CITY OF CAMPBELL
Community Development Department

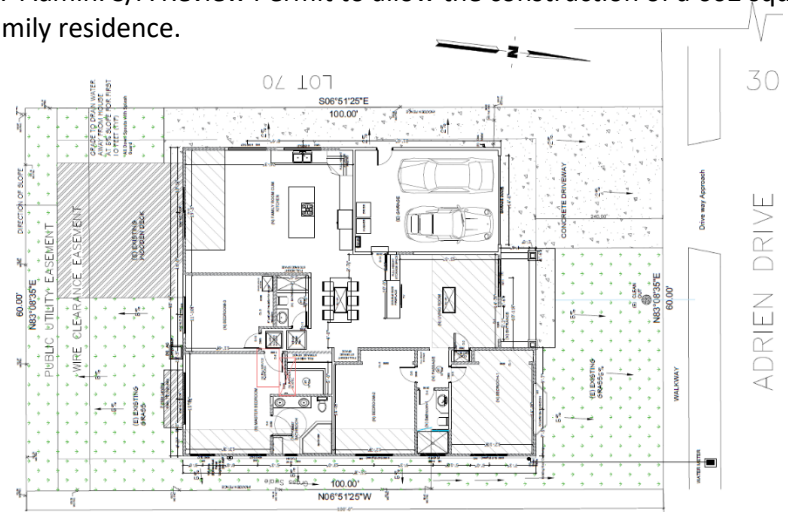
COURTESY NOTICE OF NEW PLANNING APPLICATION

June 30, 2022

Dear Campbell Resident,

The following provides a brief description of a proposed project in your neighborhood. As a courtesy notice, this letter is intended to provide members of the public an early opportunity to become engaged in the planning process. If you should have any questions about the project, the contact information of the Project Planner has been provided below. Alternatively, you may visit the Planning Division to view the project plans. Before a decision is reached you will receive a formal notice providing another opportunity for public comment.

Project Address: 1656 Adrien Drive
Zoning | Area Plan: R-1-6| STANP
Neighborhood Association(s): STACC
File No.: PLN-2022-74
APN: 403-44-015
Applicant: Vinit Mistry
Property Owner: Shreyas Kher
Application Type: Admin. Site and Architectural Review Permit
Project Description: Admin. S/A Review Permit to allow the construction of a 662 square-foot addition to an existing single-family residence.



Project Planner: Larissa Lomen, Assistant Planner
Email Contact: larissal@campbellca.gov
Phone Contact: (408) 866-2144
Note: This is a courtesy notice to all property owners within 300-feet of the project address. Applications may change after initial application submittal. To view the project plans, please scan the QR code:

Location Map for 1656 Adrien Drive

188 0 94 188 Feet

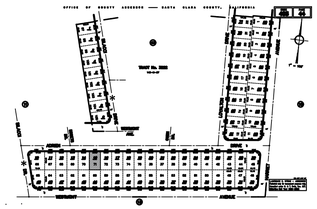
WGS_1984_Web_Mercator_Auxiliary_Sphere
Campbell IT, GIS Services

Scale 1: 1,128

This map is based on GIS Information and reflects the most current information at the time of this printing. The map is intended for reference purposes only and the City and its staff is not responsible for errors.

Kher's Residence

1656 Adrien Dr.
Campbell, CA-95008



GENERAL NOTES

ALL DETAILS AND DIMENSIONS ON THESE DRAWINGS SHALL BE VERIFIED AT THE CONSTRUCTION SITE BY THE CONTRACTOR., AND ANY DISCREPANCIES BETWEEN THE PLAN AND SITE CONDITIONS SHALL BE PROMPTLY REPORTED TO THE DESIGNER OR ENGINEER OF RECORD. SHOULD ANY ERRORS OR INCONSISTENCIES APPEAR OR OCCUR IN THE DRAWING, THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK, SHALL NOTIFY THE OWNER AND DESIGNER OR ENGINEER OF RECORD FOR PROPER ADJUSTMENT, AND IN NO CASE SHALL PROCEED WITH THE WORK IN UNCERTAINTY.

NO CHANGE OR ALTERATION OF DESIGN OR PLAN SHALL BE MADE WITHOUT THE APPROVED CONSENT FROM ENGINEER OF RECORD OR DESIGNER. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR SUCH CHANGES OR ALTERATIONS MADE BY OR AGREED UPON BETWEEN THE OWNER AND CONTRACTOR

ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF LOCAL, COUNTY AND FEDERAL AGENCIES HAVING JURISDICTION. SAFETY METHODS AND TECHNIQUES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. IN PROCURING ALL ITEMS USED IN THIS WORK, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE DETAILS REQUIREMENTS OF THE SPECIFICALLY NAMED CODES AND STANDARDS TO VERIFY THAT THE ITEMS PROCURED FOR USE IN THIS WORK MEET OR EXCEED THE SPECIFIED REQUIREMENTS. OWNER APPROVAL IS REQUIRED FOR ALL MATERIAL CHOICES.

DIMENSIONS SHALL TAKE PRECEDENCE OVER THE SCALE ON THE DRAWINGS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON PROJECT.

NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES. AND TYPICAL NOTES

THESE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO BRACING AND SHORING FOR LOAD DUE TO CONSTRUCTION EQUIPMENT; ETC.

THE CONTRACTOR IS RESPONSIBLE FOR ALL JOB SITE CONDITION SAFETY OF PROPERTY AND PEOPLE DURING THE COURSE OF THE PROJECT, NOT JUST DURING WORKING HOURS. THE CONTRACTOR SHALL DEFEND AND HOLD HARMLESS THE DESIGNER OR OWNER FROM ANY LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY THROUGH DIRECT NEGLIGENCE OF THE OWNER OR DESIGNER

CALIFORNIA BUILDING CODE 2019
CALIFORNIA MECHANICAL CODE 2019
CALIFORNIA PLUMBING CODE 2019
CALIFORNIA ELECTRIC CODE 2019
CALIFORNIA ENERGY CODE 2021
CALIFORNIA RESIDENTIAL CODE 2019
CALIFORNIA FIRE CODE 2019

SCOPE OF WORK

1) ADD ONE BEDROOM AND BATHROOM MAKING FOUR BED THREE BATHROOM HOUSE
2) RENOVATE EXISTING HOUSE BY MOVING KITCHEN AND LIVING ROOM

DEFERRED SUBMITTAL REQUIRED FOR FOLLOWING ITEMS :-

1) Fire Sprinklers System
2) Landscape plan and details
3) Roof TRUSS Drawings and Calculations

ALL FIREPLACES SHALL HAVE ICBO LISTED # OR UL LISTED TO BE APPROVED BY DESIGNER
ALL ROOF SHALL BE OF FIRE FREE MATERIAL WITH ICBO # 5075
ALL THE EXTERIOR GLAZING MUST BE DOUBLE PANE AND T-24 COMPATIBLE

ANY SOLAR PANEL INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS GUIDELINE AND SHALL BE APPROVED BY COUNTY
36" HIGH RAILING MUST BE PROVIDED WHERE DIFFERENCE IN LEVEL OF 30" OR MORE.

	PROJECT INFORMATION		
A	APN # 403-44-015	LOT # 71	TRACT # 3222
B	ZONING		R-1-6
C	YEAR BUILT		1962
D	YEAR RENOVATED		1962
E	OCCUPANCY GROUP		R3/U
F	TYPE OF CONSTRUCTION		VB-1
G	NUMBER OF STORIES		1
H	LOT AREA		5,880
I	EXISTING LIVING SPACE		1,374
J	EXISTING GARAGE		379
K	TOTAL EXISTING FLOOR AREA = I + J		1,753
L	EXISTING OUTDOOR OPEN PORCH		43
M	TOTAL LIVING SPACE		1,374
N	NEW FLOOR ADDITION		662
O	TOTAL NEW HOUSE AREA WITH OUT GARAGE = M + N		2,036
P	PROPOSED OUTDOOR OPEN PORCH		82
Q	TOTAL NEW HOUSE AREA WITH GARAGE = J + O		2,415
R	TOTAL NEW HOUSE AREA WITH GARAGE & OPEN PORCH = Q + P		2,497
S	FAR = (O) X (100) / 5,880		34.62 %
T	LOT COVERAGE = (R) X (100) / 5,880		42.46 %

Sheet Index

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	Architectural Drawings
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BMP	
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A-7	Electrical Plan
A-8	General Architectural Notes
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A-11	Cal Green Check list
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Site Survey Plan By - Carroll Engineering Inc.	

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S0.2 -	General Notes
S1.0 -	Foundation Layout
S1.1 -	Main Floor Layout
S1.2 -	Ceiling Layout
S1.3 -	Roof Framing Layout

PARTICIPANTS LIST

Owner:- Shreyas S & Varsha S Kher
1656 Adrien Drive, Campbell, CA-95008
Owner Contact No. 408-506-3606

Designer:- Concept To Completion
Vinit J. Mistry 408-476-4554 & 669-309-2212
5521 Sean Cir. #78 San Jose. CA-95123
designctoc@gmail.com

Consultant Designers Group inc.
Vinit J. Mistry 408-476-4554
Kishor J. Mistry 408-476-8588
328 Avenida Pinos, San Jose, CA-95123
vinitmistry@gmail.com

Structural Engineer
Shine Star Services LLC. (Dhruv Gohel)
Contact # 551-689-3672

T-24 Tailored Energy & Testing Services Ltd.
548 Market St. # 300051, S.F. CA-94120
209-565-4417 kevin@tailoredenergyonline.com

ATTIC VENT CALC.

662 Sft. (NEW ATTIC AREA) X $\frac{1}{150}$ = 4.41 Sft.
4.41 Sft. X 144 = 635 Sq.In. VENTILATION Reqd.

USE EYEBROW, GABLE, AND/OR EVES VENTS TO PROVIDE
VENTILATION AT (N) ATTIC AREA = 7.0 Sft. IN MIN. PLUS
AREA OF (E) VENTS, BLOCKED BY (N) CONSTRUCTION INSTALL FOR BALANCED VENTING WITH ABOUT 50% OF THE Reqd.
VENTILATING AREA LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED
AT LEAST 10 Sft. ABOVE EVES OR CORNICE VENTS W/ THE BALANCE OF THE Reqd. VENTILATION PROVIDED BY EVES OR CORNICE VENTS.

12 NUMBER 5"X14" EVE VENTS, = (12X70) = 840 Sq. In.
6 NUMBER 8"X10" EYEBROW VENT, = (6x80) = 480 Sq.iN.
2 NUMBER UPPER EVE VENT, 8"x12" = 192 Sq.in.
TOTAL 840 + 480 + 192 = 1,512 Sq.In. > 1,440 Sq.In. Reqd.

FOUNDATION VENT CALC.

662 Sft./150 = 4.41 Vent Space Needed
4.41 x 144 = 635 Sq.In. Vent Required
For Cross Ventilation use - 5" x 14" minimum 10 vent needed
Replace all vents covered by new construction by adding it in to new area crawl space

REV.	DATE

CONCEPT-TO-COMPLETION
Design by Vinit
5521 SEAN CIRCLE #78,
SAN JOSE CA-95123
(408)476-4554

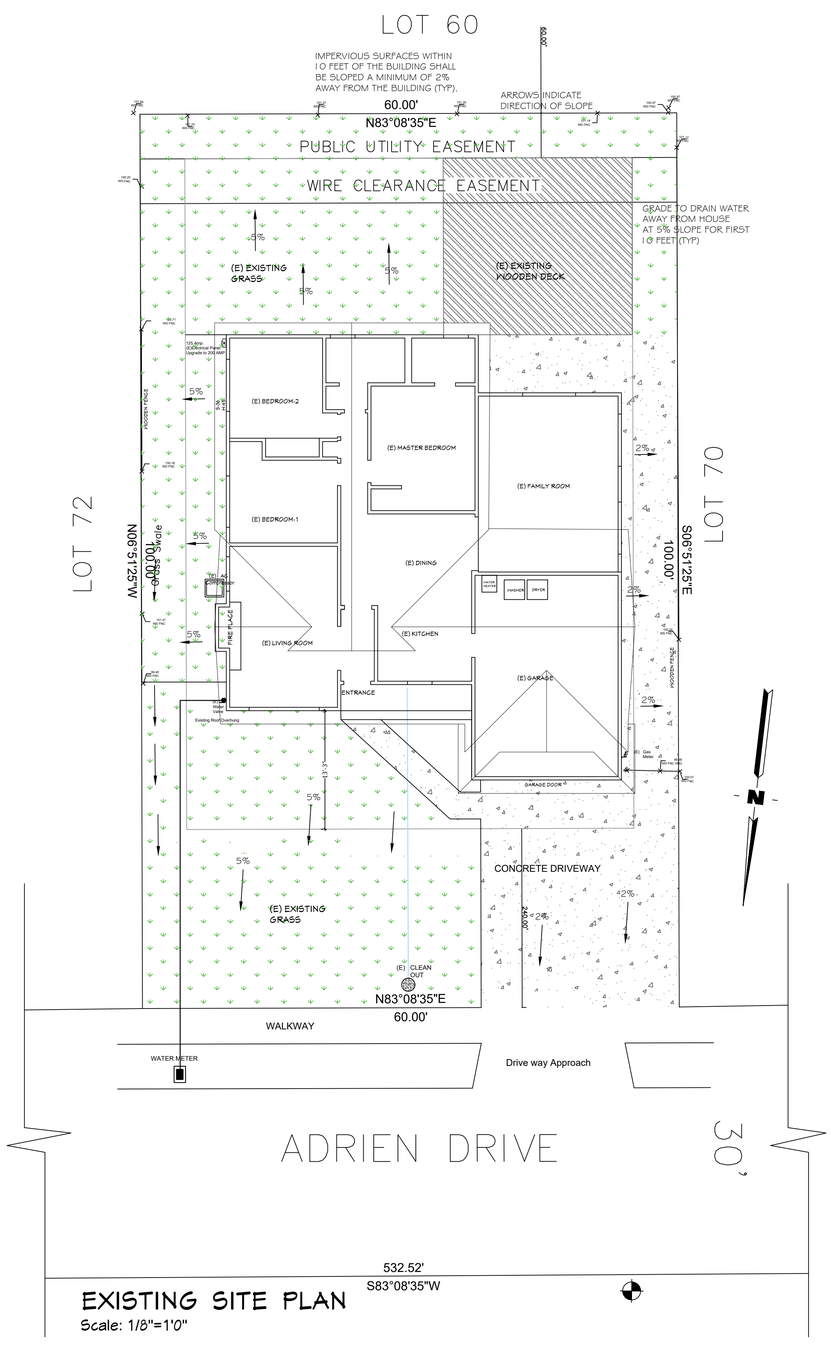
designCtoC@gmail.com
408-476-4554
669-309-2212

Project Information

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

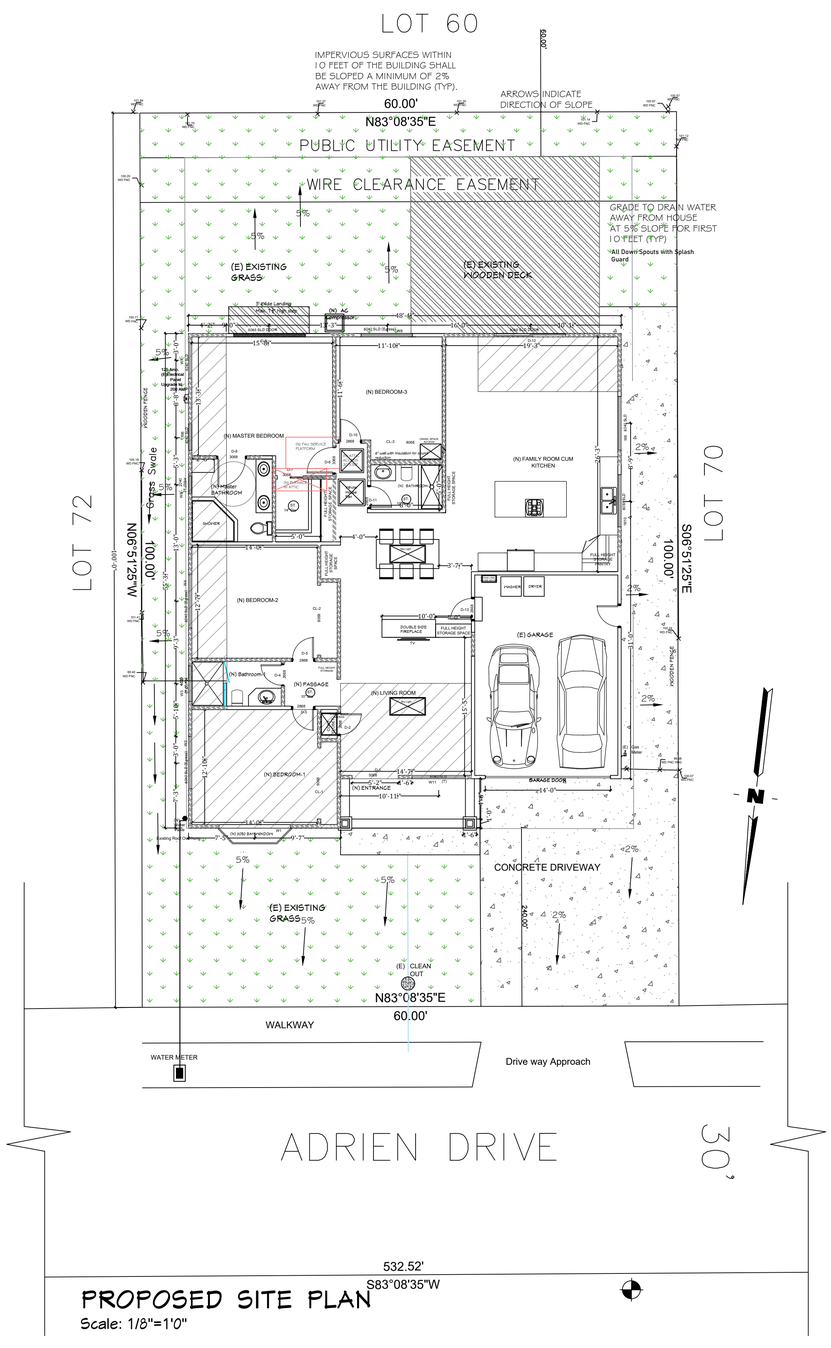
Drawn On - vJm.
Checked- vJm
Date: - 05.23.2022
Scale - As Shown

SHEET #
SP-1



EXISTING SITE PLAN

Scale: 1/8"=1'0"



PROPOSED SITE PLAN

Scale: 1/8"=1'0"

REV.	DATE

C to C
CONCEPT-TO-COMPLETION
Design by Vinit
5521SEANCIRCLE#78,
SAN JOSE CA-95123
(408)476-4554

designCtoC@gmail.com
408-476-4554
669-309-2212

Existing Site Plan
Proposed Site Plan

ADDITION FOR:
Kher's Residence
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Drawn On - vJm.
Checked- vJm
Date: - 05.23.2022
Scale - As Shown

SHEET #
SP-2

PROJECT ADDRESS

1656 Adrien Dr.
Campbell, CA-95008

Blueprint for a Clean Bay

Best Management Practices for the Construction Industry

Remember: The property owner and the contractor share ultimate responsibility for the activities that occur on a construction site. You may be held responsible for any environmental damage caused by your subcontractors or employees.

Preventing Pollution: It's Up to Us

In the Santa Clara Valley, storm drains transport water directly to local creeks and San Francisco Bay without treatment. Stormwater pollution is a serious problem for wildlife dependent on our creeks and bays and for the people who live near polluted streams or baylands. Common sources of this pollution include spilled oil, fuel, and fluids from vehicles and heavy equipment; construction debris; sediment created by erosion; landscaping runoff containing pesticides or weed killers; and materials such as used motor oil, antifreeze, and paint products that people pour or spill into a street or storm drain.

Santa Clara Valley
Urban Runoff
Pollution Prevention Program

Thirteen valley municipalities have joined together with Santa Clara County and the Santa Clara Valley Water District to educate local residents and businesses and fight stormwater pollution. This "blueprint" summarizes "Best Management Practices (BMPs) for stormwater pollution prevention.

Spill Response Agencies:

In the City of Sunnyvale, DIAL 9-1-1.

State Office of Emergency Service Warning Center (24 hours) 1-800-852-7550

Santa Clara County Environmental Health Sevices . . . . . .(408) 299-6930

Small Business Hazardous Waste Disposal Program

Santa Clara County businesses that generate less than 27 gallons or 220 pounds of hazardous waste per month are eligible to use Santa Clara County's Small Business Hazardous Waste Disposal Program. Call (408) 299-7300 for a quote, more information or guidance on disposal.

Local Pollution Control Agencies:

County of Santa Clara Pollution Prevention Program . . . . . (408) 441-1195

County of Santa Clara Integrated Waste Management Program . . . . . (408) 441-1198

Santa Clara County Hazardous Waste Program . . . . . (408) 299-7300
For information on the disposal of hazardous waste

County of Santa Clara District Attorney Environmental Crimes Hotline . . . . . (408) 299-TIPS

Santa Clara Valley Water District . . . . . (408) 265-2600

Santa Clara Valley Water District Pollution Hotline 1-888-510-5151

Santa Clara County Recycling Hotline 1-800-533-8414

Regional Water Quality Control Board . . . . . (510) 622-2300
Serving San Francisco Bay Region

Sunnyvale Water Pollution Control Plant . . . . . (408) 730-7270

Sunnyvale Recycling Program . . . . . (408) 730-7262
Or visit www.ci.sunnyvale.ca.us/recycle

SMaRT Station®
(GreenTeam/Zanker of Sunnyvale)
Recycling Drop-Off Center,
Garbage Disposal . . . . . (408) 752-8530

General Construction and Site Supervision

Who should use this information?

- General Contractors
- Site Supervisors
- Inspectors
- Home Builders
- Developers
- Homeowners

Storm Drain Pollution from Construction Activities

Construction sites are common sources of storm water pollution. Materials and wastes that blow or wash into a storm drain, gutter, or street have a direct impact on local creeks and the Bay.

As a contractor, or site supervisor, owner or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees.

Doing the Job Right
General Principles

Keep an orderly site and ensure good housekeeping practices are used.

Maintain equipment properly.

Cover materials when they are not in use.

Keep materials away from streets, storm drains and drainage channels.

Ensure dust control water doesn't leave site or discharge to storm drains.

Advance Planning To Prevent Pollution

Schedule excavation and grading activities for dry weather periods. To reduce soil erosion, plant temporary vegetation or place other erosion controls before rain begins. Use the *Erosion and Sediment Control Field Manual, available* form the Regional Water Quality Control Board San Francisco Bay Region, as a reference.

Control the amount of runoff crossing your site (especially during excavation!) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.

Train your employees and subcontractors. Make sure everyone who works at the construction site is familiar with this information. Inform subcontractors about the storm-water requirements and their own responsibilities. Use *BAASMA, Blueprint for a Clean Bay, a construction best* management practices guide available from the Santa Clara Valley Urban Runoff Pollution Prevention Program, and California Storm Water Quality Association Stormwater Best Management Practice Handbook: Construction; (Jan 2003) as references.

Good Housekeeping Practices

Designate one area of the site for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, bermed if necessary. Make major repairs off site.

Keep materials out of the rain – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.

Keep pollutants off exposed surfaces. Place trash cans and recycling receptacles around the site to minimize litter.

Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces.

Never hose down "dirty" pavement or surfaces where materials have spilled.

Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.

Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. Never clean out a dumpster by hosing it down on the construction site.

Place portable toilets away from storm drains. Make sure portable toilets are in good working order. Check frequently for leaks.

Materials/Waste Handling

Practice Source Reduction -- minimize waste when you order materials. Order only the amount you need to finish the job.

Use recyclable materials whenever possible. Arrange for pick-up of recyclable materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries, and tires.

Dispose of all wastes properly. Many construction materials and wastes, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation can be recycled. (See Sunnyvale Recycling Program information listed above.) Materials that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

Permits

In addition to local grading and building permits, you will need to obtain coverage under the State's General Construction Activity Stormwater Permit if your construction site's disturbed area totals 1 acre or more. Information on the General Permit can be obtained from the Regional Water Quality Control Board.

Painting and Application of Solvents and Adhesives

Who should use this information?

