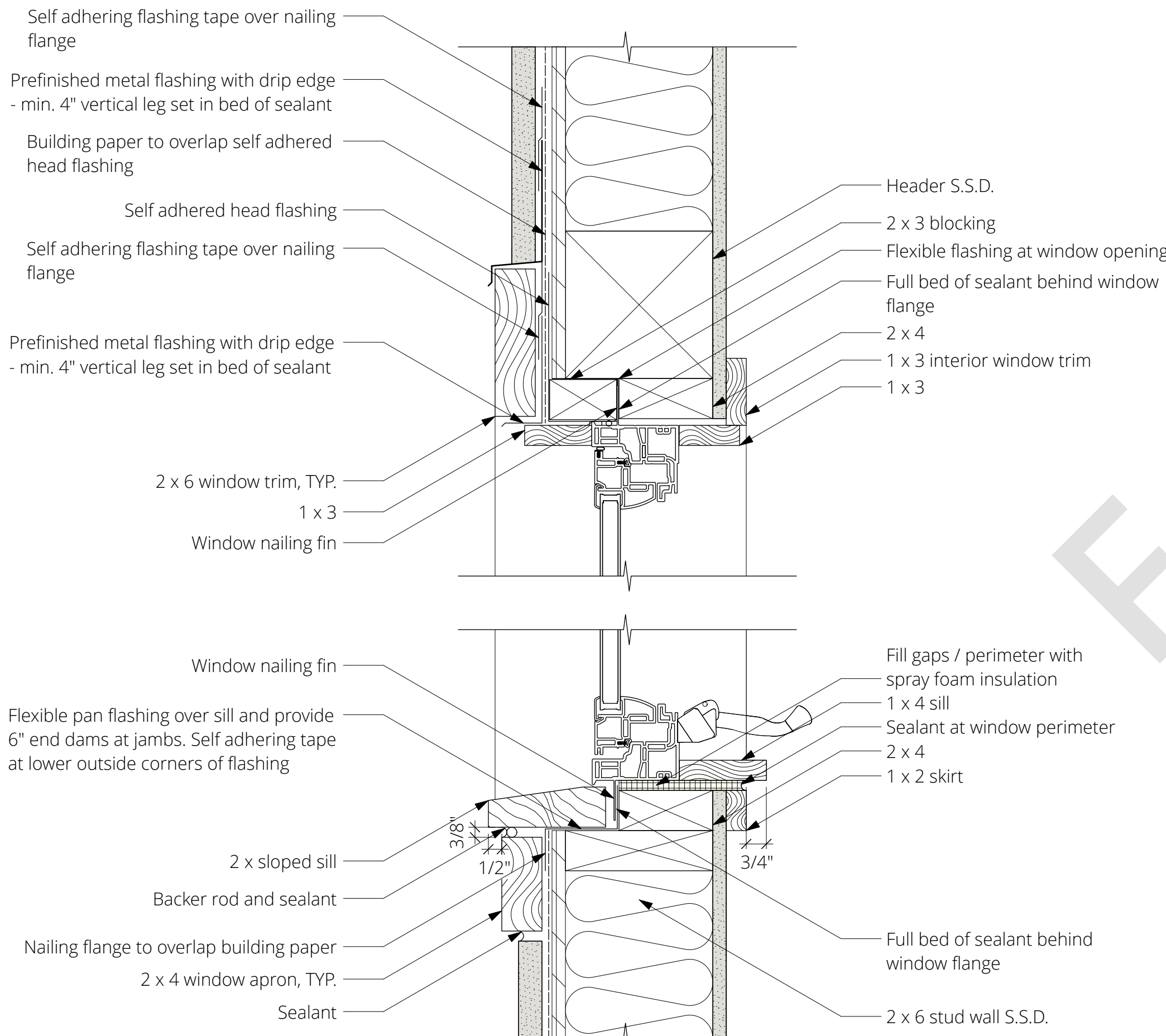
2 Typical Wall to Foundation

A 5.1 Scale: 1-1/2" = 1'-0"



1 Overdoor

A 5.1 Scale: 1-1/2" = 1'-0"

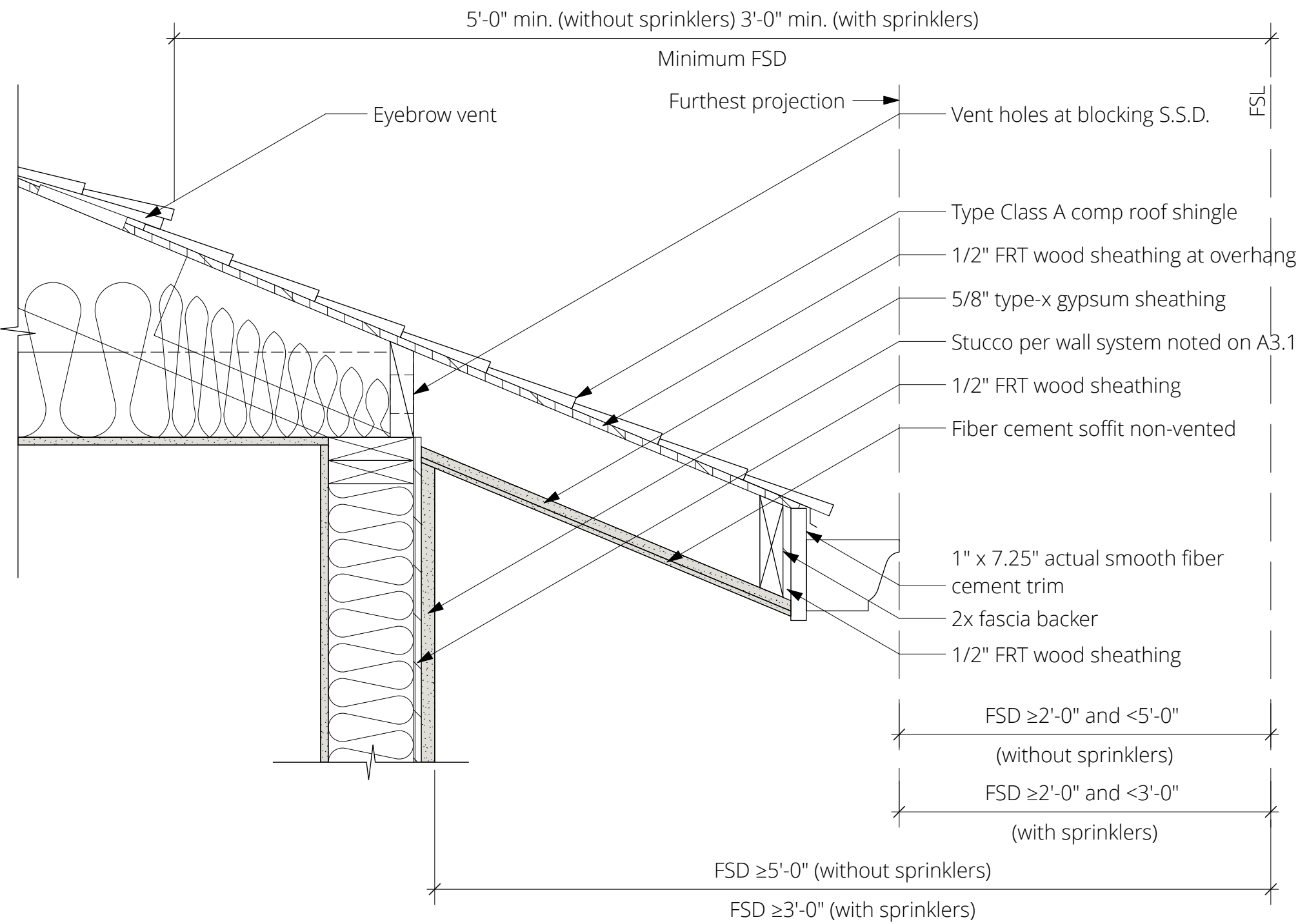


5 Typical Window Header and Sill

A 5.1 Scale: 3" = 1'-0"

General Notes

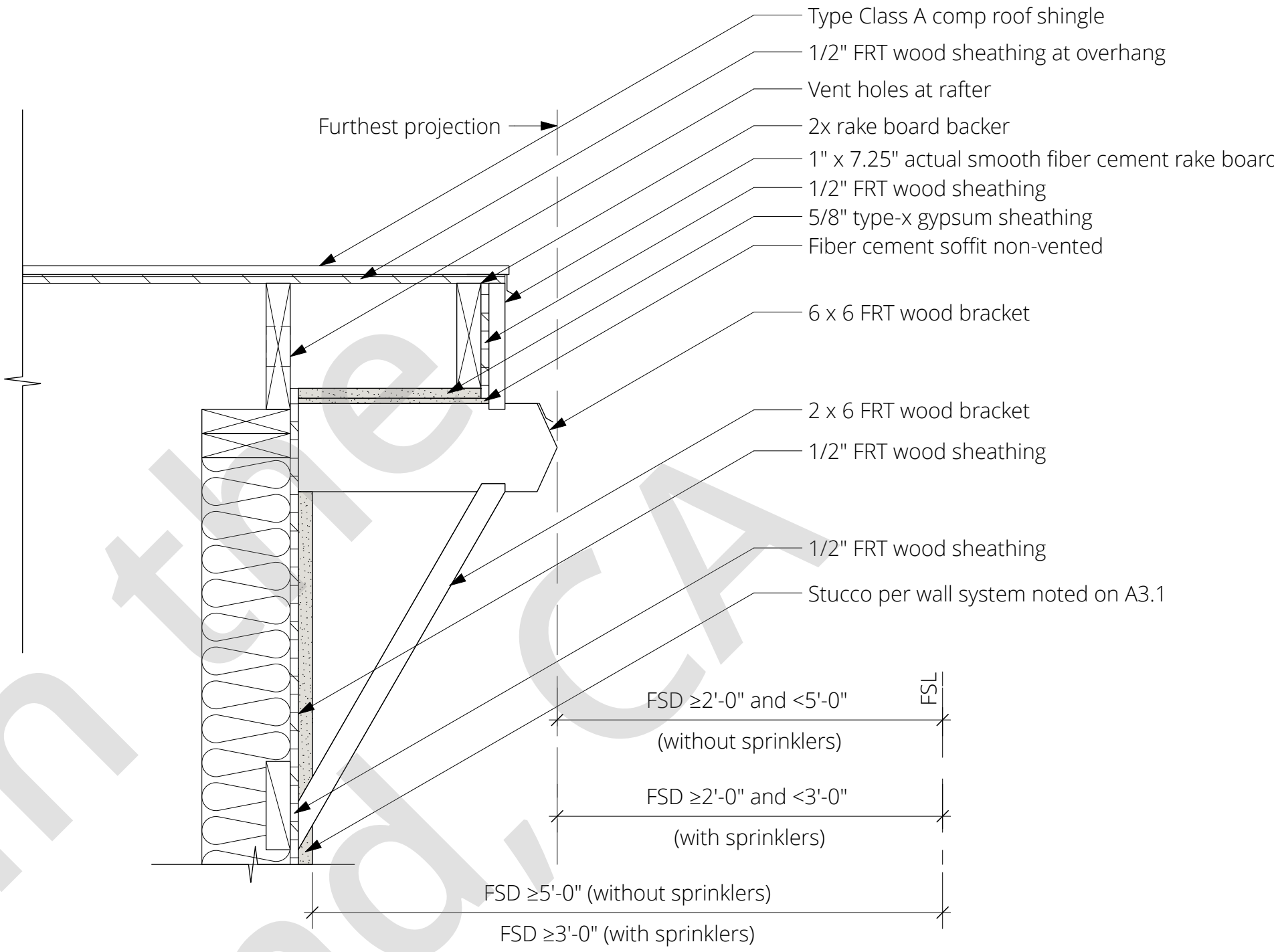
1. Fire-resistance rated details are supplemental to details from A5.1. When required, fire-rated elements should be included in addition to elements shown on details 3A5.1 and 4A5.1



4 One Hour Fire-Resistance Rated Eave*

A 5.2 Scale: 1-1/2" = 1'-0"

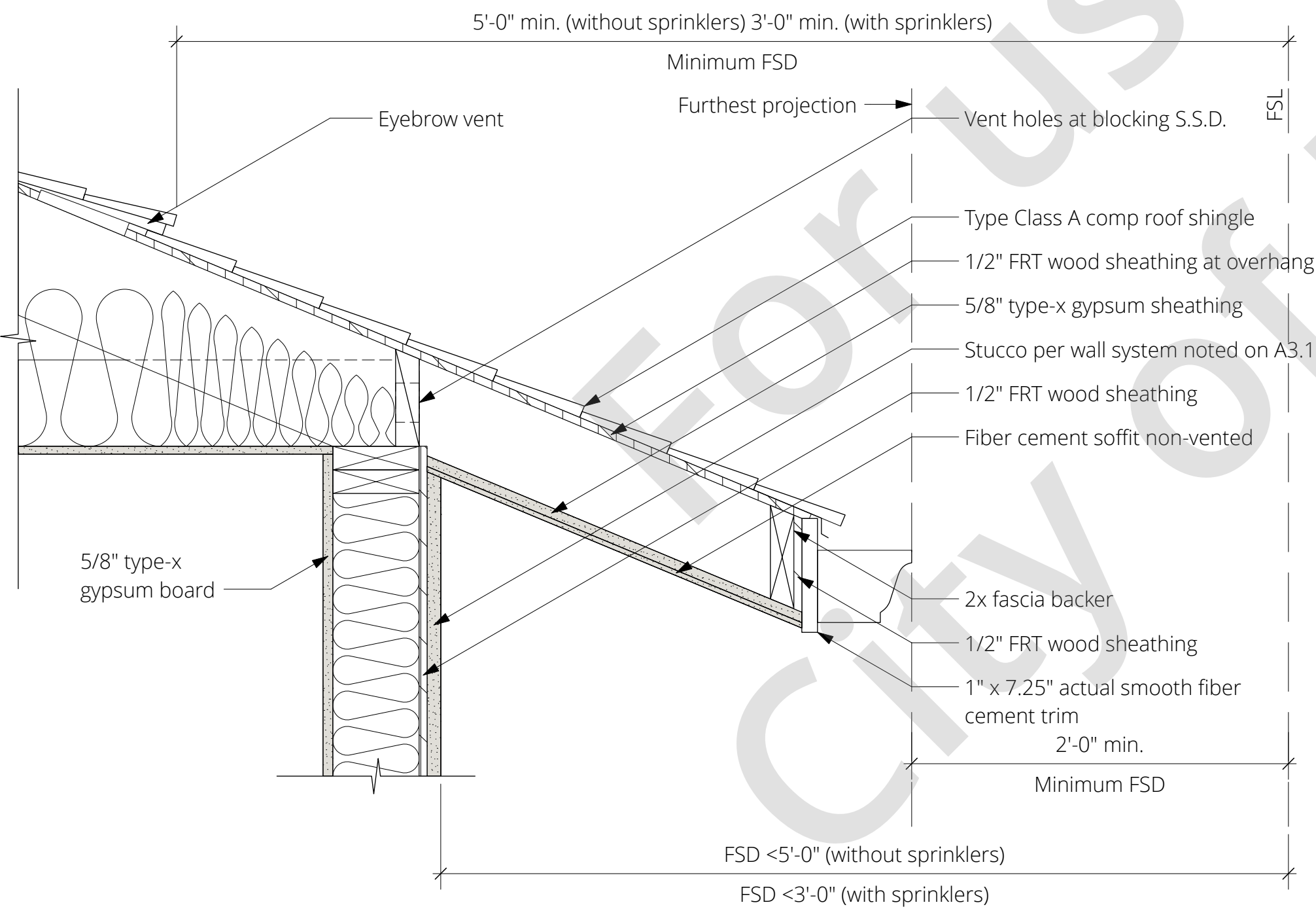
*Use fire-resistance rated detail when FSD measured from projections is ≥ 2 feet and < 5 feet, and FSD measured from walls is ≥ 5 feet (without sprinklers)
OR
when FSD measured from projections is ≥ 2 feet and < 3 feet, and FSD measured from walls is ≥ 3 feet (with sprinklers).
Projections are not allowed within 2 feet of fire separation line.
See Sheet A1.1 Site Specific Notes 1 and 2 for full description of fire protection at walls and projections.



2 One Hour Fire-Resistance Rated Rake*

A 5.2 Scale: 1-1/2" = 1'-0"

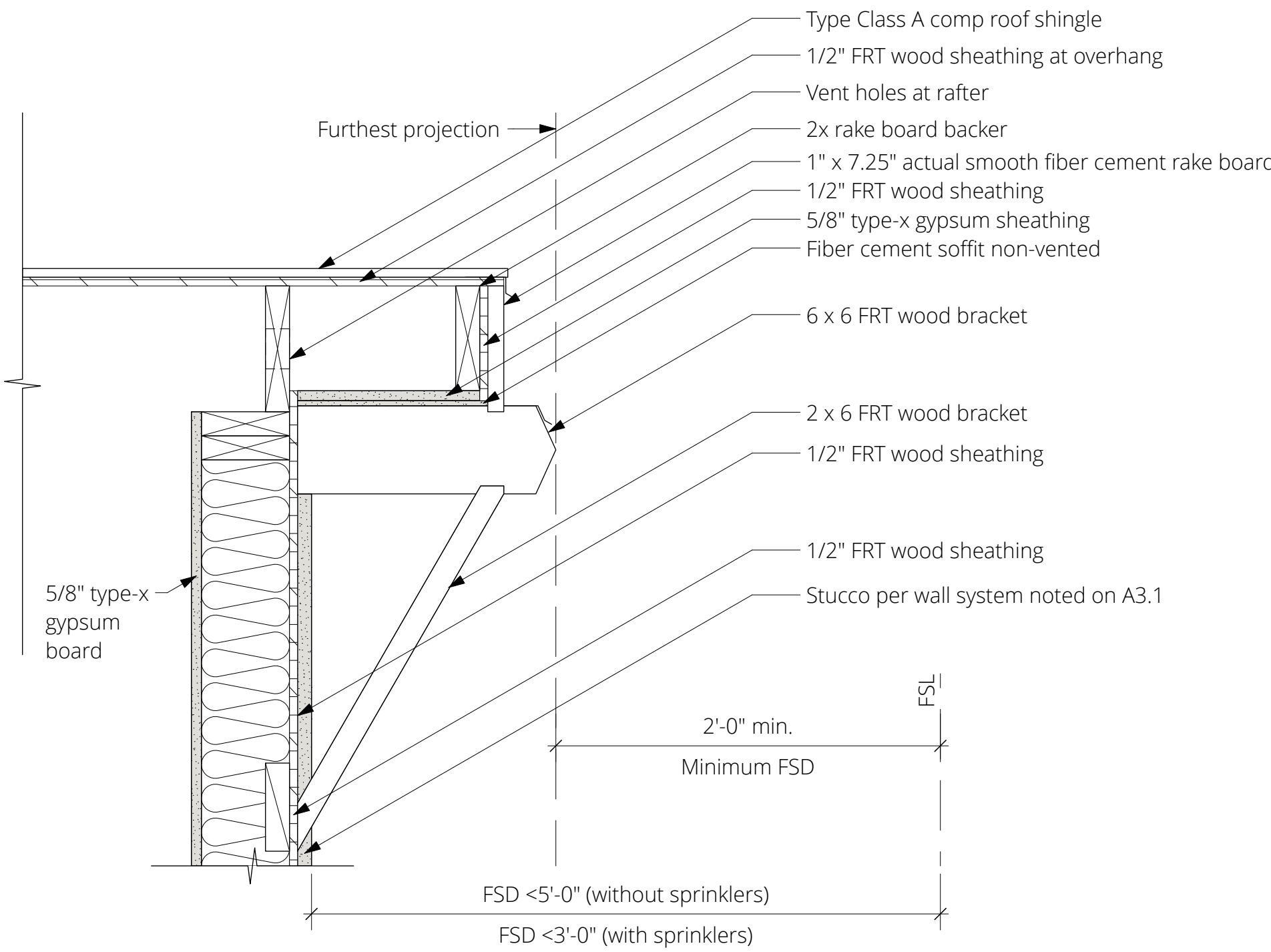
*Use fire-resistance rated detail when FSD measured from projections is ≥ 2 feet and < 5 feet, and FSD measured from walls is ≥ 5 feet (without sprinklers)
OR
when FSD measured from projections is ≥ 2 feet and < 3 feet, and FSD measured from walls is ≥ 3 feet (with sprinklers).
Projections are not allowed within 2 feet of fire separation line.
See Sheet A1.1 Site Specific Notes 1 and 2 for full description of fire protection at walls and projections.



