General Notes:

1. CONTRACTOR SHALL FIELD INSPECT JOB SITE PRIOR TO COMMENCEMENT OF WORK AND SHALL ADHERE TO ALL RULES GOVERNING CONSTRUCTION, SAFETY, BUILDING ACCESS, AND THE USE OF FACILITIES AS SET BY THE BUILDING OWNER, BUILDING DEPARTMENT, FIRE DEPARTMENT AND STATE AUTHORITIES.
2. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
3. ALL MECHANICAL, ELECTRICAL, PLUMBING WORK AND ENGINEERING IS DESIGNATED TO BE "DESIGN BUILD" AND IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS ASSIGNED DESIGN BUILD SUB-CONTRACTORS. THEY ARE THEREBY IN SOLE CHARGE OF DESIGN ENGINEERING, PERMITS, FEES, CALCULATIONS, REPORTS, DRAWINGS, ETC. REQUIRED BY LOCAL AND ALL OTHER GOVERNING AGENCIES FOR THE WORK SO DESIGNATED.
4. THE CONTRACTOR AND ALL SUB-CONTRACTORS AGREES TO DEFEND, INDEMNIFY AND HOLD THIS DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF ALL WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
5. CONTRACTOR SHALL NOTIFY DESIGN PROFESSIONAL OF ANY DISCREPANCIES ENCOUNTERED ON THE DRAWINGS. SUCH DISCREPANCIES SHALL BE RESOLVED TO THE SATISFACTION OF THE DESIGN PROFESSIONAL PRIOR TO THE START OF THE AFFECTED WORK.
6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION ALL SUB-CONTRACTORS TO ENSURE A TIMELY COMPLETION OF THE JOB. NO ALLOWANCE SHALL BE MADE FOR INCREASED COSTS INCURRED DUE TO LACK OF PROPER COORDINATION.
7. GENERAL AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INSPECTING THE PREMISES DURING ANY BIDDING/CONTRACT NEGOTIATIONS TO ASCERTAIN EXISTING CONDITIONS WHICH MIGHT AFFECT THE COST OR SCHEDULE OF CONSTRUCTION. DISCREPANCIES AND/OR CONFLICTS SHALL BE REPORTED TO THE OWNER AND THE DESIGN PROFESSIONAL BEFORE SUBMITTING BIDS OR CONCLUSION OF ANY CONTRACT NEGOTIATIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION AND/OR DEMOLITION.
9. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PROPERTY OR CONSTRUCTION RESULTING FROM WORK PERFORMED BY CONTRACTOR AND/OR SUB-CONTRACTORS, AND SHALL REPAIR ALL SUCH DAMAGE TO ORIGINAL CONDITION AT NO ADDITIONAL COST.
10. GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR EXECUTION OF WORK IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS. BIDDING ON DOCUMENTS IS CONSIDERED ACCEPTANCE OF ALL NOTES AND INFORMATION HEREIN.
11. THESE CONSTRUCTION DOCUMENTS ARE PROVIDED TO ILLUSTRATE THE DESIGN AND GENERAL TYPE OF CONSTRUCTION DESIRED AND TO IMPLY THE FINEST QUALITY OF CONSTRUCTION, MATERIAL AND/OR WORKMANSHIP THROUGHOUT. THE GENERAL CONTRACTOR, IN ASSUMING RESPONSIBILITY FOR THE WORK INDICATED, SHALL COMPLY WITH THE SPIRIT AS WELL AS THE LETTER IN WHICH THEY WERE WRITTEN.
12. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DOCUMENTS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES, AND SHALL PROVIDE ALL SUBCONTRACTORS WITH CURRENT CONSTRUCTION DOCUMENTS AS REQUIRED.
13. ALL WORK LISTED, SHOWN OR IMPLIED ON ANY CONSTRUCTION DOCUMENT SHALL BE SUPPLIED AND INSTALLED BY THE GENERAL CONTRACTOR EXCEPT WHERE NOTED OTHERWISE. THE GENERAL CONTRACTOR SHALL CLOSELY COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS OR VENDORS TO ASSURE THAT ALL SCHEDULES ARE MET AND THAT ALL WORK IS DONE IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.
14. THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUESTED FOR FABRICATED ITEMS TO THE DESIGN PROFESSIONAL FOR APPROVAL PRIOR TO INSTALLATION.
15. GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL CONFINE OPERATIONS TO AREAS AND TIMES OF OPERATION PERMITTED PERMITTED BY LAW, ORDINANCES, PERMITS AND THE CONTRACT DOCUMENTS AND SHALL NOT UNREASONABLY ENCUMBER THE SITE WITH ANY MATERIAL AND/OR EQUIPMENT.

Joseph Residence ADU

OWNER:
Niv Joseph & Alyssa Hoehn
3849 De La Cruz Blvd
Santa Clara, CA 95040

CONTACT:
nivjoseph@gmail.com
alhoen@ucdavis.edu

PROJECT DESCRIPTION:
Construct 366 sq. ft. attached ADU addition at rear of home.
New construction to be V-B.

SHEET INDEX:

SHEET NO.	DESCRIPTION
A 0.0	TITLE SHEET
	NOTES
	VICINITY MAP
	SITE PLAN
A 1.0	EXISTING/DEMO PLAN
	PROPOSED FLOOR PLAN
A 2.0	ELECTRICAL PLAN
A 3.0	PROPOSED ELEVATIONS
A 4.0	FOUNDATION PLAN
	BRACED WALL PLAN
	FOUNDATION DETAILS
A 5.0	ROOF FRAMING PLAN
	SECTIONS
	DETAILS
CG-1	CALGREEN REQUIREMENTS
CG-2	CALGREEN CHECKLIST
T24-1	TITLE 24
T24-2	TITLE 24

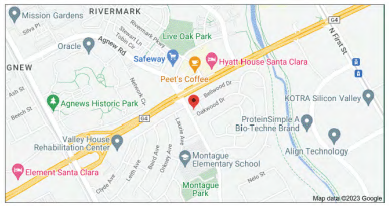
Property Data

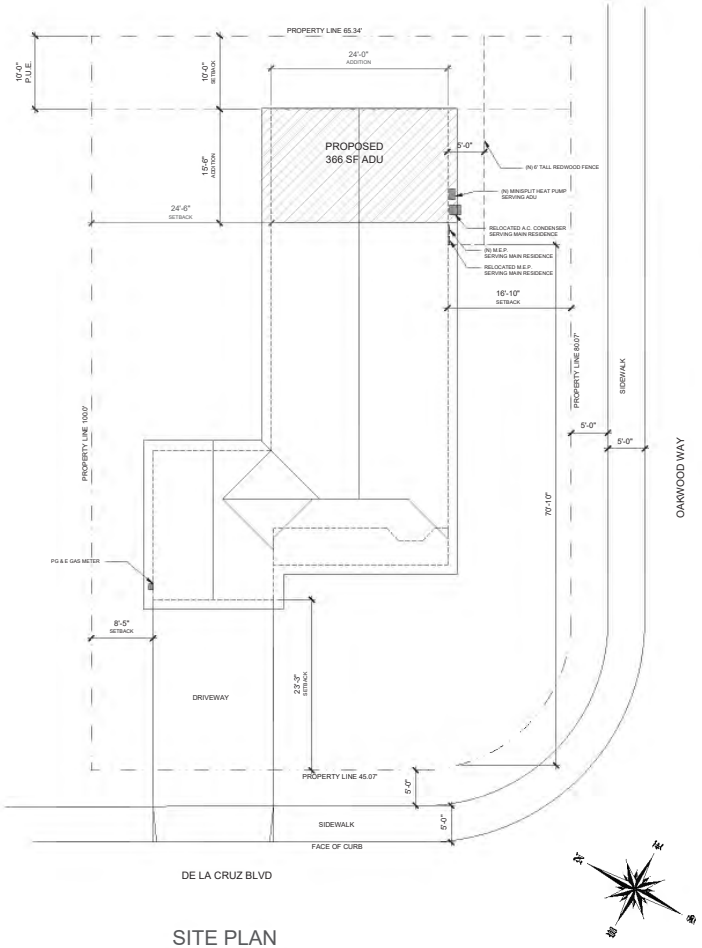
Address:		APN:			
3849 De La Cruz, Santa Clara, CA 95054		101-25-006			
Zoning: R-1-6L	Lot Area: 5,442 SQ. FT.	Occupancy: R-3		Construction Type: V-B	
	Lot Width: 65.3 FT.	Lot Depth: 100.0 FT.		Non-sprinklered	
Development Standards					
Standard	Existing	Proposed		Required	
Setbacks:					
	First floor / Second floor	First floor / Second floor		First floor / Second floor	
Front	23.25 FT / N/A	23.25 FT / N/A		20 FT / N/A	
Rear	25.5 FT / N/A	10.0 FT / N/A		20 FT / N/A	
Side (Left)	8.4 FT / N/A	8.4 FT / N/A		5 FT / N/A	
Side (Right)	16.9 FT / N/A	16.9 FT / N/A		15 FT / N/A	
Lot Coverage	1,352.2 SF	1,691.2 SF		MAX. 2,400 SF	
FAR	22%	26%		MAX. 40%	
Square Footage:					
Main Residence Living Area	998.4 SF	998.4 SF			
Garage	326.8 SF	326.8 SF			
Addition		366 SF			
Accessory Buildings	NONE	NONE		NONE	

CODE COMPLIANCE:

2022 CBC. CRC, CMC, CPC, CFC, AND CEC, CALIFORNIA ENERGY CODE, AND CALGREEN BUILDING STANDARDS CODE AS AMENDED BY THE STATE OF CALIFORNIA AND LOCAL JURISDICTIONS ARE APPLICABLE TO THIS PROJECT.