- Painters
- Paperhangers
- Plasterers
- Graphic Artists
- Dry Wall Crews
- Floor Covering Installers
- General Contractors
- Home Builders
- Developers
- Homeowners

Storm Drain Pollution from Paints, Solvents, and Adhesives

All paints, solvents, and adhesives contain chemicals that are harmful to wildlife in local creeks, San Francisco Bay, and the Pacific Ocean. Toxic chemicals may come from liquid or solid products or from cleaning residues or rags. Paint material and wastes, adhesives and cleaning fluids should be recycled when possible, or disposed of properly to prevent these materials from flowing into storm drains and watercourses.

Doing the Job Right
Handling Paint Products

Keep all liquid paint products and wastes away from the gutter, street, and storm drains. Liquid residues from paints, thinners, solvents, glues, and cleaning fluids are hazardous wastes and must be disposed of as hazardous. Contact the Santa Clara County Hazardous Waste Program at (408) 299-7300.

Wash water from painted buildings constructed before 1978 can contain high amounts of lead, even if paint chips are not present. Before you begin stripping paint or cleaning pre-1978 building exteriors with water under high pressure, test paint for lead by taking paint scrapings to a local laboratory. See Yellow Pages for a state-certified laboratory.

If there is loose paint on the building, or if the paint tests positive for lead, block storm drains. Check with the wastewater treatment plant to determine whether you may discharge water to the sanitary sewer, or if you must send it offsite for disposal as hazardous waste.

Paint Removal

Buildings constructed before 1978 may have lead paint in them. Test paint for lead by taking samples to a local environmental testing laboratory to determine if removed paint must be disposed of as hazardous waste.

Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.

Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury or tributyl tin must be disposed of as hazardous wastes. Lead based paint removal requires a state-certified contractor.

When stripping or cleaning building exteriors with high-pressure water, block storm drains. Direct wash water onto a dirt area, or check Sunnyvale Water Pollution Control Plant (408) 730-7270 to find out if you can collect (mop or vacuum) building cleaning water and dispose to the sanitary sewer. Sampling of the water may be required to assist the wastewater treatment authority in making its decision.

Painting Cleanup

Never clean brushes or rinse paint containers into a street, gutter, storm drain, French drain, or stream.

For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain. Dispose of excess liquids and residue as hazardous waste.

For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids and residue as hazardous waste.

When thoroughly dry, empty paint cans, used brushes, rags, and drop cloths may be disposed of as garbage in a sanitary landfill. Leave lids off paint cans so the refuse collector cam see that they are empty. Empty, dry paint cans also may be recycled as metal.

Dispose of empty aerosol paint cans as hazardous waste or at household hazardous waste collection events.

Recycle/Reuse Leftover Paints Whenever Possible

Donate excess water-based (latex) paint for reuse. Call the Santa Clara County Hazardous Waste Program at (408) 299-7300 for details.

Reuse leftover oil-based paint. Dispose of non-recyclable thinners, sludge and unwanted paint, as hazardous waste.

Unopened cans of paint may be able to be returned to the paint vendor. Check with the vendor regarding its "buy-back" policy.

Landscaping,Gardening, And Pool Maintenance

Who should use this information?

- Landscapers
- Gardeners
- Swimming Pool/Spa Service and Repair Workers
- General Contractors
- Home Builders
- Developers
- Homeowners

Storm Drain Pollution from Landscaping and Swimming Pool Maintenance

Many landscaping activities expose soils and increase the likelihood that earth and garden chemicals will run off into the storm drains during irrigation or when it rains. Swimming pool water containing chlorine and copper-based algaecides should never be discharged to storm drains. These chemicals are toxic to aquatic life.

Doing the Job Right
General Business Practices

Protect stockpiles (e.g. asphalt, sand, or soil) and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.

Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.

Schedule grading and excavation projects during dry weather.

Use temporary check dams or ditches to divert runoff away from storm drains.

Protect storm drains with sandbags or other sediment controls.

Revegetation is an excellent form of erosion control for any site. Replant as soon as possible with temporary vegetation such as grass seed.

Landscaping/Garden Maintenance

Consider using Integrated Pest Management Techniques. Use pesticides sparingly, according to instructions on the label. Rinse empty containers, and use rinsewater as product. Dispose of rinsed, empty containers in the trash.

Dispose of unused pesticides as hazardous waste.

Curbside pickup of yard waste is provided for Sunnyvale residences. Place yard waste in approved containers at curbside for pickup on waste collection days. Commercial entities may take yard waste to the Sunnyvale SMaRT station for recycling. Contact the Sunnyvale Recycling Program (408) 730-7262 for further information.

Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost if possible.

Do not blow or rake leaves, etc. into the street, or place yard waste in gutters or on dirt shoulders. Sweep up any leaves, litter or residue in gutters or on street.

Pool/Fountain/Spa Maintenance
Draining pools or spas

When it's time to drain a pool, spa, or fountain, please be sure to call the Sunnyvale Water Pollution Control Plant (408) 730-7270 before you start for further guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash). Discharge flows should be kept to the low levels typically possible through a garden hose. Higher flow rates may be prohibited by local ordinance.

Never discharge pool or spa water to a street or storm drain; discharge to a sanitary sewer cleanout.

If possible, when emptying a pool or spa, let chlorine dissipate for a few days and then recycle/ reuse water by draining it gradually onto a landscaped area. OR

Contact the Sunnyvale Water Pollution Control Plant (408) 730-7270. You may be able to discharge to the sanitary sewer by running the hose to a utility sink or sewer pipe clean-out.

Do not use copper-based algaecides. Control algae with chlorine or other alternatives, such as sodium bromide.

Filter Cleaning

Never clean a filter in the street or near a storm drain. Rinse cartridge and diatomaceous earth filters onto a dirt area, and spade filter residue into soil. Dispose of spent diatomaceous earth in the garbage.

If there is no suitable dirt area, call the Sunnyvale Water Pollution Control Plant (408) 730-7270 for instructions on discharging filter backwash or rinsewater to the sanitary sewer.

Earth-Moving and Dewatering Activities

Who should use this information?

- Bulldozer, Back Hoe, and Grading Machine Operators
- Dump Truck Drivers
- Site Supervisors
- General Contractors
- Home Builders
- Developers

Storm Drain Pollution from Earth-Moving Activities

Soil excavation and grading operations loosen large amounts of soil that can flow or blow into storm drains when handled improperly. Sediments in runoff can clog storm drains, smother aquatic life, and destroy habitats in creeks and the Bay. Effective erosion control practices reduce the amount of runoff crossing a site and slow the flow with check dams or roughened ground surfaces.

Contaminated groundwater is a common problem in the Santa Clara Valley. Depending on soil types and site history, groundwater pumped from construction sites may be contaminated with toxics (such as oil or solvents) or laden with sediments. Any of these pollutants can harm wildlife in creeks or the Bay, or interfere with wastewater treatment plant operation. Discharging sediment-laden water from a dewatering site into any water of the state without treatment is prohibited.

Doing the Job Right
General Business Practices

Schedule excavation and grading work during dry weather.

Perform major equipment repairs away from the job site.

When refueling or vehicle/equipment maintenance must be done on site, designate a location away from storm drains.

Do not use diesel oil to lubricate equipment parts, or clean equipment.

Practices During Construction

Remove existing vegetation only when absolutely necessary. Plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.

Protect downslope drainage courses, streams, and storm drains with wattles, or temporary drainage swales. Use check dams or ditches to divert runoff around excavations. Refer to the Regional Water Quality Control *Board's Erosion and Sediment Control* Field Manual for proper erosion and sediment control measures, and California Stormwater Quality Association Stormwater Best Management Practice Handbook (construction, 2003)

Cover stockpiles and excavated soil with secured tarps or plastic sheeting.

Dewatering Operations
Check for Toxic Pollutants

Check for odors, discoloration, or an oily sheen on groundwater.

Call your local wastewater treatment agency and ask whether the groundwater must be tested.

If contamination is suspected, have the water tested by a certified laboratory.

Depending on the test results, you may be allowed to discharge pumped groundwater to the storm drain (if no sediments present) or sanitary sewer. OR, you may be required to collect and haul pumped groundwater offsite for treatment and disposal at an appropriate treatment facility.

Check for Sediment Levels

If the water is clear, the pumping time is less than 24 hours, and the flow rate is less than 20 gallons per minute, you may pump water to the street or storm drain.

If the pumping time is more than 24 hours and the flow rate greater than 20 gpm, call your local wastewater treatment plant for guidance.

If the water is not clear, solids must be filtered or settled out by pumping to a settling tank prior to discharge. Options for filtering include:

- Pumping through a perforate pipe sunk part way into a small pit filled with gravel;
- Pumping from a bucket placed below water level using a submersible pump;
- Pumping through a filtering device such as a swimming pool filter or filter fabric wrapped around end of suction pipe.

When discharging to a storm drain, protect the inlet using a barrier of burlap bags filled with drain rock, or cover inlet with filter fabric anchored under the grate. OR pump water through a grassy swale prior to discharge.

Detecting Contaminated Soil or Groundwater

Contaminated groundwater is a common problem in the Santa Clara Valley. It is essential that all contractors and subcontractors involved know what to look for in detecting contaminated soil or groundwater, and testing ponded groundwater before pumping. Watch for any of these conditions:

1. Unusual soil conditions, discoloration or odor.
2. Abandoned under-ground tanks.
3. Abandoned wells.
4. Buried barrels, debris or trash.

If any of these are found follow the procedures below.

Fresh Concrete and Mortar Application

Who should use this information?

- Masons and Bricklayers
- Sidewalk Construction Crews
- Patio Construction Workers
- Construction Inspectors
- General Contractors
- Home Builders
- Developers
- Concrete Delivery/Pumping Workers

Storm Drain Pollution from Fresh Concrete And Mortar Applications

Fresh concrete and cement-related mortars that wash into lakes, streams, or estuaries are toxic to fish and the aquatic environment. Disposing of these materials to the storm drains or creeks can block storm drains, causes serious problems, and is prohibited by law.

Doing the Job Right
General Business Practices

Wash out concrete mixers only in designated wash-out areas in your yard, away from storm drains and waterways, where the water will flow into a temporary waste pit in a dirt area. Let water percolate through soil and dispose of settled, hardened concrete as garbage. Whenever possible, recycle washout by pumping back into mixers for reuse.

Wash out chutes onto dirt areas at site that do not flow to streets or drains.

Always store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Protect dry materials from wind.

Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.

Do not use diesel fuel as a lubricant on concrete forms, tools, or trailers.

During Construction

Don't mix up more fresh concrete or cement than you will use in a two-hour period.

Set up and operate small mixers on tarps or heavy plastic drop cloths.

When cleaning up after driveway or sidewalk construction, wash fines onto dirt areas, not down the driveway or into the street or storm drain.

Protect applications of fresh concrete and mortar from rainfall and runoff until the material has dried.

Wash down exposed aggregate concrete only when the wash water can (1) flow onto a dirt area; (2) drain onto a bermed surface from which it can be pumped and disposed of properly; or (3) be vacuumed from a catchment created by blocking a storm drain inlet. If necessary, divert runoff with temporary berms. Make sure runoff does not reach gutters or storm drains.

When breaking up pavement, be sure to pick up all the pieces and dispose of properly. Recycle large chunks of broken concrete at a local recycling facility. Call the Sunnyvale Recycling Program at (408) 730-7262 for information.

Never bury waste material. Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.

Never dispose of washout into the street, storm drains, drainage ditches, or streams.

Roadwork and Paving

Who should use this information?

- Road Crews
- Driveway/Sidewalk/Parking Lot Construction Crews
- Seal Coat Contractors
- Operators of Grading Equipment, Paving Machines, Dump Trucks, Concrete Mixers
- Construction Inspectors
- General Contractors
- Developers
- Home Builders

Storm Drain Pollution from Roadwork

Road paving, surfacing, and pavement removal happen right in the street where there are numerous opportunities for asphalt, saw-cut slurry, or excavated material to illegally enter storm drains. Extra planning is required to store and dispose of materials properly and guard against pollution of storm drains, creeks, and the Bay.

Doing the Job Right
General Business Practices

Develop and implement erosion/sediment control plans for roadway embankments.

Schedule excavation and grading work during dry weather.

Check for and repair leaking equipment.

Perform major equipment repairs at designated areas in your maintenance yard, where cleanup is easier. Avoid performing equipment repairs at construction sites.

When refueling or when vehicle/equipment maintenance must be done on site, designate a location away from storm drains and creeks.

Do not use diesel oil to lubricate equipment parts or clean equipment.

Recycle used oil, concrete, broken asphalt, etc. whenever possible, or dispose of properly.

Take broken up concrete to a local recycling facility. Call the Sunnyvale Recycling Program at (408) 730-7262 for information.

During Construction

Avoid paving and seal coating in wet weather, or when rain is forecast, to prevent fresh materials from contacting stormwater runoff.

Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, or similar materials.

Protect drainage ways by using earth dikes, sand bags, or other controls to divert or trap and filter runoff.

Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect and recycle, or dispose to dirt area.

Cover stockpiles (asphalt, sand, etc.) and other construction materials with plastic tarps. Protect from rainfall and prevent runoff with temporary roofs or plastic sheets and berms.

Park paving machines over drip pans or absorbent material (cloth, rags, etc.) to catch drips when not in use.

Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) Dig up, remove, and properly dispose of contaminated soil.

Collect and recycle or appropriately dispose of excess abrasive gravel or sand.

Avoid over-application by water trucks for dust control.

Asphalt/Concrete Removal

Avoid creating excess dust when breaking asphalt or concrete.

After breaking up old pavement, be sure to remove all chunks and pieces. Make sure broken pavement does not come in contact with rainfall or runoff.

When making saw cuts, use as little water as possible. Shovel or vacuum saw-cut slurry and remove from the site. Cover or protect storm drain inlets during saw-cutting. Sweep up, and properly dispose of, all residues.

Sweep, never hose down streets to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquor in storm drains.

Heavy Equipment Operation

Who should use this information?

- Vehicle and Equipment Operators
- Site Supervisors
- General Contractors
- Home Builders
- Developers

Stormwater Pollution from Heavy Equipment on Construction Sites

Poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze or other fluids on the construction site are common sources of storm drain pollution Prevent spills and leaks by isolating equipment from runoff channels, and by watching for leaks and other maintenance problems. Remove construction equipment from the site as soon as possible.

Doing the Job Right
Site Planning and Preventive Vehicle Maintenance

Designate one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance. Contain the area with berms, sand bags, or other barriers.

Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks.

Perform major maintenance, repair jobs, and vehicle and equipment washing off site where cleanup is easier.

If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in separate containers. Recycle them wherever possible, otherwise, dispose of them as hazardous wastes.

Do not use diesel oil to lubricate equipment parts, or clean equipment. Use only water for any onsite cleaning.

Cover exposed fifth wheel hitches and other oily or greasy equipment during rain events.

Use as little water as possible for dust control. Ensure water used doesn't leave silt or discharge to storm drains.

Spill Cleanup

Clean up spills immediately when they happen.

Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/ or rags) whenever possible and properly dispose of absorbent materials.

Sweep up spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them.

Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.

Report significant spills to the appropriate local spill response agencies immediately. In Sunnyvale, dial 9-1-1 if hazardous materials might enter the storm drain.

If the spill poses a significant hazard to human health and safety, property or the environment, you must also report it to the State Office of Emergency Services 1-800-852-7500.

DOOR SCHEDULE

NUMBER	SIZE	LABLE	OPENING	DESCRIPTION
D-1	5068	Door With Side Glass	LH / RH	Main Ent.
D-2	2668	Hollow Core	LH	Coat Closet
D-3	2868	Hollow Core	LH	Bedroom-1
D-4	2668	Hollow Core	RH	Bathroom-1
D-5	2868	Hollow Core	RH	Bedroom-2
D-6	3068	Hollow Core	**LH**	Master Bedroom
D-7	3068	Hollow Core	Pocket Door	Master Closet
D-8	3068	Hollow Core	LH	Master Bathroom
D-9	8068	Patio Door	Sliding	Master Bedroom
D-10	2868	Hollow Core	LH	Bedroom-3
D-11	2668	Hollow Core	LH	Bathroom-2
D-12	8068	Patio Door	Sliding	Family Room
D-13	2868	Solid Core Fire Door	LH	Garage - 20min. Fire Rated
CL-1	8068	Hollow Core	By Pass	Bedroom-1
CL-2	8068	Hollow Core	By Pass	Bedroom-2
CL-3	8068	Hollow Core	By Pass	Bedroom-3

WINDOW SCHEDULE

NUMBER	SIZE	LABLE	OPENING		DESCRIPTION
W-1	8050	Bay Window	Yes	XO	Living Room
W-2	6040	Sliding	Yes	XO	Bedroom-1
W-3	4020	Fix (T) OBS.	No		Bathroom-1
W-4	6040	Sliding	Yes	OX	Bedroom-2
W-5	2040	SH (T) OBS.	Yes		Master Bathroom
W-6	4040	Sliding	Yes	OX	Master Bedroom
W-7	4040	Sliding	Yes	XO	Master Bedroom
W-8	6040	Sliding	Yes	XO	Bedroom-3
W-9	6040	Sliding	Yes	XO	Family Room
W-10	6030	Sliding	Yes	OX	Kitchen
W-11	6040	Sliding (T)	Yes	OX	Living Room

DOOR AND WINDOW NOTES:

EVERY BEDROOM SHALL BE PROVIDED WITH AN EGRESS WINDOW WITH FINISH SILL HEIGHT NOT GREATER THAN 44" ABOVE THE FINISH FLOOR HEIGHT AND SHALL HAVE A MINIMUM OPENABLE AREA OF 5.7 SQ. FT. EGRESS WINDOWS SHALL NOT HAVE AN OPENABLE AREA LESS THAN 20" WIDE OR 24" HIGH.

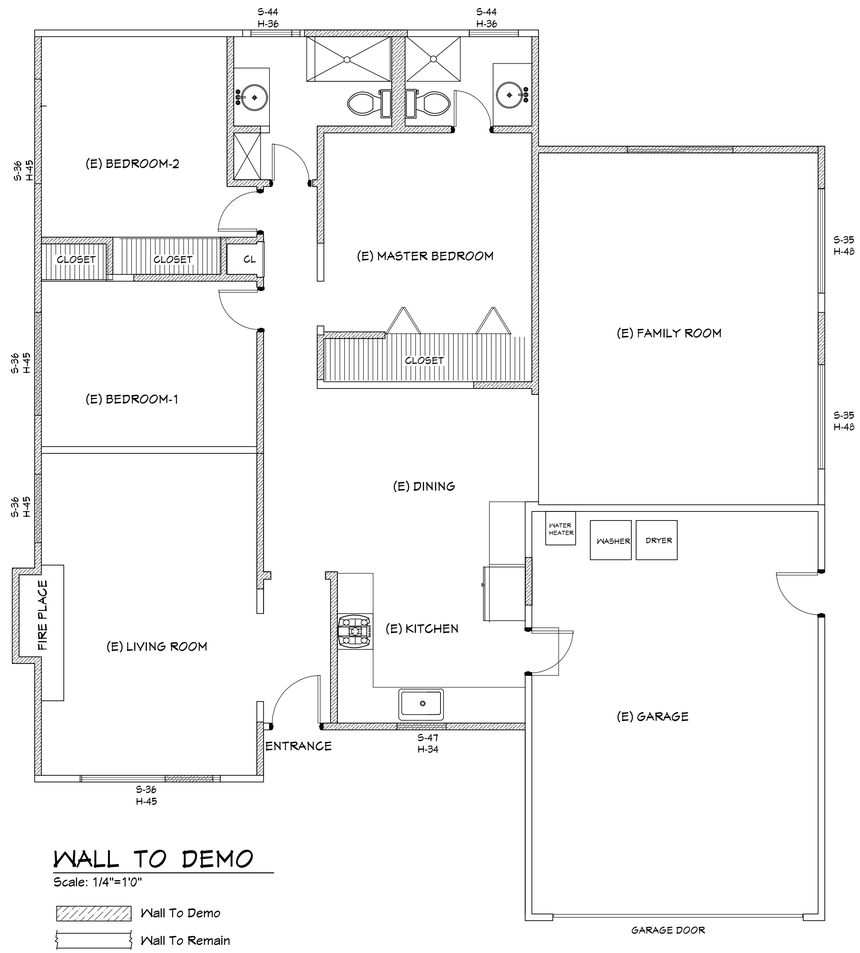
ALL WALK-THRU DOORS SHALL BE SOLID CORE

INTERIOR DOORS SHALL BE PAINTED. ENTRY DOOR TO BE DEFINED BY HOME OWNER PRIOR ORDERING

DOORS BETWEEN GARAGE AND LIVING AREA SHALL BE 1-3/4" TIGHT FITTING SOLID CORE DOORS WITH A RATING OF 60 MINUTES. DOOR SHALL BE SELF CLOSING

EXTERIOR EXIT DOORS WILL BE 36" MIN. NET CLEAR DOORWAY SHALL BE 32" MIN. DOOR SHALL BE OPENABLE FROM INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. GLAZING IN DOORS SHALL BE DUAL PANE SAFETY GLASS WITH MIN. U-VALUE OF 0.60

GARAGE DOORS TO BE SECTIONAL, OVERHEAD DOORS



WALL TO DEMO

Scale: 1/4"=1'0"

Wall To Demo

Wall To Remain

ATTIC ACCESS :-

ALL ATTIC ACCESS CLEAR OPENING SHALL BE MINIMUM OR 22"X30"

ATTIC FURNACE SHALL HAVE A SERVICE PLATFORM OF MINIMUM 30" WIDE WITH CLEAR ACCESS TILL FURNACE FRONT

TERMINATION OF ALL AIR DUCTS SHALL BE A MINIMUM OF 3' AWAY FROM ANY OPENING

REV.	DATE

C to C
CONCEPT-TO-COMPLETION
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5521SEANCIRCLE#78,
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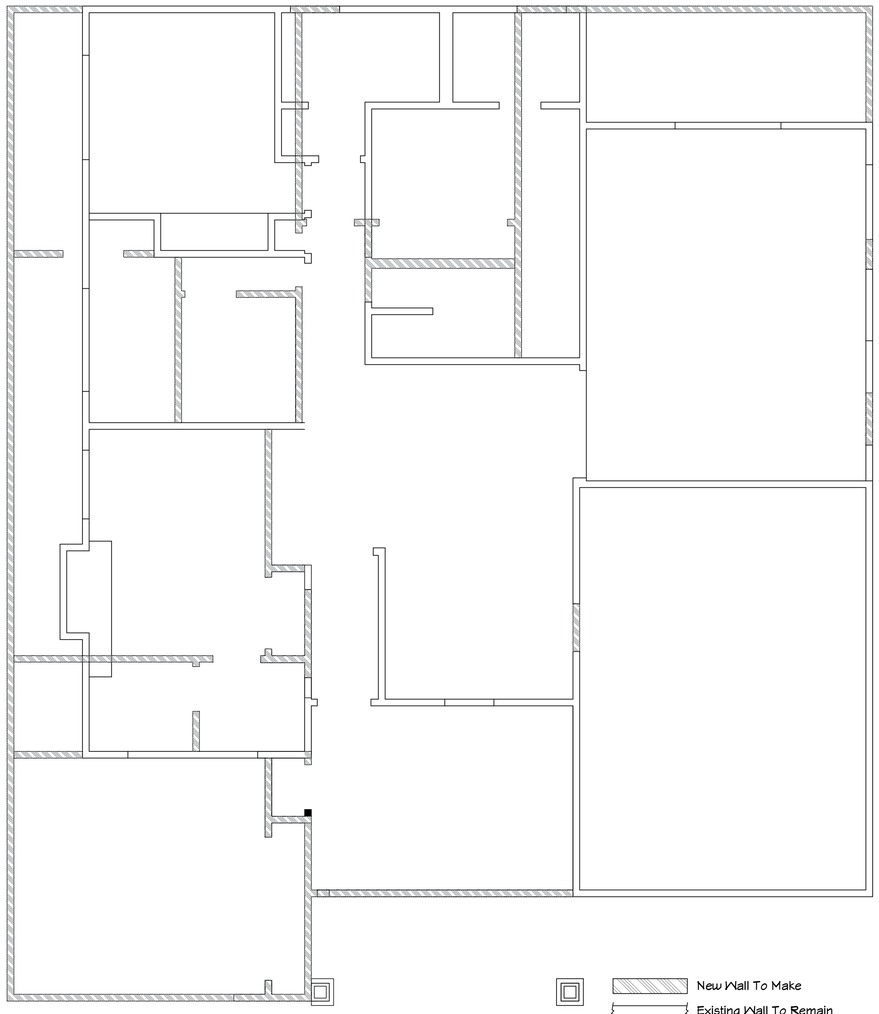
408-476-4554
669-309-2212