3 One Hour Fire-Resistance Rated Wall and Eave*

A 5.2 Scale: 1-1/2" = 1'-0"

*Use fire-resistance rated detail when walls are within 5 feet of fire separation line (without sprinklers) or within 3 feet of fire separation line (with sprinklers). Projections are not allowed within 2 feet of fire separation line.
See Sheet A1.1 Site Specific Notes 1 and 2 for full description of fire protection at walls and projections.



1 One Hour Fire-Resistance Rated Wall and Rake*

A 5.2 Scale: 1-1/2" = 1'-0"

*Use fire-resistance rated detail when walls are within 5 feet of fire separation line (without sprinklers) or within 3 feet of fire separation line (with sprinklers). Projections are not allowed within 2 feet of fire separation line.
See Sheet A1.1 Site Specific Notes 1 and 2 for full description of fire protection at walls and projections.

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One-Bedroom ADU
Bungalow Style

Richmond, California

Submittals and Revisions

Master Permit Set

Fire-Resistance Rated
Details

A 5.2

GENERAL STRUCTURAL NOTES

GENERAL NOTES

1.

THE INTENT OF THESE DRAWINGS IS TO SHOW ALL ITEMS NECESSARY TO COMPLETE THE STRUCTURE. FOR ITEMS, METHODS AND/OR MATERIALS NOT SHOWN, THE MINIMUM REQUIREMENTS OF THE 2022 CBC SHALL GOVERN. ALL WORK AND CONSTRUCTION SHALL COMPLY WITH ALL OTHER APPLICABLE BUILDING CODES, SOIL REPORTS, REGULATIONS AND SAFETY REQUIREMENTS.
2.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE CALLED FOR OR SHOWN.
3.

THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. IT SHALL BE THE CONTRACTORS SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, TEMPORARY BRACING AND FORMWORK, ETC., AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY. DURING THE CONSTRUCTION OF THIS BUILDING SHORING AND BRACING SHALL REMAIN IN PLACE UNTIL FLOORS, ROOF AND WALL SHEATHING HAVE BEEN ENTIRELY CONSTRUCTED. SHORING DRAWINGS AND CALCULATIONS SHALL BE SEALED BY REGISTERED ENGINEER AND SUBMITTED TO ARCHITECT AND OR ENGINEER FOR REVIEW. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT, ENGINEER OR CONSTRUCTION MANAGER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.
4.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS BEFORE PREPARING SHOP DRAWINGS, FABRICATION OR CONSTRUCTION. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATIONS OF PIPES, SLEEVES, PITS, VENTS, DUCTS, ETC. AND DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
5.

ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT OR ENGINEER.
6.

SEE DRAWINGS OTHER THAN STRUCTURAL FOR: TYPES OF FLOOR FINISH AND THEIR LOCATION, FOR DEPRESSIONS IN FLOOR SLABS, FOR OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MECHANICAL FEATURES, FOR ROADWAY PAVING, WALKS, RAMPS, STAIRS, CURBS, ETC.
7.

CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
8.

HOLES AND OPENINGS THROUGH WALLS AND FLOORS FOR DUCTS, PIPING AND VENTILATION SHALL BE COORDINATED BY THE CONTRACTOR WHO SHALL VERIFY SIZES AND LOCATION OF SUCH HOLES OR OPENINGS WITH THE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS AND THEIR SUB-CONTRACTORS.
9.

NO PIPES OR DUCTS SHALL BE EMBEDDED IN WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER.
10.

OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
11.

DO NOT USE SCALED DIMENSIONS; USE WRITTEN DIMENSIONS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT AND ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

DESIGN BASIS

APPLICABLE CODE:	2022 CALIFORNIA BUILDING CODE (CBC) WITH ADOPTION OF THE INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION.	
VERTICAL DEAD LOAD:	ROOF	19 psf
VERTICAL LIVE LOAD:	ROOF	VARIES, 20 psf MAX.
RAIN INTENSITY:	2022 CBC W/ ASCE 07-16 (CHAPTER 8): RAIN INTENSITY: NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA	
		i = 1.13 in/hr
WIND DESIGN:	ENVELOPE PROCEDURE, PART2-ASCE 07-16 (SECTION 28.5)	
	BASIC WIND SPEED	95 mph
	EXPOSURE	C
	IMPORTANCE FACTOR	1.0
	RISK CATEGORY	II
	HILL SHAPE	NO TOPOGRAPHIC OBSTRUCTIONS
	MEAN ROOF HEIGHT	11.35 ft
	NET DESIGN WIND PRESSURE P _s	30 psf
SEISMIC DESIGN:	2022 CBC W/ ASCE 07-16 REQUIREMENTS	
	SEISMIC DESIGN CATEGORY:	(SECTION 12.5) E
	SOIL SITE CLASS	(ASSUMED) D
	RISK CATEGORY	(TABLE 1.5-1) II
	LIGHT FRAMED WOOD SYSTEM:	
	RESPONSE MODIFICATION COEFFICIENT	(TABLE 12.2-1) R = 6.5
	SYSTEM OVERSTRENGTH FACTOR	(TABLE 12.2-1) Q _o = 2.5
	DEFLECTION AMPLIFICATION FACTOR	(TABLE 12.2-1) Cd = 4
	IMPORTANCE FACTOR	(TABLE 1.5-2) Ie = 1.0
	MAPPED SPECTRAL RESPONSE ACCELERATION:	
	MAPPED MCE SPECTRA RESPONSE	(SECTION 11.4.1) S _s = 2.272g
	MAPPED MCE SPECTRA RESPONSE (ONE SECOND)	(SECTION 11.4.1) S ₁ = 0.877g
	SPECTRAL RESPONSE COEFFICIENTS:	
	DESIGN SPECTRAL ACCELERATION	(SECTION 11.4.3) S _{ds} = 1.818g
	DESIGN SPECTRAL ACCELERATION (ONE SECOND)	(SECTION 11.4.4) S _{d1} = 0.994g
	SOIL FACTOR COEFFICIENTS:	
	SITE COEFFICIENT, F _a	(SECTION 11.4-1) F _a = 1.2
	SITE COEFFICIENT, F _v	(SECTION 11.4-2) F _v = 1.7
	SEISMIC COEFFICIENT:	(ASD DESIGN) v = 0.280 W

WOOD

1.

ALL STRUCTURAL WOOD WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE 2022 CBC.
2.

ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR-LARCH OF THE GRADE INDICATED BELOW OR BETTER, UNLESS OTHERWISE NOTED ON PLANS. ALL WOOD WILL HAVE A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF USE AND SURFACE DRY-GREEN.

JOISTS AND RAFTERS	NO.2
POSTS, BEAMS AND HEADERS	NO.1
STUDS, BLOCKINGS, LIGHT FRAMING AND MISC.	NO.2
WALL PLATES	NO.2
WOOD SILL (P.T.)	NO.2
PRESSURE TREATED (P.T.) JOIST, BEAMS AND POSTS	NO.2

3.

ENGINEERED LUMBERS SHALL BE MANUFACTURED BY I LEVEL WEYERHAEUSER OR BOISE CASCADE EQUIVALENT APPROVED ICC MANUFACTURED PRODUCT.

WEYERHAEUSER:	
LVL MICRO-LAMS	2.2E
LSL TIMBER STRAND	1.55E
PSL PARALLEL STRAND LUMBER (BEAMS)	2.2E
PSL PARALLEL STRAND LUMBER (POSTS)	1.8E
I JOIST PER PLAN	U.O.N.
BOISE CASCADE:	
VERSA-LAM 2400	1.7E
VERSA-LAM 2650	1.7E
VERSA-LAM 2800	2.0E
VERSA-LAM 3100	2.0E
BCI PER PLAN	U.O.N.

4.

PLYWOOD SHEATHING OR OSB SHEATHING:

ROOF	15/32" INCH APA RATED 24/0 EXPOSURE 1, (4 PLY MIN.) S.A.D. WHEN RADIANT BARRIER SHEATHINGS REQUIRED.
WALL	1/2 INCH APA STRUCT 1, INTERIOR WITH EXTERIOR GLUE. (4 PLY MIN.)

5.

PRESSURE TREATED LUMBER:

A.

PRESSURE TREATED D.F. SHALL BE AWPA STAMPED. AMMONIACAL COPPER QUAT (ACQ), COPPER BORON AZOLE (CBA), OR BORATE TREATED AWPA STANDARD U1, MINIMUM 0.40 INCH, PENETRATION INCISED.

B.

ALL PRESERVATIVE TREATED LUMBER SHALL BE FIELD-APPLIED WITH PRESERVATIVE WHERE CUT AND DRILLED ON SITE WITH COPPER NAPHTHENATE (2% COPPER AS METAL).

C.

USE HOT DIPPED GALVANIZED HARDWARE PER ASTM A153 OR STAINLESS STEEL OR SILICON BRONZ OR COPPER MATERIAL, IE. BOLTS, NAIL, ETC. FOR ALL ATTACHMENT TO ACQ OR CBA TREATED MEMBERS. (CBC 2304.10.5)
6.

ALL NAILS SHALL BE COMMON STEEL WIRE NAILS SIZED AND SPACED AS SPECIFIED ON THE DRAWINGS, SCHEDULES AND IN TABLE 2304.10.2 OF THE CALIFORNIA BUILDING CODE. FASTENERS FOR P.T. WOOD SHALL BE HOT-DIPPED GALVANIZED. (CBC 2304.10.6.1)
7.

ROUGH HARDWARE WHERE EXPOSED SHALL BE GALVANIZED AND CONFORM TO THE FOLLOWING:

BOLTS	ASTM 307
PLATE HARDWARE	SIMPSON OR EQUIVALENT
HANGERS	SIMPSON OR EQUIVALENT
OTHER ACCESSORIES	SIMPSON OR EQUIVALENT

FOR SIZE AND SPACING SEE PLANS.

8.

PENETRATIONS IN WOOD SILLS OR PLATES OF BEARING OR SHEAR WALLS SHALL BE PLACED IN THE CENTER AND SHALL BE NO GREATER IN DIAMETER THAN 1/3 THE WIDTH OF THE LUMBER. HOLES LARGER THAN THOSE NOTED ABOVE MAY BE BORED "ONLY" IF PLATES ARE CONSIDERED CUT AND ADEQUATE REINFORCEMENT IS PROVIDED.
9.

CUTTING, BORING, OR NOTCHING OF GIRDERS, BEAMS, JOISTS AND OTHER STRUCTURAL ELEMENTS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER UNLESS SPECIFICALLY DETAILED ON THESE DOCUMENTS.
10.

HOLES FOR BOLTS IN WOOD SHALL BE DRILLED A MAXIMUM OF 1/16" LARGER THAN BOLT DIAMETER. METAL WASHERS SHALL BE PROVIDED FOR ALL HEAD AND NUTS OF BOLTS AND LAG SCREWS THAT BEAR ON WOOD. CUTS AND HOLES IN P.T. LUMBER SHALL BE SEALED AND TREATED.
11.

ALL BOLTS AND SCREWS SHALL BE TIGHTENED AT THE TIME OF ERECTION AND RETIGHTENED BEFORE COMPLETION OF WORK OR INSTALLATIONS THAT WOULD MAKE THE BOLTS INACCESSIBLE.
12.

USE DOUBLE FLOOR JOISTS AT NON-BEARING PARTITIONS WHEN PARALLEL TO FLOOR FRAMING. USE BLOCKING AT 4'-0" O.C. WHEN PERPENDICULAR TO FLOOR JOISTS.
13.

PROVIDE 2x SOLID BLOCKING BETWEEN JOISTS OR RAFTERS OVER ALL SUPPORTS.
14.

ALL WOOD MEMBERS IN CONTACT WITH CONCRETE, GROUT OR MASONRY SHALL BE PRESSURE-TREATED.
15.

LIGHT GAUGE FRAMING HARDWARE AND HOLDOWN HARDWARE SHALL BE SIMPSON STRONG-TIE IN ACCORDANCE WITH CATALOGUE C-C-2021. SIMILAR PRODUCTS WITH ICC VALUES EXCEEDING THOSE PUBLISHED FOR SIMPSON STRONG-TIE (ESR-2551, ESR-2552, AND ESR-2553) MAY BE CONSIDERED AS SUBSTITUTION. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER ON RECORD FOR APPROVAL 10 WORKING DAY PRIOR TO INSTALLATION.
16.

PROVIDE FULL-DEPTH SOLID BLOCKING OR OTHER MEANS OF LATERAL SUPPORT AT ENDS OF BEARING POINTS OF ALL JOISTS, RAFTERS, BEAMS AND HEADERS, AND AT INTERMEDIATE INTERVALS NOT TO EXCEED 8'-0" .
17.

LAG SCREWS PER ANSI/ ASME STANDARD B18.2.1 PROVIDE LEAD HOLE SAME DIAMETER AND DEPTH AS SHANK AND THEN DRILL HOLE 60% -70% OF SHANK DIAMETER FOR THREADED PORTIONS.

STRUCTURAL SHEET INDEX

S1.0	STRUCTURAL TITLE SHEET
S1.1	GENERAL STRUCTURAL NOTES
S2.1	HOLD DOWN PLAN
S2.2	ROOF FRAMING PLAN
S8.1	WOOD DETAILS
S8.2	WOOD DETAILS
S8.3	WOOD DETAILS

SCOPE OF WORK

THE SCOPE OF WORK IS THE DESIGN OF A ONE STORY - ONE BEDROOM SINGLE FAMILY ADU STRUCTURE FOR THE CITY OF RICHMOND, CALIFORNIA. THE ADU IS DESIGNED TO BE UTILIZED WITHIN THE BOUNDARIES OF THE CITY OF RICHMOND AND SHALL NOT BE UTILIZED OUTSIDE OF THE CITY AREA.

THE PLAN SET DOES NOT INCLUDE A FOUNDATION SYSTEM. SITE SPECIFIC FOUNDATION DETAILS ARE REQUIRED FOR ADUS IN THE CITY OF RICHMOND. THE APPLICANT MUST HIRE A GENERAL CONTRACTOR OR STRUCTURAL ENGINEER TO PREPARE SITE SPECIFIC FOUNDATION DETAILS AND INCLUDE FOUNDATION DETAILS WITH THE APPLICATION FOR APPROVAL BY THE CITY OF RICHMOND. NOTE THIS INCLUDES DETAILS AND DESIGN FOR THE HOLD DOWN ANCHORAGE AND BEARING POSTS NOTED ON THE S2.1 PLAN.