VICINITY MAP





SITE PLAN
SCALE: 1/8"=1'

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

TITLE SHEET
SITE PLAN

James Watson Residential Drafting and Design
1185 Alice Drive, Santa Clara, CA 95050
408-898-0446 James.constructionbuilder.com

PROJECT

DATE 2/24/23

SHEET A 0.0

General Notes:

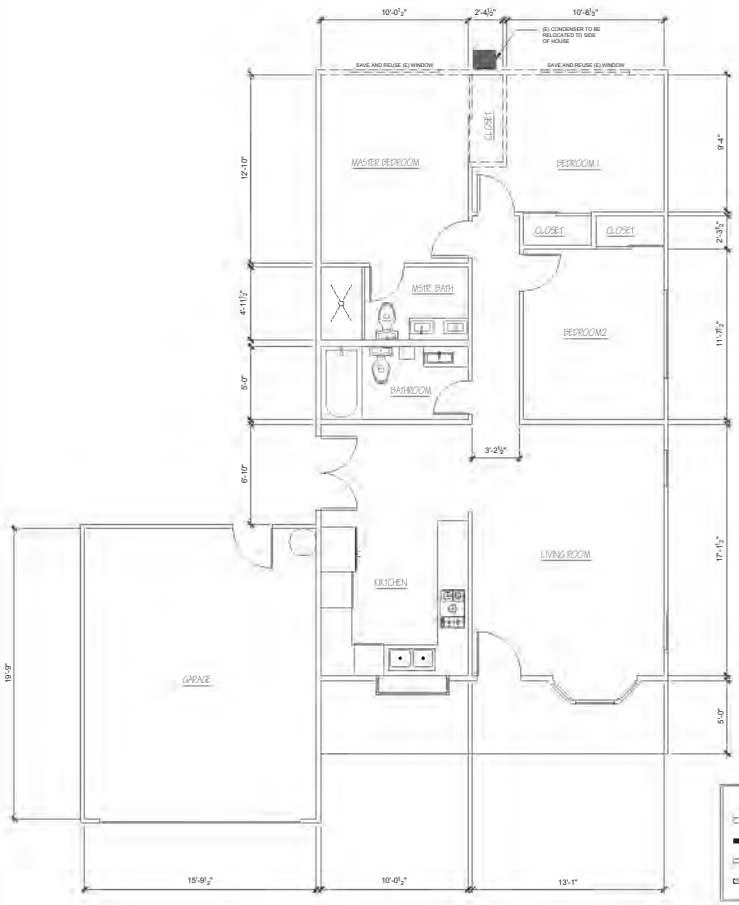
- The General Contractor shall be responsible for determining location of all utilities prior to excavation and/or demolition.
- The General Contractor shall notify design professionals of any discrepancies encountered on the drawings. Such discrepancies shall be resolved to the satisfaction of the design professionals prior to the commencement of affected work.
- General contractor shall carefully coordinate demolition and removal with notes and dimensions indicating the extent and nature of new construction shown elsewhere in these plans.
- General contractor is responsible for securely shoring in place all overhead structures prior to the removal of any existing support structures.
- The General Contractor shall field inspect the job site prior to commencement of work and shall adhere to all rules governing construction, safety, building access, and the use of facilities as set by the building owner, and local ordinances.

Floor Plan Notes:

1. Smoke alarms shall be operational and be located in all sleeping rooms, outside each separate sleeping area in the immediate vicinity of the bedrooms, and at each story, including basements.
2. Safety glazing (tempered) required in the following locations: Any portion of a wall enclosing a shower or bathtub enclosure where the bottom exposed edge of the glazing is less than 60" above a standing surface. Door enclosures for hot tubs, whirlpools, saunas, bathtubs and showers .
3. Each bathroom shall be mechanically ventilated. Fans shall be ENERGY STAR compliant and terminate outside the building (3 feet from operable windows). Unless functioning as a whole house system, fans must be controlled by a humidity control capable of a relative humidity range of <50% to a maximum of 80%. Control may be adjusted manually or automatic.
4. A ducted kitchen exhaust hood is required. Only a metal, smooth interior surface duct on vent hood or down draft exhaust vent is permissible. Aluminum flex duct not approved. Provide back draft damper.
5. Interior step to be max. 7 3/4" below top of threshold. Rise and run to be max. 7 3/4" step height, min. 11" step depth.
6. The existing vapor/moisture barrier consists of Polycoat 5000 with Westcoat Epoxy top coat. Seal cut-outs in slab with matching or equivalent. Verify compatibly before applying any adhesives or coatings which may compromise the performance of this required moisture/vapor barrier.

Plumbing Notes:

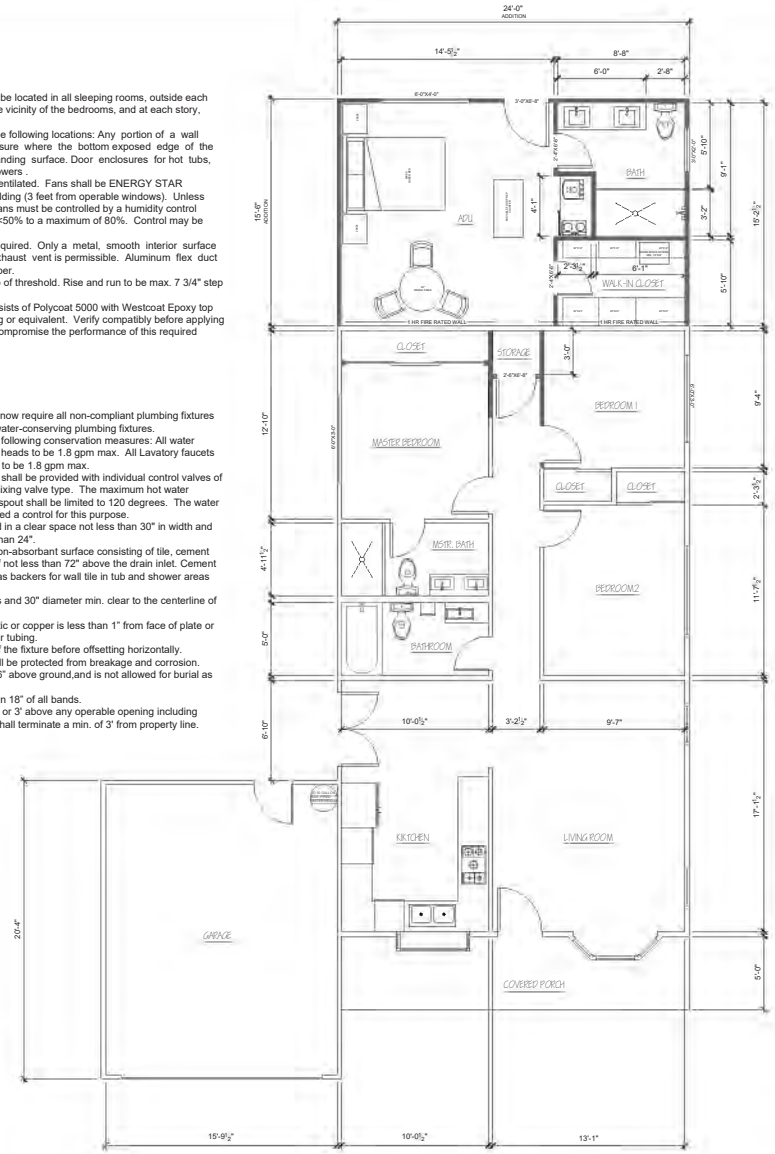
1. Additions, alterations or improvements now require all non-compliant plumbing fixtures within the residence be replaced with water-conserving plumbing fixtures.
2. Plumbing fixtures shall comply with the following conservation measures: All water closets to be 1.28 gpf max. All shower heads to be 1.8 gpm max. All Lavatory faucets to be 1.2 gpm max. All kitchen faucets to be 1.8 gpm max.
3. Showers and tub/shower combinations shall be provided with individual control valves of the pressure balance or thermostatic mixing valve type. The maximum hot water temperature discharging from the filler spout shall be limited to 120 degrees. The water heater thermostat shall not be considered a control for this purpose.
4. Each water closet stool shall be located in a clear space not less than 30" in width and have a clear space in front of not less than 24".
5. Shower walls shall be finished with a non-absorbant surface consisting of tile, cement plaster or approved equal to a height of not less than 72" above the drain inlet. Cement board or cement plaster shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas.
6. Min. shower size to be 1,024 sq. inches and 30" diameter min. clear to the centerline of the curb.
7. Nail plates shall be installed when plastic or copper is less than 1" from face of plate or stud, and min. 1 1/2" beyond the pipe or tubing.
8. Vents shall be 6" above the flood rim of the fixture before offsetting horizontally.
9. All pipes passing through concrete shall be protected from breakage and corrosion. (Galvanized steel must be kept a min. 6" above ground,and is not allowed for burial as DWV.)
10. Cast iron DWV shall be supported within 18" of all bands.
11. Plumbing vents shall be 10' away from, or 3' above any operable opening including skylights, air intake, or vent shaft and shall terminate a min. of 3' from property line.



