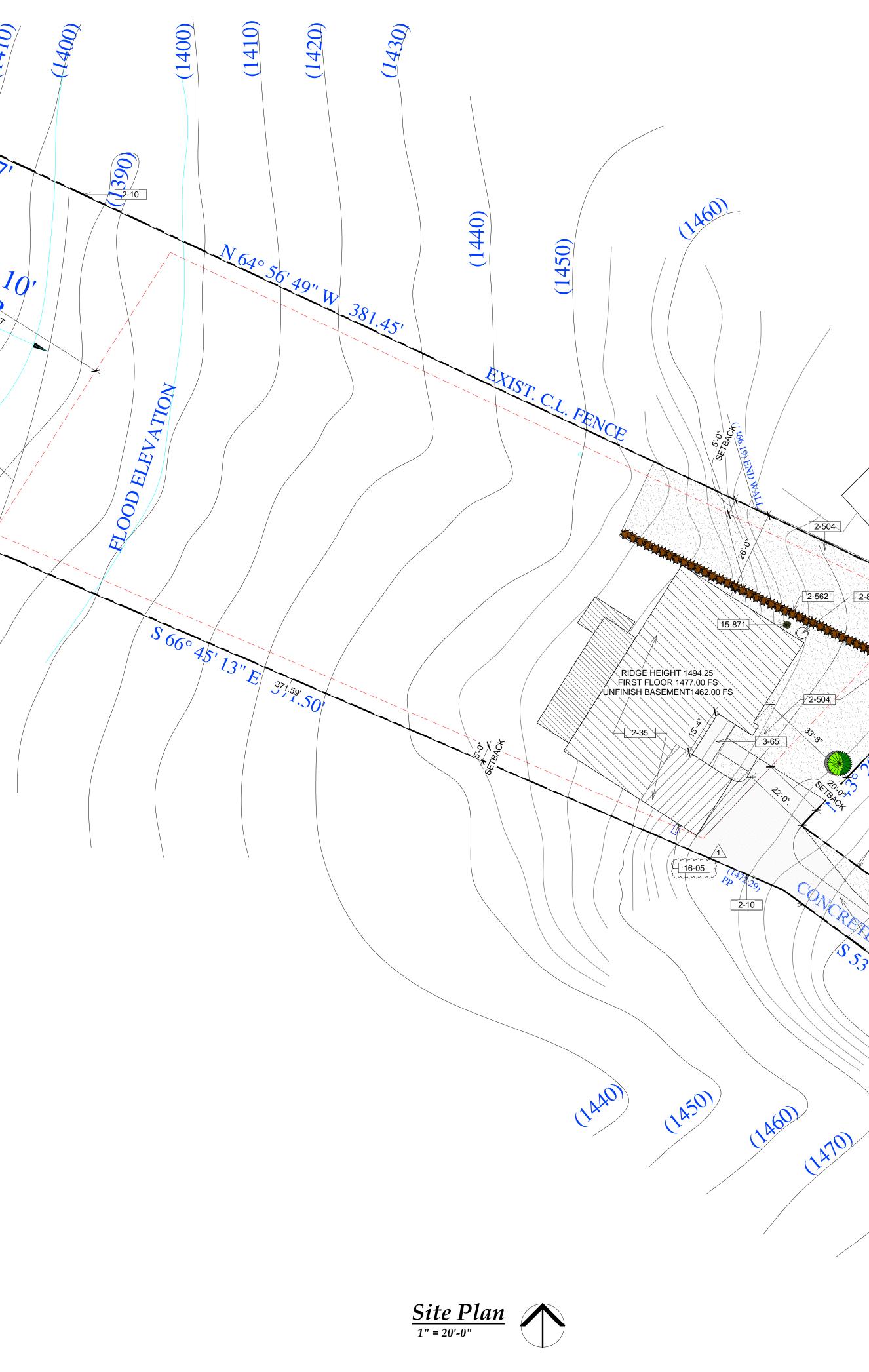
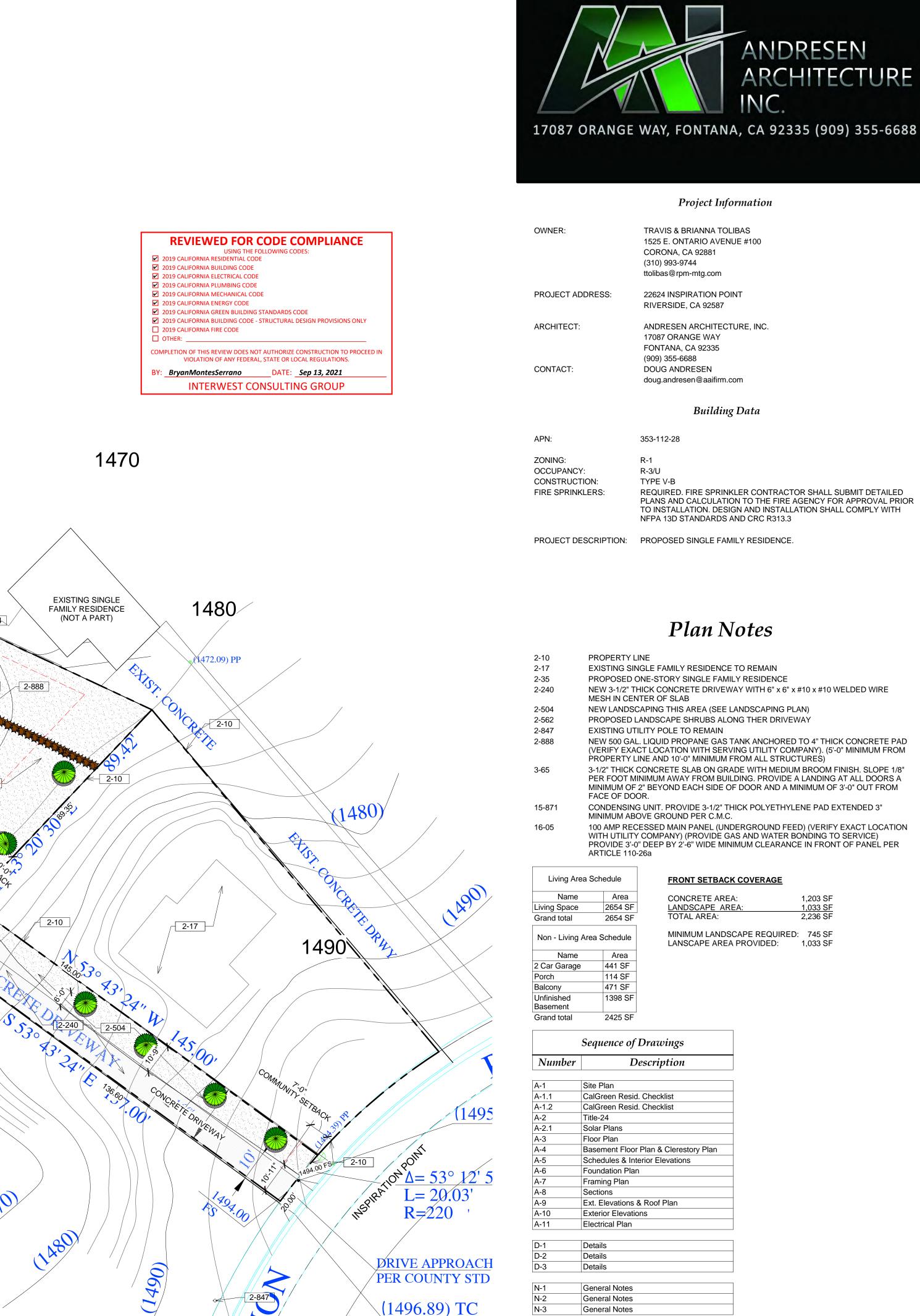
	General Notes
Number	Note
1	LUMBER SHALL BE GRADE STAMPED AND CONFORM TO THE FOLLOWING MINIMUM STANDARDS: A) STRUCTURAL LUMBER TO BE WEST COAST DOUG FIR NO. 2 OR BETTER (UNLESS NOTED OTHERWISE) THIS INCLUDES BEAMS, HEADERS, BLOCKING, DIAGONALBRACES, PLATFORMS, STRINGERS, JOISTS, RAFTERS AND POSTS. (BEAMS 4 x 12 AND LARGER TO BE DOUG FIR #1 & BTR.) B) STUDS MAY BE "CONSTRUCTION GRADE" DOUGLAS FIR OR #1 & BETTER. C) TOP PLATES MAY BE "CONSTRUCTION GRADE" HEM FIR OR DOUGLAS FIR. D) SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED "WOLMANIZED" OR FOUNDATION GRADE REDWOOD E) TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT,DRILLED, NOTCHED, OR OTHERWISE ALTERED IN ANY WAY WITHOUT WRITTEN CONCURRENCE AND APPROVAL OF A REGISTERED DESIGN PROFESSIONAL
2	STRUCTURAL CONNECTOR REFERENCES ARE TO "SIMPSON STRONG-TIE" CONNECTORS. I.C.C. APPROVED
3	NO STRUCTURAL MEMBER SHALL BE SERIOUSLY WEAKENED OR IMPAIRED BY CUTTING OR NOTCHING CONSTRUCTION OF THIS PROJECT SHALL BE IN ACCORDANCE WITH THE CALIFORNIA MODIFIED VERSION (TITLE 24, 2019 EDITION) OF THE FOLLOWING CODES: CITY OF CANYON LAKE MUNICIPAL CODE 2019 CALIFORNIA BUILDING CODE, (2018 IBC) 2019 CALIFORNIA BUILDING CODE, (2018 BC) 2019 CALIFORNIA RESIDENTIAL CODE (2018 CRC) 2019 CALIFORNIA RESIDENTIAL CODE (2018 UPC) 2019 CALIFORNIA PLUMBING CODE, (2018 UPC) 2019 CALIFORNIA MECHANICAL CODE, (2018 UMC) 2019 CALIFORNIA ELECTRICAL CODE (2017 NEC) 2019 CALIFORNIA FIRE CODE, (2018 IFC). 2019 CALIFORNIA FIRE CODE, (2018 IFC). 2019 CALIFORNIA ENERGY CODE "AMERICANS WITH DISABILITIES ACT" (ADA) HEALTH AND SAFETY CODE (HSC), SECTION 13145 CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24 2019 CAC ALL OTHER APPLICABLE LAWS AND REGULATIONS
5	DRAINAGE PIPING IN THE GROUND SHALL BE LAID ON A FIRM BED FOR ITS ENTIRE LENGTH AND BACKFILLED IN THIN LAYERS TO 12" ABOVE TOP OF PIPE WITH CLEAN EARTH, FREE FROM STONES AND BOULDERS. DRAIN PIPE SHALL BE A MINIMUM OF 3" DIAMETER WITH 2% MIN. SLOPE.
6 7	OFFSET PLUMBING OUT OF BEARING FOOTINGS. FIXTURES, DEVICES AND EQUIPMENT SHALL COMPLY WITH
8	APPLICABLE CEC REGULATIONS. FASTENERS FOR PRESERVATIVE TREATED AND FIRE-RETARDANT-TREATED WOOD SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A 153. FASTENERS OTHER THAN NAILS, TIMBER RIVETS WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B 695, CLASS 55 MINIMUM.
9	THE MANUFACTURED WINDOWS SHALL HAVE A LABEL ATTACHED CERTIFIED BY THE NATIONAL FENESTRATION RATING COUNCIL (NFRC) AND SHOWING COMPLIANCE WITH THE
10	ENERGY CALCULATIONS. APPROVAL OF THESE PLANS BY THE BUILDING DEPARTMENT DOES NOT INCLUDE APPROVAL FOR ANY TYPE OF ALARM SYSTEM THAT MAY BE SHOWN OR REQUIRED. SEPARATE APPROVALS FOR ANY ALARM SYSTEMS MUST BE OBTAINED.
11	ALL STEEL REINFORCEMENT TO COMPLY WITH ASTM-615, GRADE 40 AND 60
12	EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND OR SEISMIC FORCE RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND OR SEISMIC RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING: (a) ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. (b) ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TC OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL. (c) PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS. (d) IDENTIFICATION AND QUALIFICATION OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
13	APPLICATION FOR WHICH NO PERMIT IS ISSUED WITHIN 180 DAYS FOLLOWING THE DATE OF APPLICATION SHALL
14	AUTOMATICALLY EXPIRE EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS WORK AUTHORIZED IS COMMENCED WITHIN 180 DAYS AFTER ITS ISSUANCE OR IF THE WORK AUTHORIZED IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS. A SUCCESSFUL INSPECTION MUST BE OBTAINED WITHIN 180 DAYS.



# Proposed Single Family Residence For: Travis & Brianna Tolibas 22624 Inspiration Point, Canyon Lake, CA 92587





Proposed Single Family Residence For:								
Travis & Brianna Tolibas								
22624 Inspiration Point,	Canyon Lake, CA 92587							
5 Jan. 2021	<u>∕1</u> 13 Aug. 2021 ∧							
20-3924	$\overline{\land}$							

Site Plan



**Project Information** 

Building Data

REQUIRED. FIRE SPRINKLER CONTRACTOR SHALL SUBMIT DETAILED PLANS AND CALCULATION TO THE FIRE AGENCY FOR APPROVAL PRIOR TO INSTALLATION. DESIGN AND INSTALLATION SHALL COMPLY WITH

NEW 3-1/2" THICK CONCRETE DRIVEWAY WITH 6" x 6" x #10 x #10 WELDED WIRE

NEW 500 GAL. LIQUID PROPANE GAS TANK ANCHORED TO 4" THICK CONCRETE PAD (VERIFY EXACT LOCATION WITH SERVING UTILITY COMPANY). (5'-0" MINIMUM FROM 3-1/2" THICK CONCRETE SLAB ON GRADE WITH MEDIUM BROOM FINISH. SLOPE 1/8" PER FOOT MINIMUM AWAY FROM BUILDING. PROVIDE A LANDING AT ALL DOORS A MINIMUM OF 2" BEYOND EACH SIDE OF DOOR AND A MINIMUM OF 3'-0" OUT FROM

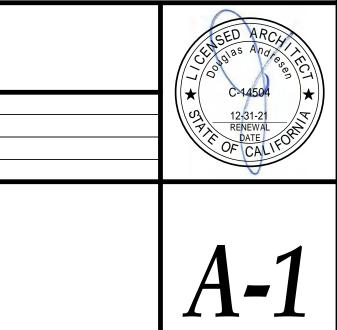
CONDENSING UNIT. PROVIDE 3-1/2" THICK POLYETHYLENE PAD EXTENDED 3" 100 AMP RECESSED MAIN PANEL (UNDERGROUND FEED) (VERIFY EXACT LOCATION WITH UTILITY COMPANY) (PROVIDE GAS AND WATER BONDING TO SERVICE) PROVIDE 3'-0" DEEP BY 2'-6" WIDE MINIMUM CLEARANCE IN FRONT OF PANEL PER

FRONT SETBACK COVERAGE

1,203 SF 1,033 SF 2,236 SF

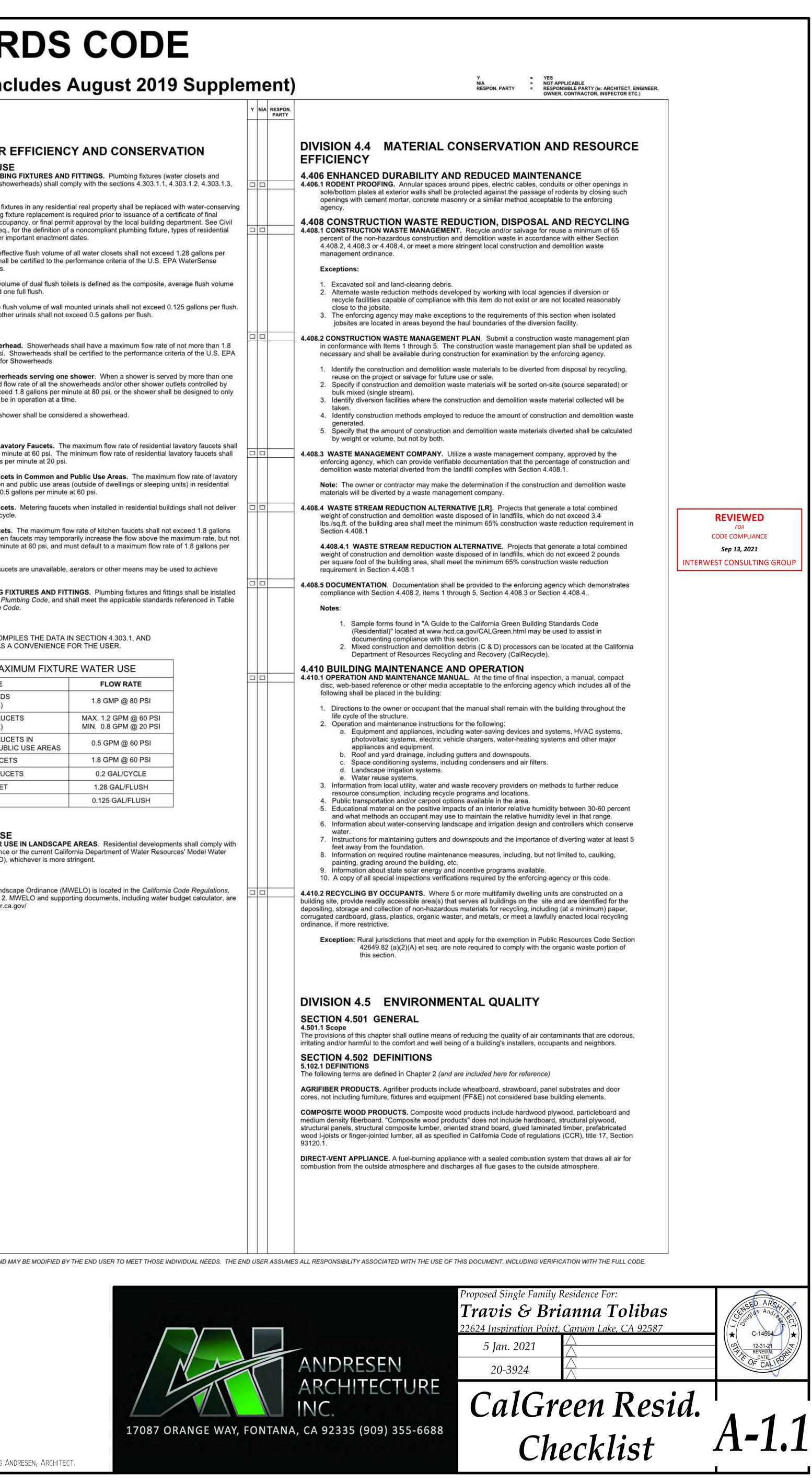
MINIMUM LANDSCAPE REQUIRED: 745 SF LANSCAPE AREA PROVIDED: 1,033 SF





Y N/A R	CHAPTER 3 GREEN BUILDING	Y N/A RESPON PARTY		Y N/A RESPON. PARTY	
	SECTION 301 GENERAL 301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in		<b>4.106.4.2.1.1 Electric Vehicle Charging Stations (EVCS)</b> When EV chargers are installed, EV spaces required by Section 4.106.2.2, Item 3, shall comply with at least one of the following options:		DIVISION 4.3 WATER
	the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.		<ol> <li>The EV space shall be located adjacent to an accessible parking space meeting the requirements of the <i>California Building Code</i>, Chapter 11A, to allow use of the EV charger</li> </ol>		4.303 INDOOR WATER US 4.303.1 WATER CONSERVING PLUMB
	301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to		from the accessible parking space. 2. The EV space shall be located on an accessible route, as defined in the <i>California Building</i>		urinals) and fittings (faucets and sh and 4.303.4.4.
	additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.		Code, Chapter 2, to the building. Exception: Electric vehicle charging stations designed and constructed in compliance with the		Note: All noncompliant plumbing fix plumbing fixtures. Plumbing completion, certificate of occ
	<b>Note:</b> On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures.		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.		Code Section 1101.1, et seq buildings affected and other
	Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and		<b>Note:</b> Electric Vehicle charging stations serving public housing are required to comply with the <i>California Building Code</i> , Chapter 11B.		<b>4.303.1.1 Water Closets.</b> The eff flush. Tank-type water closets sha Specification for Tank-type Toilets.
	other important enactment dates.		4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV space shall be designed to comply with the following:		Note: The effective flush vo of two reduced flushes and o
	<b>301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD]</b> The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies		<ol> <li>The minimum length of each EV space shall be 18 feet (5486 mm).</li> <li>The minimum width of each EV space shall be 9 feet (2743 mm).</li> <li>One in every 25 EV spaces, but not less than one EV space, shall have an 8-foot (2438 mm)</li> </ol>		4.303.1.2 Urinals. The effective f
	specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.		wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).		The effective flush volume of all oth 4.303.1.3 Showerheads.
	SECTION 302 MIXED OCCUPANCY BUILDINGS		<ul> <li>Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.</li> </ul>		4.303.1.3.1 Single Shower gallons per minute at 80 psi.
	<b>302.1 MIXED OCCUPANCY BUILDINGS.</b> In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.		4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208/240-		WaterSense Specification fo 4.303.1.3.2 Multiple showe
	ABBREVIATION DEFINITIONS:		volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The 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		showerhead, the combined t a single valve shall not exce allow one shower outlet to b
	HCD         Department of Housing and Community Development           BSC         California Building Standards Commission           DSA-SS         Division of the State Architect, Structural Safety		documents shall identify the raceway termination point. The 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.		Note: A hand-held sh
	OSHPD Office of Statewide Health Planning and Development LR Low Rise HR High Rise		4.106.4.2.4 Multiple EV spaces required. Construction documents shall indicate the raceway		4.303.1.4 Faucets.
	AA Additions and Alterations N New		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 that the electrical panel service capacity and electrical system,		4.303.1.4.1 Residential La not exceed 1.2 gallons per n not be less than 0.8 gallons
	CHAPTER 4		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 that are planned to be		4.303.1.4.2 Lavatory Fauce faucets installed in common
	RESIDENTIAL MANDATORY MEASURES		installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.		buildings shall not exceed 0. 4.303.1.4.3 Metering Fauce
	DIVISION 4.1 PLANNING AND DESIGN SECTION 4.102 DEFINITIONS		4.106.4.2.5 Identification. The 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.		more than 0.2 gallons per cy 4.303.1.4.4 Kitchen Fauce
	4.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference)		4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide EV spaces		per minute at 60 psi. Kitche to exceed 2.2 gallons per mi minute at 60 psi.
	<b>FRENCH DRAIN.</b> A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.		capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces.		Note: Where complying fau reduction.
	WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also		Notes: 1. Construction documents are intended to demonstrate the project's capability and capacity		4.303.2 STANDARDS FOR PLUMBING
	used for perimeter and inlet controls. 4.106 SITE DEVELOPMENT		<ul> <li>or facilitating future EV charging.</li> <li>2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.</li> </ul>		in accordance with the California P 1701.1 of the California Plumbing (
	4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.		4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based		NOTE: THIS TABLE COM
	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 which in total disturbs one acre		on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.		IS INCLUDED AS
	or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.		TABLE 4.106.4.3.1		TABLE - MA
	<ol> <li>Retention basins of sufficient size shall be utilized to retain storm water on the site.</li> <li>Where storm water is conveyed to a public drainage system, collection point, gutter or similar</li> </ol>		TOTAL NUMBER OF PARKING SPACES NUMBER OF REQUIRED EV SPACES		SHOWER HEAD (RESIDENTIAL)
	<ul> <li>disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.</li> <li>3. Compliance with a lawfully enacted storm water management ordinance.</li> </ul>		0-9 0		LAVATORY FAU (RESIDENTIAL)
	Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or		10-25 1		LAVATORY FAU COMMON & PUE
	are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)		26-50 2		KITCHEN FAUC
	4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface		51-75     4       76-100     5		WATER CLOSE
	water include, but are not limited to, the following:		101-150 7		URINALS
	<ol> <li>Water collection and disposal systems</li> <li>French drains</li> <li>Water retention gardens</li> </ol>		151-20010201 and over6 percent of total		4.304 OUTDOOR WATER US
	<ol> <li>Other water measures which keep surface water away from buildings and aid in groundwater recharge.</li> </ol>		<b>4.106.4.3.2 Electric vehicle charging space (EV space) dimensions.</b> The EV spaces shall be designed to comply with the following:		4.304.1 OUTDOOR POTABLE WATER a local water efficient landscape ordinance Efficient Landscape Ordinance (MWELO)
	Exception: Additions and alterations not altering the drainage path.		1. The minimum length of each EV space shall be 18 feet (5486mm).		NOTES:
	<ul> <li>4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections</li> <li>4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the <i>California Electrical Code</i>, Article 625.</li> </ul>		<ol> <li>The minimum width of each EV space shall be 9 feet (2743mm)</li> <li>4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed</li> </ol>		1. The Model Water Efficient Land Title 23, Chapter 2.7, Division 2
	Exceptions: 1. On a case-by-case basis, where the local enforcing agency has determined EV charging and		in accordance with Section 4.106.4.2.3. 4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be		available at: https://www.water.o
	infrastructure are not feasible based upon one or more of the following conditions: 1.1 Where there is no commercial power supply. 1.2 Where there is evidence substantiating that meeting the requirements will alter the local		designed in accordance with Section 4.106.4.2.4. 4.106.4.3.5 Identification. The service panels or sub-panels shall be identified in accordance with Section		
	utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than \$400.00 per dwelling unit.		4.106.4.2.5. 4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for		
	<ol> <li>Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.</li> </ol>		hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for the EV charging stations in the <i>California Building Code</i> , Chapter 11B.		
	dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the		DIVISION 4.2 ENERGY EFFICIENCY 4.201 GENERAL		
	proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The 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		<ul> <li>4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.</li> </ul>		
	protective device. 4.106.4.1.1 Identification. The 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".				
	4.106.4.2 New multifamily dwellings. If residential parking is available, ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.				
	<ul> <li>Notes:</li> <li>1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.</li> <li>2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.</li> </ul>				
	<b>4.106.4.2.1 Electric vehicle charging space (EV space) locations.</b> Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.				

## **RDS CODE** ncludes August 2019 Supplement)



ciuues /	August 2013 51	uppie			OWNER, CONTRACTOR, INSPECTOR ETC.
				PAR	
	Y AND CONSERVATION	N			DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY
	<b>FITTINGS.</b> Plumbing fixtures (water close nply with the sections 4.303.1.1, 4.303.1.2,			_	4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE     4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing
g fixture replacement is cupancy, or final perm	tial real property shall be replaced with wate s required prior to issuance of a certificate of hit approval by the local building departmen a noncompliant plumbing fixture, types of r	of final t. See Civil		-	4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING     4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65     percent of the non-hazardous construction and demolition waste in accordance with either Section
ffective flush volume o	f all water closets shall not exceed 1.28 ga erformance criteria of the U.S. EPA Waters				4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.
one full flush.	ets is defined as the composite, average flu				<ol> <li>Excavated soil and land-clearing debris.</li> <li>Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably</li> </ol>
	nounted urinals shall not exceed 0.125 gallo xceed 0.5 gallons per flush.	ons per flush.		-	<ul> <li>close to the jobsite.</li> <li>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.</li> </ul>
	shall have a maximum flow rate of not mor be certified to the performance criteria of th				<ul> <li>4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.</li> <li>1. Identify the construction and demolition waste materials to be diverted from disposal by recycling,</li> </ul>
flow rate of all the sho		trolled by			<ol> <li>Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.</li> <li>Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).</li> <li>Identify diversion facilities where the construction and demolition waste material collected will be taken.</li> <li>Identify construction methods employed to reduce the amount of construction and demolition waste generated.</li> </ol>
	e maximum flow rate of residential lavatory minimum flow rate of residential lavatory fa				<ul> <li>5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.</li> <li>4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the</li> </ul>
s per minute at 20 psi. cets in Common and	Public Use Areas. The maximum flow rat (outside of dwellings or sleeping units) in r	e of lavatory			enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.  Note: The owner or contractor may make the determination if the construction and demolition waste
0.5 gallons per minute					A.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined     weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4
en faucets may tempo	w rate of kitchen faucets shall not exceed 1 rarily increase the flow above the maximum sust default to a maximum flow rate of 1.8 g	rate, but not			<ul> <li>Ibs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1</li> <li>4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds</li> </ul>
	aerators or other means may be used to ad			_	<ul> <li>per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1</li> <li>4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates</li> </ul>
	<b>TINGS.</b> Plumbing fixtures and fittings shall hall meet the applicable standards reference				compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4 Notes:
MPILES THE DATA I S A CONVENIENCE F	N SECTION 4.303.1, AND FOR THE USER.				<ol> <li>Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.</li> <li>Mixed construction and demolition debris (C &amp; D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).</li> </ol>
XIMUM FIXTUR	RE WATER USE				<ul> <li>4.410 BUILDING MAINTENANCE AND OPERATION</li> <li>4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the</li> </ul>
DS )	1.8 GMP @ 80 PSI				following shall be placed in the building: 1. Directions to the owner or occupant that the manual shall remain with the building throughout the
UCETS )	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI				<ul> <li>life cycle of the structure.</li> <li>2. Operation and maintenance instructions for the following:</li> <li>a. Equipment and appliances, including water-saving devices and systems, HVAC systems,</li> </ul>
UCETS IN JBLIC USE AREAS	0.5 GPM @ 60 PSI				<ul> <li>photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.</li> <li>b. Roof and yard drainage, including gutters and downspouts.</li> </ul>
JCETS	1.8 GPM @ 60 PSI 0.2 GAL/CYCLE				<ul> <li>c. Space conditioning systems, including condensers and air filters.</li> <li>d. Landscape irrigation systems.</li> </ul>
ET	1.28 GAL/FLUSH				<ul> <li>e. Water reuse systems.</li> <li>3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.</li> </ul>
	0.125 GAL/FLUSH E AREAS. Residential developments shall ornia Department of Water Resources' Mod stringent.				<ol> <li>Public transportation and/or carpool options available in the area.</li> <li>Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.</li> <li>Information about water-conserving landscape and irrigation design and controllers which conserve water.</li> <li>Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.</li> <li>Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.</li> <li>Information about state solar energy and incentive programs available.</li> </ol>
	WELO) is located in the <i>California Code Re</i> rting documents, including water budget ca			-	<ul> <li>10. A copy of all special inspections verifications required by the enforcing agency or this code.</li> <li>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 are identified for the</li> </ul>
					depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive. <b>Exception:</b> Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section
					42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of this section.
					DIVISION 4.5 ENVIRONMENTAL QUALITY
					SECTION 4.501 GENERAL 4.501.1 Scope The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors. SECTION 4.502 DEFINITIONS
					5.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference)
					AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements. COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and
					medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.
					<b>DIRECT-VENT APPLIANCE.</b> A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.
D MAY BE MODIFIED BY	THE END USER TO MEET THOSE INDIVIDUAL	NEEDS. THE EN	D US	ER ASS	INES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL COL



# **2019 CALIFORNIA GREEN BUILDING STANDARI RESIDENTIAL MANDATORY MEASURES, SHEET 1** (January 2020, Inclu

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		MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change compound to the "Base Reactive Organic Gas (ROG) Mixture" per weigh		
		hundredths of a gram (g O <sup>3</sup> /g ROC). Note: MIR values for individual compounds and hydrocarbon solvents are		
		and 94701.		
		MOISTURE CONTENT. The weight of the water in wood expressed in pe		85
		<b>PRODUCT-WEIGHTED MIR (PWMIR).</b> The sum of all weighted-MIR for article. The PWMIR is the total product reactivity expressed to hundredth product (excluding container and packaging). Note: PWMIR is calculated according to equations found in CCR, Title 17	s of a gram of ozone formed per g	
		<b>REACTIVE ORGANIC COMPOUND (ROC).</b> Any compound that has the ozone formation in the troposphere.	potential, once emitted, to contribu	ute
		<b>VOC.</b> A volatile organic compound (VOC) broadly defined as a chemical with vapor pressures greater than 0.1 millimeters of mercury at room tem hydrogen and may contain oxygen, nitrogen and other elements. See CO	perature. These compounds typica	
		 <b>4.503 FIREPLACES</b> <b>4.503.1 GENERAL</b> . Any installed gas fireplace shall be a direct-vent sea woodstove or pellet stove shall comply with U.S. EPA New Source Perfo applicable, and shall have a permanent label indicating they are certified pellet stoves and fireplaces shall also comply with applicable local ordina	rmance Standards (NSPS) emission to meet the emission limits. Wood	on li
) C		<b>4.504 POLLUTANT CONTROL</b> <b>4.504.1 COVERING OF DUCT OPENINGS &amp; PROTECTION OF MECH.</b> <b>CONSTRUCTION.</b> At the time of rough installation, during storage on the startup of the heating, cooling and ventilating equipment, all duct and oth openings shall be covered with tape, plastic, sheet metal or other method	ANICAL EQUIPMENT DURING e construction site and until final er related air distribution component	
		reduce the amount of water, dust or debris which may enter the system.	shall comply with this section	
	10	4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials 4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant		all m
		requirements of the following standards unless more stringent loca management district rules apply:		
		<ol> <li>Adhesives, adhesive bonding primers, adhesive primers shall comply with local or regional air pollution control or applicable or SCAQMD Rule 1168 VOC limits, as shown Such products also shall comply with the Rule 1168 prol compounds (chloroform, ethylene dichloride, methylene tricloroethylene), except for aerosol products, as specifie</li> </ol>	r air quality management district rul n in Table 4.504.1 or 4.504.2, as an hibition on the use of certain toxic chloride, perchloroethylene and	les v
		<ol> <li>Aerosol adhesives, and smaller unit sizes of adhesives, units of product, less packaging, which do not weigh mo than 16 fluid ounces) shall comply with statewide VOC s prohibitions on use of certain toxic compounds, of <i>Califo</i> commencing with section 94507.</li> </ol>	ore than 1 pound and do not consis standards and other requirements,	st of incl
		<b>4.504.2.2 Paints and Coatings.</b> Architectural paints and coatings the ARB Architectural Suggested Control Measure, as shown in Ta		
		apply. The VOC content limit for coatings that do not meet the def listed in Table 4.504.3 shall be determined by classifying the coatin coating, based on its gloss, as defined in subsections 4.21, 4.36, a Board, Suggested Control Measure, and the corresponding Flat, N Table 4.504.3 shall apply.	finitions for the specialty coatings c ng as a Flat, Nonflat or Nonflat-Hig and 4.37 of the 2007 California Air I	categ gh G Res
3 C		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat		
		<b>4.504.2.3 Aerosol Paints and Coatings.</b> Aerosol paints and coat Limits for ROC in Section 94522(a)(2) and other requirements, including compounds and ozone depleting substances, in Sections 94522(e)	luding prohibitions on use of certain )(1) and (f)(1) of <i>California Code of</i>	in to f
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		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat         Limits for ROC in Section 94522(a)(2) and other requirements, inclorompounds and ozone depleting substances, in Sections 94522(e         Regulations, Title 17, commencing with Section 94520; and in area         Quality Management District additionally comply with the percent V8, Rule 49.         4.504.2.4 Verification. Verification of compliance with this sectior         enforcing agency. Documentation may include, but is not limited to         1. Manufacturer's product specification.         2. Field verification of on-site product containers.         TABLE 4.504.1 - ADHESIVE VOC LIMIT1         (Less Water and Less Exempt Compounds in Grams performed and the percent V8, Ruber and Less Exempt Compounds in Grams performed and DADHESIVES         OUTDOOR CARPET ADHESIVES         OUTDOOR CARPET ADHESIVES         WOOD FLOORING ADHESIVES         RUBBER FLOOR ADHESIVES         VCT & ASPHALT TILE ADHESIVES         VCT & ASPHALT TILE ADHESIVES         DRYWALL & PANEL ADHESIVES         MULTIPURPOSE CONSTRUCTION ADHESIVES         SINGLE-PLY ROOF MEMBRANE ADHESIVES         OTHER ADHESIVES NOT LISTED         SPECIALTY APPLICATIONS	luding prohibitions on use of certain )(1) and (f)(1) of <i>California Code of</i> as under the jurisdiction of the Bay /OC by weight of product limits of f n shall be provided at the request o o, the following: 	in to: f / Are Regi
		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat         Limits for ROC in Section 94522(a)(2) and other requirements, inc         compounds and ozone depleting substances, in Sections 94520; and in area         Quality Management District additionally comply with the percent V8, Rule 49.         4.504.2.4 Verification. Verification of compliance with this section         enforcing agency. Documentation may include, but is not limited to         1. Manufacturer's product specification.         2. Field verification of on-site product containers.         TABLE 4.504.1 - ADHESIVE VOC LIMIT1         (Less Water and Less Exempt Compounds in Grams performed and Less Exempt Compounds and Less Exempt Compounds in Grams performed and Less Exempt Compounds in Grams performed and Less Exempt Compounds and Less Exempt Com	luding prohibitions on use of certain )(1) and (f)(1) of <i>California Code of</i> as under the jurisdiction of the Bay /OC by weight of product limits of f in shall be provided at the request of o, the following: 	in to: f / Are Regi
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		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat         Limits for ROC in Section 94522(a)(2) and other requirements, incicompounds and ozone depleting substances, in Sections 94520; and in area         Quality Management District additionally comply with the percent V8, Rule 49.         4.504.2.4 Verification. Verification of compliance with this sectior         enforcing agency. Documentation may include, but is not limited to         1. Manufacturer's product specification.         2. Field verification of on-site product containers.         TABLE 4.504.1 - ADHESIVE VOC LIMIT1         (Less Water and Less Exempt Compounds in Grams performed and Less Exempt Compounds in Grams performed and Less Exempt Compounds in Grams performed and Decomposition and Parket PAD ADHESIVES         OUTDOOR CARPET ADHESIVES         OUTDOOR CARPET ADHESIVES         QUBER FLOOR ADHESIVES         RUBBER FLOOR ADHESIVES         VOOD FLOORING ADHESIVES         SUBFLOOR ADHESIVES         VCT & ASPHALT TILE ADHESIVES         VCT & ASPHALT TILE ADHESIVES         MULTIPURPOSE CONSTRUCTION ADHESIVE         STRUCTURAL GLAZING ADHESIVES         OTHER ADHESIVES NOT LISTED         SPECIALTY APPLICATIONS         PVC WELDING         CPVC WELDING         ABS WELDING         PLASTIC CEMENT WELDING         ADHESIVE PRIMER FOR PLASTIC <td>luding prohibitions on use of certain )(1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request of o, the following:         2         er Liter)         VOC LIMIT         50         50         100         60         510         490         325         250         550</td> <td>in to: f / Are Reg</td>	luding prohibitions on use of certain )(1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request of o, the following:         2         er Liter)         VOC LIMIT         50         50         100         60         510         490         325         250         550	in to: f / Are Reg
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		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat         Limits for ROC in Section 94522(a)(2) and other requirements, incicompounds and ozone depleting substances, in Sections 94520; and inserting 4520; and insering 4520; and inserting 4520; and insertin	luding prohibitions on use of certain )(1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request of o, the following:         .2         er Liter)         VOC LIMIT         50         50         100         60         510         490         325         250         80         250	in to: / Are Reg
		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat Limits for ROC in Section 94522(a)(2) and other requirements, inci- compounds and ozone depleting substances, in Sections 94522(e <i>Regulations</i> , Title 17, commencing with Section 94520; and in are- Quality Management District additionally comply with the percent V 8, Rule 49.         4.504.2.4 Verification. Verification of compliance with this sectior enforcing agency. Documentation may include, but is not limited to 1. Manufacturer's product specification.         2. Field verification of on-site product containers.         TABLE 4.504.1 - ADHESIVE VOC LIMIT: (Less Water and Less Exempt Compounds in Grams pr ARCHITECTURAL APPLICATIONS INDOOR CARPET ADHESIVES         QUTDOOR CARPET ADHESIVES       QUTDOOR CARPET ADHESIVES         QUTDOOR CARPET ADHESIVES       QUTDOOR CARPET SES         QUTDOOR CARPET ADHESIVES       QUTDOOR CARPET ADHESIVES         QUTDOOR CARPET ADHESIVES       QUTDOOR CARPET ADHESIVES         QUTDOOR CARPET ADHESIVES       QUTQUE CONTING ADHESIVES         QUTBLOOR ADHESIVES       QUTQUE ADHESIVES         QUTL VELOR ADHESIVES       QUTL & ASPHALT TILE ADHESIVES         QUT & ASPHALT TILE ADHESIVES       QUTWALL & PANEL ADHESIVES         QUTURUPOSE CONSTRUCTION ADHESIVE       STRUCTURAL GLAZING ADHESIVES         SINGLE-PLY ROOF MEMBRANE ADHESIVES       SINGLE-PLY ROOF MEMBRANE ADHESIVES         QUTHER ADHESIVES NOT LISTED       SPECIALTY APPLICATIONS         PVC WELDING       ABS WELDING <td>Iuding prohibitions on use of certain )(1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request or o, the following:         .2         er Liter)         VOC LIMIT         50         50         100         60         50         80         250         550         80         250         140</td> <td>in to: f / Are Reg</td>	Iuding prohibitions on use of certain )(1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request or o, the following:         .2         er Liter)         VOC LIMIT         50         50         100         60         50         80         250         550         80         250         140	in to: f / Are Reg
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		4.504.2.3 Aerosol Paints and Coatings, Aerosol paints and coat Limits for ROC in Section 94522(a)(2) and other requirements, inci- compounds and ozone depleting substances, in Sections 94522(e) <i>Regulations</i> , Title 17, commencing with Section 94522(s) and in are- Quality Management District additionally comply with the percent V 8, Rule 49.         4.504.2.4 Verification. Verification of compliance with this sectior enforcing agency. Documentation may include, but is not limited to 1. Manufacturer's product specification.         2. Field verification of on-site product containers.         TABLE 4.504.1 - ADHESIVE VOC LIMIT1 (Less Water and Less Exempt Compounds in Grams per ARCHITECTURAL APPLICATIONS INDOOR CARPET ADHESIVES         OUTDOOR CARPET ADHESIVES         OUTDOOR CARPET ADHESIVES         WOOD FLOORING ADHESIVES         VOOD FLOORING ADHESIVES         VCT & ASPHALT TILE ADHESIVES         DRYWALL & PANEL ADHESIVES         COVE BASE ADHESIVES         MULTIPURPOSE CONSTRUCTION ADHESIVES         SINGLE-PLY ROOF MEMBRANE ADHESIVES         SINGLE-PLY ROOF MEMBRANE ADHESIVES         OTHER ADHESIVES NOT LISTED         SPECIALTY APPLICATIONS         PVC WELDING         ABS WELDING         ABS WELDING         ADHESIVE PRIMER FOR PLASTIC         CONTACT ADHESIVE         STRUCTURAL WOOD MEMBER ADHESIVE         SPECIAL PURPOSE CONTACT ADHESIVE         STRUCTURAL WOOD MEMBER ADHESIVE	luding prohibitions on use of certain (1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request or o, the following:         2         er Liter)         VOC LIMIT         50         510         490         325         50         80 <t< td=""><td>in to: f / Are Reg</td></t<>	in to: f / Are Reg
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		4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coat         Limits for ROC in Section 94522(a)(2) and other requirements, inc         compounds and ozone depleting substances, in Sections 94522 (e)         Regulations, Title 17, commencing with Section 94520 (e)         S, Rule 49.         4.504.2.4 Verification. Verification of compliance with this section enforcing agency. Documentation may include, but is not limited to 1.         A. Manufacturer's product specification.         2. Field verification of on-site product containers.         TABLE 4.504.1 - ADHESIVE VOC LIMIT,         (Less Water and Less Exempt Compounds in Grams performance with the section of consiste product containers.         ARCHITECTURAL APPLICATIONS         INDOOR CARPET ADHESIVES         OUTDOOR CARPET ADHESIVES         OUTDOOR CARPET ADHESIVES         WOOD FLOORING ADHESIVES         RUBBER FLOOR ADHESIVES         VCT & ASPHALT TILE ADHESIVES         VCT & ASPHALT TILE ADHESIVES         DRYWALL & PANEL ADHESIVES         MULTIPURPOSE CONSTRUCTION ADHESIVES         SINGLE-PLY ROOF MEMBRANE ADHESIVES         OTHER ADHESIVES NOT LISTED         SPECIALTY APPLICATIONS         PVC WELDING         CPVC WELDING         ABS WELDING         PLASTIC CEMENT WELDING         ADHESIVE PRIMER FOR PLASTIC	luding prohibitions on use of certain (1) and (f)(1) of California Code of as under the jurisdiction of the Bay /OC by weight of product limits of f         as under the jurisdiction of the Bay /OC by weight of product limits of f         n shall be provided at the request or o, the following:         .2         er Liter)         VOC LIMIT         50         50         100         60         510         490         325         250         50         80         250         30         50         50	in to: f / Are Reg