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One-Bedroom ADU
Bungalow Style

Richmond, California

ABBREVIATIONS

& @ A.B. A.O.R. ARCH.	AND AT ANCHOR BOLT ARCHITECT OF RECORD ARCHITECTURAL	J.H. K.D.D.F. LONG. L.V.F.	JOIST HANGER KILN DRIED DOUGLAS FIR LONGITUDINAL LOW-VELOCITY FASTENER
B.F.E. BLDG. BLK'G. BM. B.N. B.O.C. BOT. BTW.	BASE FLOOD ELEVATION BUILDING BLOCKING BEAM BOUNDARY NAIL BOTTOM OF CONCRETE BOTTOM BETWEEN	MAX. M.B. MIN. (N) N/A N.S. NTS.	MAXIMUM MACHINE BOLTS (UNFINISHED) MINIMUM NEW NOT APPLICABLE NEAR SIDE NOT TO SCALE
C.L. C.B. C.G.S.	CENTER LINE CEILING BEAM CENTER OF GRAVITY OF POST-TENSIONING STRAND	O/ O.C. OPP.	OVER ON CENTER OPPOSITE
C.J. CLR. COL. CONC. CONT.	CONTROL JOINT CLEAR COVER COLUMN CONCRETE CONTINUOUS	P.L. P.A.D. PLY. P.T. P/T R.C.J.	PLATE POWER ACTUATED DEVICE PLYWOOD PRESSURE TREATED POST TENSIONING ROUGHENED CONSTRUCTION JOINT
DBL DBO DET. D.C. D.F. DWG.	DOUBLE DRAWING BY OTHER DETAIL DEMAND CRITICAL DOUGLAS FIR DRAWING	REINF. REQ'D. RTU S.A.D. S.C.D.	REINFORCEMENT REQUIRED ROOF TOP UNIT SEE ARCHITECTURAL DRAWINGS SEE CIVIL DRAWINGS
(E) EA. EL. E.N. E.O.R. E.Q. E.S. E.W. EXT.	EXISTING EACH ELEVATION EDGE NAIL ENGINEER OF RECORD EQUAL EDGE SCREW EACH WAY EXTERIOR	SCHED. S.D.B.O. SIM. S.J. S.L.R.S. S.L.D. S.M.D. S.W.	SCHEDULE SEE DRAWINGS BY OTHERS SIMILAR SEISMIC JOINT SEISMIC LOAD RESISTING SYSYEM SEE LANDSCAPE DRAWINGS SEE MECHANICAL DRAWINGS SHEAR WALL
FDN. FIN. FL. F.O.C. F.O.S. F.S. FTG.	FOUNDATION FINISH FLOOR FACE OF CONCRETE FACE OF STUD T&G TONGUE AND GROOVE TIE DOWN	SPEC. SQ. SYM. T&B T&G T.D. T.O.C. T.O.F. T.O.S. T.P. TRAN. TYP.	SPECIFICATION SQUARE SYMMETRICAL TOP AND BOTTOM TONGUE AND GROOVE TOP OF CONCRETE TOP OF FINISH TOP OF STEEL FRAMING TOP OF PLATE TRANSVERSE TYPICAL
G.E.T. G.T. GEO TECH. GLB.	GENERAL CONTRACTOR GIRDER COLLECTOR TRUSS GABLE END COLLECTOR TRUSS GABLE END TRUSS GIRDER TRUSS GEOTECHNICAL GLULAM BEAM	U.O.N. VERT. V.I.F.	UNLESS OTHERWISE NOTED VERTICAL VERIFY IN FIELD
H.D. HDR. HORIZ. HSS	HOLD DOWN HEADER HORIZONTAL HOLLOW STEEL SECTION	W/ W/O WF WPSL	WITH WITHOUT WIDE FLANGE WOLMANIZED PSL

Submittals and Revisions

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Master Permit Set

STRUCTURAL TITLE
SHEET

S 1.0

DESCRIPTION OF ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
ROOF		
1. Blocking between ceiling joists, rafters or trusses to top plate of other framing below	3-8d common (2 1/2"x0.131"); or 3-10d box (3"x0.128")	Each end, toenail
Blocking between rafters or truss not at the wall top plate, to rafter or truss	2-8d common (2 1/2"x0.131") 2-16d common (3 1/2"x0.162")	Each end, toenail End nail
Flat blocking to truss and web filler	16d common (3 1/2"x0.162")	Face nail
2. Ceiling joist to top plate	3-8d common (2 1/2"x0.131"); or 3-10d box (3"x0.128")	Each joist, toenail
3. Ceiling joist not attached to parallel rafter, laps over parititions (no thrust) (see Section 2308.7.3.1, Table 2308.7.3.1)	3-16d common (3 1/2"x0.162"); or 4-10d box (3"x0.128")	Face nail
5. Collar tie to rafter	3-10d common (3"x0.148"); or 4-10d box (3"x0.128")	Face nail
6. Rafter or roof truss to top plate (See Section 2308.7.5., Table 2308.7.5)	3-10d common (3"x0.148"); or 3-16d box (3 1/2"x0.135"); or 4-10d box (3"x0.128")	Toenail ¹
7. Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam	2-16d common (3 1/2"x0.162"); or 3-10d box (3"x0.128") 3-10d common (3 1/2"x0.148"); or 3-16d box (3 1/2"x0.135"); or 4-10d box (3"x0.128")	End nail Toenail
WALL		
8. Stud to stud (not at braced wall panels)	16d common (3 1/2"x0.162"); 10d box (3"x0.128")	24" o.c. face nail 16" o.c. face nail
9. Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common (3 1/2"x0.162"); or 16d box (3 1/2"x0.135"); or 4-10d box (3"x0.128")	16" o.c. face nail 12" o.c. face nail
11. Continuous header to stud	4-8d common (2 1/2"x0.131"); or 4-10d box (3"x0.128")	Toenail
12. Top plate to top plate	16d common (3 1/2"x0.162"); or 10d box (3"x0.128")	16" o.c. face nail 12" o.c. face nail
13. Top plate to top plate, at end joints	8-16d common (3 1/2"x0.162"); or 12-10d box (3"x0.128")	Each side of end joint, face nail (min. 24" lap splice length ea. side of end joint)
14. Bottom plate to joist, rim joist, band joist or blocking (not at all braced wall panels)	16d common (3 1/2"x0.162"); or 16d box (3 1/2"x0.135")	16" o.c. face nail 12" o.c. face nail
15. Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common (3 1/2"x0.162"); or 3-16d box (3 1/2"x0.135")	16" o.c. face nail
16. Stud to top or bottom plate	4-8d common (2 1/2"x0.131"); or 4-10d box (3"x0.128") 2-16d common (3 1/2"x0.162"); or 3-10d box (3"x0.128")	Toenail End nail
17. Top plates, laps at corners and intersections	2-16d common (3 1/2"x0.162"); or 3-10d box (3"x0.128")	Face nail

- NOTES:
- NAILING PER SCHEDULE ABOVE IS TO BE USED WHERE NAILING IS NOT SPECIFIED ON PLANS OR DETAILS. NAILING PER PLANS AND DETAILS SUPERCEDE NAILING SCHEDULE UNLESS APPROVED BY ENGINEER.
 - NAIL SPECIFIED ARE COMMON:

8d= 2 1/2"x0.131"

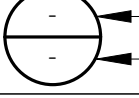
10d= 3"x0.148"

16d= 3 1/2"x0.162"

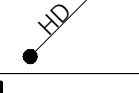
20d= 4"x0.192"
 - FOR ALTERNATE NAILING AND INFORMATION NOT SHOWN, SEE COMPLETE TABLE CBC 2304.10.1

SIMPSON DESIGNATION		
MEMBER	FACE MOUNT	TOP FLANGE
2x4	U24	HU24TF
2x6	U26	JB26
2x8	LU28	JB28
2x10	U210	JB210A
2x12	U210 HU46	JB212A
4x6	MAX.	W46
4x8	HU48 MAX.	B48
4x10	HU410 MAX.	B410
4x12	HU412 MAX.	HU412TF
6x6	U66	WNP66
6x8	HU68	WNP68
6x10	U610	B610
6x12	HU612	HU612TF
LVL 1 3/4x9 1/2	HU9 MAX	ITS1 81/9.5
LVL 1 3/4x11 7/8	HU11 MAX	MIT11.88
LVL 1 3/4x14	U14	LBV1 81/14
PSL 3 1/2	HGUS	GLTV
PSL 5 1/4	HGUS	GLTV
PSL 7	HGUS	HGLTV

- NOTES:
- INSTALL PER MANUFACTURER'S INSTRUCTIONS. FILL ALL HOLES WITH FASTENERS SPECIFIED.
 - USE SKEWED AND/OR SLOPED HANGERS AS REQUIRED.
 - HANGERS ARE TYPICAL U.O.N. IN DRAWINGS.
 - SCHEDULE ABOVE BASED ON SIMPSON STRONG TIE WOOD CONSTRUCTION CONNECTORS C-C-2021.



DETAIL NUMBER
SHEET NUMBER



HOLD DOWN



CONTINUOUS WOOD MEMBER IN SECTION



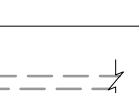
WOOD BLOCKING MEMBER IN SECTION



POST ABOVE FRAMING



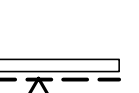
POST BELOW FRAMING



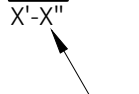
WALLS ABOVE FOR ANCHOR BOLT REQUIREMENTS SEE 8/S8.2



WALLS BELOW FLOOR/ ROOF FRAMING SEE 1/S8.1



SHEAR WALL ABOVE SEE SHEARWALL SCHEDULE ON DETAIL 6/S8.2
" # " DENOTES EDGE NAILING. IN ADDITION TO THE SPECIFIC LOCATIONS SHOWN ON THE PLANS, ALL THE EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD INCLUDING ABOVE AND BELOW ALL WALL OPENINGS, AND INCLUDING GABLE WALLS.
NAIL PER MARK " 6 " ON SCHEDULE.



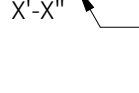
STRAPPED SHEAR WALL ABOVE SEE DETAIL 6/S8.2 AND 2/S8.2 FOR NAILING SCHEDULE AND OTHER REQUIREMENTS.



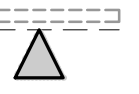
Y'-X" = MIN. CALCULATED SHEAR WALL LENGTH, LEFT TO RIGHT, S.A.D. FOR ACTUAL WALL DIMENSIONS



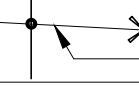
FRAMING MEMBER
DIAGRAMMATIC EXTENT OF FRAMING



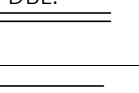
DOUBLE JOISTS OR RAFTER



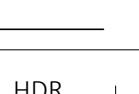
HANGER SEE SCHEDULE ON THIS SHEET



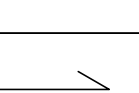
HEADER PER PLAN SEE DET. 4/S8.1



CEILING JOIST FRAMING DIRECTION S.A.D., SEE 10/S8.3 FOR SCHEDULE



X=LENGTH TO LEFT
Y=LENGTH TO RIGHT
BOTH IN FEET
HORIZONTAL COLLECTOR STRAP,
SEE DETAIL 9/S8.2,
CENTER OF STRAP



NOTE:
FOR CLARITY STRAP ARE SHOWN OFFSET FROM WALL, SEE SPECIFIED DETAILS FOR ACTUAL STRAP LOCATION.



DENOTES STRUT, SEE DETAIL 3/S8.3

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One-Bedroom ADU Bungalow Style

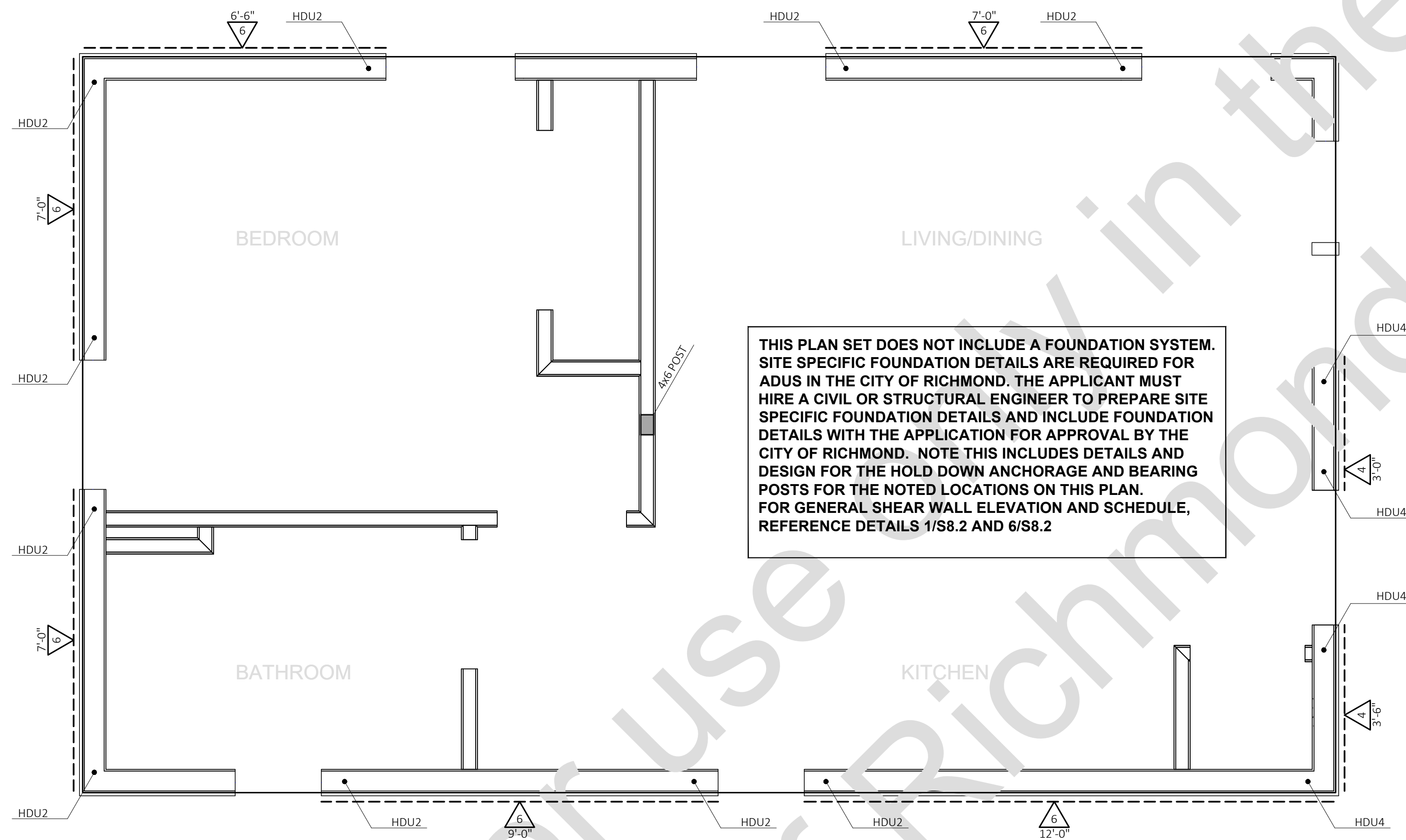
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GENERAL
STRUCTURAL NOTES

S 1.1



FOUNDATION PLAN

1/2" = 1'-0"

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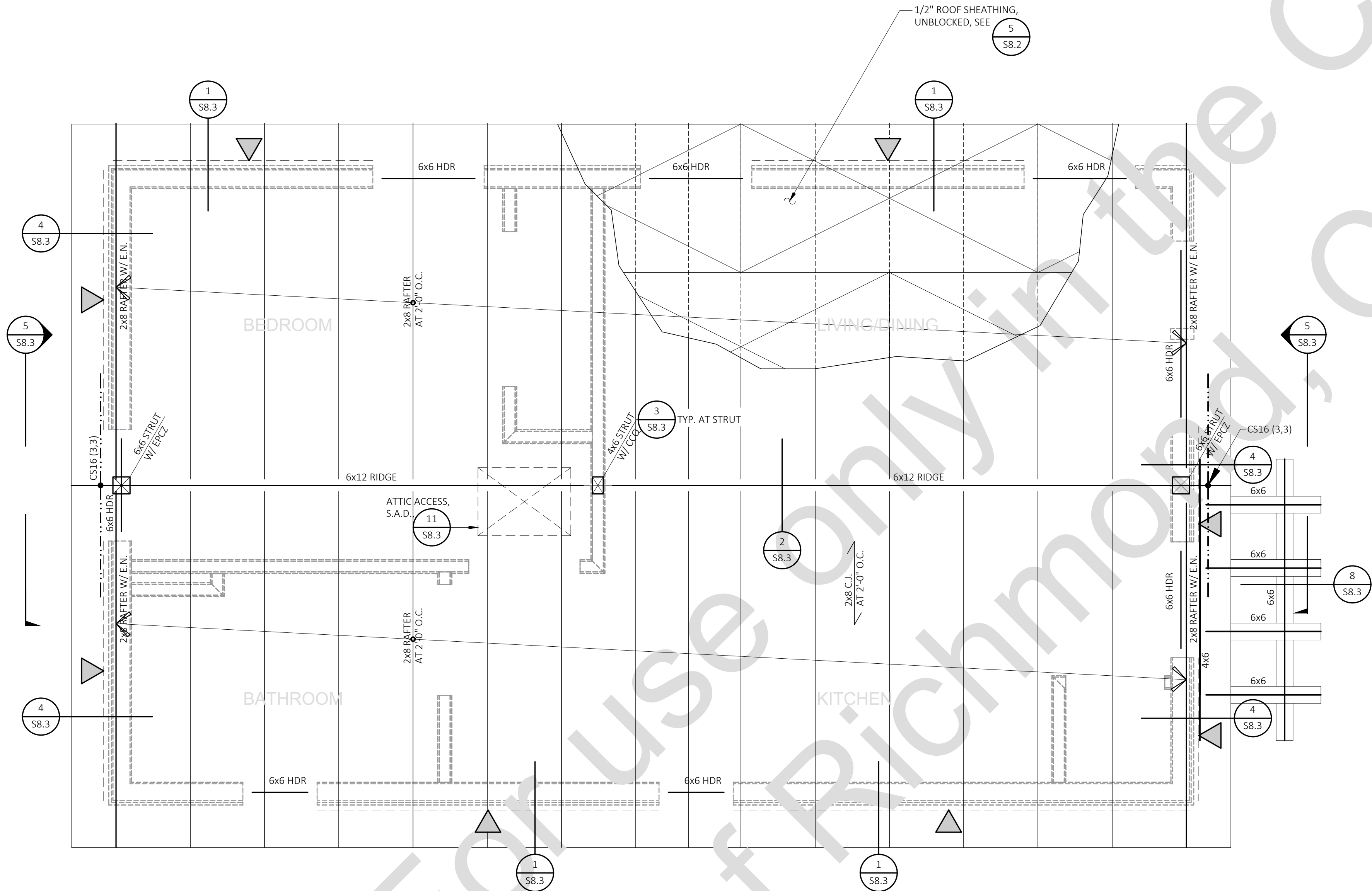
One-Bedroom ADU Bungalow Style

Richmond, California

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HOLD DOWN PLAN



ROOF FRAMING PLAN

1/2" = 1'-0"

ROOF FRAMING NOTES

- SEE GENERAL NOTES AND SYMBOLS ON SHEET S1.0 AND S1.1.
- SEE DETAIL 12/S8.1 FOR ALLOWABLE HOLES AND NOTCHES AT FRAMING MEMBERS.
- SEE DRAWINGS OTHER THAN STRUCTURAL FOR FLOOR DEPRESSIONS, MECHANICAL, ELECTRICAL AND SHAFT OPENINGS, ETC.
- SAWN LUMBER BEAMS SPECIFIED MAY BE SUBSTITUTED WITH PREFABRICATED BEAMS (ie. LSL) AS A CONTRACTOR OPTION. THIS SUBSTITUTION SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD.
- ALL WOOD BEAMS SHOWN ON PLAN SHALL BE SUPPORTED ON WOOD POSTS PER SCHEDULE ON DETAIL 11/S8.1 UNLESS OTHERWISE NOTED.
- SEE DETAIL 5/S8.2 FOR ROOF PLYWOOD NAILING.
- ALL LUMBER EXPOSED TO WEATHER SHALL BE P.T. OR WOLMANIZED.
- FOR CEILING JOIST SEE DETAIL 10/S8.3.
- REFER TO DETAIL 3/S8.1 FOR REQUIRED TOP PLATE SPLICE INFORMATION.
- FRAMING SUBCONTRACTOR SHALL VERIFY THAT THE MAXIMUM RIDGE HEIGHT (MAX BUILDING HEIGHT) IS AT LEAST 6" BELOW THE MAXIMUM ALLOWABLE. THE SUBCONTRACTOR TO CONTACT GENERAL CONTRACTOR AND ARCHITECT PRIOR TO SETTING THIS RIDGE.
- EXTERIOR WALL STUDS TO BE 2x6 AT 1'-4" O.C., INTERIOR WALL STUDS TO BE 2x4 AT 1'-4" O.C.