Door Window Schedule
Demo Plan
Note

ADDITION FOR:
Shryesh Kher
1656 Adrien Dr.
Campbell, CA-95008

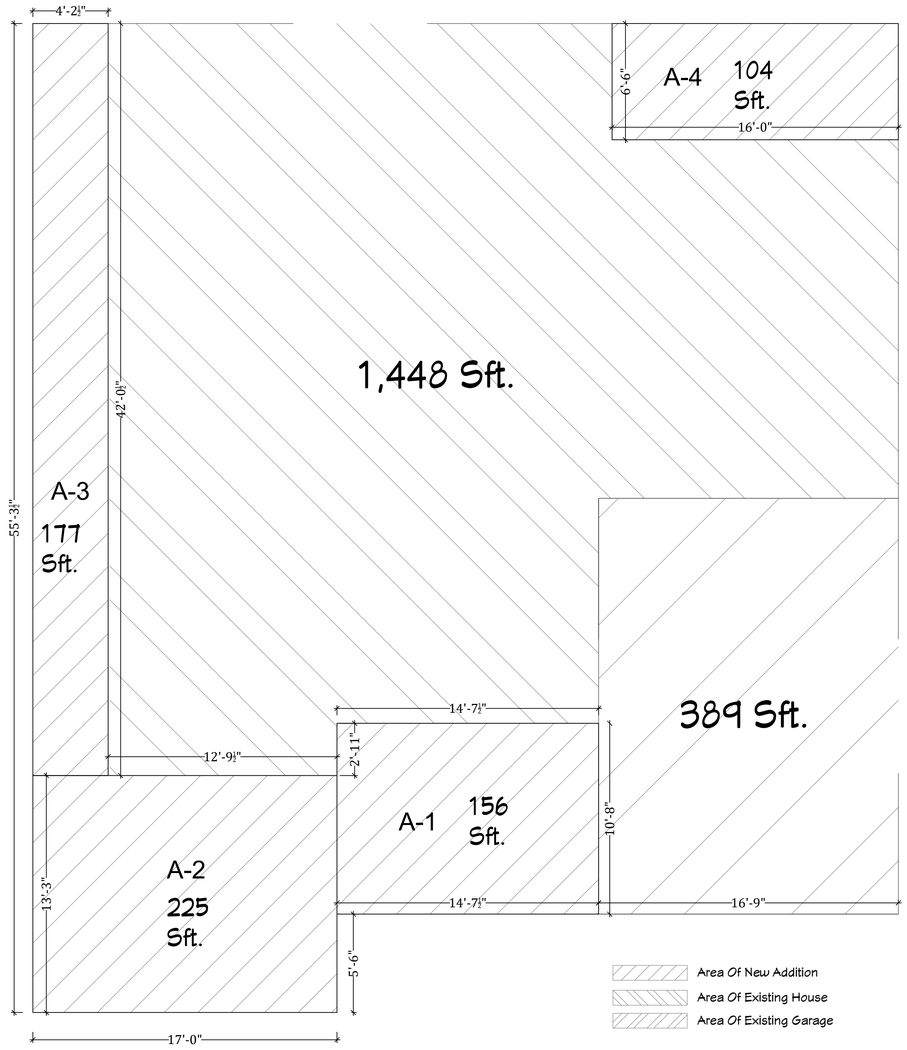
Drawn On - Vasu S.
Checked- vJm
Date: - 05.23.2022
Scale - As Shown

SHEET #
A-0



New Wall To Make
Existing Wall To Remain

NEW WALL TO MAKE
Scale: 1/4"=1'0"



Block Diagram
Scale: 1/4"=1'0"

Area of A-1 = 14'-7 $\frac{1}{2}$" x 10'-8" = 156.00
Area of A-2 = 17'-0" x 13'-3" = 225.00
Area of A-3 = 42'-1/2"x 4'-2 $\frac{1}{2}$" = 177.00
Area of A-4 = 16'-0" x 6'-6" = 104.00

Total Proposed Area = = 662.00

REV.	DATE

CONCEPT-TO-COMPLETION
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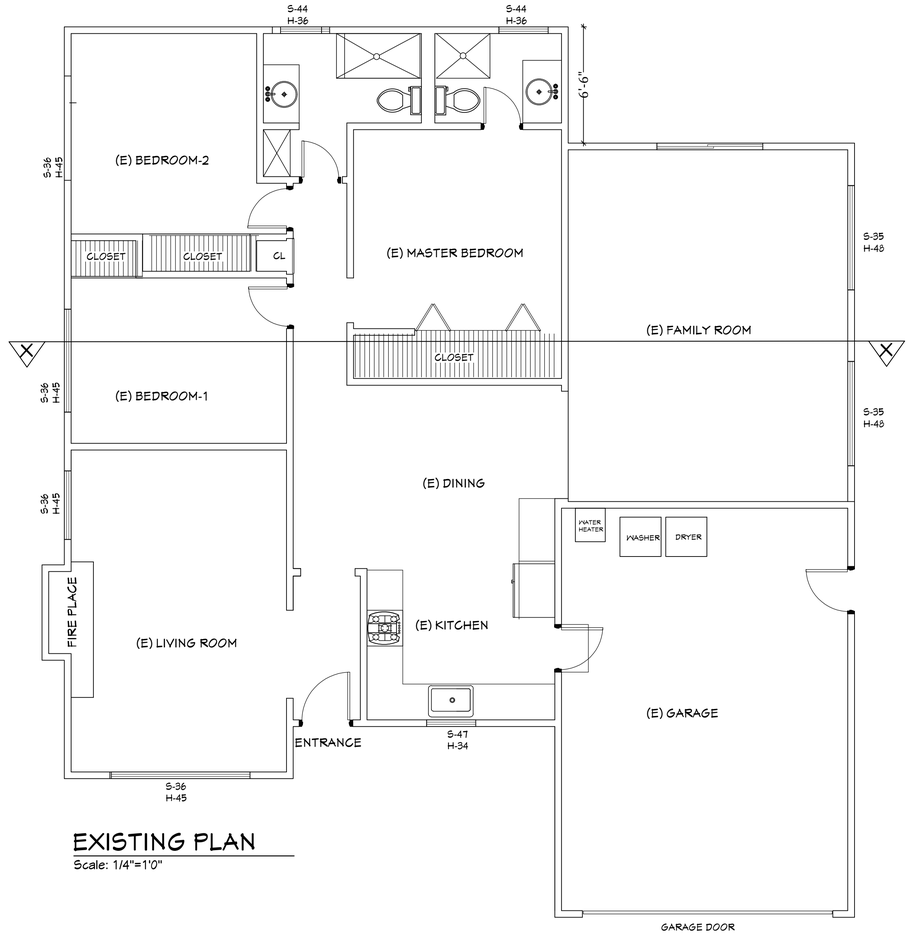
New Wall Plan
Area Calculations

ADDITION FOR:
Shryesh Kher
1656 Adrien Dr.
Campbell, CA-95008

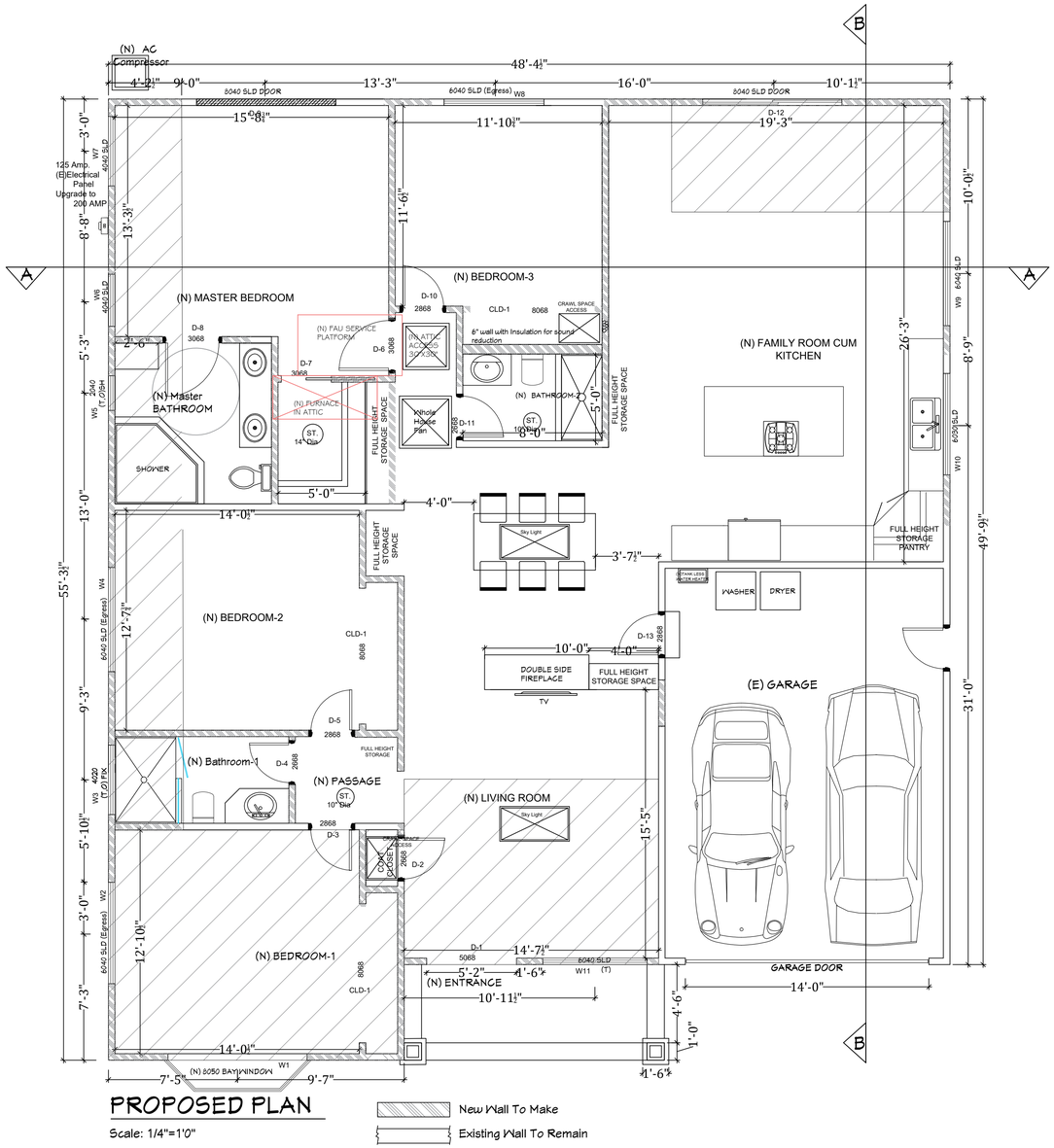
Drawn On - Vasu S.
Checked- vJm
Date: - 05.23.2022
Scale - As Shown

SHEET #
A-1



EXISTING PLAN

Scale: 1/4"=1'0"



PROPOSED PLAN

Scale: 1/4"=1'0"

New Wall To Make

Existing Wall To Remain

REV.	DATE

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Existing Plan
Proposed Plan
Notes

ADDITION FOR:
Shryesh Kher
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - Vasu S.
Checked- vJm
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Scale - As Shown

SHEET #
A-2

* Resilient flooring systems. Where resilient flooring is in stalled, 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 Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.
2.Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program).
3.Certification under the Resilient Floor Covering Institute (RFCI) FloorScore 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 201 0 (also known as Specification 01350).

* 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 in ARB's Air Toxics Cont rol Measure for Composi te Wood (17 CCR 93J20 et seq.), by or before the dates specified in those section s, as shown in Table 4.504.5.

* Concrete slab foundations. Vapor retarder and capillary break is installed at slab-on-grade foundations.

* Heating and air-conditioning system design. Duct systems are sized, designed, and equipment is selected using the following methods:
1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2011 or equivalent.
2. Size duct systems according to ANSI/ACCA 1
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual 5-2014 or equivalent.

* 702.1 Installer Training. HVAC system installers are trained and certified in the proper installation of HVAC systems.
* 702.2 Special Inspection. Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.
* 703.1 Documentation. Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.

* Contractor Must manage storm water drainage during construction

* A Slope of minimum 5% on dirt and 2% on concrete to be kept to keep water entering to building

* All Openings in bottom plates at exterior walls shall be protected against the passage of rodents

* Recycle and/or salvage for reuse a minimum of 65% of the non hazardous construction and demolition waste.

All fireplaces shall have ICBO Listed # OR UL Listed to be approved by designer.
All the exterior glazing must be double pane and T-24 compatible
36" high railing must be provided where difference in level of 30" or more

Any Solar panel installation shall be in accordance with manufacturers guideline and shall be approved by county.

CURB LESS SHOWER:
A.Structural support detail provided.
B.Drainage of ¼":1' slope to the drain shall extend 2' outside of the shower door
C.The entire floor area of the bathroom shall be treated as a wet area w/ waterproof underlayment thruout bathroom
D.All outlets shall be treated as wet areas outlets and require GFI circuit

FIRE RESISTANT CONSTRUCTION:
Provide 1 hour Fire Rated Eves
(For projections > or equal to 2' to < 5', minimum rating of 1 hour on underside of eves to be provided)

UNDER GROUND:
Provide Concrete-Encased Grounding Electrode (UFER). Minimum 20' of ½" uncoated Rebar or #4 Copper Wire to be encased in 2" of Concrete in Bottom of the Footing or the Addition.

WINDOWS:
All windows are of MILGARD make or Matching to the Existing one.

Architecture note

1) The architectural site plan is provided for building and site work layout only, the contractor shall verify on–site all grades, existing improvements, property lines, set back utilities and such structures. All discrepancies shall be immediately discussed with Architect.

2) Finish grade shall provide positive drainage away from building.

3) Irrigation system has to be provided for landscape purpose.

4) On construction shall exceed the latest addition of codes approved by local building officials, this shall include the uniform building code, national electric code, uniform plumbing code, and all other health and safety codes. Ordinance and requirements adopted by governing agencies notify the architect any violation of code immediately.

5) It is the responsibility of the contractor to select, verify, resolved and install all materials and equipments as needed for job.

6) The architect will not be observing the construction of this project. The contractor is solely responsible for the quality control and construction standard for this project. Architect is NOT responsible for any monitory loss to anyone and for anything including this & any approved or non approved set of drawings.

7) All the sub–contractors shall do their best and professionally to coordinate their works with each other, notify General Contractor any discrepancy and difficulty.

8) Where the construction details are not shown Or noted for any part of the work, the details shall be the same as for other similar work.

9) Written dimensions take precedence over skill dimensions. Field verify all cabinets space and fix glass sizes appliances fixtures equipments etc clearances.

10) Contractors proposal includes on the side project management and field supervision as required to maintain a safe and efficient work place.

Shower Pan

Shower pan dimensions including a minimum area of 1024 sq. in. and minimum finish dimension of 30" in any direction. Shower door shall open so as to maintain not less than a 22" unobstructed opening for egress. (CPC 408.6)

Tempered Glazing (CBC 2406.4,2403.1 & CRC 308.1, R308.4)

Tempered Glazing shall be installed in the location listed below.

Tempered Glazing shall be permanently identified by a manufacturer marking that is permanently applied and can not be removed without being destroyed.(e.g. sand blasted, acid etched, ceramic fired, laser etched, or embossed.)

Within a portion of wall enclosing a tub/shower where the bottom exposed edge of the glazing is less than 60" above the standing surface and not drain inlet.

Within 60" of a tub/shower where the glazing is less than 60" above walking surface.

Glazing on the hinge side of an in–swing door that is installed perpendicular to a door in a closed position and within 24" of the door.

Protected trees designated for preservation shall be protected during construction of a project by use of the following methods:

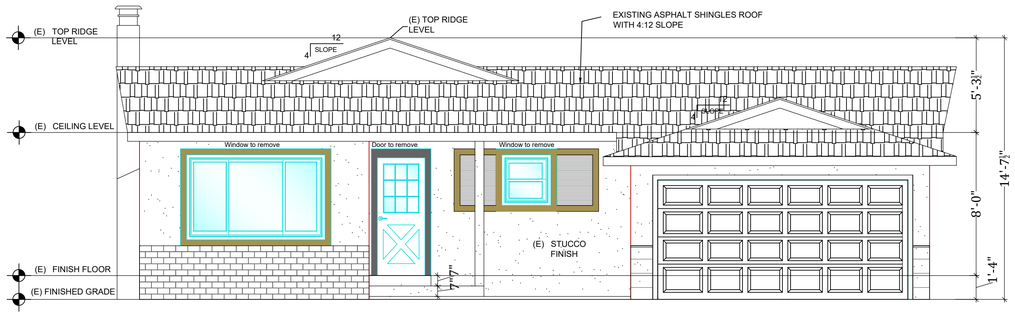
(a) Protective fencing shall be installed no closer to the trunk than the dripline, and far enough from the trunk to protect the integrity of the tree. The fence shall be a minimum of four feet in height and shall be set securely in place. The fence shall be of a sturdy but open material (i.e., chain link) to allow visibility to the trunk for inspections and safety.

(b) The existing grade level around a tree shall normally be maintained out to the dripline of the tree. Alternate grade levels, as described in the tree protection plan, may be approved by the director of community development.

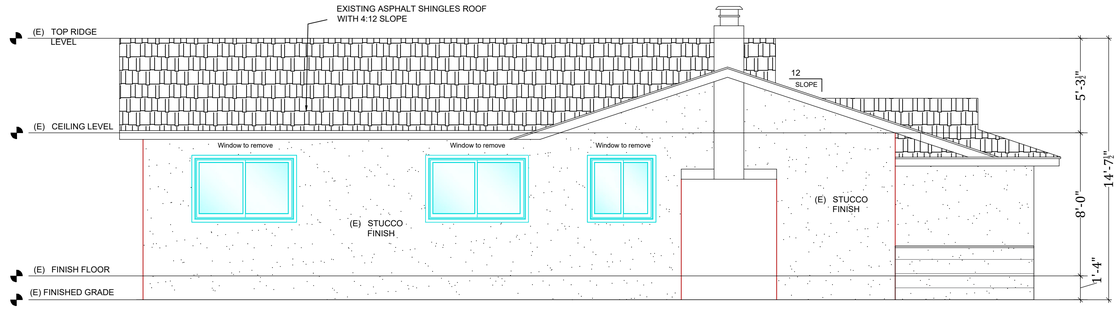
(c) Drain wells shall be installed whenever impervious surfaces will be placed over the root system of a tree (the root system generally extends to the outermost edges of the branches).

(d) Pruning that is necessary to accommodate a project feature, such as a building, road or walkway shall be reviewed and approved by the department of community development and the department of public works.

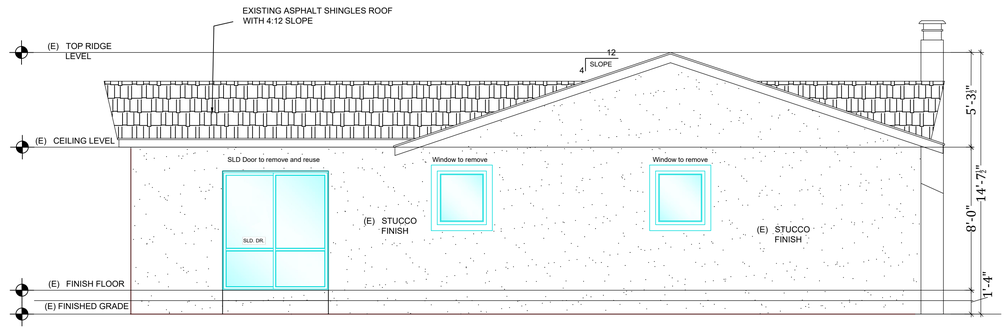
(e) New landscaping installed within the dripline of an existing tree shall be designed to reproduce a similar environment to that which existed prior to construction. (Ord. 2623–99 § 1; prior zoning code § 19.81.130).



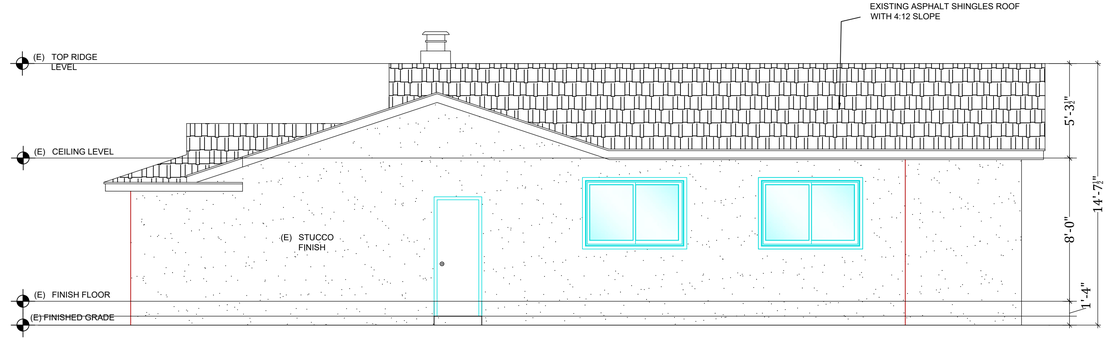
EXISTING FRONT ELEVATION
1/4"=1'-0"



EXISTING LEFT SIDE ELEVATION



EXISTING REAR ELEVATION
1/4"=1'-0"



EXISTING RIGHT SIDE ELEVATION
1/4"=1'-0"

REV.	DATE

CONCEPT-TO-COMPLETION
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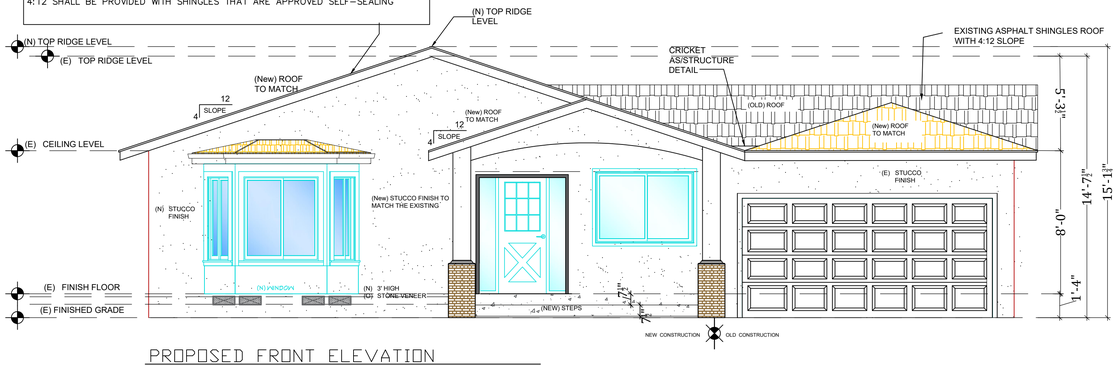
Existing Elevations

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - vJm.
Checked- vJm
Date: - 05.23.2022
Scale - As Shown

SHEET #
A-3

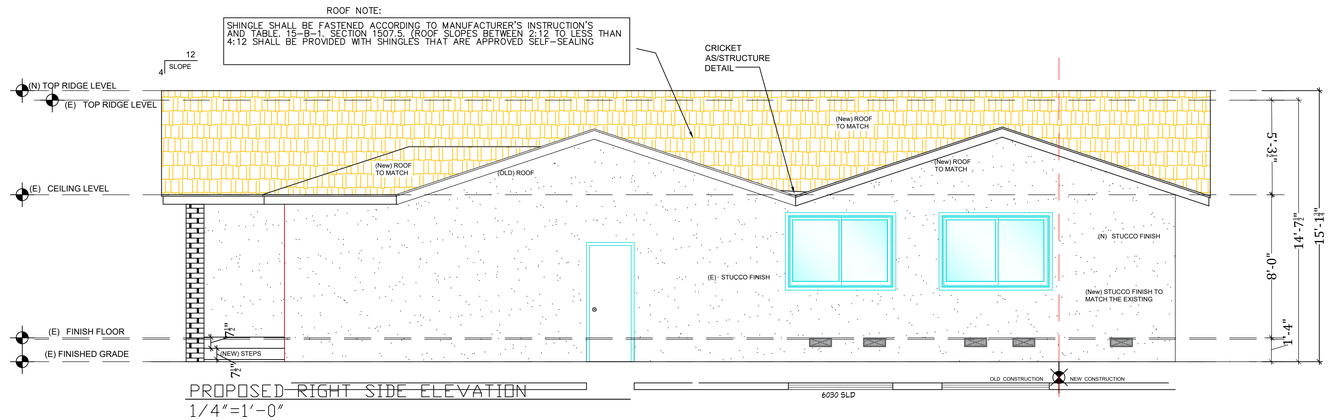
ROOF NOTE:
SHINGLE SHALL BE FASTENED ACCORDING TO MANUFACTURER'S INSTRUCTION'S AND TABLE. 15-B-1. SECTION 1507.5. (ROOF SLOPES BETWEEN 2:12 TO LESS THAN 4:12 SHALL BE PROVIDED WITH SHINGLES THAT ARE APPROVED SELF-SEALING