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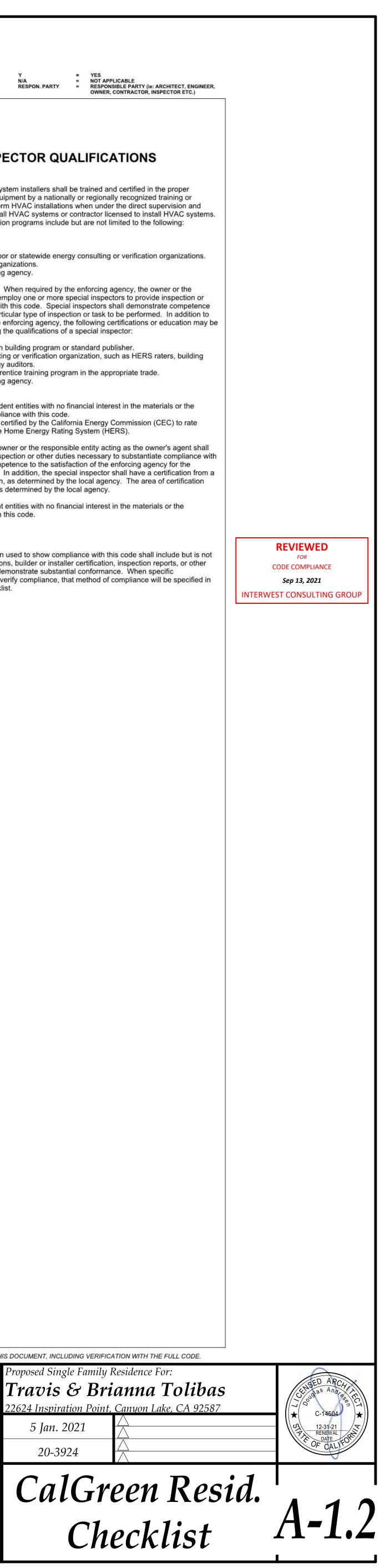
(Less Water and Less Exempt Compounds in Gr	rams per Liter)
SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

GRAMS OF VOC PER LITER OF COATING, LESS V COMPOUNDS	NATER & LESS EXEMP
COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS1	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

Y N/A RESPON. PARTY	
	TABLE 4.504.5 - FOMAXIMUM FORMALDEHYIPRODUCTHARDWOOD PLYWOOD V
	HARDWOOD PLYWOOD O PARTICLE BOARD MEDIUM DENSITY FIBERE THIN MEDIUM DENSITY F 1. VALUES IN THIS TABLE BY THE CALIF. AIR RESO
	MEASURE FOR COMPOSI WITH ASTM E 1333. FOR CODE OF REGULATIONS, 93120.12. 2. THIN MEDIUM DENSIT THICKNESS OF 5/16" (8 M
	<b>DIVISION 4.5 ENVIRONN</b> 4.504.3 CARPET SYSTEMS. All carpet install requirements of at least one of the following:
	<ol> <li>Carpet and Rug Institute's Green Lal</li> <li>California Department of Public Heal Organic Chemical Emissions from In February 2010 (also known as Spec</li> <li>NSF/ANSI 140 at the Gold level.</li> <li>Scientific Certifications Systems Index</li> </ol>
	<ul><li>4.504.3.1 Carpet cushion. All carpet currequirements of the Carpet and Rug Inst</li><li>4.504.3.2 Carpet adhesive. All carpet a</li></ul>
	4.504.4 RESILIENT FLOORING SYSTEMS. resilient flooring shall comply with one or more
	<ol> <li>Products compliant with the Californi Evaluation of Volatile Organic Chem Version 1.1, February 2010 (also kno in the Collaborative for High Perform</li> <li>Products certified under UL GREEN</li> <li>Certification under the Resilient Floo</li> <li>Meet the California Department of Pi Volatile Organic Chemical Emissions February 2010 (also known as Spec</li> </ol>
	<b>4.504.5 COMPOSITE WOOD PRODUCTS.</b> H composite wood products used on the interior of formaldehyde as specified in ARB's Air Toxics by or before the dates specified in those section
	<b>4.504.5.1 Documentation.</b> Verification by the enforcing agency. Documentation
	<ol> <li>Product certifications and species</li> <li>Chain of custody certifications</li> <li>Product labeled and invoiced a CCR, Title 17, Section 93120,</li> <li>Exterior grade products marked Wood Association, the Austra 0121, CSA 0151, CSA 0153 a</li> <li>Other methods acceptable to the section of the section o</li></ol>
	4.505 INTERIOR MOISTURE CON 4.505.1 General. Buildings shall meet or exce
	4.505.2 CONCRETE SLAB FOUNDATIONS. California Building Code, Chapter 19, or concre California Residential Code, Chapter 5, shall al 4.505.2.1 Capillary break. A capillary br
	<ol> <li>following:</li> <li>A 4-inch (101.6 mm) thick bas a vapor barrier in direct contac shrinkage, and curling, shall b ACI 302.2R-06.</li> <li>Other equivalent methods app 3. A slab design specified by a line</li> </ol>
	4.505.3 MOISTURE CONTENT OF BUILDING shall not be installed. Wall and floor framing sh moisture content. Moisture content shall be ve
	<ol> <li>Moisture content. Moisture content shall be determined moisture verification methods may b found in Section 101.8 of this code.</li> <li>Moisture readings shall be taken at a of each piece verified.</li> <li>At least three random moisture reading acceptable to the enforcing agency p</li> </ol>
	Insulation products which are visibly wet or hav enclosure in wall or floor cavities. Wet-applied recommendations prior to enclosure.
	4.506 INDOOR AIR QUALITY AN 4.506.1 Bathroom exhaust fans. Each bathro following:
	<ol> <li>Fans shall be ENERGY STAR comp</li> <li>Unless functioning as a component of humidity control.</li> </ol>
	<ul> <li>a. Humidity controls shall be cap equal to 50% to a maximum o adjustment.</li> <li>b. A humidity control may be a se integral (i.e., built-in)</li> </ul>
	<ol> <li>For the purposes of this section tub/shower combination.</li> <li>Lighting integral to bathroom end</li> </ol>
	4.507 ENVIRONMENTAL COMFC 4.507.2 HEATING AND AIR-CONDITIONING sized, designed and have their equipment sele
	<ol> <li>The heat loss and heat gain is estable Load Calculation), ASHRAE handbook</li> <li>Duct systems are sized according to ASHRAE handbooks or other equivarian</li> <li>Select heating and cooling equipment Equipment Selection), or other equivariant</li> </ol>
	Exception: Use of alternate design tem acceptable.

Y N/A RESPON. PARTY	I I I		,		(January 2020, Includes August 2019 Suppl		RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENG OWNER, CONTRACTOR, INSPECTOR ETC.)
	Y N/A RESPON. PARTY			Y N/A	RESPON. PARTY	Y N/A RESPO	Y Y
		TABLE 4.504.2 - SEALANT VOC LIMIT			TABLE 4.504.5 - FORMALDEHYDE LIMITS		CHAPTER 7
	MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to	(Less Water and Less Exempt Compounds in Grams p	per Liter)		MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION		INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS
	hundredths of a gram (g O <sup>3</sup> /g ROC). Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700	SEALANTS	VOC LIMIT		PRODUCT CURRENT LIMIT		702 QUALIFICATIONS 702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper
	and 94701. MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.	ARCHITECTURAL	250		HARDWOOD PLYWOOD VENEER CORE 0.05		installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and
	PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this	MARINE DECK	760 300		HARDWOOD PLYWOOD COMPOSITE CORE     0.05       PARTICLE BOARD     0.09		responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC syst Examples of acceptable HVAC training and certification programs include but are not limited to the following:
	article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).	ROADWAY	250		MEDIUM DENSITY FIBERBOARD 0.11		1. State certified apprenticeship programs.
	Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).	SINGLE-PLY ROOF MEMBRANE	450		THIN MEDIUM DENSITY FIBERBOARD2 0.13		<ol> <li>Public utility training programs.</li> <li>Training programs sponsored by trade, labor or statewide energy consulting or verification organization.</li> </ol>
	<b>REACTIVE ORGANIC COMPOUND (ROC).</b> Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.	OTHER SEALANT PRIMERS	420		1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL		<ol> <li>Programs sponsored by manufacturing organizations.</li> <li>Other programs acceptable to the enforcing agency.</li> </ol>
	<b>VOC.</b> A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain	ARCHITECTURAL			MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH		702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection of other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competer
	hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).	NON-POROUS	250		93120.12.		to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition
	4.503 FIREPLACES 4.503.1 GENERAL. 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	POROUS MODIFIED BITUMINOUS	775 500		2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).		other certifications or qualifications acceptable to the enforcing agency, the following certifications or education m considered by the enforcing agency when evaluating the qualifications of a special inspector:
	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 applicable local ordinances.	MARINE DECK	760				<ol> <li>Certification by a national or regional green building program or standard publisher.</li> <li>Certification by a statewide energy consulting or verification organization, such as HERS raters, buildin</li> </ol>
	4.504 POLLUTANT CONTROL	OTHER	750				performance contractors, and home energy auditors. 3. Successful completion of a third party apprentice training program in the appropriate trade.
10	4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final				DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)		<ol> <li>Other programs acceptable to the enforcing agency.</li> <li>Notes:</li> </ol>
	startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.				4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:		<ol> <li>Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.</li> </ol>
	4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.				<ol> <li>Carpet and Rug Institute's Green Label Plus Program.</li> <li>California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile</li> </ol>		<ol> <li>HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).</li> </ol>
	4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the	TABLE 4.504.3 - VOC CONTENT LIMI ARCHITECTURAL COATINGS2.3	TS FOR		Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" Version 1.1, February 2010 (also known as Specification 01350).		[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent sh
	requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:	GRAMS OF VOC PER LITER OF COATING, LESS	WATER & LESS EXEMPT		<ol> <li>NSF/ANSI 140 at the Gold level.</li> <li>Scientific Certifications Systems Indoor Advantage™ Gold.</li> </ol>		employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification fro
	<ol> <li>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</li> </ol>	COMPOUNDS COATING CATEGORY	VOC LIMIT		4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.		recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.
	applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic	FLAT COATINGS	50				Note: Special inspectors shall be independent entities with no financial interest in the materials or the
	compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and tricloroethylene), except for aerosol products, as specified in Subsection 2 below.	NON-FLAT COATINGS	100		4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receivin		project they are inspecting for compliance with this code.
	<ol> <li>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</li> </ol>	NONFLAT-HIGH GLOSS COATINGS SPECIALTY COATINGS	150		resilient flooring shall comply with one or more of the following:		703 VERIFICATIONS
	than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of <i>California Code of Regulations</i> , Title 17,	ALUMINUM ROOF COATINGS	400		<ol> <li>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 Materi</li> </ol>		703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or oth
	commencing with section 94507.	BASEMENT SPECIALTY COATINGS	400		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).		methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specifie
10	<b>4.504.2.2 Paints and Coatings.</b> Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits	BITUMINOUS ROOF COATINGS BITUMINOUS ROOF PRIMERS	50 350		<ol> <li>Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.</li> <li>Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of</li> </ol>		the appropriate section or identified applicable checklist.
	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	BOND BREAKERS	350		Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350).		
	Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.	CONCRETE CURING COMPOUNDS	350		<b>4.504.5 COMPOSITE WOOD PRODUCTS.</b> Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for		
	4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR	CONCRETE/MASONRY SEALERS DRIVEWAY SEALERS	100		formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5		
	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	DRY FOG COATINGS	150				
	Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8. Rule 49.	FAUX FINISHING COATINGS	350		by the enforcing agency. Documentation shall include at least one of the following:		
	4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the	FIRE RESISTIVE COATINGS	350		<ol> <li>Chain of custody certifications.</li> <li>Product labeled and invoiced as meeting the Composite Wood Products regulation (see</li> </ol>		
	enforcing agency. Documentation may include, but is not limited to, the following:	FLOOR COATINGS FORM-RELEASE COMPOUNDS	100 250		<ul><li>CCR, Title 17, Section 93120, et seq.).</li><li>4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered</li></ul>		
	<ol> <li>Manufacturer's product specification.</li> <li>Field verification of on-site product containers.</li> </ol>	GRAPHIC ARTS COATINGS (SIGN PAINTS)	500		Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.		
		HIGH TEMPERATURE COATINGS	420		5. Other methods acceptable to the enforcing agency.		
	TABLE 4.504.1 - ADHESIVE VOC LIMIT <sub>1,2</sub>	INDUSTRIAL MAINTENANCE COATINGS	250		<b>4.505 INTERIOR MOISTURE CONTROL</b> <b>4.505.1 General.</b> Buildings shall meet or exceed the provisions of the <i>California Building Standards Code</i> .		
	(Less Water and Less Exempt Compounds in Grams per Liter)  ARCHITECTURAL APPLICATIONS VOC LIMIT	MAGNESITE CEMENT COATINGS	450		4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the		
	INDOOR CARPET ADHESIVES 50	MASTIC TEXTURE COATINGS	100		California Residential Code, Chapter 5, shall also comply with this section.		
	CARPET PAD ADHESIVES 50	METALLIC PIGMENTED COATINGS MULTICOLOR COATINGS	500 250		4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:		
	OUTDOOR CARPET ADHESIVES     150       WOOD FLOORING ADHESIVES     100	PRETREATMENT WASH PRIMERS	420		<ol> <li>A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided wit a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleedin</li> </ol>		
	RUBBER FLOOR ADHESIVES 60	PRIMERS, SEALERS, & UNDERCOATERS	100		shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.		
	SUBFLOOR ADHESIVES 50	REACTIVE PENETRATING SEALERS RECYCLED COATINGS	350 250		<ol> <li>Other equivalent methods approved by the enforcing agency.</li> <li>A slab design specified by a licensed design professional.</li> </ol>		
	CERAMIC TILE ADHESIVES     65       VCT & ASPHALT TILE ADHESIVES     50	ROOF COATINGS	50		4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent		
	DRYWALL & PANEL ADHESIVES 50	RUST PREVENTATIVE COATINGS	250		moisture content. Moisture content shall be verified in compliance with the following:		
	COVE BASE ADHESIVES 50	SHELLACS	730		<ol> <li>Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.</li> </ol>		
	MULTIPURPOSE CONSTRUCTION ADHESIVE     70       STRUCTURAL GLAZING ADHESIVES     100	OPAQUE	550		<ol> <li>Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped e of each piece verified.</li> </ol>	nd	
	SINGLE-PLY ROOF MEMBRANE ADHESIVES 250	SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100		<ol> <li>At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.</li> </ol>		
	OTHER ADHESIVES NOT LISTED 50	STAINS	250		Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to		
	SPECIALTY APPLICATIONS	STONE CONSOLIDANTS	450		enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.		
	PVC WELDING     510       CPVC WELDING     490	SWIMMING POOL COATINGS TRAFFIC MARKING COATINGS	340		4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the		
	ABS WELDING 325	TUB & TILE REFINISH COATINGS	420		following:		
	PLASTIC CEMENT WELDING 250	WATERPROOFING MEMBRANES	250		<ol> <li>Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.</li> <li>Unless functioning as a component of a whole house ventilation system, fans must be controlled by a</li> </ol>		
	ADHESIVE PRIMER FOR PLASTIC 550 CONTACT ADHESIVE 80	WOOD COATINGS WOOD PRESERVATIVES	275 350		a. Humidity controls shall be capable of adjustment between a relative humidity range less than or		
	SPECIAL PURPOSE CONTACT ADHESIVE 250	ZINC-RICH PRIMERS	340		equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.		
	STRUCTURAL WOOD MEMBER ADHESIVE 140	1. GRAMS OF VOC PER LITER OF COATING, INC EXEMPT COMPOUNDS	CLUDING WATER &		<ul> <li>A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)</li> </ul>		
	TOP & TRIM ADHESIVE     250       SUBSTRATE SPECIFIC APPLICATIONS	2. THE SPECIFIED LIMITS REMAIN IN EFFECT U ARE LISTED IN SUBSEQUENT COLUMNS IN THE			Notes:		
	METAL TO METAL 30	3. VALUES IN THIS TABLE ARE DERIVED FROM	THOSE SPECIFIED BY		<ol> <li>For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.</li> </ol>		
	PLASTIC FOAMS 50	THE CALIFORNIA AIR RESOURCES BOARD, ARC SUGGESTED CONTROL MEASURE, FEB. 1, 2008	. MORE INFORMATION IS		2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.		
	POROUS MATERIAL (EXCEPT WOOD)     50       WOOD     30	AVAILABLE FROM THE AIR RESOURCES BOARD	J.		4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be		
	WOOD 30 FIBERGLASS 80				sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential		
					<ol> <li>The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.</li> <li>Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems),</li> </ol>		
	1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.				ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential		
	2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE				Equipment Selection), or other equivalent design software or methods.		
	2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE				Exception: Use of alternate design temperatures necessary to ensure the system functions are		





Calculation	Description: Title 24 Analysis		Calculation Date/Time: 2021-01-05T09:46:49-08 Input File Name: Tolibus Res. (20-3924).ribd19x						
GENERAL IN	FORMATION								
01	Project Name	Tolibus Residence							
02	Run Title	le Title 24 Analysis							
03	Project Location	22624 Inspiration Point	Andrew Ch.						
04	City	Canyon Lake	05	Standards Version	2019				
06	Zip code	92587	07	Software Version	EnergyPr				
08	Climate Zone	10	09	Front Orientation (deg/ Cardinal)	135				
10	Building Type	Single family	11	Number of Dwelling Units	1				
12	Project Scope	NewConstruction	13	Number of Bedrooms	4				
14	Addition Cond. Floor Area (ft <sup>2</sup> )	0	15	Number of Stories	1				
16	Existing Cond. Floor Area (ft <sup>2</sup> )	n/a	17	Fenestration Average U-factor	0.3				
18	Total Cond. Floor Area (ft <sup>2</sup> )	2654	19	Glazing Percentage (%)	15.83%				
20	ADU Bedroom Count	0	21	ADU Conditioned Floor Area	0				
22	Is Natural Gas Available?	Yes	1 m m						
COMPLIANC	E RESULTS	Cash A.M.	-						
01	Building Complies with Computer	Performance	E E H		-				
02	1	A DALE AND A MARKED	r verification by a certif	ied HERS rater under the supervision of a	CFC-app				

### HERS Provider: CHEERS ith or related to CHEERS. Therefore, CHEERS is not ument has been generated by ConSol Home Energy Efficiency Rating System Services, I ind cannot guarantee, the accuracy or completeness of the information contained in this of the information contained in this of the information contained in this of the information contained in the second s eport Version: 2019.1.108 Report Generated: 2021-01-05 09:48:25

03 This building incorporates one or more Special Features shown below

CERTIFICATE OF COMPLIANCE

Calculation Descr	culation Description: Title 24 Analysis					Input File Name: Tolibus Res. (20-3924).ribd19x						
ENERGY DESIGN RA	ATING						~					
				Energy Design Rat	tings				Compliance M	argins		
			Efficier	ncy' (EDR)	Total <sup>2</sup>	(EDR)		Efficiency <sup>1</sup> (ED	R)	Total <sup>2</sup> (E	DR)	
· · · · · · · · · · · · · · · · · · ·	Standard Desi	ign	4	15.8	24	.6	1					
	Proposed Des	ign	4	5.6	20	).4		0.2		4.2	1	
1.0		10		RESULT: 3: COMP	LIES							
2: Total EDR include 3: Building complie • Standard De	es efficiency and de s when efficiency a sign PV Capacity: 3	and total compliance ma .08 kWdc	res such as photovo argins are greater th	oltaic (PV) systems and b		op design elec	use)	_				
				ENERGY USE SUMI	MARY				-			
	ergy Use (kTDV/ft <sup>2</sup>	arel	Standard D	arlan	Proposed Design			Compliance Margin			Percent Improvement	
Ene	ergy use (kinv/n	-40	Standard B	esign	Propose	d beargh		compliance	Wargin			
Ene	Space Heating		8.28	esign	10020-01-1	1.7		-1.42	1.	1 men and	7.1	
Ene	Space Heating Space Cooling		8.28 26.24	esign	9 26			-1.4	1	-1 0	7.1 .3	
Ene	Space Heating Space Cooling IAQ Ventilation		8.28 26.24 2.51	esign	9 26 2	.7 .15 51		-1.4 0.09 0	2	-1 0	7.1 .3 D	
	Space Heating Space Cooling IAQ Ventilation Water Heating		8.28 26.24 2.51 9.88	esign	9 26 2 8	.7 .15 51 17		-1.43 0.09 0 1.71	2	-1 0 17	7.1 .3 7,3	
2	Space Heating Space Cooling IAQ Ventilation Water Heating Self Utilization Cred	lit	8.28 26.24 2.51 9.88 n/a	exBit	9 26 2. 8.	.7 .15 51 17 0		-1.4; 0.05 0 1.71 0	2	-1 0 1 1 1 1	7.1 .3 7,3 /a	
2	Space Heating Space Cooling IAQ Ventilation Water Heating	lit	8.28 26.24 2.51 9.88	exRit	9 26 2. 8.	.7 5.15 51 17		-1.43 0.09 0 1.71	2	-1 0 1 1 1 1	7.1 .3 7,3	
2	Space Heating Space Cooling IAQ Ventilation Water Heating self Utilization Cred mpliance Energy To	lit	8.28 26.24 2.51 9.88 n/a		9 26 2. 8.	.7 .15 51 17 0		-1.4; 0.05 0 1.71 0	2	-1 0 1 1 1 1	7.1 .3 7,3 /a	
S Co	Space Heating Space Cooling IAQ Ventilation Water Heating self Utilization Cred mpliance Energy To	lit	8.28 26.24 2.51 9.88 n/a	05	9 26 2. 8.	.7 .15 51 17 0	08	-1.4; 0.05 0 1.71 0	2	-1 0 1 1 1 1	7,1 .3 7,3 /a	
S Co REQUIRED PV SYST	Space Heating Space Cooling IAQ Ventilation Water Heating self Utilization Cred mpliance Energy To TEMS - SIMPLIFIED	lit otal	8.28 26.24 2.51 9.88 n/a <b>46.91</b>	HEE	9 26 2 8 <b>46</b>	.7 .15 51 17 0 .53	08 Tilt Input	-1.4; 0.05 0 1.71 0 0.38		-1 0 11 1 0	7.1 .3 0 7,3 /a .8	

### CERTIFICATE OF COMPLIANCE Calculation Date/Time: 2021-01-05T09:46:49-08:00 Project Name: Tolibus Residence Input File Name: Tolibus Res. (20-3924).ribd19x Calculation Description: Title 24 Analysis REQUIRED SPECIAL FEATURES Whole house fan Cool roof Ceiling has high level of insulation Floor has high level of insulation Insulation below roof deck Window overhangs and/or fi HERS FEATURE SUMMARY 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. Addition etail is provided in the building tables below, Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry **Building-level Verifications** Indoor air quality ventilation Minimum Airflow Verified EER Verified EER Verified SEER Verified Refrigerant Charg Fan Efficacy Watts/CFM

Project Name	Conditioned Floor Area (fr <sup>2</sup> )	Number of Dwelling	Number of Bedrooms	Number of Zones	Number
01	02	03	04	05	
BUILDING - FEATURES INFO	RMATION				
Domestic Hot Water System None	) Verifications:				
<ul> <li>Duct leakage testing</li> </ul>					
HVAC Distribution System V					
<ul> <li>Verified heat pump r</li> </ul>	ated heating capacity				
<ul> <li>Verified HSPF</li> </ul>		- H	EER	3.4	
Heating system verification	50				

Project Name	Conditioned Floor Area (ft <sup>2</sup> )	Units	Number of Bedrooms	Number of Zones	Cooling Syste
Tolibus Residence	2654	1	4	2	1
Tolibus Residence	2654	1	4	2	

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Project Name: Tolibu					Time: 2021-01-05T0	
Calculation Descripti	on: Title 24 Analysis		In	put File Name:	Tolibus Res. (20-3924	4).ribd19x
ZONE INFORMATION	19					
01	02	03	04		05	06
Zone Name	Zone Type	HVAC System Name	Zone Floor A	rea (ft <sup>2</sup> ) A	vg. Ceiling Height	Water Heating Syst
Living Area	Conditioned	Living HVAC1	1274		9	DHW Sys 1
Sleeping Area	Conditioned	Sleeping HVAC2	1380		9	DHW Sys 1
DPAQUE SURFACES			a			
01	02	03	04	05	06	07
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft <sup>2</sup>	) Window and Area (ft
Rear Wall (West)	Living Area	R-19 Wall	270	n/a	360	139.00
Front Wall (East)	Living Area	R-19 Wall	90	n/a	291	94
Rear Wall (West) 2	Sleeping Area	R-19 Wall	270	n/a	270	78
Front Wall (East) 2	Sleeping Area	R-19 Wall	90	n/a	270	50
Left Wall (South)	Sleeping Area	R-19 Wall	180	n/a	360	55.005
Right Wall (North)	Sleeping Area	R-19 Wall	0	n/a	414	32
Roof	Living Area	R-49 Clg + R-19 Roof	n/a	n/a	1274	n/a
Roof 2	Sleeping Area	R-49 Clg + R-19 Roof	n/a	n/a	1380	n/a
Raised Floor	Living Area	R-19 Floor Crawlspace	n/a	n/a	572	n/a
Raised Floor over Basemen	Living Area	R-38 Floor Crawlspace	n/a	n/a	702	n/a
Raised Floor 2	Sleeping Area	R-19 Floor Crawlspace	n/a	n/a	786	n/a
Raised Floor over Basemen 2	Sleeping Area	R-38 Floor Crawlspace	n/a	n/a	594	n/a
ATTIC						
01	02	03	04	05	06	07
Name	Construction	Туре	Roof Rise (x in 12)	Roof Reflectance	e Roof Emittance	Radiant Ba
Attic Living Area	Attic RoofLiving Area	Ventilated	4	0.3	0.75	Yes

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CERTIFICATE OF COMPLIANCE Calculation Date/Time: 2021-01-05T09:46:49-08:00 Project Name: Tolibus Residence Calculation Description: Title 24 Analys Input File Name: Tolibus Res. (20-3924).ribd19x 
 O1
 O2
 O3
 O4
 O5
 O6
 O7
 O8

 Name
 Construction
 Type
 Roof Rise (x in 12)
 Roof Reflectance
 Roof Emittance
 Radiant Barrier
 Cool Roof

 Attic Sleeping Area
 Attic RoofSleeping Area
 Ventilated
 4
 0.3
 0.75
 Yes
 Yes
 ESTRATION / GLAZING 04 05 06 07 08 09 10 11 12 13 01 muth Width Height (ft) Mult. Area (ft<sup>2</sup>) U-factor Source SHGC Source Shading Name Surface -----Window Rear Wall (West) **Rear Windows** 270 6 Window Front Wall (East) Front Windows 
 90
 2
 5
 3
 30
 0.3
 NFRC
 0.25
 NFRC
 Bug Screet

 90
 3
 3
 4
 36
 0.3
 NFRC
 0.25
 NFRC
 Bug Screet

 270
 6
 8
 1
 78
 0.3
 NFRC
 0.25
 NFRC
 Bug Screet
 learestory Window Front Wall (East) tear Windows 2 Window Front Wall (East) Left Windows Left Wall (South) -----Right Wall (North) Side of Building Name Area (ft<sup>2</sup>) Front Wall (East) HANGS AND FINS 02 03 04 05 06 07 08 09 10 11 12 13 14 01 Overhang Left Fin Window 
 Depth
 Dist Up
 Left Extent
 Right Extent
 Flap Ht.
 Depth
 Top Up
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 Bot Up
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 0 Rear Windows Registration Number: 421-P010000941A-000-000-00000-0000 Registration Date/Time: 01/05/2021 09:51 HERS Provider: CHEERS of the provider: CHEERS is not sponsible for, and cannot guarantee, the accurate, or completeness of the information contained in this document.

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(Page 2 of 12)

CF1R-PRF-01E

## CERTIFICATE OF COMPLIANCE

Iculation Description: 1	itle 24 Analys	iis				Input I	ile Name: To	libus Res. (	20-3924	).ribd19x				_	
VERHANGS AND FINS			0	_			_				- 6				
01	02	03	04	05	06	07	08	09	10	11	i 1	2	13	14	
and the second s			Overhang				Left	Fin				Righ	t Fin		
Window	Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	Dist L	Bot U	p Dep	oth Top	Up	Dist R	Bot U	
Front Windows	6	0.1	3	3	0	0	0	0	0	0	6 1 1 1	)	٥	0	
Clearestory Window	2	0.1	2	2	D	0	0	0	0	0	6	Ĵ	0	0	
Rear Windows 2	2	0.1	2	2	٥	0	0	Ø	0	0	61	)	0	o	
Front Windows 2	2	0.1	2	2	0	0	0	0	0	0	6 - 1 - 3	)	0	0	
Left Windows	2	0,1	2	2	0	0	0	0	0	0	N. B	)	0	0	
Right Windows	2	0,1	2	2	0	0	0	0	0	0	n j	)	0	0	
PAQUE SURFACE CONSTRU	ICTIONS														
01	02		03		04		05	06	5	07			08		
Construction Name	Surface Typ	pe Ca	nstruction Typ	e	Framing	E	Total Cavity R-value	Interior / Exterior Continuous R-value		U-factor	Assembly Layers		ļ.		
R-19 Wali	Exterior Wa	ilis We	ood Framed W	all .	2x6 @ 16 in. C		2x6 @ 16 in. O. C.		R-19	None / None		0.074	Inside Finish: Gypsum Board Cavity / Frame: R-19 in S-1/2 in. (R 2x6 Exterior Finish: 3 Coat Stucco		in. (R-18
R-0 Wall	Interior Wa	lls Wo	ood Framed Wa	all is	2x4 @ 16 in. C		R-0 None / Nor		None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board				
Attic RoofLiving Area	Attic Roof	s	Wood Framed Ceiling		2x4 @ 24 in. O,		2x4 @ 24 in. O. C.		R-19	R-19 None / None		0.049	Roofing: 10 PSF (RoofTile) Tile Gap: present Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Under Roof Joists: R-6.0 Insul.		

CERTIFICATE OF COMPLIANCE

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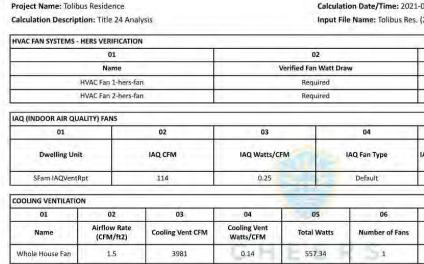
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n/a

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Project Name: Tolibus Re				C. Martin Statistics	me: 2021-01-05T09		:00 (Page 7 of		
Calculation Description:			Inp	ut File Name: To	libus Res. (20-3924	).ribd19x			
OPAQUE SURFACE CONSTRI	UCTIONS								
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 RoofSleeping Area	Attic Roofs	Wood Framed Ceiling	7x4 @ 24 in. O. C.	R-19	None / None	0.049	Roofing: 10 PSF (RoofTile) Tile Gap: present Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Under Roof Joists: R-6.0 insul.		
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. 0. C	R-19	None / Nane	0,05	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-18 2x6		
R-38 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O. C.	R-38	None / None	0.028	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-38 / 2x12		
R-49 Clg + R-19 Roof	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-49	None / None	0.02	Over Celling Joists: R-39.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board		
BUILDING ENVELOPE - HERS	S VERIFICATION								
01		02	1 2 3		03		04		
Quality Insulation Ins	itallation (QII)	Quality Installation of Spi	ray Foam Insulation	Building Enve	lope Air Leakage	-	CFM50		
Not Requir	ber	Not Regu	ired	Not	Required		n/a		

Registration Date/Time: 01/05/2021 09:51

Calculation Date/Time: 2021-01-05T09:46:49-08:00

n/a

 # Units
 Tank (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

0 n/a n/a

System 1

Water Heater Name (#) Solar Heating System Compact Distribution HERS Verification

None

n/a

Input File Name: Tolibus Res. (20-3924).ribd19x

Report Version: 2019.1.108

DHW Heater 1 (1)

01 02 03 04 05 06 07 08 09 10 11

0 0.97-UEF 200000-Btu/Hr

### CERTIFICATE OF COMPLIANCE Project Name: Tolibus Residence Calculation Date/Time: 2021-Calculation Description: Title 24 Analysis Input File Name: Tolibus Res. CUMENTATION AUTHOR'S DECLARATION STATEMENT certify that this Certificate of Compliance document Documentation Author Signature mentation Author Nam Adriana Gome driana Gomez andresen Architecture, Inc. 1/05/2021 EA/ HERS Certification Identification 17087 Orange Way Fontana, CA 92335 909-355-6688 RESPONSIBLE PERSON'S DECLARATION STATEMENT the following under penalty of perjury, under the laws of the State of California: I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certif I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirement sertify that the energy features and performance specifications to entry the features of the consistent with the information performance specifications, plans and specifications submitted to the enforcement agency for approval with this building permit application. Responsible Designer Signature: le Designer Nam iana Gomez Adriana Gome 1 PT undresen Architecture, Ind 01/05/2021 17087 Orange Way C 33098 Fontana, CA 92335 909-355-6688

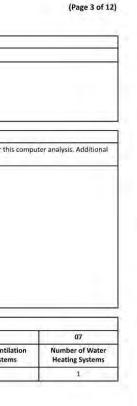
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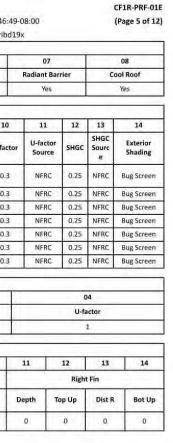


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(Page 4 of 12) \_\_\_\_\_ m 1 Water Heating System N/A N/A Tilt (deg) 90 90 90 90 n/a n/a n/a n/a n/a n/a

7 08 Barrier Cool Roof 25 Yes S Provider: CHEERS related to CHEERS. Therefore, CHEERS is not Report Generated: 2021-01-05 09:48:25



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01	02	03	04	and the	05	06	111	07		08
Name	Pipe Insulation Paral	el Piping C	ompact Distributio	0	Distribution Ype	Recirculation Con	ntrol	Central DHV Distribution	-	er Drain Water It Recovery
DHW 5ys 1 - 1/1	Not Required Not	Required	Not Required	N	lone	Not Required	6	Not Require	d No	t Required
PACE CONDITIONING	YSTEMS									-
01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Uni Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
Living HVAC1	Heat pump heating coolin	g Heat Pump System 1	Heat Pump System 1	HVAC Fan 1	Air Distribution	Setback	New	NA	1	1

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tion Number: 421-P010000941A-000-000-0000000-000

CERTIFICATE OF COMPLIANCE

WATER HEATING SYSTEMS

Name

DHW Sys 1

WATER HEATERS

Name

WATER HEATING - HERS VERIFICATION

Project Name: Tolibus Residence

Calculation Description: Title 24 Analysis

Heating Element Type

DHW Heater 1 Gas Consumer Instantaneous

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System Type Distribution Type

System

Domestic Hot Water Standard Distribution

(DHW)

Tank Type

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CERTIFICATE OF COI Project Name: Tolib					Calculati	on Date/Time:	2021-01-(	D5T09:46:49-0	8:00			F1R-PRF-0 Page 9 of 1
Calculation Descript	ion: Title 24 Ar	alysis			Input File	e Name: Tolibu:	s Res. (20-	3924).ribd19x	8			22.2
SPACE CONDITIONING	SYSTEMS						_	-			_	
01		02	03	04	05	06	07	08	09	1	0	11
Name		System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Require Thermo: Type	stat Status	Verified Existing Condition	Heat Equip Cou	ment	Cooling Equipmen Count
Sleeping HVAC	2 Heat	oump heating cooling	Heat Pump System 2	Heat Pump System 2	HVAC Fan 2	Air Distribution System 2	Setbac	sk New	NA	1		1
HVAC - HEAT PUMPS					-		*					
01	02	03	04	05	06	07	08	09		10		11
Name	System Typ	e Number of Units		Heating		Coolin	g	Zonally	Com	pressor	UEDE	Verification
Name	System Typ	e Number of Onits	HSPF/COP	Cap 47	Cap 17	SEER	EER	Controlle	d T	/pe	HERS	vernication
Heat Pump System 1	Central split	IP 1	10.5	48000	40000	20	13.5	Not Zona		ngle eed		ump Systen rs-htpump
Heat Pump System 2	Central split	HP 1	10.5	48000	40000	20	13.5	Not Zona		ngle eed		ump System rs-htpump
HVAC HEAT PUMPS - I	HERS VERIFICATION	DN .	- 0	HIE	E.A							
01	02	03	04		05	06	1	07	1 0	8	1	09
Name	Verified Airflo	v Airflow Target	Verified	EER V	erified SEER	Verified Refrige Charge	erant V	/erified HSPF	Verified Cap	Heating 47	Veri	ified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Requi	red	Required	Yes		Yes	Ye	25		Yes
Heat Pump System 2-hers-htpump	Required	350	Requi	red	Required	Yes		Yes	Y	25		Yes

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Calculation Descrip	ous Residence ntion: Title 24 Analysis							-01-05T09:46:49-0 (20-3924).ribd19x			
HVAC - DISTRIBUTIO	N SYSTEMS		-	_			_				
01	02	03	04	05	06	07	08	09	10	11	12
			Duct Ins	. R-value	Duct Lo	cation	Sur	ace Area			
Name	Түре	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leaka	ge HERS Verificati
Air Distribution System 1	Unconditioned attic	Non-Verified	R-8	R-8	Attic	Attic	n/a	n/a	No Bypass Duct	Sealed and Tested	d Distributi System 1-hers-di
Air Distribution System 2	Unconditioned attic	Non-Verified	R-8	R-8	Attic	Attic	n/a	n/a	No Bypass Duct	Sealed an Tested	Air Distributi System 2-hers-di
HVAC DISTRIBUTION	- HERS VERIFICATION				112-14		2			×	
01	02	03	04		05		06	07		08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified I Locatio		Verified Duct Design	Bui	ried Ducts	Deeply Buried Ducts		eakage Air andler	Low Leakage Ducts Entirely Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Requ	iired	Not Required	Not	t Required	Credit not taken	Not Required		No
Air Distribution System 2-hers-dist	Yes	5.0	Not Requ	iired	Not Required	Not	t Required	Credit not taken	Not	Required	No
HVAC - FAN SYSTEMS	1										
	01			02			1.00	03			04
	Name			Туре			Fan Pow	er (Watts/CFM)	- dji	٥	lame
	HVAC Fan 1			HVAC Fa	n			0.45		HVAC Fa	n 1-hers-fan
5	HVAC Fan 2			HVAC Fa	n			0.45		HVAC Fa	n 2-hers-fan

DECI		MEAC	URES SU		APV			
Project Nar		MEAS	UKES SL		AR I ding Type	Sin	gle Fam	ilv F
	Residence			Dun	ang type		ti Family	
Project Add				C-1000000000		ergy Clima		Tot
	nspiration Po	oint Ca	nyon Lake	0	A Clim	ate Zon	ne 10	
INSUL				0		Area (ft <sup>2</sup> )	~	
Constr		pe		Cav	/ity			peo
Roof	Wood Framed	Attic		R 49		2,654	Add=F	₹-19.(
Wall	Wood Framed			R 19		1,517		
Door	Opaque Door	(		100	sulation	28		
Demising	Wood Framed	10		7.89-3963	sulation	792		
Floor Floor	Wood Framed	2203 0.05		R 19 R 38		1,358		_
FIUUI	Wood Framed	w/Crawr 3p	lace	K 30		1,296		
FENES	TRATION		Total Area:	420	Glazino	Percenta	0e <sup>,</sup>	15.8%
	ation Are	$a(ft^2)$	100 F 100 U	IGC	Over		Sidef	201
Left (W)		217.0	0.300	0.25	2.0		none	
Right (E)		30.0	0.300	0.25	6.0		none	
Right (E)		86.0	0.300	0.25	2.0		none	
Front (S)		55.0	0.300	0.25	2.0		none	
Rear (N)		32.0	0.300	0.25	2.0		none	
	SYSTEMS		Min Eff	6	aling		Mie	. =
	Heating		Min. Eff		oling			n. E
50 8	Split Heat Pump Split Heat Pump		10.50 HSPF 10.50 HSPF	222.0	lit Heat Pu	10 0.0 K ( ) ( )	SUCCESSION OF THE PARTY OF THE	SEE
			10.30 HSFF	Sp	ni neai ru	ump	20.0	JLL
HVAC Locatio	DISTRIBU <sup>-</sup> on		ating	Co	oling	Duc	t Loc	atic
Living HVA	С	Ducted		Duc	ted	Attic		
Sleeping H	VAC	Ducted		Duc	ted	Attic		
2 1 12	RHEATING	3						
	Гуре		Gallo	ons	Min.	Eff	Distri	2.014
1	Small Instantane	ous Gas	0		0.97		Standar	rd
EnergyPro	8.1 by EnergyS	oft Use	r Number: 6501					

	sidential buildings subject to the Energy Standards must comply with all applicable many respective section for more information. "Exceptions may apply.
Building Envelop	e Measures:
§ 110.6(a)1:	Air Leakage, Manufactured fenestration, exterior doors, and exterior pet doors must lin
§ 110.6(a)5:	when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011." Labeling, Fenestration products and exterior doors must have a label meeting the reg
Children I.	Field fabricated exterior doors and fenestration products must use U-factors and so
§ 110.6(b): § 110.7:	110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-str Air Leakage. All joints, penetrations, and other openings in the building envelope that gasketed, or weather stripped.
§ 110.8(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Depart and Services (BHGS).
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulat
§ 110.8(i):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance material must meet the requirements of § 110.8(ii) and be labeled per §10-113 when the
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or least
§ 150.0(a):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling; or Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. insulation using adhesive or mechanical fasteners. The attic access must be gasketed direct contact with a continuous roof or ceiling which is sealed to limit infiltration and ex 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 dens
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall must meet Tables 150.1-A or B.*
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.03
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a wate facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2. UV light deterioration; and, when installed as part of a heated slab floor, meet the requi
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space retarder. This requirement also applies to controlled ventilation crawl space for building
§ 150.0(g)2:	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must insulation in all exterior walls, vented attics, and unvented attics with air-permeable ins
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned spac maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must no
Fireplaces, Deco	rative Gas Appliances, and Gas Log Measures:
§ 110.5(e)	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fire
§ 150.0(e)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glas
§ 150.0(e)2:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outsi and is equipped with a readily accessible, operable, and tight-fitting damper or combust
§ 150.0(e)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a read
Space Condition	ng, Water Heating, and Plumbing System Measures:
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heate 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 Tab
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat p must have controls that prevent supplementary heater operation when the heating load cut-on temperature for compression heating is higher than the cut-on temperature for s 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 manag setback thermostat."
§ 110.3(c)4:	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating meet the air release valve. backflow prevention, pump priming, pump isolation valve, a § 110.3(c)4.
§ 110.3(c)6:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kB bibbs or other fittings on both cold and hot water lines to allow for flushing the water he
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type or appliances without an electrical supply voltage connection with pilot lights that consum
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA R