EXISTING/ DEMO PLAN
SCALE: 1/4" = 1'

WALL LEGEND:

	=	EXISTING 2 X 4 STUDWALL TO REMAIN
	=	NEW 2 X 4 STUDWALL
	=	EXISTING 2 X 4 STUDWALL TO BE REMOVED
	=	LOCATION OF ALTERED STUDWALL



PROPOSED FLOOR PLAN
SCALE: 1/4" = 1'

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

DEMO PLAN
PROPOSED FLOOR PLAN

James Watson Residential Drafting and Design
1185 Alue Drive, Santa Clara, CA 95050
408-896-0646 · James.watson.architecture@yahoo.com

PROJECT

DATE 2/24/23

SHEET A 1.0

ELECTRICAL LEGEND	
	SWITCH
	DIMMER SWITCH
	3-WAY SWITCH/3-WAY WITH DIMMER
	VACANCY SENSOR SWITCH
	DUPLEX RECEPTACLE
	220 VOLT RECEPTACLE
	GROUND FAULT INTERRUPTER
	SPLIT RECEPTACLE
	LED RECESSED CAN LIGHT
	RECESSED CAN LIGHT RATED FOR WET LOCATIONS
	LED UNDER CABINET LIGHTING
	CABINET LIGHT
	WALL SCONCE LIGHT FIXTURE
	PENDANT LIGHT FIXTURE
	SURFACE MOUNTED CEILING FIXTURE
	EXT.GRADE HIGH EFFICACY WALL SCONCE WITH MOTION SENSOR AND PHOTO CONTROL OR TIME CLOCK PROGRAMMED TO TURN OFF THE LIGHTING DURING DAYLIGHT HOURS
	EXHAUST FAN
	COMBINATION EXHAUST FAN LIGHT FIXTURE
	SMOKE DETECTOR/CARBON MONOXIDE DETECTOR
	ELECTRIC METER BASE
	ELECTRIC PANEL

Bathroom Exhaust Fan Requirements:

Min. CFM:	50
Duct Type:	Flex
Duct Size:	4"
Max. Duct Length:	56 ft.
Max. Sones:	3

Kitchen Exhaust Fan Requirements:

Min. CFM:	100
Duct Type:	Smooth
Duct Size:	7"
Max. Duct Length:	No Limit
Max. Sones:	3

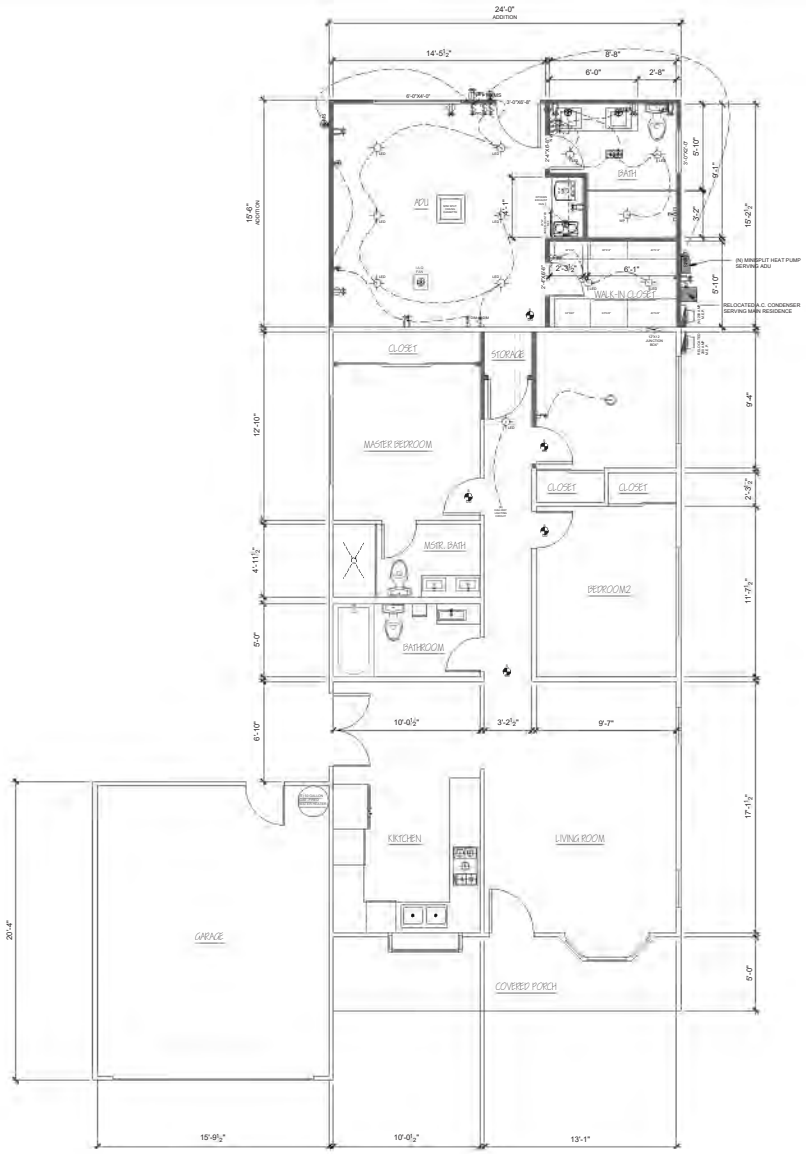
I.A.Q. Fan Requirements:

CFM:	45
Duct Type:	Smooth
Duct Size:	4"
Max. Duct Length:	70'
Max. Sones:	1

The exhaust fan is intended to operate continuously to ensure indoor air quality. The fan may be controlled by a standard on/off switch, but a label must be provided at the switch that reads: "This fan is to be left on to ensure indoor air quality."

Electrical Notes:

1. Provide bonding to the water piping, gas and metal building systems (min. #4 for 200 amp service).
2. New circuits require AFCI protection for the entire branch circuit if they supply any outlets in the following locations: 15 and 20 amp kitchen circuits, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas. New wiring for hard-wired smoke and CO alarms also require AFCI circuit breaker.
3. All general purpose and countertop receptacles must be tamper-resistant.
4. Provide hard-wired smoke alarms alarms in all bedrooms, outside each sleeping area in the immediate vicinity of bedrooms, and on each story. Smoke detectors in JADU and Main Residence shall be interconnected.
5. Smoke alarms shall be installed on the ceiling or wall between 4" and 12" of the ceiling. Carbon monoxide alarms shall be installed on the ceiling or wall above the door header.
6. Individual (dedicated) circuits are required for refirgerator,garbage disposals, microwaves, compactors, and dishwashers.
7. Receptacles shall be located so appliances are no further than 24" from any plug (48"maximum distance between receptacles). Counter top surfaces wider than 12" require receptacles.Receptacles shall be no higher than 18" above the counter surface.
8. All light fixtures shall be high efficacy. All interior switches shall be dimmer or vacancy sensor type.
9. Provide one dedicated 20 amp circuit to serve the required bathroom outlets only and one dedicated 20 amp circuit to serve the laundry outlets (no other outlets, fans, lighting, etc. allowed on this circuit).
10. At least one light in each bathroom and laundry room shall be controlled by a vacancy sensor (a manual-on, automatic-off occupancy sensor).
11. Light fixtures located in wet location shall be listed for wet location and require water resistant trims.
12. Bathroom exhaust fans must be controlled by a humidistat and must also be switched separate from lighting, with the exception that lighting integral to an exhaust fan can be on the same switch if the fan is controlled by a humidistat that continues its operation after the light is off.
13. Receptacles for ranges and clothes dryers shall be a 3-pole w/ground type. 4-wire grounding type flexible cords are required for connection of ranges and clothes dryers. The bonding jumper shall not be connected between the neutral terminal and the frame of the appliance.
14. Provide air-tight IC rated recessed light fixtures in insulated ceilings.
15. Receptacle outlets shall be installed so that no point along the floor line in any wall space is more than 6' measured horizontally from an outlet in that space, including any wall space 2' or more in width.
16. Standard electrical wall receptacles are to be mounted vertically at +12" and light switches at 3'-6" above finished floor U.N.O.
17. Installation instructions for all listed equipment shall be provided to the field inspector at the time of inspection.
18. Outdoor lighting permanently mounted to a dwelling or other buildings on the same parcel shall be high efficacy and be controlled by a manual on off switch with a motion sensor and photocontrol, or a time switch and photocontrol, or a time clock programmed to turn off the lighting during daylight hours.