PROPOSED FRONT ELEVATION
1/4"=1'-0"

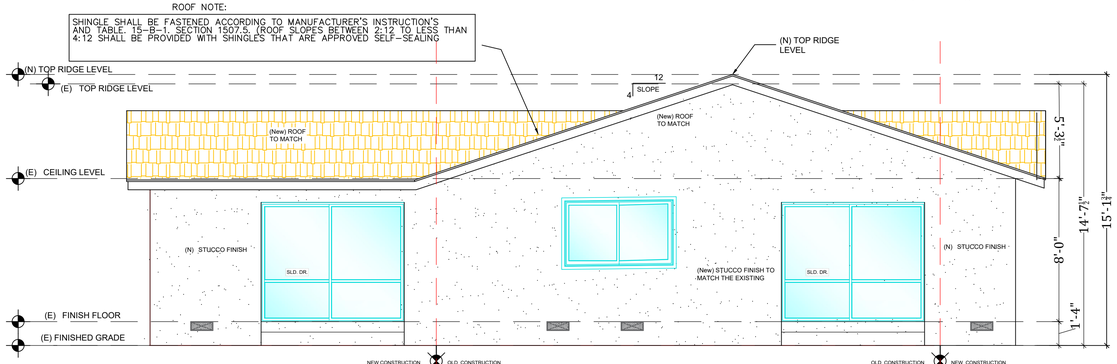
Timberline HDZ Weathered Wood
Algae Resistant Laminated High
Definition Shingles

ROOF NOTE:
SHINGLE SHALL BE FASTENED ACCORDING TO MANUFACTURER'S INSTRUCTION'S AND TABLE. 15-B-1. SECTION 1507.5. (ROOF SLOPES BETWEEN 2:12 TO LESS THAN 4:12 SHALL BE PROVIDED WITH SHINGLES THAT ARE APPROVED SELF-SEALING



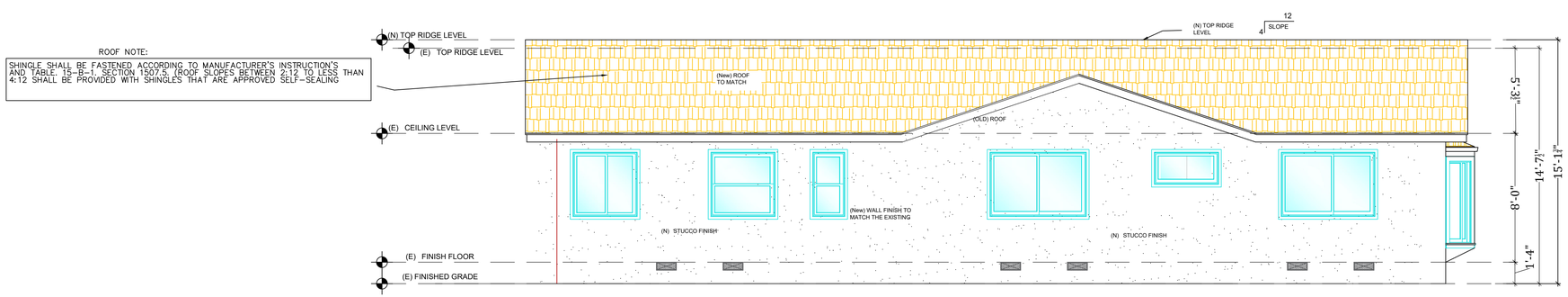
PROPOSED RIGHT SIDE ELEVATION
1/4"=1'-0"

ROOF NOTE:
SHINGLE SHALL BE FASTENED ACCORDING TO MANUFACTURER'S INSTRUCTION'S AND TABLE. 15-B-1. SECTION 1507.5. (ROOF SLOPES BETWEEN 2:12 TO LESS THAN 4:12 SHALL BE PROVIDED WITH SHINGLES THAT ARE APPROVED SELF-SEALING



PROPOSED REAR ELEVATION
1/4"=1'-0"

ROOF NOTE:
SHINGLE SHALL BE FASTENED ACCORDING TO MANUFACTURER'S INSTRUCTION'S AND TABLE. 15-B-1. SECTION 1507.5. (ROOF SLOPES BETWEEN 2:12 TO LESS THAN 4:12 SHALL BE PROVIDED WITH SHINGLES THAT ARE APPROVED SELF-SEALING



PROPOSED LEFT SIDE ELEVATION
1/4"=1'-0"

REV.	DATE

C to C
CONCEPT-TO-COMPLETION
Design by Vint
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Proposed Elevations

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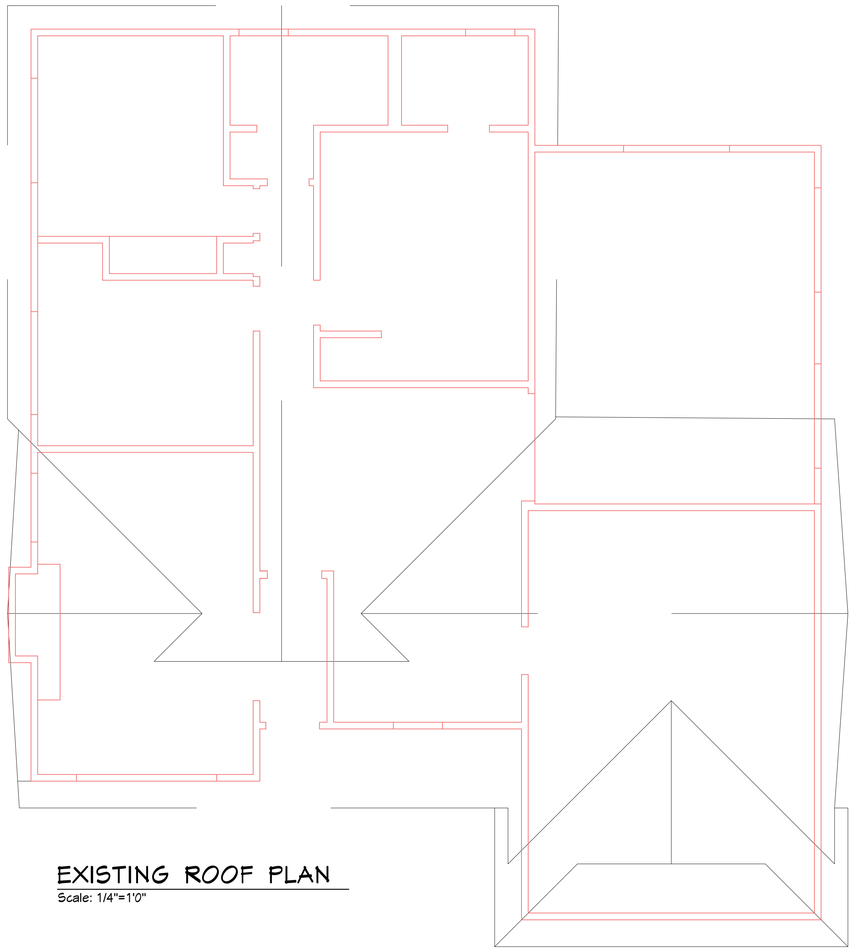
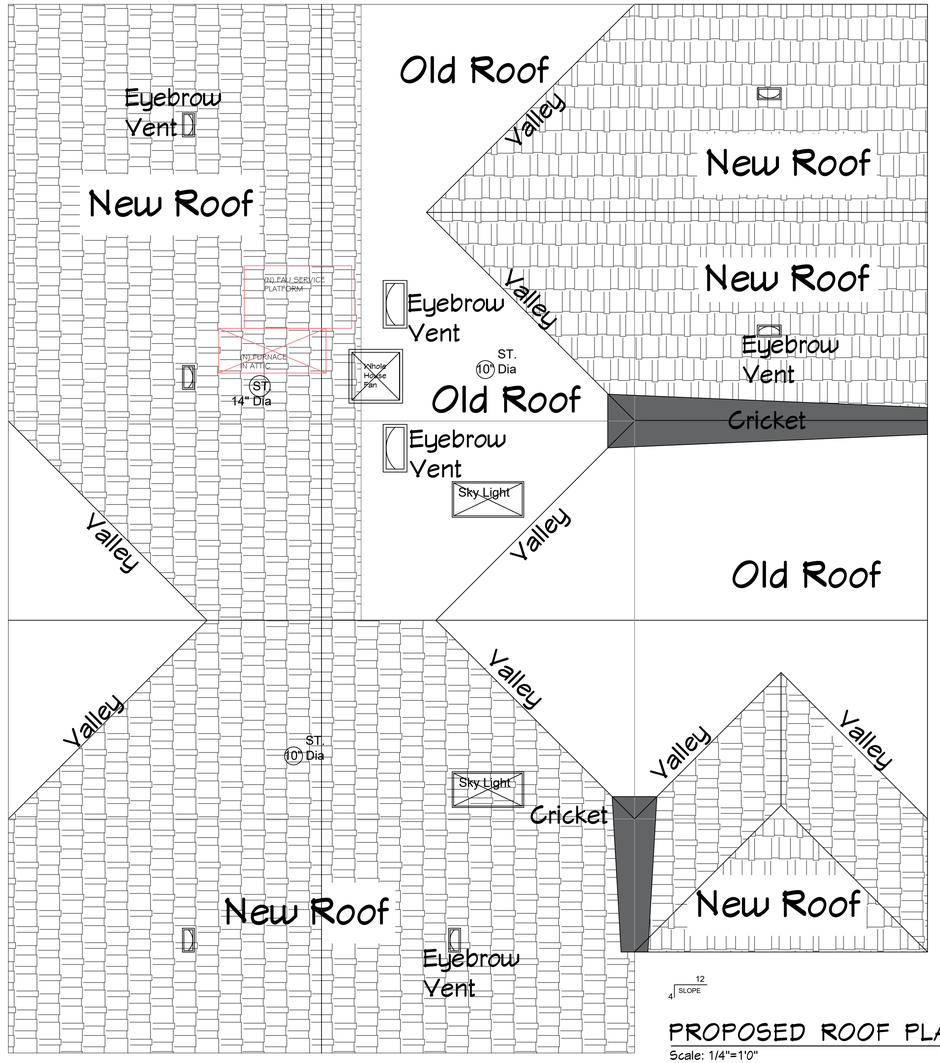
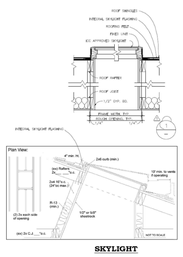
SHEET #
A-4



EXISTING ROOF PLAN
Scale: 1/4"=1'0"



PROPOSED ROOF PLAN
Scale: 1/4"=1'0"



SKYLIGHT

SKY LIGHT DETAIL:-VELUX MAKE U-FACTOR -0.48
FCM 2222 fixed curb mount
skylights with ECL 2246 flashing
Energy Efficient Glass,Insulating
Glazing Units,Laminated Glass,
Low-E Glass,Tinted Glass
UV PROTECTION - 99.9%

Timberline HDZ Weathered Wood
Algae Resistant Laminated High
Definition Shingles

ROOF PLAN NOTES

ROOFING:
ASPHALT SHINGLE ROOF - CLASS "C"
(COLOR TO BE SELECTED BY OWNER)
OVER 30 LB. ROOFING FELT. INSTALL PER MANUF. SPECS.

FLESHING, GUTTER, AND DOWNSPOUT
26 GAUGE GALV. STEEL OVER 15 LB. FELT. CEICKETS SIMILAR.
5" GALV. GUTTER
GALV. STEEL DOWNSPOUT PROVIDE WITH BRACKETS.
IF NEEDED PROVIDE SPLASH BLOCK AT EACH DOWNSPOUT
SHINGLE SHALL BE FASTENED ACCORDING TO MANUFACTURER'S INSTRUCTION'S AND TABLE. 15-B-1. SECTION 1507.5. (ROOF SLOPES BETWEEN 2:12 TO LESS THAN 4:12 SHALL BE PROVIDED WITH SHINGLES THAT ARE APPROVED SELF-SEALING

REV.	DATE

C to C
CONCEPT-TO-COMPLETION
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Existing Roof Plan
Proposed Roof Plan

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

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SHEET #
A-5

Tub and Shower Enclosure Permit Requirements

A permit is required for bathroom remodels that include the replacement of the tub/shower enclosure. A permit is not required for replacement of plumbing fixtures (sink or toilet) in the same location. If a permit is required, it shall be obtained prior to the start of the remodel. Following is a listing of the general requirements based on the 2016 California Building Code, 2016 California Residential Code, 2016 California Electrical Code, 2016, California Green Building Standards (CalGreen), and 2016 California Energy Efficiency Standards. This brochure is intended to provide general information, contact the Building Safety Division for any questions or additional information. **Tub/Shower Requirements**
The mixing valve in a shower (including over a tub) shall be pressure balancing set at a maximum 120° F. The water-filler valve in bathtubs/whirlpools shall have a temperature limiting device set at a maximum of 120° F. The water heater thermostat cannot be used to meet these provisions. (CPC 408.3, 409.4)

New or reconfigured shower stalls shall be a minimum finished interior of 1,024 square inches, be capable of encompassing a 30 inch diameter circle. Any doors shall swing out of the enclosure have a clear opening of 22 inches minimum. (CPC 408.5, 408.6)

Shower stalls and bathtubs with shower heads installed, shall have walls finished with a non-absorbent surface for a minimum of 6 feet above the floor. (CBC 1210 and CRC R307.2)

Hydro-massage tubs (i.e. Jacuzzi tubs) shall have access to the motor, be supplied by a GFCI protected dedicated circuit, and be listed by a recognized testing agency (i.e. UL). All metal cables, fittings, piping, or other metal surfaces, within 5 feet of the inside wall of the Hydro-massage tub shall be properly bonded. Hydro-massage tubs shall be bonded with a minimum #8 AWG bare copper wire and the bonding shall be accessible. (CEC 680.70)

Underlayment material used as backers for wall tile or solid surface material in tub and shower enclosures shall be either glass mat/fiber-reinforced gypsum backing panels (i.e. DensShield, Dens Armor Plus), non-asbestos fiber-cement/fiber mat back board (i.e. Hardibacker, cement board). All material shall be installed in accordance with the manufacturer's recommendations. Water-resistant gypsum board (i.e. purple board) may be used when attached directly to studs, overlayed with minimum Grade B building paper and wire lath. Tile shall be attached to the wire lath. (CBC 2509 and CRC R702.4)

Shower floors shall be lined with an approved shower pan or an on-site built watertight approved lining (i.e. hot mop). On-site built shower linings shall extend a minimum of 3 inches vertically up the wall and shall be sloped ¼" per foot to weep holes. (CPC 408.7)

When a curb is provided at a shower, it shall be a minimum of 1 inch above the shower floor and between 2 inches and 9 inches above the top of the drain. A watertight nailing flange that extends a minimum of 1 inch high shall be installed where the shower floor meets the vertical surface of the shower compartment. The finished floor of the shower compartment shall be uniformly sloped between ¼" and ½" per foot towards to the drain. (CPC 408.5) Where a curb is not provided at the shower compartment, the entire bathroom shall be considered a wet location. The flooring in the entire bathroom shall comply with the water proofing requirements described above for shower floors (previous bullet) and all lighting fixtures shall be approved for wet locations.

—

Water Efficient Plumbing Fixtures (CalGreen 301.1.1)
Residential buildings undergoing permitted alterations, additions, or remodels are required to replace all non-compliant plumbing fixtures (based on water efficiency) throughout the house with water-conserving plumbing fixtures. The following table shows what is considered to be a non-compliant plumbing fixture and the current water efficiency standards for various plumbing fixtures. All existing non-compliant plumbing fixtures shall be replaced with fixtures meeting the current standards. *

——

Plumbing Fixture
Water Closet (Toilet)
Showerhead
Faucet -Bathroom
Faucet - Kitchen
Urinal

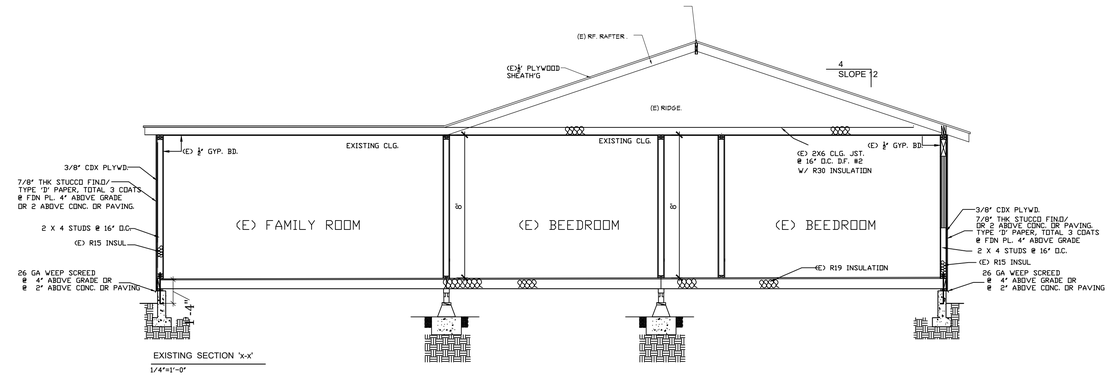
Current Standard for the Maximum Flow Rate of Newly Installed Plumbing Fixtures
Water Closet - 1.28 gallons/flush
Showerhead - 1.8 gallons/minute at 80psi
Lavatory Faucet - 1.2 gallons/minute At 60 psi
Kitchen Faucet - 1.8 gallons/minute at 60 psi (average)
Urinals - 0.125 gallons/flush
** Residential building constructed after January 1, 1994 are exempt from this requirement.*

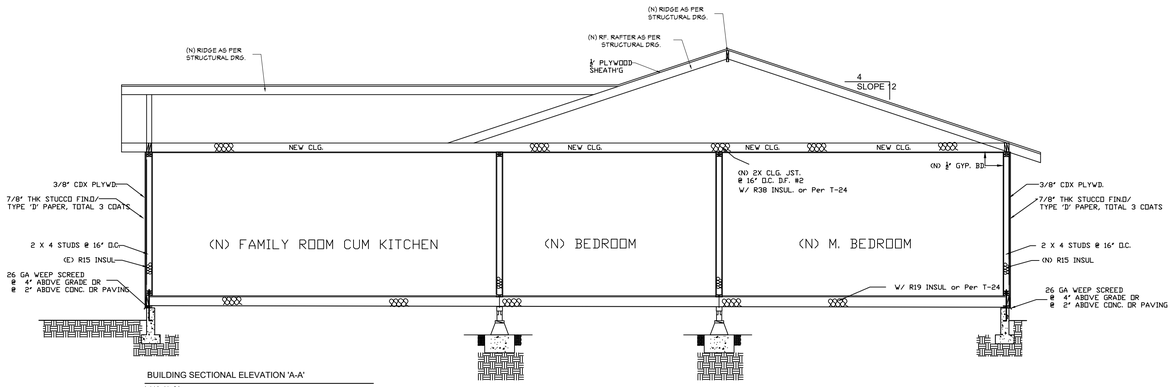
Water Heater Requirements

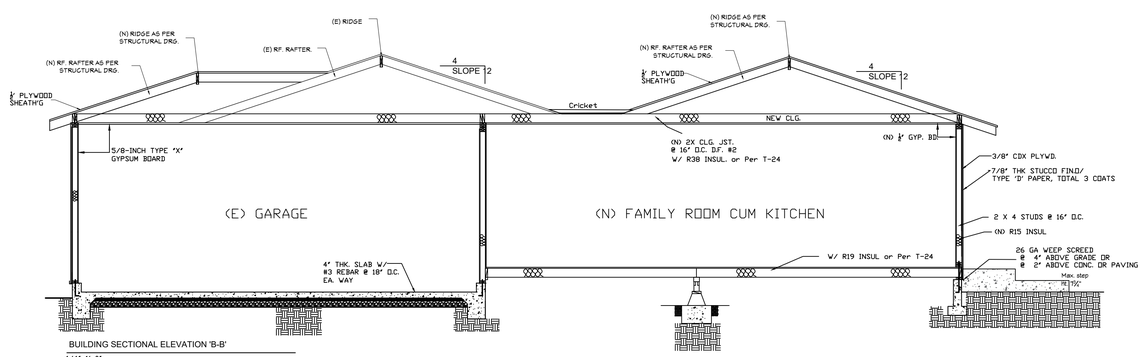
Zoning district information is available on-line by clicking on E-Zoning. A plumbing permit is required for the replacement of an existing water heater. Permits are required prior to installation or replacement of water heaters. Following are general requirements for water heater replacements based on the 2016 California Plumbing Code and the 2016 California Energy Efficiency Standards. This brochure is intended to provide general information, contact the Building Safety Division for any questions or additional information.

Seismic Straps (CPC 507.2)

Water heaters require two seismic straps; one located within the top 1/3 of the water heater unit and one at the bottom 1/3. The bottom strap must be located at least 4" away from the water heater controls. Several seismic strap kits are available commercially; however, metal plumbers tape can be used if it completely encircles the water heater and is then attached to a structural framing member at each end. Any platform supporting the water heater must be secured to the structure or the slab. Additional blocking at the water heater may be required to resist horizontal displacement.







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Sections
Notes

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

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SHEET #
A-6

ELECTRICAL, DATA, & AUDIO NOTES:
HOME OWNER SHALL DO A WALK-THRU WITH RELEVANT INSTALLERS TO VERIFY THE EXACT LOCATION FOR OUTLETS, LIGHTS, SWITCHES, CABLE, DATA, PHONE, AUDIO, ETC.

ELECTRICAL NOTES:
ELECTRICAL RECEPTACLES IN BATHROOMS, KITCHENS AND GARAGES SHALL BE G.F.I. ORG.F.I.C. PER NATIONAL ELECTRICAL CODE REQUIREMENTS.
PROVIDE ONE SMOKE DETECTOR IN EACH ROOM AND ONE IN EACH CORRIDOR ACCESSING BEDROOMS. CONNECT SMOKE DETECTORS TO HOUSE POWER AND INTER-CONNECT SMOKE DETECTORS SO THAT, WHEN ANY ONE IS TRIPPED, THEY ALL WILL SOUND. PROVIDE BATTERY BACKUP FOR ALL UNITS.
CIRCUITS SHALL BE VERIFIED WITH HOME OWNER PRIOR TO WIRE INSTALLATION.
FINAL SWITCHES FOR TIMERS AND DIMMERS SHALL BE VERIFIED WITH HOME OWNER.
FIXTURES TO BE SELECTED BY HOME OWNER.

ELECTRICAL NOTES #1

ARC-FAULT CIRCUIT INTERRUPTER PROTECTION, CEC 210-12(B): ALL BRANCH CIRCUITS THAT SUPPLE 125-VOLT. SINGLE, 15-AND 20-AMPERE OUTLETS (I.E. RECEPTACLES, LIGHTS, SMOKE ALARMS, ETC.) INSTALLED IN DWELLING UNIT BEDROOMS SHALL BE PROTECTED BY ARC-FAULT CIRCUIT INTERRUPTER (ASCII) LISTED TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT.

ELECTRICAL NOTES #2

PROVIDE A 4-WIRE GROUNDED ELECTRICAL OUTLET PER. CEC. 250-140.