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			RMS-1
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xisting+ A		Iteration	1/5/202
Cond. Floor	r Area	Addition	# of Unit
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110.10(e)1:

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y measures, regardless of the compliance approach						
and the second of						
ir leakage to 0.3 CFM per square foot or less						
nents of § 10-111(a).						
neat gain coefficient (SHGC) values from Tables d.®						
otential sources of air leakage must be caulked,						
t of Consumer Affairs, Bureau of Household Goods						
er the requirements of § 110.8(g).						
d aged solar reflectance values of the roofing tallation of a cool roof is specified on the CF1R.						
d be certified to the Department of Consumer Affairs.						
e weighted average U-factor must not exceed 0.043. access doors must have permanently attached revent air leakage. Insulation must be installed in tion as specified in § 110.7, including but not limited						
or the labeled R-value.						
of 0.102 or less, or R-20 in 2x6 inch wood framing or embly U-factor not exceeding 0.102. Masonry walls						
iximum U-factor.						
sorption rate, for the insulation material alone without rm per inch; be protected from physical damage and ents of § 110.8(g).						
ist be covered with a Class I or Class II vapor						
mplying with the exception to § 150.0(d). Istalled on the conditioned space side of all						
on. m unconditioned space or outdoors must have a seed 0.58.*						
es.						
oor covering the entire opening of the firebox.						
r inlake, which is at least six square inches in area air control device.						
cessible control.*						
howerheads, faucets, and all other regulated						
10.2-A through Table 110.2-K.						
is with supplementary electric resistance heaters be met by the heat pump alone; and in which the ementary heating, and the cut-off temperature for						
nt control system (EMCS) must have a						

g recirculation loops serving multiple dwelling units must and recirculation loop connection requirements of Btu per hour (2 kW) must have isolation valves with hos eater when the valves are closed. entral furnaces; household cooking appliances (except ne less than 150 Btu per hour ); and pool and spa heater accordance with the ASHRAE Handbook. esidential Comfort System Installation Standards 

### 2019 Low-Rise Residential Mandatory Measures Summary



2019 Low-Rise Residential Mandatory Measures Summary



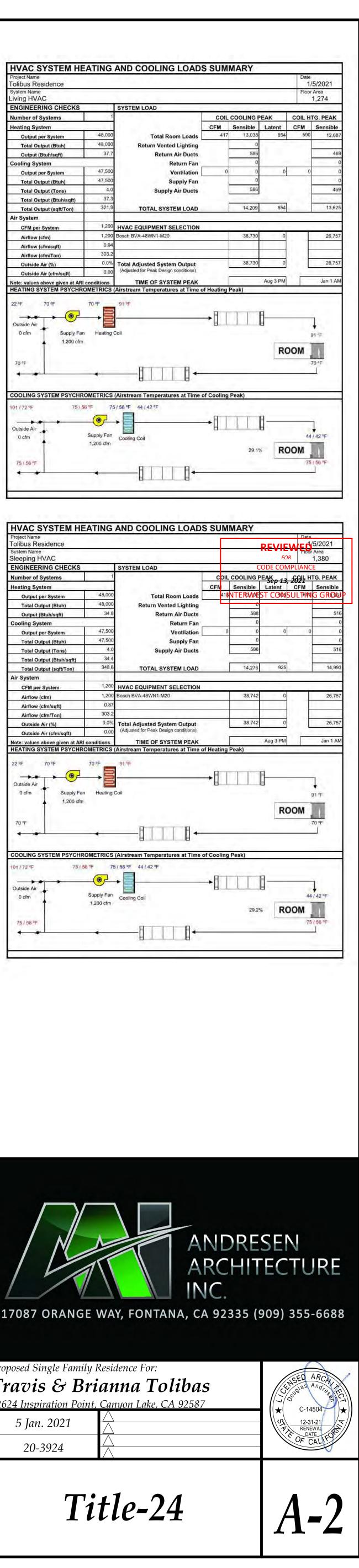
lumed ON and OFF." Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions. § 150.0(k)2D: Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed § 150.0(k)2E: comply with § 150.0(k). § 150.0(k)2F: Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

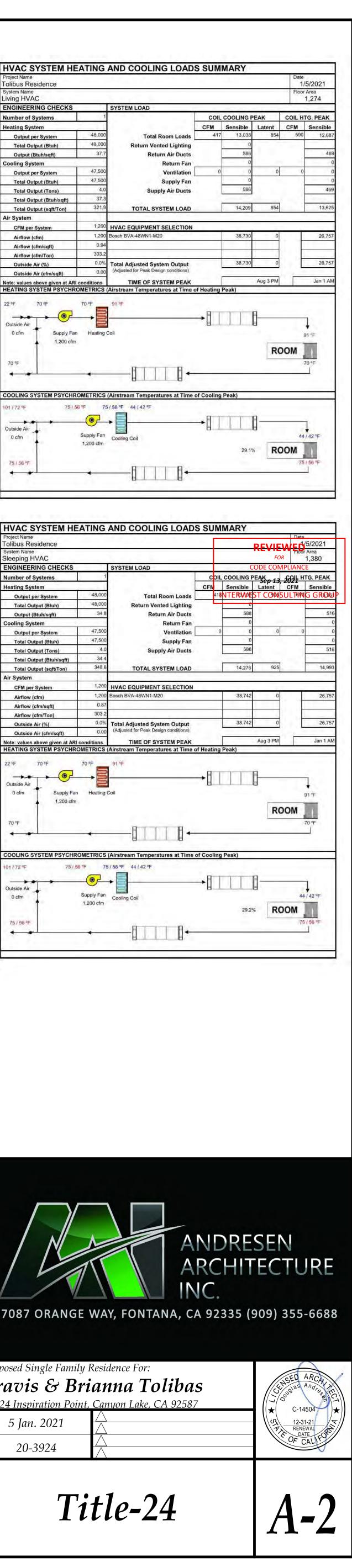
2019 Low-Rise Residential Mandatory Measures Summary

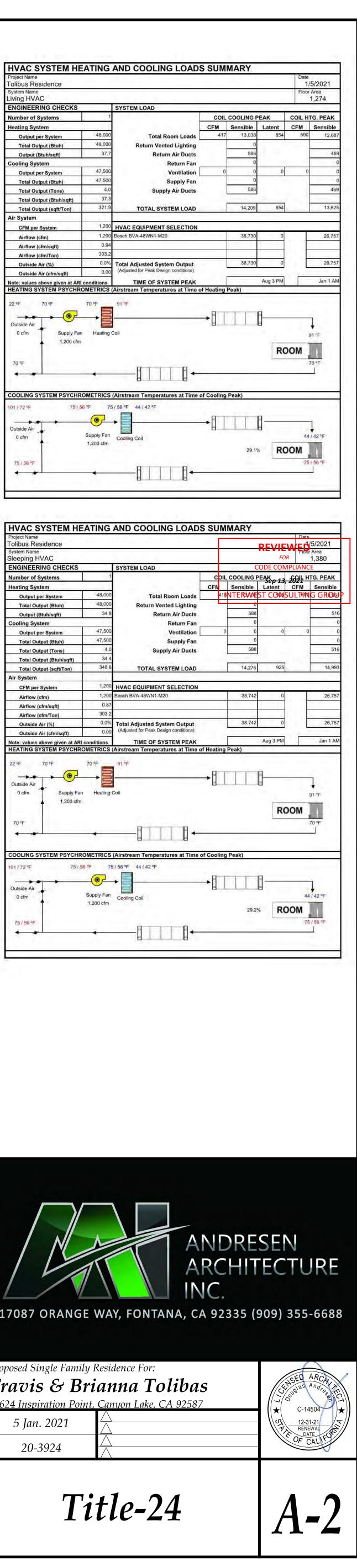
And successful to	
§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the 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)2l:	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one juminaire 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)3Aii (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 stainvells 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 Bu	ildings:
§ 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).

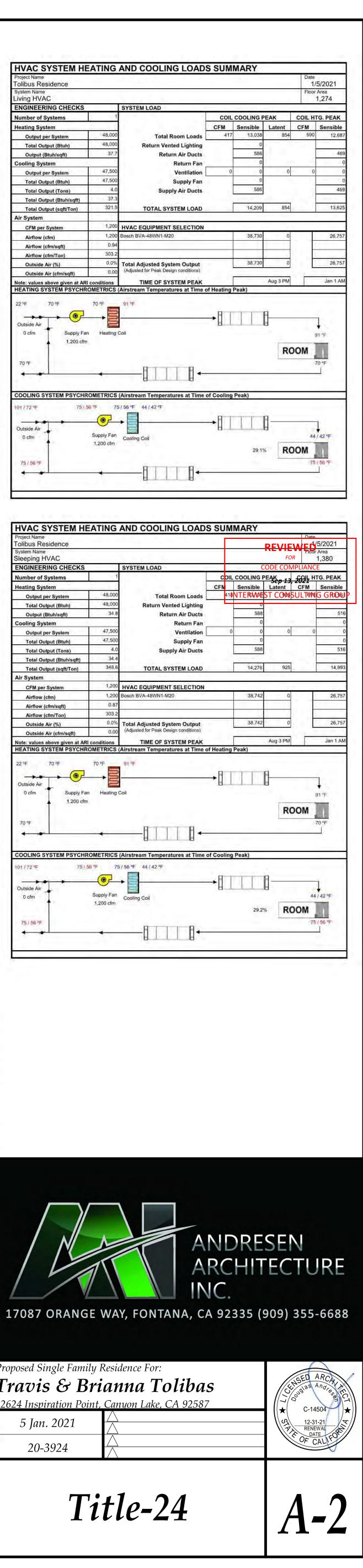
Vinimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted a local jurisdiction. The solar 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 § 110.10(b)1: 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 nent is applicable to the entire building, including r 5 110 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. Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof 10.10(b)3A mounted equipment 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 th 110.10(b)3B: 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. Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof 110.10(b)4: dead load and roof live load must be clearly indicated on the construction documents. Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a § 110.10(c): 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. Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through 5 110.10(d): § 110.10(c) must be provided to the occupant.

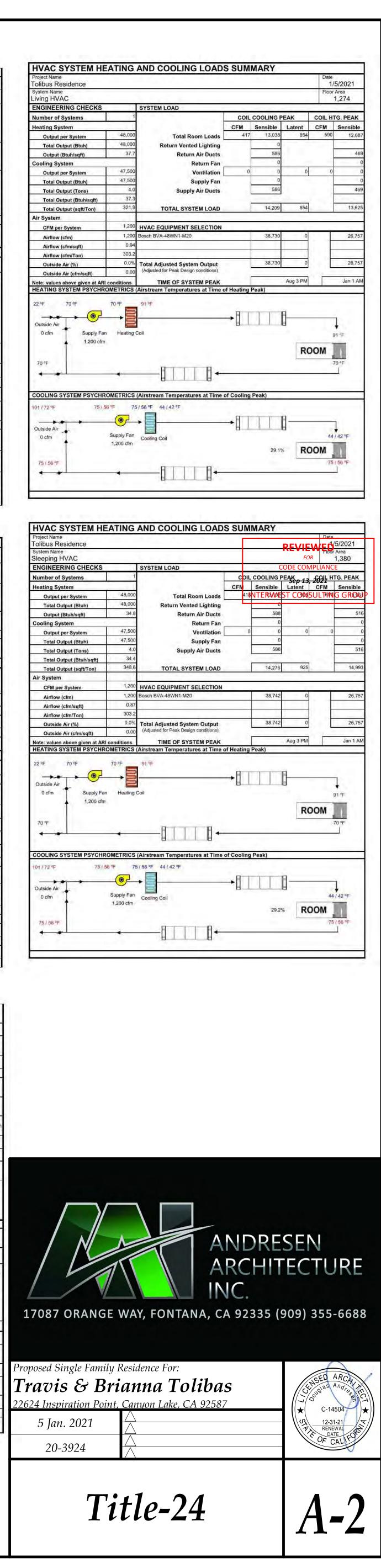
Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps. Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole ci breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".





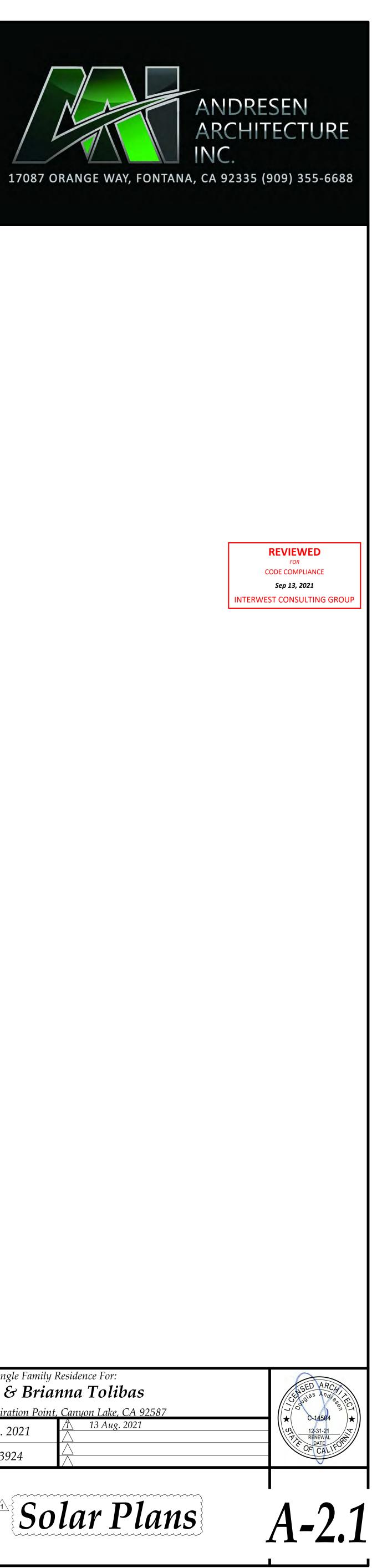


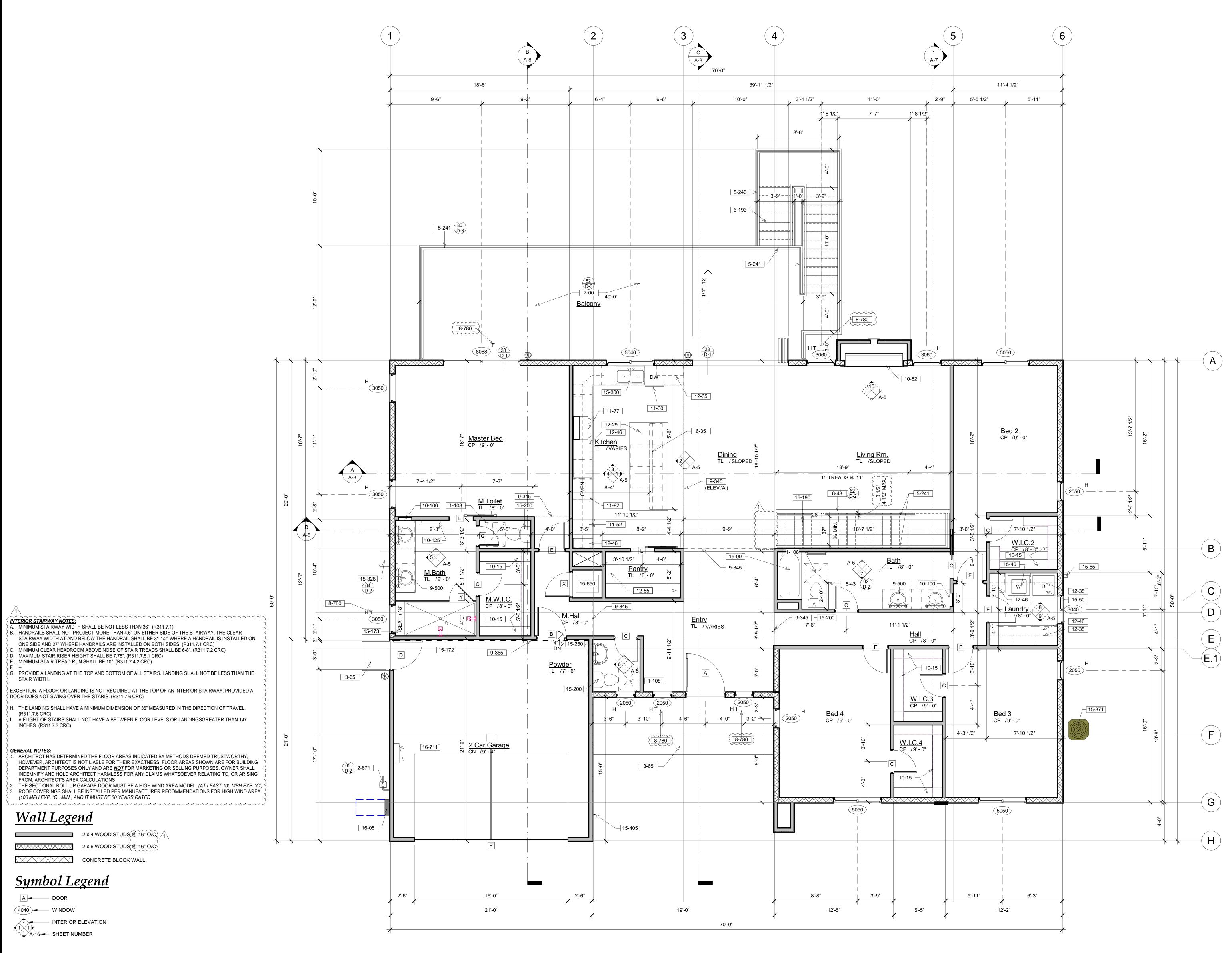






13 Aug. 2021









<u>1</u><u>8-780</u> 9-345

## Plan Notes

1-108 2-871	24" x 30" CLEAR FLOOR SPACE IN FRONT OF WATER CLOSET NEW GAS METER LOCATION (BY UTILITY). (VERIFY EXACT LO COMPANY)
3-65	3-1/2" THICK CONCRETE SLAB ON GRADE WITH MEDIUM BRO FOOT MINIMUM AWAY FROM BUILDING. PROVIDE A LANDING 2" BEYOND EACH SIDE OF DOOR AND A MINIMUM OF 3'-0" OL
5-240	42" HIGH (MINIMUM) WROUGHT IRON GUARDRAIL WITH 1/2" > A 4" DIAMETER SPHERE CANNOT PASS THROUGH. ANCHOR TWO 1/2" DIAMETER x 3-1/2" LONG LAG SCREWS SPACED 6" A SPACED NOT MORE THAN 6'-0" O/C APART.
5-241	42" HIGH WROUGHT IRON GUARDRAIL WITH 1/2" x 1/2" X 0.09 4" DIAMETER SPHERE CANNOT PASS THROUGH.
6-35	35" HIGH WOOD STUD WALL (34-1/2" ROUGH FRAME) WITH DI WITH COUNTERTOP ABOVE
6-43 6-193	42" HIGH WOOD STUD WALL WITH DRYWALL SIDES AND CAP 2 x 12 DOUG FIR #2 OR BETTER STAIR TREADS WITH "SIMPS"
7-00	EACH END WATERPROOF DECK COVERING (DEX-O-TEX WEATHERWEA MANUFACTURED BY CROSSFIELD PRODUCTS CORP.; RANCI 380-1393). (CLASS "A" FIRE RATED PER ICC REPORT NO. ESP
	IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION
A	TRAINED AND APPROVED BY THE MANUFACTURER.
<u>1</u> <u>8-780</u>	TINDICATES TEMPERED GLASS
9-345	LINE OF CEILING HEIGHT CHANGE
9-365	1/2" THICK GYPSUM BOARD GARAGE SIDE OF ALL WALLS AD SUPPORTING SECOND FLOOR, AND 5/8" TYPE "X" GYPSUM B TO HOUSE. PROVIDE MINIMUM 24" HORIZONTAL SEPARATIO ELECTRICAL RECEPTACLES. GAS VENTS, METAL CHIMNEYS SHALL BE FIRE STOPPED WITH AN APPROVED ASSEMBLY. P PIERCE FINISH. DUCTS ON THE GARAGE SIDE SHALL BE A M METAL.
9-500 10-15	NEW BASE CABINET WITH LAMINATED PLASTIC COUNTERTO END SPLASH WITH SELF-RIMMING LAVATORY. THE MAXIUM FAUCETS SHALL NOT EXCEED 1.5 GALLONS PER MINUTE @ 12" WIDE WOOD SHELF AND POLE AT +67" ABOVE FLOOR WI
10-62	AT 36" O/C MAX
10-62	VENT-FREE HEAT CIRCULATING GAS FIREPLACE ("SUPERIOD FLUSH CERAMIC TILE HEARTH. NO VENT OR COMBUSTION A W. x 43-1/2" H x 20-5/8" D. www.superiorfireplaces.com RECESSED MEDICINE CABINET (TOP AT +72" ABOVE FLOOR)
10-125	24" LONG TOWEL BAR (+54) PROVIDE 2 x 6 SOLID BACKING
11-30	DISHWASHER SPACE
11-52	REFRIGERATOR SPACE (PROVIDE RECESSED SHUT-OFF IN I
11-77	BUILT-IN GAS COOK TOP WITH DOWNDRAFT VENT. PROVIDE DUCT BELOW FLOOR TO OUTSIDE AIR.
11-92	BUILT-IN DOUBLE OVEN
12-29	NEW ISLAND BASE CABINET WITH GRANITE TOP (VERIFY EX
12-35	LINE OF CABINETS ABOVE
12-46	BASE CABINET WITH GRANITE TOP AND 6" SPLASH
12-55	WALK-IN PANTRY WITH FIVE (5) FIXED WOOD SHELVES (PAIN SUPPORTS AT 24" O/C MAXIMUM
15-40	HOT AND COLD WATER SHUT-OFF IN RECESSED PLASTIC BO (CLOTHES WASHER IS NIC)
15-50	CLOTHES DRYER (NIC)
15-65	4" DIAMETER SMOOTH SHEET METAL DRYER EXHAUST VEN (14'-0" LONG HORIZONTAL RUN MAXIMUM WITH TWO ELBOW ENCLOSURE WITH PLYWOOD COVER WHERE EXPOSED TO F
15-90	60" x 42" x 72" HIGH FIBERGLASS TUB AND SHOWER COMBIN CONNECTIONS ARE PERMITTED IN WASTE LINE. ("LASCO MO SET SHOWER HEAD IN WALL AT +76" ABOVE FLOOR WITH ME SHATTERPROOF GLASS SHOWER ENCLOSURE WITH TOWEL SHOWERS & TUB/SHOWERS SHALL BE PROVIDED WITH INDI THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE UPC. (www.lascobathware.com)
∧ (15-172	CERAMIC TILE SHOWER OVER 1" MORTAR BED OVER WATER
	TO +72" ABOVE FLOOR. DRYWALL BACKING IS NOT ACCEPT/ CONNECTIONS ARE PERMITTED IN WASTE LINE. SET SHOWE ABOVE FLOOR WITH METAL ESCUTCHEON. PROVIDE SHATT DOORS AND ENCLOSURE. SHOWERS & TUB/SHOWERS SHAL INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE VALVE TYPE PER CPC.
15-173	CERAMIC TILE SEAT (+18" ABOVE SHOWER FLOOR) OVER 1" WATERPROOF MEMBRANE
15-200	TANK-TYPE WATER CLOSET (1.28 GALLONS PER FLUSH MAX
15-250	
15-300 15-328	33" x 22" DOUBLE BOWL SELF-RIMMING ENAMELED STEEL KI GARBAGE DISPOSER RESIDENTIAL TANKLESS GAS-FIRED HOT WATER FIXTURE C
	WATER CONNECTION AND 4" DIAMETER "B" VENT (SEE MECH MANUFACTURER AND MODEL NUMBER). VERIFY REQUIRED
15-405	HOSE BIB AND MAIN SHUT-OFF VALVE WITH PRESSURE REG VALVE
15-650	5 TON FAU WITH COOLING COIL. SET ON PLYWOOD PLATFOI PROVIDE 4" DIAMETER "B" VENT TO OUTSIDE AIR. PROVIDE V WITH 3/4" PVC CONDENSATE OVERFLOW TO DRAIN ABOVE V
1 15-871	CONDENSING UNIT. PROVIDE 3-1/2" THICK POLYETHYLENE F
16-05	ABOVE GROUND PER C.M.C. 100 AMP RECESSED MAIN PANEL (UNDERGROUND FEED) (VI
16-190	UTILITY COMPANY) (PROVIDE GAS AND WATER BONDING TO BY 2'-6" WIDE MINIMUM CLEARANCE IN FRONT OF PANEL PE PROVIDE ONE 220v. RECEPTACLE (50 AMPS) AT CEILING (VE
	TENANT)
16-711	EV PANEL "READY" SEE NOTE 1 TO 6 ON EV NOTES

Proposed Single Family F <b>Travis &amp; Bria</b> t	
22624 Inspiration Point,	Canyon Lake, CA 92587
5 Jan. 2021	<u>∕h</u> 13 Aug. 2021 ∧
20-3924	$\overline{\land}$

Floor Plan

# ANDRESEN ARCHITECTURE INC.

T OF WATER CLOSET PER CBC SEC. 2904. ). (VERIFY EXACT LOCATION WITH UTILITY

E WITH MEDIUM BROOM FINISH. SLOPE 1/8" PER PROVIDE A LANDING AT ALL DOORS A MINIMUM OF MINIMUM OF 3'-0" OUT FROM FACE OF DOOR. ARDRAIL WITH 1/2" x 1/2" RAILS SPACED SUCH THAT HROUGH. ANCHOR RAILING TO RIM JOIST WITH CREWS SPACED 6" APART AT VERTICAL SUPPORTS

/ITH 1/2" x 1/2" X 0.090" RAILS SPACED SUCH THAT A ROUGH IGH FRAME) WITH DRYWALL SIDES AND CAP AND

VALL SIDES AND CAP. READS WITH "SIMPSON TA10" STAIRCASE ANGLE

-TEX WEATHERWEAR DECK SURFACING AS UCTS CORP.; RANCHO DOMINGUEZ, CA. (949) CC REPORT NO. ESR-1757). DECK TO BE INSTALLED R'S RECOMMENDATIONS BY A CONTRACTOR FACTURER.

E OF ALL WALLS ADJACENT TO HOUSE AND TYPE "X" GYPSUM BOARD ON CEILING ADJACENT ZONTAL SEPARATION BETWEEN OFFSET , METAL CHIMNEYS PENETRATING THE FINISH OVED ASSEMBLY. PLASTIC PIPE SHALL NOT SIDE SHALL BE A MINIMUM 26 GAUGE SHEET

LASTIC COUNTERTOP AND 4" HIGH SPLASH AND FORY. THE MAXIUM FLOW RATE OF LAVATORY ONS PER MINUTE @ 60 PSI.REVIEWED 7" ABOVE FLOOR WITH METAL BRACKET SUPPORTS EPLACE ("SUPERIOR UVFC-600" OR EQUAL) WITH T OR COMBUSTION AIR REQU**SRED3, F202JI**GH-IN 46-1/4" places.com +72" ABOVE FLOOR)

SSED SHUT-OFF IN PLASTIC BOX FOR ICEMAKER) RAFT VENT. PROVIDE 7" DIAMETER SHEET METAL

NITE TOP (VERIFY EXACT SIZE WITH OWNER) 6" SPLASH

OOD SHELVES (PAINT GRADE) PROVIDE SHELF CESSED PLASTIC BOX FOR CLOTHES WASHER

YER EXHAUST VENT WITH BACKDRAFT DAMPER. I WITH TWO ELBOWS. PROVIDE 2 x 4 FRAMED HERE EXPOSED TO FOOT TRAFFIC) ID SHOWER COMBINATION UNIT. NO SLIP JOINT TE LINE. ("LASCO MODEL #2603-CTS" OR EQUAL) OVE FLOOR WITH METAL ESCUTCHEON. PROVIDE OSURE WITH TOWEL BAR TO 6'-0" ABOVE FLOOR. ROVIDED WITH INDIVIDUAL CONTROL VALVES OF TATIC MIXING VALVE TYPE PER SEC. 420.0 2000

Ř BĚD OVĚŘ WÁTEŘPROOF MEMBŘANĚ ON WALLS NG IS NOT ACCEPTABLE. NO SLIP JOINT TE LINE. SET SHOWER HEAD IN WALL AT +76" ON. PROVIDE SHATTERPROOF OBSCURE GLASS TUB/SHOWERS SHALL BE PROVIDED WITH RESSURE BALANCE OR THERMOSTATIC MIXING ER FLOOR) OVER 1" MORTAR BED OVER

NS PER FLUSH MAXIMUM)

NAMELED STEEL KITCHEN SINK WITH 1/2 HP WATER FIXTURE ON WALL WITH 3/4" GAS AND "B" VENT (SEE MECHANICAL SYSTEM NOTES FOR VERIFY REQUIRED INPUT BTU RATE WITH OWNER. TH PRESSURE REGULATOR AND ANTI-SIPHON

PLYWOOD PLATFORM WITH RETURN AIR BELOW. SIDE AIR. PROVIDE WATERTIGHT GALVANIZED PAN / TO DRAIN ABOVE WINDOW. K POLYETHYLENE PAD EXTENDED 3" MINIMUM

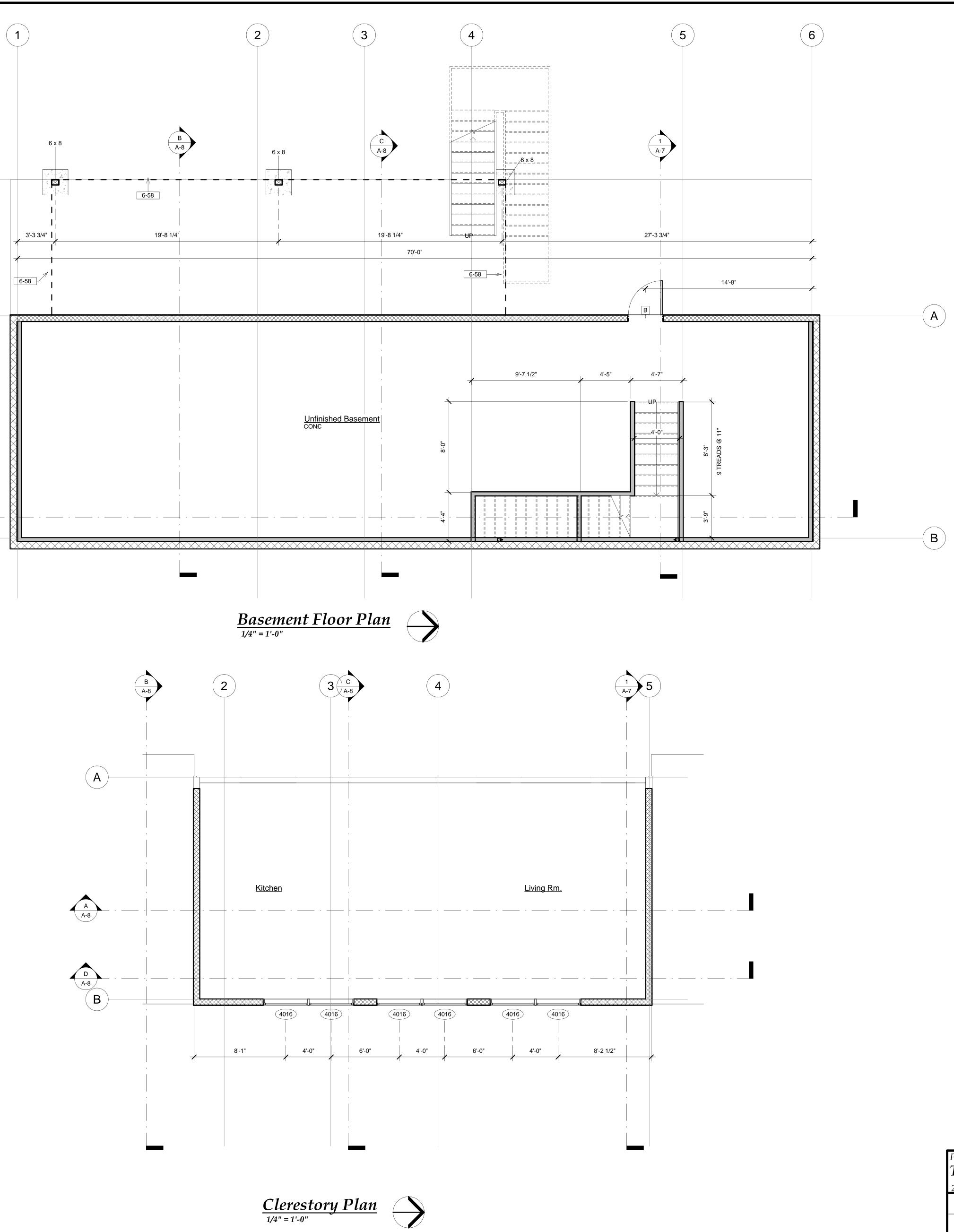
RGROUND FEED) (VERIFY EXACT LOCATION WITH NATER BONDING TO SERVICE) PROVIDE 3'-0" DEEP RONT OF PANEL PER ARTICLÉ 110-26a MPS) AT CEILING (VERIFY EXACT LOCATION WITH

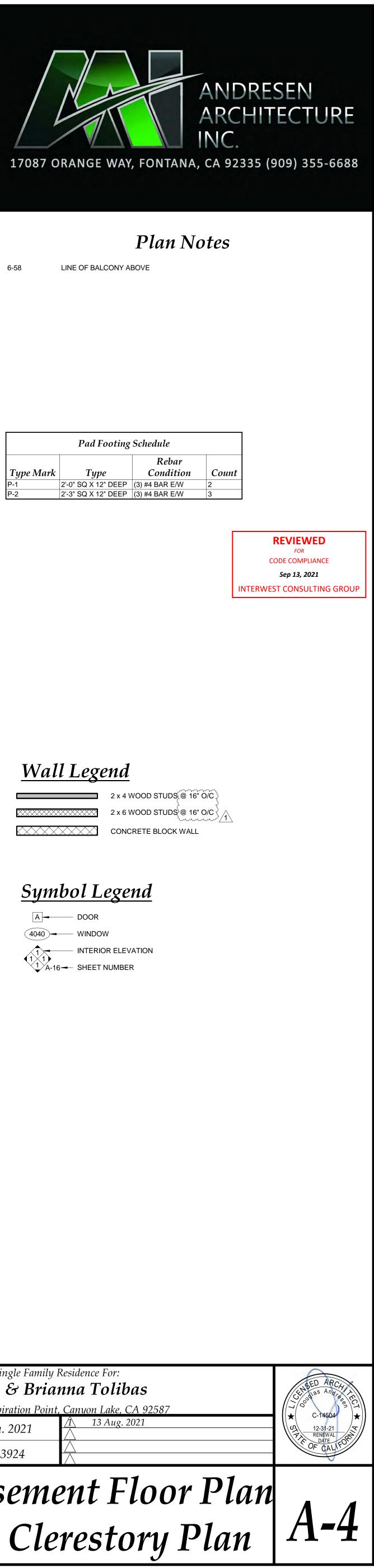




D A-8

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_			
		Pad Footing	Schedule
			Rebar
'	Type Mark	Туре	Condition
Р	P-1	2'-0" SQ X 12" DEEP	(3) #4 BAR E/W
P	-2	2'-3" SQ X 12" DEEP	(3) #4 BAR E/W

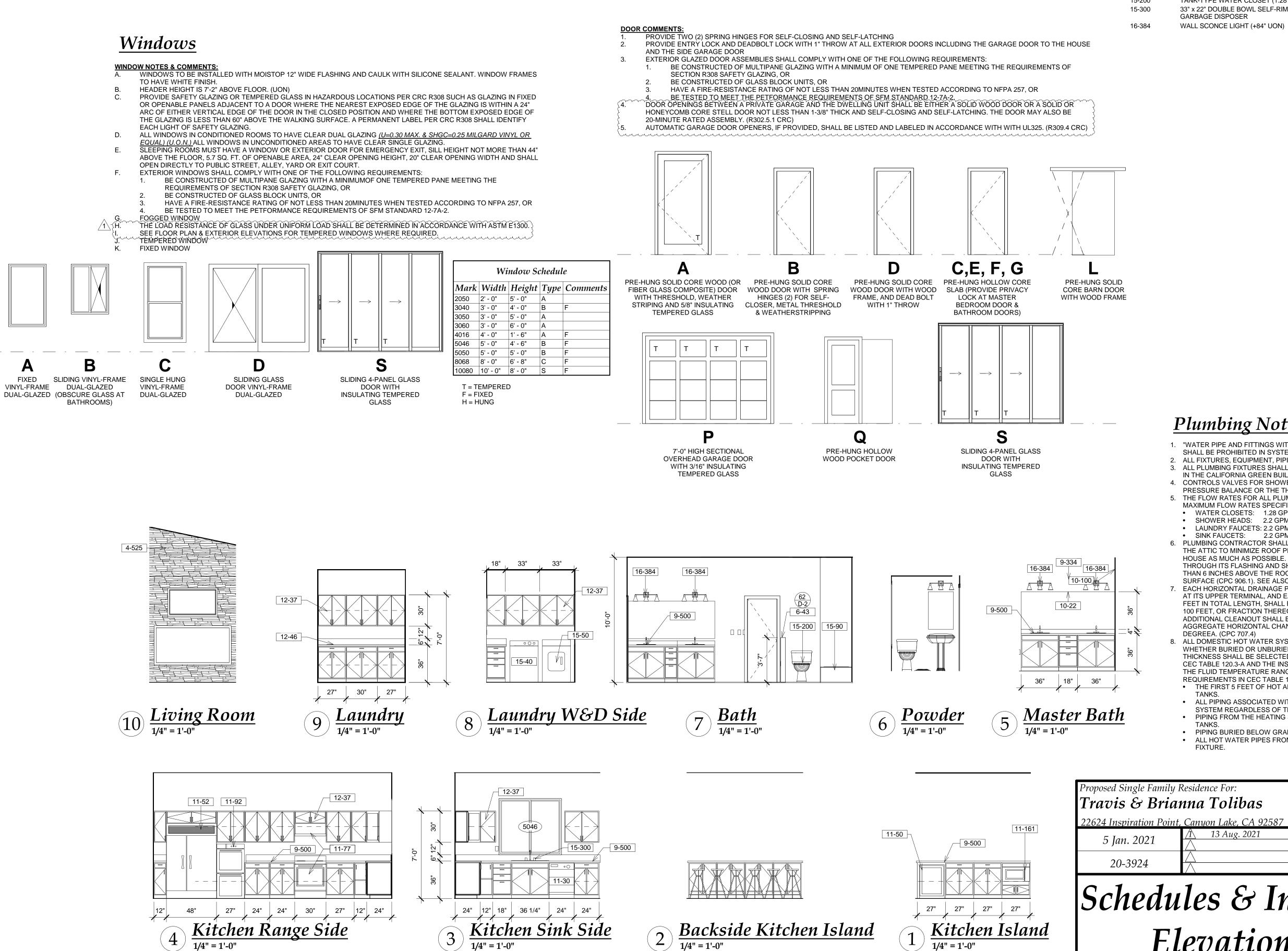
_	
	2 x 4 WOOD STUDS
	2 x 6 WOOD STUDS
	CONCRETE BLOCK V

Proposed Single Famil	
Travis & Bri	anna Iolibas
22624 Inspiration Point	nt, Canyon Lake, CA 92587
5 Jan. 2021	<u> 13 Aug. 2021</u>
20-3924	$\overline{\bigtriangleup}$
Basem	ent Floo
$C \sim C1$	<b>1</b> -
<b>UD V</b>	erestory

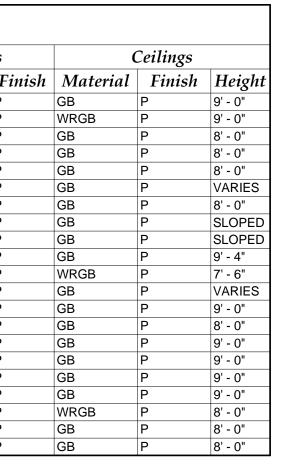
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			Roon	n Finish	sh Schedule					
Rooms	1	Base	Floo	Walls						
Name	Material	Finish	Material	Finish	Material	I				
Master Bed	WBB	Р	СР	INT	GB	Ρ				
M.Bath	WBB	Р	TL	INT	WRGB	Ρ				
M.W.I.C.	WBB	Р	CP	INT	GB	Ρ				
M.Toilet	WBB	Р	TL	INT	GB	Ρ				
M.Hall	WBB	Р	СР	INT	GB	Ρ				
Kitchen	WBB	Р	TL	INT	GB	Ρ				
Pantry	WBB	Р	TL	INT	GB	Ρ				
Dining	WBB	Р	TL	INT	GB	Ρ				
Living Rm.	WBB	Р	TL	INT	GB	Ρ				
2 Car Garage			CN	SL	GB	Ρ				
Powder	WBB	Р	TL	INT	WRGB	Ρ				
Entry	WBB	Р	TL	INT	GB	Ρ				
Bed 2	WBB	Р	CP	INT	GB	Ρ				
W.I.C.2	WBB	Р	CP	INT	GB	Ρ				
Bed 3	WBB	Р	CP	INT	GB	Ρ				
W.I.C.3	WBB	Р	CP	INT	GB	Ρ				
Bed 4	WBB	Р	CP	INT	GB	Ρ				
W.I.C.4	WBB	Р	CP	INT	GB	Ρ				
Bath	WBB	Р	TL	INT	WRGB	Ρ				
Hall	WBB	Р	CP	INT	GB	Ρ				
Laundry	WBB	Р	TL	INT	GB	Ρ				