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One-Bedroom ADU
Bungalow Style

Richmond, California

Submittals and Revisions

Master Permit Set

ROOF FRAMING PLAN

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One-Bedroom ADU Bungalow Style

Richmond, California

Submittals and Revisions

Master Permit Set

WOOD DETAILS

S 8.1

10

7

FLUSH BEAM TO POST CONNECTION
AT WALL

1"=1'-0"

4

TYPICAL FRAMING OPENINGS IN WALL

08-101-07A

N.T.S.

1

BEARING OR SHEAR WALL FRAMING

1/2"=1'-0"

11

8

TYPICAL BEAM TO POST CONNECTION

08-102-01

1"=1'-0"

5

NON-STRUCTURAL INTERIOR WALL OP'G.

08-101-09

N.T.S.

2

BALLOON FRAMED WALLS

1/2"=1'-0"

12

ALLOWABLE HOLES FOR STRUCTURAL
SAWN LUMBER MEMEBERS

08-103-01

N.T.S.

9

TYPICAL FLUSH BEAM DEEPER THAN
JOIST TO POST CONNECTION AT WALL

08-102-05

N.T.S.

6

STRENGTHENING PENETRATION
THROUGH BEARING OR SHEAR WALL

08-103-02

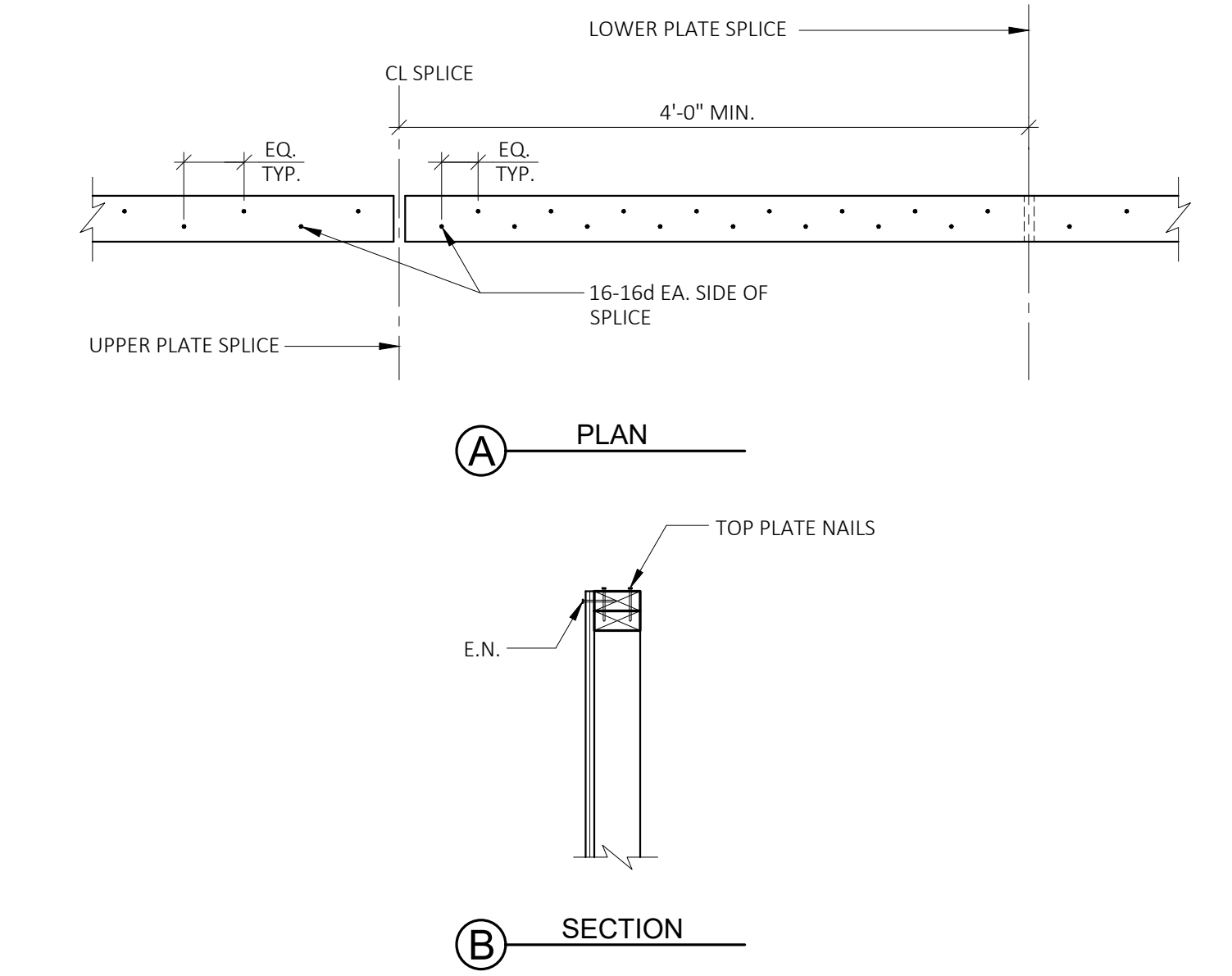
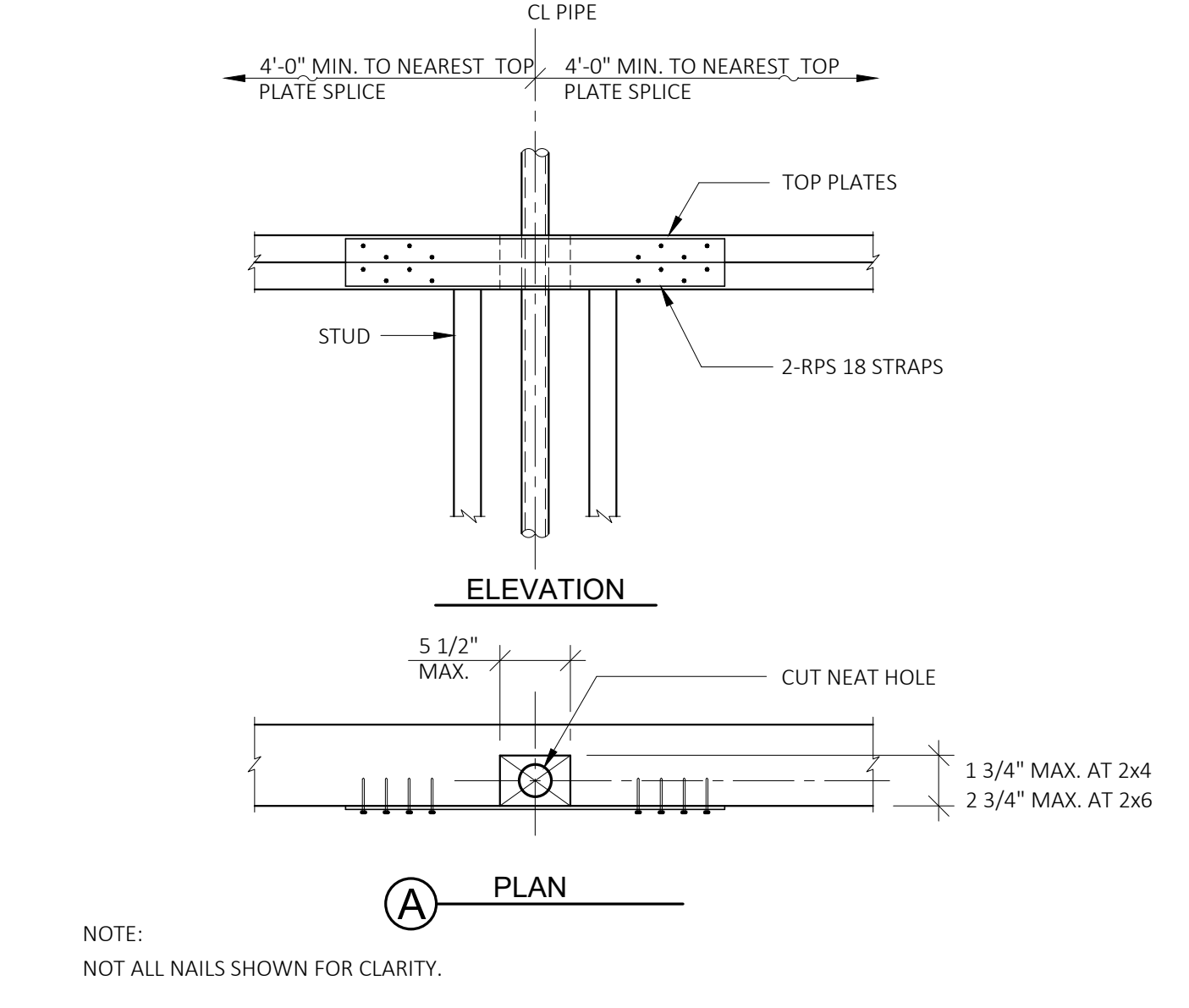
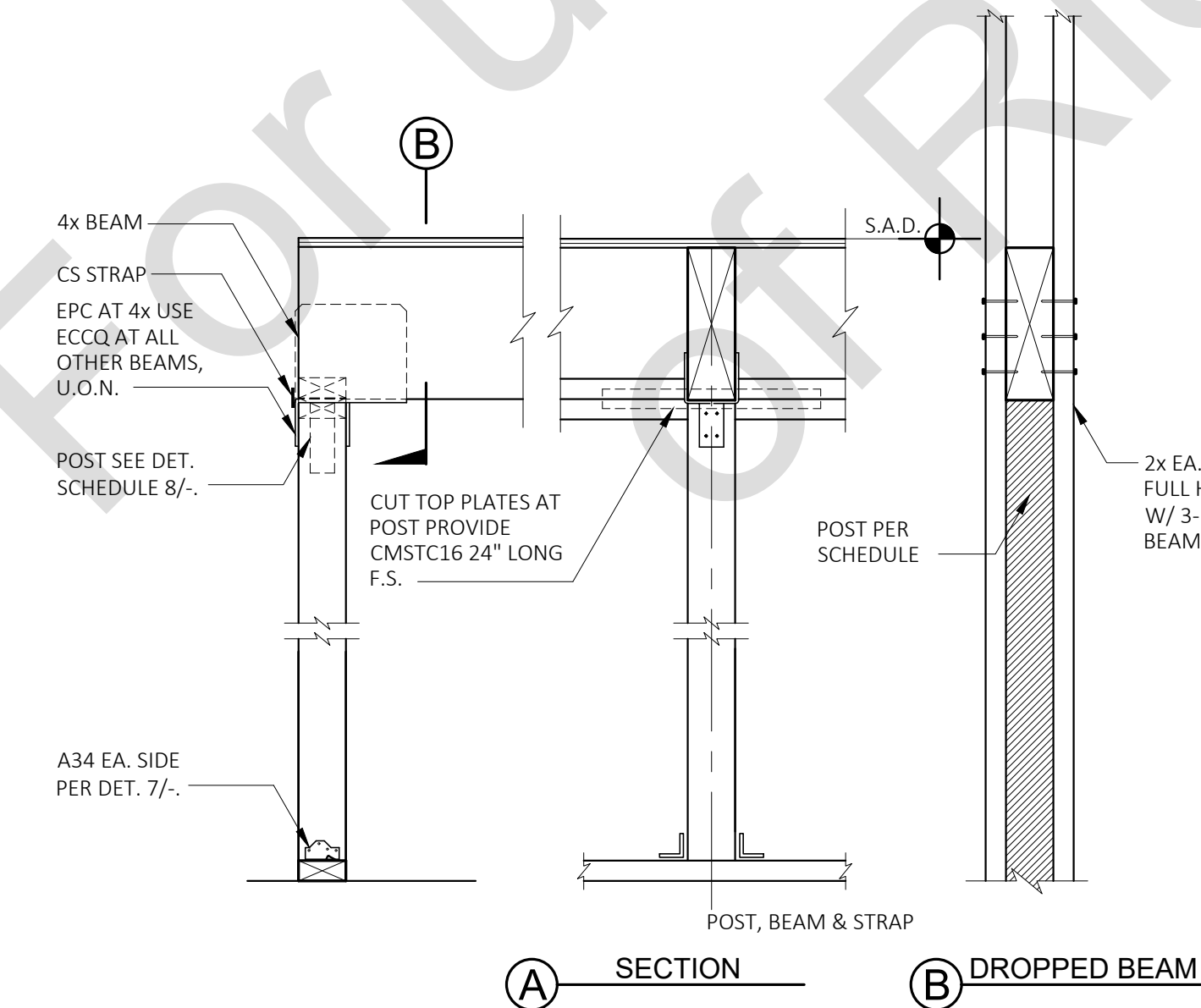
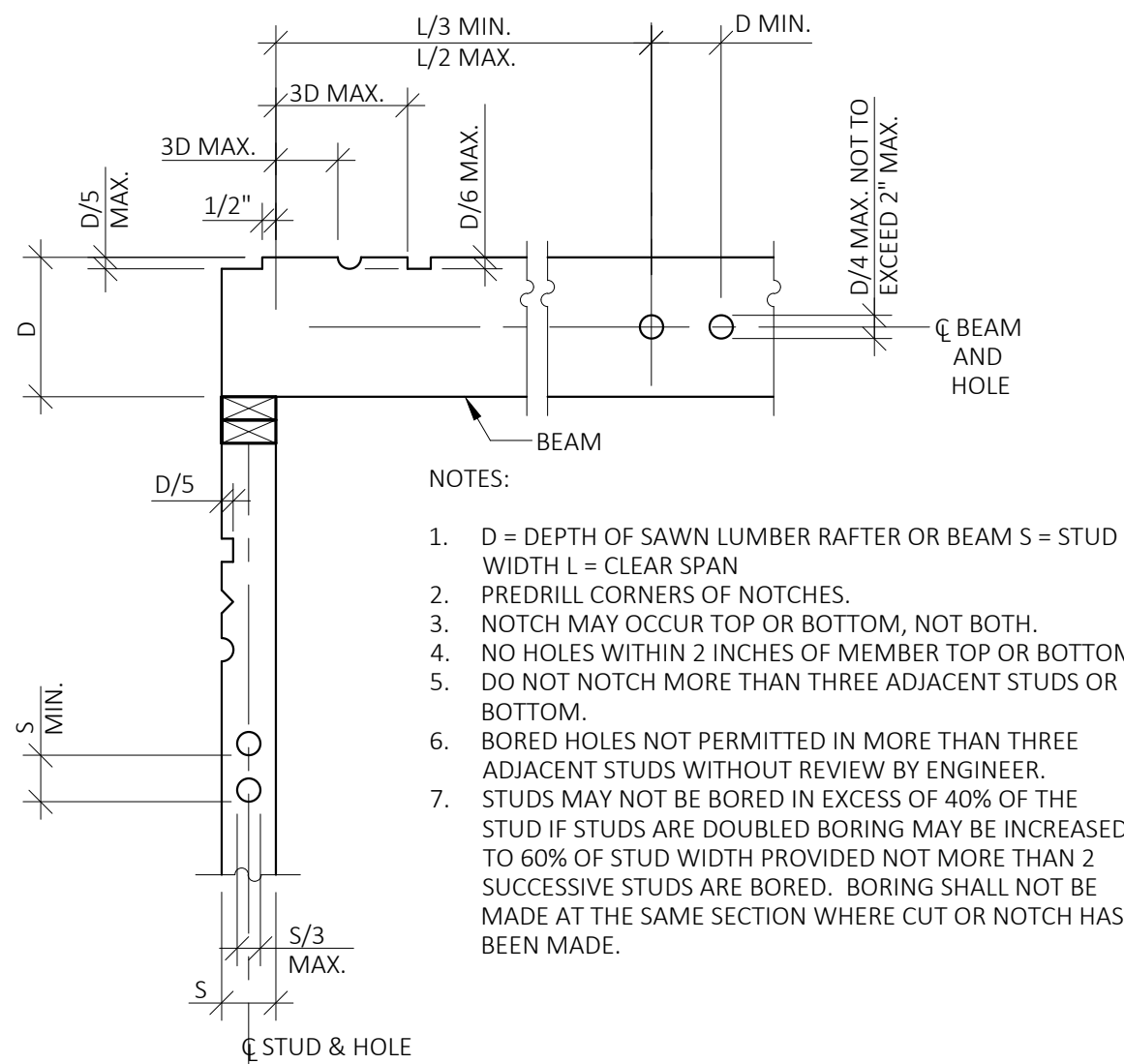
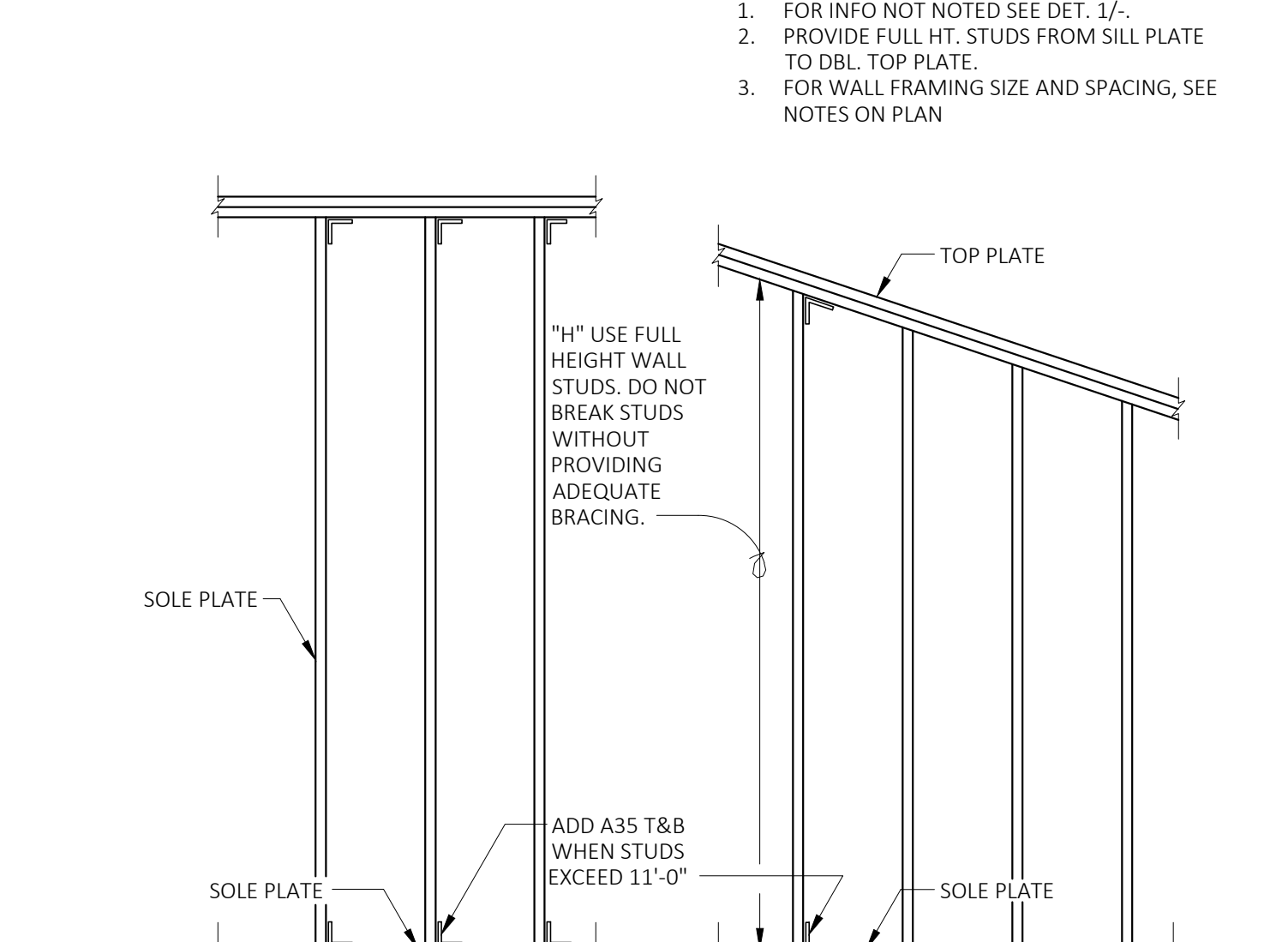
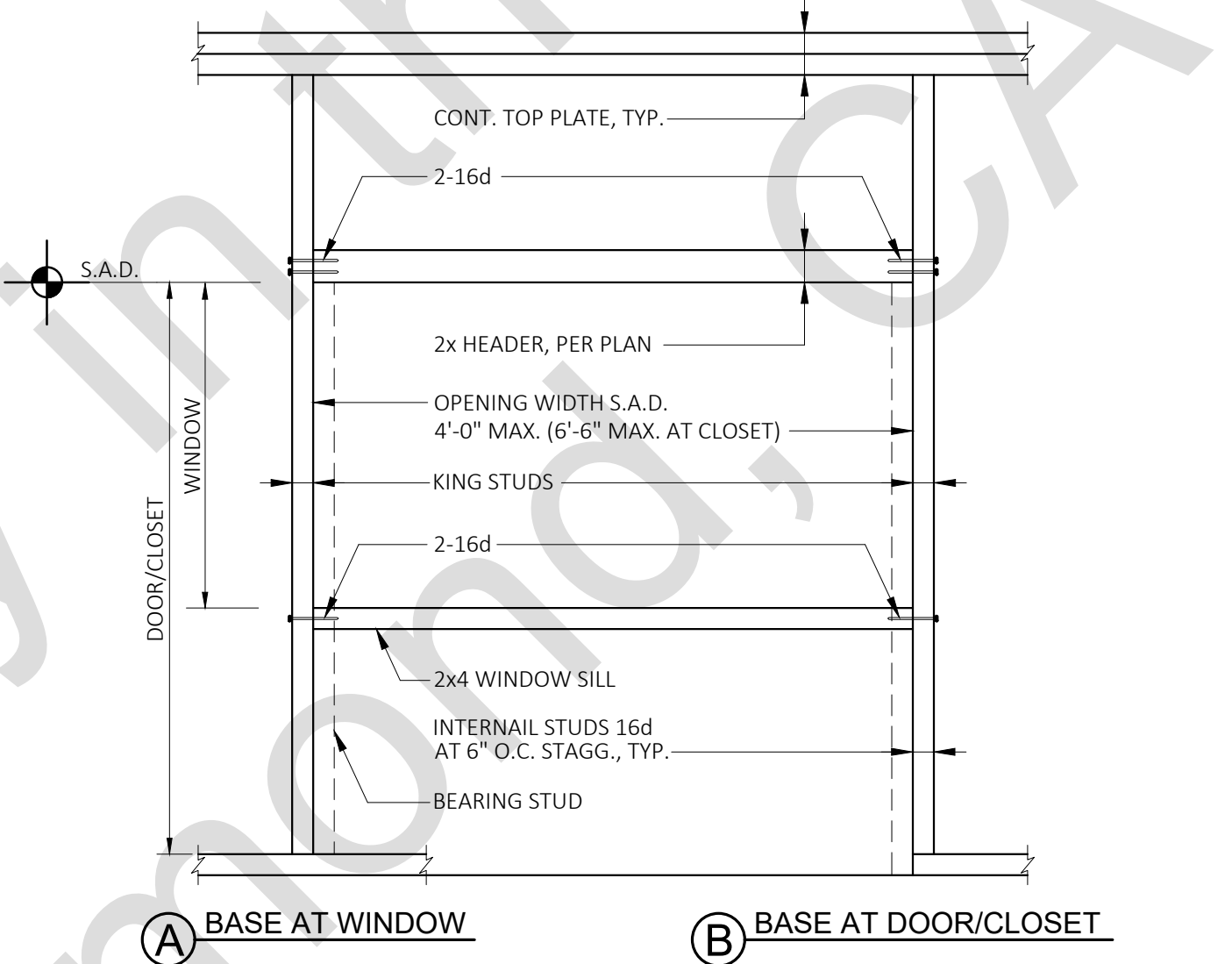
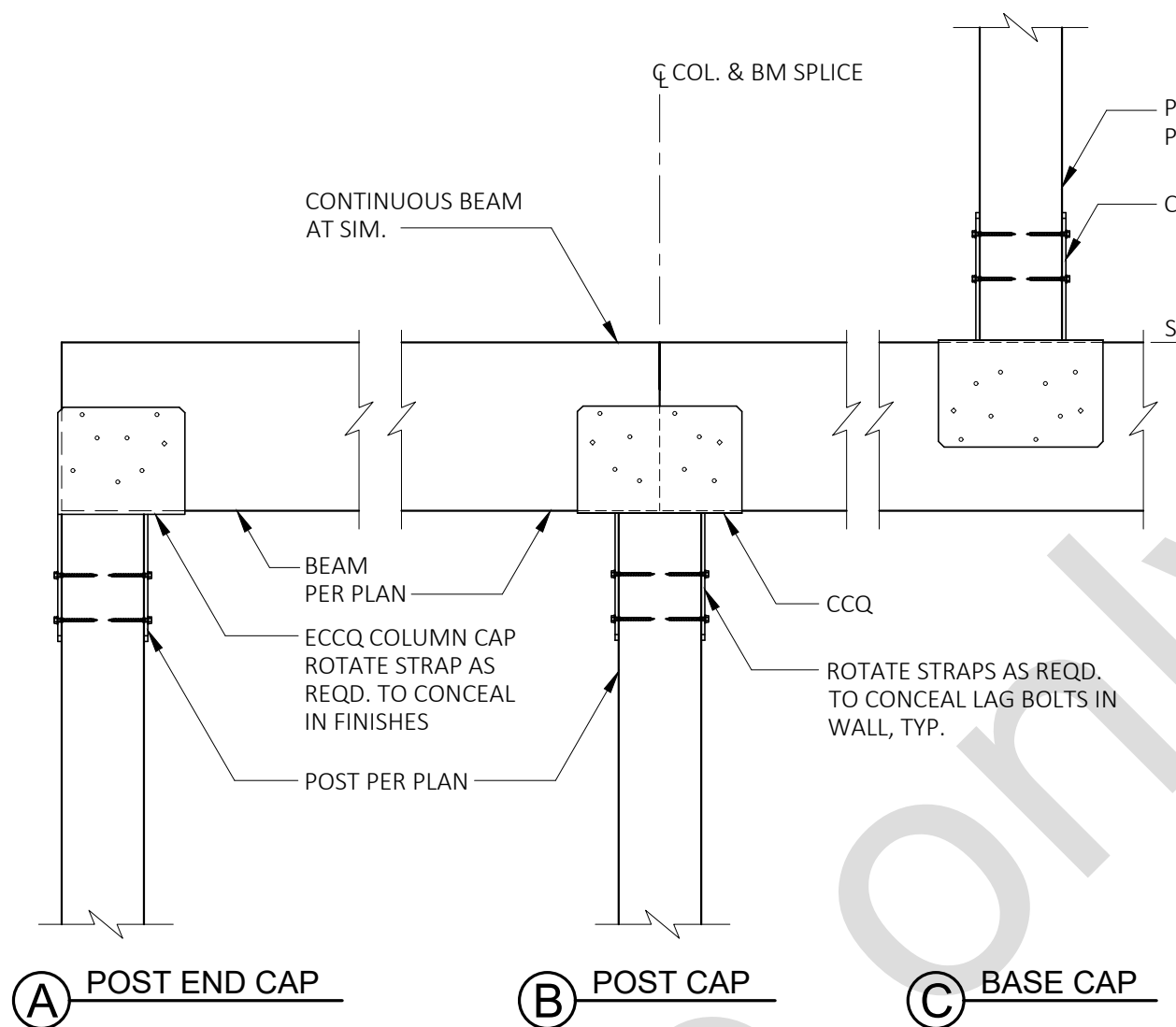
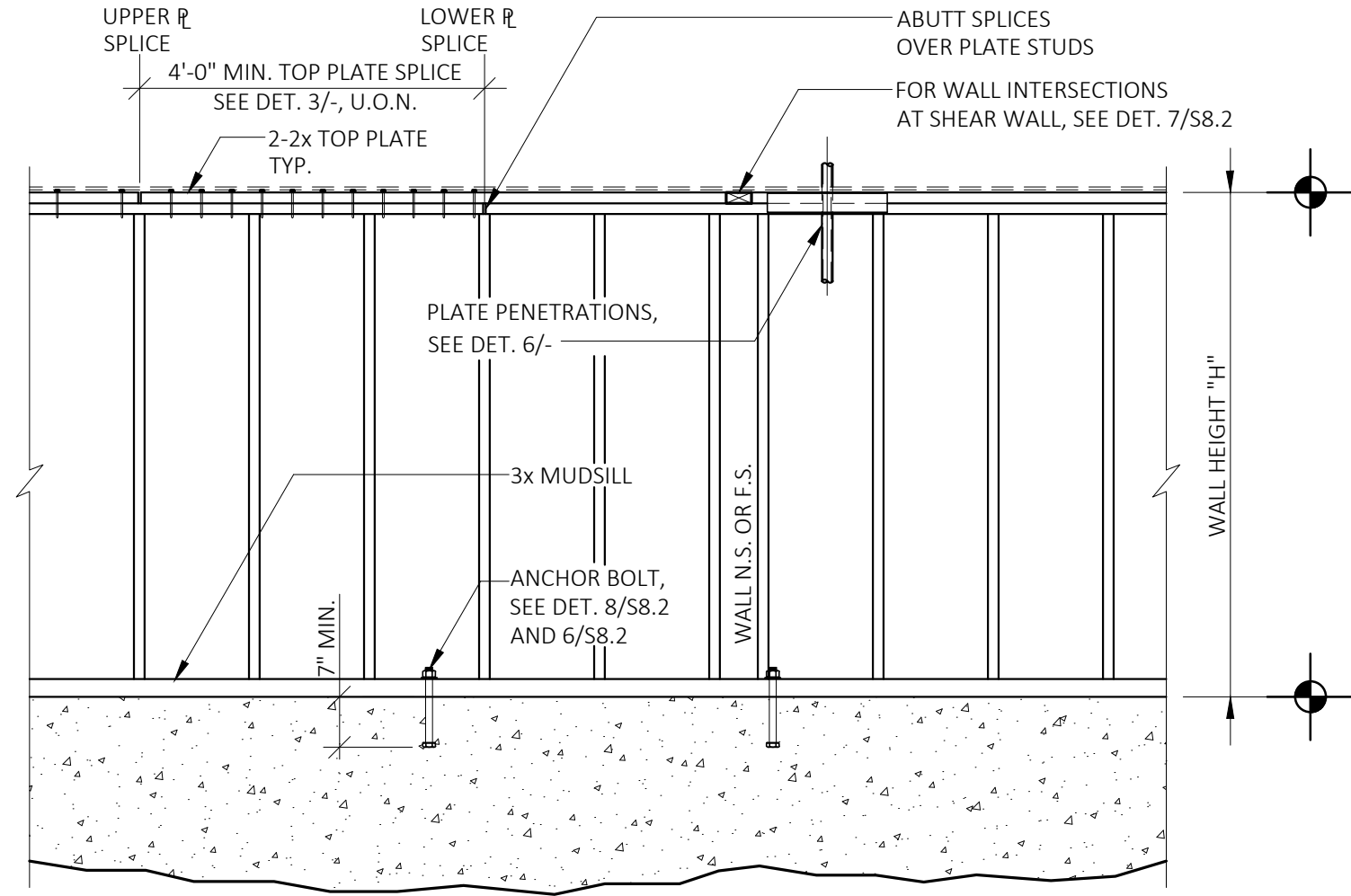
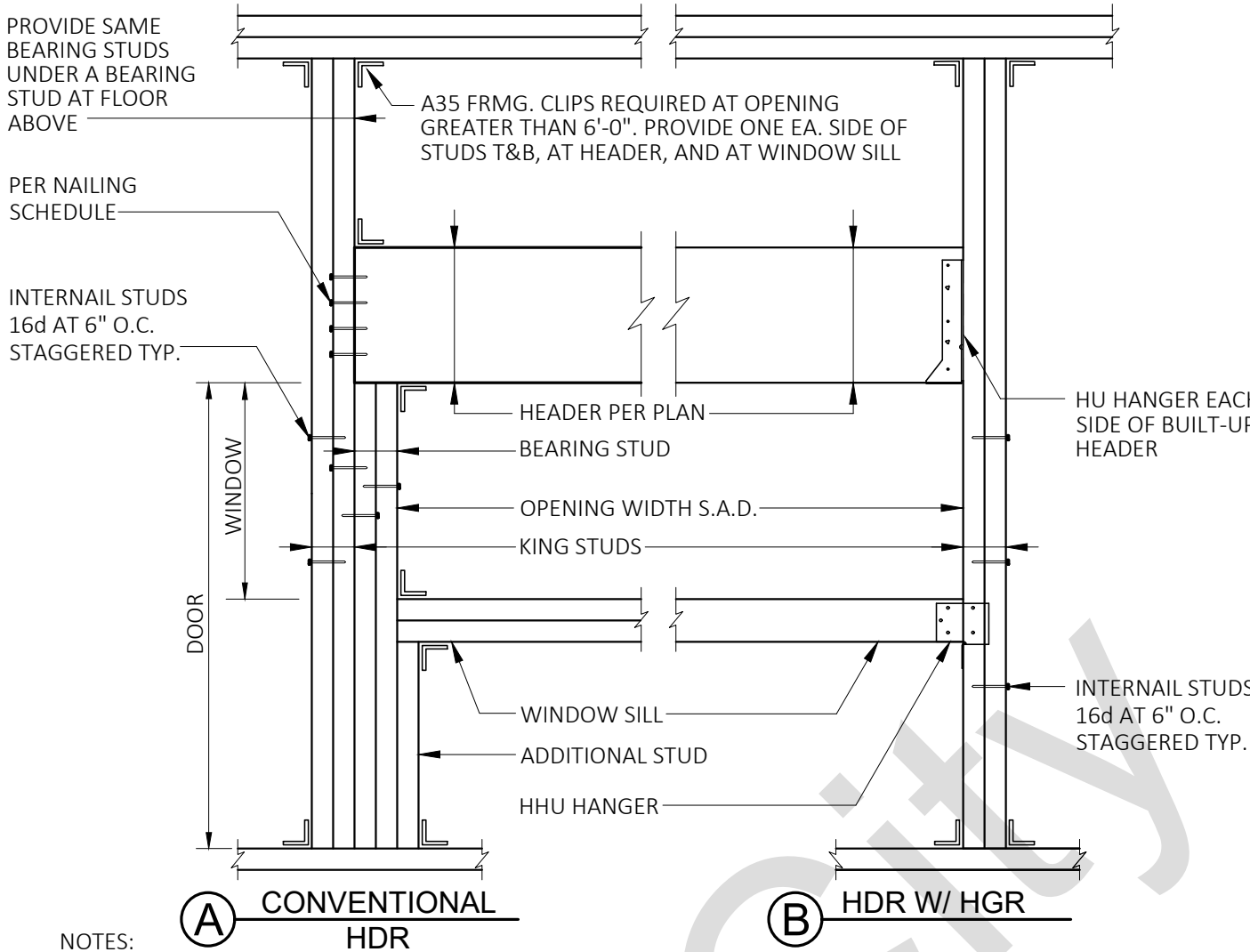
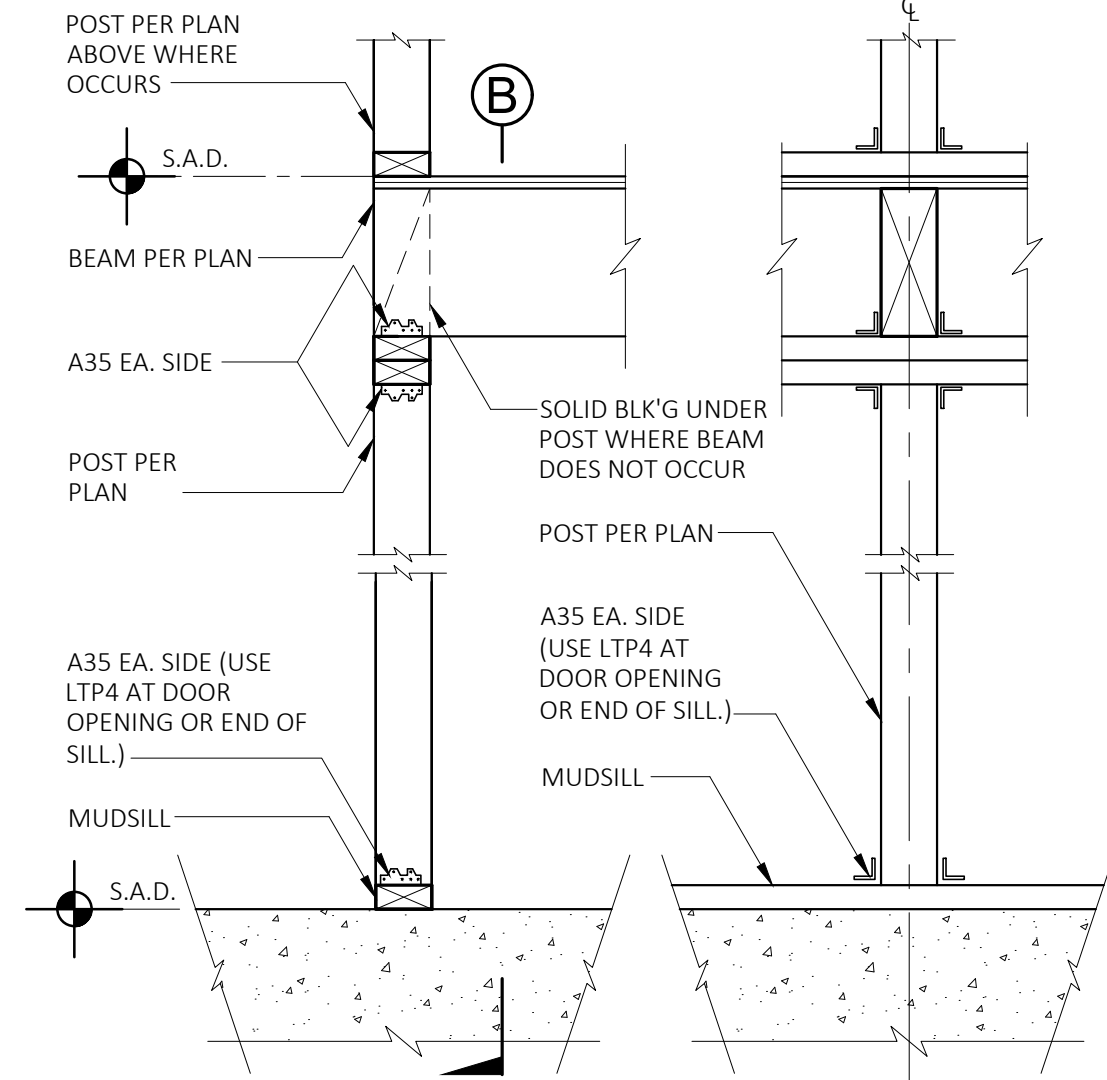
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3