A) AN ATTIC OR FURRED SPACE IN WHICH A WARM-AIR FURNACE IS INSTALLED SHALL BE ACCESSIBLE BY AN OPENING AND PASSAGEWAY AS LARGE AS THE LARGEST COMPONENT OF THE APPLIANCE, AND NOT LESS THAN 22 INCHES X 30 INCHES. (CMC 304.4)

B) WHERE THE HEIGHT OF THE PASSAGEWAY IS LESS THAN SIX FEET, THE DISTANCE FROM THE PASSAGEWAY ACCESS TO THE APPLIANCE SHALL NOT EXCEED TWENTY FEET MEASURED ALONG THE CENTER LINE OF THE PASSAGEWAY. (CMC 304.4.1)

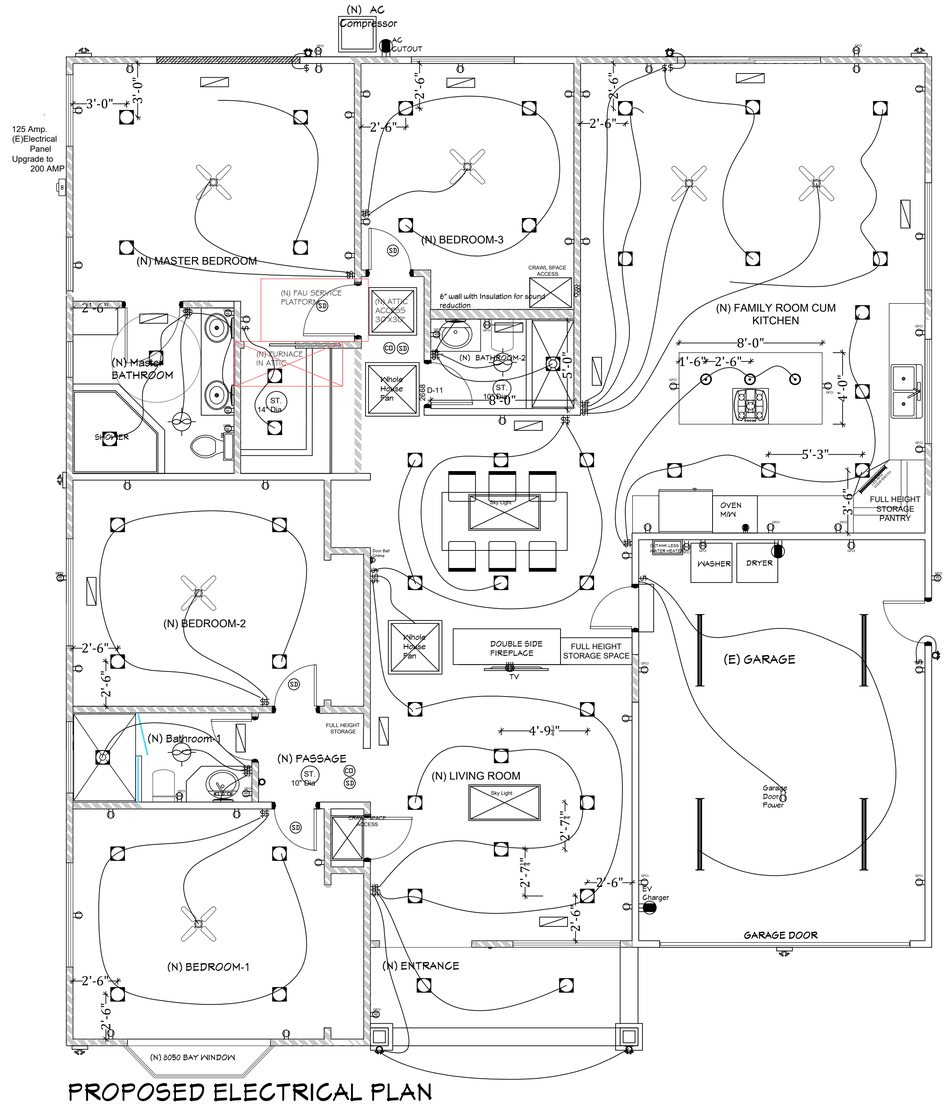
C) THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE CONTINUOUS SOLID FLOORING NOT LESS THAN 24 INCHES WIDE FROM THE ENTRANCE OPENING TO THE FURNACE. (CMC 304.4.2)

D) A LEVEL WORKING PLATFORM OR GRADE SURFACE NOT LESS THAN 30 INCH X 30 INCH SHALL BE PROVIDED IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. (CMC 304.4.3)

E) A PERMANENT ELECTRIC OUTLET AND A LIGHTING FIXTURE CONTROLLED BY A SWITCH LOCATED AT THE ATTIC ACCESS SHALL BE PROVIDED AT OR NEAR THE FURNACE. (CMC 304.4.4)

A) ALL WALL SPACES, 2 FEET OR MORE IN WIDTH, SHALL HAVE RECEPTACLES INSTALLED SUCH THAT NO POINT MEASURED HORIZONTALLY IS MORE THAN 6 FEET FROM A RECEPTACLE (12 FOOT MAXIMUM SPACING) (CEC 210.52(A)(1) & (2))

B) COUNTERTOPS IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS, SPACES 12 INCHES OR WIDER SHALL HAVE RECEPTACLES INSTALLED SUCH THAT NO POINT ALONG THE WALL IS MORE THAN 2 FEET FROM A RECEPTACLE. (CEC 210.52(C)(1))



PROPOSED ELECTRICAL PLAN

Scale: 1/4"=1'0"

ELETRICAL LEGEND

- MOTION SENSOR LIGHT
- 110 OUTLET
- GFCI 110 OUTLET
- 220 OUTLET
- INCANDESCENT LIGHT
- LIGHT SWITCH
- 3 3Way LIGHT SWITCH
- VS VACANCY SWITCH
- HS HUMIDITY SENSOR SWITCH
- OS OCCUPANCY SENSOR SWITCH
- THIN LED CAN CEILING LIGHT
- EXTERIOR WALL LIGHT
- INTERIOR WALL LIGHT
- LED LIGHT/FAN COMBO
- SD SMOKE DETECTOR
- CD CARBON MONOXIDE ALARM
- CHANDELIER / CEILING LIGHT
- LED SHOP LIGHT
- FAN WITH LIGHT
- LED ROPE LIGHT
- A.C. GRILL
- VANITY LIGHTS

SD ALL SD & CM TO BE HARD WIRE w/ BATTERY BACKUP
CM AND SOUND AN ALARM AUDIBLE IN ALL BEDROOMS OF THE HOUSE

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Electrical Plan Notes

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SHEET #
A-7

A. GENERAL NOTES
1. CONSTRUCTION WILL FOLLOW THESE APPLICABLE CODES:
2019 CALIFORNIA RESIDENTIAL, BUILDING, MECHANICAL, PLUMBING, ELECTRICAL, ENERGY, AND GREEN BUILDING CODES (I.E. 2019 IRC, 2019 IBC, 2019 UMC, 2019 UPC, 2014 NEC, AS AMENDED BY THE STATE OF CALIFORNIA AND CITY OF SAN JOSÉ).
2. EACH CONTRACTOR AND SUPPLIER IS RESPONSIBLE THAT HIS WORK AND MATERIALS CONFORM TO ALL APPLICABLE CODES, REGULATIONS, ACCEPTABLE PRACTICES, AND IS ACCEPTABLE TO THE BUILDING DEPARTMENT AND OWNER.
3. THE CONTRACTORS AND SUBCONTRACTORS SHALL PROVIDE EVERYTHING NECESSARY AND REASONABLY INCIDENTAL FOR THE PROPER AND WORKMANLIKE EXECUTION OF THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, WHETHER SPECIFICALLY MENTIONED OR NOT. UPON COMPLETION THE STRUCTURE SHALL BE FULLY OCCUPIED WHILE USABLE, AS INTENDED.
4. THE CONTRACTOR AND SUBCONTRACTORS SHALL STUDY THE DRAWINGS, VERIFY ALL DIMENSIONS AND CONDITIONS ON THE DRAWINGS AND AT THE JOB SITE PRIOR TO BIDDING, ORDERING MATERIALS, EQUIPMENT, AND FIXTURES OR COMMENCING WORK.
5. THE CONTRACTOR AND SUBCONTRACTORS SHALL PROMPTLY NOTIFY THE GENERAL CONTRACTOR, OWNER, AND DESIGNER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES IN THE PLANS AND/OR SPECIFICATIONS.
6. THERE SHALL BE NO CHANGES TO THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR WRITTEN APPROVAL BY THE OWNER AND DESIGNER.
7. THESE DRAWINGS ARE MINIMUM. ALL CONDITIONS NOT SPECIFICALLY NOTED OR DETAILED ARE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SUBCONTRACTORS INVOLVED.
8. ALL WORK SHALL BE IN ACCORDANCE WITH ENERGY STANDARDS OF TITLE 24.
9. ALL PERMITS ARE THE RESPONSIBILITY OF THE OWNER.
B. EXCAVATION
1. EXCAVATE FOOTINGS & EXPORT SOIL.
C. CONCRETE AND REINFORCING STEEL (SEE STRUCTURAL ENGINEERING REQUIREMENTS)

1. ALL CONCRETE SHALL BE 2500 PSI WITHIN 28 DAYS UNLESS NOTED OTHERWISE ON THE PLANS.
2. MINIMUM AGGREGATE SIZE SHALL BE 3/4, AND MAXIMUM SLUMP SHALL BE 4 1/2" UNLESS NOTED OTHERWISE ON THE PLANS.
3. ANCHOR BOLTS, HOLD-DOWN BOLTS, DOWELS, AND OTHER REQUIRED INSERTS, SHALL BE POSITIONED AND FIRMLY SECURED IN PLACE, BEFORE CONCRETE IS POURED.
4. CONTRACTOR SHALL TAKE ALL THE NECESSARY MEASURES TO PROVIDE A PROPER IMPACTION OF THE CONCRETE.
5. SOIL AT BOTTOM OF FOOTINGS AND UNDER SLABS SHALL BE UNDISTURBED OR, IF DISTURBED, COMPACTED TO 95% PRIOR TO THE POUR.
6. REINFORCING STEEL SHALL BE DEFORMED BARS; CONFORMING TO ASTM A 615-40 REQUIREMENTS AND WELDED WIRE MESH PER ASTM SPECIFICATIONS A-185.
7. REINFORCING STEEL BARS #4 AND SMALLER SHALL BE OF GREAT 40, AND BARS #5 AND LARGER SHALL BE OF GRADE 60.
8. ALL REINFORCING BARS SHALL BE CLEAN OF ANY RUST, OR FOREIGN MATERIALS.
9. ALL REINFORCING SPLICES OR SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS BUT NO LESS THAN 24" PER CRC TABLE R611.5.4(1).
10. CONCRETE COVERAGE FOR REINFORCING STEEL SHALL BE: 3" WERE POURED AGAINST THE EARTH; 2" WERE POURED AGAINST FORMS; 1" FOR SLAB POURED AGAINST FORMS.
11. ANCHOR BOLTS SHALL BE LOCATED WITHIN 12" FROM CORNERS AND BUTT JOINTS.
D. STRUCTURAL STEEL
1. STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. (A-36) SPECIFICATIONS AND TO THE A.S.I.C.
E. FRAMING (CONVENTIONAL FRAMING IN ACCORDANCE WITH UBC) AND LUMBER
1. WOOD MEMBERS LESS THAN 4" IN WIDTH SHALL BE DOUGLAS FIR #2.
2. WOOD MEMBERS 4" OR LARGER WIDTH SHALL BE DOUGLAS FIR #1, UNLESS NOTED OTHERWISE ON THE PLANS.
3. UNLESS SPECIFIED OTHERWISE ON THE PLANS, ALL NAILING SHALL BE PER UNIFORM BUILDING CODE.
4. ALL CONNECTING HARDWARE SHALL BE SIMPSON COMPANY TYPE OR EQUAL, AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS, UNLESS NOTED OTHERWISE ON THE PLANS.
5. GLUE-LAMINATED BEAMS SHALL BE OF A COMBINATION PROVIDING A MINIMUM fb = 2400 PSI. CAMBER OR AS INDICATED ON THE PLANS.
6. ROOF SHEATING SHALL BE A MINIMUM 1/2" CDX WITH EXTERIOR GLUE, GROUP #2 OR EQUIVALENT OSB. EXPOSED SHEATHING AT ROOF OVERHANG SHALL BE AS INDICATED ON THE PLAN

7. WALL SHEATHING TO BE A MINIMUM OF 3/8" CDX PLYWOOD WITH EXTERIOR GLUE, GROUP #2 OR EQUIVALENT OSB. UTILIZE UCB SHEER NAILING PATTERN UNLESS SPECIFIED OTHERWISE IN THE PLANS.
8. FLOOR SHEATHING SHALL BE T&G INT-APA WITH EXTERIOR GLUE, GROUP #2.
9. BEARING AND NONBEARING WALLS SHALL HAVE DOUBLE TOP PLATES, LAPPED AT INTERSECTION. PLAYED JOINTS SHALL BE STAGGERED 4'-0" MINIMUM AS INDICATED ON THE STRUCTURAL DETAILS.
10. UNLESS NOTED OTHERWISE ON PLANS, WALLS SHALL BE OF 2 X 4 STUDS AT 16" CENTERS.

11. PRESSURE TREATED LUMBER OR FOUNDATION GRADE REDWOOD SHALL BE UTILIZED FOR WOOD IN CONTACT WITH CONCRETE OR MASONRY.
12. HOLES FOR BOLTS SHALL BE BORED WITH A BIT 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER. ALL BOLTS SHALL BE RETIGHTENED PRIOR TO APPLICATION OF PLYWOOD, GYP-BOARD, ETC.
13. ROOF EAVES TO MATCH EXISTING EAVES.
14. ALTERNATIVE ROOF FRAMING, USE ENGINEERED ROOF TRUSSES IF NOTED ON ENGINEERS PLAN.
15. STRUCTURAL MEMBER SHALL NOT BE CUT OR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED.
16. 2X SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS.
17. ALL BOLTS BEARING ON WOOD SHALL HAVE STD CUT WASHERS HUNDRED HEAD AND NUT, UNO.
F. ROOFING
1. NEW COMPOSITION SHINGLE OR OTHER MATERIAL ROOF COVERING ON ADDITION TO MATCH (E)
G. STUCCO
1. 3 COATS STUCCO WITH TEXTURE SELECTED BY OWNER
2. 2 LAYERS OF GRADE D PAPER OVER PLYWOOD SHEATHING
3. 26 GA GALVANIZED WEEP SCREED AT FOUNDATION PLATE LINE
8" ABOVE GRADE OR 4" ABOVE CONCRETE OR PAVING
H. WINDOWS, GLAZING & DOOR.
1. ALL WINDOWS SHALL BE VINYL DOUBLE GLAZED MINIMUM WITH LOW-E OPTIONAL.
2. DOOR GLAZING & WINDOW GLAZING SHALL BE TEMPERED WHEN LOCATED WITHIN 24 INCHES OF EITHER EDGE OF A
3. WINDOWS FOR BEDROOMS SHALL: HAVE A MIN NET CLEAR OPENING OF 5.7 FT.² (GRADE-FLOOR OPENINGS SHALL BE A MIN 5 FT.²); MIN NET CLEAR OPENING HEIGHT OF 24 INCHES; AND MIN NET CLEAR WIDTH OF 20 INCHES; BOTTOM OF CLEAR OPENING NOT TO EXCEED 44 INCHES ABOVE FLOOR AND OPENS DIRECTLY TO STREET, PUBLIC ALLEY, YARD OR COURT THAT OPENS TO PUBLIC WAY. CBC SECTION 1026.
4. DOORS OF SHOWER AND BATH TUB ENCLOSURES SHALL BE FULLY TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC. CBC 2406.3
5. GLAZING IN SHOWERS OR BATHTUB ADJACENT WALL OPENINGS WITHIN 60 INCHES ABOVE A STANDING SURFACE OR DRAIN INLET SHALL BE FULLY TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC. CBC SECTIONS 2406.3.
6. MINIMUM WINDOW GLAZED AREA MUST EQUAL 8% OF ROOM FLOOR AREA AND MINIMUM 4% OPENABLE.

I. SAFETY GLASS REQUIREMENTS
1. DOORS AND PANELS OF SHOWER AND BATH TUB ENCLOSURES SHALL BE TEMPERED, LAMINATED SAFETY GLASS OR APPROVED PLASTIC PER CBC SECTION 2406.3.
2. SAFETY (TEMPERED) PLACING SHALL BE UTILIZED AT THE FOLLOWING LOCATIONS PER CBC SECTION 2406.3.
A) WINDOWS ADJACENT TO AND WITHIN 24 INCHES OF EITHER EDGE OF THE DOOR. B) WINDOWS IN DOORS. C. WINDOWS IN THE STAIRWAY WITHIN 5 FEET OF WALKING SURFACE.

J. ELECTRICAL
1. ELECTRICAL SERVICE OF 125 AMPS IN SAME LOCATION,
2. MEET LIGHTING ENERGY EFFICACY REQUIREMENTS PER TITLE 24
3. TWO SMALL APPLIANCE BRANCH CIRCUITS ARE REQUIRED FOR THE KITCHEN AND ARE LIMITED TO SUPPLYING WALL AND COUNTER SPACE OUTLETS FOR THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, AND SIMILAR AREAS. THE CIRCUITS CANNOT SERVE OUTSIDE PLUGS, RANGE HOOD, DISPOSALS, DISHWASHERS OR MICROWAVES - ONLY THE REQUIRED COUNTERTOPS/WALL OUTLETS INCLUDING THE REFRIGERATOR.
4. A DEDICATED 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY THE LAUNDRY ROOM RECEPTACLE OUTLET.
5. A DEDICATED 20 AMP CIRCUIT IS REQUIRED TO SERVE THE REQUIRED BATHROOM OUTLETS. THIS CIRCUIT CANNOT SUPPLY ANY OTHER RECEPTACLES, LIGHTS, FANS, ETC. EXCEPT WHERE THE CIRCUIT SUPPLIES A SINGLE BATHROOM, OUTLETS FOR OTHER EQUIPMENT WITHIN THE SAME BATHROOM SHALL BE PERMITTED TO BE SUPPLY.
6. SMOKE DETECTORS SHALL BE LOCATED IN ALL BEDROOMS & IN HALLWAYS IN THE IMMEDIATELY VICINITY OUTSIDE OF BEDROOMS. SMOKE DETECTORS IN THE REMODEL AND ADDITION SHALL BE HARDWIRED WITH A BATTERY BACKUP.
7. ALL BATHROOMS & LAUNDRY AREA SHALL UTILIZE HIGH EFFICACY LUMINARIES AND AT LEAST ONE FIXTURE UTILIZING A VACANCY SENSOR SWITCH.
8. OTHER ROOMS - ALL PERMANENTLY INSTALLED LUMINARIES TO BE "HIGH EFFICACY" AS SPECIFIED CEC SECTION 150.0 (K). PERMANENTLY INSTALLED LIGHTING IS DEFINED IN CEC SECTION 100.1. ALL RECESSED DOWN LIGHT LUMINARIES MUST CONTAIN A LIGHT SOURCE OR LAMP THAT IS JA8-CERTIFIED, SUCH AS AN INTEGRAL LED SOURCE, OR LED LAMP. SCREW-BASED LAMPS SUCH AS LED A-LAMPS OR LED PAR LAMPS ARE NOT ALLOWED. PIN-BASED LAMPS SUCH AS LED MR-16 LAMPS ARE ALLOWED AND RECESSED FIXTURES AS LONG AS THEY ARE JA8-CERTIFIED. ALL LUMINARIES THAT ARE INSTALLED WITH JA8-CERTIFIED LIGHT SOURCES ARE REQUIRED TO BE CONTROLLED BY EITHER A DIMMER OR VACANCY SENSOR. IN ADDITION, ALL BLANK ELECTRICAL BOXES MORE THAN 5 FEET ABOVE THE FLOOR MUST BE CONTROLLED BY A DIMMER, VACANCY SENSOR, OR FAN SPEED CONTROL. DIMMERS OR VACANCY SENSORS ARE NOT REQUIRED ON ANY LUMINARIES LOCATED IN CLOSETS LESS THAN 70 FT.², OR IN HALLWAYS.
9. ALL RECESSED LUMINARIES IN INSULATED CEILINGS SHALL BE IC RATED AND AIRTIGHT (AT) AND ELECTRONIC BALLAST SHALL BE UTILIZED FOR ALL FLUORESCENT LUMINARIES.
10. GFCI REQUIREMENTS: ALL BATHROOMS, OUTDOOR RECEPTACLES, KITCHEN AND COUNTERTOP RECEPTACLES AND COUNTERTOP RECEPTACLES WITHIN 6 FEET OF THE SECOND FLOOR LAUNDRY; WET BAR SINK (IF ANY) SHALL BE GFCI PROTECTED PER CEC SECTION 210.8.
11. LIGHT FIXTURES IN TUB/SHOWER ENCLOSURE SHALL BE "SUITABLE FOR DAMP LOCATION" PER CEC SECTION 410.4

12. RECEPTACLES SHALL BE: a. IN BEDROOMS,- 12' O.C. MAXIMUM, AND WITHIN 6' OF THE END OF WALLS; b. IN KITCHEN AND DINING AREA COUNTER SPACE WIDER THAN 12 INCHES - LOCATE RECEPTACLES SO NO POINT ALONG THE COUNTER WALL IS OVER 24" FROM A RECEPTACLE; c. IN BATHROOM - AT LEAST ONE RECEPTACLE IS WITHIN 36" OF THE OUTSIDE EDGE OF EACH BASIN AND ON THE WALL THAT IS ADJACENT TO THE BASIN; d. FRONT AND REAR EXTERIOR RECEPTACLES - SHALL BE LOCATED WITHIN 6'6" OF GRADE AND WATERPROOF; e. LAUNDRY - MINIMUM OF ONE RECEPTACLE; PER CEC SECTION 210.52.
GFCI PROTECTION IS REQUIRED FOR ALL RECEPTACLES SERVING KITCHEN COUNTERTOPS AND KITCHEN ISLAND.
13. ALL ELECTRICAL RECEPTACLES SHALL BE "TAMPER-PROOF."
14. ALL BRANCH CIRCUITS THAT SUPPLY OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATIONS ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC FAULT CIRCUIT INTERRUPTER..
15. CARBON MONOXIDE DETECTORS SHALL BE LOCATED OUTSIDE AND IN THE IMMEDIATE VICINITY OF THE BEDROOM(S). ALL CARBON MONOXIDE ALARMS SHALL RECEIVE PRIMARY POWER FROM THE BUILDING'S PERMANENT ELECTRICAL SOURCE WITHOUT A DISCONNECTING SWITCH OTHER THAN THE OVER CURRENT PROTECTION (CIRCUIT BREAKER) AND SHALL HAVE A BATTERY BACKUP. ALL CARBON MONOXIDE ALARMS SHALL BE INTERCONNECTED.
16. ALL NEW LIGHTING SHALL COMPLY WITH CA ENERGY CODE
A. ALL NEW LIGHTING SHALL HAVE MANUAL ON/OFF CONTROLS.
B. ALL NEW LIGHTING SHALL BE HIGH EFFICACY.
C. ALL NEW SCREW-BASED PERMANENTLY INSTALLED LIGHT FIXTURES MUST CONTAIN SCREW- BASED JA8 COMPLIANT LAMPS. JA8 COMPLIANT LIFE SOURCES MUST BE MARKED AS "JA8-2016" OR "JA8-2016-E."
D. ALL NEW JA8 COMPLIANT LIGHT SOURCES IN THE FOLLOWING LOCATIONS ARE CONTROLLED BY VACANCY SENSORS OR DIMMERS (EXCEPTION FOR CLOSETS LESS THAN 70 FT.² AND HALLWAYS)
(1) NEW CEILING RECESSED DOWN LUMINARIES.
(2) NEW LED LUMINARIES WITH INTEGRAL SOURCES.
(3) NEW PIN-BASED LED LAMPS (I.E MR16, AR-111, ETC.)
(4) NEW GU-24 BASED LED LIGHT SOURCES.
E. AT LEAST ONE FIXTURE IN EACH REWIRED BATHROOM SHALL BE CONTROLLED BY A VACANCY SENSOR.
F. AT LEAST ONE FIXTURE IN THE GARAGE SHALL BE CONTROLLED BY A VACANCY SENSOR. THIS REQUIREMENT IS NOT APPLICABLE TO THIS PROJECT BECAUSE WE ARE NOT CHANGING ELECTRICAL IN THE GARAGE.
G. AT LEAST ONE FIXTURE IN EACH LAUNDRY ROOM SHALL BE CONTROLLED BY A VACANCY SENSOR.
H. AT LEAST ONE FIXTURE IN EACH UTILITY ROOM SHALL BE CONTROLLED BY VACANCY SENSOR.THIS REQUIREMENT IS NOT APPLICABLE TO THIS PROJECT BECAUSE THERE IS NO UTILITY ROOM.
I. EXHAUST NEW FANS (EXCLUDING KITCHEN EXHAUST HOOD) SHALL BE SWITCH SEPARATELY FROM LIGHTING (OR UTILIZE A DEVICE WHERE LIGHTING CAN BE TURNED OFF WHILE THE FAN IS RUNNING).
J. ALL NEW UNDER CABINET LIGHTING SHALL BE SWITCH SEPARATELY FROM OTHER LIGHTING SYSTEMS (INCLUDING KITCHEN LIGHTING).
K. ALL NEW OUTDOOR LIGHTING SHALL BE HIGH EFFICACY WITH MANUAL ON/OFF SWITCH AND ONE OF THE FOLLOWING: 1) PHOTOCONTROL AND MOTION SENSOR; 2) PHOTOCONTROL AND AUTOMATIC TIME SWITCH CONTROL;