	<u> </u>	Doors	5						SURFACE AN . (R302.7)				
					Do	or Schedule	?					Door Fi	inish Abbreviation
Туре				Door	A			Fire	Fran	ne		Abbrev.	Description
Mark	Size	Material	Finish	Width	Height	Thickness	Glass	-	Material	Finish	Comments	GL	GLASS
A	4080	SC	Р		8' - 0"	1 3/4"	5/8" Temp.		WDF	P	2, 3	HC	HOLLOW CORE WOOD
B	3080	SC	P	-	8' - 0"	1 3/4"	0,0 10mp.	20 MIN.	WDF	P	4 / 1	HWD	HARD WOOD
<u>с</u>	2468	HC	P	2' - 4"	6' - 8"	1 3/8"			WDF	P		INT	INTEGRAL
D	3068	SC	P	3' - 0"	6' - 8"	1 3/4"			WDF	P	4	MR	MIRROR
F	2868	HC	P	2' - 8"	6' - 8"	1 3/8"			WDF	P		Р	PRIME AND PAINT
– F	2668	HC	P	2' - 6"	6' - 8"	1 3/8"			WDF	P		RFP	READY FOR PAINT
G	2068	HC	P	2'-0"	6' - 8"	1 3/8"			WDF	P		SC	SOLID CORE
<u> </u>		HC	P	2' - 6"	6' - 8"	1 3/8"			WDF	P		Т	TEMPERED
-	ng			2 - 0		1 5/0						WD	WOOD
P	16090	MTL	Р	16' - 0"	9' - 0"	2"	3/16"		WDF	Р	3,5.	WDF	WOOD FRAME
Q	2668	HC	Р	2' - 6"	6' - 8"	1 3/8"			WDF	Р			
Х	2650	HC	Р	2' - 6"	5' - 0"	1 3/8"			WDF	Р			
Y	2666	GL	INT	2' - 6"	6' - 6"	1/2"	Temp			-			



THEY TO BE ASSIGNED TO ANY THIRD PART

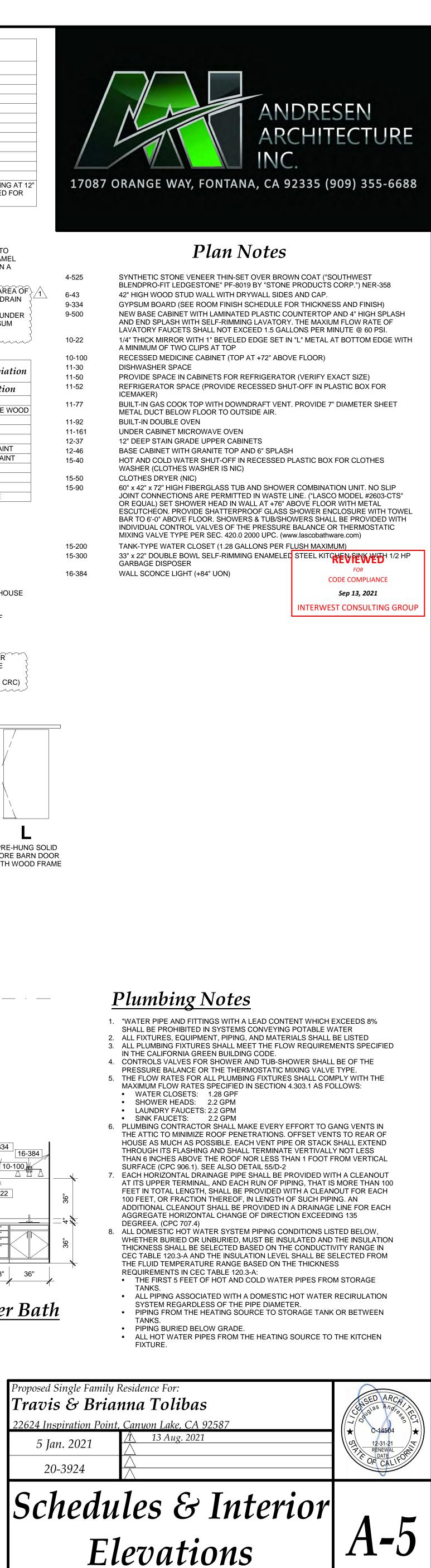


	<b>Room Finish Abbreviation</b>
Abbrev.	Description
CN	CONCRETE
CP	CARPET
EC	EXPOSED CONSTRUCTION
GB	GYPSUM BOARD
INT	INTEGRAL
PN	PAINT AND SEAL
SL	CLEAR CONCRETE FLOOR SEALER
SV	SHEET VINYL
TL	CERAMIC TILE
WBB	WOOD BASE BOARD
WD	WOOD FLOORING
WRGB	WATER RESISTANT GYPSUM BOARD (PROVIDE CEILING FRAMING AT 12" O.C. WHERE WATER RESISTANT GYPSUM WALL BOARD IS USED FOR CEILING APPLICATIONS)
	<b>T</b> ••1 <b>T</b> •

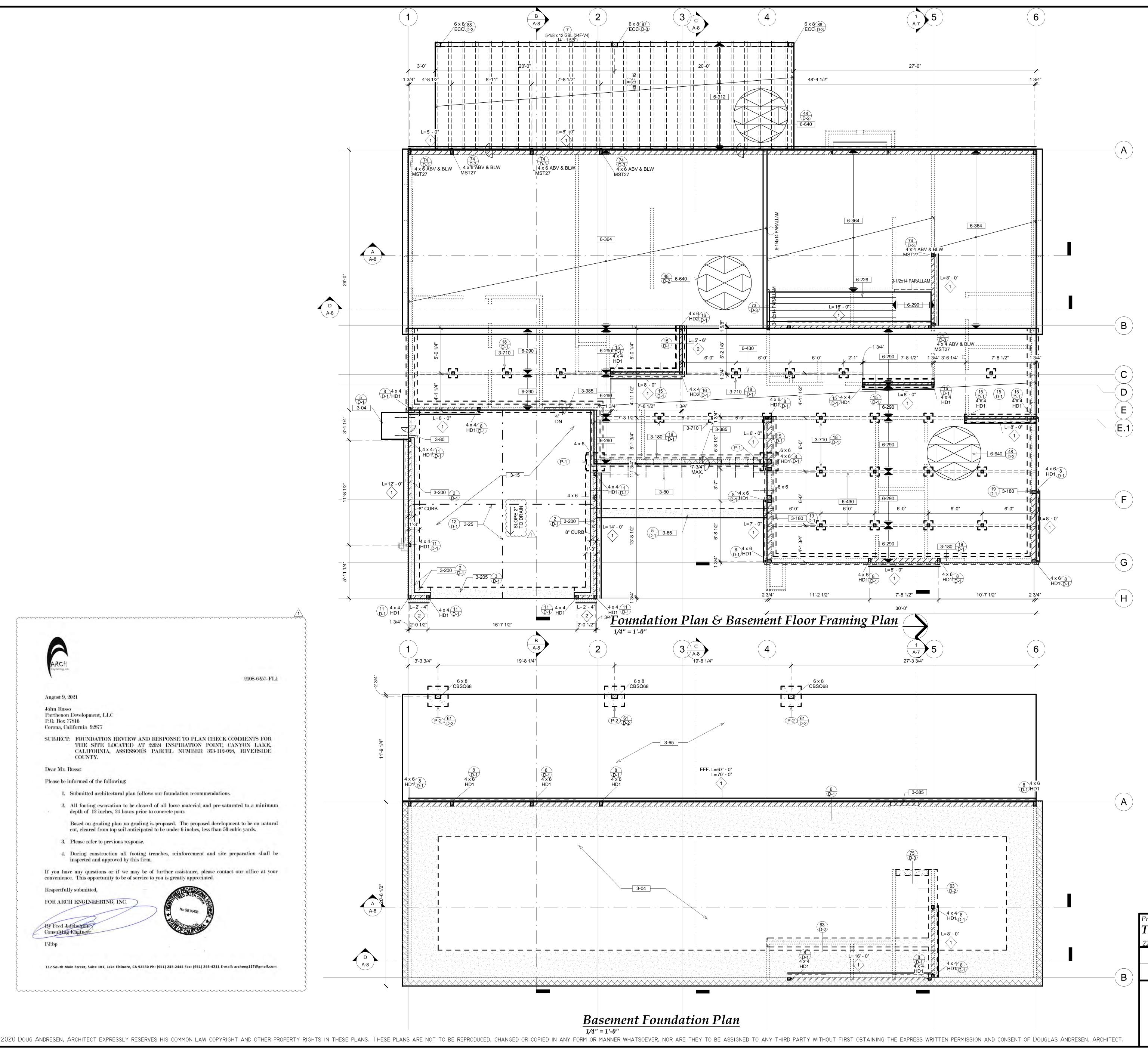
## Room Finish Notes

A. 1/2" GYPSUM BOARD ON WALLS & 1/2" GYPSUM BOARD ON CEILINGS TO RECEIVE KNOCK-DOWN TEXTURE WITH TWO COATS LATEX FLAT ENAMEL B. FLOOR MATERIAL CHANGES TO OCCUR IN CENTER OF DOOR WHEN IN A CLOSED POSITION C. ALL CORNERS TO BE BULLNOSED

ITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF DOUGLAS ANDRESEN, ARCHITECT



ARCH Ingineering, Inc.	
2108-6257-FL1	
August 9, 2021	
John Russo	
Parthenon Development, LLC P.O. Box 77816	
Corona, California 92877	
SUBJECT: FOUNDATION REVIEW AND RESPONSE TO PLAN CHECK COMMENTS FOR THE SITE LOCATED AT 22624 INSPIRATION POINT, CANYON LAKE, CALIFORNIA, ASSESSOR'S PARCEL NUMBER 353-112-028, RIVERSIDE COUNTY.	
Dear Mr. Russo:	
Please be informed of the following:	
1. Submitted architectural plan follows our foundation recommendations.	
<ol> <li>All footing excavation to be cleared of all loose material and pre-saturated to a minimum depth of 12 inches, 24 hours prior to concrete pour.</li> </ol>	
Based on grading plan no grading is proposed. The proposed development to be on natural cut, cleared from top soil anticipated to be under 6 inches, less than 50 cubic yards.	
3. Please refer to previous response.	
4. During construction all footing trenches, reinforcement and site preparation shall be inspected and approved by this firm.	
If you have any questions or if we may be of further assistance, please contact our office at your convenience. This opportunity to be of service to you is greatly appreciated.	
Respectfully submitted,	
FOR ARCH ENGINEERING, INC.	
No. GE 00433	(
By Fred Jatehehnan	
Consulting Engineer	
EJ:bp	
117 South Main Street, Suite 101, Lake Elsinore, CA 92530 Ph: (951) 245-2444 Fax: (951) 245-4211 E-mail: archeng117@gmail.com	A





## Plan Notes

3-04	4-1/2" THICK CONCRETE SLAB ON 3" SAND O SAND WITH #4 BARS AT 15" ON CENTER EAG PRESATURATION OF AREA TO RECEIVE CO 6" A DAY BEFORE. ALL LOSS MATERIAL TO B
3-15	4-1/2" THICK CONCRETE GARAGE SLAB ON FINISH. SLOPE 2" TO DRAIN. SAWCUT WITH
3-25	1" MINIMUM DEEP SAWCUT CONTROL JOINT AFTER SLAB POUR
3-65	3-1/2" THICK CONCRETE SLAB ON GRADE W MINIMUM AWAY FROM BUILDING. PROVIDE EACH SIDE OF DOOR AND A MINIMUM OF 3'-
3-80	30" LONG #3 BARS AT 24" O/C
3-180	15" WIDE x 24" DEEP (BELOW GRADE) CONT REINFORCING BAR TOP AND BOTTOM. PRO (ASTM A-307) AT 48" O/C AND 12" FROM COF EMBEDMENT INTO CONCRETE) WITH 3" x 3" (CLOSER SPACING AND DEEPER FOOTING I SCHEDULE)
3-200	15" WIDE x 24" DEEP (BELOW GRADE) CONT REINFORCING BAR TOP AND BOTTOM. PRO (ASTM A-307) AT 48" O/C AND 12" FROM COR EMBEDMENT INTO CONCRETE) WITH 3" x 3" (CLOSER SPACING AND DEEPER FOOTING I SCHEDULE)
3-205	CONTINUOUS CONCRETE FOOTING AT GAR
3-385	OMIT ANCHOR BOLTS AT OPENINGS (TYPIC
3-710	12" SQUARE x 12" DEEP x 6" HIGH (ABOVE G CBSQ44" POST BASE IN CENTER
6-226	FOUR (4) 2 x 14 DOUG FIR #2 OR BETTER ST AGAINST WALL
6-290	2 x 6 FLOOR JOISTS AT 16" O/C (9'-1" MAXIMI
6-312	4 x 8 DOUG FIR #2 FLOOR JOISTS AT 16" O/C
6-364	14" DEEP ENGINEERED WOOD "I" JOISTS AT 2.2E FLANGE) OR EQUAL) SEE MANUFACTU AND SHEAR REQUIREMENTS. (ICC-ESR 1153
6-430 6-640	4 x 6 FLOOR GIRDER. MAINTAIN 12" MINIMUM 19/32" EXPOSURE I TONGUE AND GROOVE F (PANEL INDEX 32/16). GLUE-NAIL WITH 10d D O/C FIELD. FLOOR DIAPHRAGM TO BE UNBL SUPPORTED EDGES

## **Foundation Notes**

1.	CEMENT TYPE II (MIN. f'c= 2,500 psi. 28 DAY
2.	SOIL ALLOWABLE BEARING PRESSURE OF
3.	ANCHOR BOLTS AND FASTENERS IN CONT
	BE HOT DIPPED ZINC-COATED GALVANIZE
4.	SHEAR WALL ANCHOR BOLTS AND HOLDC
	TO FOUNDATION INSPECTION.

Iardware	,	Min. Stud/	r				
Number		its Post Sized		,		Note	
111111001	Contine	100101200	Cupucity			11000	
D1	STHD14	4 X 4	3,815#	HOLDOWN	STRAP WI	FH (36) 16E	SINKERS A
D2	HDU5-SDS	2.5 4 X 4	5,645	HOLDOWN	WITH SSTE	324 ANCHO	OR (14) 1/4"x
T1	CMSTC16	4 X 4	4,585#	HOLDOWN	STRAP (27	'-0" LONG)	WITH 16D N
Sh	ear Wall	Shear Value				Bolt	Sill
		A.B	. Schedule	e (2016 CBC	C)		
			-	8" Diamet	0	Bolt	
1		C.B.C. Table 23		ichor Bolt	Spacing	0	Plate
1		280 PLF (EARTHQU 349 PLF (WIND)	JAKE) & 16"	O/C		14"	2x
		430 PLF (EARTHQI	JAKE) & 16"	O/C		14"	3x & 2x on
2		602 PLF (WIND)	,				2nd. Flr.
2			ting Sched				2nd. Flr.
		Pad Foo		Rebar	Course	4	2nd. Flr.
		Pad Foo	с С		Count 2	t	2nd. Flr.

<ul> <li>POST SIZE</li> <li>SIMP. HARDV</li> <li>SIMPSON HA</li> <li>EFFECTIVE S</li> <li>SHEAR WALL</li> <li>SHEAR WALL</li> <li>SHEAR WALL</li> <li>SHEAR WALL</li> <li>SHEAR WALL</li> <li>SHEAR WALL</li> <li>Comparison</li> <li>PLAN NOTE T</li> <li>PLAN NOTE T</li> <li>PLAN NOTE T</li> <li>PLAN HARDV</li> <li>DETAIL REF.</li> <li>DETAIL SHEE</li> <li>1t</li> <li>PAD FOOTING</li> </ul>		
SHEAR WALL SHEAR WALL SHEAR WALL SHEAR WALL WALL SCHED PLAN NOTE T OETAIL REF. DETAIL SHEE		SIMP. HARDV
? — DETAIL REF. ? — DETAIL SHEE		SHEAR WALL
	?	PLAN NOTE T
	?	
		PAD FOOTING

Proposed Single Family Residence For: Travis & Brianna Tolibas 22624 Inspiration Point, Canyon Lake, CA 92587 13 Aug. 2021 5 Jan. 2021 20-3924

# Foundation Plan

OVER 6 MIL "VISQUEEN" VAPOR BARRIER OVER 2" ACH WAY IN CENTER OF SLAB. PROVIDE ONCRETE IS RECOMMENDED TO MINIMUM DEPTH OF D BE REMOVED. GRADE (2,500 PSI MIX) WITH SMOOTH TROWEL HIN 24 HOURS WHERE INDICATED NTS (TYPICAL). SAWCUT MAXIMUM OF 24 HOURS

E WITH MEDIUM BROOM FINISH. SLOPE 1/8" PER FOOT DE A LANDING AT ALL DOORS A MINIMUM OF 2" BEYOND 5 3'-0" OUT FROM FACE OF DOOR.

TINUOUS CONCRETE FOOTING WITH (3) #4 OVIDE 5/8" DIAMETER x 12" LONG ANCHOR BOLTS ORNERS AND BREAKS IN SILL PLATE (7" MINIMUM 3" x 0.229" SQUARE STEEL PLATE WASHERS TYPICAL. G MAY BE REQUIRED AT SHEAR WALLS - SEE

TINUOUS CONCRETE FOOTING WITH STEM AND (3) #4 ROVIDE 5/8" DIAMETER x 14" LONG ANCHOR BOLTS ORNERS AND BREAKS IN SILL PLATE (7" MINIMUM 3" x 0.229" SQUARE STEEL PLATE WASHERS TYPICAL. G MAY BE REQUIRED AT SHEAR WALLS - SEE ARAGE DOOR OPENING

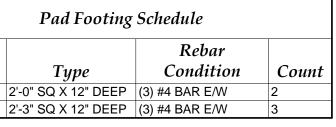
CAL) GRADE) CONCRETE PAD FOOTING WITH "SIMPSON

STAIR STRINGERS WITH 2 x 4 CONTINUOUS SPACER MUM SPAN PER C.B.C. TABLE 2308.8(2))

AT 19.2" O/C. (TRUS-JOIST MACMILLAN T.IL360 (2-5/16" X TURER'S SPECIFICATIONS FOR NOTE MAR, BLOCKING UM CLEAR ABOVE GRADE BEDOWOMPLIANCE 'E PLYWOOD (OR APA RATED QSB), FLOOR SHEATHING d DEFORMED SHANK NAILS AT 6" O/C EDGES AND 10" BLOCKED WITH NAN SERRACED COMSXIMUMCAGROUP

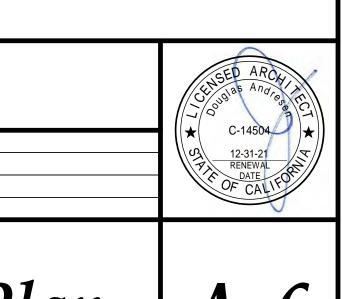
OF 1,500 POUNDS PER SQUARE FOOT. NTACT WITH PRESERVATIVE-TREATED WOOD SHALL ZED STEEL. DOWN HARDWARE MUST BE SECURED IN PLACE PRIOF

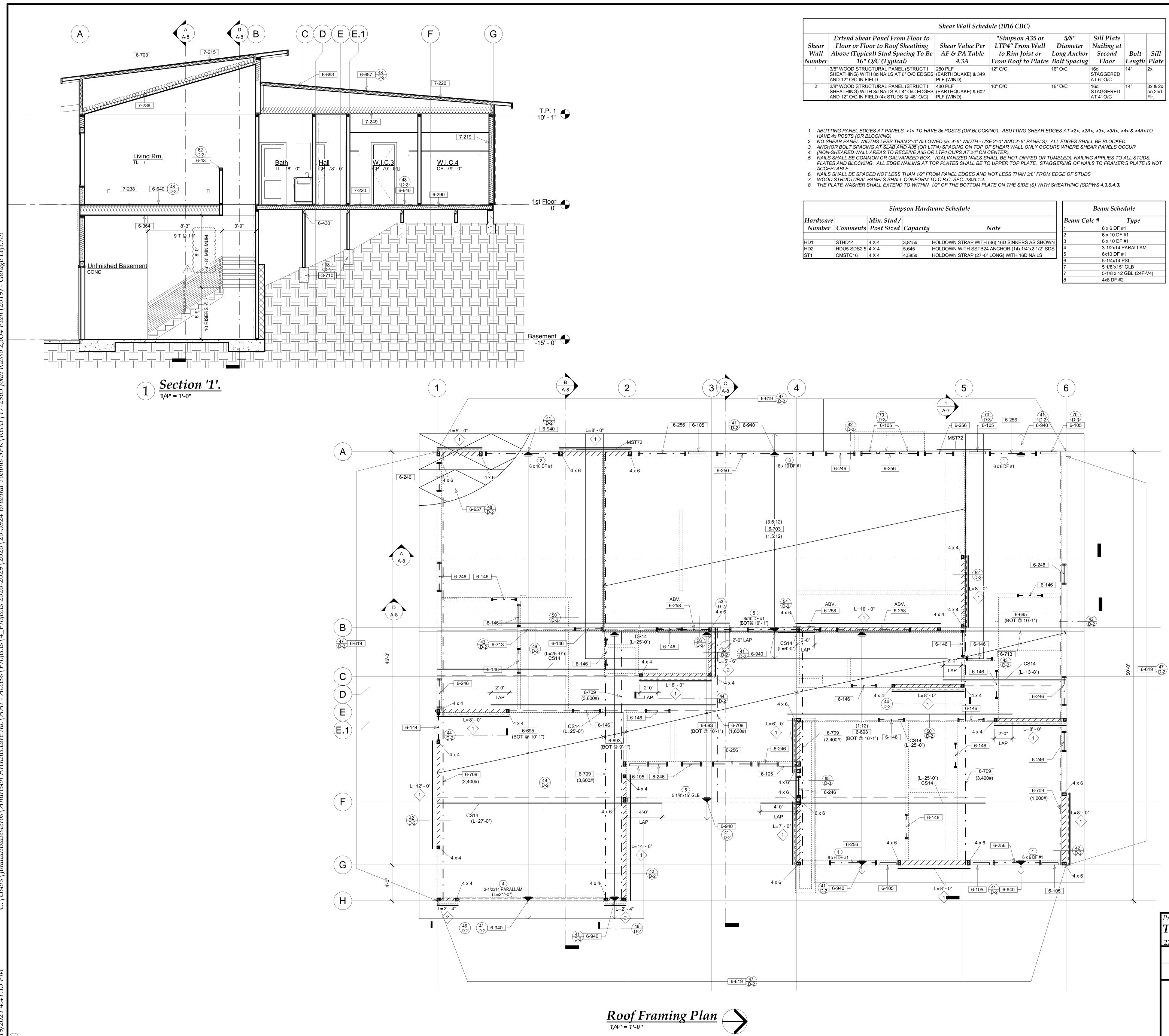
AS SHOWN "x2 1/2" SDS NAILS



Foundation Legend HARDWARE REF. (SEE ON HARDWARE SCHEDULE) TIVE SHEAR WALL LENGTH WALL LENGTH WALL REF. (SEE SHEAR CHEDULES) OTE TAG REF. #

SHEET # OTING TAG

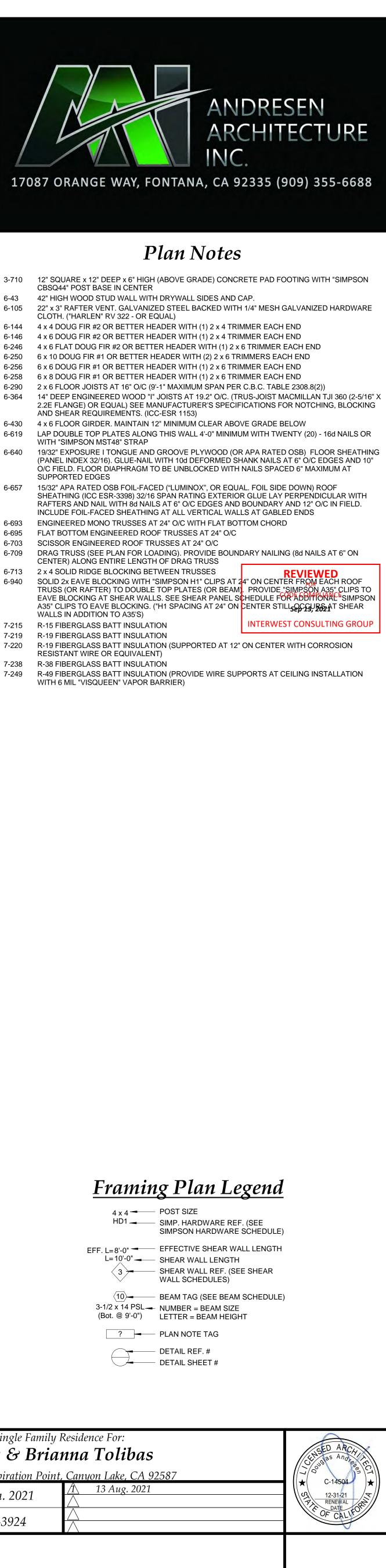




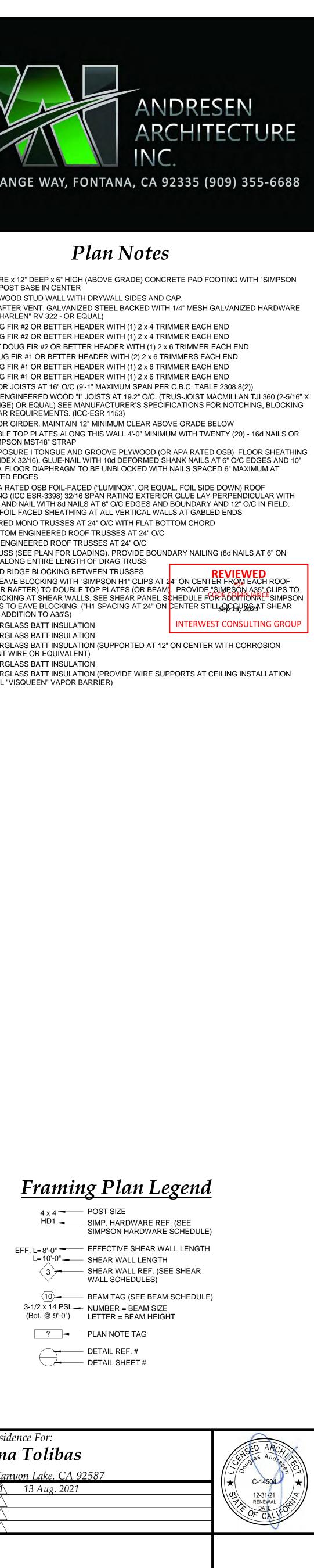
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	Shear Wall Sched	ule (2016 CBC)				
ar Panel From Floor to oor to Roof Sheathing cal) Stud Spacing To Be O/C (Typical)	Shear Value Per AF & PA Table 4.3A	"Simpson A35 or LTP4" From Wall to Rim Joist or From Roof to Plates	5/8" Diameter Long Anchor Bolt Spacing		Bolt Length	Sill Plate
JCTURAL PANEL (STRUCT I TH 8d NAILS AT 6" O/C EDGES FIELD	280 PLF (EARTHQUAKE) & 349 PLF (WIND)	12" O/C	16" O/C	16d STAGGERED AT 6" O/C	14"	2x
JCTURAL PANEL (STRUCT I TH 8d NAILS AT 4" O/C EDGES FIELD (4x STUDS @ 48" O/C)	430 PLF (EARTHQUAKE) & 602 PLF (WIND)	10" O/C	16" O/C	16d STAGGERED AT 4" O/C	14"	3x & 2x on 2nd. Flr.

Simpson Hardware Schedule				Bea	am Schedule
Min. Stud/			Bea	m Calc #	Туре
Post Sized	Capacity	Note	1		6 x 6 DF #1
			2		6 x 10 DF #1
4 X 4	3,815#	HOLDOWN STRAP WITH (36) 16D SINKERS AS SHOWN	3		6 x 10 DF #1
4 X 4	5,645	HOLDOWN WITH SSTB24 ANCHOR (14) 1/4"x2 1/2" SDS	4		3-1/2x14 PARALLAM
4 X 4	4,585#	HOLDOWN STRAP (27'-0" LONG) WITH 16D NAILS	5		6x10 DF #1
			6		5-1/4x14 PSL
			7		5 1/8"x15" GLB
			7		5-1/8 x 12 GBL (24F-V4)

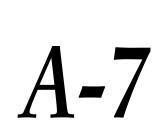


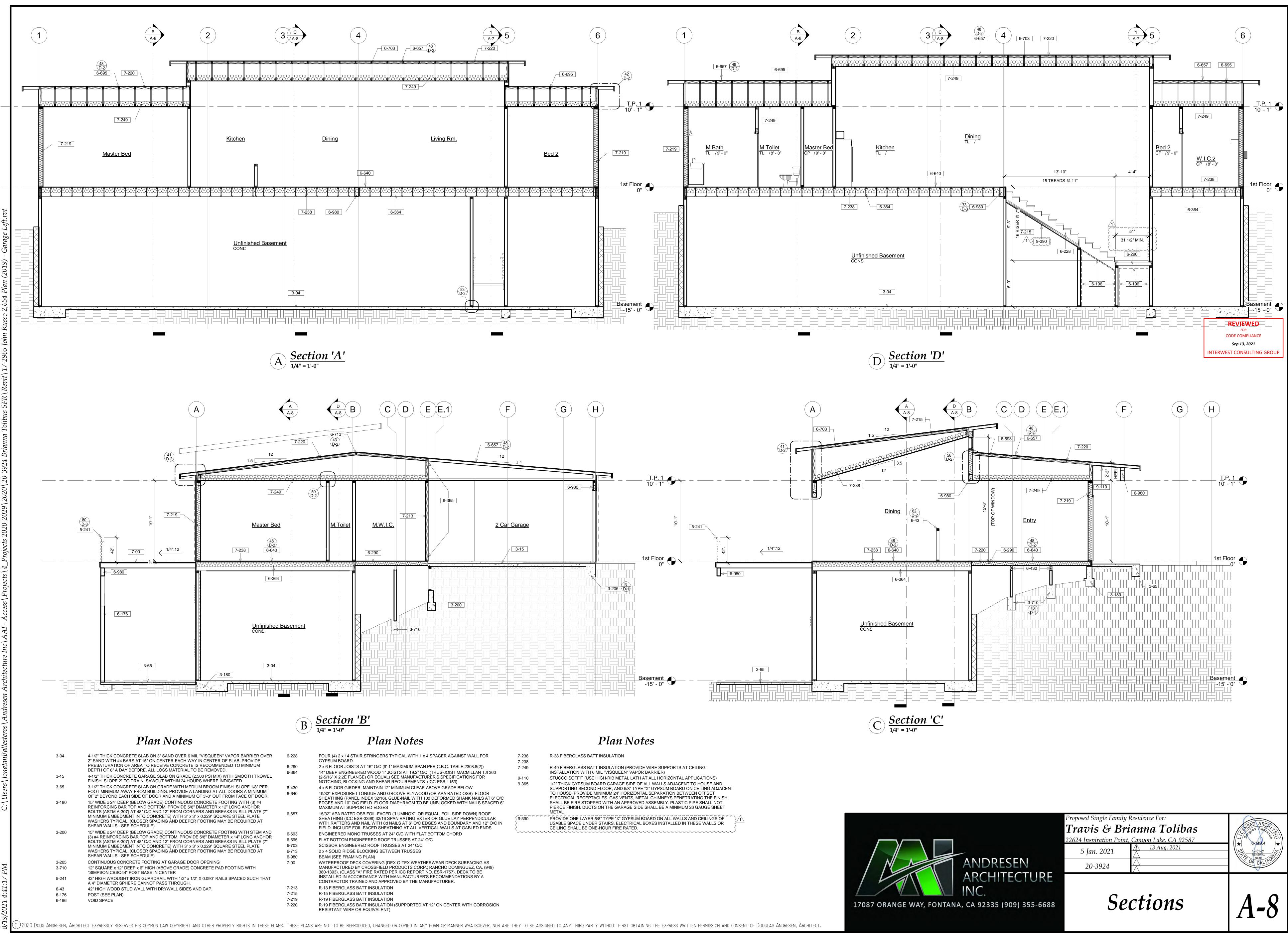
-710	12" SQUARE x 12" DEEP x 6" HIGH (ABOVE GR CBSQ44" POST BASE IN CENTER
-43	42" HIGH WOOD STUD WALL WITH DRYWALL
-105	22" x 3" RAFTER VENT. GALVANIZED STEEL B/ CLOTH. ("HARLEN" RV 322 - OR EQUAL)
-144	4 x 4 DOUG FIR #2 OR BETTER HEADER WITH
-146	4 x 6 DOUG FIR #2 OR BETTER HEADER WITH
-246	4 x 6 FLAT DOUG FIR #2 OR BETTER HEADER
-250	6 x 10 DOUG FIR #1 OR BETTER HEADER WITH
-256	6 x 6 DOUG FIR #1 OR BETTER HEADER WITH
-258	6 x 8 DOUG FIR #1 OR BETTER HEADER WITH
-290	2 x 6 FLOOR JOISTS AT 16" O/C (9'-1" MAXIMUI
-364	14" DEEP ENGINEERED WOOD "I" JOISTS AT 1 2.2E FLANGE) OR EQUAL) SEE MANUFACTUR AND SHEAR REQUIREMENTS. (ICC-ESR 1153)
-430	4 x 6 FLOOR GIRDER. MAINTAIN 12" MINIMUM
-619	LAP DOUBLE TOP PLATES ALONG THIS WALL WITH "SIMPSON MST48" STRAP
-640	19/32" EXPOSURE I TONGUE AND GROOVE PL (PANEL INDEX 32/16). GLUE-NAIL WITH 10d DE O/C FIELD. FLOOR DIAPHRAGM TO BE UNBLC SUPPORTED EDGES
-657	15/32" APA RATED OSB FOIL-FACED ("LUMINC SHEATHING (ICC ESR-3398) 32/16 SPAN RATIN RAFTERS AND NAIL WITH 8d NAILS AT 6" O/C INCLUDE FOIL-FACED SHEATHING AT ALL VE
-693	ENGINEERED MONO TRUSSES AT 24" O/C WI
-695	FLAT BOTTOM ENGINEERED ROOF TRUSSES
-703	SCISSOR ENGINEERED ROOF TRUSSES AT 24
-709	DRAG TRUSS (SEE PLAN FOR LOADING). PRO CENTER) ALONG ENTIRE LENGTH OF DRAG T
-713	2 x 4 SOLID RIDGE BLOCKING BETWEEN TRUS
-940	SOLID 2x EAVE BLOCKING WITH "SIMPSON H TRUSS (OR RAFTER) TO DOUBLE TOP PLATE EAVE BLOCKING AT SHEAR WALLS. SEE SHE A35" CLIPS TO EAVE BLOCKING. ("H1 SPACING WALLS IN ADDITION TO A35'S)
-215	R-15 FIBERGLASS BATT INSULATION
-219	R-19 FIBERGLASS BATT INSULATION
-220	R-19 FIBERGLASS BATT INSULATION (SUPPO RESISTANT WIRE OR EQUIVALENT)
-238	R-38 FIBERGLASS BATT INSULATION
-249	R-49 FIBERGLASS BATT INSULATION (PROVID



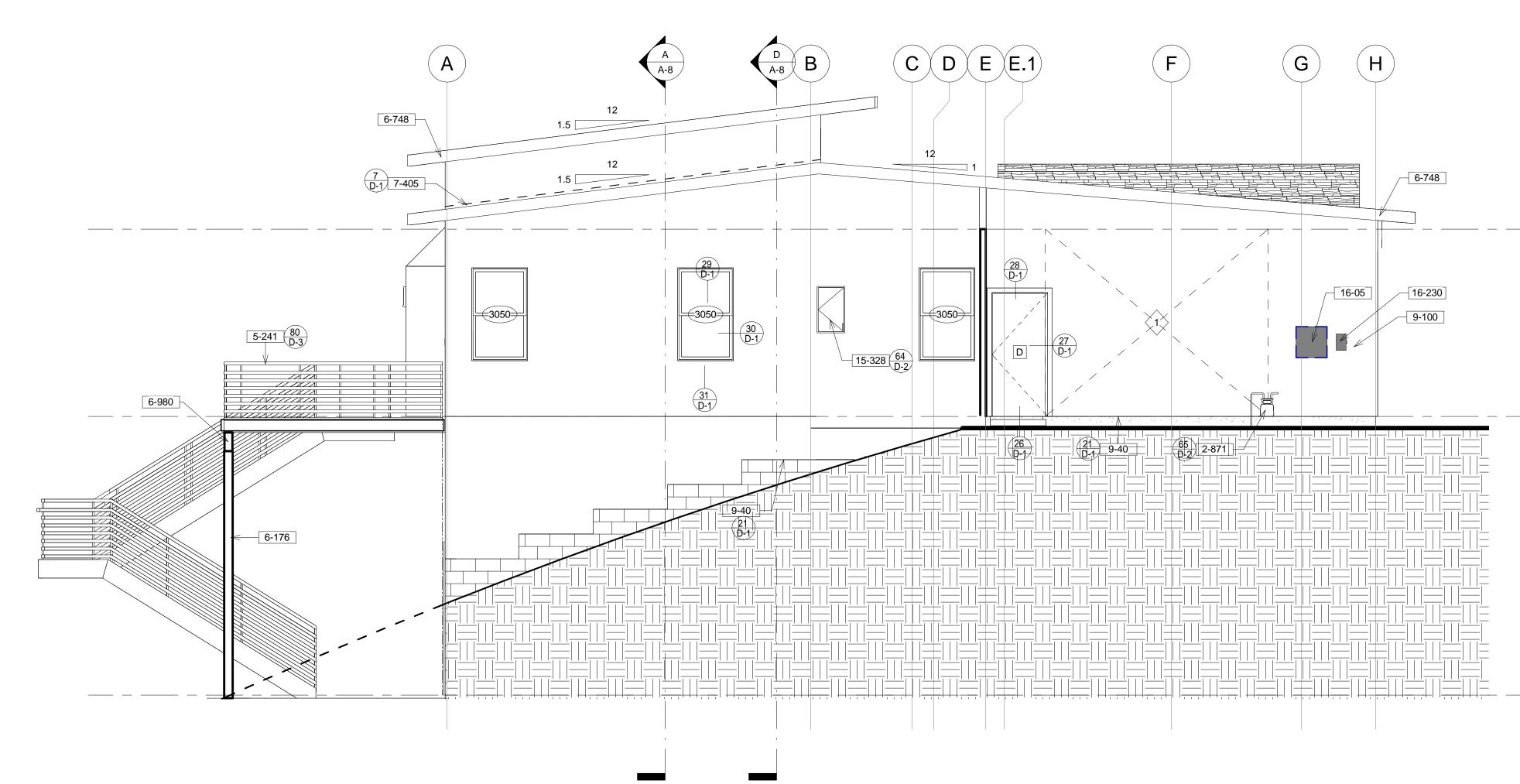
Proposed Single Family I	Residence For:
Travis & Bria	nna Tolibas
22624 Inspiration Point	, Canyon Lake, CA 92587
5 Jan. 2021	<u>∕</u> 13 Aug. 2021 △
20-3924	$\bigwedge$



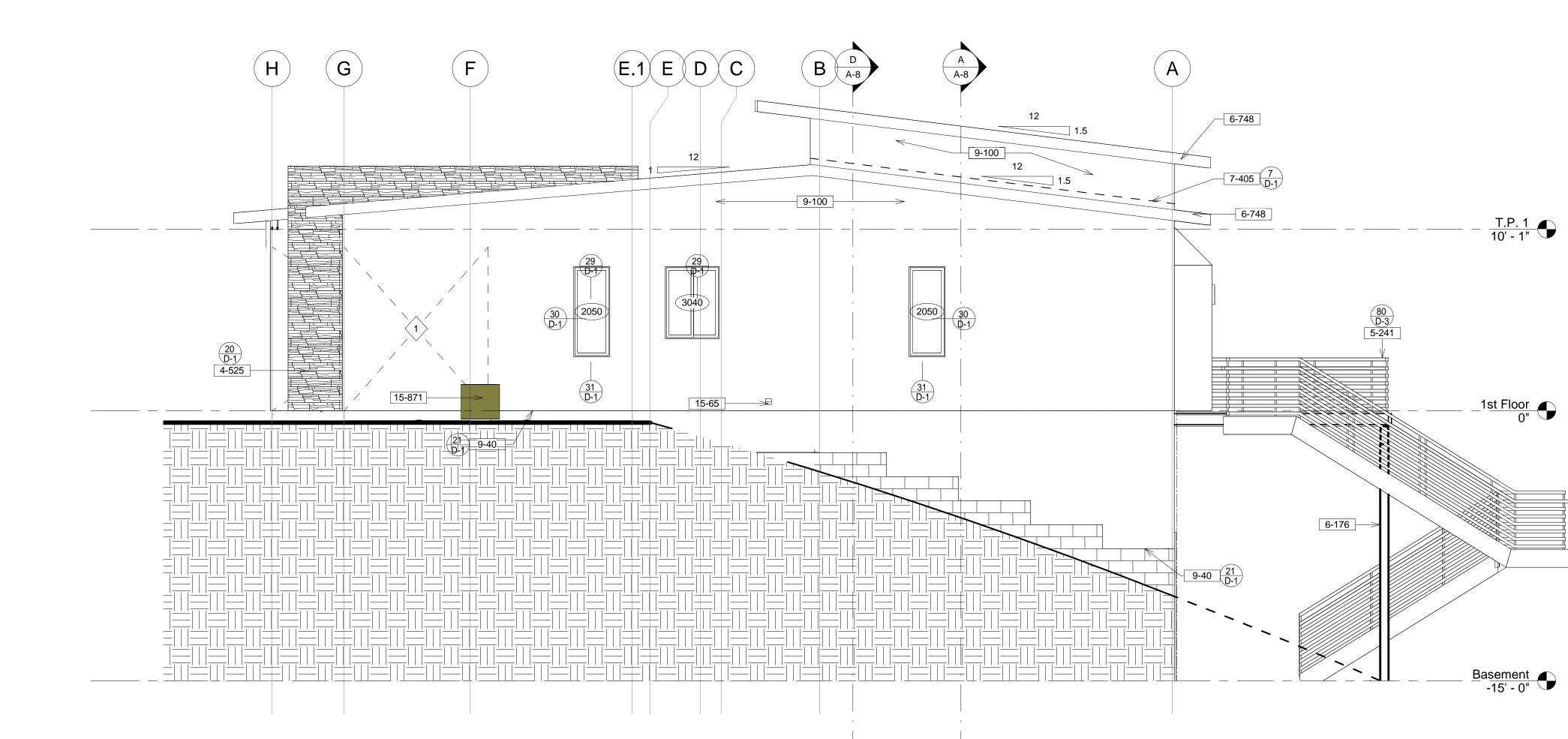




7-238	R-38 FIBERGLASS BATT INSULATION
7-238	
7-249	R-49 FIBERGLASS BATT INSULATION (PROVIDE WIRE SUPPORTS AT CEILING INSTALLATION WITH 6 MIL "VISQUEEN" VAPOR BARRIER)
9-110	STUCCO SOFFIT (USE HIGH-RIB METAL LATH AT ALL HORIZONTAL APPLICATIONS)
9-365	1/2" THICK GYPSUM BOARD GARAGE SIDE OF ALL WALLS ADJACENT TO HOUSE AND SUPPORTING SECOND FLOOR, AND 5/8" TYPE "X" GYPSUM BOARD ON CEILING ADJACENT TO HOUSE. PROVIDE MINIMUM 24" HORIZONTAL SEPARATION BETWEEN OFFSET ELECTRICAL RECEPTACLES. GAS VENTS, METAL CHIMNEYS PENETRATING THE FINISH SHALL BE FIRE STOPPED WITH AN APPROVED ASSEMBLY. PLASTIC PIPE SHALL NOT PIERCE FINISH. DUCTS ON THE GARAGE SIDE SHALL BE A MINIMUM 26 GAUGE SHEET METAL.
{9-390 {	PROVIDE ONE LAYER 5/8" TYPE "X" GYPSUM BOARD ON ALL WALLS AND CEILINGS OF USABLE SPACE UNDER STAIRS. ELECTRICAL BOXES INSTALLED IN THESE WALLS OR CEILING SHALL BE ONE-HOUR FIRE RATED.