ELECTRICAL PLAN
SCALE: 1/4" = 1'

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

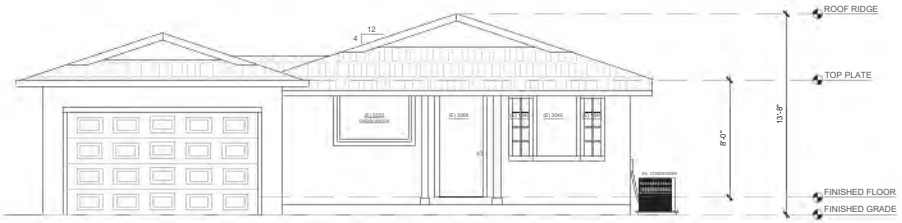
ELECTRICAL PLAN

James Watson Residential Drafting and Design
1165 Aue Drive, Santa Clara, CA 95050
408-969-0446, jamesconstruction@yahoo.com

PROJECT

DATE 2/24/23

SHEET A 2.0



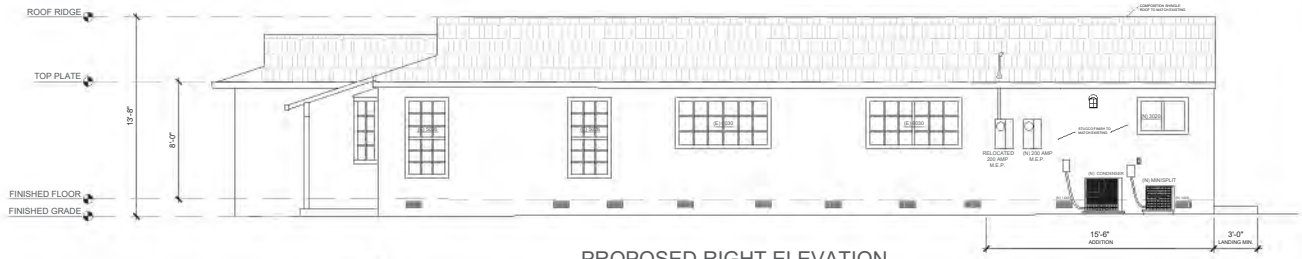
PROPOSED FRONT ELEVATION

*Not less than 40 percent and not more than 50 percent of the required ventilating area shall be provided by ventilators located in the upper portion of the attic or rafter space.

Ventilation openings in walls shall resist the intrusion of flame and embers into the structure or shall be screened with a corrosion resistant noncombustible wire mesh, opening shall be a minimum of 1/16" not to exceed 1/8" openings. These vents must be state approved. CRC R337.6.2

ADU ATTIC VENTILATION CALCULATIONS	
372 S.F. (ROOF-ATTIC AREA / 300) = 1.24 S.F. OF VENT OPENING REQUIRED*	
TYPE	OPENING
UPPER VENT: 15.5 L.F. RIDGE VENT @ 12.5 SQ. IN. PER L.F.	= 1.3 S.F.
LOWER VENT: 6 -15X5.5 SOFFIT VENT @ 43 SQ. IN. EA.	= 1.7 S.F.
TOTAL :	= 3.0 S.F.

SUB-FLOOR VENT CALCULATIONS
372 S.F. (SUBFLOOR AREA / 150) = 2.48S.F. OF VENT OPENING REQUIRED 8 (N) 14"X8" (.58 S.F. EA.) VENTS PER PLAN = 4.6 S.F.



PROPOSED RIGHT ELEVATION

PROPOSED REAR ELEVATION

ELEVATION NOTES:

1. New addition roofing to be composition shingle to match existing.
2. New stucco work: weather resistive barriers shall include two layers of grade "D" paper and shall be applied horizontally with the upper layer lapped over the lower layer no less than 2" vertically and 6" horizontally.
3. Lath fasteners shall be spaced no less than 6" vertically and 16" horizontally. Staples shall be spaced 8" O.C. when used with self-furring lath only.
4. Metal lath shall be lapped not less than 1/2" at sides and 1" at the ends. Wire lath shall be lapped not less than one mesh at sides and ends, but not less than 1". Overlap around corners 12".
5. All exterior penetrations shall be made water-tight.

PROPOSED LEFT ELEVATION

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

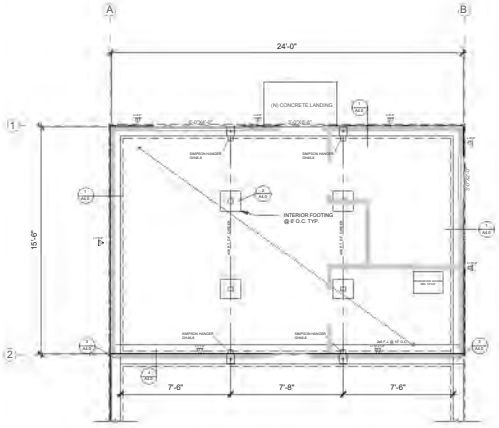
ELEVATIONS

James Watson Residential Drafting and Design
1185 Alice Drive, Santa Clara, CA 95050
408-896-0646 Jamestwatsonstudio@yahoo.com

PROJECT

DATE 2/24/23

SHEET A 3.0



FOUNDATION/BRACED WALL PLAN
SCALE: 1/4" = 1'

FOUNDATION CONSTRUCTION NOTES:

1. Concrete shall be consolidated by suitable means during placement and shall be worked around embedded items and reinforcement and into corners of forms.
2. Forms shall be made of wood, steel, aluminum, plastic, a composite of cement and foam insulation, a composite of cement and wood chips, or other approved material suitable for supporting and containing concrete. Forms shall provide sufficient strength to contain concrete during the concrete placement operation.
3. Anchor bolts shall have a 4" minimum and a 12" maximum clearance to the end of the sill plate.
4. Anchor bolts shall not be spaced more than 48" on center with a minimum of (2) bolts for each piece of sill plate. Sill plate washer size shall be a minimum of 0.229"x3"x3"
5. Vertical and horizontal reinforcement shall be the longest lengths practical. Where splices are necessary in reinforcement, the length of lap splice shall be in accordance with CRC Table R608.5.4.(1)
6. Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8" from the exposed ground shall be naturally durable wood or pressure treated.
7. Fasteners for pressure treated wood and fire-retardant-treated wood shall be of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper.
8. Access shall be provided to all under-floor spaces and shall be a minimum of 18"x24".
9. The minimum net area of under-floor ventilation openings shall not be less than 1 square foot of each 150 square feet of under-floor area with one ventilation opening within 3 feet of each corner of the building. Openings for under floor ventilation shall be not less than 1-1/2 square feet for each 25 linear feet of exterior wall.
10. Floor joists, ceiling joists,and roof rafters shall be laterally supported at ends and at each support with solid blocking, except when the ends are nailed to a header, rim joist,or by other approved methods.

FOUNDATION DESIGN CRITERIA:

DEAD LOAD	= 10 PSF
LIVE LOAD	= 40 PSF
ROOF LIVE LOAD	=20 PSF
SOIL BEARING PRESSURE	=1500 PSF
LUMBER:	DOUG FIR #2 GRADE
COMPRESSIVE STRENGTH OF CONCRETE	= 2500 PSI
REINFORCEMENT BARS:	40 GRADE MIN.