K. SHEETROCK
1. 1/2" OR 5/8" SHEETROCK IN HOUSE
2. TEXTURE TO MATCH EXISTING
L. VENTILATION REQUIREMENTS
1. SEE SHEET A4
M. INSULATIONTO BE PROVIDED PER T-24
1. R-13, or R-15, or R-21 IN WALLS IN THE ADDITION/ALTERED WALLS
2. R-30, R-38, IN CEILING TO ATTIC IN THE ADDITION
3. R-19 UNDER FLOOR
4. ALL NEW WINDOW GLASS TO BE DUAL PANE LOW-E
N. LANDING AREAS & BALCONY (ENTRY PORCH NOT CHANGING)
1. NEW EXTERIOR DOORS TO HAVE A MIN 3X3 LANDING OR LANDING AREA; LANDINGS SHALL NOT EXCEED 1 1/2" LOWER THAN DOOR THRESHOLD.
O. ENVIRONMENTAL AIR DUCTS
1. TERMINATION OF ALL ENVIRONMENTAL AIR DUCTS SHALL BE A MINIMUM OF 3 FEET FROM ANY OPENINGS (DOORS, WINDOWS, SKYLIGHTS OR ATTIC VENTS) INTO THE BUILDING.
2. DRYER EXHAUST SHALL TERMINATE OUTSIDE BUILDING. DRYERS MUST BE EQUIPPED WITH A BACK DRAFT DAMPER WITH NO SCREEN. DRYER DUCTS ARE LIMITED TO 14 FEET IN LENGTH WITH TWO 90° ELBOWS FROM THE CLOTHES DRYER TO THE POINT OF TERMINATION. REDUCE THIS LENGTH BY 2 FEET FOR EVERY ELBOW IN EXCESS OF 2.
P. STAIRS & RAILINGS
Q. PLUMBING
1. WATER HEATER SHALL BE STRAPPED TO OPEN/PARTIAL BASEMENT WALL.
2. WATER CLOSETS TO BE MAXIMUM 1.28 GALLONS PER FLUSH.
3. SHOWER AND TUB SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVE.
4. PRESSURE REDUCTION VALVE REQUIRED RISER.
5. T REQUIRED FOR AUTOMATIC SPRINKLER SYSTEM PRIOR TO PRESSURE REDUCTION VALVE.
6. UTILIZE A 1,75" COPPER SUPPLY LINE FROM A 1" WATER METER or AS PER DESIGN..
7. ALL PLUMBING FIXTURES AND FITTINGS SHALL MEET THE STANDARDS REFERENCED IN TABLE 1701.1 OF THE 2016 CALIFORNIA PLUMBING CODE.
R. SHOWER & TUB/SHOWER MOISTURE RESISTANT REQUIREMENTS
1. SHOWER AND TUB/SHOWER SHALL UTILIZE A MOISTURE RESISTANT UNDERLAYMENT (I.E. CEMENT, FIBER CEMENT, OR GLASS MAT GYPSUM BACKER) TO A HEIGHT OF 72 INCHES ABOVE THE DRAIN INLET. NOTE THAT WATER-RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED OVER A VAPOR RETARDER IN SHOWER OR BATH TUB COMPARTMENTS.
S. HALLWAYS & CORRIDORS
1. HALLWAYS & CORRIDORS SHALL BE A MINIMUM OF 36" WIDE.
T. HOUSE NUMBERS
1. BUILDING ADDRESS SHALL BE CLEARLY VISIBLE AND LEGIBLE FROM THE ADJACENT PUBLIC WAY OR STREET, METAL NUMBERS, MINIMUM OF 4 INCHES HIGH, AND CONTRAST WITH THEIR BACKGROUND.
U. WOOD SIDING & STONE WALL COVERINGS
1. 2 LAYERS OF GRADE D PAPER OVER PLYWOOD SHEATHING
V. HEATING & AIR CONDITIONING
1. NEW DUCTING
2. NEW FAU IN ATTIC
W. ENHANCED DURABILITY & REDUCED MAINTENANCE
1. ANNULAR SPACES AROUND PIPES, ELECTRICAL CABLES, CONDUITS OR OTHER OPENINGS IN PLATES AND EXTERIOR WALLS WILL BE RODENT PROOFED BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, OR CONCRETE MASONRY.
X. POLLUTION CONTROL
1. AT THE TIME OF ROUGH INSTALLATION OR DURING STORAGE, DUCT COMPONENTS AND PLENUM OPENINGS WILL BE COVERED WITH TAPE, PLASTIC, SHEET METALS, OR OTHER METHODS THAT WILL REDUCE THE AMOUNT OF DUST OR DEBRIS, WHICH MAY BE COLLECTED IN THE SYSTEM PRIOR TO FINAL.
2. ADHESIVES, SEALANTS AND CAULKING WILL BE COMPLIANT WITH VOC OR OTHER TOXIC COMPOUND LIMITS PER CGC 4.504.2.1.
3. PAINTS, STAINS AND OTHER COATINGS WILL BE COMPLIANT WITH VOC LIMITS.
4. AEROSOL PAINTS AND COATINGS WILL BE COMPLIANT WITH PRODUCT WEIGHTED MIR LIMITS FOR ROC AND OTHER TOXIC COMPOUNDS.
5. DOCUMENTATION WILL BE PROVIDED, AT THE REQUEST OF THE BUILDING DEPARTMENT, TO VERIFY COMPLIANCE WITH VOC FINISH MATERIALS.

(A1).

* An operation and maintenance manual shall be provided to the building occupant or owner.
* Any installed gas fireplace shall be a direct-vent sealed-combustion type.
* Moisture content of building materials used in wall and floor framing is checked before enclosure.
* Duct openings and other related air distribution component openings shall be covered during construction.
* Adhesives, sealants and caulks. Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits. Paints and coatings. Paints, stains and other coatings shall be compliant with voe limits.
* Aerosol paints and coatings. Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds. Verification. Documentation shall be provided to verify that compliant voe limit finish materials have been used.
* Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.
* Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

REV.	DATE

CONCEPT-TO-COMPLETION
Design by Vint
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General Architectural Notes

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - vJm.
Checked- vJm
Date: - 05.06.2022
Scale - As Shown

SHEET #
A-8

PROJECT ADDRESS

1656 Adrien Dr.
Campbell, CA-95008

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	Scope
101.3.1	Applies to ALL newly constructed residential buildings: low-rise, high-rise, and hotels/motels.
102.3	Requires a completed Residential Occupancies Application Checklist or alternate method acceptable to the enforcing agency to be used for documentation of conformance.
	Additions and alterations
301.1.1	• Applies to additions or alterations of residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. • Requirements only apply within the specific area of the addition or alteration.
	Low-rise and high-rise residential buildings
301.2	Banners identify provisions applying to low-rise only [LR] or high-rise only [HR].
	Mixed occupancy buildings
302.1	Requires each portion of mixed occupancy buildings to comply with CALGreen measures applicable for the specific occupancy. **Exceptions:** • Accessory structures and accessory occupancies serving residential buildings to comply with Chapter 4 and Appendix A4, as applicable. • Live/work units complying with the California Building Code Section 419 shall not be considered a mixed occupancy. Live/work units are required to comply with Chapter 4 and Appendix A4, as applicable.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	Storm water drainage and retention during construction
4.106.2	Projects which disturb less than 1 acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction.
	Grading and paving
4.106.3	Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Exception: Additions and alterations which do not alter the existing drainage path.
	Electric vehicle (EV) charging for new construction
4.106.4	• Comply with Section 4.106.4.1, 4.106.4.2 or 4.106.4.3 for future installation and use of EV chargers. • Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. **Exceptions:** 1. On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon 1 of the following: 1.1. Where there is no commercial power supply. 1.2. Verification that meeting requirements will alter the local utility infrastructure design requirements on the utility side of the meter increasing costs to the homeowner/developer by more than $400.00 per dwelling unit. 2. Accessory Dwelling Units and Junior Accessory Dwelling Units without additional parking facilities.

Note: For definitions of Accessory Dwelling Units and Junior Accessory Units, see CALGreen Chapter 2.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	EV charging: 1- & 2-family dwellings/townhouses with attached private garages
4.106.4.1	• Install a listed raceway to accommodate a dedicated 208/240-volt branch circuit for each dwelling unit. • Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). • Raceway shall originate at the main service or subpanel and terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. • Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. • Service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
	Identification
4.106.4.1.1	Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."
	EV charging for multifamily dwellings
4.106.4.2	• Applies to all multifamily dwelling units with parking facilities on the site. • 10% of the total number of parking spaces provided for all types of parking facilities, but in no case less than 1, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the number of EV spaces shall be rounded up to the nearest whole number.

Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	EV charging space (EV space) locations
4.106.4.2.1	Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least 1 EV space shall be located in the common use parking areas and shall be available for use by all residents.
	EV charging stations (EVCS)
4.106.4.2.1.1	When EV chargers are installed, EV spaces (required by Section 4.106.4.2.2, Item 3,) shall comply with at least 1 of the following options: 1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space. 2. The EV space shall be located on an accessible route to the building, as defined in the California Building Code, Chapter 2.

Exception: EVCS designed and constructed in compliance with the California Building Code Chapter 11B are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

	EV charging space (EV space) dimensions
4.106.4.2.2	EV spaces shall be designed to comply with the following: 1. The minimum length of each EV space shall be 18 feet. 2. The minimum width of each EV space shall be 9 feet. 3. 1 in every 25 EV spaces, but not less than 1, shall also have an 8-foot wide minimum aisle. A 5-foot wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet. a. Surface slope for this EV space and aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083% slope) in any direction.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	Single EV space required
4.106.4.2.3	• Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. • Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). • Raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. • Construction documents shall identify the raceway termination point. • Service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
	Multiple EV spaces required
4.106.4.2.4	• Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics, and electrical load calculations to verify electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. • Plan design shall be based upon a 40-ampere minimum branch circuit. • Required raceways and related components planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.
	Identification
4.106.4.2.5	Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	EV charging for hotels and motels
4.106.4.3	• Applies to all newly constructed hotels and motels. • Construction documents shall identify the location of EV spaces.

Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

	Number of required EV spaces
4.106.4.3.1	Table 4.106.4.3.1 shows the number of required EV spaces based on the total number of parking spaces provided for all types of parking facilities.
	EV charging space (EV space) dimensions
4.106.4.3.2	EV spaces shall be designed to comply with the following: • Minimum length of each EV space shall be 18 feet. • Minimum width of each EV space shall be 9 feet.
	Single EV space required (similar to 4.106.4.2.3)
4.106.4.3.3	• Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. • Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). • Raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. • Construction documents shall identify the raceway termination point. • Service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	Multiple EV spaces required (similar to 4.106.4.2.4)
4.106.4.3.4	• Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. • Plan design shall be based upon a 40-ampere minimum branch circuit. • Required raceways and related components planned to be installed underground, enclosed, inaccessible or, in concealed areas and spaces shall be installed at the time of original construction.
	Identification (similar to 4.106.4.2.5)
4.106.4.3.5	Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.
	Accessible EV spaces
4.106.4.3.6	In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for EV charging stations in the California Building Code, Chapter 11B.
	Scope
4.201.1 & 5.201.1	• Energy efficiency requirements for low-rise residential (Section 4.201.1) and high-rise residential/hotels/motels (Section 5.201.1) are now in both residential and nonresidential chapters of CALGreen. • Standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the 2019 California Energy Code.

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020

HCD SHL 615 (New 01/20)

See specific referenced sections for complete details on CALGreen mandatory requirements.

2019 CALGREEN CODE

SECTION	REQUIREMENTS
	Water conserving plumbing fixtures and fittings
4.303.1	Plumbing fixtures and fittings shall comply with the following: 4.303.1.1 − Water closets: ≤ 1.28 gal/flush. 4.303.1.2 − Wall mounted urinals: ≤ 0.125 gal/flush; all other urinals ≤ 0.5 gal/flush. 4.303.1.3.1 − Single showerheads: ≤ 1.8 gpm @ 80 psi. 4.303.1.3.2 − Multiple showerheads: combined flow rate of all showerheads controlled by a single valve shall not exceed 1.8 gpm @ 80 psi, or only 1 shower outlet is to be in operation at a time. 4.303.1.4.1 − Residential lavatory faucets: maximum flow rate ≤ 1.2 gpm @ 60 psi; minimum flow rate ≥ 0.8 gpm @ 20 psi. 4.303.1.4.2 − Lavatory faucets in common and public use areas of residential buildings: ≤ 0.5 gpm @ 60 psi. 4.303.1.4.3 − Metering faucets: ≤ 0.2 gallons per cycle. 4.303.1.4.4 − Kitchen faucets: ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm.
	Standards for plumbing fixtures and fittings
4.303.2	Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet applicable standards referenced in Table 1701.1 of the California Plumbing Code.
	Outdoor potable water use in landscape areas
4.304.1	New residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
	Rodent proofing
4.406.1	Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be closed with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency to prevent passage of rodents.

CG-1

REV.	DATE

CONCEPT-TO-COMPLETION
C to C
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Cal Green Notes - 1

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - vJm.
Checked- vJm
Date: - 05.06.2022
Scale - As Shown

SHEET #
A-9

SECTION	REQUIREMENTS
	Construction waste management
	• Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous 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.
	• Provide documentation to the enforcing agency per Section 4.408.5.
4.408.1	**Exceptions:** 1. Excavated soil and land-clearing debris. 2. Alternative waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.
	Construction waste management plan
4.408.2	Submit a construction waste management plan meeting Items 1 through 5 in Section 4.408.2. Plans shall be updated as necessary and shall be available for examination during construction.
	Waste management company
4.408.3	Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that diverted construction and demolition waste materials meet the requirements in Section 4.408.1.

SECTION	REQUIREMENTS
	Waste stream reduction alternative [LR]
4.408.4 & 4.408.4.1	• Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 3.4 pounds per square foot of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1. • Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.
	Operation and maintenance manual
4.410.1	At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which covers 10 specific subject areas shall be placed in the building.
	Recycling by occupants
4.410.2	Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and is identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive. Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.
	Fireplaces - General
4.503.1	Any installed gas fireplace shall be a direct-vent sealed-combustion type. 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. Woodstoves, pellet stoves, and fireplaces shall also comply with all applicable local ordinances.

SECTION	REQUIREMENTS
	Protection of mechanical equipment during construction
4.504.1	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 intake and distribution component openings shall be covered. Tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used.
	Adhesives, sealants and caulks
4.504.2.1	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 Table 4.504.1 or 4.504.2, as applicable. Such products shall also comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2. 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 than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations (CCR), Title 17, commencing with Section 94507.
	Paints and coatings
4.504.2.2	Architectural paints and coatings shall comply with VOC limits in Table 1 of the Air Resources Board 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, Nonflat, or Nonflat-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 Control Measure, and the corresponding Flat, Nonflat, or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

SECTION	REQUIREMENTS
	Aerosol paints and coatings
4.504.2.3 & 4.504.2.4	• 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 District shall additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49. • Documentation is required per Section 4.504.2.4.
	Carpet systems
4.504.3	Carpet installed in the building interior shall meet the testing and product requirements of 1 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, February 2010 (also known as Specification 01350). 3. NSF/ANSI 140 at the Gold level. 4. Scientific Certifications Systems Indoor Advantage™ Gold.
	Carpet cushion
4.504.3.1	Carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.
	Carpet adhesive
4.504.3.2	Carpet adhesives shall meet the requirements of Table 4.504.1.

SECTION	REQUIREMENTS
	Resilient flooring systems
4.504.4	Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with 1 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 Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. 2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program). 3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore 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).
	Composite wood products
4.504.5 & 4.504.5.1	• 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 in the Air Resources Board's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), as shown in Table 4.504.5. • Documentation is required per Section 4.504.5.1. • Definition of Composite Wood Products: Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. "Composite wood products" do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-joined lumber, all as specified in CCR, Title 17, Section 93120.1(a).

SECTION	REQUIREMENTS
	Concrete slab foundations
4.505.2	Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, respectively, shall also comply with this section.
	Capillary break
4.505.2.1	A capillary break shall be installed in compliance with at least 1 of the following: 1. A 4-inch thick base of ½ inch or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a 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.
	Moisture content of building materials
4.505.3	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 verified in compliance with the following: 1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements in Section 101.8. 2. Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified. 3. At least 3 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. 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. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to enclosure.

SECTION	REQUIREMENTS
	Bathroom exhaust fans
4.506.1	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 manual or automatic adjustment between a relative humidity range of ≤ 50% to a maximum of 80%. b. A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in. Note: For CALGreen, a bathroom is a room which contains a bathtub, shower, or tub/shower combination. Fans or mechanical ventilation is required in each bathroom.
	Heating and air-conditioning system design
4.507.2	Heating and air-conditioning systems shall be sized, designed and equipment selected using the following methods: 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J – 2016 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ANSI/ACCA 1 Manual D – 2016 (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.

SECTION	REQUIREMENTS
	Installer training
702.1	HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include, but are not limited to, the following: 1. State certified apprenticeship programs. 2. Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations. 5. Other programs acceptable to the enforcing agency.
	Special inspection
702.2	When required by the enforcing agency, special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting.
	Documentation
703.1	Documentation of compliance shall include, but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the local enforcing agency. Other specific documentation or special inspections necessary to verify compliance are specified in appropriate sections of CALGreen.

CG-2

PROJECT ADDRESS

1656 Adrien Dr.
Campbell, CA-95008

REV.	DATE

CONCEPT-TO-COMPLETION
Design by Vinit
5521SEANCIRCLE#78,
SAN JOSE CA-95123
(408)476-4554

designCtoC@gmail.com
408-476-4554
669-309-2212

Cal Green Notes - 2

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - vJm.
Checked- VJm
Date: - 05.06.2022
Scale - As Shown

SHEET #
A-10

PURPOSE:

The 2016 CalGreen Code applies to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size and also applies to all new low-rise residential buildings, high-rise residential buildings, or both. Existing site and landscaping improvements that are not otherwise disturbed are not subject to the requirements of CALGreen.

Project Name: Kher's Residence

Project Address: 1656 Adrien Dr. Campbell CA-95008

Project Description: 1) ADD ONE BEDROOM AND BATHROOM MAKING FOUR BED THREE BATHROOM HOUSE
2) RENOVATE EXISTING HOUSE BY MOVING KITCHEN AND LIVING ROOM

Instructions:

1. The Owner or the Owner's agent shall employ a licensed professional experienced with the 2016 California Green Building Standards Codes to verify and assure that all required work described herein is properly planned and implemented in the project.
2. The licensed professional, in collaboration with the owner and the design professional shall initial **Column 2** of this checklist, sign and date **Section 1 - Design Verification** at the end of this checklist and have the checklist printed on the approved plans for the project.
3. Prior to final inspection by the Building Department, the licensed professional shall complete **Column 3** and sign and date **Section 2 - Implementation Verification** at the end of this checklist and submit the completed form to the Building Inspector.

MANDATORY FEATURE OR MEASURE	Column 2 Project Requirements	Column 3 Verification
A4.1 PLANNING AND DESIGN		
Planning and Design - Site Development		
4.106.2 Storm water drainage and retention during construction. Projects which disturb less than one acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction.	☐	☐
4.106.3 Grading and paving. The site shall be planned and developed to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.	☐	☐
4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 and 4.106.4.2 to facilitate future installation and use of EV chargers.	☒	☐
A4.2 ENERGY EFFICIENCY		
General		
4.201.1 Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards.	☒	☐

SCOPE OF WORK

1) ADD ONE BEDROOM AND BATHROOM MAKING FOUR BED THREE BATHROOM HOUSE
2) RENOVATE EXISTING HOUSE BY MOVING KITCHEN AND LIVING ROOM

A4.3 WATER EFFICIENCY AND CONSERVATION		
Indoor Water Use		
4.303.1 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 performance criteria of the U.S. EPA WaterSense Specifications for Tank-type Toilets. ☐ **4.303.1.2 Urinals.** The effective flush volume of urinals shall not exceed 0.125 gallons per flush. ☐ **4.303.1.3.1 Single Showerheads.** Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for showerheads. ☐ **4.303.1.3.2 Multiple Showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. ☐ **4.303.1.4.1 Residential lavatory faucets.** The maximum 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. ☐ **4.303.1.4.2 Lavatory faucets in common and public use areas.** The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi. ☐ **4.303.1.4.3 Metering faucets.** Metering faucets when installed in residential buildings shall not deliver more than 0.25 gallons per cycle. ☐ **4.303.1.4.4 Kitchen Faucets.** The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.	☒	☐
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.	☒	☐
Outdoor Water Use		
4.304.1 Outdoor potable water use in landscape areas. New residential developments with an aggregate landscape area equal to or greater than 500 square feet shall comply with one of the following options ☐ 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	☐	☐
☐ Projects with aggregate landscape areas less than 2,500 square feet may comply with the MWELO's Appendix D Prescription Compliance Option.		
A4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY		
Enhanced Durability and Reduced Maintenance		
4.406.1 Rodent proofing. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.	☒	☐
Construction Waste Reduction, Disposal and Recycling		
4.408.2 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency.	☒	☐
Building Maintenance and Operation		
4.410.1 Operation and maintenance manual. At the time of final inspection, an operation and maintenance manual shall be provided to the building occupant or owner.	☒	☐
4.410.2 Recycling by occupants. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and is identified for the depositing, storage and collection of non-hazardous material for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.	☐	☐
A4.5 ENVIRONMENTAL QUALITY		
Fireplaces		
4.503.1 General. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove.	☐	☐
Pollutant Control		
4.504.1 Covering of duct openings and protection of mechanical equipment during construction. Duct openings and other related air distribution component openings shall be covered during construction.	☒	☐
4.504.2.1 Adhesives, sealants and caulks. Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	☒	☐
4.504.2.2 Paints and coatings. Paints, stains and other coatings shall be compliant with VOC limits.	☒	☐
4.504.2.3 Aerosol paints and coatings. Aerosol paints and other coatings shall be compliant with product weighted MIR Limits for ROC and other toxic compounds.	☐	☐
4.504.2.4 Verification. Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	☐	☐

4.504.3 Carpet Systems. Carpet and carpet systems shall be compliant with VOC limits.	☐	☐
4.504.4 Resilient flooring systems. Eighty (80) percent of floor area receiving resilient flooring shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or be certified under the Resilient Floor Covering Institute (RCFI) FloorScore program and UL GREENGUARD Gold.	☒	☐
4.504.5 Composite wood products. Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	☒	☐
Interior Moisture Control		
4.505.2 Concrete slab foundation. Required vapor retarders and capillary breaks are also required to comply with CalGreen Section 4.505.2.1.	☒	☐
4.505.3 Moisture content of building materials. Moisture content of building materials used in wall and floor framing is checked before enclosure.	☒	☐
Indoor Air Quality and Exhaust		
4.506.1 Bathroom exhaust fans. Exhaust fans which terminate outside the building are provided in every bathroom.	☒	☐
Environmental Comfort		
4.507.2. Heating and air-conditioning system design. Duct systems are sized and designed and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ACCA Manual J or equivalent. 2. Size duct systems according to ACCA 29-D (Manual D) or equivalent. 3. Select heating and cooling equipment according to ACCA 36-S (Manual S) or equivalent.	☒	☐
INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS		
Qualifications		
702.1 Installer training. HVAC system installers are trained and certified in the proper installation of HVAC systems.	☒	☐
702.2 Special inspection. The Licensed Professional responsible to verify CALGreen compliance is qualified and able to demonstrate competence in the discipline they inspect and verify.	☐	☐
Verifications		
703.1 Documentation. Verification of compliance with CALGreen may include construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance. Implementation verification shall be submitted to the Building Department after implementation of all required measures and prior to final inspection approval.	☐	☐

CALGREEN SIGNATURE DECLARATIONS

Project Name: Kher's Residence

Project Address: 1656 Adrien Dr. Campbell CA-95008

Project Description: 1) ADD ONE BEDROOM AND BATHROOM MAKING FOUR BED THREE BATHROOM HOUSE
2) RENOVATE EXISTING HOUSE BY MOVING KITCHEN AND LIVING ROOM

SECTION 1 – DESIGN VERIFICATION

Complete all lines of Section 1 – "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to the Building Department.