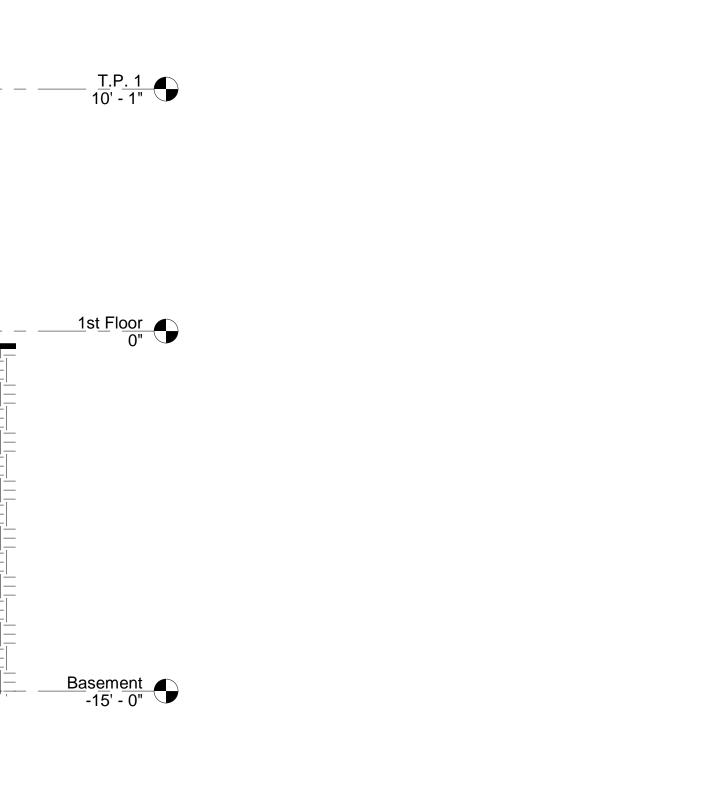


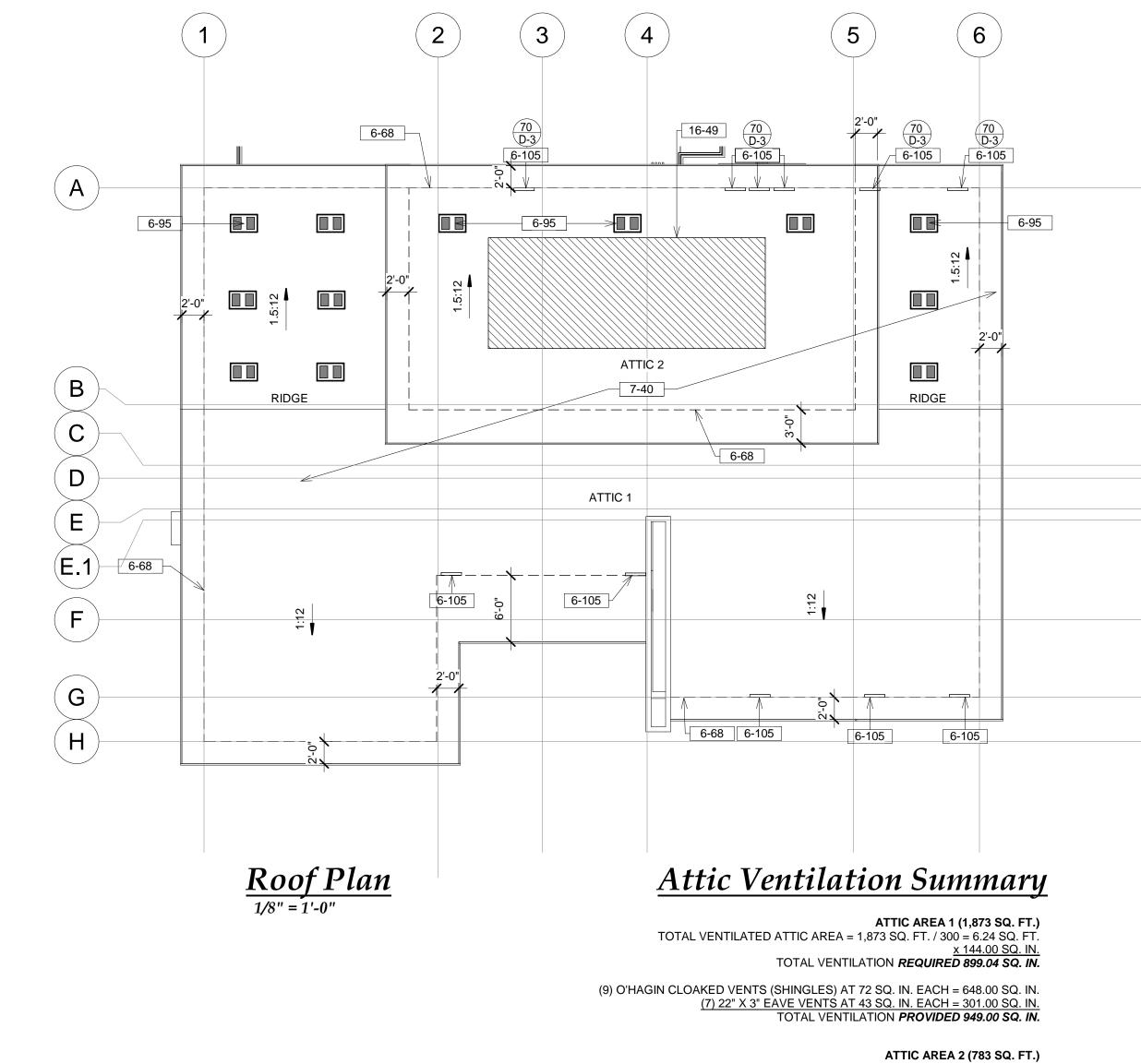


Proposed Right Elevation



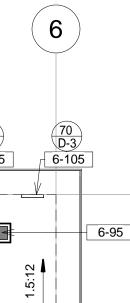
2-871	NEW GAS METER LOCATION (BY UTILIT COMPANY)
4-525	SYNTHETIC STONE VENEER THIN-SET ( BLENDPRO-FIT LEDGESTONE" PF-8019
5-241	42" HIGH WROUGHT IRON GUARDRAIL THAT A 4" DIAMETER SPHERE CANNOT
6-68	LINE OF WALL BELOW
6-95	O'HAGIN CLOAKED VENT TILE (MODEL MODEL "FLAT" FOR FLAT CONCRETE TI COMPOSITION SHINGLES) WITH 1/4" GA (O'HAGINS 1 (800) 394-3864)
6-105	22" x 3" RAFTER VENT. GALVANIZED ST HARDWARE CLOTH. ("HARLEN" RV 322
6-176	POST (SEE PLAN)
6-748	2 x 8 RESAWN BARGE BOARD
6-980	BEAM (SEE FRAMING PLAN)
7-40	TORCH-APPLIED ROOFING WITH MINER WARRANTY (SLOPE 1/4" PER FOOT MIN MODIFIED, ESR-ICC-1274)
7-405	CONTINUOUS 24 GAUGE GALVANIZED I
9-40	CONTINUOUS GALVANIZED SHEET MET
9-100	7/8" EXTERIOR CEMENT PLASTER WITH COATS MINIMUM). PROVIDE TWO LAYE SHEAR PANEL (USE HIGH RIB LATH AT
15-65	4" DIAMETER SMOOTH SHEET METAL D DAMPER. (14'-0" LONG HORIZONTAL RU FRAMED ENCLOSURE WITH PLYWOOD
15-328	RESIDENTIAL TANKLESS GAS-FIRED HO WATER CONNECTION AND 4" DIAMETER FOR MANUFACTURER AND MODEL NUM OWNER.
15-871	CONDENSING UNIT. PROVIDE 3-1/2" THI ABOVE GROUND PER C.M.C.
16-05	100 AMP RECESSED MAIN PANEL (UNDI WITH UTILITY COMPANY) (PROVIDE GA 3'-0" DEEP BY 2'-6" WIDE MINIMUM CLEA 110-26a
16-49	SOLAR ZONE OF 15% OF ROOF AREA M THAT HAVE NO DIMENSION LESS THAN EACH) PER ENERGY CODE, SECTION 1 VERIFY BEST DIRECTION TO FACE THE

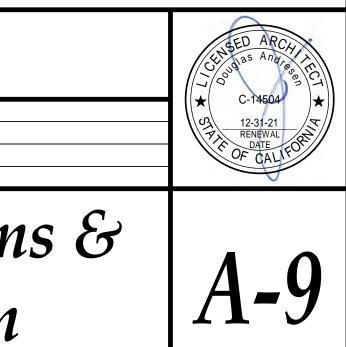




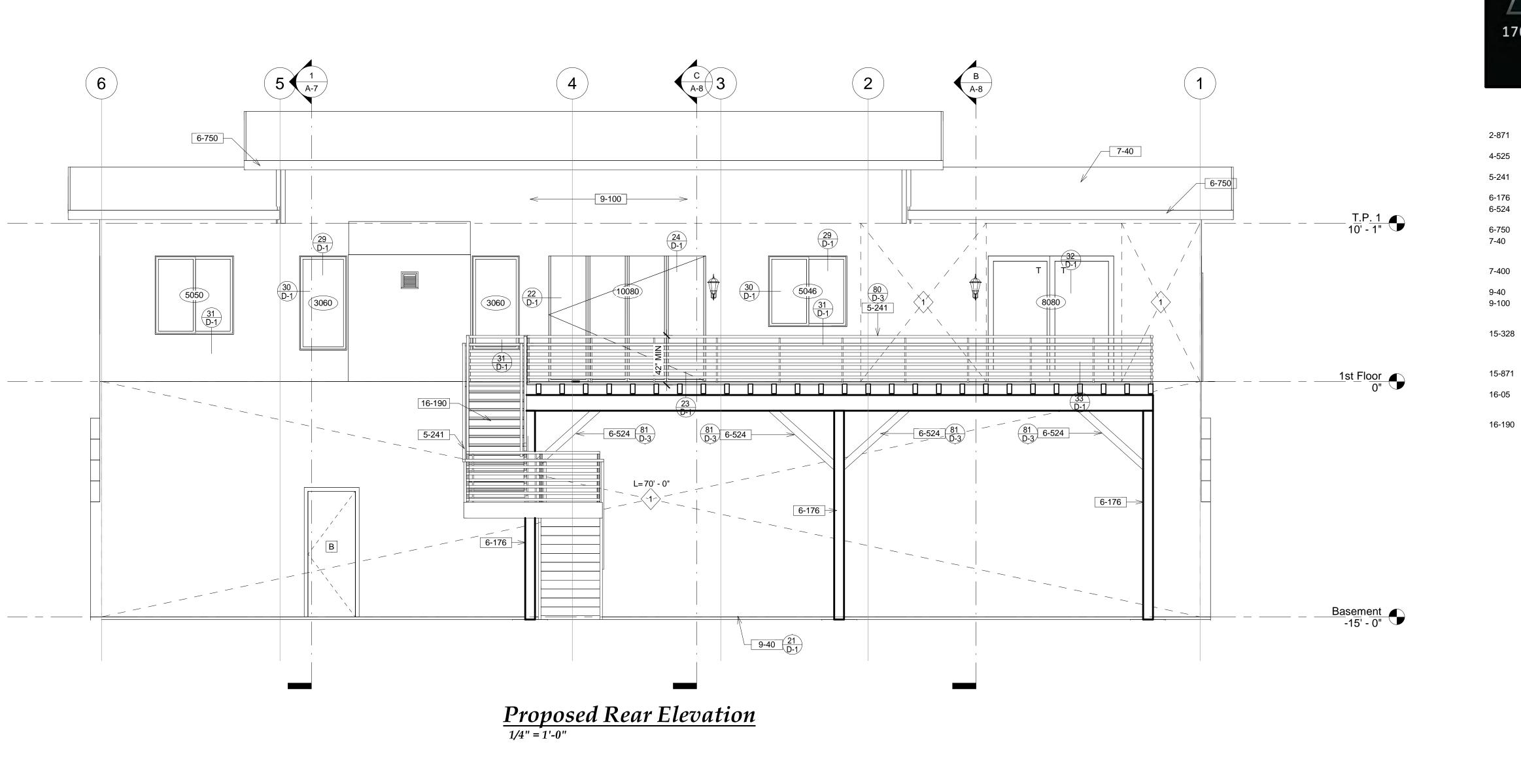
**ATTIC AREA 2 (783 SQ. FT.)** TOTAL VENTILATED ATTIC AREA = 783 SQ. FT. / 300 = 2.61 SQ. FT. <u>x 144.00 SQ. IN.</u> TOTAL VENTILATION **REQUIRED 375.84 SQ. IN.** (3) O'HAGIN CLOAKED VENTS (SHINGLES) AT 72 SQ. IN. EACH = 216.00 SQ. IN. (4) 22" X 3" EAVE VENTS AT 43 SQ. IN. EACH = 172.00 SQ. IN. TOTAL VENTILATION **PROVIDED 388.00 SQ. IN.** 

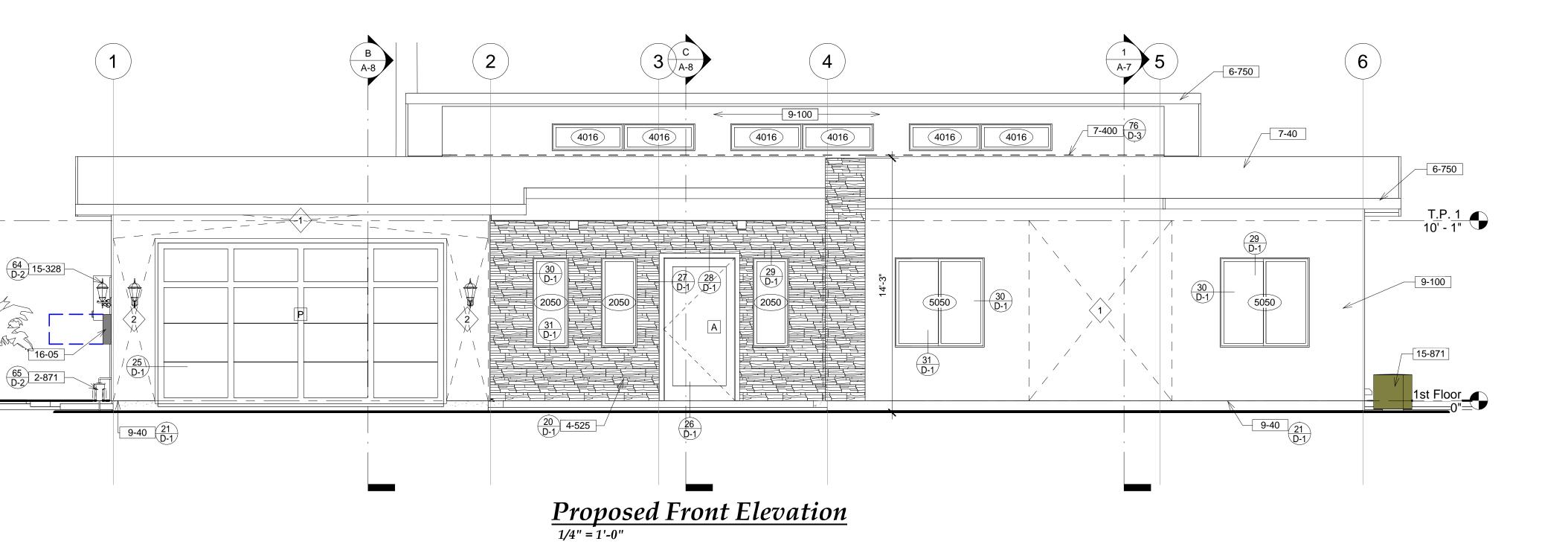
Proposed Single Family Residence For: Travis & Brianna Tolibas 22624 Inspiration Point, Canyon Lake, CA 92587 5 Jan. 2021 20-3924 Ext. Elevations & Roof Plan













	Plan N
2-871	NEW GAS METER LOCATION (BY UTILITY COMPANY)
4-525	SYNTHETIC STONE VENEER THIN-SET C LEDGESTONE" PF-8019 BY "STONE PRO
5-241	42" HIGH WROUGHT IRON GUARDRAIL V A 4" DIAMETER SPHERE CANNOT PASS
6-176	POST (SEE PLAN)
6-524	6 x 6 DIAGONAL KNEE BRACE WITH (3) 1 DUTY SCREW (ICC-ESR-2236) EACH END
6-750	2 x 8 RESAWN FASCIA BOARD
7-40	TORCH-APPLIED ROOFING WITH MINER/ (SLOPE 1/4" PER FOOT MINIMUM). (GAF ESR-ICC-1274)
7-400	CONTINUOUS 24 GAUGE ROOF/WALL FL AND INSTALLATION MUST COMPLY WITH
9-40	CONTINUOUS GALVANIZED SHEET MET
9-100	7/8" EXTERIOR CEMENT PLASTER WITH COATS MINIMUM). PROVIDE TWO LAYER SHEAR PANEL (USE HIGH RIB LATH AT H
15-328	RESIDENTIAL TANKLESS GAS-FIRED HO WATER CONNECTION AND 4" DIAMETER MANUFACTURER AND MODEL NUMBER) OWNER.
15-871	CONDENSING UNIT. PROVIDE 3-1/2" THIC ABOVE GROUND PER C.M.C.
16-05	100 AMP RECESSED MAIN PANEL (UNDE UTILITY COMPANY) (PROVIDE GAS AND DEEP BY 2'-6" WIDE MINIMUM CLEARANG

TENANT)

Residence For:
nna Tolibas
. Canyon Lake, CA 92587
$\land$
$\overline{\bigtriangleup}$

## Notes

TY). (VERIFY EXACT LOCATION WITH UTILITY OVER BROWN COAT ("SOUTHWEST BLENDPRO-FIT ODUCTS CORP.") NER-358 WITH 1/2" x 1/2" X 0.090" RAILS SPACED SUCH THAT S THROUGH.

1/4" DIA. x 6" LONG STRONG DRIVE SDS HEAVY

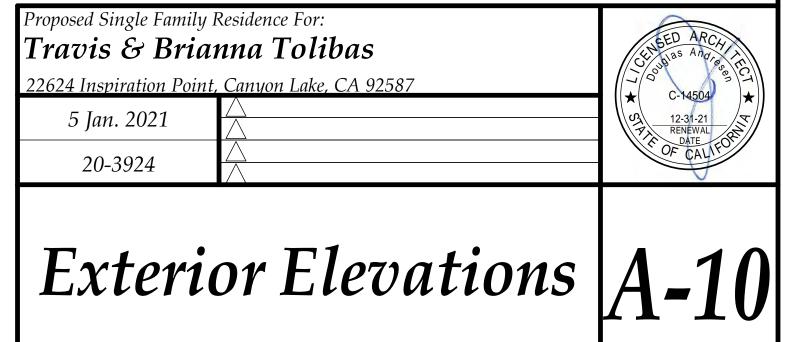
ERAL CAP SHEET AND 10-YEAR BONDED WARRANTY AF MATERIALS CORP., RUBEROID APP MODIFIED, FLASHING (TYPICAL). ROOF FLASHING MATERIALS ITH THE PROVISIONS OF CBC SECTIONS 1507.

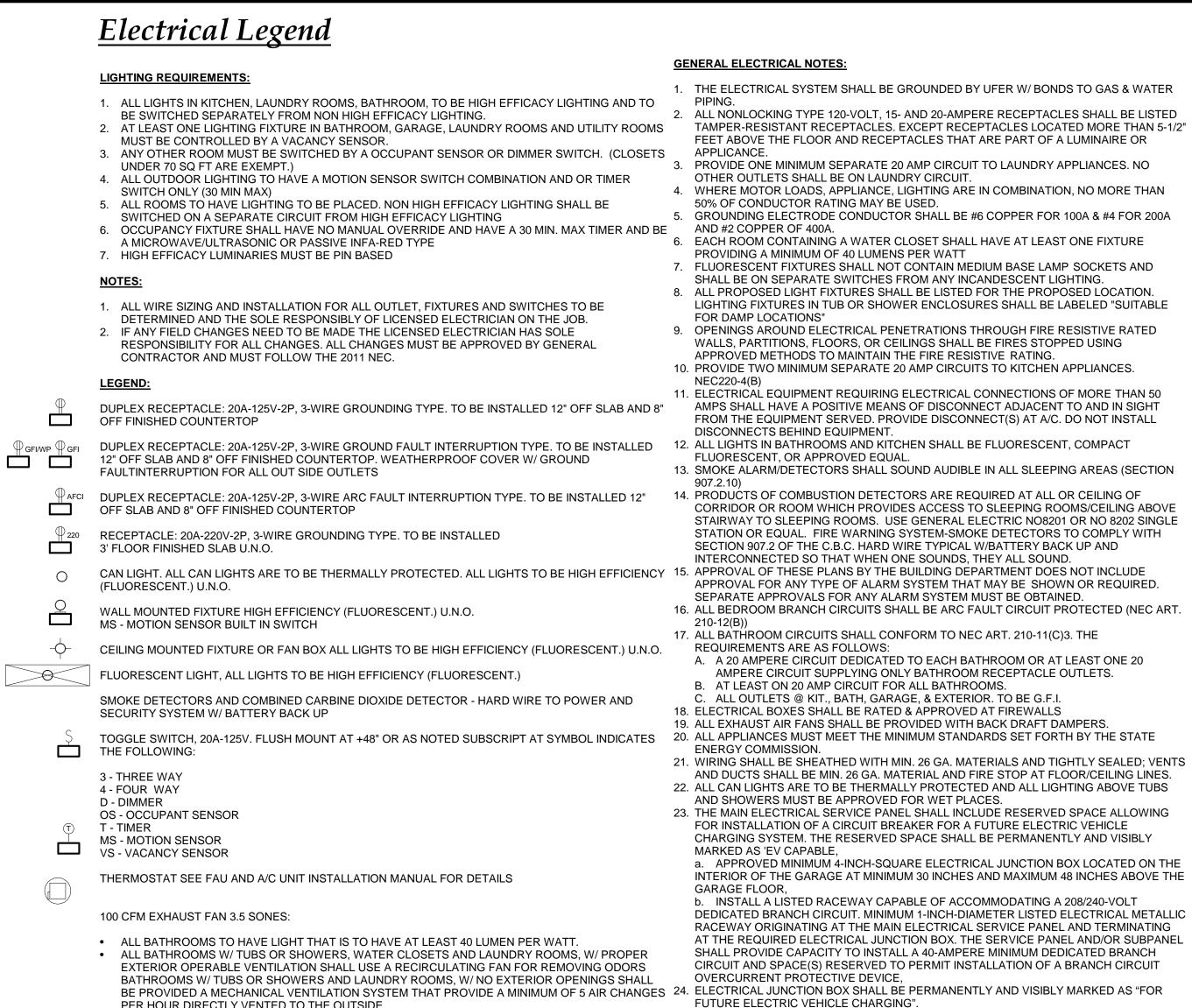
TAL WEEP SCREED TH PAPER-BACKED WOVEN WIRE FABRIC LATH (3 YERS OF GRADE "D" PAPER OVER ALL PLYWOOD THORIZONTAL APPLICATIONS) OT WATER FIXTURE ON WALL WITH 3/4" GAS AND

ER "B" VENT (SEE MECHANICAL SYSTEM NOTES FOR ER). VERIFY REQUIRED INPUT BTU RATE WITH HICK POLYETHYLENE PAD EXTENDED 3" MINIMUM

DERGROUND FEED) (VERIFY EXACT LOCATION WITH ND WATER BONDING TO SERVICE) PROVIDE 3'-0" NCE IN FRONT OF PANEL PER ARTICLE 110-26a PROVIDE ONE 220v. RECEPTACLE (50 AMPS) AT CEILING (VERIFY EXACT LOCATION WITH

> REVIEWED FOR CODE COMPLIANCE Sep 13, 2021 INTERWEST CONSULTING GROUP





PER HOUR DIRECTLY VENTED TO THE OUTSIDE. • THE DISCHARGE POINT FOR THE EXHAUST AIR SHALL BE AT LEAST 3' FROM ALL EXTERIOR OPENINGS WHICH ALLOWS AIR ENTRY INTO THE OCCUPIED AREAS.

## Mechanical Notes

### MECHANICAL NOTES <u>/ENT NOTES</u> GC 4.506.1 - BATHROOM EXHAUST FANS: MECHANICAL MECHANICAL EXHAUST FANS FROM BATHROOMS SHALL EXHAUST FANS WHICH EXHAUST DIRECTLY FROM COMPLY WITH THE FOLLOWING (CALGREEN 4.506.1); 1) BATHROOMS SHALL COMPLY WITH THE FOLLOWING: ENERGY STAR COMPLIANT AND DUCTED TO TERMINATE OUTSIDE BUILDING , 2) CONTROLLED BY READILY A. FANS SHALL BE ENERGY STAR COMPLIANT AND BE ACCESSIBLE HUMIDISTAT. INTERMITTENT LOCAL VENTILATION EXHAUST AIRFLOW DUCTED TO TERMINATE OUTSIDE THE BUILDING. B. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE RATES SHALL 100 CFM IN KITCHENS (ASHRAE STANDARD HOUSE VENTILATION SYSTEM, FANS MUST BE 62.2 - 2007CONTROLLED BY A HUMIDISTAT WHICH SHALL BE 3. PROVIDE VERTICAL/HORIZONTAL CHASES ON READILY ACCESSIBLE. HUMIDISTAT CONTROLS SHALL BE MECHANICAL AND PLUMBING PLANS TO ACCOMMODATE CAPABLE OF ADJUSTMENT BETWEEN RELATIVE DUCTS AND VENTS AS REQUIRED 4. PROVIDE THE FOLLOWING IN EACH BATHROOM, HUMIDITY RANGES OF 50% TO 80%. POWDER ROOM, AND WATER CLOSET COMPARTMENT **WHOLE BUILDING VENTILATION REQUIREMENTS AND** (CRC R303.3): \* LOCAL EXHAUST FAN TO EXTERIOR PROVIDING SHRAE 62.2 T LEAST ONE MECHANICAL VENTILATION SYSTEM IN THE MINIMUM 50 CFM INTERMITTENT VENTILATION OR 20 CFM BUILDING MUST BE DESIGNATED FOR USE IN COMPLIANCE CONTINUOUS \* ARTIFICIAL LIGHTING OR MINIMUM 3 SQUARE FEET OF WITH THE WHOLE-BUILDING VENTILATION REQUIREMENT. ALTERNATIVELY, THE SUM OF THE RATED AIRFLOWS FROM WINDOW GLAZING 5. THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND MULTIPLE FANS CAN BE UTILIZED TO MEET THE REQUIRED SHALL HAVE SOLID FLOORING NOT LESS THAN TWENTY-WHOLE-BUILDING VENTILATION AIRFLOW. THE SYSTEM(S) MUST DELIVER CONTINUOUS VENTILATION AIRFLOW AT A FOUR (24) INCHES WIDE FROM THE ENTRANCE OPENING RATE GREATER THAN OR EQUAL TO THE RATE SPECIFIED IN TO THE APPLIANCE. (CMC 904. 10.2). EQUATION 4.1A, AND FAN SONE RATINGS MUST NOT EXCEED 6. A LEVEL WORKING PLATFORM NOT LESS THAN THIRTY (30) INCHES BY THIRTY (30) INCHES SHALL BE PROVIDED 1.0, FOR DWELLING OCCUPANT DENSITIES KNOWN TO BE IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. GREATER THAN (Nbr + 1). THE RATE SHALL BE INCREASED BY (CMC 904. 10.3). 7.5 CFM FOR EACH ADDITIONAL PERSON. 7. À PERMANENT 120-VOLT RECEPTACLE OUTLET AND A LIGHTING FIXTURE SHALL BE INSTALLED NEAR THE CALCULATION: 2.654 SF HOME WITH 4 BEDROOMS APPLIANCE. THE SWITCH CONTROLLING THE LIGHTING Qfan = 114 IAQ CFM REQUIRED AT 0.25 IAQ WATTS/CFM FIXTURE SHALL BE LOCATED AT THE ENTRANCE TO THE PASSAGEWAY. (CMC 904. 10.4). 8. COMBUSTION AIR OPENINGS FOR FURNACE (IN ATTIC): USE (1) PANASONIC WHISPER CEILING FAN - PER CMC SECTION 701.6.1 TWO PERMANENT OPENING TOTAL CFM: 100.00 METHOD, ONE COMMENCING WITHIN 12 INCHES OF THE EDL: 140.00 MODEL LIST: WHISPER CEILING FV-15VQ5 TOP AND ONE COMMENCING WITHIN 12 INCHES OF THE BOTTOM. - EACH OPENING SHALL HAVE A FREE AREA OF NOT MECHANICAL SYSTEM NOTES LESS THAN 1 SQ. IN PER 2,000 BTU/H OF TOTAL INPUT GAS FURNACE (IN ATTIC RATING OF APPLIANCES IN THE ENCLOSURE: 100,000 48 KBTU/H OUTPUT, 10.5 HSPF. VERIFIED HSPF, VERIFIED HEAT PUMP RATED HEATING COMPANY BTU/H / 2,000 BTU/H = 50 SQ. IN. - SEE ATTIC VENTILATION SUMMARY ON ROOF PLAN 2. 4 TON AC UNIT SHEET 20 SEER, 13.5 EER, 47.5 KBTU TOTAL OUTPUT. MINIMUM 9. EXHAUST DUCTS SHALL TERMINATE OUTSIDE THE AIRFLOW, FAN EFFICACY WATTS/CFM, VERIFIED EER BUILDING AND SHALL BE EQUIPPED WITH BACKDRAFT SEER AND REFRERANT CHARGE HERS VERIFICATION. DAMPERS OR WITH MOTORIZED DAMPERS THAT 3. DISTRIBUTION SYSTEM AUTOMATICALLY SHUT WHERE THE SYSTEMS OR **R-8 INSULATION. DUCK LEAKAGE TESTING** SPACES SERCED ARE NOT IN USE. (CMC 504.1.1) HERS VERIFICATION 10. ENVIRONMENTAL AIR DUCT EXHAUST SHALL TERMINATE 4. TANKLESS GAS WATER HEATER NOT LESS THAN 3 FEET FROM PROPERTY LINE, 10 FEET 0.97 EF, LESS THAN 200,000 BTUH. FROM A FORCED AIR INLET, AND 3 FEET FROM NAVIEN NPE-210S OR EQUAL OPENINGS INTO THE BUILDING. ENVIRONMENTAL WHOLE HOUSE FAN EXHAUST DUCT SHALL NOT DISCHARGE ONTO A PUBLIC 1.5 x CFA = 1.5 x 2654 = 3981 CFM PROVIDE 4,160 CFM, 769 WATT WALKWAY. (CMC 502.2.1) 11. EXHAUST OPENINGS TERMINATING TO THE OUTDOORS PROVIDE MIN. 7.56 SF NET FREE ATTIC VENT AREA SHALL BE COVERED WITH A CORROSION RESISTANT QUIET COOL QC-CL-6000 SCREEN HAVING NOT LESS THAN 1/4 OF AN INCH 6. INDOOR AIR QUALITY FAN OPENINGS AND SHALL HAVE NOT MORE THAN 1/2 INCH SEE CALCULATION ABOVE FOR WHOLE BUIDLING OF AN OPENINGS. (CMC 502.1) VENTILATION REQUIREMENTS 12. DƯCT PENETRATING WALL AND CEILING SEPARATIONS 7. PU SYSTEM STANDARD DESIGN PU CAPACITY: 3.08 KWDC BETWEEN A GARAGE AND A DWELLING UNIT SHALL BE CONSTRUCTED OF MINIMUM 26 GAGE SHEET METAL AND ? SHALL HAVE NO OPENING INTO GARAGE. (R302.5.2) **TITLE 24 REQUIREMNETS** 1. ROOF INSULATION R-49+R-19 2. HEEL TRUSS - NO 3. WALLS 2x6 WITH R-19 4. FLOOR INSULATION OVER GARAGE 2x6 W/ R-19 & 14" TJI W/ R-38 WHOLE HOUSE FAN (15-516) WHOLE HOUSE VENTILATION (IAQ FAN)(15-513 & 15-514) - YES . RADIANT BARRIER (6-657) 8. COOL ROOF - YES 9. WINDOWS - U-VALUE 0.30/SHGC 0.25

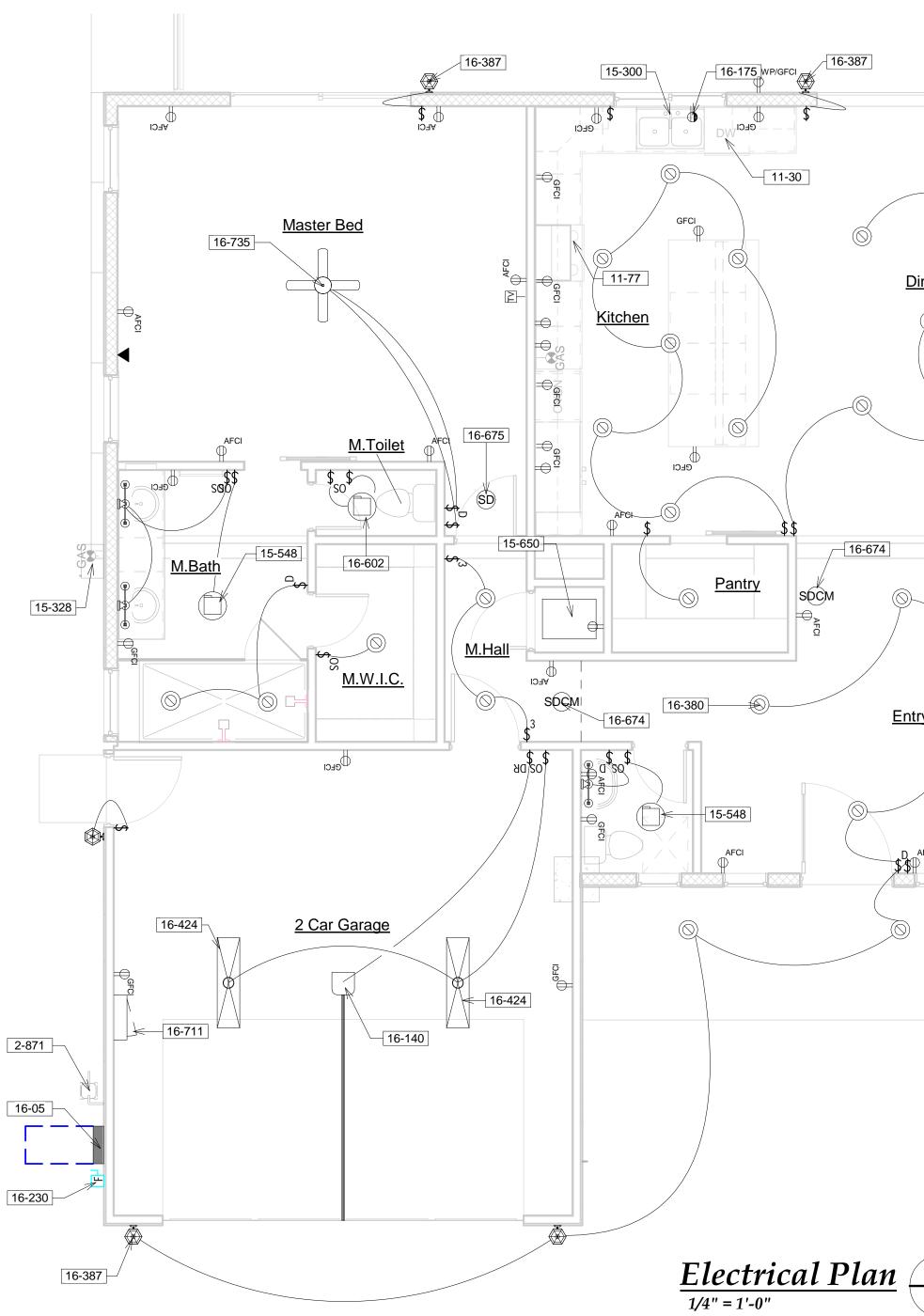
## **EV**Notes

CEC 625.15.

- DEDICATED BRANCH CIRCUIT. MINIMUM 1-INCH-DIAMETER LISTED ELECTRICAL METALLIC
- 25. BOXES FOR CEILING FANS SHALL BE U.L. LISTED FOR FAN MOUNTING.

- 1. FOR A SINGLE EV SPACE, A LISTED RACEWAY SHALL BE INSTALLED TO ACCOMMODATE A DEDICATED 208/204-VOLT BRANCH CIRCUIT. THE RACEWAY SHALL NOT BE LESS THAN TRADE SIZE 1 (NOMINAL 1 INCH INSIDE DIAMETER). THE RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR SUBPANEL AND SHALL TERMINATE INTO A LISTED CABINET
- BOX OR OTHER ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF AN EV CHARGER. THE 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. 2016 CGBSC SECTION 4.106.4.1
- 3. NEW CONSTRUCTION SHALL COMPLY WITH SECTION 4.106.4 AND 4.106.4.2 TO FACILITATE FUTURE INSTALLATION AND USE OF EV CHARGERS. 2016 CGBSC SEC. 4.106.4.
- 4. THE ELECTRICAL VEHICLE CHARGING SYSTEM SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (I.E., UL) IN
- COMPLIANCE WITH UL 2202 "STANDARD FOR ELECTRICAL VEHICLE (EV) CHARGING SYSTEM EQUIPMENT. CEC 90.7. IN ANY BUILDING OR INTERIOR AREA USED FOR CHARGING ELECTRICAL
- VEHICLES, ELECTRICAL EQUIPMENT SHALL BE INSTALLED ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE. 6. THE ELECTRICAL VEHICLE CHARGING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINE AND SHALL BE SUITABLE FOR THE ENVIRONMENT (INDOOR/ OUTDOOR). IF INSTALLED INDOORS, THE CHARGING STATION SHALL BE LABELED "VENTILATION

NOT REQUIRED" IN LOCATION CLEARLY VISIBLE AFTER INSTALLATION.