SUB-FLOOR VENT CALCULATIONS

372 S.F. (SUBFLOOR AREA / 150) = 2.48S.F. OF VENT OPENING REQUIRED
8 14"X6" (.58 S.F. EA.) VENTS PER PLAN = 4.6 S.F.

SHEAR WALL SCHEDULE

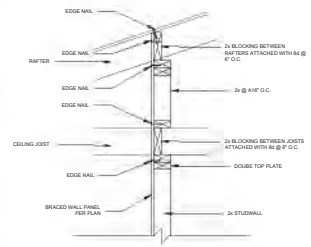
MARK	BRACED WALL PANEL	MATERIAL	NAILING	FRAMING CONNECTION
1	CS-WSP	3/8" PLYWD. CDX	8d COMMON: 6" O.C. EDGE 12" O.C. FIELD	SOLID BLOCKING BETWEEN RAFTERS. NAIL W/8d @ 6" O.C.

LEGEND:

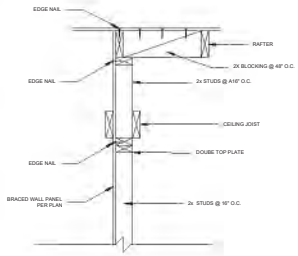
BRACED WALL PANEL LOCATION

A — BRACED WALL LINE

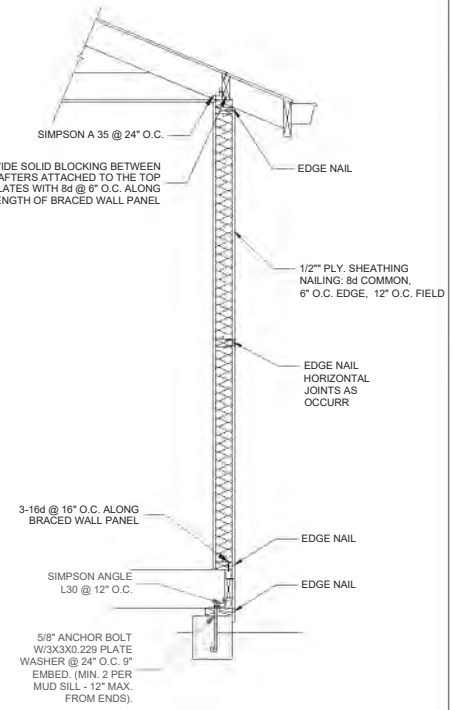
1 — BRACED WALL PANEL TYPE



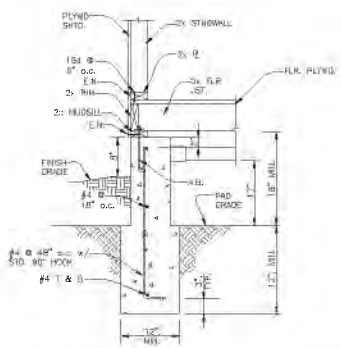
FULL HEIGHT INT. SHEARWALL PERPENDICULAR TO RAFTERS
N.T.S



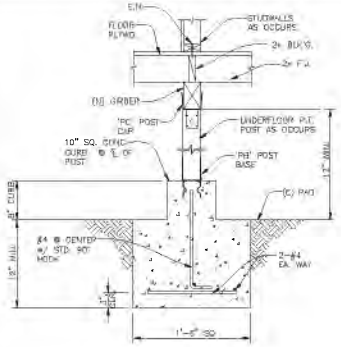
FULL HEIGHT INT. SHEARWALL PARALLEL TO RAFTERS
N.T.S



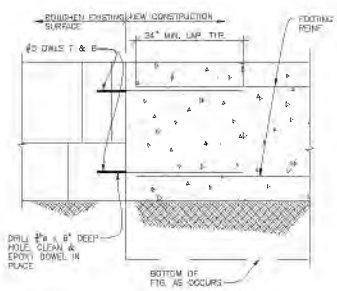
TYP. BRACED WALL PANEL/WSP
N.T.S



1 DETAIL
A4.0



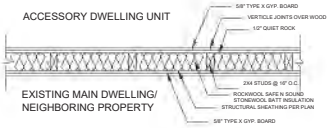
2 DETAIL
A4.0



3 DETAIL
A4.0

1 HR. FIRE WALL NOTES:

1. 1 HR. fire wall to consist of 5/8" type X UL classified gypsum board applied vertically, full height to underside of roof sheathing. Fasten to studs, top and bottom plates @ O.C. with type S screws.
2. No access between attic of (E) residence and ADU through firewall is allowed.
3. Wallboard joints covered with tape and joint compound, fastener heads covered with joint compound.
4. Fasteners shall not be spaced less than 3/8" from edges and ends of wall board
5. Fireblocking shall be provided in the following locations:
   - Vertically at the ceiling and floor levels
   - Horizontally at intervals not exceeding 10'(including concealed and furred wall spaces)
   - At interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings, and cove ceilings
   - Fireblocking at openings around vents, pipes, ducts, cables and wires at ceiling and floor level, shall consist of an approved material to resist the free passage of flame and products of combustion (such as Touch 'n Seal Gun Foam II or fitted fire blocking caulk).



4 1 HR. FIRE RATED WALL
A4.0
N.T.S.

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

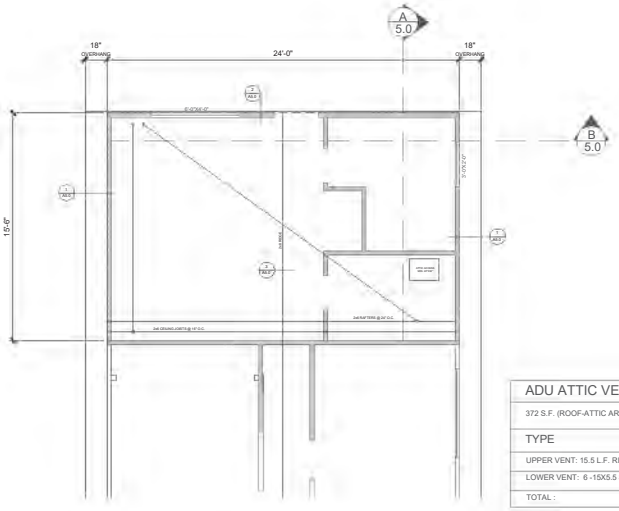
FOUNDATION PLAN, BRACED WALL PLAN, DETAILS

James Watson Residential Drafting and Design
1165 Alice Drive, Santa Clara, CA 95050
408-969-0446 Jamesconstruction@yahoo.com

PROJECT

DATE 2/24/23

SHEET A 4.0

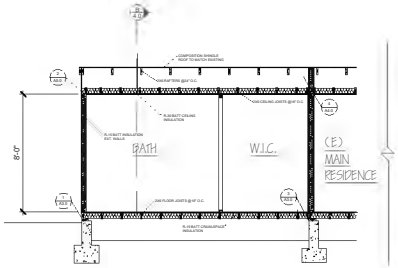


ROOF FRAMING PLAN
SCALE: 1/4" = 1'

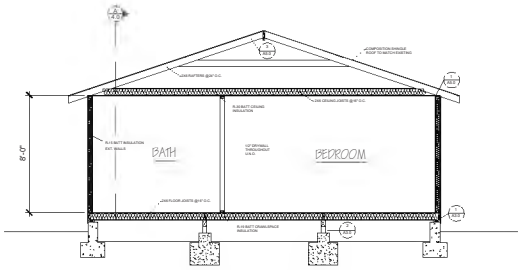
ADU ATTIC VENTILATION CALCULATIONS	
372 S.F. (ROOF-ATTIC AREA / 300) = 1.24 S.F. OF VENT OPENING REQUIRED*	
TYPE	OPENING
UPPER VENT: 15.5 L.F. RIDGE VENT @ 12.5 SQ. IN. PER L.F.	= 1.3 S.F.
LOWER VENT: 6 -15X5.5 SOFFIT VENT @ 43 SQ. IN. EA.	= 1.7 S.F.
TOTAL :	= 3.0 S.F.

*Not less than 40 percent and not more than 50 percent of the required ventilating area shall be provided by ventilators located in the upper portion of the attic or rafter space.