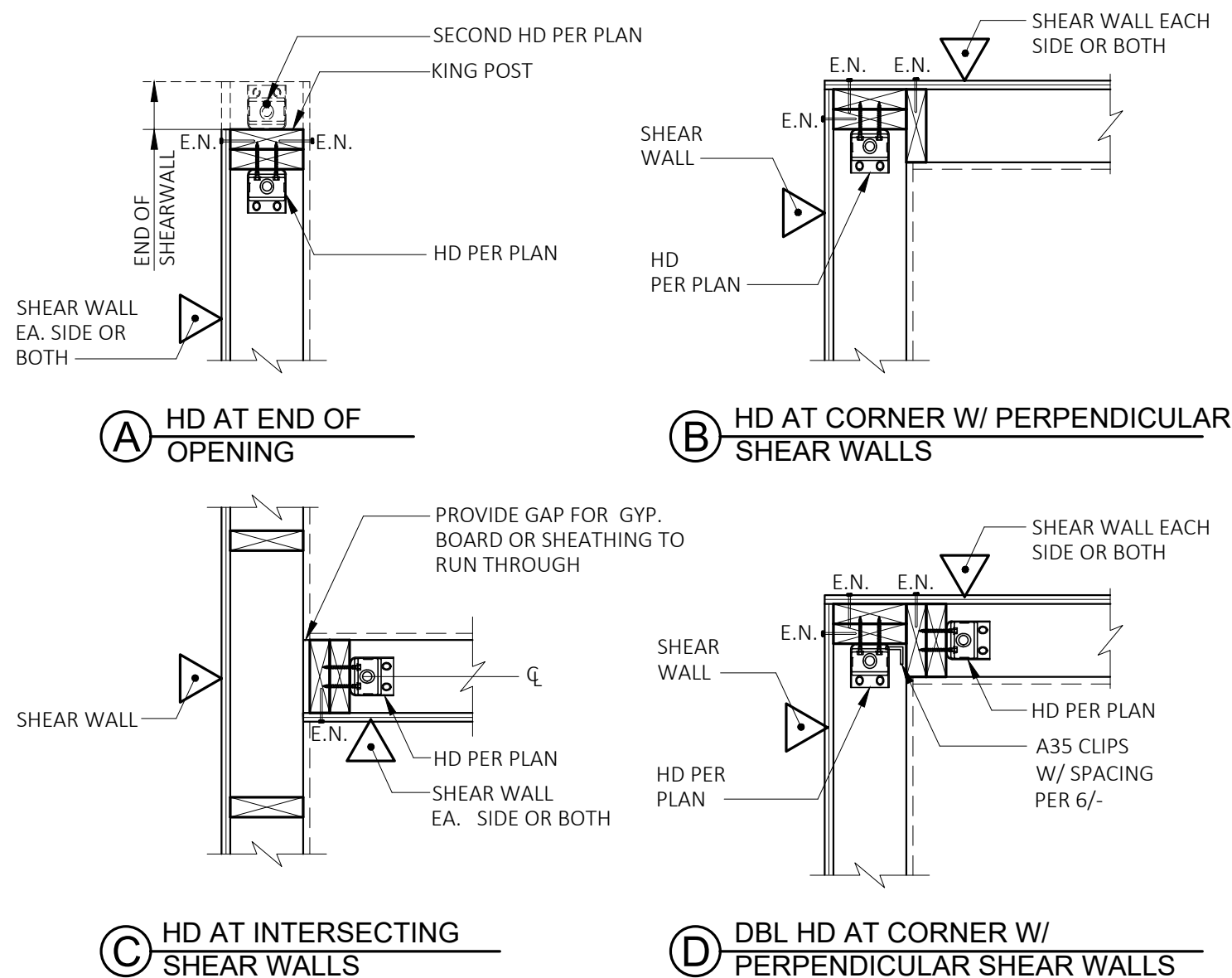
TOP PLATE SPLICE
AT BEARING OR SHEAR WALLS

08-101-05

1"=1'-0"



10

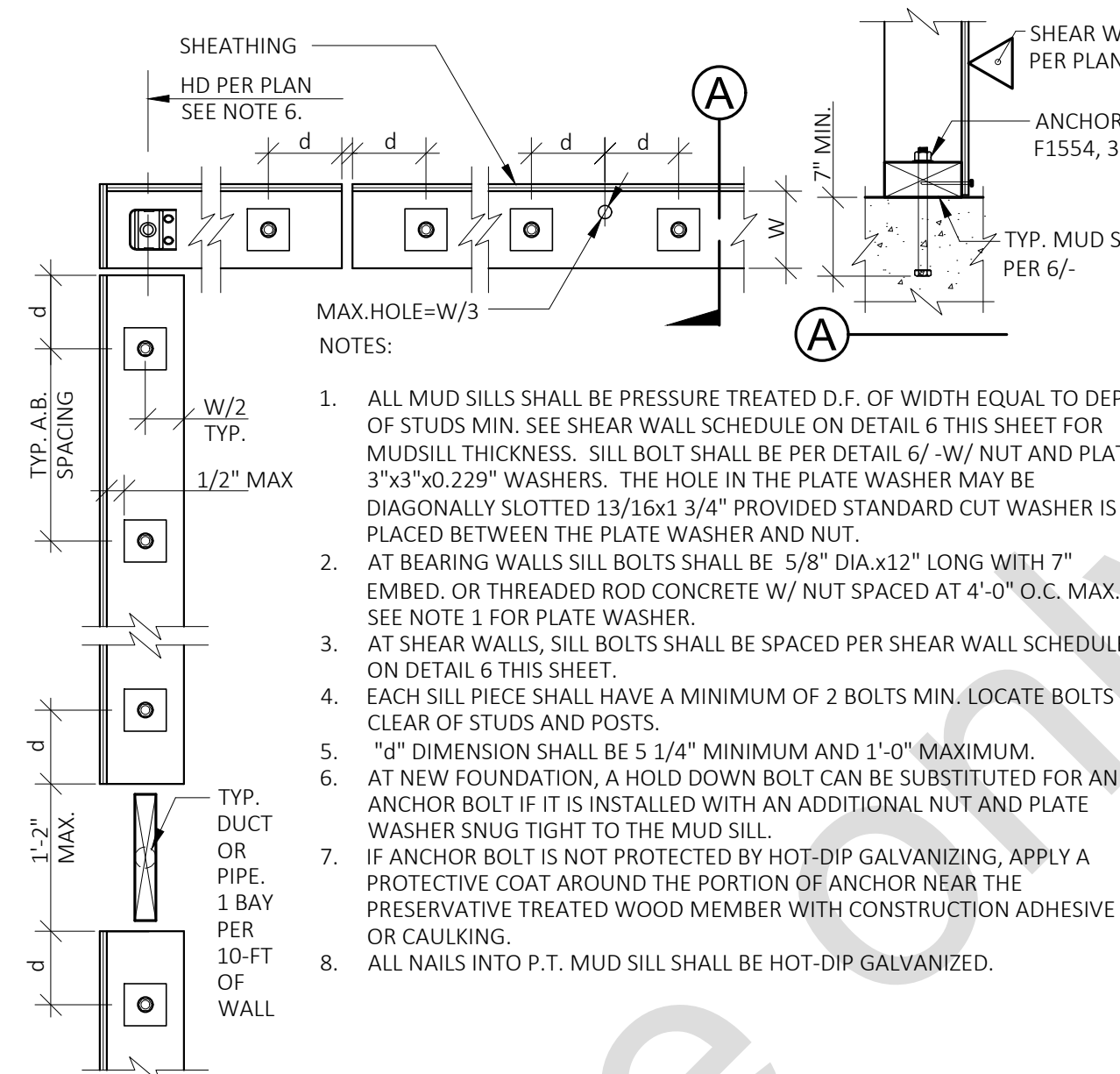


7

SHEAR TRANSFER AND/OR HD LOCATION

N.T.S.

08-122-07



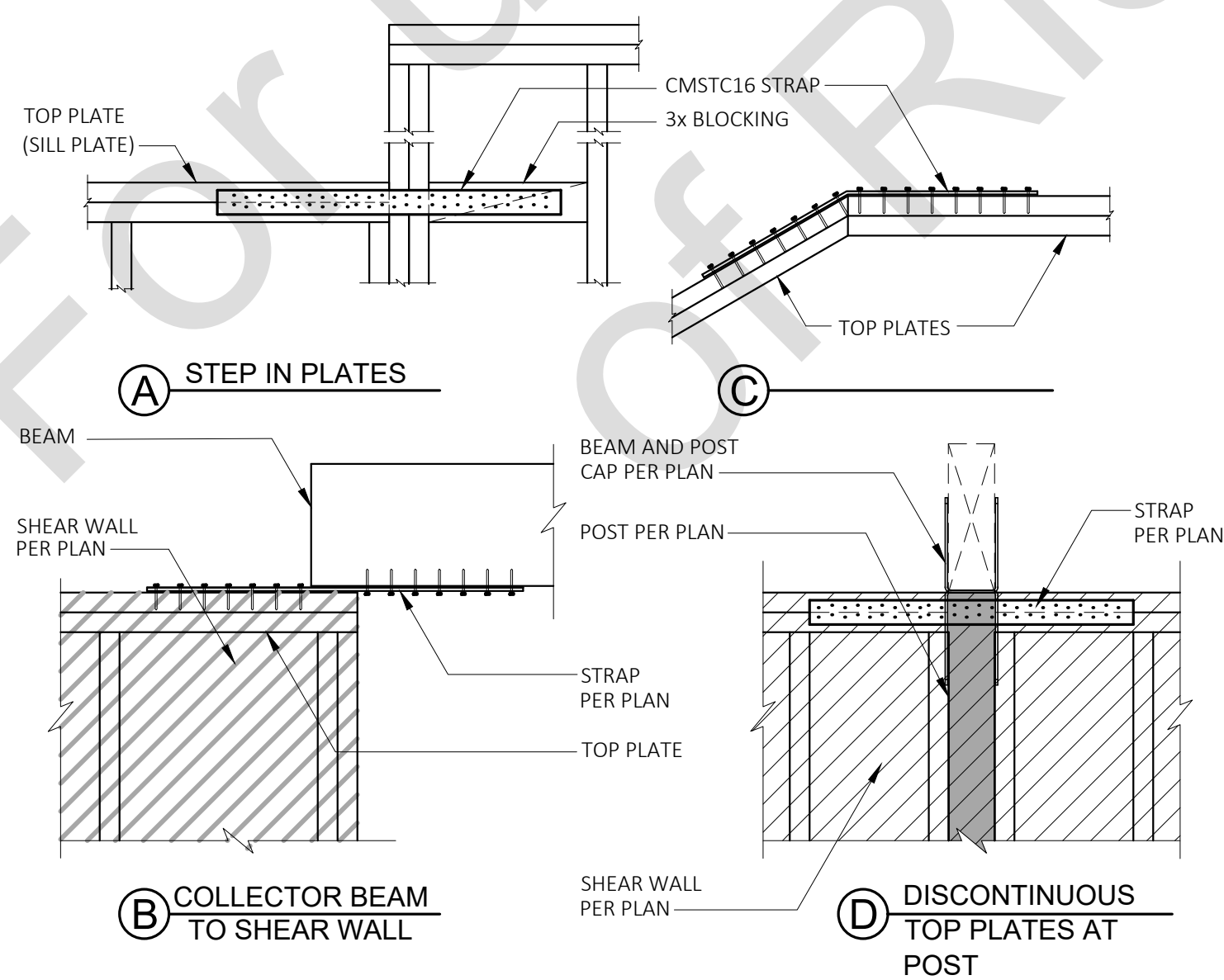
8

MUD SILL AND ANCHOR BOLT REQUIREMENTS

N.T.S.

08-120-05

1"=1'-0"



9

HORIZONTAL STRAP DETAIL

N.T.S.

08-122-01

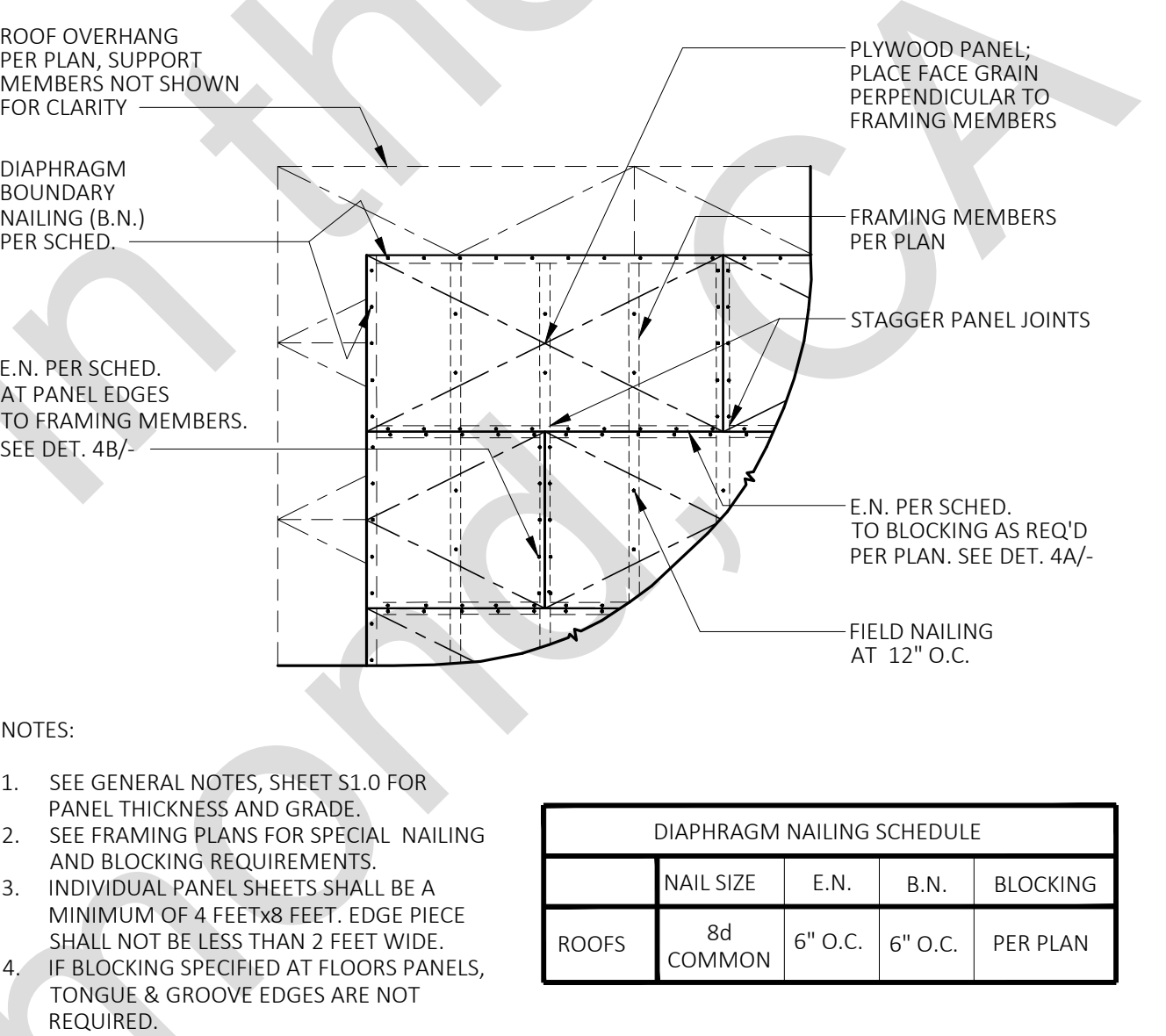
1"=1'-0"

4

SHEATHING NAILING

N.T.S.

08-120-02



NOTES:

- SEE GENERAL NOTES, SHEET S1.0 FOR PANEL THICKNESS AND GRADE.
- SEE FRAMING PLANS FOR SPECIAL NAILING AND BLOCKING REQUIREMENTS.
- INDIVIDUAL PANEL SHEETS SHALL BE A MINIMUM OF 4 FEETx8 FEET. EDGE PIECE SHALL NOT BE LESS THAN 2 FEET WIDE. IF BLOCKING SPECIFIED AT FLOORS PANELS, TONGUE & GROOVE EDGES ARE NOT REQUIRED.

DIAPHRAGM NAILING SCHEDULE				
	NAIL SIZE	E.N.	B.N.	BLOCKING
ROOFS	8d COMMON	6" O.C.	6" O.C.	PER PLAN

5

ROOF OR FLOOR DIAPHRAGM

N.T.S.