## **Plan** Notes

	<b>E</b>	ectrical Plan
	5 Jan. 202 20-3924	$\land$
	Travis & I	Family Residence For: Brianna Tolibas 1 Point, Canyon Lake, CA 92587
	Duran and Circula I	Tamily Desidence Fam
©_y ₽_y W.I.C.4		
Bed 4 Bed 3		
AFCI	AFCI	
15-516 SOCM		
Bath 3.053D GFCI	ndry	
ECC SO SO W.I.C.2		
AFCI O AFCI SD AFCI	16-290	]
	AFCI	
Dining		
16-380 Bed 2		SWITCHES FOR FAN AND LIGHT.
	16-711 16-735	HAVE PERMANENT WIRING WITHOUT A DISCONNECTIN REQUIRED FOR OVERCURRENT PROTECTION, BE WIRI ACTIVATED, ALL ARE ACTIVATED AND THE DETECTOR AUDIBLE IN ALL SLEEPING AREAS. EV PANEL "READY" SEE NOTE 1 TO 6 ON EV NOTES CEILING FAN WITH LIGHT (AS SELECTED BY OWNER). F LISTED FOR FAN SUPPORT SECURED TO SOLID 2x BLC
	16-675	THE BATTERIES ARE LOW, HAVE PERMANENT WIRING SWITCH OTHER THAN THOSE REQUIRED FOR OVERCU THAT WHEN ONE IS ACTIVATED, ALL ARE ACTIVATED A AN ALARM THAT IS AUDIBLE IN ALL SLEEPING AREAS. SC9120B, OR EQUAL) ALL NEW SMOKE DETECTORS SHALL: RECEIVE PRIMAI WIRING, HAVE A BATTERY BACK-UP, EMIT A SIGNAL WI
	16-602 16-674	ACRYLIC LENS BROAN MODEL 744LED EXHAUST FAN/LED LIGHT COM TWO-FUNCTION CONTROL. PROVIDE MINIMUM 50 CFM ENERGY STAR CERTIFIED ALL NEW COMBINATION SMOKE / CARBON MONOXIDE POWER FROM THE BUILDING WIRING, HAVE A BATTER
	16-380 16-387 16-424	CODES) RECESSED INCANDESCENT (UON) "CAN" LIGHT FIXTUF FLUORESCENT, "P" = HARDWIRE TO PHOTOCELL", WHE FIXTURES IN DIRECT CONTACT WITH INSULATION. SURFACE MOUNTED ADJUSTABLE FLOOD LIGHTS (+84 2'-0" x 4'-0" SURFACE MOUNTED LED LIGHTING WITH P4
	16-140 16-175 16-230 16-290	OUTLET FOR GARAGE DOOR OPENER WITH REMOTE S REQUIREMENTS HALF HOT RECEPTACLE FOR GARBAGE DISPOSER TELEPHONE SERVICE BOX FROM STREET (VERIFY EXA 220 V. DISCONNECT SWITCH (VERIFY CONDUCTOR SIZ
	15-871 16-05	CONDENSING UNIT. PROVIDE 3-1/2" THICK POLYETHYL ABOVE GROUND PER C.M.C. 100 AMP RECESSED MAIN PANEL (UNDERGROUND FEE UTILITY COMPANY) (PROVIDE GAS AND WATER BONDI DEEP BY 2'-6" WIDE MINIMUM CLEARANCE IN FRONT O
	15-650	TO OUTSIDE WITH POINT OF DISCHARGE A MINIMUM C ALLOWS OUTSIDE AIR INTO THE BUILDING. 5 TON FAU WITH COOLING COIL. SET ON PLYWOOD PL PROVIDE 4" DIAMETER "B" VENT TO OUTSIDE AIR. PRO PAN WITH 3/4" PVC CONDENSATE OVERFLOW TO DRAI
	15-514 15-516 15-548	WHOLE HOUSE VENTILATION FOR INDOOR AIR QUALIT MANUFACTURER AND MODEL NUMBER) WHOLE HOUSE FAN (SEE MECHANICAL SYSTEM NOTE EXHAUST FAN CAPABLE OF FIVE COMPLETE AIR CHAN
	15-513	WATER CONNECTION AND 4" DIAMETER "B" VENT (SEE MANUFACTURER AND MODEL NUMBER). VERIFY REQU OWNER.
	11-77 15-300 15-328	BUILT-IN GAS COOK TOP WITH DOWNDRAFT VENT. PR DUCT BELOW FLOOR TO OUTSIDE AIR. 33" x 22" DOUBLE BOWL SELF-RIMMING ENAMELED STI GARBAGE DISPOSER RESIDENTIAL TANKLESS GAS-FIRED HOT WATER FIXTU
	2-871 11-30	NEW GAS METER LOCATION (BY UTILITY). (VERIFY EXA COMPANY) DISHWASHER SPACE

NEW GAS METER LOCATION (BY UTILITY). (VERIFY EXACT LOCATION WITH UTILITY

TH DOWNDRAFT VENT. PROVIDE 7" DIAMETER SHEET METAL TSIDE AIR. F-RIMMING ENAMELED STEEL KITCHEN SINK WITH 1/2 HP

AS-FIRED HOT WATER FIXTURE ON WALL WITH 3/4" GAS AND " DIAMETER "B" VENT (SEE MECHANICAL SYSTEM NOTES FOR EL NUMBER). VERIFY REQUIRED INPUT BTU RATE WITH

FOR WHOLE HOUSE VENTILATION. (MAXIMUM SOUND LEVEL BELED "OPERATE WHEN HOUSE IS IN USE. KEEP ON EXCEPT

N FOR INDOOR AIR QUALITY (SEE MECHANICAL NOTES FOR EL NUMBER) ECHANICAL SYSTEM NOTES)

FIVE COMPLETE AIR CHANGES EVERY HOUR. DISCHARGE AIR DISCHARGE A MINIMUM OF 3'-0" FROM ANY OPENING WHICH THE BUILDING. COIL. SET ON PLYWOOD PLATFORM WITH RETURN AIR BELOW

ENT TO OUTSIDE AIR. PROVIDE WATERTIGHT GALVANIZED SATE OVERFLOW TO DRAIN ABOVE WINDOW. DE 3-1/2" THICK POLYETHYLENE PAD EXTENDED 3" MINIMUM

ANEL (UNDERGROUND FEED) (VERIFY EXACT LOCATION WITH DE GAS AND WATER BONDING TO SERVICE) PROVIDE 3'-0" M CLEARANCE IN FRONT OF PANEL PER ARTICLE 110-26a R OPENER WITH REMOTE SAFETY CONTROLS PER FEDERAL OR GARBAGE DISPOSER

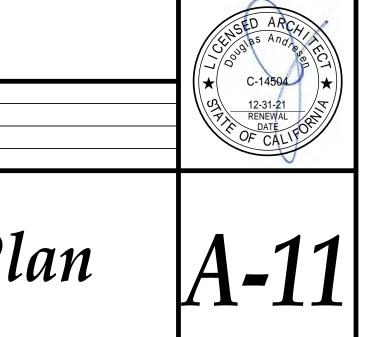
FROM STREET (VERIFY EXACT LOCATION W (VERIFY CONDUCTOR SIZE AND FURSE CONDUCTOR SIZE AND FURSE CONDUCTOR (UON) "CAN" LIGHT FIXTURE ("V" = COAROBIRESASICANT, "F" = WIRE TO PHOTOCELL", WHERÈ OCCURS) USE "TYPE IC" FOR ACT WITH INSULATION Sep 13, 2021 ACT WITH INSULATION. TABLE FLOOD LIGHTS (+84,"+4QN)/44TH MQTION DETECTORD TED LED LIGHTING WITH PAINTED METAL HOUSING AND

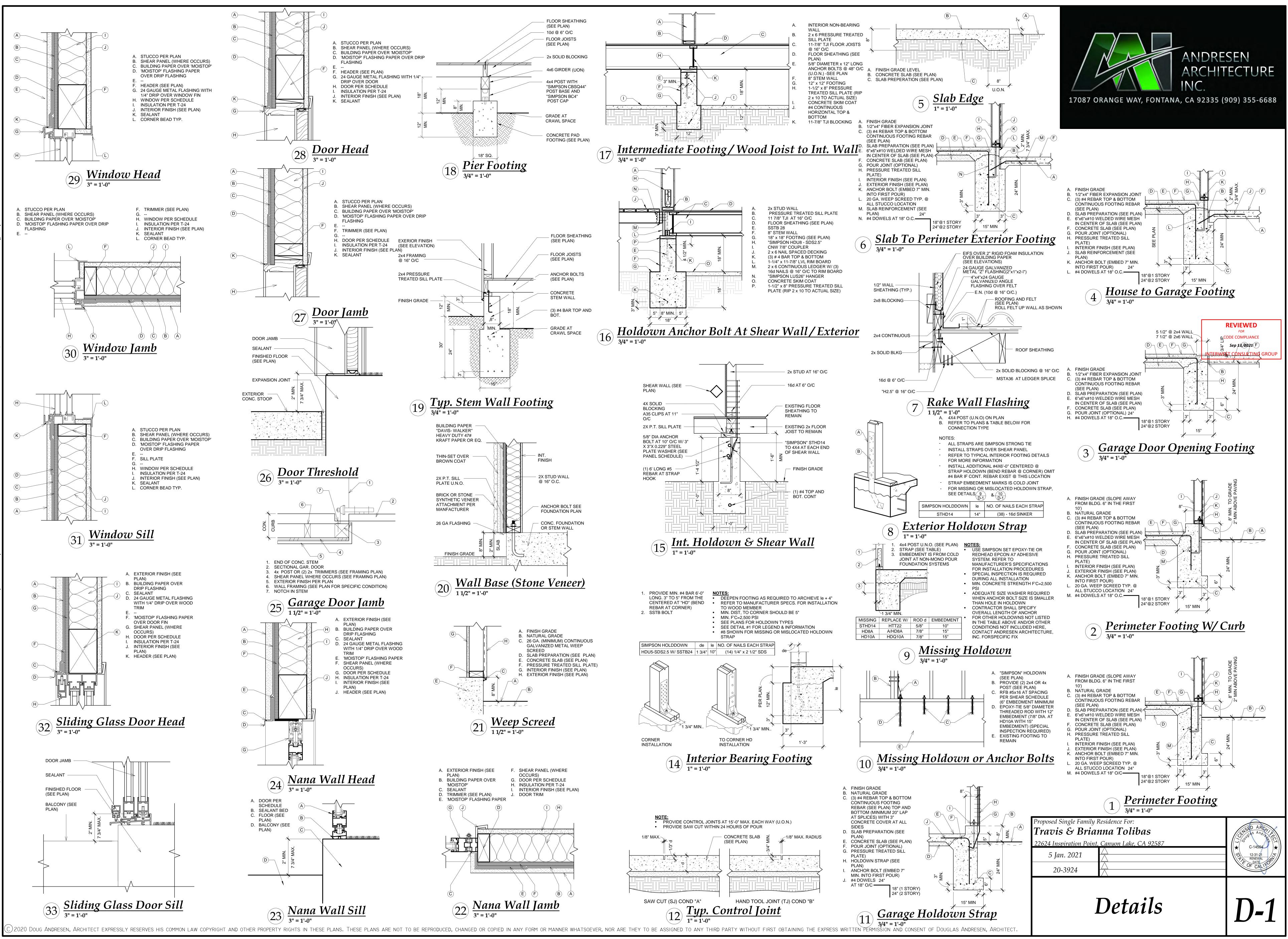
AUST FAN/LED LIGHT COMBO TO OUTSIDE AIR WITH "BROAN" PROVIDE MINIMUM 50 CFM (PROVIDE BACKDRAFT DAMPER)

OKE / CARBON MONOXIDE ALARMS SHALL: RECEIVE PRIMARY WIRING, HAVE A BATTERY BACK-UP, EMIT A SIGNAL WHEN AVE PERMANENT WIRING WITHOUT A DISCONNECTING SE REQUIRED FOR OVERCURRENT PROTECTION, BE WIRED S TED. ALL ARE ACTIVATED AND THE DETECTOR SHALL SOUND IN ALL SLEEPING AREAS. ("FIRST ALERT" MODEL NO.

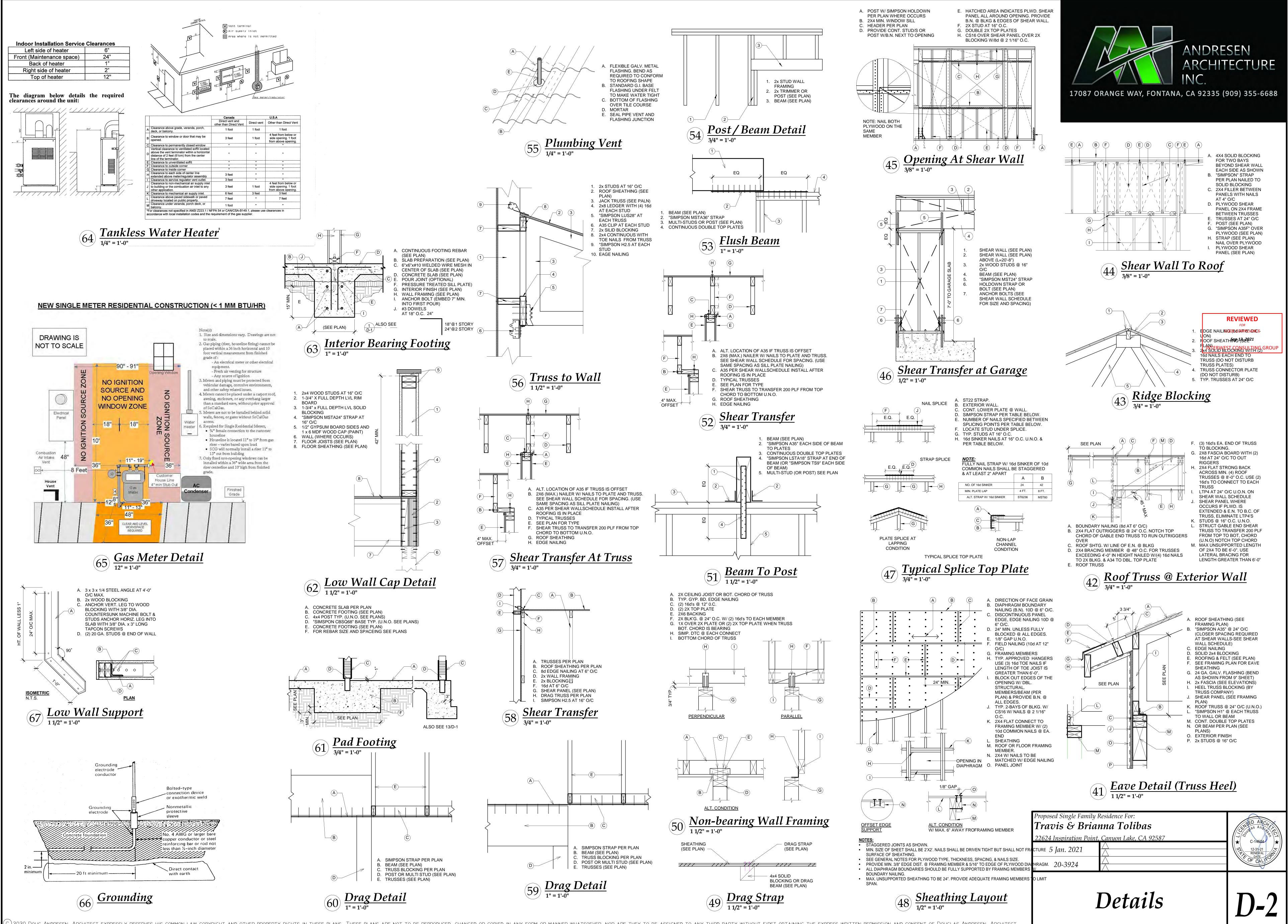
ORS SHALL: RECEIVE PRIMARY POWER FROM THE BUILDING BACK-UP, EMIT A SIGNAL WHEN THE BATTERIES ARE LOW, WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE RENT PROTECTION, BE WIRED SO THAT WHEN ONE IS ATED AND THE DETECTOR SHALL SOUND AN ALARM THAT IS

DTE 1 TO 6 ON EV NOTES S SELECTED BY OWNER). PROVIDE METAL JUNCTION BOX SECURED TO SOLID 2x BLOCKING. PROVIDE SEPARATE

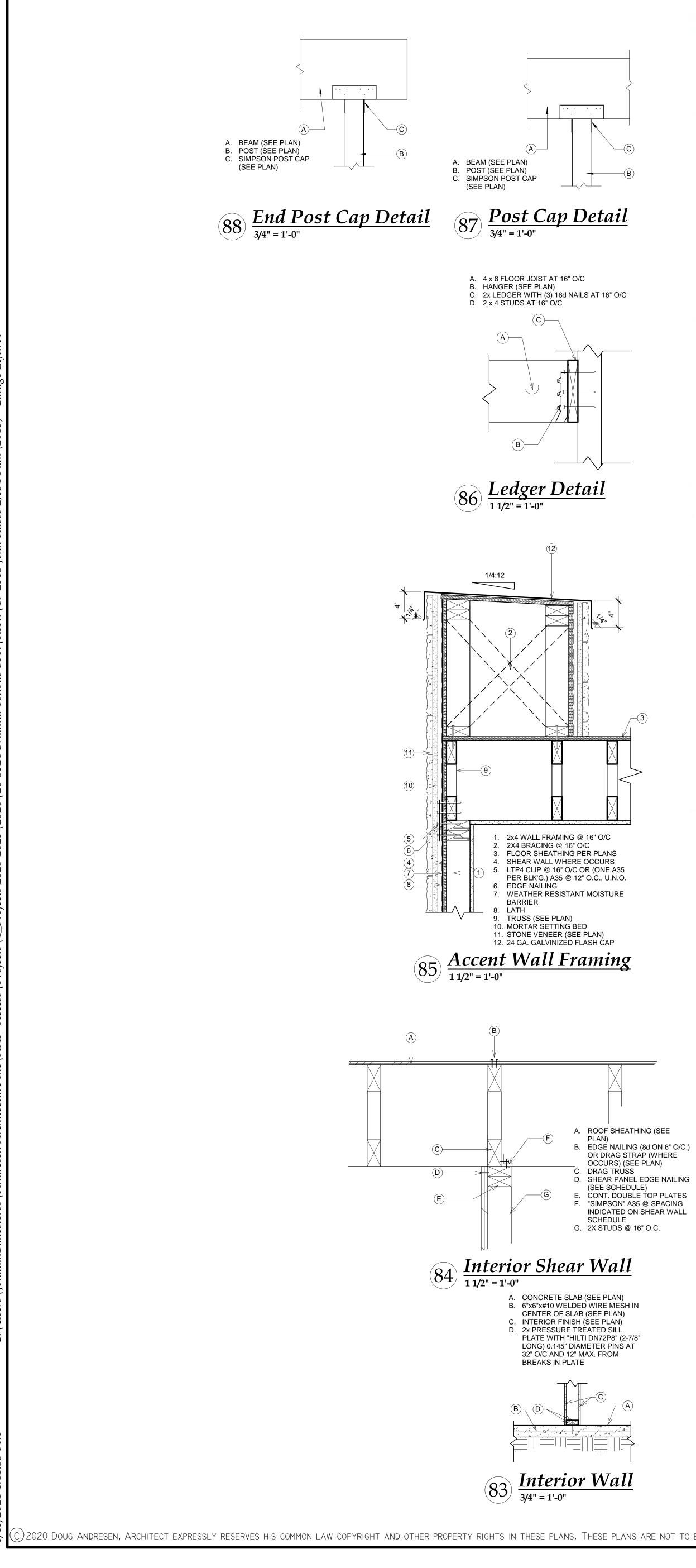




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### DEX-D-TEX Care & Maintenance

### Congratulations on choosing the finest quality waterproof deck covering available. Your new Dex O-Tex Weatherwear Deck covering system will provide years of trouble free service with a minimum of maintenance. Just follow the recommendations below to maximize the life of your deck covering.

**Routine Cleaning** Routine cleaning for your new Dex-O-Tex deck is simple. Just wash with a mild cleaning solution such as "Simple Green" or "Ivory Liquid". Use a brush to remove tough stubborn stains or residual compounds.

Rinse thoroughly with clean water. Regular cleaning will prevent build-up of residue, which can make the deck surface slippery when wet, Specialty and Deep Cleaning Procedures

Test Area - Always test selected cleaning products before general uses. Test a minimum of 4 ft. by 4 ft. area of the deck. Use manufacturer's application instructions. Let the test panel dry thoroughly.

Inspect - Keep test panels available for comparison throughout the cleaning project. Utilize a product that is a mildly alkaline product for cleaning and degreasing heavily soiled surfaces. These products are ideal for cleaning hard surfaces stained and soiled by hard use and heavy traffic.

They are usually dilatable for application to nearly any surface. In concentrate, they dissolve the toughest stains. These surface cleaners rinse quickly and efficiently with cold water. Application Before applying, read all manufacturers

"Preparation" and "Safety Information" sections in the Manufacturers Product Data Sheet for all surface cleaners utilized. Use all surface cleaners in concentrate or dilute as per manufacturers recommendations. Refer to manufacturers test area results for recommended dilution for intended use.

1. Pre-wet the surface with clean water.

Dex O Tex Care & Maintenance

## Care & Maintenance

- 2. Leave on the surface for 2-3 minutes. If needed, apply more to keep the surface wet. 3. Mist treated surfaces with water and gently scrub
- with a non-metallic, short-fibered scrub brush to loosen biological soiling. Carbon Deposits and

Staining Use a concentrated gel restoration cleaner for dissolving tough carbon deposits and other atmospheric staining. This class of products is a practical alternative to conventional acidic cleaners. Restoration cleaners remove calcium and lime deposits from the deck surface. These products are safer and less expensive than hot water pressure washing or steam cleaning. They also loosens and dissolves dirt, paint oxidation and other stains

associated with aged and dirty buildings. Caution

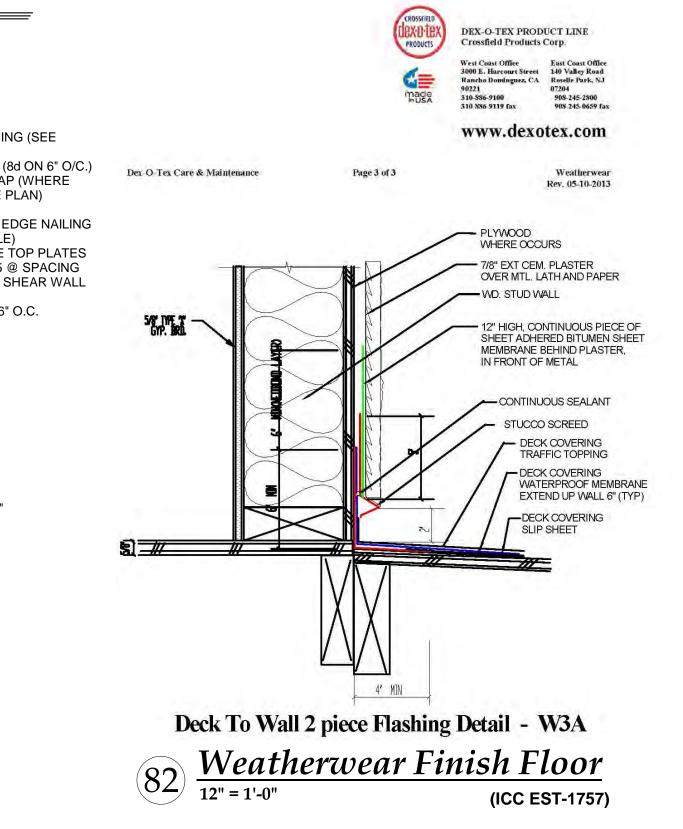
· Not suitable for cleaning most concete or marble Not recommended for interior use.

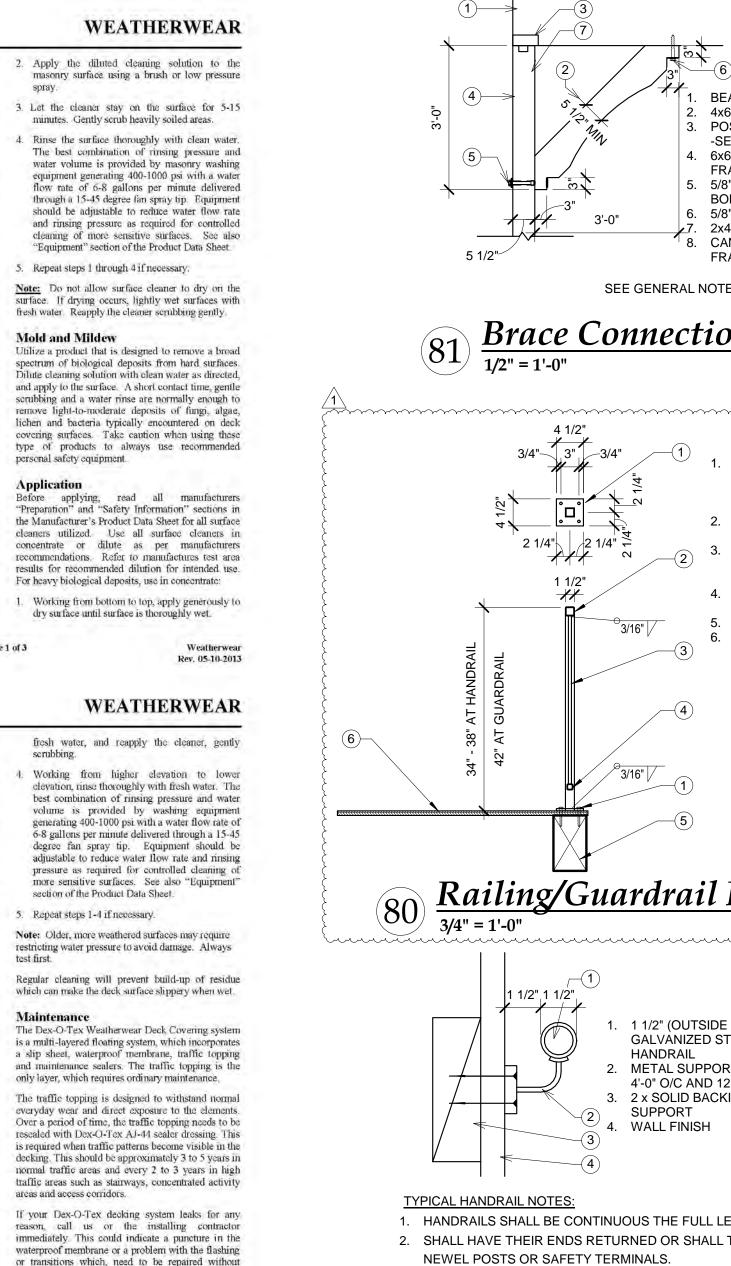
- · May damage some polished stone and "glazed" surfaces. Always test. · Product may bleach certain types of light or buff colored masonry materials. Always test.
- May damage glass and architectural aluminum Application
- Before applying, read "Preparation" and "Safety Information" sections in the Manufacturer's Product Data Sheet. Do not dilute or alter unless
- recommended by the manufacturer. 1. Working from bottom to top, pre-wet surface with fresh water.
- 2. Apply cleaner using a brush or roller. Gentle scrubbing application will improve results.
- 3. Leave the cleaning solution on the surface for 10-20 minutes. Heavy soiling or mineral deposits may require longer dwell times. Do not let cleaning solution "dry" on to the surface. If drying occurs, lightly wet treated surfaces with

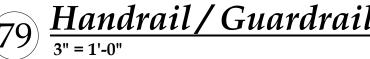
Dex O Tex Care & Maintenance

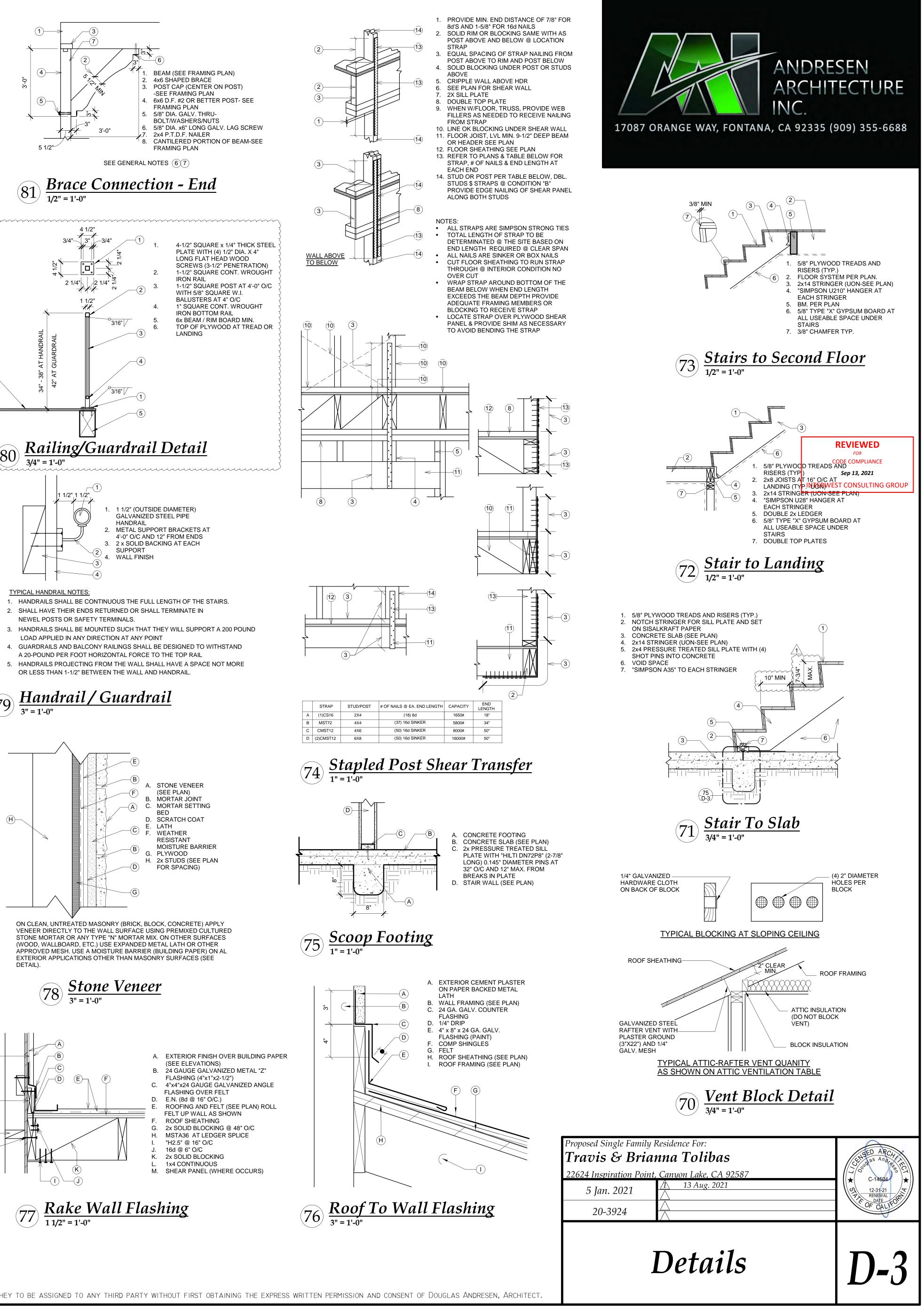
### Care & Maintenance

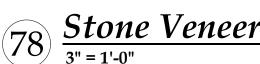
- **General Precautions** Avoid placing heavy objects on the deck, as they can
- affect the movement of the decking system, resulting in small surface cracks.
- · Avoid heavy point loads being applied directly to the deck.
- · Do not expose the deck covering system to harsh chemicals or acids.
- · Do not subject the deck covering to continuous heavy rolling loads.
- · Do not cover the deck surface with carpeting, mats or any other impermeable surface.
- Do not puncture decking or waterproof membrane Do not cut or slice the deck covering.

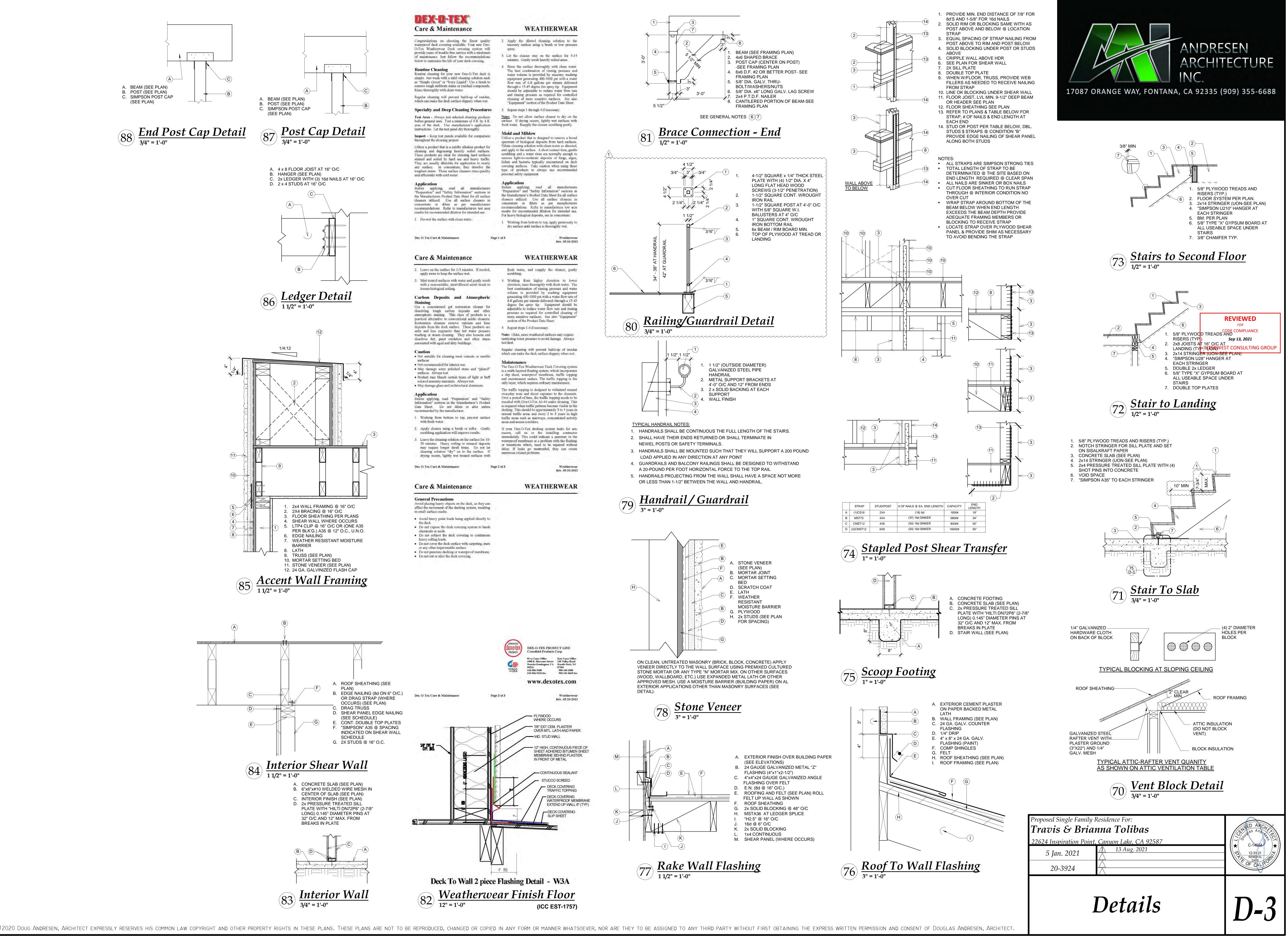












If your Dex-O-Tex decking system leaks for any reason, call us or the installing contractor immediately. This could indicate a puncture in the waterproof membrane or a problem with the flashing or transitions which, need to be repaired without delay. If leaks go unattended, they can create numerous related problems.

areas and access corridors

Page 2 of .

section of the Product Data Sheet.

Repeat steps 1-4 if necessary.

test fir

Maintenanco

Repeat steps 1 through 4 if necessary.

Mold and Mildew

personal safety equipment.

Application

scrubbing

Page 1 of 3

Weatherwear Rev. 05-10-2013

WEATHERWEAR

## General Requirements

- Mork performed shall comply with the following: Compliance: These General Notes apply unless otherwise stated on plans or specifications. Codes: California modified version (2019 Edition) of the
- International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, International Fire Code, National Electrical Code, 2019 Edition of the California Energy Standards and all other applicable laws and regulations governing the site of the work. 3. ASTM: Standard Specifications (In case of conflict, the more
- expensive requirements shall govern. Quality of Work: All work needs to be performed by qualified
- and experienced contractors familiar with this type of work. Quality of Materials: All materials furnished shall be new and of first quality. No used materials or seconds will be permitted.
- "Or equal": The contractor shall submit for the Architect's or Builder's acceptance all materials or equipment which is considered "or equal" to that specified.
- <u>On Site Verification</u> of all dimensions and conditions shall be the responsibility of the Contractor and the Sub-Contractors. Noted dimensions take precedent over scale. Each Contractor or Sub-Contractor shall report to Project Superintendent all
- conditions which prevent the proper execution of their work. Project Superintendent: The on-site construction superintendent shall provide on site supervision to the extent necessary to assure that the improvements are being constructed in conformance with the construction documents and the performance standards of the industry trades. He/she shall inspect all structural framing members, concrete anchors, tie-downs, flashing framing members, roof materials and underlayment for each building. The inspection is to assure that all materials and applications meet the manufacturer's specifications and installation quidelines or A.S.T.M. requirements, whichever is more stringent, and to notify the Architect and Owner in sufficient time to prevent any defective materials from being incorporated into the work.
- Client's Architect and Project Superintendent to be notified immediately by the Contractor should any question arise or any discrepancies be found pertaining to the working drawings and/or specifications. The Contractor shall be held responsible for any errors, discrepancies, or omissions which the Contractor failed to notify the Architect of before construction or fabrication of the work.
- 10. The Builder has requested, contracted with, and is compensating Andresen Architecture, Inc. for the limited services of providing the minimum structural engineering drawing required, when combined with the other builders consultants drawings, to obtain a building permit for this project. These drawing are not intended to, nor do they, detail all conditions, identify all materials, or define or limit the scope of work required to complete the project. The builder has requested, accepts, and represents that he/she will select all materials and manufactures, qualify and select all sub-contractors and installers, direct all ways and means of construction, and provide all additional information, above and beyond these drawings, required to complete the project in conformance with all governing agencies and the work will meet or exceed accepted ndustry standards.
- Sub-Contractor shall: insure that all work is done in a professional and workmanlike manner by skilled mechanics and shall replace any materials or items damaged by Sub-Contractor's performance and no additional cost to Builder Sub-Contractors and Suppliers are hereby notified that they are to confer and to cooperate fully with each other during the course of construction to determine the exact extent and overlap of each other's work and to successfully complete the execution of the work. All Sub-Contractors shall be of quality to pass inspections by local authorities, lending institutions, Architect, or Builder. Any one or all of the above mentioned inspectors may inspect workmanship at any time and and corrections needed to enhance the quality of the building will be done immediately . Each Sub-Contractor, unless specifically exempted by his Sub-Contract Agreement, shall be responsible for cleaning up and removing from the job site all trash and debris not left by other Sub-Contractors. Builder will determine how soon after each Sub-Contractor completes each phase of his work that trash and debris will be removed from the site.
- 12. Drawings and Specifications represent the finished structure. All bracing, temporary supports, shoring, etc. is the sole responsibility of the Contractor. Observation visits to the job site by the Architect do not Include inspection of Construction procedures. The Contractor is solely responsible for all construction methods and for safety conditions of the worksite. These visits shall not be construed as continuous and detailed inspections
- 13. <u>Intent:</u> It is the intent of the construction documents that all work be performed in a sound manner providing a completed project with all materials, assemblies, and systems correctly installed and performing in a manner consistent with the standards of the industry for this type of project.
- 14. Construction documents include, but are not limited to, working drawings, specifications, structural calculations, state mandated energy calculations and notes, soil report, geology report, acoustical engineer's report, addendum and change orders, and these general notes unless otherwise noted on plans or specifications.
- Details: Contractors and Sub-Contractors recognize that the Architect cannot prepare plans and drawings that cover all conceivable construction details or site conditions. 16. Interpretation: Contractor and Sub-Contractor shall inform the
- Architect of any missing details or corrections which are believed by them to be necessary or appropriate for the proper construction of the project and which would not normally be their responsibility under standard industry practices and techniques. 17. Terminology, abbreviations, and symbols used on the construction
- documents are those recognized in the construction industry for the purposes indicated by the context in which used. In the event that industry publications do not adequately define any given term, the definitions found in Webster's unabridged dictionary of the American language will govern. Refer uncertainties to Architect before proceeding
- 18. Testing & Inspections: Arrange for all testing and inspections required by the construction documents, local building department, health department, and other agencies having jurisdiction over the project Manufacturer's name: Products specified on the construction
- documents by manufacturer's name or other designation are a project requirement, unless specifically noted otherwise. Substitutions are permitted only with prior written approval of the Architect and Owner. Selection of products which comply with requirements including applicable standards is Contractor's option where no product names are indicated by owner or documents. Contractor/Sub-Contractor shall bear all
- responsibility for products which he/she selects and installs. 20. Substitution: No substitutions shall be made without Owner's written authorization. Any substitution shall be made known to Builder and Architect in advance to avoid any delay in the project schedule. The General Contractor and any Sub-Contractors shall not make structural substitutions or changes without prior written authorization from the Structural Engineer and written notification to the Architect. <u>Conflicts</u>: Where construction documents conflict with codes, the
- more stringent shall apply. 22. Changes: No changes are to be made on these plans without the prior knowledge and consent of the Architect whose signature appears hereon. Approval by city or county inspector does not
- constitute authority to deviate from plans or specifications. 23. Builder Set: This set of drawings is a "builder set". It is sufficient to obtain a building permit, however, all materials and methods of construction necessary to complete the project are not necessarily described in this "builder set". The implementation of the plans requires a Client/Contractor (General Contractor and Sub-Contractors) thoroughly knowledgeable with the applicable building codes and methods of construction. The plans and general notes delineate and describe only locations, dimensions, types of materials and general methods of assembling or fastening.
- 24. <u>Structural Analysis</u> for this project is done per applicable Building Code at the time of design considering standard of care. 25. Upon Completion of the above by the Architect and prior to the
- start of construction, the Contractor is responsible to check all dimensions, coordinate with the work or architectural, mechanical and other trades to ensure compliance with his/her requirements.
- Structural Engineering: Refer to the current calculations for any question regarding lumber grades, beam and header sizes, footing and shear requirements.
- No deviations from structural details shall be made without the written approval of Andresen Architecture, Inc. Approval by the City Inspector does not constitute authority to deviate from plans or specifications. Contractor is to comply with manufacturer's instruction and recommendation to the extent that printed information is more detailed or stringent than requirements contained directly in construction documents.

### Division 2 Sitework

- I. <u>All footings</u> shall rest on firm natural soil or approved compacted fill. All filling, backfilling, recompaction, etc., is to be accomplished only under the supervision of a Soils Engineer.
- No Soils Report (Assumed soil bearing value 1,000 PSF). All finish grade to drain away from the building footings. Termite Control: Soil shall be treated as per H.U.D./.M.P.S. 602-3.2 for termite control.
- 5. <u>Utilities:</u> Contractor is responsible for locating all existing utilities whether shown hereon or not and to protect them from damage. The Contractor shall bear all expenses for repair or replacement necessary in the prosecution of this work. 6. <u>Protection</u>: Protect structures, utilities, sidewalks, pavements,
- and other facilities in areas of work. Barricade open excavations and provide warning lights. Comply with regulations of authorities having jurisdiction. 7. <u>Retaining Walls</u>: Furnish foundation drainage pipe complete with
- bends, reducers, adapters, couplings, collars, and joint materials per plans. 8. <u>Backfill:</u> Use evenly graded mixture of gravel or crushed stone, and natural sand with 100% passing a 1-1/2" sieve and 0-5%
- passing a No. 50 sieve for filtering material. 9. Grading: Grade ground surface to conform to required contours and to provide surface drainage minimum 1% away from building for a minimum of 10 feet.
- 10. <u>Pipe Backfill:</u> Place supporting layer of filtering material over compacted subgrade where drainage pipe is to be laid to a compacted depth of not less than 4" after testing drain lines, place additional filtering material to a 4" depth around sides and top of drains. Lay drain pipe solidly bedded in filtering material. Provide full bearing for each pipe section throughout its length, to true grades and alignment.
- Test or check lines before backfilling to assure free flow. Remove obstructions, replace damaged components, and retest system until satisfactory. 12. Backfill shall not be placed until supporting foundations, walls, and/or slabs have attained sufficient strength to support
- lateral soil pressures.