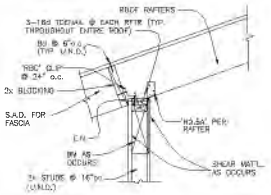
Ventilation openings in walls shall resist the intrusion of flame and embers into the structure or shall be screened with a corrosion resistant noncombustible wire mesh, opening shall be a minimum of 1/16" not to exceed 1/8" openings. These vents must be state approved. CRC R337.6.2



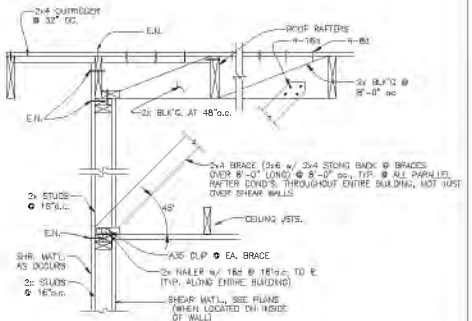
SECTION A
SCALE: 1/4" = 1'



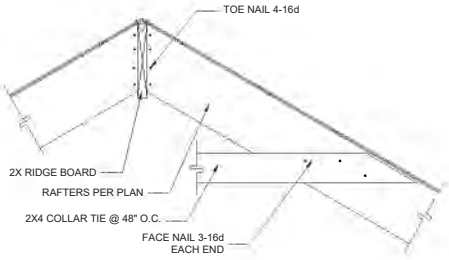
SECTION B
SCALE: 1/4" = 1'



1 A5.0 DETAIL



2 A5.0 DETAIL



3 A5.0 ROOF RIDGE AND COLLAR TIE
N.T.S.

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

ROOF FRAMING PLAN, SECTIONS, DETAILS

James Watson Residential Drafting and Design
1165 Alice Drive, Santa Clara, CA 95050
408-898-0446 James@constructionbuilder.com

PROJECT

DATE 2/24/23

SHEET A 5.0

Cal Green Mandatory Measures:

1. **Projects which disturb less than one acre of soil** and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.
   1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
   2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
   3. Compliance with a lawfully enacted storm water man-agement ordinance.
2. **Water conserving plumbing fixtures and fittings.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
   4.303.1.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush.Tank-type water closets shall be certified to the perfor-mance criteria of the U.S. EPA Water Sense Specification for Tank type Toilets.
   Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.
   4.303.1.2 Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.
   4.303.1.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA Water Sense Specification for Showerheads.
   4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one shower head, the combined flow rate of all shower-heads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80psi, or the shower shall be designed to allow only one shower outlet to be i n operation at a time.Note: A hand-held shower shall be considered a shower head.
   4.303.1.4.1 Residential lavatory faucets. The maxi-mum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.
   4.303.1.4.4 Kitchen faucets. The maximum flow rateof kitchen faucets shall not exceed 1.8 gallons per min-ute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2gallons per minute at 60 psi, and must default to a max-imum flow rate of 1.8 gallons per minute at 60 psi
   Note: Where complying faucets are unavailable, aera-tors or other means may be used to achieve reduction.
   4.303.2 Standards for plumbing fixtures and fittings.Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code.
3. **Outdoor potable water use in landscape areas**. After December 1, 2015, new residential developments with an aggregate landscape area equal to or greater than 500square feet shall comply with one of the following options:
   1. A local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO),whichever is more stringent; or
   2. Projects with aggregate landscape areas less than 2,500square feet may comply with the MWELO's Appendix D Prescriptive Compliance Option.
4. **Rodent proofing.** Annular spaces around pipes, elec-tric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, con-crete masonry or a similar method acceptable to the enforcing agency.
5. **Construction waste management**. Recycle and/orsalvage for reuse a minimum of 65 percent of the non hazard-ous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.
   Exceptions:
   1. Excavated soil and land-clearing debris
   2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the job site.
   3. The enforcing agency may make exceptions to the requirements of this section when isolated jobs sites are located in areas beyond the haul boundaries of the diversion facility
6. **Construction waste management plan**. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.
   1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
   2. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
   3. Identify diversion facilities where the construction and demolition waste material will be taken.
   4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
   5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.
7. **Waste management company**. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1
   Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.
8. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 pounds per square foot of the building area shall meet the minimum 65 percent construction waste reduction requirement in Section 4.408.1
9. Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65-percent construction waste reduction requirement in Section 4.408.1
10. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Sec-tion 4.408.4
11. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building.
    1. Directions to the owner or occupant that the manual shall remain with the building throughout the lifecycle of the structure.
    2. Operation and maintenance instructions for the following:
       a. Equipment and appliances, including water-savingdevices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
       b. Roof and yard drainage, including gutters and down-spouts.
       c. Space conditioning systems, including condensers and air filters.
       d. Landscape irrigation systems.
       e. Water reuse systems.
    3. Information from local utility, water and waste recov-ery providers on methods to further reduce resource consumption, including recycle programs and loca-tions.
    4. Public transportation and/or carpool options available in the area.
    5. Educational material on the positive impacts of an interior relative humidity between 30–60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
    6. Information about water-conserving landscape and irrigation design and controllers which conserve water. 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
    8. Information on required routine maintenance mea-sures, including, but not limited to, caulking, painting,grading around the building, etc.
    9. Information about state solar energy and incentive programs available.
12. **Any installed gas fireplace shall be a direct vent sealed-combustion type.** Any installed woods stove or pellet stove shall comply with U.S. EPA New Source Perfor-mance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Wood stoves, pellet stoves and fire places shall also comply with applicable local ordinances.
13. **Covering of duct openings and protection of mechanical equipment during construction.** At the time of rough installation, during storage on the construction site and until final start up of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris, which may enter the system.
14. **Finish material pollutant control.** Finish materials shall comply with this section.
    Adhesives, sealants and caulks. Adhesives ,sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:
    1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylenedichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
    2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
15. **Paints and coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Non-flat or Non-flat-high Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Con-trol Measure, and the corresponding Flat, Non flat or Non-flat-high Gloss VOC limit in Table 4.504.3 shall apply.
16. **Aerosol paints and coatings.** Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1)and (f)(1) of California Code of Regulations, Title 17,commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management Dis-trict additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.
17. **Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:
    1. Manufacturer's product specification.
    2. Field verification of on-site product containers.
18. **Carpet systems**. All carpet installed in the building interior shall meet the testing and product requirements of one of the following:
    1. Carpet and Rug Institute's Green Label Plus Program.
    2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, Febru-ary 2010 (also known as Specification 01350.)
    3. NSF/ANSI 140 at the Gold level.4. Scientific Certifications Systems Indoor Advantage™
19. **Carpet cushion.** All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.
20. **Carpet adhesive.** All carpet adhesive shall meet the requirements of Table 4.504.1
21. **Resilient flooring systems.** Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall comply with one or more of the following:
    1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, "Version 1.1, February 2010 (also known as Specifica-tion 01350), certified as a CHPS Low-Emitting Mate-rial in the Collaborative for High Performance Schools(CHPS) High Performance Products Database.
    2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools pro-gram).
    3. Certification under the Resilient Floor Covering Insti-tute (RFCI) Floor Score program.
    4. Meet the California Department of Public Health,"Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1,February 2010 (also known as Specification 01350).
22. **Composite wood products.** Hardwood plywood,particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified inARB's Air Toxics Control Measure for Composite Wood (17CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5.
    Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:
    1. Product certifications and specifications.
    2. Chain of custody certifications.
    3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17,Section 93120, et seq.).
    4. Exterior grade products marked as meeting the PS-1or PS-2 standards of the Engineered Wood Associa-tion, the Australian AS/NZS 2269, European 6363S, and Canadian CSA O121, CSA O151, CSAO153 and CSA O325 standards.
    5. Other methods acceptable to the enforcing agency.
23. **Concrete slab foundations.** Concrete slab foundations required to have a vapor retarder by the California Building Code, Chapter 19 or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.
    Capillary break. A capillary break shall be installed in compliance with at least one of the following:
    1. A 4-inch-thick (101.6 mm) base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute,ACI 302.2R-06.
    2. Other equivalent methods approved by the enforcing agency.
    3. A slab design specified by a licensed design professional.
24. **Moisture content of building materials.** Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19-percent moisture content.Moisture content shall be verified in compliance with the following:
    1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
    2. Moisture readings shall be taken at a point 2 feet (610mm) to 4 feet (1219 mm) from the grade stamped end of each piece to be verified.
    3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.
    4. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.
25. **Bathroom exhaust fans**. Each bathroom shall be mechanically ventilated and shall comply with the following:
    1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
    2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
       a. Humidity controls shall be capable of adjustment between a relative humidity range of ≤ 50 percent to a maximum of 80 percent. A humidity control may utilize manual or automatic means of adjustment.
       b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in).
       Notes:
       1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination.
       2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.
26. **Heating and air-conditioning system design.** Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods:
    1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J—2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
    2. Duct systems are sized according to ANSI/ACCA 1Manual D—2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
    3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S—2014 (Residential Equipment Selection) or other equivalent design software or methods.
    Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.

REVISION	DATE

Contractor:

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

CALGREEN REQUIREMENTS

James Watson
Residential Drafting and Design
1183 Alice Drive, Santa Clara, CA 95050
408-858-0646 Jameswconstruction@yahoo.com

PROJECT

DATE 2/24/23

SHEET CG 1

City of Santa Clara
The Center of What's Possible

Building Division: 408-615-2440
Email: Building@santaclaraca.gov
Permit Center: 408-615-2420
Email: PermitCenter@santaclaraca.gov
Automated Inspection Scheduling System: 408-615-2400

2022 CALIFORNIA GREEN BUILDING STANDARD CODE (CGC) RESIDENTIAL CHECKLIST

New residential buildings shall be designed to include the green building mandatory measures specified in this checklist. This checklist shall also be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to the specific area of the addition or alteration.