The owner and design professional responsible for compliance with CalGreen Standards have revised the plans and certify that the items checked above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2016 California Green Building Standards Code as adopted by the City of Cupertino.

Owner's Signature	Date: 05.20.2022
Owner's Name (Please Print): Shreyas Kher	
Design Professional's Signature: vJm	Date: 05.20.2022
Design Professional's Name (Please Print): Vinit J. Mistry	
Signature of License Professional responsible for CalGreen compliance: vJm	Date: 05.20.2022
Name of License Professional responsible for CalGreen compliance (Please Print): Vinit J. Mistry	Phone: 408-476-4554
Email Address for License Professional responsible for CalGreen compliance	

SECTION 2 – IMPLEMENTATION VERIFICATION

Complete, sign and submit the competed checklist, including column 3, together with all original signatures on Section 2 to the Building Department prior to Building Department final inspection.

I have inspected the work and have received sufficient documentation to verify and certify that the project identified above was constructed in accordance with this Green Building Checklist and in accordance with the requirements of the 2016 California Green Building Standards Code as adopted by the City of Cupertino.

Signature of License Professional responsible for CalGreen compliance	Date
Name of License Professional responsible for CalGreen compliance (Please Print)	Phone
Email Address for License Professional responsible for CalGreen compliance	

REV.	DATE

CONCEPT-TO-COMPLETION
Design by Vinit
5521SEANCIRCLE#78,
SAN JOSE CA-95123
(408)476-4554

designCtoC@gmail.com
408-476-4554
669-309-2212

Cal Green Check List

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - vJm.
Checked- vJm
Date: - 05.06.2022
Scale - As Shown

SHEET #
A-11

REV.	DATE

C to C
CONCEPT-TO-COMPLETION
Design by Vinit
5521 SEANCIRCLE#78,
SAN JOSE CA-95123
(408)476-4554

designCtoC@gmail.com
408-476-4554
669-309-2212

Existing Site Pictures

ADDITION FOR:
Kher's Residence
1656 Adrien Dr,
Campbell, CA-95008

Drawn On - vJm.
Checked- vJm
Date: - 05.06.2022
Scale - As Shown

SHEET #
P-1

ABBREVIATIONS

BC	BUILDING CORNER
CHMNY	CHIMNEY
FF	FINISHED FLOOR
WD FNC	WOODEN FENCE
⊕	BENCHMARK

BASIS OF BEARINGS:
THE BEARING NORTH 83°08'35" EAST OF THE CENTERLINE OF ADRIEN DRIVE, AS SHOWN ON TRACT 3222 AND FILED IN BOOK 149 OF MAPS AT PAGE 37, SANTA CLARA COUNTY RECORDS, WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY.

BENCHMARK:
AN ASSUMED ELEVATION OF 99.04', OF A MAGNAIL SET IN THE ASPHALT OF ADRIEN DRIVE WAS USED AS THE BENCHMARK FOR THIS SURVEY.
NGVD88 DATUM

LEGEND

WOODEN FENCE

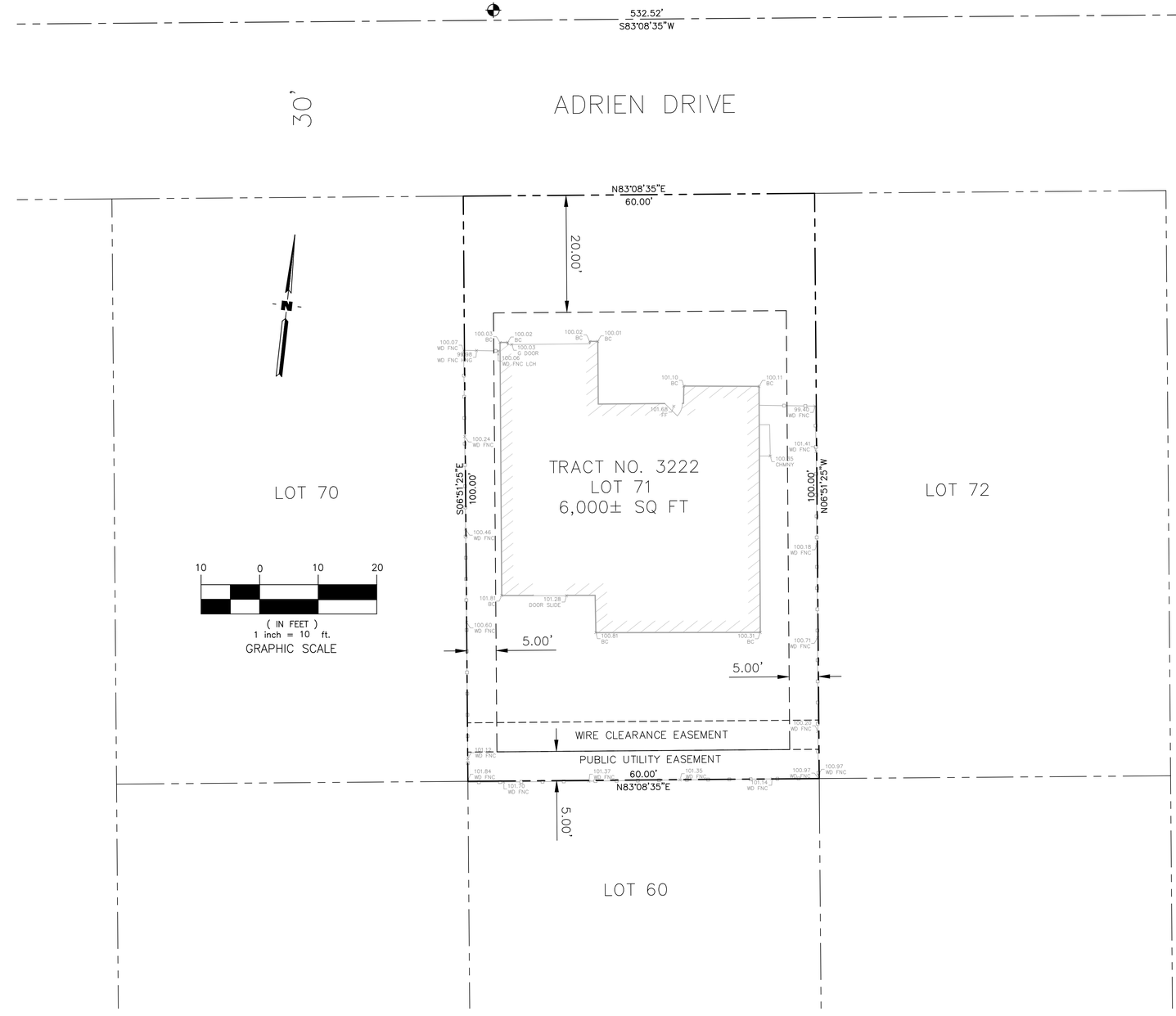
BUILDING LINE

BOUNDARY

CENTERLINE

EASEMENT

SETBACK



MARK	DATE	DESCRIPTION	BY
		REVISIONS	

BOUNDARY SURVEY

1656 Adrien Drive
Campbell **California**

LICENSED LAND SURVEYOR PHILIP C WOOTTON No. 8398 STATE OF CALIFORNIA

DATE: 10/20/2021
SCALE: 1" = 10'
DRAWN BY: WAK
DESIGNED BY:
CHECKED BY: PCW

CARROLL ENGINEERING
engineers and surveyors
1101 S. WINCHESTER BLVD.
SUITE J1-164
SAN JOSE, CA 95128
TEL: 408-261-9800
FAX: 408-261-0595
E-MAIL: Robert@carroll-engineering.com

SHEET
1

JOB NO. 2789

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 1 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

GENERAL INFORMATION					
01	Project Name	Addition			
02	Run Title	Title 24 Analysis			
03	Project Location	1656 Adrien Dr.			
04	City	CAMPBELL	05	Standards Version	2019
06	Zip code	95008	07	Software Version	EnergyPro 8.3
08	Climate Zone	4	09	Front Orientation (deg/ Cardinal)	0
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	AdditionAlteration	13	Number of Bedrooms	4
14	Addition Cond. Floor Area (ft2)	662	15	Number of Stories	1
16	Existing Cond. Floor Area (ft2)	1374	17	Fenestration Average U-factor	0.24
18	Total Cond. Floor Area (ft2)	2036	19	Glazing Percentage (%)	15.96%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Is Natural Gas Available	Yes			

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COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY

Energy Use (kTDV/ft2-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	23.58	20.96	2.62	11.1
Space Cooling	26.97	21.06	5.91	21.9
IAQ Ventilation	0	0	0	
Water Heating	18.57	18.57	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	69.12	60.59	8.53	12.3

Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 2 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

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 40 ft. in length

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

Building-level Verifications:
* Kitchen range hood

Cooling System Verifications:
* -- None --

Heating System Verifications:
* -- None --

HVAC Distribution System Verifications:
* -- None --

Domestic Hot Water System Verifications:
* -- None --

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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
Addition	2036	1	4	2	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft2)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
new	Conditioned	hvac1	662	8	DHW Sys 1	N/A
current dn	Conditioned	hvac1	1374	8.25	DHW Sys 1	N/A

Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 3 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

OPAQUE SURFACES

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft2)	Window and Door Area (ft2)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
NWall	new	2x4, Wall	0	Front	160	65	90	none	New	n/a
WWall	new	2x4, Wall	270	Right	130	0	90	none	New	n/a
S Wall	new	2x4, Wall	180	Back	120	32	90	none	New	n/a
E Wall	new	2x4, Wall	90	Left	130	24	90	none	New	n/a
s Wall 2	current dn	0 Wall	180	Back	155	56	90	none	Existing	No
e Wall	current dn	0 Wall	90	Left	248	72	90	none	Existing	No
n Wall	current dn	0 Wall	0	Front	230	44	90	none	Existing	No
WWall	current dn	0 Wall	270	Right	248	42	90	none	Existing	No
Interior Surface 1	new	Wall	n/a	n/a	120	0	n/a		New	No
Interior Surface 1	current dn>>new	Wall	n/a	n/a	20	0	n/a		Existing	No
Interior Surface 2	current dn>>new	Wall	n/a	n/a	20	0	n/a		Existing	No
Roof 2	new	R-38 Roof Attic	n/a	n/a	652	n/a	n/a		New	n/a
Roof 3	current dn	R-38 Roof Attic	n/a	n/a	1374	n/a	n/a		Altered	No
Raised Floor	new	floor	n/a	n/a	662	n/a	n/a		New	n/a
Raised Floor 2	current dn	floor	n/a	n/a	1374	n/a	n/a		Existing	No

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OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Azimuth	Orientation	Area (ft2)	Skylight Area (ft2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof	Status	Verified Existing Condition	Existing Construction
Roof	new	R-38 Roof Attic	315	n/a	10.1	10	4	0.1	0.85	No	New	n/a	

Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 4 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

ATTIC

01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic new	Attic Roofnew	Ventilated	4	0.1	0.85	Yes	No	New	n/a
Attic current dn	Attic Roofcurrent dn	Ventilated	4	0.1	0.85	Yes	No	Existing	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
Window	Window	NWall	Front	0			1	25	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 2	Window	NWall	Front	0			1	40	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
door	Window	S Wall	Back	180			1	32	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 3	Window	E Wall	Left	90			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 4	Window	s Wall 2	Back	180			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
door 2	Window	s Wall 2	Back	180			1	32	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 5	Window	e Wall	Left	90			1	8	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 6	Window	e Wall	Left	90			1	8	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 7	Window	e Wall	Left	90			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 8	Window	e Wall	Left	90			1	16	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 9	Window	e Wall	Left	90			1	16	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 10	Window	n Wall	Front	0			1	12	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window 11	Window	n Wall	Front	0			1	12	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window 12	Window	WWall	Right	270			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 13	Window	WWall	Right	270			1	18	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Skylight	Skylight	Roof		315			1	10	0.24	NFRC	0.21	NFRC	None	New	n/a

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Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 5 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

OPAQUE DOORS

01	02	03	04	05	06
Name	Side of Building	Area (ft2)	U-factor	Status	Verified Existing Condition
Door sc	n Wall	20	0.2	Existing	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
2x4, Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	R-6 / R-5	0.043	Inside Finish: Gypsum Board Sheathing / Insulation: R-6 Sheathing Cavity / Frame: R-15 / 2x4 Sheathing / Insulation: R-5 Sheathing Exterior Finish: 3 Coat Stucco
0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.302	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: Wood Siding/sheathing/decking
R-38 Roof Attic1	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.039	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Radiant Barrier Cavity / Frame: R-38 / 2x4 Inside Finish: Gypsum Board
Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roofnew	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.633	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4

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Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 6 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Attic Roofcurrent dn	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.633	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
floor	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 24 in. O. C.	R-19	None / None	0.049	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6
R-38 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

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BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Not Required	Not Required	Not Required	n/a

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a	Existing	No	

Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
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CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: Addition — Calculation Date/Time: 2022-05-14T08:43:34-07:00 — (Page 7 of 9)
Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition	Status	Verified Existing Condition
DHW Heater 1	Gas	Small Storage	1	40	0.57-EF	<= 75 kBtu/hr	0	78	n/a	n/a	n/a	Existing	No

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
hvac1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1	n/a	Existing	No	1	1

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Heating Efficiency
Heating Component 1	Central gas furnace	1	AFUE-90

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CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
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Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER/CEER	Efficiency SEER	Zonally Controlled	Mulit-speed Compressor	HERS Verification
Cooling Component 1	Central split AC	1	12.5	16	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
			Duct Ins. R-value		Duct Location		Surface Area								
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification	Status	Verified Existing Condition	Existing Distribution system	New Ducts 40 ft
Air Distribution System 1	Unconditioned attic	Non-Verified	R-8	R-8	Attic	Attic	n/a	n/a	No Bypass	Existing (not specified)	Air Distribution System 1-hers-dist	Existing + New	No	n/a	n/a

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HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.45	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Not Required	0

HERS RATER VERIFICATION OF EXISTING CONDITIONS

Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
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Calculation Description: Title 24 Analysis — Input File Name: 15068 1656 Adrien Dr. addition and remodel vinit.ribd19x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Kevin Laughton	Documentation Author Signature:
Company: Tailored Energy Services	Signature Date: 2022-05-17 07:55:33
Address: 548 Market St #30051	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: San Francisco, CA 94120	Phone: 888-310-0808

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: Kevin Laughton	Responsible Designer Signature:
Company: Tailored Energy Services	Date Signed: 2022-05-17 07:55:33
Address: 548 Market St #30051	License: tbc
City/State/Zip: San Francisco, CA 94120	Phone: 888-310-0808

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

Easy to Verify at CalCERTS.com

Registration Number: 222-P0100954628-000-000-0000000-0000 — Registration Date/Time: 2022-05-17 07:55:33 — HERS Provider: CalCERTS inc.
CA Building Energy Efficiency Standards - 2019 Residential Compliance — Report Version: 2019.2.000 — Schema Version: rev 20200901 — Report Generated: 2022-05-14 08:44:16

REV.	DATE

CONCEPT-TO-COMPLETION
Design by Vinit
5521 SEANCIRCLE#78,
SAN JOSE CA-95123
(408)476-4554

designCtoC@gmail.com
408-476-4554
669-309-2212

T-24 Sheet With Certificate Of Compliance

ADDITION FOR:
Kher's Residence
1656 Adrien Dr.
Campbell, CA-95008

Drawn On - vJm.
Checked- vJm
Date: - 05.06.2022
Scale - As Shown

SHEET #
T-24

BUILDING ENERGY ANALYSIS REPORT

PROJECT:

Addition
1656 Adrien Dr.
CAMPBELL, CA 95008

Project Designer:

Concept To Completion
5521 Sean Circle #78.
San Jose, CA 95123
408 476 4554

Report Prepared by:

Tailored Energy and Testing Services Ltd
Kevin Laughton
548 Market St #30051
San Francisco, CA 94120-7775
1 888 310 0808

Job Number:

14521

Date:

5/14/2022

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2019 Building Energy Efficiency Standards.

This program developed by EnergySoft Software – www.energysoft.com.

TABLE OF CONTENTS

GENERAL INFORMATION					
01	Project Name	Addition			
02	Run Title	Title 24 Analysis			
03	Project Location	1656 Adrien Dr.			
04	City	CAMPBELL	05	Standards Version	2019
06	Zip code	95008	07	Software Version	EnergyPro 8.3
08	Climate Zone	4	09	Front Orientation (deg/ Cardinal)	0
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	AdditionAlteration	13	Number of Bedrooms	4
14	Addition Cond. Floor Area (ft^2)	662	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	1374	17	Fenestration Average U-factor	0.24
18	Total Cond. Floor Area (ft^2)	2036	19	Glazing Percentage (%)	15.96%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Is Natural Gas Available?	Yes			

COMPLIANCE RESULTS	
01	**Building Complies with Computer Performance**
02	**This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.**
03	**This building incorporates one or more Special Features shown below**

ENERGY USE SUMMARY

Energy Use ($kTDV/ft^2$-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	23.58	20.96	2.62	11.1
Space Cooling	26.97	21.06	5.91	21.9
IAQ Ventilation	0	0	0	
Water Heating	18.57	18.57	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	**69.12**	**60.59**	**8.53**	**12.3**

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 40 ft. in length

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 buildng tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Building-level Verifications:
- Kitchen range hood

Cooling System Verifications:
- -- None --

Heating System Verifications:
- -- None --

HVAC Distribution System Verifications:
- -- None --

Domestic Hot Water System Verifications:
- -- None --

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	**Conditioned Floor Area (ft^2)**	**Number of Dwelling Units**	**Number of Bedrooms**	**Number of Zones**	**Number of Ventilation Cooling Systems**	**Number of Water Heating Systems**
Addition	2036	1	4	2	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	**Zone Type**	**HVAC System Name**	**Zone Floor Area (ft^2)**	**Avg. Ceiling Height**	**Water Heating System 1**	**Water Heating System 2**
new	Conditioned	hvac1	662	8	DHW Sys 1	N/A
current dn	Conditioned	hvac1	1374	8.25	DHW Sys 1	N/A

OPAQUE SURFACES

01	02	03	04	05	06	07	08	09	10	11
Name	**Zone**	**Construction**	**Azimuth**	**Orientation**	**Gross Area (ft^2)**	**Window and Door Area (ft2)**	**Tilt (deg)**	**Wall Exceptions**	**Status**	**Verified Existing Condition**
N Wall	new	2x4. Wall	0	Front	160	65	90	none	New	n/a
W Wall	new	2x4. Wall	270	Right	130	0	90	none	New	n/a
S Wall	new	2x4. Wall	180	Back	120	32	90	none	New	n/a
E Wall	new	2x4. Wall	90	Left	130	24	90	none	New	n/a
s Wall 2	current dn	0 Wall	180	Back	155	56	90	none	Existing	No
e Wall	current dn	0 Wall	90	Left	248	72	90	none	Existing	No
n Wall	current dn	0 Wall	0	Front	230	44	90	none	Existing	No
W Wall	current dn	0 Wall	270	Right	248	42	90	none	Existing	No
Interior Surface 1	new	Wall	n/a	n/a	120	0	n/a		New	No
Interior Surface	current dn>>new	Wall	n/a	n/a	20	0	n/a		Existing	No
Interior Surface 2	current dn>>new	Wall	n/a	n/a	20	0	n/a		Existing	No
Roof 2	new	R-38 Roof Attic	n/a	n/a	652	n/a	n/a		New	n/a
Roof 3	current dn	R-38 Roof Attic	n/a	n/a	1374	n/a	n/a		Altered	No
Raised Floor	new	floor	n/a	n/a	662	n/a	n/a		New	n/a
Raised Floor 2	current dn	floor	n/a	n/a	1374	n/a	n/a		Existing	No

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	**Zone**	**Construction**	**Azimuth**	**Orientation**	**Area (ft^2)**	**Skylight Area (ft^2)**	**Roof Rise (x in 12)**	**Roof Reflectance**	**Roof Emittance**	**Cool Roof**	**Status**	**Verified Existing Condition**	**Existing Construction**
Roof	new	R-38 Roof Attic1	315	n/a	10.1	10	4	0.1	0.85	No	New	n/a	

ATTIC

01	02	03	04	05	06	07	08	09	10
Name	**Construction**	**Type**	**Roof Rise (x in 12)**	**Roof Reflectance**	**Roof Emittance**	**Radiant Barrier**	**Cool Roof**	**Status**	**Verified Existing Condition**
Attic new	Attic Roofnew	Ventilated	4	0.1	0.85	Yes	No	New	n/a
Attic current dn	Attic Roofcurrent dn	Ventilated	4	0.1	0.85	Yes	No	Existing	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	**Type**	**Surface**	**Orientation**	**Azimuth**	**Width (ft)**	**Height (ft)**	**Mult.**	**Area (ft^2)**	**U-factor**	**U-factor Source**	**SHGC**	**SHGC Source**	**Exterior Shading**	**Status**	**Verified Existing Condition**
Window	Window	N Wall	Front	0			1	25	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 2	Window	N Wall	Front	0			1	40	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
door	Window	S Wall	Back	180			1	32	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 3	Window	E Wall	Left	90			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 4	Window	s Wall 2	Back	180			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
door 2	Window	s Wall 2	Back	180			1	32	0.24	NFRC	0.21	NFRC	Bug Screen	New	n/a
Window 5	Window	e Wall	Left	90			1	8	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 6	Window	e Wall	Left	90			1	8	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 7	Window	e Wall	Left	90			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 8	Window	e Wall	Left	90			1	16	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 9	Window	e Wall	Left	90			1	16	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 10	Window	n Wall	Front	0			1	12	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window 11	Window	n Wall	Front	0			1	12	0.55	Table 110.6-A	0.67	Table 110.6-B	Bug Screen	Existing	No
Window 12	Window	W Wall	Right	270			1	24	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Window 13	Window	W Wall	Right	270			1	18	0.24	NFRC	0.21	NFRC	Bug Screen	Altered	No
Skylight	Skylight	Roof		315			1	10	0.24	NFRC	0.21	NFRC	None	New	n/a

OPAQUE DOORS

01	02	03	04	05	06
Name	**Side of Building**	**Area (ft^2)**	**U-factor**	**Status**	**Verified Existing Condition**
Door sc	n Wall	20	0.2	Existing	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	**Surface Type**	**Construction Type**	**Framing**	**Total Cavity R-value**	**Interior / Exterior Continuous R-value**	**U-factor**	**Assembly Layers**
2x4. Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	R-6 / R-5	0.043	Inside Finish: Gypsum Board Sheathing / Insulation: R-6 Sheathing Cavity / Frame: R-15 / 2x4 Sheathing / Insulation: R-5 Sheathing Exterior Finish: 3 Coat Stucco
0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.302	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: Wood Siding/sheathing/decking
R-38 Roof Attic1	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.039	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Radiant Barrier Cavity / Frame: R-38 / 2x4 Inside Finish: Gypsum Board
Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roofnew	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.633	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	**Surface Type**	**Construction Type**	**Framing**	**Total Cavity R-value**	**Interior / Exterior Continuous R-value**	**U-factor**	**Assembly Layers**
Attic Roofcurrent dn	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.633	Roofing: 5 PSF (Normal Gravel) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
floor	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 24 in. O. C.	R-19	None / None	0.049	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6
R-38 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04
Quality Insulation Installation (QII)	**High R-value Spray Foam Insulation**	**Building Envelope Air Leakage**	**CFM50**
Not Required	Not Required	Not Required	n/a

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10
Name	**System Type**	**Distribution Type**	**Water Heater Name (#)**	**Solar Heating System**	**Compact Distribution**	**HERS Verification**	**Status**	**Verified Existing Condition**	**Existing Water Heating System**
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a	Existing	No	

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	**Heating Element Type**	**Tank Type**	**# of Units**	**Tank Vol. (gal)**	**Energy Factor or Efficiency**	**Input Rating or Pilot**	**Tank Insulation R-value (Int/Ext)**	**Standby Loss or Recovery Eff**	**1st Hr. Rating or Flow Rate**	**NEEA Heat Pump Brand or Model**	**Tank Location or Ambient Condition**	**Status**	**Verified Existing Condition**
DHW Heater 1	Gas	Small Storage	1	40	0.57-EF	<= 75 kBtu/hr	0	78	n/a	n/a	n/a	Existing	No