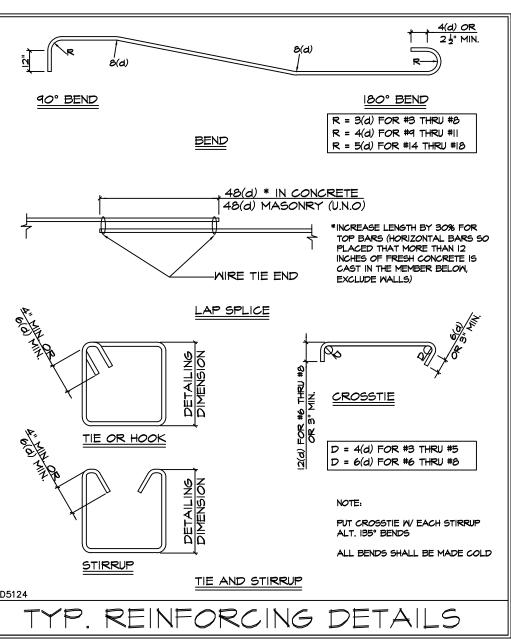
### Division 3 Concrete

- General: I. All reinforced concrete materials and construction shall conform to Building Code, Chapter 19. 2. <u>Comply</u> with the following: A. ACI 301 "Specification of Structural Concrete Buildings".
- B. ACI 318 "Building Code Requirements for Reinforced Concrete' 3. <u>Mix designs</u> may be adjusted when material characteristics, job conditions, weather, test results or other circumstances warrant.
- Do not use revised concrete mixes until submitted to and accepted by Architect. 4. <u>Minimum design mix</u> parameters: Use design mix that will provide a stable durable concrete surface free of pocks, spalls and other defects resulting from chemical incompatibility of constituent materials or adjacent conditions. Maximum 7-1/2
- gallons of water per sack of cement. Maximum slump 4". Cement shall conform to Section 1903.2 of Building Code and shall be Portland Cement conforming to ASTM C-150, Type i or ii, low alkali. Use Type V cement for soil containing a sulfate concentration of 0.2% or more (min. f'c=2,500 psi, 28 days).
- 2. Agaregates shall conform to Building Code 1903A.2 and shall be natural sand and rock conforming to ASTM C33, except local aggregates of proven suitability may be used when acceptable to Architect Water shall be drinkable
- <u>Air-entraining admixture</u>, when required, shall be ASTM C-260. <u>Underslab vapor barrier</u> shall be polyethylene vapor barrier under all house slabs with sand fill above and below (see plans). Install vapor barrier with 12" minimum laps. Do not puncture with stakes or screened pins. Use blocking to support and level screeds and remove all such blocking after screeding.
- 6. Formwork shall be of materials with sufficient stability to withstand pressure of placed concrete without deflection. Special Exposure: Refer to Table 1904A.2.2 of Building Code for special exposure condition as required by soils engineer.
- <u>Reinforcing Steel</u> All reinforcing shall be ASTM A-615-40 for #4 bars and smaller. All reinforcing shall be ASTM A-615-60 for #5 bars and larger. Welded wire fabric is to be ASTM-185, lap 1-1/2 spaces, 9" min. for structural slabs, all reinforcing #5 and larger to be ASTM A-615-60. Unless otherwise noted or shown on plans, the minimum clear distance or reinforcement to face of concrete slab shall be: 2" (center of slab) Slab on grade ... Concrete against earth:
- Formed Without Form . Concrete Exposed to weather..... I-1/2' All bars shall be deformed as per ASTM A-305
- All bars shall be clean of loose flakey rust, grease, or other materials likely to impair bond. 4. <u>All bends</u> shall be made cold for #8 and smaller.
- 5. <u>Splicing of bars</u> shall have lapping of 30 dia. or 2'-0" min. in all continuous reinforcement of footings and concrete walls, except as noted on plans. Masonry reinforcement shall have lappings
- of 40 dia. or 2'-0" whichever is greater. 6. <u>All reinforcing bars</u> shall be accurately and securely placed before pouring concrete.
- <u>Welding and reinforcing steel</u> shall conform to AWS DI.4 using
- low hydrogen electrodes \$ A706 rebar. 8. <u>Splices of horizontal rebar</u> in walls and footings shall be
- staggered 4'-0" min. 9. Dowels for walls and columns shall be the same size and spacing as the wall/column reinforcing unless noted otherwise.
- Concrete Drupack shall be composed of one part Portland cement to not more than three parts sand \$ shall be non-shrink.
- <u>Construction</u> <u>All continuous exterior footing</u> shall have 5/8" dia. x min. 12" anchor bolts with 3"x3"x.229" plate washer, min. 7" embedment into concrete, at 48" O/C unless noted otherwise on plans. One anchor bolt should be located max. 12" away from the end of the sill plates. min. (2) A.B.'s per sill plate per shear panel. 2. <u>Sill fastening</u>:
- All Continuous Footings: Embed 5/8" diameter x 12" anchor bolts 7" into concrete. per sec. 2308.6 Monolithic Pour System: Embed anchor bolts 7" into concrete. Two-Pour System: Embed anchor bolts 4" past cold joint into footing. Use 5/8" diameter x 14" long anchor bolts at all 3x sill plate locations.
- 3. <u>All interior non-shear walls</u> shall have HILTI X-DNI (with a minimum penetration of I-I/4" into slab) at 24" O/C unless noted otherwise to be installed in accordance with I.C.C. ESR-1663 March 2014. Actual slab thickness to be minimum 4".
- <u>Strength</u> Concrete shall be proportioned to provide a minimum compressive strength, f'c, equal to 3,000 psi (after 28 days), unless noted otherwise per Building Code Sections 1805. All reinforcing, dowels, holdowns and other inserts shall be secured in position and approved by the local building official prior to the pouring of any concrete.

### <u>Execution</u> Position, support and secure reinforcement against displacement with metal chairs, runners, bolsters, spacers and hangers, as required. Direct wire ties into concrete, not toward exposed concrete surfaces. Maintain minimum clear distance between soil and reinforcing of 3" at bottom and 2" at sides of excavation.

- Lap reinforcing bars a minimum of 40 bar diameters. Provide construction, isolation, and control joints as required. Locate joints so as to not impair strength and appearance of structure. Place isolation and control joints in slab-on-grade to minimize random cracking.
- 4. <u>Use ICC-ES approved shot pins</u> with cadmium washers, 3'-0" O.C. max., 6" from corners and splices in interior bearing walls unless otherwise noted. Use same at 4'-0" max. for interior non-bearing walls. Slab to be thickened to 3 times pin penetration for 8" min. width where shot pins are to be used. Verify required thickness prior to placing concrete. 5. <u>Consolidate</u> <u>placed</u> <u>concrete</u> using mechanical vibrating
- equipment with hand, rodding, and tamping, so that concrete is worked around reinforcement and other embedded items and into forms.
- 6. <u>Protect concrete</u> from physical damage or reduced strength due to weather extremes during mixing, placement and curing. A. In cold weather comply with ACI 306. B. In hot weather comply with ACI 305.





- 7. Prior to placing concrete, remove all water, mud, loose earth, and debris from excavations 8. <u>Foundation (widths and depths)</u> and reinforcing as shown on plans
- are superseded by any local codes or ordinances which require increases in same 9. <u>All load-bearing footings</u> shall be on-level, undisturbed soil to depth shown on drawings and shall conform to the Soils Report. 10. Do not place concrete until all reinforcement, conduit, outlet, boxes, anchors, hangers, sleeves, bolts and other embedded materials and items are securely and properly fastened in their proper places and positions. Sub-Contractor shall verify
- installation of hold-down and anchor bolts, "PA" straps and other anchorage material and items prior to placement of concrete. Holdowns to be installed in accordance with ICC-ES Report #ESR-2604. Pipes may pass through structural steel in sleeves, but shall not be embedded therein. Pipes or ducts exceeding one-third the
- slab or wall thickness shall not be placed in the structural concrete unless specifically detailed. For residential construction: The Concrete Sub-Contractor shall install a minimum of (1) 3/4" plastic pipe under the driveway, located at the street side of the entry walk, for future sprinkler system (verify with Landscape Sub-Contractor). Concrete Sub-Contractor shall also install plastic conduits in garage stem wall for power, telephone, CATV, and irrigation controller. Plastic pipe shall be provided by the Plumbing Contractor and the conduits by the Electrical Contractor 12. <u>Refer to architectural drawings</u> and details for reveals, areas of
- textured concrete or special finishes, items required to be cast into the concrete, curbs, and slab depressions. 13. <u>Finish of slabs</u> shall be trowelled smooth and level around all plumbing pipes, electrical conduit, and miscellaneous iron straps protruding therefrom
- 14. <u>Repairs</u> shall be made promptly by the Concrete Sub-Contractor to remove any anchor bolts or any steel inadvertently misplaced in or at openings and shall patch any surface damaged by the removal thereof
- 15. <u>Cleanup</u> shall occur after completion of pouring each slab. Concrete sub-contractor shall remove all form lumber, miscellaneous lumber and cement debris, leaving the job-site clean and graded smooth for other workmen.
- 16. Trenches for footings shall be cleaned before concrete is poured. An imaginary line from the bottom corner of any footing, extending downward at 45° from the horizontal shall not intersect any excavation for gas, sewer, or drainage purposes
- Foundation All holdowns and post anchors to be installed according to most current Simpson Strong-Tie specifications and requirements of ICC-ES Report #ESR-2604 shall be tied in place prior to
- foundation inspection Min. concrete width to be 8" for receiving STHD's. Verify locations of holdowns and anchor bolts with rough framing to assure prior
- and accurate installation 3. <u>Provide #3 x 24" dowel</u> at 24 O.C. and 12" from the corner at all concrete stoops and porches.
- 4. <u>Provide min. (1) #4 reinforcing</u> for electrical ground, location to be verified with the electrical contractor 5. Verify min. foundation depth, width, reinforcing steel and additional expansive soil requirements with valid soils report and
- if any more stringent they shall supersede the above minimum restrictions. See Division 3, Section "Strength" for concrete strength
- Admixtures in concrete mixture containing calcium chlorides shall not be used. 8. Footing shall be examined and certified in writing by the project
- Soil/Geology Engineer prior to inspection and placement of concrete. 9. Concrete shall be to the strength and slump as specified per structural design and consist of Portland cement ASTM CI50 Type V per Soils Engineer's recommendations and Building Code Table 1904.2.2 when concrete is exposed to sulfate containing solutions and aggregates per ASTM C33, water to be clean and potable. 10. Placement shall be in one continuous operation unless otherwise specified and slab surface shall be cured with Hunts compound or equal or other methods in accordance with good construction
- practices at Contractor's option. 11. Contractor shall dampen slab underlayment of sand/membrane just prior to concrete placement to assist uniform concrete curing. 12. The bottoms of footing excavations shall be level, clean, and free of loose material or water when concrete is placed. Over excavation shall be filled with concrete or properly compacted fill that has been tested and approved by the Soils Engineer. Backfill shall not be placed until supporting foundations, walls, and slab have attained sufficient strength to support lateral soil
- pressure. 13. Floor slab shall be poured level to 1/8" in 10'-0". 14. Requirements for pre-saturation of sub grade soil and daylight setback of footing from any descending slope shall comply with current soils report.
- 15. Finish grade around the perimeter of slab shall be constructed such that rain and irrigation water is drained away from the slab. 6. All site and pad preparation, such as but not limited to shading compacting of the fill, pre-saturation, and concrete slab base preparation, shall be performed in accordance with the Soils Engineer's recommendation and soil report.
- 17. Foundations drawings prepared by Andresen Architecture, Inc. reflect the structural requirements, refer to architectural plans for dimensions depressions, slope shelves patios, stoops, and porches not shown. Accuracy of the dimensions and final fit of the building shall be reviewed by the Architect and the Contractor prior to construction. 18. Waiting period for concrete slabs-on-grade prior to start of
- construction as follow: a) Walk on slab 24 hours after concrete has been poured. b) Begin wall framing 4-5 days after concrete poured.
- c) Begin roof/floor framing 7-10 days after concrete poured. d) Do not load roof prior to 14 days after concrete poured. 19. The Contractor shall arrange for observation of the work by the Soils Engineer. The following are reqt's of the Soils Engineer: a) All footing excavations shall be inspected and certified in
- compliance with the soils report by the Soils Engineer prior to placing of concrete or steel. b) Soil conditions, including compactions and moisture content, shall be inspected and certified in compliance with the soils report by the Soils Engineer prior to placing of concrete or
- c) A certificate of compliance shall be submitted to the Building Official prior to his foundation inspection, and to the Architect and Structural Enginee
- 23. Prior to the Contractor requesting a Building Department foundation inspection, the Soil Engineer shall advise the Building Official in writing that:
- a. The building pad was prepared in accordance with the soil report. b. The utility trenches have been properly backfilled and compacted. c. The foundation excavations, the soils expansive characteristics and bearing capacity conform to the soils report.

- 24. The Concrete Contractor is to verify location of holdowns and anchor bolts with rough framing to assure proper and accurate installation, with framing contractor.

### Division 4 Masonru

### . <u>All Concrete masonry</u> materials and construction shall be in accordance with Building Code, Chapter 21.

- Mater used in mix shall be potable Sand shall meet the requirements for "Aggregate For Masonru Mortar," ASTM C144.
- 4. Portland Cement shall meet the requirements for "Portland Cement" ASTM CI50. 5. Plastic Cement shall comply with the latest adopted edition of
- the Code 6. Lime putty shall be made of high calcium lime and aged to ensure
- complete slacking. Hydrated lime to meet the requirements for "Hydrated Lime For lasonry Purposes" ASTM C207, Type "S".
- Steel reinforcing to be deformed bars to meet ASTM A615, Grade 40 for sizes #3 and #4 and Grade 60 for sizes #5 and larger. Lightweight concrete precision block to conform to standars for
- hollow load concrete masonry units and to conform to ASTM C90, Grade "N-I" (tab color). 10. Mortar to conform to Code and to the following: I part Portland cement
- 4-1/2 parts dry loose sand 1/3 to 1/2 lime putty or hydrated lime may be composed of the following:
- l part plastic cement 3 parts dry loose sand
- 1/10 parts lime Grout shall be 2,500 psi concrete. Solid grout all cells.
- 12. <u>Ultimate compressive strength</u> of foundation concrete shall be 2,500 psi at 28 days. 13. Brick shall be medium weight (MW) grade in accordance with ASTM C62, with an allowable compressive strength of 2,000 psi.
- 14. <u>Aagregate</u> shall conform to ASTM Cl44 (Mortar) and ASTM C4O4 (Grout). Samples: Masonry Sub-Contractor shall submit samples of veneer to Builder for written approval prior to proceeding with installation.

All materials making up finished concrete masonry construction shall conform to standards required by Building Code Sec. 2103. Lumber: Dimensional lumber shall be of Douglas Fir-Larch of the following product classification in grade indicated.

- Alignment of vertical cells: Masonry shall be built to preserve the unobstructed vertical continuity of the cells. The vertical
- alignment shall be sufficient to maintain a clear, unobstructed vertical opening not less than 2" x 3". Lay units clean and dry. 4. <u>Cleanouts:</u> Cleanout opening shall be provided at the bottoms of all cells to be filled at each lift or pour of grout, when such lift
- or pour of grout is in excess of 4'-O" in height. Cleanouts shall be sealed after inspection and before grouting 5. <u>Grout solid</u> all cells which contain rebar, bolts, etc. Grout solid all cells below grade. All reinforcements shall have a minimum grout
- coverage of 3/4". All brick shall have a minimum of 2" grout space. 6. Nonexpansive fill shall be used in backfilling behind walls. All walls shall be adequately shored during the backfill operation.
- When absolutely necessary for construction purposes to stop off longitudinal runs of masonry, stop off only by racking back one
- half unit length in each course. Toothing shall not be permitted. 8. Masonry shall comply with 2019 C.B.C. Reinforcing shall be accurately placed, and held in position top
- 10. Masonry veneer: Provide I" mortar between masonry veneer and 'Aqua Lath" as manufactured by Tree Island Steel ICC-ES Report #ESR-2267 or equal.
- The specified compressive strength of masonry, f'm, shall be 1500 psi, unless noted otherwise. If higher f'm is noted, it shall be verified by prism tests as required in Building Code, Section 2105.2.1

<u>Concrete Unit Masonry</u>

- Concrete masonry units for load bearing systems may be brick as specified by ASTM C55, Specifications for Concrete Building Brick. Grade N concrete bricks are for use as architectural veneer and facing limits in exterior walls. Grade 5 concreté bricks are for general use where moderate strength and resistance to frost action and
- moisture penetration is required. 2. Grout: Mix one part Portland cement, I/10 hydrated lime, not more than 3 parts sand and not more than 2 parts 3/8" maximum size pea gravel by volume, and shall have a minimum compressive strength of 2000 PSI at 28 days of age, aggregates per ASTM C476. Mortar-Mix: Type S ASTM C270 and consisting of one part
- Portland cement, 1/10 hydrated lime, not more than 3 parts sand, all by volume. Type S mortar shall have a minimum compressive strength of 1800 PSI at 28 days of age. No fire clay permitted in mortar used for structural units. All materials for mortars shall be measured by volume, sand and cement mixed dry, lime added, and then water added to bring to the proper consistency for use. No mortars that have stood for more than one hour shall be used.
- Construction (General) Walls shall be straight, plumb, and true, with all courses true to line and level, built to dimensions shown. Cells shall be filled solid with grout as indicated. Blocks shall be laid up with waterproof type 5 mortar. Clean units before placing. Use masonry saw for cutting.

<u>Special Inspection</u> For concrete masonry construction which is noted as requiring special inspection per drawings, such inspection shall be carried out in accordance with Building Code, Section 1704. Concrete masonry construction which requires special inspection also is required to have masonry prism testing prior to and during construction as described in Building Code, Section 2105A.3

Division 5 Metals

### <u>General</u> Comply with the followina:

- A. AISC "Code of Standard Practice for Steel Buildings and Bridges." B. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings" including "commentary." C. AWS "Structural Welding Code," comply with applicable
- provisions except as otherwise indicated. D. D.All structural steel materials and construction shall conform to the reqt's specified in Building Code, Ch. 22.

### <u>Structural Steel and miscellaneous iron</u> shall be primed with a rust resistance primer \$ should conform to ASTM A36 as a minimum, unless otherwise noted. All W shapes to be ASTM A992.

- 2. <u>Cold-formed steel tubing</u> shall conform to ASTM A500, grade B (Fu=46 ksi). 3. <u>Steel pipes</u> shall conform to ASTM A53, Type E or S, Grade B (Fu=36 ksi).
- Fasteners such as bolts, nuts, and screws shall conform to ASTM A325N, unless otherwise noted. Provide bolts, nuts, lag bolts, machine screws, wood screws, toggle bolts, masonry anchorage devices, lock washers as required for application indicated. Hot-dip galvanized fasteners for exterior applications to comply with ASTM A153
- 5. Holes for bolts should be drilled or punched \$ shall be 1/16" larger than bolt diameter 6. Shop paint: SSPC-Paint 13, shop prime structural steel except
- portions to be embedded in concrete or mortar. Galvanizing shall conform to ASTM A386 for assembly products; ASTM A123 for rolled, pressed and forged steel shaped, plates, bars and strip 1/8" and thicker; galvanizing repair paint:
- MIL-P-21035 or SSPC-Paint-20 or "Galvaloy" paint. 8. <u>Welding rods</u> shall conform to AWS for intended use. 9. All structural welding procedures and materials shall conform to Building Code, Section 2204.1 All welding shall be by the

Execution I. <u>Comply</u> with AWS DI.I code for procedure, appearance, and

- quality of welds. 2. <u>Set base plates</u> on cleaned bearing surfaces, using wedges or
- other adjustments as required. Solidly pack open spaces. 3. <u>Fabricate steel pipe railings</u> to dimensions shown, with smooth

in shop. Use galvanizing repair paint on damaged galvanized surfaces.

<u>Weld corners</u> and seam continuously, grind exposed welds smooth

and flush. Weld cap on exposed ends of pipes and tubes.

submerged arc process using ETOXX-low hydrogen electrodes, u.n.o.

bends and welded joints using 1-1/2 steel pipe, u.n.o. 4. Touch-up shop paint after installation. Clean field welds, bolted connections and abraded areas, and apply same type paint as used

. <u>All shop welding</u> and fabrication must be done in a shop certified by AISC Quality Certification Program and approved by the Building Official. All field welding must be performed by a certified welder and a special inspector shall continuously inspect all structural field welding. Both shall be approved by the Building Official.

6.

### Division 6 Nood

<u>Materials:</u>

ROUGH CARPENTRY

- <u>General:</u> I. <u>All reference specifications</u> are the latest edition adopted or approved by the enacting authority. CBC Chapter 23.
  - NDS "National Design Specifications for Wood Construction" PS 20 "Softwood Lumber Standards
- WWPA "Standard Grading Rules for Western Lumber" RIS "Standard Specification for Grades of California
- Redwood Lumber Manufactured lumber, 545 and grade stamped, to comply with
- PS20 and applicable framing rules of inspection agencies certified by ALSC's board of review. Moisture Content: Provide seasoned lumber with 19% or less moisture content at time of dressing and shipment (for sizes 6" or areater in thickness)
- 4. <u>Refer</u> to structural calculations for any questions regarding lumber grades, beams, and header sizes. Construction materials shall be spread out if placed on framed loors or roof. Load shall not exceed the design live load per square foot. Provide adequate shoring and/or bracing where structure has not attained design strength.

<u>Framing:</u> Light-framing and Studs: (2"-4" thick, 2"-6" wide): Stud or

- standard grade B. Joists and Rafters: (2"-4" thick, 5" and wider): No. I grade or better
- Posts, Beams, Headers, and Timbers: (4" and thicker): No. 1 Grade, free of heart center <u>Redwood</u> Foundation Grade: all heart u.n.o. (if lumber species other than Douglas Fir-Larch is to be used,
- Contractor shall request in writing, approval from Architect and Structural Engineer prior to construction). E. Top Plates: All top plates to be Hem-Fir or Doug-Fir, standard grade or better.
- Resawn: All exterior fascias, trims, posts and beams shall be re-sawn lumber. 2. <u>Wood Panels:</u> A. <u>Particleboard underlayment:</u> ANSI A208.1, Grade I-M-I in
- thickness indicated. <u>Mall</u> <u>Sheathing</u>: American Plywood Association approved Oriented Strand Board (O.S.B.) Waferboard (Grade 2-M-W) may be used instead of Structural II plywood as indicated on shear panel schedule.
- Typical Floor Sheathing: A. 23/32" APA rated Sturd-I-Floor T&G EXP I with min. a panel index of 32/16". Refer to NER 108 for installation and conditions of use
- B.N.: 10d common nails at 6" O.C. E.N.: IOd common nails at 6" O.C
- F.N.: IOd common nails at 12" O.C C. Use ring or screw shank nails and glue sheathing to framing using adhesives meeting APA specification AFG-OI or ASTM D. Apply glue in accordance with manufacturer's
- recommendations. Use Grabber plywood screw min. 2" long at 6" O.C. B.N., 6" O.C. E.N., and 12" O.C. field nailing (ICC-ES Report #ESR-1271, Dated January I, 2002, ANSI, ASME B 18.6.1)
- 4. Typical Roof Sheathing A. 15/32" APA rated sheathing Exp I with a min. panel index of 24/0. refer to NER 108 for installation and condition of use. B.N.: 8d common nails at 6" O.C. E.N.: 8d common nails at 6" O.C.
- F.N.: 8d common nails at 12" O.C. \*Note: All structural rated panel must be stamped by one of the following agencies: APA, PFS/TECO, or Pittsburg. 5. Metal hangers and framing anchors of size and type recommended for intended use by manufacturer. Hot-dip galvanize fasteners and anchorages for work exposed to
- weather, in ground contact and high relative humidity. 6. <u>Preservative pressure-treated products:</u> A. <u>Preservatives</u>: Lumber and plywood with water-borne preservatives to comply with AWPA C2 and C9 respectively, and 2019 CBC SEC. 2303.1.8
- <u>Above Ground:</u> Wood for above-ground use: AWPB LP-2. Roofing: Treat cants, nailers, blocking, stripping, and similar items in conjunction with roofing, flashing, vapor barriers, and waterproofing, or use Redwood
- Concrete Contact: Treat sills. sleepers, blocking, furring, D. stripping and similar items in direct contact with masonry or concrete, or use Redwood. Sill Caulking: Apply a bead of mastic caulking under sill
- plates of all exterior walls at interior bottom of sill plate. <u>Shop Drawings</u>
- Sufficient copies of shop drawings for any member or product designed by an entity other than Andresen Architecture, Inc. shall be submitted to Andresen Architecture, Inc. prior to fabrication for review, to be reviewed and returned in 3 to 5 working days. Review of shop drawings by Andresen Architecture, Inc. does not
- relieve the Engineer responsible for the design or the Contractor from compliance with Building Code. 3. Andresen Architecture, Inc. review of the shop drawing consists of checking general conformance with structural drawings. Design accuracy of such product, dimensions, and quantity of the project
- is not reviewed by Andresen Architecture, Inc. 4. <u>Trusses</u> shall be designed in accordance with the latest local Building Code for all loads imposed, including lateral loads and mechanical equipment loads.
- Mood truss manufacturer shall supply to the Architect and the building department calculations and shop drawings for approval of design loads, configuration (2 or 3 point bearing), and shear transfer, prior to fabrication. It shall be the responsibility of the manufacturer to obtain building department approval of calculations and shop drawings prior to fabrication.
- 6. Trusses shall be designed in accordance with the latest local Building Code for all loads imposed, including lateral loads and mech. equipment loads. 7. <u>All connections</u> involving trusses shall be ICC-ES approved and
- of adequate strength to resist stresses due to the loadings involved and shall be designed and specified by the truss manufacturer. 8. <u>Dead load and live load deflections shall be limited to min.</u>
- L/240, live load deflection min. L/360 <u>Cross bridging and/or bracing</u> shall be provided and detailed by truss manufacturer as required to adequately brace all trusses.
- 10. <u>Truss manufacturer</u> to provide details which allow for normal deflection without imposing lateral loads on their supports (i.e., scissors trusses). 11. Truss manufacturer is responsible for providing additional shear
- and drag trusses as shown on the framing plan. 12. Truss manufacturer is responsible for reviewing framing plans and structural details prior to fabrication of trusses and specifying
- 13. All trusses designed by truss manufacturer shall be design to sustain all vertical, lateral, and other pertinent loads, including bracing of top and bottom chords, in addition to any connections related to trusses. Contractor is to coordinate with truss manufacturer.
- 14. The truss manufacturer is responsible to meet the profile as indicated in the drawings 15. All truss lumber shall be Doualas Fir-Larch (u.n.o.).
- 16. Each truss shall be legibly branded, marked, or otherwise have permanently affixed thereto the following information located within 2'-0" of the center of span on the face of the bottom a. Identity of the company manufacturing the truss
- b. The design load. c. The spacing of the trusses.
- . <u>Bracing</u>: All members shall be framed, anchored, tied and braced so as to develop the strength and rigidity necessary for the purposes for which they are used. Framing Sub-Contractor shall adequately brace floor joists to prevent sagging where materials are stockpiled prior to erection.
- 2. Let-in bracing: Provide I x 6 diagonal (at approx. 45 degrees) every 25'-0" maximum in stud walls not sheathed. Bracing shall run continuous from sill plate to top plate. Nail with two 8d per stud and three 8d each end to plates.
- All metal connectors shall be "Simpson Strong-Tie Connectors" or ICC-ES approved equivalent in structural design and load values. The nails for these connectors shall be joist hanger nails as manufactured by the Simpson Company (or equal). 4. <u>Top plates</u> of all stud walls shall be two pieces the same size as
- studs. Splices to lap 4'-0" minimum and be nailed with 16 16d nails minimum. <u>Bolting:</u> Bolt holes in wood shall be 1/32" to 1/16" larger than the nominal bolt diameter. All bolts shall have standard cut washer under head and nut unless otherwise noted. All bolts shall be
- retightened prior to application of sheathing, gypsum board, plaster, etc. Structural members shall not be cut for pipes, etc. unless
- specifically detailed. Predrill for nailing when nail spacing results in the wood splitting.



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Division 6 (continued) Wood

- 8. Beams and girders
- A. <u>Bearing on masonry</u>: The ends of beams or girders supported on masonry or concrete shall have not less than 3" of bearing. B. <u>Bearing on wood:</u> All beams or girders supported on wood shall have full bearing and bearing shall be comprised of one (1) solid post (or multi-stud) constructed in an approved manner unless otherwise specified on plans.
- C. <u>Bracing</u>: Provide 2 x 4 temporary bracing to all beams projecting 3'-0" beyond building line to prevent warpage. <u>Roof and Ceiling Framing</u>
- A. Framing Rafters shall be framed directly opposite each other at the ridge. There shall be a ridge board at least 2" nominal thickness at all ridges and not less in depth than the cut end of the rafter. At all valleys or hips there shall be a single valley or hip rafter not less than 2" nominal thickness and not
- less than the cut end of the rafters. B. <u>Rafters</u> shall be nailed to an adjacent ceiling joist to form a continuous tie between exterior walls when such joists are parallel to the rafters. Where not parallel, rafters shall be tied to 2" by 4" (nominal) minimum size cross ties. Rafters ties shall be spaced not more than 4' on center.
- C. Purlins to support roof loads may be installed to reduce the span of rafters within allowable limits and shall be supported by struts to bearing walls. The maximum span of a 2" by 8" purlin shall be 8'. In no case shall a purlin be smaller than the supported rafter. The unbraced length of the  $2 \times 4$  struts shall not exceed 8' (10'-0" for 2 x 6 struts) and the minimum slope of the struts shall not be less than 45 degrees above the horizontal.
- D. Blocking: Rafters more than 8" in depth shall be supported laterally at the ends and at each support by solid blocking not less than 2" in thickness and the full depth of the rafter unless nailed to a header, band or rim joist or to an adjoining stud and as required by Code. Provide 2x solid blocking a 10'-0" intervals for all rafters more than 8" deep.
- E. <u>Fascia and Barge Boards</u> shall be resawn materials, free of splinters and shall have a texture not so rough so as to be injurious or irritating to the skin if located where it can be touched under normal living conditions. If there are any questions regarding the acceptability of any material, contact the Project Superintendent. F. <u>California Framina</u> to be 2 x 6 Douglas Fir #2 or better
- rafters at 24" o.c., with a maximum span of 10'-0" typical. 10. Standards: For sheathing, underlayment and other products not covered in above standards, comply with recommendations of manufacturer of product involved for use intended.
- II. <u>Bearing:</u> Cut, shape, cope, plumb, level and turn all framing members to provide full bearing. 12. <u>Protection from deterioration</u>:
- A. Separation: Where wood is nearer than 8" to earth, use treated or natural decay resistant wood unless separated by a 3" concrete slab with an impervious membrane between earth and concrete.
- B. <u>Embedded:</u> Wood shall not be embedded in the ground or in direct contact with the earth and used for the support of permanent structures.
- Sills: All foundation plates, sills and sleepers on a concrete or masonry slab, which is in direct contact with earth shall be treated wood of the same species and should be marked or branded by an approved agency. As an alternate, use a layer of 22 gauge sheet metal between the sill and concrete/masonry. D. Exposed: Columns and posts located on concrete floors or
- decks exposed to weather or to water splash and which support permanent structures shall be supported by metal pedestals projecting at least 6" above exposed earth and at least I" above such floors. 13. Provide Fire-Stopping to cut off all concealed draft openings
- (both vertical and horizontal) and to form an effective barrier in pecific locations, as follows: A. <u>Walls At Floor/Ceilings</u>: In exterior or interior stud walls, at
- ceilinas and floor levels. B. <u>Stud spaces:</u> In all stud walls and partitions, including furred spaces, so placed that the maximum dimensions of any
- concealed space is not over 10'-0". C. <u>Stringers</u>: Between stair stringers at top \$ bottom, between studs in line with run of stair if wall below stair is unfinished.
- Pocket Doors: Around top, bottom, sides and ends of sliding door pockets E. <u>Vents:</u> In openings around vents, ducts, chimneys, fireplaces and similar openings with non-combustible fire stop material only. A metal collar tightly fitted to the chimney and nailed to
- the wood framing may be used. F. <u>Other:</u> Any other locations not specifically mentioned above, such as holes for pipes, shafting, behind furring strips and
- similar places which could afford a passage for flames. G. Thickness: Firestops of wood shall be 2" nominal thickness. If the width of the opening is such that more than one piece of lumber is necessary, there shall be 2 thickness of 1" nominal material with joints broken or one thickness of 3/4" Plywood. H. <u>Gypsum Board</u>: Firestops may also be of Gypsum wall board.
- 14. Openings in floor or roof structures: Where header span exceeds 4-feet, double header and trimmer members and support with metal
- 15. <u>Notching and drilling</u> of joists, rafters, and stude are permitted as detailed in standard details. 16. <u>Vertical Assemblies</u> Provide 2 x 4 studs at 16" O.C. for bearing and exterior walls on
- the top two stories and either  $2 \times 6$  or  $3 \times 4$  studs at 16" O.C. for bearing and exterior walls on floor below the top two stories. B. <u>Cutting, notching, and boring</u> of studs is permitted in accordance with #15 above. Minimum distance between hole and edge of stud 5/8".
- C. <u>Place</u> studs with wide dimension perpendicular to wall. Frame corners with 3 studs or where walls intersect back up cleats may be used when adequate backing is provided for finish material. Minimum stud length for foundation wall is 14", provide solid blocking where this length does not occur. Where foundation cripple wall exceeds 4" high frame as required for additional story.
- D. <u>At all walls</u> provide double top plates lap corners and stagger splices minimum 4'-0". At all walls, provide single bottom plate except where lightweight concrete floor fill is used. Provide double bottom plated where plates are cut or bored to pass other work. Provide 1/8" x 1-1/2" metal strap each side with 4-16d nails. All plates size 2x stud width min.
- E. <u>Brace</u> all exterior walls and main cross walls at or near ends and at max. 25'-O" intervals by an approved method. Brace cripple walls as required for full height walls. Framer is responsible for installing temporary bracing to adequately support framing during construction. This bracing is to remain in place until structural integrity has been achieved.
- <u>Cripple walls</u> shall be framed of studs not less in size than the studding above with a min. length of 24" or shall be framed of solid blocking. When exceeding 4'-0" in height, such walls shall be framed of studs having the size req'd for an add'l story. G. Stud partitions containing plumbing, heating, or other pipes
- shall be so framed and the joists underneath it so spaced as to give proper clearance for the piping. H. <u>Blocking</u> (2 × 6 min) to be provided at all handrails and at all bath accessories.
- Timber: Douglas Fir-Larch 19% moisture content Lumber shall be free of heart center.
- Bridging: All stud partitions or walls with studs having a height-to-a-least-thickness ratio exceeding 50 shall have blocking not less than 2" in thickness and of the same width as the studs fitted snugly and nailed to provide adequate lateral support. <u>Window sills</u> 8'-0" in length or longer shall be doubled. All windows shall have a gypsum board stool u.n.o.
- 17. <u>Connections</u> A. <u>Post/Beam</u>: Provide positive connection between posts and beams to prevent up lift or lateral displacement and at beam splices to prevent separation.
- B. Nails may be common, box or vinyl coated sinkers unless specifically noted otherwise or required otherwise by the governing codes. Where necessary to prevent splitting, predrill pilot holes smaller than nail; provide maximum nailing per CBC 2304.9.1. Attic Ventilation:
- Enclosed attics and enclosed rafter spaces shall have cross-ventilation for each separate space by ventilating openings protected against entrance of rain. The net free ventilating area shall not be less than 1/150 of the area of the space ventilated. The openings shall be covered with corrosion resistant metal mesh openings of 1/4" in dimension. Do not block vents with insulation. 19. <u>Framing</u>
- <u>Stud walls</u> perpendicular to a concrete or masonry wall shall be bolted to the concrete or masonry wall with 5/8" diameter × 8" A307 bolts at top, mid-height and bottom. B. <u>Structural information</u> shown on framing plans is for the main
- structural elements. Non-structural elements shall be constructed per approved code requirements. C. <u>Weight of the roof tile</u> is considered as 10 psf max. (total
- roof dead load of 20 psf). If roofing material exceeds this load, the Framing Contractor should notify Andresen Architecture, Inc. in writing prior to construction. D. All shear panels shall have continuous sheathing material from
- one end to the other and from plate to plate as specified on the drawings. Contractor shall coordinate framing such that continuity of shear panels is assured.
- E. <u>All ledgers</u> shall be spliced with ST22 strap, u.n.o.

Division 6 (continued) Wood

- F. <u>All shear transfer nailing</u> shall be per drawings. Contractor shall provide proper notification for inspections to review the same. G. <u>Provide posts</u> at lower floor under posts or multiple studs above. Provide full width and depth compression block between floors at such locations. H. <u>All joist hangers</u> shall be Simpson U hanger, all beam hangers shall be Simpson HU hangers u.n.o. on plan or detail.
- Follow manufacturer's recommendations for installation. I. If a double sill plate is used at light-weight concrete flooring, then the framing contractor shall apply sill plate nailing to both sill plates, at 16" O.C. max. or as specified per schedule.
- J. <u>Building Code 2308.9.1</u> balloon framed walls (non-bearing) stud heiahts: 2x4's @ [6" O.C. maximum 14'-0" height 2x6's @ 16" O.C. maximum 20'-0"height No multiples of 2x4's are allowed to span more than 14'-0"
- bearing walls, exceeding 10'-0" must be designed case by case. K. Use 4x4 header for openings less than 16" at bearing walls without point loads, or at openings less than 4-0" at non-bearing walls. Use 2x framing @ medicine cabinet and qaraqe vent (u.n.o.).
- 20. <u>Ceiling Joists</u> Use this span table for ceiling joists given the following conditions, unless noted otherwise on plan. a. dead load = 6.0 psf
- live load = 10.0 psf total deflection = L/240 with ceiling drywall e. use #2 Douglas Fir Larch SIZE SPACING MAX. SPAN 10'-6 9'-7" 16" 8'-4" 24'
- 2×6 12" 16'-7' 15'-1" 16" 24" 13'-2" 2x8 2|'-||' 12" 19'-11" - 16" 24" 17'-4'
- 21. <u>Minimum Quality</u> E. <u>All machine bolts</u> shall conform to ASTM A307. Holes for bolts should be drilled 1/16" larger than bolt dia. F. Square washers shall be mild steel. Use min. 2" sq. x 3/16"
- thick washers for bolts with 5/8" dia., use 3-1/2" sq. x 3/8" thick washers for bolts with I" dia G. Adhesive used to attach floor floor sheathing to framing elements shall conform with APA specification AFG-OI. H. <u>Manufactured hardware</u> specified on the drawings are to
- be Simpson Strong Tie (unless specifically authorized in writing by Andresen Architecture, Inc.). Follow all installation \$ handling of the product.
- Do not bend the Simpson PA straps. J. Sheet rock on framing: quantities in any one room:
- K. Fasteners specified on the drawings may be colored using manufacturer's brands that utilize the Trackers color coded system. Follow all manufacturer's requirements and

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Ø=0.131 - L=2 1/2"	COLOR CHAI
Ø=0.148 - L=3"	8d Cooler
Ø=0.162 - L=3 1/2"	8d Common
$\emptyset = 0.162 - L = 5.1/2$	16d Short
$\emptyset = 0.113 - L = 2.174$	IOd Common
©=0.131 - L=2 7/8"	12d Common (16d Sinker)
Ø=0.148 - L=3 1/4"	16d Common

STRUCTURAL GLUE-LAMINATED UNITS

- <u>General:</u> <u>All fabrication and workmanship</u> shall conform edition of the Standard Specifications for S Laminated Douglas Fir. (Coast Region) Lumber by Lumbermen's Association and the current edition of Tim
- <u>All glued-laminated members</u> shall be Douglas 1-1/2" outer and core laminations, combinat waterproof resorcinol or phenol resorcinol que Federal Specification MIL-A-397-B. Use Combina 24F-V5 for simply supported beams, and Combination 24F-V8 or 24F-VIO for cantilevered beams.
- Comply with ANSI/AITC AI90.1 "Structural quide laminated timber." Provide factory-glued structural units, produced by AITC-licensed firm, qualified to apply the AITC "Quality inspected" mark. <u>Factory mark</u> each piece of glued-laminated structural units with
- AITC quality inspected mark. 6. Design: Where portions of final design for glued-laminated timber members are indicated as manufacturer's responsibility (any
- element of design consideration), comply with applicable provisions of AITC 117- "Designing, Standard specifications for structural glued-laminated timber of softwood species." 7. <u>A certificate of inspection</u> for each Glu-lam beam from an approved Testing Agency shall be submitted to, and approved by the local Building Department and the Architect.
- Materials: Provide glued-laminated timber members sized as shown on drawings that meet or exceed the following stress values for normal loading duration and condition of use: Bending (Fb), 2400 psi.
- Horizontal shear (Fv), 165 psi. Compression perpendicular to grain (Fc-Tension Face), 560 psi. Compression perpendicular to grain (Fc-Compression Face), 560 psi. Modules of elasticity (E), 1,800,000 psi.
- Tension parallel to grain (Ft-Axially loaded), 1150 psi. Compression parallel to grain (Fc-Axially loaded), 1650 psi. ASTM D 2559 "Wet-use" adhesive, unless otherwise indicated.
- Use manufacturer's standard transparent, colorless wood sealer, effective in retarding transmission of moisture at cross grain cuts.
- 4. <u>Use manufacturer's standard</u> translucent penetrating wood sealer, which will not interfere with application of wood stain and transparent finish, or paint finish as indicated.
- 5. <u>Moisture content</u> of the lumber at the time of gluing shall not be more than 16% with a maximum variation of 5% in any beam.
- Execution Required camber for fabrication of each member is shown on drawings, and may be either circular or parabolic, at manufacturer's option. If not shown, use standard camber per manufacturer. 2. <u>Immediately after end-cutting</u> each member to final length, and
- after wood treatment, if any, apply a saturation coat of end sealer to ends and other cross-cut surfaces, keeping surfaces "flood coated" for not less than 10 minutes. Beams shall be load wrapped for protection during shipping. 3. After fabrication and sanding of each unit, and end coat sealing,
- apply a heavy saturation coat of penetration sealer on surfaces of each unit, except for treated wood where treatment has included a water repellent.
- 4. Finish of the members shall be industrial appearance grade (unless otherwise noted) in conformance with Standard Appearance Grades of the A.I.T.C.

- manufacturer's requirements & recommendations for Stacked sheet rock loading shall be limited to the following
- 5/8": 16 individual 4x10 sheets (8 pairs of sheets) 1/2": 20 individual 4x10 sheets (10 pairs of sheets) The shoring of the 2nd floor is required if the number of sheet rock exceeds the quantities listed above.
- recommendations for installation and handling of the products.

ART FOR STRUCTURAL NAILS			
R	SIZE & DIAMETER	COLORS	
-	2 3/8 X .113	YELLOW	
١	2 I/2 X .I3I	BLUE	
	3 I/4 X .I3I	BLACK	
n	2  /8-3X. 48	PURPLE	
n r)	3 I/4 X .148	GREEN	
n	2  /2 3  /2 × .162	ORANGE	

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## Thermal & Moisture Protection

ATTIC ACCESS I. <u>Provide attic access</u> with insulation where indicated on plans.

EXTERIOR WALL COVERINGS I. <u>Weather-Resistive Barrier</u> provide one (I) layer of 60 pound asphalt saturated felt minimum under all exterior finishes. 2. <u>Shear Walls and Horizontal Applications</u> require a minimum of two

(2) layers of grade "D" building paper. Materials I. All exterior materials shall conform to the requirements of the

Uniform Building Code, applicable edition, and all State and Local codes. ROOFING AND MEMBRANES I. <u>Scope:</u> Furnish and install roofing and waterproofing work complete, including cant strips and incorporating other trades

- flashing, sleeves and jacks. 2. Installation: Install roofing and wall corrosion resistant metal flashing per manufacturer's recommendations including the use of fasteners and anchoring devices for high wind areas, and per
- C.B.C. Chapter 1503, carefully incorporating flashing, scuppers, jacks, sleeves, roof drains, skylights, etc. supplied by others. Inspection: Owner shall provide a waterproofing specialist to review built-up roofing, waterproof decking, foundation wall waterproofing, and flashing details and provide continuous inspection during field installation of all waterproof and flashing surfaces and materials to insure adherence to manufacturer's specifications and the highest standards of construction practice.

### <u>Special Conditions</u>

Provide cant strips at all vertical surfaces. Provide crickets as indicated, and as necessary, for proper water drainage and to redirect channeled or runoff water away from vertical surfaces.

Materials: Refer to plans for type and manufacturer of roofing.