BUILDING PERMIT NO.: BLD2
ADDRESS: 1183 Alice Drive

Feature or Measure	Yes (MANDATORY MEASURES SPECIFIED (Please check boxes below))
SITE DEVELOPMENT (CGC 4.106)	
Storm water drainage and retention during construction. A plan shall be developed and shall be implemented to manage storm water drainage during construction per CGC 4.106.2.	✓
Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings per CGC 4.106.3.	✓
Electric vehicle (EV) charging for new one- and two- family dwellings and town-houses with attached private garages and/or parking spaces not assigned to a dwelling unit, and ADU/JADU without additional parking but with electrical panel upgrades or new panels. Provide capability for electric vehicle charging with minimum required Level 1 EV Ready, Level 2 EV Ready, Low Power Level 2 EV Ready as specified in CGC 4.106.4.1 as amended by City of Santa Clara Reach Code Ordinance No.2056 (CSC 2023 Reach Code) section 15.38.040. *Identification*: The raceway termination location shall be permanently and visibly marked as "Level 2 EV-READY" per CGC 4.106.4.1.1 as amended by CSC 2023 Reach Code section 15.38.040.	✓
Electric vehicle (EV) charging for new multifamily dwellings, affordable housing, hotels, motels, and new residential parking facilities. Provide electric vehicle infrastructure and capability for electric vehicle charging with minimum required Level 2 EV Charger, Level 1 EV Ready, Level 2 EV Ready, Low Power Level 2 EV Ready, EV Capable as specified in CSC 2023 Reach Code section 15.38.040 and *2022 California Green Code* section 4.106.4.2, whichever is more stringent.	☐
110v Electrical Outlet at Bicycle Parking: All multifamily residential developments shall include secured bicycle parking with 110v electrical outlets per CSC 2023 Reach Code section 15.38.040.	☐
Location: EVCS shall be located adjacent to an accessible parking space, and/or on an accessible route, per CGC 4.106.4.2.2.1.1.	☐
Dimension: Each EV ready space or EVCS shall be minimum 18 ft long and 9 ft wide. One in every 25 charging spaces, but not less than one, shall have an 8 ft wide access aisle. A 5 ft wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet. Surface slope for this EV space and the aisle shall not exceed 2.083% slope in any direction, per CGC 4.106.4.2.2.1.2.	☐
Accessibility: EV Ready and EVCS spaces shall comply with the accessibility provision for EV Charging stations in *California Building Code* Chapter 11A (section 1109A) and Chapter 11B, per CGC 4.106.4.2.2.1.3.	☐
EV Ready Space Signage: EV ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Marking) or its successor(s), per CGC 4.106.4.2.5.	☐
Automatic load management system (ALMS) may be installed to increase the number of EV chargers or the amperage or voltage beyond the minimum requirements in this code. The option does not allow for installing less electrical panel capacity than would be required without ALMS, per CGC 4.106.4.2.2 as amended by CSC 2023 Reach Code section 15.38.040.	☐

BLD Permit No.:______________

Electric vehicle (EV) charging for additions or alterations of parking facilities serving existing multifamily buildings. When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, minimum 10% of total added/altered parking spaces shall be electrical vehicle charging spaces capable of supporting future Level 2 electric vehicle supply equipment (EVSE) per CGC 4.106.4.3.	☐
ENERGY EFFICIENCY (CGC 4.201)	
California Energy Code. The building's construction shall meet or exceed the requirements of the 2022 *California Building Energy Efficiency Standards* per CGC 4.201.1.	✓
WATER EFFICIENCY AND CONSERVATION	
INDOOR WATER USE (CGC 4.303)	
Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets, showerheads, pre-rinse spray valves) shall comply with the prescriptive requirements of Section 4.303.1.1 through 4.303.1.4.5.	✓
Water closets: The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (CGC 4.303.1.1).	✓
Urinals: The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush, and all other urinals shall not exceed 0.5 gallons per flush (CGC 4.303.1.2).	☐
Showerheads. The flow rate for single showerhead and multiple showerheads serving one shower shall not exceed 1.8 gallons per minute at 80 psi and shall be certified to the performance criteria of the U.S. EPA WaterSense Specification (CGC 4.303.1.3).	✓
Residential lavatory faucets. The flow rate shall not be more than 1.2 gallons per minute at 60 psi, and not less than 0.8 gallons per minute at 20 psi (CGC 4.303.1.4.1).	✓
Lavatory faucets in common and public use areas. The flow rate shall not exceed 0.5 gallons per minute at 60 psi (CGC 4.303.1.4.2).	☐
Metering Faucets. The flow rate shall not deliver more than 0.2 gallons per cycle (CGC 4.303.1.4.3).	☐
Kitchen Faucets. The flow rate shall not exceed 1.8 gallons per minute at 60 psi (CGC 4.303.1.4.4).	✓
Pre-rinse Spray Valves. When installed, shall meet the requirements of Title 20 of the *California Code of Regulations*, and shall be equipped with an integral automatic shutoff (CGC 4.303.1.4.5).	☐
Submeters for multifamily buildings and dwelling units in mixed-use residential/commercial buildings. Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the *California Plumbing Code* per CBC 4.303.2.	☐
Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* per CGC 4.303.3.	✓
OUTDOOR WATER USE (CGC 4.304)	
Outdoor potable water use in landscape areas. Residential developments shall comply with the City's Water Service and Use Rules and Regulations, Item No. 24, as adopted by Santa Clara City Code Section 13.15.180, or the California Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent, per CGC 4.304.1.	✓
ENHANCED DURABILITY AND REDUCED MAINTENANCE (CGC 4.406)	
Rodent proofing. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be rodent proofed by closing such openings with cement mortar, concrete masonry, or similar method acceptable to the City per CGC 4.406.1.	✓
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING (CGC 4.408)	
Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of nonhazardous construction and demolition waste in accordance with Section 4.408.2, 4.408.3, or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance (CGC 4.408.1).	✓
BUILDING MAINTENANCE AND OPERATION (CGC 4.410)	
An operation and maintenance manual shall be provided to the building occupant or owner per CGC 4.410.1.	✓

BLD Permit No.:______________

Recycling by occupants. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve all buildings on the site and are identified for depositing, storage and collection of nonhazardous materials for recycling per CGC 4.410.2.	☐
ENVIRONMENTAL QUALITY (CGC 4.503)	
Gas fireplace. Any installed gas fireplaces shall be a direct-vent sealed-combustion type per CGC 4.503.1.	☐
Woodstoves. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance standards (NSPS) emission limits as applicable and shall have a permanent label indicating they are certified to meet the emission limits per CGC 4.503.1. Woodstoves and pellet stoves shall also comply with Santa Clara City Code Chapter 15.65.	☐
POLLUTANT CONTROL (CGC 4.504)	
Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal, or other methods acceptable to the City to reduce the amount of water, dust or debris, which may enter the system per CGC 4.504.1.	✓
Adhesives, sealants and caulks shall meet the VOC or other toxic compound limits per CGC 4.504.2.1.	✓
Paints, stains and other coatings shall comply with VOC limits per CGC 4.504.2.2.	✓
Aerosol paints and coatings shall meet the product-weighted MIR limits for ROC and other requirements per CGC 4.504.2.3.	✓
Verification. Documentation shall be provided, at the request of the Building Division, to verify that compliant VOC-limit finish materials have been used per CGC 4.504.2.4.	✓
Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of CGC 4.504.3.	✓
Resilient flooring systems. Where resilient flooring is installed, at least 80% of the floor area receiving resilient flooring shall comply with the requirements of CGC 4.504.4.	✓
Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall comply with low formaldehyde emissions standards and requirements per CGC 4.504.5.	✓
INTERIOR MOISTURE CONTROL (CGC 4.505)	
Concrete slab foundations. Vapor retarder and capillary break shall be installed if a slab-on-grade foundation system is used. The use of a 4" thick base of ½" or larger clean aggregate under a 10-mil vapor retarder with joints lapped not less than 6" shall be provided per CGC 4.505.2, CRC R506.2.2, CRC R506.2.3 and CBC Section 1805.	✓
Moisture content of building material. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Moisture content shall be checked prior to finish material being applied per CGC 4.505.3.	✓
INDOOR AIR QUALITY AND EXHAUST (CGC 4.506)	
Bathroom exhaust fans. Each bathroom shall be mechanically ventilated using ENERGY STAR compliant fans ducted to the exterior and equipped with humidity controls system per CGC 4.506.1.	✓
ENVIRONMENTAL COMFORT (CGC 4.507)	
Heating and air-conditioning system shall be sized, designed and have their equipment selected using the following methods per CGC 4.507.2: 1. Heat Loss/Heat Gain values in accordance with ANSI/ACCA 2 Manual J-2016, ASHRAE handbook or equivalent. 2. Duct systems are sized according to ANSI/ACCA 1 Manual D-2016, ASHRAE handbook or equivalent. 3. Select heating and cooling equipment in accordance with ANSI/ACCA 3 Manual S-2014 or equivalent.	✓
INSTALLER AND SPECIAL INSPECTOR QUALIFICATION (CGC 702)	
Installer training. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a recognized training or certification program per CGC 702.1.	✓
Special inspection. Special inspectors employed by the City must be qualified and able to demonstrate competence in the discipline they are inspecting per CGC 702.2.	✓