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	**Pipe Insulation**	**Parallel Piping**	**Compact Distribution**	**Compact Distribution Type**	**Recirculation Control**	**Central DHW Distribution**	**Shower Drain Water Heat Recovery**
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	**System Type**	**Heating Unit Name**	**Cooling Unit Name**	**Fan Name**	**Distribution Name**	**Required Thermostat Type**	**Status**	**Verified Existing Condition**	**Heating Equipment Count**	**Cooling Equipment Count**
hvac1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1	n/a	Existing	No	1	1

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	**System Type**	**Number of Units**	**Heating Efficiency**
Heating Component 1	Central gas furnace	1	AFUE-90

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08
Name	**System Type**	**Number of Units**	**Efficiency EER/CEER**	**Efficiency SEER**	**Zonally Controlled**	**Mulit-speed Compressor**	**HERS Verification**
Cooling Component 1	Central split AC	1	12.5	16	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
			Duct Ins. R-value		**Duct Location**		**Surface Area**								
Name	**Type**	**Design Type**	**Supply**	**Return**	**Supply**	**Return**	**Supply**	**Return**	**Bypass Duct**	**Duct Leakage**	**HERS Verification**	**Status**	**Verified Existing Condition**	**Existing Distribution system**	**New Ducts 40 ft**
Air Distribution System 1	Unconditioned attic	Non-Verified	R-8	R-8	Attic	Attic	n/a	n/a	No Bypass Duct	Existing (not specified)	Air Distribution System 1-hers-dist	Existing + New	No	n/a	n/a

HVAC - FAN SYSTEMS

01	02	03	04
Name	**Type**	**Fan Power (Watts/CFM)**	**Name**
HVAC Fan 1	HVAC Fan	0.45	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	**Verified Fan Watt Draw**	**Required Fan Efficacy (Watts/CFM)**
HVAC Fan 1-hers-fan	Not Required	0

HERS RATER VERIFICATION OF EXISTING CONDITIONS

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Tailored Energy and Testing Services Ltd	Documentation Author Signature:
Company: Kevin Laughton	Signature Date: 5/14/2022
Address: 548 Market St #30051	CEA/ HERS Certification Identification (If applicable): 0111070
City/State/Zip: San Francisco, CA 94120-7775	Phone: 1 888 310 0808

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: Vinit J. Mistry	Responsible Designer Signature:
Company: Concept To Completion	Date Signed:
Address: 5521 Sean Circle #78.	License:
City/State/Zip: San Jose, CA 95123	Phone: 408 476 4554

RESIDENTIAL MEASURES SUMMARY — RMS-1

Project Name	Building Type	Date
Addition	☑ Single Family ☐ Addition Alone ☐ Multi Family ☑ Existing+ Addition/Alteration	*5/14/2022*

Project Address	California Energy Climate Zone	Total Cond. Floor Area	Addition	# of Units
1656 Adrien Dr. CAMPBELL	*CA Climate Zone 04*	*2,036*	*662*	*1*

INSULATION

Construction	Type	Cavity	Area (ft^2)	Special Features	Status
Wall	*Wood Framed*	*R 15*	*419*	*Add=R-11.0*	*New*
Roof	*Wood Framed Attic*	*R 38*	*652*		*New*
Demising	*Wood Framed*	*- no insulation*	*120*		*Existing*
Floor	*Wood Framed w/Crawl Space*	*R 19*	*662*		*New*
Wall	*Wood Framed*	*- no insulation*	*99*		*Existing*
Wall	*Wood Framed*	*- no insulation*	*176*		*Existing*
Wall	*Wood Framed*	*- no insulation*	*186*		*Existing*
Door	*Opaque Door*	*R-5*	*20*		*Existing*

FENESTRATION

Total Area: *325* | Glazing Percentage: *16.0%* | New/Altered Average U-Factor: *0.24*

Orientation	Area(ft^2)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (N)	*65.0*	*0.240*	*0.21*	*none*	*none*	*N/A*	*New*
Skylight	*10.0*	*0.240*	*0.21*	*none*	*none*	*N/A*	*New*
Rear (S)	*88.0*	*0.240*	*0.21*	*none*	*none*	*N/A*	*New*
Left (E)	*24.0*	*0.240*	*0.21*	*none*	*none*	*N/A*	*New*
Left (E)	*72.0*	*0.240*	*0.21*	*none*	*none*	*N/A*	*Altered*
Front (N)	*24.0*	*0.550*	*0.67*	*none*	*none*	*N/A*	*Existing*
Right (W)	*42.0*	*0.240*	*0.21*	*none*	*none*	*N/A*	*Altered*

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	*Central Furnace*	*90% AFUE*	*Split Air Conditioner*	*16.0 SEER*	*Setback*	*Existing*

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
hvac	*Ducted*	*Ducted*	*Attic*	*8.0*	*Altered*

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status

RESIDENTIAL MEASURES SUMMARY — RMS-1

Project Name	Building Type	Date
Addition	☑ Single Family ☐ Addition Alone ☐ Multi Family ☑ Existing+ Addition/Alteration	*5/14/2022*

Project Address	California Energy Climate Zone	Total Cond. Floor Area	Addition	# of Units
1656 Adrien Dr. CAMPBELL	*CA Climate Zone 04*	*2,036*	*662*	*1*

INSULATION

Construction	Type	Cavity	Area (ft^2)	Special Features	Status
Roof	*Wood Framed Attic*	*R 38*	*1,374*		*Altered*
Demising	*Wood Framed*	*- no insulation*	*20*		*Existing*
Demising	*Wood Framed*	*- no insulation*	*20*		*Existing*
Wall	*Wood Framed*	*- no insulation*	*206*		*Existing*
Floor	*Wood Framed w/Crawl Space*	*- no insulation*	*1,374*		*Existing*

FENESTRATION

Total Area: *325* | Glazing Percentage: *16.0%* | New/Altered Average U-Factor: *0.24*

Orientation	Area(ft^2)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status

2019 Low-Rise Residential Mandatory Measures Summary

*NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. *Exceptions may apply.*
(01/2020)

Building Envelope Measures:	
§ 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):	**Ceiling and Rafter Roof Insulation.** Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. 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 continuous 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 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 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 Measures:	
§ 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-K.*
§ 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)4:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 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.
§ 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.

2019 Low-Rise Residential Mandatory Measures Summary

§ 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:	**Storage Tank Insulation.** Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.*
§ 150.0(j)3:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 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 include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(n)2:	**Recirculating Loops.** Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 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 Measures:	
§ 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 the requirements of the CMC §§ 601.0, 602.0, 603.0, 604.0, 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 a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. 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 requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, 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 cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.*
§ 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, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner core flex ducts must have a non-porous layer 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 § 150.0(m)11 and Reference Residential Appendix RA3.
§ 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. Pressure drops and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service.*
§ 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.*

2019 Low-Rise Residential Mandatory Measures Summary

Requirements for 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)1C:	**Single Family Detached Dwelling Units.** 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 provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
§ 150.0(o)1E:	**Multifamily Attached Dwelling Units.** Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(o)1F:	**Multifamily Building Central Ventilation Systems.** Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(o)1G:	**Kitchen Range Hoods.** Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; 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 Measures:	
§ 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.
§ 150.0(k)1B:	**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 must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	**Electronic Ballasts for Fluorescent Lamps.** Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	**Night Lights, Step Lights, and Path Lights.** Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 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(k).*
§ 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)2C:	**Interior Switches and Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)2D:	**Interior Switches and Controls.** Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	**Interior Switches and Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	**Interior Switches and Controls.** Lighting controls must comply with the applicable requirements of § 110.9.

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2G:	**Interior Switches and Controls.** An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	**Interior Switches and Controls.** A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	**Interior Switches and Controls.** In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	**Interior Switches and Controls.** Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(k)2K:	**Interior Switches and Controls.** Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 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 meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either § 150.0(k)3Aii (photocell and either a motion sensor or automatic time switch control) or § 150.0(k)3Aiii (astronomical time clock), or an EMCS.
§ 150.0(k)3B:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 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 Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	**Interior Common Areas of Low-rise Multifamily Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	**Interior Common Areas of Low-rise Multifamily Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§ 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) through § 110.10(e).
§ 110.10(a)2:	**Low-rise Multifamily Buildings.** Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	**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. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.*
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees 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 distance, measured in the horizontal plane, 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) through § 110.10(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”.

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name	Date
Addition	5/14/2022
System Name	**Floor Area**
hvac	2,036

ENGINEERING CHECKS

Number of Systems	1
Heating System	
Output per System	15,000
Total Output (Btuh)	15,000
Output (Btuh/sqft)	7.4
Cooling System	
Output per System	15,000
Total Output (Btuh)	15,000
Total Output (Tons)	1.3
Total Output (Btuh/sqft)	7.4
Total Output (sqft/Ton)	1,628.8
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)	0.16
Note: values above given at ARI conditions	

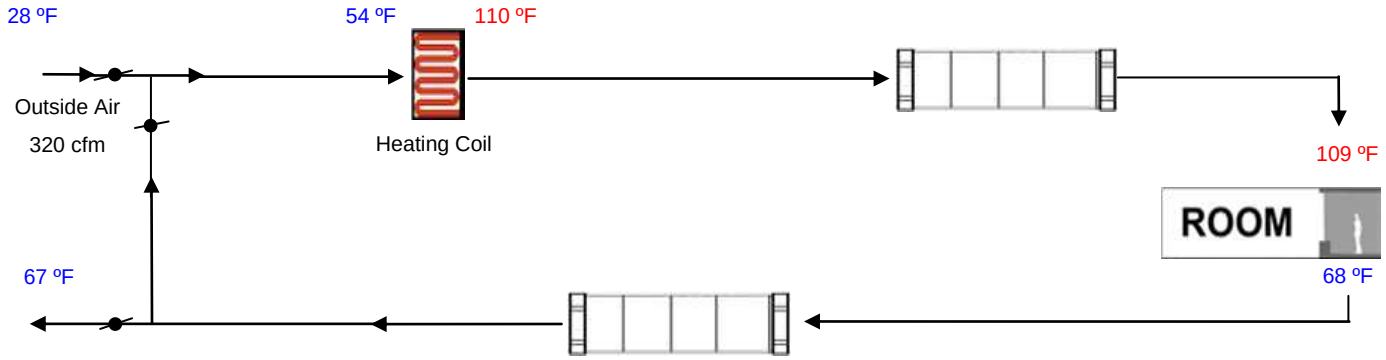
SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	**Sensible**	**Latent**	**CFM**	**Sensible**
Total Room Loads	899	18,645	1,153	762	33,130
Return Vented Lighting		0			
Return Air Ducts		727			1,570
Return Fan		0			0
Ventilation	320	4,232	-547	320	13,232
Supply Fan		0			0
Supply Air Ducts		727			1,570
TOTAL SYSTEM LOAD		24,331	606		49,501

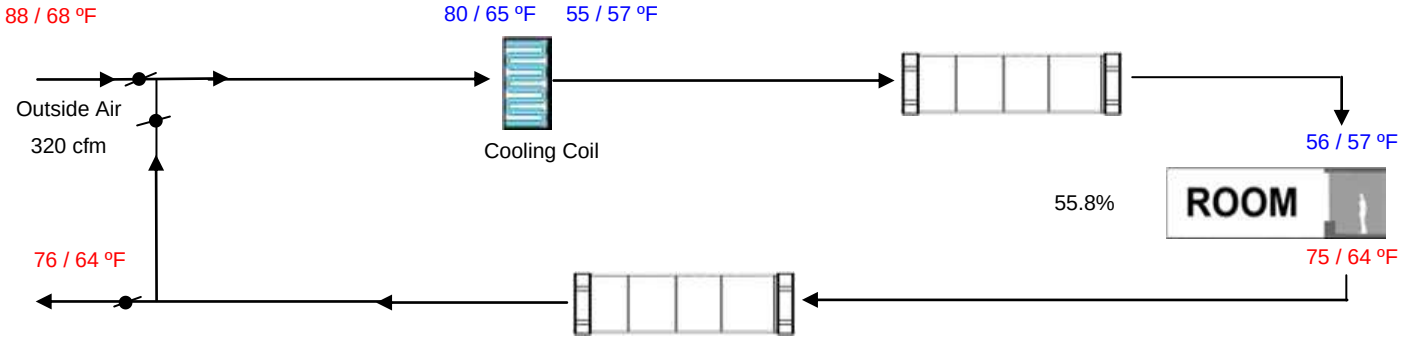
HVAC EQUIPMENT SELECTION

hvac	13,684	1,437		15,000
Total Adjusted System Output (Adjusted for Peak Design conditions)	13,684	1,437		15,000
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)



ROOM LOAD SUMMARY

Project Name	Date
Addition	*5/14/2022*
System Name	**Floor Area**
hvac	*2,036*

ROOM LOAD SUMMARY

			ROOM COOLING PEAK			COIL COOLING PEAK			COIL HTG. PEAK	
Zone Name	Room Name	Mult.	CFM	Sensible	Latent	CFM	Sensible	Latent	CFM	Sensible
new	*new Room*	*1*	*256*	*5,300*	*375*	*256*	*5,300*	*375*	*146*	*6,370*
current dn	*ex Room*	*1*	*644*	*13,344*	*778*	*644*	*13,344*	*778*	*615*	*26,760*
PAGE TOTAL						*899*	*18,645*	*1,153*	*762*	*33,130*
TOTAL *						*899*	*18,645*	*1,153*	*762*	*33,130*

* Total includes ventilation load for zonal systems.

ROOM HEATING PEAK LOADS

Project Name *Addition*	Date *5/14/2022*

ROOM INFORMATION

Room Name	*new Room*
Floor Area	*662.00 ft²*
Indoor Dry Bulb Temperature	*68 ºF*

DESIGN CONDITIONS

Time of Peak	*Jan 1 AM*
Outdoor Dry Bulb Temperature	*28 ºF*

Conduction	**Area**		**U-Value**		**ΔT °F**		**Btu/hr**
2x4. Wall	*419.0*	X	*0.1028*	X	*40*	=	*1,723*
new	*121.0*	X	*0.2400*	X	*40*	=	*1,162*
R-38 Roof Attic	*652.0*	X	*0.0448*	X	*40*	=	*1,168*
Lowe2/Arg	*10.0*	X	*0.2400*	X	*40*	=	*96*
floor	*662.0*	X	*0.0470*	X	*40*	=	*1,245*
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
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		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	

Items shown with an asterisk (*) denote conduction through an interior surface to another room

Page Total *5,394*

Infiltration:[	*1.00*	X	*1.072*	X	*662*	X	*8.00*	X	*0.258*	/ 60]	X	*40*	= *976*
	Schedule Fraction		Air Sensible		Area		Ceiling Height		ACH			ΔT	

TOTAL HOURLY HEAT LOSS FOR ROOM *6,370*

ROOM HEATING PEAK LOADS

Project Name	Date
Addition	*5/14/2022*

ROOM INFORMATION		DESIGN CONDITIONS	
Room Name	*ex Room*	**Time of Peak**	*Jan 1 AM*
Floor Area	*1,374.00 ft²*	**Outdoor Dry Bulb Temperature**	*28 ºF*
Indoor Dry Bulb Temperature	*68 ºF*		

Conduction	**Area**		**U-Value**		**ΔT °F**		**Btu/hr**
0 Wall	*667.0*	X	*0.4051*	X	*40*	=	*10,809*
new	*170.0*	X	*0.2400*	X	*40*	=	*1,632*
dual ex	*24.0*	X	*0.5500*	X	*40*	=	*528*
Wood Door	*20.0*	X	*0.2000*	X	*40*	=	*160*
R-38 Roof Attic	*1,374.0*	X	*0.0448*	X	*40*	=	*2,462*
**Wall*	*40.0*	X	*0.6459*	X	*0*	=	*0*
floor	*1,374.0*	X	*0.1664*	X	*40*	=	*9,143*
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
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		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	
		X		X		=	

Items shown with an asterisk (*) denote conduction through an interior surface to another room

Page Total *24,734*

Infiltration:[	*1.00*	X	*1.072*	X	*1,374*	X	*8.25*	X	*0.250*	/ 60] X	*40*	=	*2,026*
	Schedule Fraction		Air Sensible		Area		Ceiling Height		ACH		ΔT		

TOTAL HOURLY HEAT LOSS FOR ROOM *26,760*

RESIDENTIAL ROOM COOLING LOAD SUMMARY

Project Name	Date
Addition	*5/14/2022*

ROOM INFORMATION		DESIGN CONDITIONS	
Room Name	*new Room*	**Outdoor Dry Bulb Temperature**	*88 ºF*
Floor Area	*662.00 ft²*	**Outdoor Wet Bulb Temperature**	*68 ºF*
Indoor Dry Bulb Temperature	*75 ºF*	**Outdoor Daily Range:**	*30 ºF*

Opaque Surfaces	Orientation	Area		U-Factor		CLTD[1]		Btu/hr
2x4. Wall	*(N)*	*95.0*	X	*0.1028*	X	*3.0*	=	*29*
R-38 Roof Attic	*(NW)*	*652.0*	X	*0.0448*	X	*37.0*	=	*1,081*
2x4. Wall	*(W)*	*130.0*	X	*0.1028*	X	*13.0*	=	*174*
2x4. Wall	*(S)*	*88.0*	X	*0.1028*	X	*6.0*	=	*54*
floor		*662.0*	X	*0.0470*	X	*4.0*	=	*124*
2x4. Wall	*(E)*	*106.0*	X	*0.1028*	X	*13.0*	=	*142*
			X		X		=	
			X		X		=	
			X		X		=	
						Page Total		*1,604*

Items shown with an asterisk (*) denote conduction through an interior surface to another room.
1. Cooling Load Temperature Difference (CLTD)

		Shaded			Unshaded			
Fenestration	**Orientation**	**Area**	**GLF**		**Area**	**GLF**		**Btu/hr**
Window	*(N)*	*0.0* X	*8.7*	+	*25.0* X	*8.7*	=	*217*
Window	*(N)*	*0.0* X	*8.7*	+	*40.0* X	*8.7*	=	*348*
Skylight	*(NW)*	*0.0* X	*8.7*	+	*10.0* X	*38.2*	=	*382*
door	*(S)*	*0.0* X	*8.7*	+	*32.0* X	*12.0*	=	*383*
Window	*(E)*	*0.0* X	*8.7*	+	*24.0* X	*21.9*	=	*525*
		X		+	X		=	
		X		+	X		=	
		X		+	X		=	
		X		+	X		=	
						Page Total		*1,855*

Internal Gain						Btu/hr
Occupants	*2.0*	Occupants	X	*245* Btuh/occ.	=	*487*
Equipment	*662*	Floor Area	X	*0.50* w/sqft	=	*1,130*

Infiltration: *1.072* (Air Sensible) X *0.65* (CFM) X *24.78* (ELA) X *13* (ΔT) = *224*

TOTAL HOURLY SENSIBLE HEAT GAIN FOR ROOM *5,300*

Latent Gain						Btu/hr
Occupants	*2.0*	Occupants	X	*155* Btuh/occ.	=	*308*

Infiltration: *4,807* (Air Latent) X *0.65* (CFM) X *24.78* (ELA) X *0.00087* (ΔW) = *67*

TOTAL HOURLY LATENT HEAT GAIN FOR ROOM *375*

RESIDENTIAL ROOM COOLING LOAD SUMMARY

Project Name	Date
Addition	*5/14/2022*

ROOM INFORMATION		DESIGN CONDITIONS	
Room Name	*ex Room*	**Outdoor Dry Bulb Temperature**	*88 ºF*
Floor Area	*1,374.00 ft²*	**Outdoor Wet Bulb Temperature**	*68 ºF*
Indoor Dry Bulb Temperature	*75 ºF*	**Outdoor Daily Range:**	*30 ºF*

Opaque Surfaces	Orientation	Area		U-Factor		CLTD[1]		Btu/hr
0 Wall	*(S)*	*99.0*	X	*0.4051*	X	*6.0*	=	*241*
0 Wall	*(E)*	*176.0*	X	*0.4051*	X	*13.0*	=	*927*
0 Wall	*(N)*	*186.0*	X	*0.4051*	X	*3.0*	=	*226*
Wood Door	*(N)*	*20.0*	X	*0.2000*	X	*3.0*	=	*12*
R-38 Roof Attic	*(N)*	*1,374.0*	X	*0.0448*	X	*37.0*	=	*2,278*
**Wall*		*40.0*	X	*0.6459*	X	*0.0*	=	*0*
0 Wall	*(W)*	*206.0*	X	*0.4051*	X	*13.0*	=	*1,085*
floor		*1,374.0*	X	*0.1664*	X	*4.0*	=	*914*
			X		X		=	
						Page Total		*5,682*

Items shown with an asterisk (*) denote conduction through an interior surface to another room.
1. Cooling Load Temperature Difference (CLTD)

		Shaded			Unshaded			
Fenestration	**Orientation**	**Area**	**GLF**		**Area**	**GLF**		**Btu/hr**
Window	*(S)*	*0.0* X	*8.7*	+	*24.0* X	*12.0*	=	*287*
door	*(S)*	*0.0* X	*8.7*	+	*32.0* X	*12.0*	=	*383*
Window	*(E)*	*0.0* X	*8.7*	+	*8.0* X	*21.9*	=	*175*
Window	*(E)*	*0.0* X	*8.7*	+	*8.0* X	*21.9*	=	*175*
Window	*(E)*	*0.0* X	*8.7*	+	*24.0* X	*21.9*	=	*525*
Window	*(E)*	*0.0* X	*8.7*	+	*16.0* X	*21.9*	=	*350*
Window	*(E)*	*0.0* X	*8.7*	+	*16.0* X	*21.9*	=	*350*
Window	*(N)*	*0.0* X	*28.2*	+	*12.0* X	*28.2*	=	*338*
Window	*(N)*	*0.0* X	*28.2*	+	*12.0* X	*28.2*	=	*338*
						Page Total		*2,922*

Internal Gain						Btu/hr
Occupants	*4.1*	Occupants	X	*245* Btuh/occ.	=	*1,010*
Equipment	*1,374*	Floor Area	X	*0.50* w/sqft	=	*2,345*

Infiltration: *1.072* (Air Sensible) X *0.65* (CFM) X *51.44* (ELA) X *13* (ΔT) = *466*

TOTAL HOURLY SENSIBLE HEAT GAIN FOR ROOM *13,344*

Latent Gain						Btu/hr
Occupants	*4.1*	Occupants	X	*155* Btuh/occ.	=	*639*

Infiltration: *4,807* (Air Latent) X *0.65* (CFM) X *51.44* (ELA) X *0.00087* (ΔW) = *139*

TOTAL HOURLY LATENT HEAT GAIN FOR ROOM *778*

RESIDENTIAL ROOM COOLING LOAD SUMMARY

Project Name	Date
Addition	*5/14/2022*

ROOM INFORMATION		DESIGN CONDITIONS	
Room Name	*ex Room*	**Outdoor Dry Bulb Temperature**	*88 ºF*
Floor Area	*1,374.00 ft²*	**Outdoor Wet Bulb Temperature**	*68 ºF*
Indoor Dry Bulb Temperature	*75 ºF*	**Outdoor Daily Range:**	*30 ºF*

Opaque Surfaces	Orientation	Area		U-Factor		CLTD[1]		Btu/hr
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
			X		X		=	
						Page Total		*0*

Items shown with an asterisk (*) denote conduction through an interior surface to another room.
1. Cooling Load Temperature Difference (CLTD)

		Shaded			Unshaded			
Fenestration	**Orientation**	**Area**	**GLF**		**Area**	**GLF**		**Btu/hr**
Window	*(W)*	*0.0*	*8.7*	+	*24.0*	*21.9*	=	*525*
Window	*(W)*	*0.0*	*8.7*	+	*18.0*	*21.9*	=	*394*
				+			=	
				+			=	
				+			=	
				+			=	
				+			=	
				+			=	
				+			=	
						Page Total		*919*

Internal Gain						Btu/hr
Occupants	*4.1*	Occupants	X	*245* Btuh/occ.	=	*1,010*
Equipment	*1,374*	Floor Area	X	*0.50* w/sqft	=	*2,345*

Infiltration:									
1.072	X	*0.65*	X	*51.44*	X	*13*	=		*466*
Air Sensible		CFM		ELA		ΔT			

TOTAL HOURLY SENSIBLE HEAT GAIN FOR ROOM *13,344*

Latent Gain						Btu/hr
Occupants	*4.1*	Occupants	X	*155* Btuh/occ.	=	*639*

Infiltration:									
4,807	X	*0.65*	X	*51.44*	X	*0.00087*	=		*139*
Air Latent		CFM		ELA		ΔW			

TOTAL HOURLY LATENT HEAT GAIN FOR ROOM *778*