08-120-03

MARK	NO. OF SIDES	EDGE NAIL 10d COMMON SEE DETAIL 4C/- WHERE SPECIFIED AS STAGGERED	STUD WIDTH AT EDGE NAILING		SOLE PLATE OR TOP PLATE CONNECTIONS (EITHER NAILS OR SCREWS)		SHEAR CLIPS W/ 8d COMMON NAIL U.O.N.		MUDSILL ANCHORS, SEE DET. 8/-	TITEN HD 5/8" Ø EMBED. DEPTH 4" MIN. INTO CONCRETE	URFP	ALLOWABLE SHEAR (plf)
			SIZE	DETAIL	16d SINKER NAILS	SDS 1/4x5	LTP4	A35				
6	SINGLE SIDE	6"	2x	4B/-	6" O.C.	1'-6" O.C.	1'-6" O.C.	1'-10" O.C.	5/8" AT 4'-0"	AT 4'-0"	AT 3'-6"	312
4	SINGLE SIDE	4"	2x	4B/-	4" O.C.	1'-0" O.C.	1'-0" O.C.	1'-2" O.C.	5/8" AT 3'-6"	AT 2'-8"	AT 2'-8"	469
3	SINGLE SIDE	3" STAGGERED	3x	4B/-	3" O.C.	10" O.C.	10" O.C.	10" O.C.	5/8" AT 2'-6"	AT 2'-0"	AT 1'-6"	611
2	SINGLE SIDE	2" STAGGERED	3x	4B/- OR 4E/-	N/A	6" O.C.	6" O.C.	8" O.C.	5/8" AT 2'-0"	AT 1'-6"	AT 1'-6"	800
6D	EA. SIDE	6"	2x	4B/-	3" O.C.	10" O.C.	8" O.C.	10" O.C.	5/8" AT 2'-6"	AT 2'-0"	AT 1'-6"	625
4D	EA. SIDE	4"	3x	4B/- OR 4D/-	N/A	6" O.C.	6" O.C.	6" O.C.	5/8" AT 1'-6"	AT 1'-4"	AT 1'-4"	938
3D	EA. SIDE	3" STAGGERED	3x	4B/- OR 4D/-	N/A	4" O.C.	10" O.C. EACH SIDE	10" O.C. EACH SIDE	5/8" AT 1'-0"	AT 1'-0"	N/A	1223
2D	EA. SIDE	2" STAGGERED	3x	4B/- OR 4D/-	N/A	3" O.C.	6" O.C. EACH SIDE	8" O.C. EACH SIDE	5/8" AT 1'-0"	AT 8"	N/A	1600

6

SHEAR WALL SCHEDULE: STRUCT 1 SHEATHING

08-120-01

11

8

MUD SILL AND ANCHOR BOLT REQUIREMENTS

N.T.S.

08-120-05

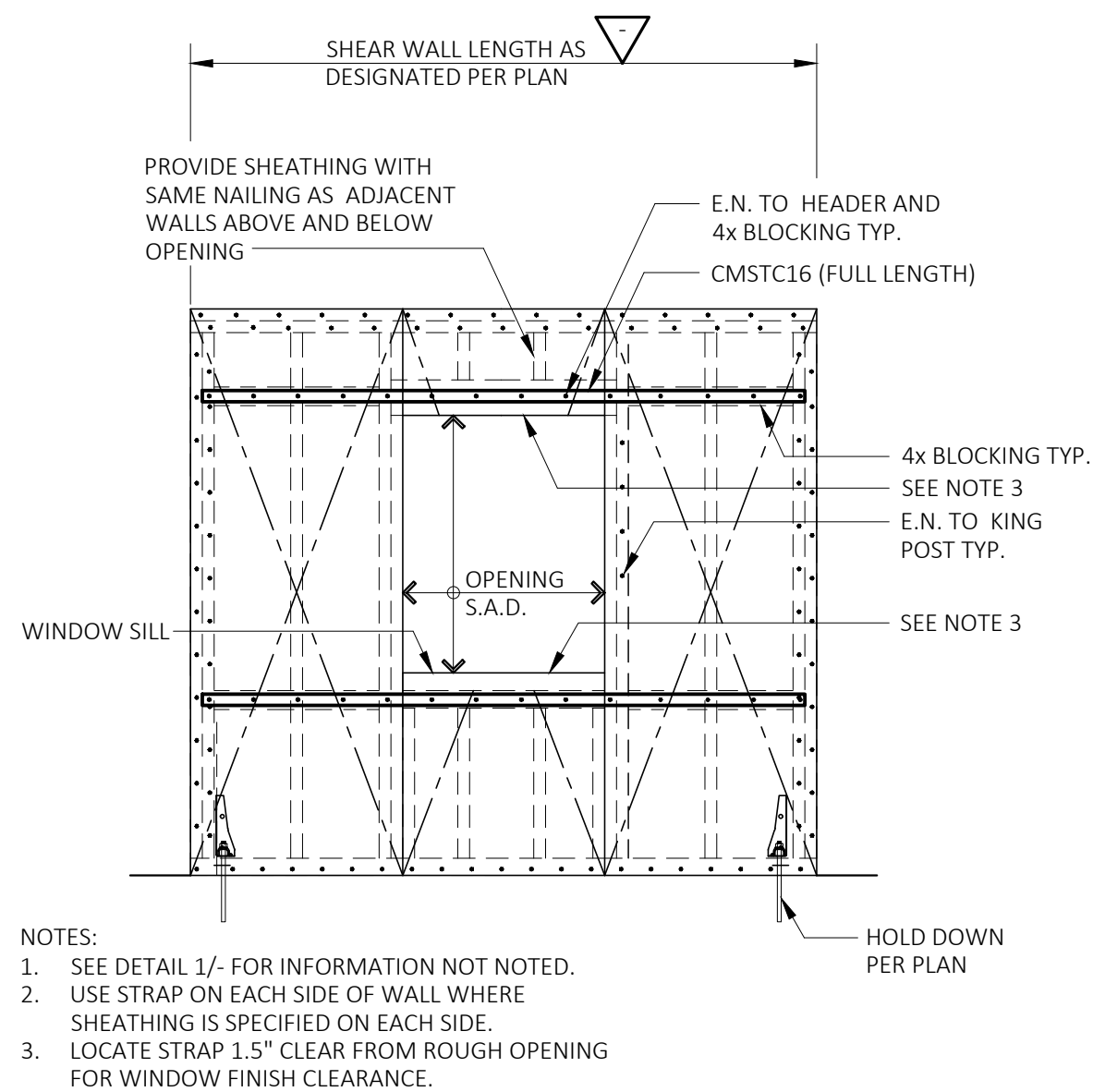
1"=1'-0"

2

STRAPPED SHEAR WALL ELEVATION

N.T.S.

08-120-06



NOTES:

- SEE DETAIL 1/- FOR INFORMATION NOT NOTED.
- USE STRAP ON EACH SIDE OF WALL WHERE SHEATHING IS SPECIFIED ON EACH SIDE.
- LOCATE STRAP 1.5" CLEAR FROM ROUGH OPENING FOR WINDOW FINISH CLEARANCE.

12

9

HORIZONTAL STRAP DETAIL

N.T.S.

08-122-01

1"=1'-0"

6

SHEAR WALL SCHEDULE: STRUCT 1 SHEATHING

08-120-01

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One-Bedroom ADU
Bungalow Style

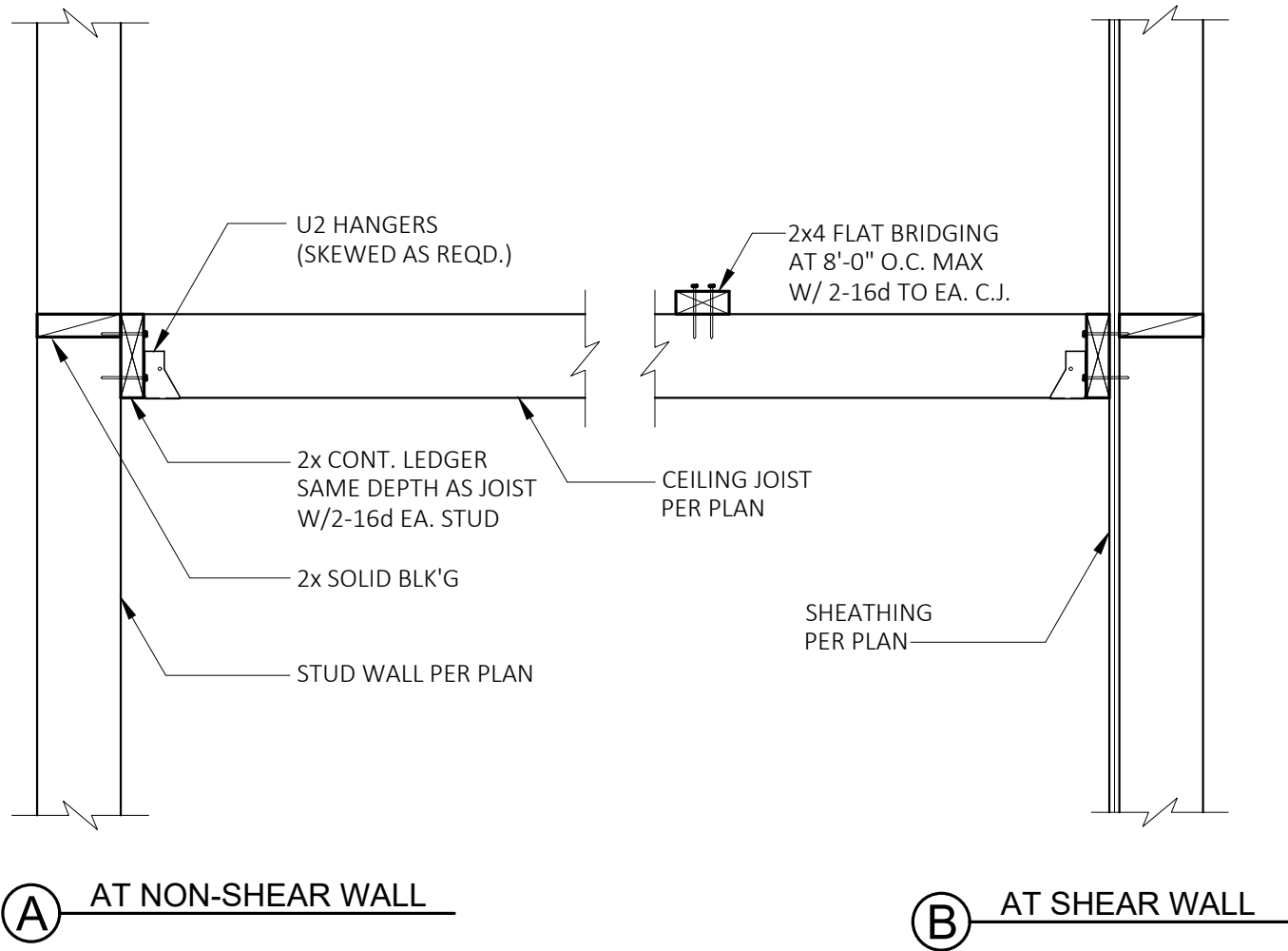
Richmond, California

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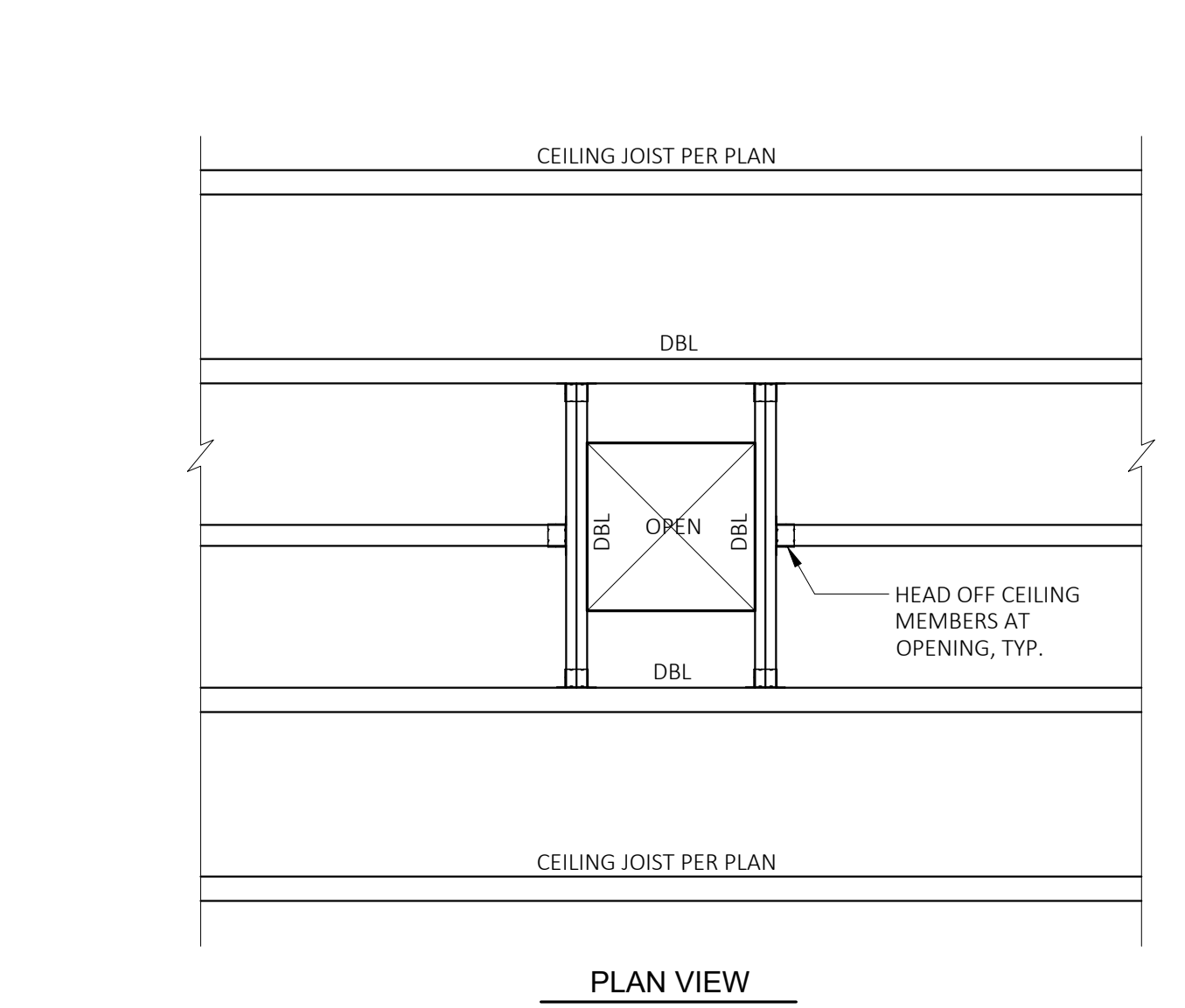
Master Permit Set