BLD Permit No.:______________

VERIFICATION (CGC 703)	
Documentation. Upon request, verification of compliance with this code may include construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the building department which will show substantial conformance per CGC 703.1.	✓

Responsible Designer's Declaration Statement	Contractor Declaration Statement
I hereby certify that this project has been designed to meet the requirements of the 2022 California Green Building Standards Code.	I hereby certify, as the builder or installer under the permit listed herein, that this project will be constructed to meet the requirements of the California Green Building Standards Code.
Name: James Watson	Name:
Signature:	Signature:
Date: 2/15/23	Date:
Company: Residential Drafting & Design	License:
Address: 1183 Alice Drive	Address:
City: Santa Clara State: CA Zip: 95050	City: State: Zip:

REVISION	DATE

Contractor:
Plateau Building Group, Inc.
523 Irving Ave
San Jose, CA 95128
Lic# 915940

JOSEPH RESIDENCE ADU
3849 DE LA CRUZ BLVD, SANTA CLARA, CA 95054

CALGREEN CHECKLIST

James Watson
Residential Drafting and Design
1183 Alice Drive, Santa Clara, CA 95050
408-858-0646 Jameswconstruction@yahoo.com

PROJECT

DATE 2/24/23

SHEET CG 2

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E

Project Name: Joseph Residence & ADU | Calculation Date/Time: 2023-03-17T14:12:43-07:00 | (Page 2 of 12)

Calculation Description: Title 24 Analysis | Input File Name: 0230160 Joseph Residence & ADU.ribd22x

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	31.94	0	32.32	0	-0.38
Space Cooling	0	71.11	0	70.5	0	0.61
IAQ Ventilation	0	1.58	0	1.58	0	0
Water Heating	0	74.49	0	74.49	0	0
Self Utilization/Flexibility Credit						
Efficiency Compliance Total	0	179.12	0	178.89	0	0.23
Photovoltaics				0		
Battery				0		
Flexibility						
Indoor Lighting	0	7.61	0	7.61		
Appl. & Cooking	0	37.82	0	37.8		
Plug Loads	0	48.61	0	48.61		
Outdoor Lighting	0	1.75	0	1.75		
TOTAL COMPLIANCE	0	274.91	0	274.66		

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E

Project Name: Joseph Residence & ADU | Calculation Date/Time: 2023-03-17T14:12:43-07:00 | (Page 3 of 12)

Calculation Description: Title 24 Analysis | Input File Name: 0230160 Joseph Residence & ADU.ribd22x

ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	47.02	47.08	-0.06	-0.13
Net EUI[2]	47.02	47.08	-0.06	-0.13

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- New ductwork added is less than 25 ft. in length
- Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry.

- Indoor air quality ventilation
- Kitchen range hood
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)
- Duct Sealing required if a duct system component, plenum, or air handling unit is altered

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Joseph Residence & ADU	1304.4	1	4	2	0	1

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Joseph Residence & ADU | Calculation Date/Time: 2023-03-17T14:12:43-07:00

Calculation Description: Title 24 Analysis | Input File Name: 0230160 Joseph Residence & ADU.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Adam Bailey	Documentation Author Signature: Adam Bailey
Company: FRI Energy Consultants, LLC.	Signature Date: 2023-03-17 14:19:31
Address: 21 N. Harrison Ave.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Campbell, CA 95008	Phone: 408-866-1620

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Adam Bailey	Responsible Designer Signature: Adam Bailey
Company: FRI Energy Consultants, LLC.	Date Signed: 2023-03-17 14:19:31
Address: 21 N. Harrison Ave.	License: N/A
City/State/Zip: Campbell, CA 95008	Phone: 408-866-1620

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of the registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.
(04/2022)

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped. *
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. *
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. *
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45, or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0-§ 110.3:	**Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission. *
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters. *
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location, and a condensate drain no more than 2" higher than the base of the water heater.
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼". If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. *
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter. *

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *
§ 150.0(o)1B:	**Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.
§ 150.0(o)1C:	**Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses.** Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.
§ 150.0(o)1G:	**Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of §150.0(o)1Giii, enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *
§ 150.0(o)1H&I:	**Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G.

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating. *
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. *

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts, and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(l). *

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	**Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	**Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	**Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	**Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	**Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment. *
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane. *
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(s)	**Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

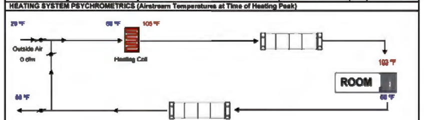
HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: Joseph Residence & ADU — Date: 3/17/2023
System Name: HVAC System — Floor Area: 998

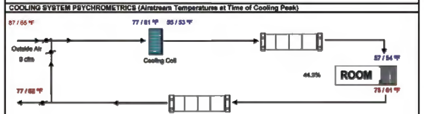
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	40,000
Total Output (Btuh)	40,000
Output (Btuh/sqft)	40.1
Cooling System	
Output per System	36,000
Total Output (Btuh)	36,000
Total Output (Tons)	3.0
Total Output (Btuh/sqft)	36.1
Total Output (sqft/Ton)	332.8
Air System	
CFM per System	0
Airflow (cfm)	0
Airflow (cfm/sqft)	0.00
Airflow (cfm/Ton)	0.0
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
Note: values above given at ARI conditions	

SYSTEM LOAD	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	1,561	30,248	343	614	23,121
Return Vented Lighting		0			
Return Air Ducts		1,372			1,284
Return Fan		0			0
Ventilation	0	0	0	0	0
Supply Fan		0			0
Supply Air Ducts		1,372			1,284
TOTAL SYSTEM LOAD		32,992	343		25,689
HVAC EQUIPMENT SELECTION					
Furnace - A/C		34,314	0		40,000
Total Adjusted System Output (Adjusted for Peak Design conditions)		34,314	0		40,000
TIME OF SYSTEM PEAK		Aug 3 PM			Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



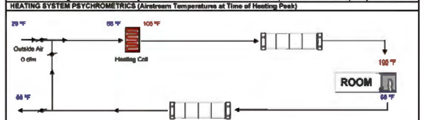
HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: Joseph Residence & ADU — Date: 3/17/2023
System Name: HVAC System — Floor Area: 366

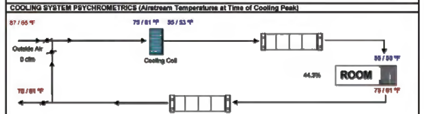
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	12,000
Total Output (Btuh)	12,000
Output (Btuh/sqft)	32.8
Cooling System	
Output per System	12,000
Total Output (Btuh)	12,000
Total Output (Tons)	1.0
Total Output (Btuh/sqft)	32.8
Total Output (sqft/Ton)	366.0
Air System	
CFM per System	0
Airflow (cfm)	0
Airflow (cfm/sqft)	0.00
Airflow (cfm/Ton)	0.0
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
Note: values above given at ARI conditions	

SYSTEM LOAD	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	196	4,210	126	100	3,969
Return Vented Lighting		0			
Return Air Ducts		0			0
Return Fan		0			0
Ventilation	0	0	0	0	0
Supply Fan		0			0
Supply Air Ducts		0			0
TOTAL SYSTEM LOAD		4,210	126		3,969
HVAC EQUIPMENT SELECTION					
Ductless Heat Pump		11,320	0		8,117
Total Adjusted System Output (Adjusted for Peak Design conditions)		11,320	0		8,117
TIME OF SYSTEM PEAK		Aug 3 PM			Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



FRI Energy Consultants, LLC
21 N. Harrison Avenue, Suite 210
Campbell, Ca. 95008
Phone: 408-866-1620 Fax: 408-866-6832

JOSEPH RESIDENCE & ADU
3849 DE LA CRUZ BLVD
SANTA CLARA, CA 95054

T24-2