WOOD DETAILS

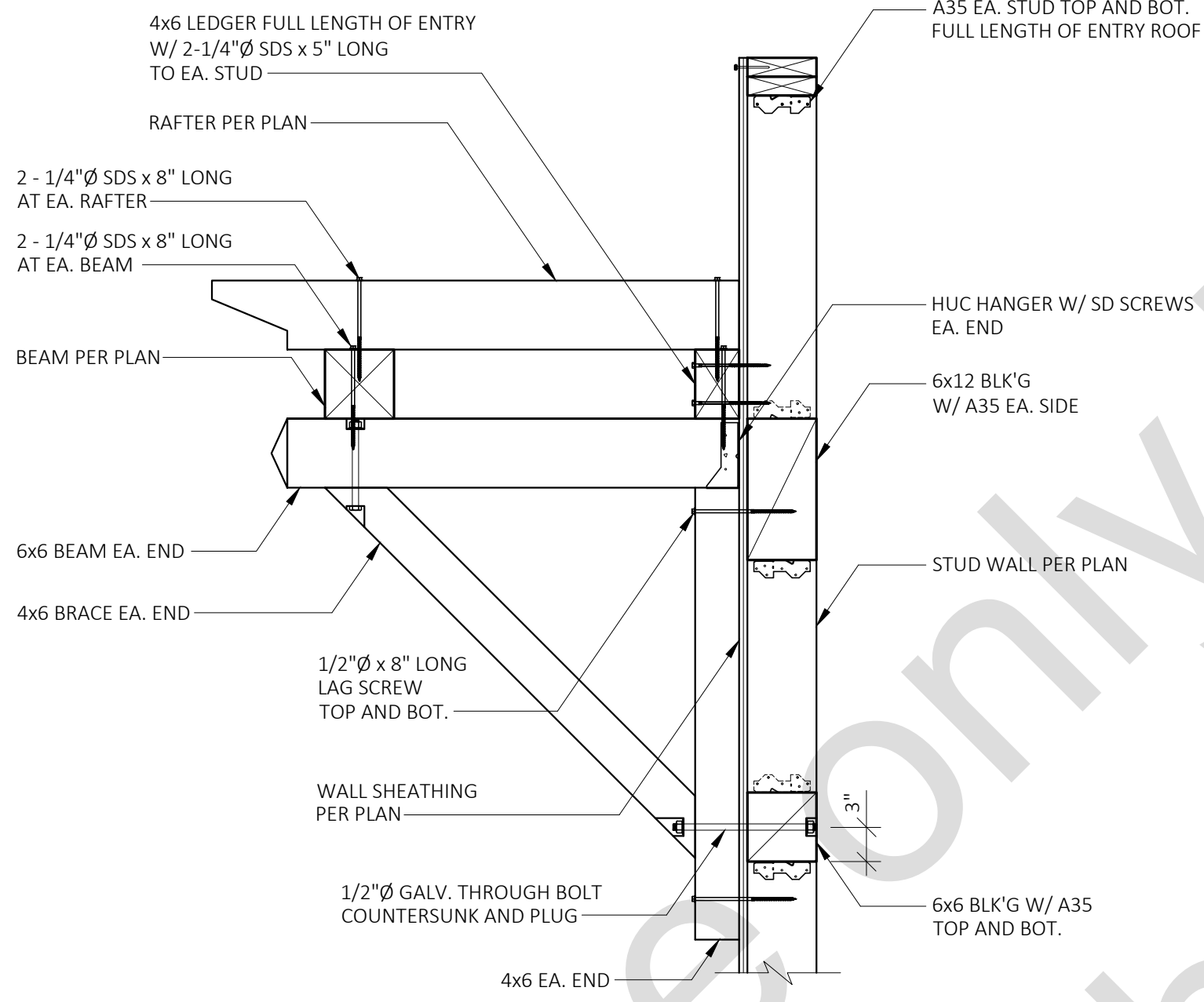
S 8.2



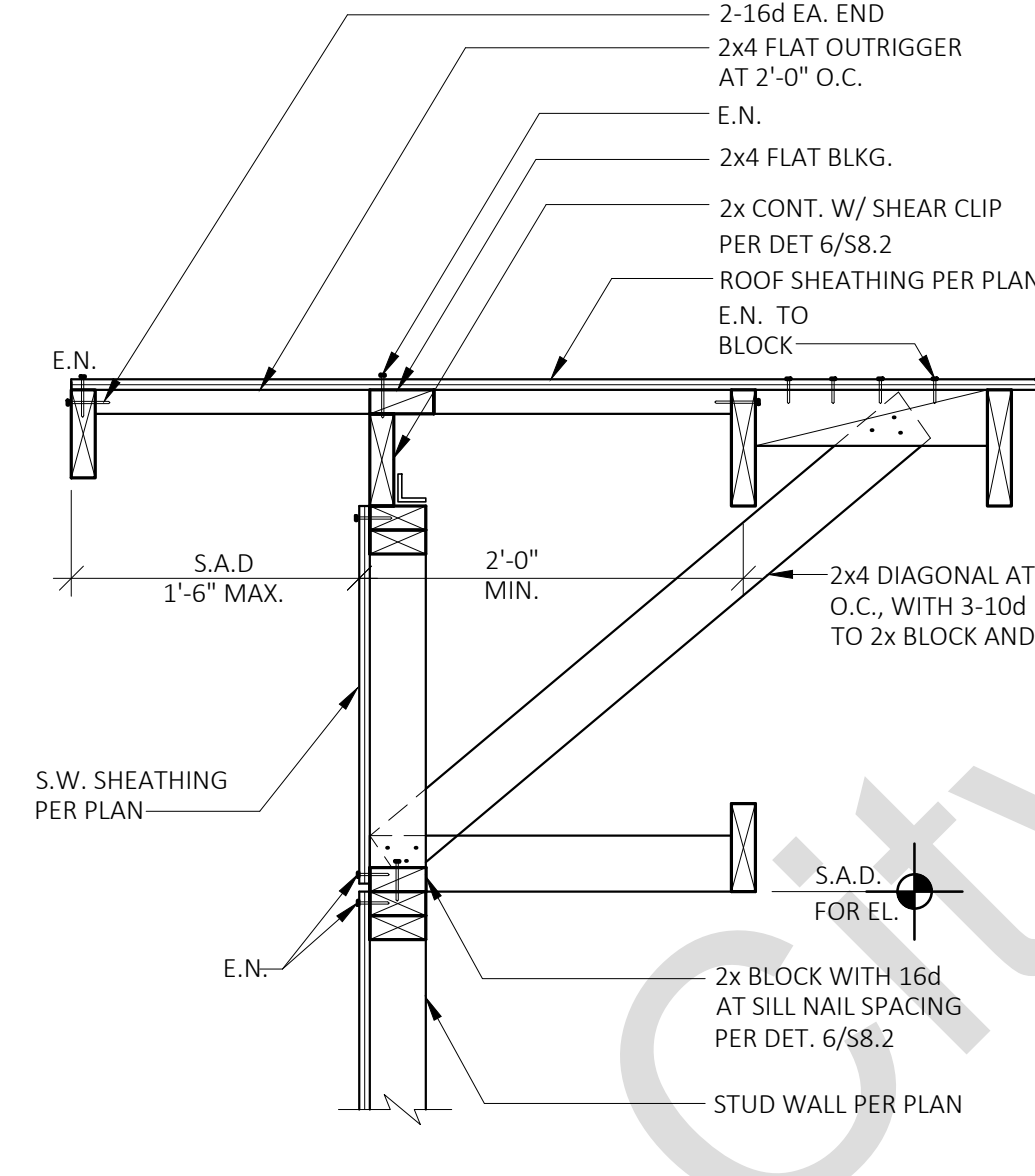
10 CEILING JOIST
1"=1'-0"



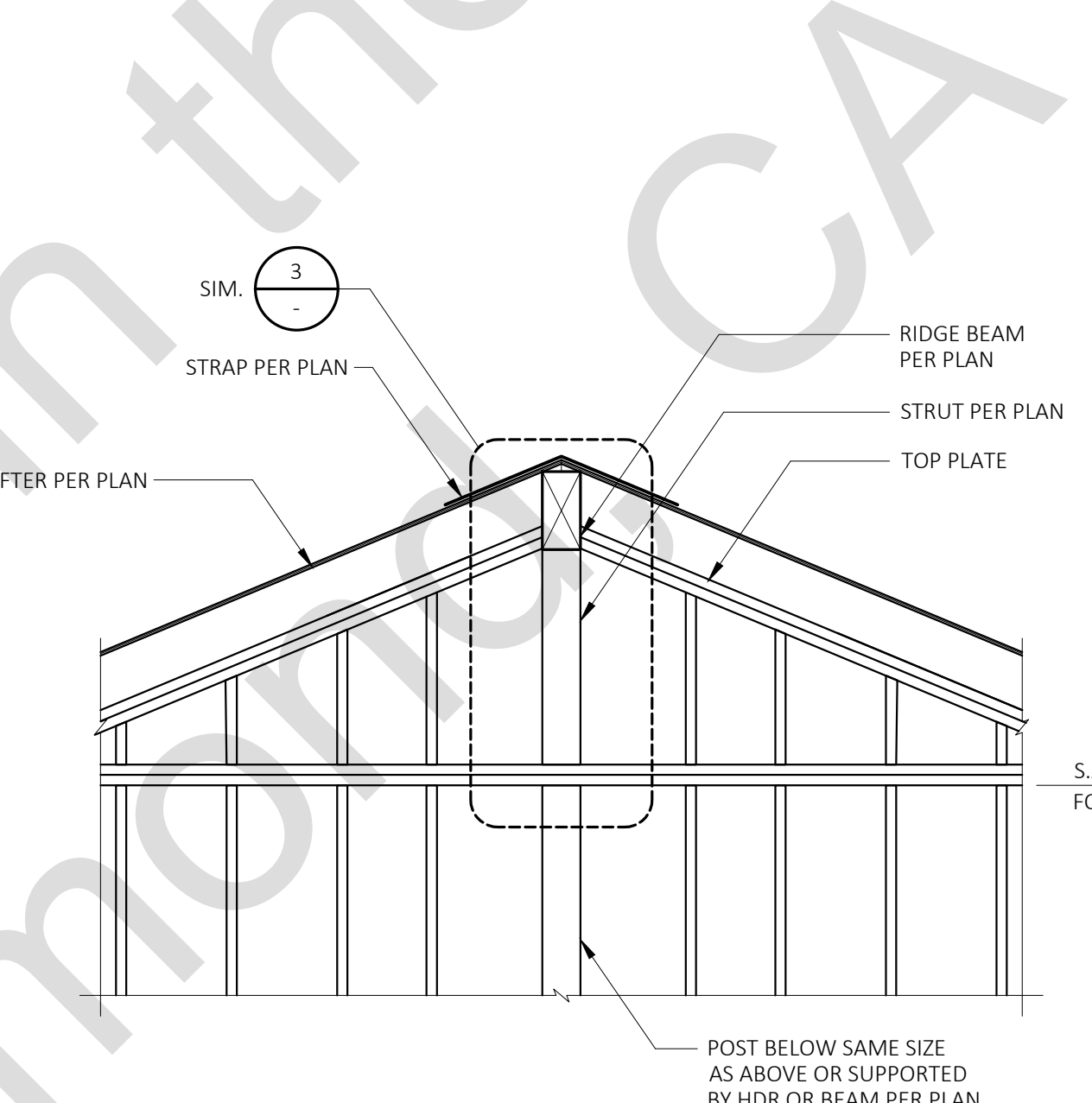
11 SMALL CEILING OPENING
1/2"=1'-0"



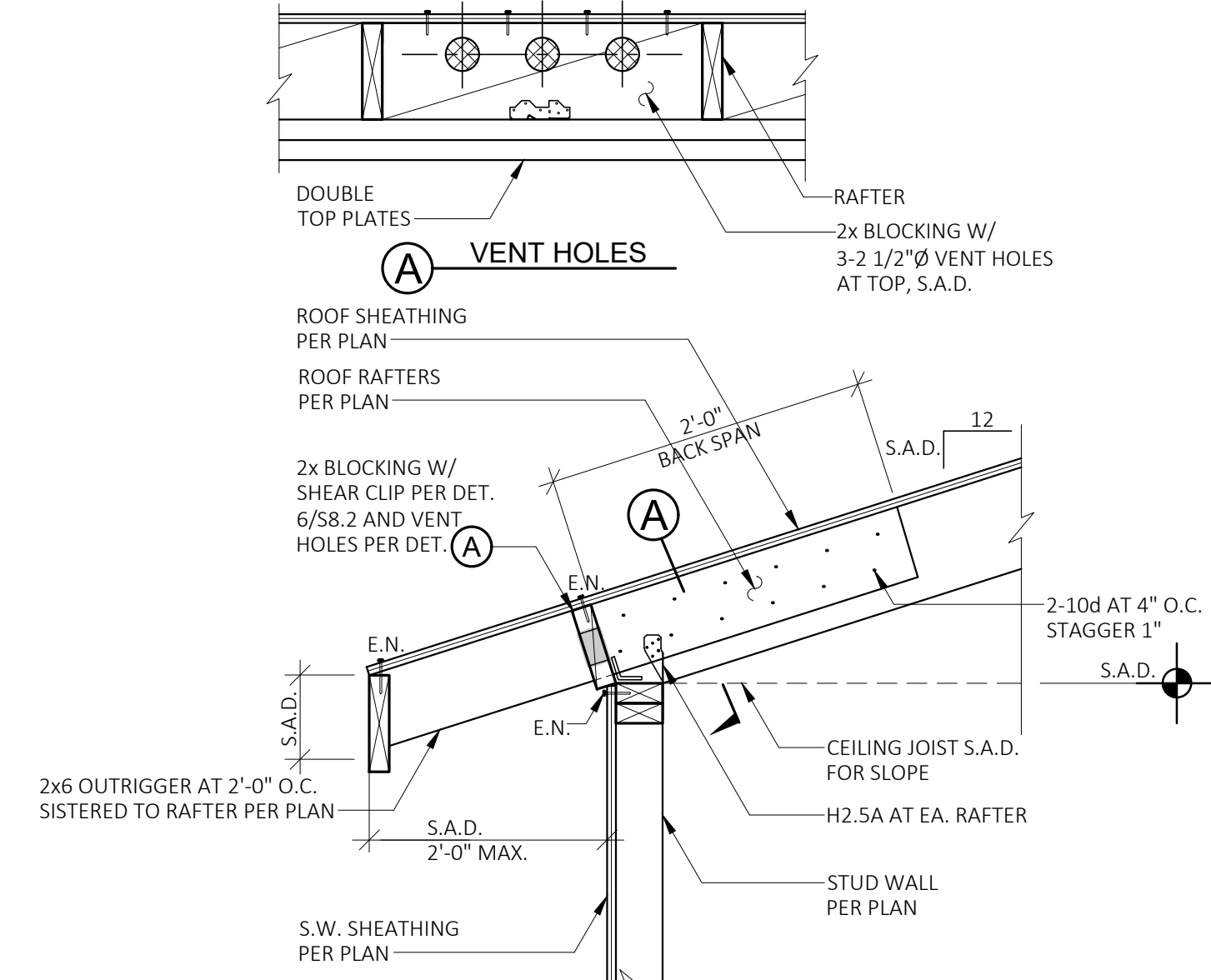
8 ENTRY ROOF FRAMING
1"=1'-0"



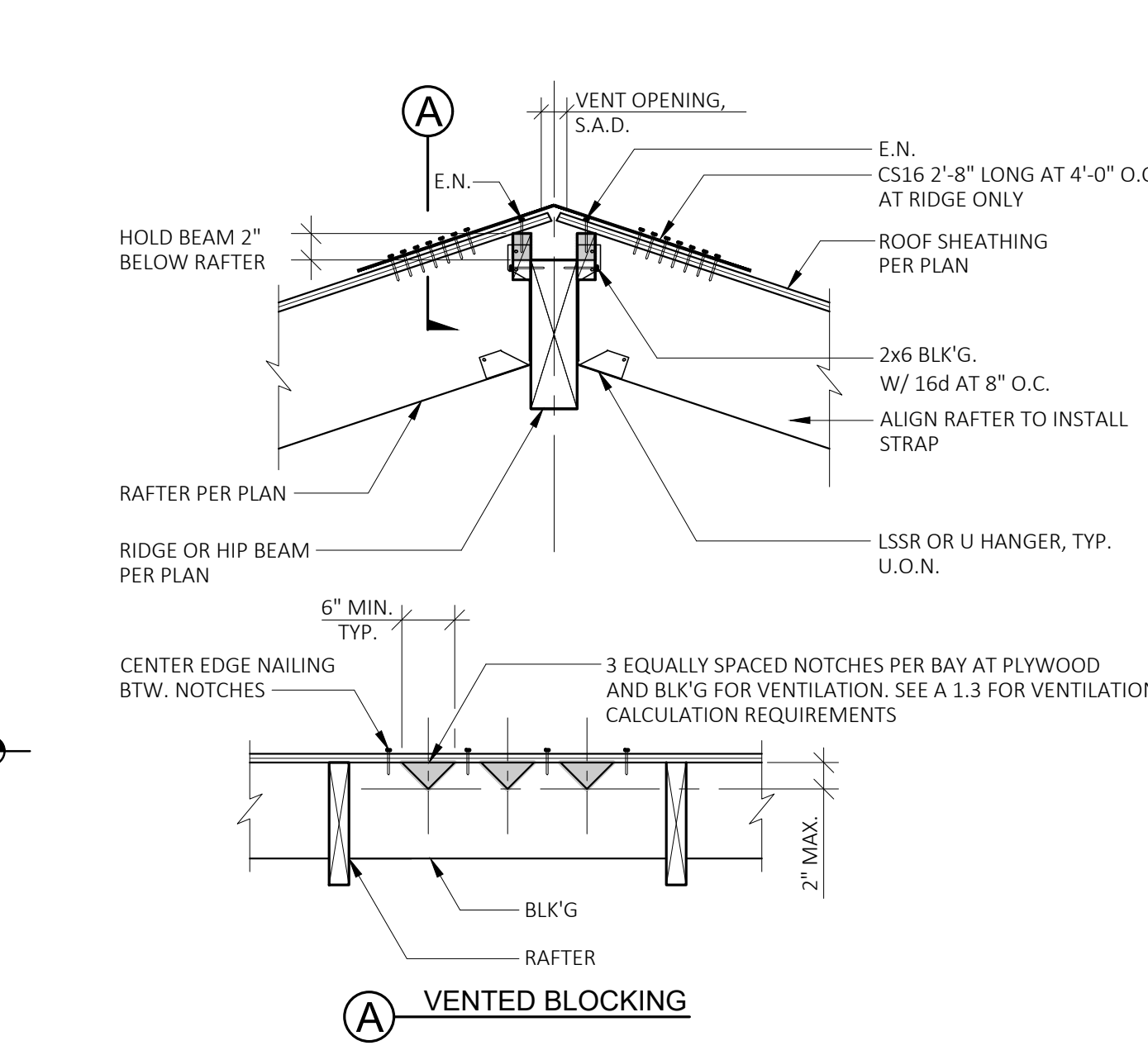
4 GABLE WALL
1"=1'-0"



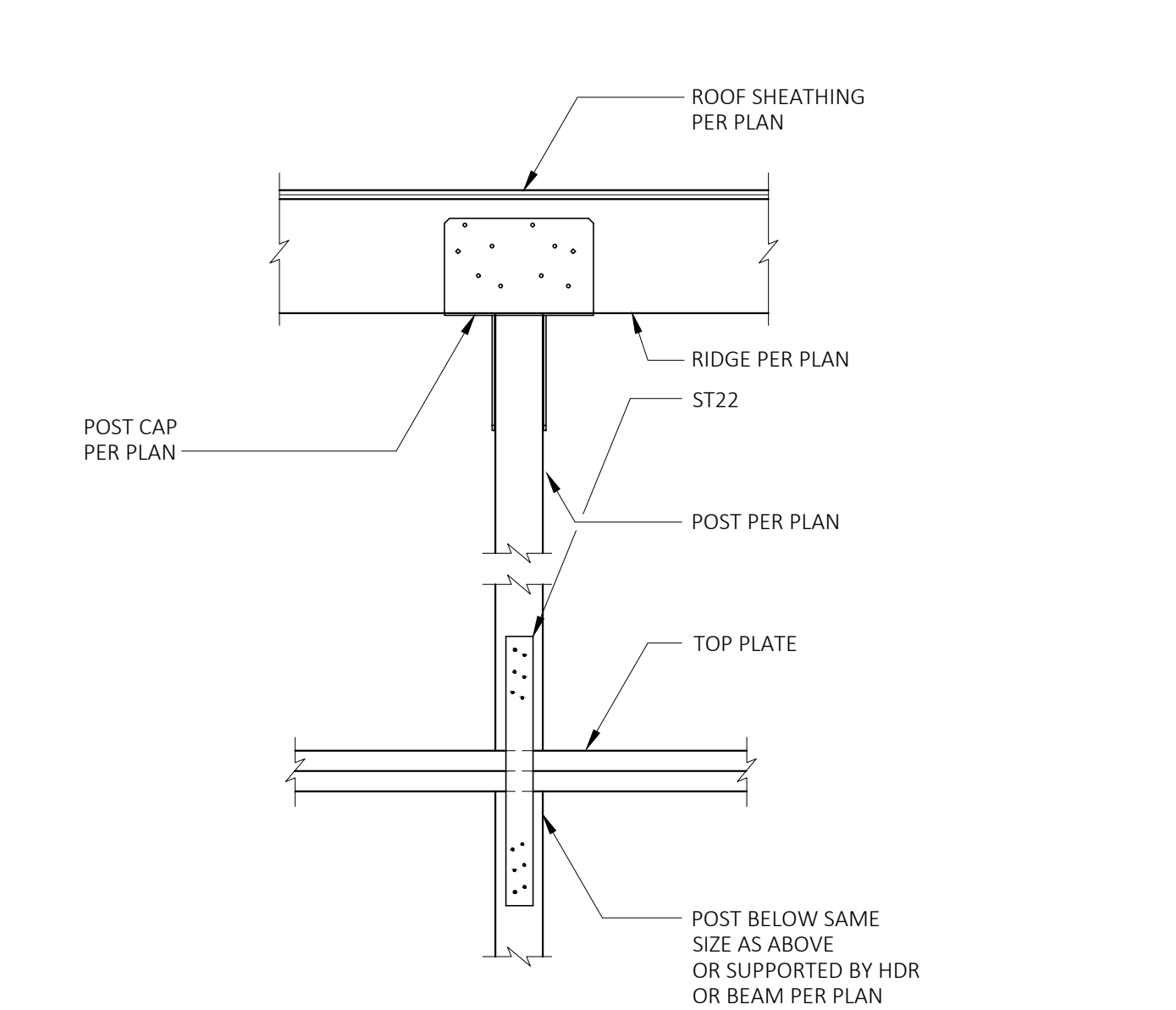
5 ELEVATION AT WALL AND RIDGE SUPPORT
1"=1'-0"



1 EAVE DETAIL
1"=1'-0"



2 RIDGE BEAM OR HIP
1"=1'-0"



3 RIDGE BEAM SUPPORT
1"=1'-0"

12

9

6

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One-Bedroom ADU Bungalow Style

Richmond, California

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WOOD DETAILS