BUILT-UP ROOFING <u>General:</u>

- I. <u>Plymood Deck:</u> This specification is applicable to built-up roofina systems applied directly to plywood substrates. Should any other substrate be encountered submit a written list of required modifications as recommended by standard reference specifications to the Architect for approval.
- 2. <u>Standard reference specifications:</u> A. NRCA: "Roofing & Waterproofing Manual".
- Published specifications, recommendations and instructions by manufacturer of products used. CBC Chapter 15.
- 3. <u>Coordinate</u> with other trades to insure proper sequencing of each installation. 4. <u>Manufacturer's guarantee/warranty:</u> MFR's Standard IO-year
- avarantee. <u>Roofing</u> <u>warranty</u>: Provide "Roofing Contractor's" standard 2-year roofing quarantee; NRCA Form 1970A or equivalent form. 6. <u>Testing Lab:</u> Each package of felts, cements, and base-, ply-, combination or cap sheets shall bear the label of an approved
- testing laboratory having a service for the inspection of materials and finished products during manufacture for such built-up roofing material. 7. <u>Roof Deck</u>. Built-up roofing shall be applied to solid roof sheathings as specified in Division 6 of these general notes.
- Materials Provide materials complying with governing regulations and NRCA roofing and waterproofing manual specifications #31, NADA diagram A, as follows:
- A. <u>Sheathing paper:</u> single ply 5 lb. rosin sized sheathing Base plies: 2 plies #15 perforated asphalt-saturated
- organic felt complying with ASTM D-226. Plu felts: 3 plies #15 perforated asphalt-saturated organic felt complying with ASTM D-226.
- A. <u>Base plies</u>: 3 plies #15 asphalt impregnated glass fiber mat or complying with ASTM D-2178, Type IV. Interply bitumens roofing asphalt complying with ASTM D-312, Type 11.
- Execution: <u>Meather:</u> Proceed with roofing work only when existing and forecasted weather conditions will permit work to be performed
- in accordance with recommendations 2. <u>Substrate Corrections:</u> Examine substrate surfaces to receive built-up roofing systems and associated work; and conditions under which roofing will be installed. Do not proceed with roofing until unsatisfactory conditions have been corrected in a manner acceptable to installer.
- 3. <u>Substrate Surface</u>: Verify that substrate is securely fastened with no projecting fasteners and no adjacent units in excess of 1/16" out of plane.
- 4. <u>Protection</u>: Protect other work from spillage of built-up roofing materials. 5. <u>Heat and apply bitumen</u> in accordance with equiciscos
- temperature (EVT) method as recommended by NRCA. 6. Base sheets shall be nailed, using not less than one nailer each 1-1/3 square feet with nails of the type required by the manufacturer for the type of deck. Successive layers shall be cemented to the base sheets using 20 pounds of hot asphalt for solid mopping (10 pounds for spot or strip-mopping), or not less than two gallons of cold bituminous compound in accordance with manufacturer's published specifications, or 30 pounds of hot coal tar pitch per roofing square.
- Minimum Weight: Mineral aggregate surfaced roofs shall be surfaced with not less than 60 pounds of hot asphalt or other cementing material in which is embedded not less than 400 pounds of gravel or other approved surfacing materials or other 350 pounds of crushed slag per roofing square. 8. Cap sheets shall be cemented to the base sheets using no less
- cementing material than that specified for solidly cemented base sheets. 9. Tape joints of substrate to prevent penetration by roofing materials.
- 10. Shingle multiple plies of roofing unless otherwise required by felt manufacturer's instructions. II. On sloping substrates (sloping more than 3/8" for coaltar
- bitumen, 3/4" for asphalt with asbestos felts, or 1" for asphalt with other felts) comply with NRCA "roofing manual" for nailing plies of B.U.R. to substrate or to nailers in the substrate and comply with composition roofing manufacturer's instructions for nailing composition roofing.
- 12. Nail edges of roofing where possible (without causing leaks), and nail composition flashing to vertical surfaces at edges and penetrations of roofing.

### INSULATION: <u>General:</u>

- I. Certificate: After installing insulation, the Installer shall post in a conspicuous location in the building a certificate signed by the Installer that the installation conforms with the requirements of Title 24, Part 6, and that the materials installed conform with the requirements of Title 20, Chapter 2. The certificate shall state the Manufacturer's name and material identification, the installed R-value, and weight per square foot.
- Mineral fiber blanket/batt insulation of inorganic non-asbestos fibers formed into resilient batts. Semi-rigid type where required for self support.
- Execution: I. <u>Provide</u> insulation at all exterior walls, walls between living space and unheated garage or storage room, between jambs and framing, ceilings with cold areas above, attic access panel, knee walls adjacent to heated space, between combination rafter and ceiling joist (leave open space above for ventilation) to receive (batt) insulation
- Malls to be minimum of R-13 unless otherwise noted. Ceilings to be minimum of R-30 unless otherwise noted.
- Floors Over Unconditioned: to be minimum of R-19 unless otherwise noted.
- 5. <u>See Energy Compliance Sheet</u> for California Energy Title 24 Requirements. 6. Infiltration: the following openings in the building envelope must be caulked, sealed, or weather stripped.
- A. Exterior joints around window and door frames, between wall panels, wall and sill plates.
- B. Openings for plumbing, electrical and gas lines in exterior and interior walls, ceilings, and floors. C. Openings in attic floor (such as where ceiling panels meet
- interior and exterior walls, and masonry fireplaces) D. All other such openings in building envelope. (No gaps or voids will be accepted)
- 7. <u>Alternative approved techniques</u> may be used to meet the standard caulking reqt's for exterior walls, including but not limited to, continuous stucco, building wraps, or rigid wall insulation.

Balcony and Deck Coating: <u>Elastomeric or membrane deck coatings</u> shall be installed per manufacturer's specifications. Color and finish and detailing to be approved by Aarchitect and/or Owner.

Division 7 (continued) Thermal & Moisture Protection

Exterior Decks: I. <u>Decks, balconies, landings, exterior stairways</u> and similar

- surfaces exposed to the weather and sealed underneath shall be waterproofed. All exterior decks and balconies exposed to weather shall be
- constructed with sufficient slope (minimum 1/4 inch per foot) to ensure adequate drainage 3. <u>Unless designed to drain</u> over deck edges, drains and overflows of
- adequate size shall be installed at the low points of the deck. Provide minimum 2 inch drop from finished interior floor to the

## JOINT SEALERS

- <u>General:</u> I. <u>Compatibility:</u> Provide materials selected for compatibility with each other and with substrates in each joint system; confirm with manufacturer. <u>General characteristics:</u> Provide type, grade, class, hardness and similar characteristics or material to comply with
- manufacturer's recommendations relative to exposures, traffic, weather conditions and other factors of the joint system for best possible overall performance. Joint sealers are required to permanently maintain airtight and waterproof seals, without failures in joint movement accommodation, cohesion, adhesion (where applicable), migrations, staining and other performances as specified.

### Execution: <u>Meather conditions</u>: Install exterior elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.

- Clean joint surfaces and prime or seal as recommended by sealant manufacturer
- <u>Support sealants</u> from back with construction as shown or with ioint filler or back rod.
- Install liquid sealants by proven methods which will ensure "wetting" of joint bond surfaces, without gaps or air pockets in beads, slightly concave on surface and slightly below adjoining surfaces, except form slight cove with sealant at inverted corner joints.

FLASHING AND SHEET METAL General:

- General reference specifications: A. Comply with "Architectural Sheet Metal Manual" by SMACNA for each general category for work required. NRCA" "Roofing and Waterproofing Manual". CBC Chapter 15
- D. Published installation instructions by manufacturer of roofing material used. 2. <u>Coordinate</u> with other trades to ensure proper sequencing of

## each installation.

- Zinc-coated steel: commercial quality, .20% copper, ASTM A-653, G 90 hot-dip galvanized, min. 26 gage.
- Aluminum: ASTM B-209, Alloy 3003, temper H 14, anodized or bakes enameled to match adjacent aluminum products min. 0.032" thick.
- Solder: for steel 50, 50 tin/lead solder (ASTM B 32), with rosin flux. 4. <u>Epoxy</u> <u>seam</u> <u>sealer:</u> 2-part non-corrosive metal seam
- cementing compound for non-moving joints. Fasteners: compatible with metals being fastened. Bituminous coatings: (for use as a dielectric separation): FS
- TF0494 or SSPC-paint 12, solvent type. Nominally free of sulfur, compound for 15 mil dry thickness per coat. 7. <u>Roofing cement:</u> ASTM D-2822 asphalt.
- Execution: Seams: Fabricate sheet metal with flat-lock seams: solder with type solder and flux recommended by manufacturer, except
- seal aluminum seams with epoxy metal seam cement and where required for strength rivet seams and joints. 2. Shop fabricate to greatest extent possible in accordance with
- applicable reference standards to provide a permanently waterproof weather resistant installation provide for separation of non-compatible materials hem all exposed edges. Anchor units securely in place using concealed fasteners where
- possible in a manner that will be true to line plumb and level where indicated with a minimum of joints.
- Seal Laps: Set flanges in full bed of roofing cement. 5. Expansion: Provide for thermal expansion of running sheet 6. <u>Roof/Wall:</u> Flash and counter flass at all roof to wall conditions.
- G.I. flash and caulk wood beams and outlookers projecting through exterior walls or roof surfaces. Roof valley flashing shall be provided of not less than No. 26 galvanized sheet gauge corrosion-resistant metal and shall extend at least II" from the center line each way and shall have a splash diverter rib not less than I" high at the flow line formed as part of the flashing. Sections of flashing shall have an end
- lap of not less than 4" set in a bed of continuous roofing mastic. Seal moving joints in metal work with elastomeric sealants. Exterior openings exposed to the weather shall be flashed in such a manner as to make them waterproof. Flashing and counterflashing shall be provided at the junction of roof and
- vertical surfaces (walls, etc.) 10. <u>Mood beams and Outlookers</u> projecting through exterior walls and roof surfaces shall be flashed with galvanized iron flashing
- and caulked <u>Mood Trim Exposed to Meather</u> shall be flashed where butting to exterior finish.

Workmanship I. <u>Work shall be accurately fabricated</u> to match detail and fitted

- to job conditions. 2. Molded and brake-formed members shall be finished true and
- straight with sharp lines and angles 3. Lock seams flat and true to line, 1/2 inch wide, sweated full with solder where overlapping does not provide water tight

Doors and Windows

and SMA 2005 apply to work.

type SGD-BL (residential).

only on each sliding panel.

infiltration.

OVERHEAD DOOR SPRINGS

meet performance requirements.

Housing and Community Development.

a clear vision of the area outside the door without opening the

weather tight and waterproof connections.

connections.

by metal specialist.

such materials.

<u>SKYLIGHTS</u>

<u>DOORS</u>

<u>General:</u>

Execution:

Standards".

apply to the work.

highest floor level on any adjoining deck or balcony.

4. <u>Sheet metal work</u> shall be designed to provide complete 5. <u>All galvanized metal</u> shall be shop primed with one coat of zinc

dust-zinc oxide primer over all surfaces and as recommended Sheet metal used as flashing adjacent to wood surfaces shall be set in high quality sealant to ensure waterproofing between

Skylights are to be constructed and installed as per manufacturer's specifications and Section 2610 of CBC

## I. <u>Standards</u>: Comply with requirements of ANSI/NWMA I.S. I and Section 1300 of AWI "Architectural Woodwork Quality

2. <u>Mood door standards:</u> the requirements of NMMA I.S. 3-70 Aluminum door standards: requirements of ANSI/AAMA 402.9

### 1. <u>Fire-rated doors</u> to be labeled and listed with rating required by a testing inspection agency acceptable to authority. Door classification: provide aluminum sliding glass doors of

Install doors to comply with manufacturer's instructions. Maintain design concept as indicated (door sizes, member sizes, basic profiles, and operating units), modify only as necessary to

### Install units with accurately aligned and tight joints manufacturer instructions. Apply hardware and adjust weather tight closure. Set sill members in a full bed of sealants and fillers. 4. <u>Provide pulls</u> and keyless locking device, lockable from inside

Provide deadbolt and latchset at all exterior swinging doors, including house to garage doors, or as required by local codes. 6. <u>Viewer:</u> All main, or front entry doors shall be equipped with a wide angle viewer (180 degree) except where the occupant has

### Meather strippina: All sliding, swinging doors and windows opening to the exterior or to unconditioned areas shall be fully weather stripped, gasketed or otherwise treated to limit air

Spring must be contained with a restraint device to anchor the spring or any part thereof in the event it fractures. Both the spring and the restraint devices must be identified as conforming to the requirements of the California Department of

### Division 9 Finishes

GYPSUM DRYWALL

- General: <u>Gypsum board standard:</u> ASTM C-840. Comply with the following:
- A. CBC, Chapter 25.
- B. Fire resistant design manual, eleventh edition, gypsum association All gupsum wallboard at tubs to be installed in such a manner that there are not surfaces out of alignment with adjacent surfaces and the true plane of the wall is maintained.

### Exposed aupsum board: ASTM C-36. Mater-resistant gypsum backing board: ASTM C-630.

- Rounded Corner Bread: Provide rounded corner bread except at windows and wardrobes. <u>Sound</u> <u>reduction:</u> Where shown as "resilient", provide
- manufacturer's special type designed to reduce sound transmission type RC-1. Acoustical sealant: non-drying, non-hardening, non-staining
- non-bleeding, gumable sealant for concealed sealant for exposed applications 6. <u>Sound attention blankets:</u> semi-grid mineral fiber without
- membrane. Joint tape & compound: CBC standard 47-6. Fasteners: 5d cooler nails, except 6d cooler nails where necessary for structural or fire-restrictive requirements. Other fasteners with ICC-ES approvals may be used.

### Execution Taping: except as otherwise indicated, apply joint tape and joint compound at joints (both directions) between gypsum boards. Apply compound at accessory flanges, penetrations, fasteners heads and surface defects. Joints: Treated joints, fastener heads, cut edges and

- penetrations in water-resistant backing board to comply with board manufacturer's directions. Protection: Gypsum wallboard shall not be installed until weather З. protection for the installation is provided.
- Edge Bearing: All edges and ends of aupsum wallboard shall occur on the framing members, except those edges and ends which are perpendicular to the framing members. Gypsum board nailing shall be as follows: (Unless otherwise noted
- on plans) Fasteners shall be spaced not less than 3/8 inch from edges and ends of gypsum wall board. Apply fasteners in a manner that does not fracture paper face. The size and spacing of fasteners shall comply with UBC application edition, state and local codes A. I/2" and 5/8" type "X" gypsum board to receive 6d cooler
- nails at 7" O.C. to all studs, plates and blocking. B. Gypsum board attached to trusses at 24" O.C. shall have long dimension perpendicular to framing members. Installation: Install board continuous behind tubs, showers, and under stairs, at all party, sound, and fire walls.
- Fire Resistance: Provide type "X" where indicated and where required in fire-resistance rated assemblies.

### TILEWORK Scope:

<u>Furnish</u> and install tile, grout, mastic, mortar, sealer, etc. complete. Work shall be clean, plumb, level, except at areas intended to drain, true to line with consistent joints.

### <u>General:</u> Standards: apply to the work except as otherwise indicated. A. American National Standards Institute (ANSI), mortar and grout materials and installation standards. Štandard specification for ceramic tile ANSI A137.

- Single-component sealants: ASTM C-920, Type S, Grade NS, use NT for use in joints in non-traffic areas.
- Tile on floor, slab or wood framed shall be installed per the Ceramic Tile Institute standards and the Tile Council of America. Install mud set tile at counters, tubs and showers per the Ceramic
- Tile Institute and Tile Council of America Standards. <u>Provide waterproof membrane</u> beneath tile over water resistant З. backing board as recommended by manufacturer and Ceramic Tile Institute and the Tile Council of America Standards at all areas subject to moisture and water (i.e., tubs and showers).

## Tile and grout as selected by Owner.

Installation of grouted tile flooring is not recommended over wood framed floor systems.

## Scope:

Provide painting work as indicated and specified, complete including preparation of surfaces other than those that are factory primed.

### <u>Color Selection:</u> Seven (7) days prior to beginning work, furnish Architect with color ships for surfaces other than those that are factory primed. Submit samples for Architect's review of color and texture only.

- <u>Morkmanship:</u> Each coat shall be uniformly applied, well brushed out and free of brush marks, runs, sags, or skips. Paint finishes shall be cut sharply to line. Protect adjacent
- surfaces. Mix and apply paint and stains in accordance with the manufacturer's instructions.
- Hardware shall be masked or removed prior to painting or Subcontractor will be responsible for any damage resulting from
- overspray, and all necessary clean-up. <u>Semi-gloss paint</u> to be roller or brush applied.

## Preparation of Surfaces:

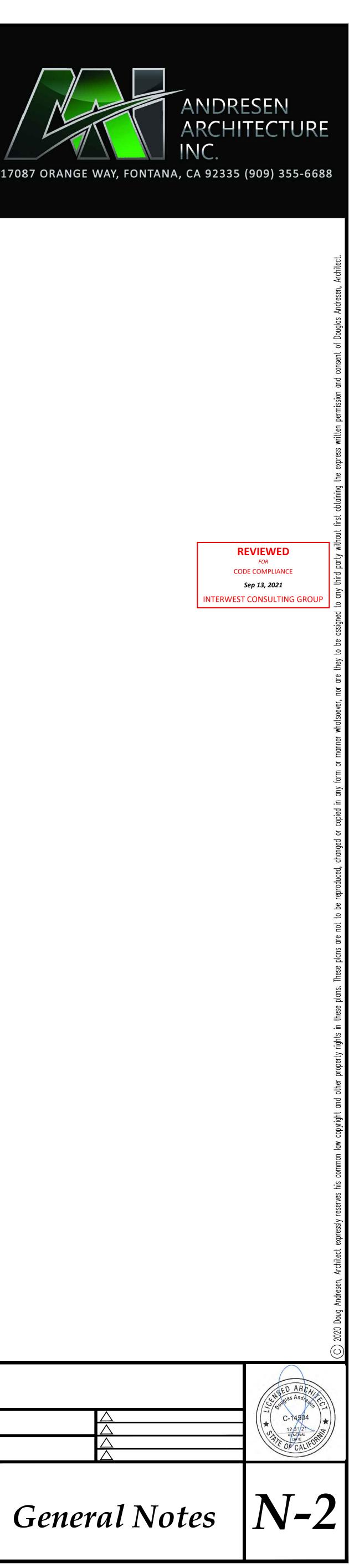
- <u>Surfaces</u> shall be clean and dry, and in suitable condition for finish specified. Remove all oil, grease, bond breaking agents, dust, mill scale and efflorescence. <u>Cracks, holes, and knots</u> shall be filled, sanded smooth, and
- sealed. Wood surfaces, except resamn wood, shall be sanded perfectly smooth. Sanding dust shall be completely removed. Trim and other finish work shall be back-painted prior to installation, to minimize inconsistent shrinkage.

## Materials

- Mix, prepare, and store painting and finishing materials in accordance with manufacturer's directions. Submit list of materials and manufacturers for Owner's and Architect's approval.
- All materials shall be delivered to the site in sealed original З. manufacturer's containers.
- Execution Preparation: Prepare cementitious surfaces of concrete, concrete block and similar materials to be painted by removina efflorescence, chalk, dust, dirt, grease and oils, and by roughind to remove glaze. Do not paint over surfaces where alkalinity or moisture content exceeds manufacturer's recommendations.
- Seal wood required to be job-painted, prime edges, ends, face, undersides and backsides of counters, cases, cabinets, etc., use spare varnish for back priming where transparent finish is required.
- 3. <u>Paneling:</u> Back prime interior paneling only where masonry, plaster or other wet wall construction occurs on backside. <u>Ferrous metal:</u> Clean ferrous surfaces which are not qalvanized or shop-coated; remove oil, grease, loose dirt, mill scale and other foreign substances by solvent or mechanical cleaning.
- Touch-up shop-applied prime coats wherever damaged. Non-ferrous metal: Clean galvanized surfaces free of oil and surface contaminants with non-petroleum based solvent. Rough sawn and resawn surfaces to receive stain. DO NOT prime
- unless otherwise noted on plans. Roof Flashings: Painting Sub-Contractor shall provide paint to match roofing color for painting roof flashings and vents. Painting of such flashings and vents shall be by Roofing Sub-Contractor.

### EXTERIOR PLASTER <u>General:</u>

- <u>Comply with the following:</u>
- "Plaster/Metal Framing Systems/Lath Manual." B. California Lathing and Plastering Contractors Association recommendations.
- Plaster: Portland Cement Plaster, ASTM CI50, Type I, II, III. Lime: ASTM C-206.
- Aggregates: Clean and graded from coarse to fine, ASTM Cl44-
- <u>Mater:</u> Potable. Lath: Wire fabric over 15 lbs. paper or paper backed woven wire



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### Division 9 (continued Finishes

### Execution: I. <u>Weather</u>: Do not apply plaster when temperature is below 40 dearees F

- 2. Expansion Joints: Use metal expansion joints as required to control cracking 3. Corners: Use corner reinforcing at all corners, verify type
- with Architect 4. Scratch Coat: Apply scratch coat with sufficient material
- and pressure to form good keys on lath. Allow the scratch coat to cure for 48 hours before applying brown
- 5. Brown Coat: Apply brown coat to scratch coat, bring out grounds, straighten to a true surface, and leave tough to assure adequate bond for finish. Allow finish 48 hours for curina prior to finish
- 6. <u>Variation</u>: Brown coat to have no greater variation than 1/2" in
- Finish Coat: Apply finish coat of 1/8" minimum thickness. Soffits. Use only expanded metal or ribbed metal lath at horizontal surfaced such as bottom of soffits, etc. 9. <u>Coats:</u> Use not less than three (3) coats when applied over metal lath and not less than 2 coats when applied over
- masonru 10. <u>Apply</u> <u>building</u> <u>paper</u> <u>and</u> <u>lath</u> per manufacturer's recommendations, use 2 layers of Grade D paper minimum over
- wood based sheathing. II. <u>Weep Screed:</u> Provide continuous galvanized stucco based screed per Section 2512.1.2 of the CBC by Plaster Sub-Contractor
- 12. Finish: Exterior stucco to have a smooth float finish and shall be color-coated.

### <u>STUCCO</u> Standards:

1. <u>All work</u> shall comply with Chapter 2512 of the C.B.C.

<u>Materials - I Coat Exterior Plaster:</u> I. <u>Exposed concrete foundation</u>: Finish color coat all exposed surfaces

- Materials 7/8 inch Stucco: <u> Wire mesh:</u> I-I/2 inch mesh, I7 gauge, galvanized netting or preferred paperback stucco netting and plasterback stucco netting (ICC-ES Report #ESR-2595) and "Aqua Lath" as manufactured by Tree Island Steel Inc. (ICC-ES Report #ESR-2267).
- 2. Building Paper: Install Type 15 felt or other approved. Under exterior trim and siding apply so as to form a watertight membrane. Overlap each course below 2 inch minimum horizontal joints and 6 inch minimum at vertical
- 3. Flashing at wall penetrations: Install Sisalkraft paper as flashing in a weatherboard fashion slip window under horizontal head Sisalkraft and secure metal window and door fin over Sisalkraft at sides and bottom. Note: Provide a head of Butyl sealant on interface of fins at sides and bottom, also exterior face of tip fin, before inserting metal frames.

### <u>FLOORING</u> Resilient Flooring:

- <u>Scope:</u> A. Furnish and install all resilient flooring material complete as schedulec B. <u>General Contractor</u> shall coordinate Flooring Sub-Contractor with Framing and Concrete Contractors to ensure compatibility of adhesives and subfloor surface texture, materials, and preparation.
- Installation: Install all work in strict accordance with manufacturer's written instructions and only by contractors approved by the manufacturer.
- A. Subfloors shall be clean, free of dust and perfectly dry, level, and smooth. B. Surfaces shall be primed as recommended by the
- manufacturer. C. Materials shall be applied in accordance with the manufacturer's instructions. 3. <u>Materials:</u>
- A. <u>Vinyl sheeting</u>, as selected by owner. B. <u>Adhesives</u>: As recommended by the manufacturer of the
- floor covering C. <u>Provide positive slope</u> at tile sheets within showers and at floor towards floor drain.

LAMINATE PLASTIC FINISHES

- Laminate plastic: Formica, Wilson art or Nevamar. 1/16th inch qeneral purpose qrade 10. <u>Application</u>: Laminate plastic shall be installed in strict accordance with the manufacturer's instructions. Splashes shall be fully formed (U.N.O.) range cuts and counters shall be self-edged (U.N.O.)
- SYNTHETIC COUNTER TOPS <u>Where indicated on interior elevations</u>, shall be cultured marble or Corian with splash. Colors shall be selected by owner. All Pullman tops shall be installed per manufacturer's recommendations

### Division 10

Specialties

LOUVERS & VENTS

- 1. <u>Performance\_standard:</u> For performance-rated louvers, provide units whose ratings have been determined in compliance with AMCA Standard 500. <u>SMACNA</u> <u>Standard:</u> Comply with "Architectural Sheet Metal Manual" recommendations for fabrication, construction, and installation procedures.
- <u>Galvanized sheet steel:</u> ASTM A-653/A-653M-00, G90, Mill phosphatized not less than 16 gauge. Cold-rolled sheet steel: ASTM A-1008, Class I, matte finish. Louver screens: on inside face of exterior louvers, provide 1/4" square mesh galvanized steel wire mesh.
- Execution <u>Field measurements:</u> verify size, location, and placement of louver units prior to fabrication, where possible.
- Preassemble units in shop to greatest extent possible. Metal finish: comply with NAAMM "Metal Finished Manual" to provide uniformly finished products 4. Installation: Locate and place louver units plumb, level in proper
- alignment with adjoining work and in accordance with manufacturer's instructions. Fastening: Use non-ferrous metal or galvanized anchors and
- inserts for exterior installation and elsewhere where required for corrosion resistance 6. <u>Meather Protection:</u> Provide concealed gasket, flashing and joint fillers as indicated and as required to make installation water
- 7. <u>Attic ventilation:</u> Enclosed attic spaces and enclosed roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain. The net free ventilating area shall be not
- less than 1/150 of the area of the space ventilated, except that the area may be 1/300 provided at least 50 percent of the required ventilated area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents 8. <u>Ventilation</u>: Provide all concealed under floor spaces with
- ventilation which provides not less than I square foot of vent area for each 150 square feet under floor area. Such openings shall be approximately equally distributed along the length of at least two opposite sides.

Attachment: Mirrors shall be set in "J" metal at top of splash with a minimum of two clips at top.

Divisions 11, 12, 13, 14 Not Applicable to this Project Mechanical and Plumbing

### HEATING

Supply all labor, transportation, materials, etc. for installation of a complete heating and air conditioning system to operate according to the best practices of the trade including, but not limited to: mechanical units, ducts, registers, catwalks, grilles boots, vent pipes, dampers, combustion air, fans, ventilators, refrigerant lines, refrigerant, etc. All materials, work, etc. to comply with all requirements of all legally constituted public authorities having jurisdiction including all County and State ordinances. Furnish and install all equipment complete and operable. Verify all material and installation requirements and limitations at fire and sound assemblies.

### <u>Installation:</u> 1. <u>No alterations</u> to the structural frame, diaphragms, connections or

- shear panels shall be made which would compromise the designed structural integrity of such elements without prior written approval from the Structural Engineer. 2. Fuel burning equipment located in garages and subject to
- mechanical damage from the normal vehicular path shall be protected as indicated in drawings and as required by C.M.C. 3. <u>Provide high and low</u> combustion air in accordance with
- manufacturer's requirements. 4. Ducts piercing wall between house living area and garage shall
- be 26 GA G.I. material in the garage sealed at the edges with no opening into the garage. 2019 C.M.C 5. <u>Appliances</u> shall be accessible for inspection, service, repair and
- replacement without removing permanent construction. 6. Equipment regulated by the C.M.C. shall have an electrical disconnect within line of sight and a 120-volt receptacle located within 25-feet for service and maintenance purpose.
- Ducts: Constructed, installed and insulated per C.M.C. Dampers: Provide approved automatic fire dampers of minimum 26 gauge corrosion resistant metal material with sealed edges at all ductwork penetrating fire rated walls, floors or ceilings as required and allowed by the C.M.C. All fan systems exhausting air from the building envelope to the outside shall be provided with the backdraft dampers.

### Calculations and Drawings: I. <u>Contractor to supply and submit</u> to the building department,

calculations and drawings for approval. Submit one (1) set to the Architect for review for conformance with the visual design concept prior to commencing work. Equipment shall comply with State energy requirements for efficiency. Duct work "R" value shall also comply with State energy requirements.

### <u>PLUMBING</u> <u>Scope:</u>

Supply all labor, transportation, materials, etc. for installation of complete plumbing system to operate according to the best practices of the trade and including, but not limited to: fixtures, hot and cold water piping, exhaust fuels, combustion air, gas piping, log lighters, drains, soil and vent piping, hot water heaters, pipe insulation, meters, valves, vaults, etc. All materials, work, etc. to comply with all requirements of all legally constituted public authorities having jurisdiction, including all County and State ordinances. Furnish and install plumbing work complete and operable, including trenching and backfilling. Verify all material and installation requirements and limitations at fire and sound assemblies.

## Codes: Comply with the following:

- 2019 California Plumbing Code. 2019 California Mechanical Code 2019 California Electrical Code
- 2019 Title 24 Local codes and ordinances.

### Installation I. <u>Roughing-in</u> shall be completed, tested and inspected as required by code before closing-in with other work.

- 2. <u>Openings in pipes, drains, and fittings</u> shall be kept covered during construction. Provide solid backing for securing fixtures. All fixtures to be set level
- Provide cleanouts at ends of all lines and where required by codes. 5. <u>Copper tubing</u> shall be fully sweated to fittings. All copper pipe connections to ferrous piping shall be made with dielectric
- coupling or isolation flanges 6. <u>Black iron and galvanized steel pipe joints</u> shall be made with approved pipe thread compound.
- Provide shut-off valves at each fixture. Provide condensate line at each F.A.U. location. Provide primary and secondary condensate line to an approved drainage
- receptacle at attic F.A.U. locations. 9. <u>Provide cold water line</u> with shut off valve to refrigerator space in recessed box or in cabinet immediately adjacent to refrigerator space.
- 10. <u>All vents</u> to lead outside air. Where practical locate all roof vents to rear side of ridges. Provide water heater seismic restraints as required by local code. 12. <u>Shower stalls</u> must conform to requirements of C.P.C. 417 (1024 sq. in.)

## <u>Materials</u>

- <u> Mater piping:</u> Copper tube for water piping shall have a weight of not less than copper water tube Type L. Exception: Type M copper tubing may be used for water piping when piping is above ground, and the normal maximum pressure does not exceed 100 pounds, and the working temperature does not exceed 210 degrees F.
- Water heater: with non-rigid water connections shall be strapped for lateral support. 2. <u>Gas Piping:</u>
- A. All pipe used for the installation of any gas piping shall be standard weight wrought iron or steel (black), yellow brass (containing not more than seventy-five (75) percent copper), or internally timed or equivalently treated copper or iron pipe size. All fittings used in connection with the above piping shall be
- of malleable iron or yellow brass (containing not more than seventy-five (75) percent copper), or internally timed or equivalently treated copper or iron pipe size. 3. <u>Waste Piping:</u> All waste piping which penetrates walls with I hour fire
- resistive materials applied shall be cast iron. Oatey waste and overflow fittings shall be used in lieu of access panel as per IAPMO file No. 1646. 4. <u>Corrosive properties of soil:</u> Follow all recommendations in the
- final soils report for all materials placed within or in proximity of soil as necessary. 5. <u>Mater heaters</u> over 4 feet high with non-rigid water connections shall be secured to resist earthquakes, per C.M.C. requirements.
- 6. No gas piping shall be installed in or on the ground, under any building or structure. All exposed gas piping shall be kept at least 6 inches above grade or structure. The term "building or structure" shall include structures such as porches and steps
- whether covered or uncovered, breezeways, roo porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances. <u>All hose bibs</u> to have non-removable anti-siphon device. 8. <u>Calculations and drawings</u>: Contractor to supply and submit to the
- building department load calculations and drawings for approval prior to commencing work. Submit one (1) set to the Architect for review for conformance with the visual design concept prior to commencing work.

### 1. <u>Testing</u>: Perform hydrostatic testing of completed conduit lines in accordance with local authorities having jurisdiction. 2. Valves: Perform operational testing of valves by opening and

- closing under water pressure to ensure proper operation. 3. <u>Backfilling</u>. Conduct backfilling operations of open-cut trenches closely following laying, jointing and bedding of pipe, and after
- initial inspection and testing are completed. 4. <u>Combustion Air Vents:</u> Combustion air vents and ducts shall be provided with minimum unobstructed combustion air openings equal to that set forth in Chapter 7 of C.M.C.
- 5. Fan or other exhaust systems exhausting air from the building to the outside shall be provided with backdraft dampers or automatic dampers to prevent air leakage. 6. <u>Ducts</u> shall be constructed, installed and insulated according to
- Chapter 6 of C.M.C. (Title 24, Part 4). 7. <u>Setback</u> <u>Thermostat</u>: Thermostatically controlled heating or cooling systems, except electric heat pumps, shall have an automatic thermostat with a clock mechanism which the building occupant can manually program to automatically set back the thermostat set point for at least 2 periods within 24 hours.
- 8. <u>Mater Heating System Insulation:</u> A. Tank Wrapping: Storage type water heaters and storage and backup tanks for solar water heating systems shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
- Piping in unconditioned space leading to and from water heaters shall be insulated with an installed thermal resistance of R-4 or greater for the five feet of pipe closest to the water heater, or whatever shorter length is the unconditioned space.

### Division 15 (continued) Mechanical and Plumbing

9. <u>Icemaker:</u> Provide recessed plastic box in wall for water stub-out at refrigerator space for icemaker. Locate 6" above floor line

- 10. Access Panel: Provide direct plumbing connection at tub/shower drain so that no access panel is required. 11. Equipment Locations: No mechanical equipment shall be installed on roofs or within side yards less than 7'-O" wide.
- 12. <u>Clearances:</u> Range hood, vent exhaust ducts and cabinet clearances shall be as per Ch. 8 of the CMC. 13. The sound levels of kitchen exhaust range hood fans shall not
- exceed 8.0 sones. Bathroom exhaust shall not exceed 6.5 sones. 14. <u>Cleanouts</u>: An approved, two-way cast iron cleanout, shall be provided at the front of each new single family residence prior to final inspection. Do not locate soil line cleanout or condensate lines within front porch or entry walk. Locate in an inconspicuous location.
- 15. <u>All water heaters</u> shall be vented for combustion air and shall be equipped with a pressure and temperature relief value piped to within 6" of grade outside and shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one-third (1/3) and lower one-third (1/3) of its vertical dimensions. At the lower point, a minimum distance of four (4) inches above the controls with the strapping. Per California Plumbing Code, Section 510.5. 16. HVAC System: Sun-Contractor to follow plans for size and
- location of ducts, registers, and return air grilles. F.A.U. system shall be thermostatically controlled and properly sized with regards to the State Energy Ordinance Standards. Mechanical Contractor is responsible for all air balance adjusting of installed 17. Irrigation Pipe: Plumbing Sub-Contractor shall provide one 3/4
- inch schedule 40 PVC pipe for future sprinkler system under driveway (Verify with Landscape Contractor). Pipe shall be installed by Concrete Sub-Contractor. 18. <u>Roof Vents</u>: Wherever possible, roof vents shall be ganged and carried to the back of the structure. 19. Maximum flow for shower heads is 1.8 qpm. For lavatory and sink
- faucets the maximum flow is 1.2 apm at 60 psi. Maximum flush volume for water closets is 1.28 qpf. The flow rate must be marked on the valves.
- 20. "As-Builts": Plumbing Sub-Contractor to provide an "As-Built" drawing of the sewer line and cleanout locations for approval by the Building Inspector at the time of inspection (before covering) of the underground plumbing. The "As-Built" drawing must show the building footprint and the location of the line and the cleanouts must be fully dimensioned. 21. Showerheads must be certified by California Energy Commission
- and be marked with a flow rate of 1.8 apm max. 22. Lavatory # Sink Faucets and tub spout diverters must be certified by California Energy Commission and be marked with a flow rate of 1.2 gpm at 60 psi.

### Division 16 Electrical

- ELECTRICAL <u>Electrical System Layouts</u> are generally diagrammatic, location of outlets and equipment is approximate. Exact routing of wiring, locations of outlets to be governed by structural conditions and constructions. Wiring for equipment requiring maintenance and inspection to be readily accessible. 8. <u>Scope</u>: Supply all labor, transportation, materials, etc., for installation of complete electrical system to operate according to the best practices of the trade and including, but not limited
- to: fixtures, appliances, wiring, switches, outlets, television jacks, services, ground, temporary power, junction boxes, conduit, subpanels, etc. All work materials, etc. to comply with all requirements of all legally constituted authorities having jurisdiction, including all County and State ordinances. Furnish and install electrical work complete and operable. Verify all material and installation requirements and limitations at fire and sound assemblies.
- I. All work shall be in full accordance with all codes, rules and regulations of Governing Agencies and shall comply with all requirements of the serving power and telephone companies.
- Standards: I. <u>Electrical services:</u> Underground the serving utility will provide and install all primary and secondary service raceways and conductrs including transformer pads and connections to the line side of all building main disconnects. Raceways, sized as designated by the service utility, shall be provided by the electrical contractor from each building main disconnect to the exterior building line for continuation by the servicing utility. <u>Work and equipment</u> shall be in accordance with the best practices of the trade and conform to all local governing
- aaencies Materials and equipment shall be U.L. approved. Corrosive properties of soil: Follow all recommendations in the final soils report for all materials within or in proximity of soil as
- 5. <u>Should a conflict arise</u> between this specification, the drawings or another electrical specification issued as a part of these documents, the more stringent shall prevail.
- Installation: Provide separate circuits each for dishwasher, garbage disposal, refrigerator, washer, dryer, F.A.U. and microwave oven. Switched outlets shall be 1/2 hot.
- <u>All equipment installed outdoors</u> and exposed to weather shall be weatherproof
- 4. <u>Provide</u> ground fault circuit interrupters, G.F.I., at all baths, aaraaes, outdoor and wet area outlets. 5. <u>Provide low voltage stub out</u> for house numbers if local code
- requires illumination 6. <u>Kitchen and bathroom lighting</u> shall be in accordance with State
- energy mandatory requirements. Each conductor of every system shall be permanently tagged in
- compliance with O.S.H.A. 8. <u>All conduit</u> shall be installed concealed where physically possible. All exposed conduit shall be intermediate metal conduit or E.M.T. and installed parallel to or at right angles with the building walls. If viewed by the public, paint to match surface to which it is
- attached 9. <u>The complete electrical system</u> shall be grounded in accordance with the presently adopted edition of the C.E.C., Art. #250. 10. <u>Penetrations to fire-rated materials</u> shall be restored to equal rating as required by local enforcing agency. Flame seal as manufactured by Nelson Electric or approved equal. All electrical system conductors shall be installed in approved raceways. Non-metallic, sheathed cable "Romex" is not approved for
- penetrations of fire-rated assemblies. <u>Use only competent</u> and skilled personnel and perform all work, including aesthetic as well as electrical and mechanical aspects to standards consistent with the best practices of the trade. 2. <u>All conduit</u> only installations shall have a pull wire or rope.
- 13. No alterations to the structural frame, diaphraams, connections or shear panels shall be made which would compromise the designed structural integrity of such elements without prior written approval from the structural engineer. 14. <u>Electrical panels</u>, including mechanical equipment disconnects,
- require 30" wide, 36" deep and 75" high clear working space in front. Air conditioning equipment shall not be located in required path of bedroom egress. CEC Section 110-26: CBC 1026. 15. Exterior receptacles cannot be connected to a kitchen counter
- top GFCI protected receptacle. CEC Section 210-52(B)(2). 16. <u>Bathroom receptacles</u> must be connected to a 20 ampere branch circuit interrupters (GFCI). CEC Section 210-52(D) 17. <u>All kitchen counter receptacles</u> must be protected by ground
- fault circuit interrupters (GFCI). CEC Section 210.8(A)(6). 18. <u>Verify and locate</u> all outlets prior to installation of aupsum wallboard. Locate all switches and fixtures from finished floor per electrical plans and notes.

<u>Materials:</u> Aluminum wire No. 6 AWG and smaller shall not be used in electrical wiring. <u>Switches:</u> Silent type.

- Interior outlets: Duplex type, ISA, 125 volt. Exterior outlets: Single weatherproof type, G.F.I.
- Outlets and pullboxes: Galvanized or shearardized. Panel boxes: Circuit breaker type, recessed flush mounted, galvanized and prime coated with latch. Provide typewritten card
- identifying circuits. Conduit, cable, wire: Per presently adopted edition of the C.E.C. Fluorescent tubes and bulbs: Fill spectrum 3500K.
- Recessed incandescent light fixtures: In the proximity of attic, ceiling or floor insulation shall be I.C. type.

### Division 16 (continued) Electrica

- 10. <u>All materials</u> shall be new and of the same manufacturer for each glass or group of equipment. Materials shall be listed and approved by Underwriter's Laboratories and shall bear the inspection label where subject to such approval. Materials shall meet with the approval of the Division of Industrial Safety and all governing bodies having jurisdiction. Materials shall be manufactured in accordance with applicable standards established by A.N.S.I., U.L., N.E.M.A., N.B.F.U. Install per manufacturer's recommendations.
- II. <u>Conductors</u> shall be code grade, 600 volt class, copper, marked 24 inch along its length showing manufacturer's name, maximum allowage voltage and size. Conductors shall be type "THWN"- wet. Deliver the wire to the site in unbroken packages. 12. If aluminum feeder conductors are approved for substitution, copper only within units, and installed, final connections to vibrating equipment shall be copper only and all aluminum terminations shall be made using a "Hypress" tool or other
- all aluminum terminations. No aluminum conductor smaller than #4 13. House service: Size per requirements, minimum 60A, 1 inch diameter, 3 W

### service. Execution: Outdoor Protection: All equipment installed outdoors and

- exposed to weather shall be weather-proof 2. Countertops: Receptacles in kitchen and bathrooms shall be installed above work top unless otherwise noted on plans. 3. Receptacles shall be installed vertically at 12"+ above floor. Electrical switches and boxes shall be plastic as per National
- Electric Code. 4. Wall switches to be 36" above floor to sm 5. <u>Fans & Suspended Fixtures</u>: Provide ma solid 2x backing where hanging fixtures fixture supplier to supply two (2) addit
- wiring at dining fixture and all other suspe 6. <u>GFCI</u>: All receptacles in kitchen, bath exterior shall be equipped with around GFCI test button shall be located in Mo 7. <u>Grounding:</u> Provide two (2) spaces of electrical grounding:
- A. Clamp at hose bib. B. One additional #4 bar 20'-0" long in footing at electric meter location for "UFER Ground". 8. Provide exhaust fans at al baths and laundry areas which are not capable of being exhausted by natural means. Fans shall be
- capable of producing one complete air change every twelve (12) minutes. Fans shall be switched separately from lights. 9. Fluorescent fixtures: Provide direct connections to all luorescent fixtures. 10. Provide chimes in a central location or as indicated on the
- plans. Provide push button located at the front door. 11. <u>Street Numbers:</u> Install low voltage illuminated street numbers easily visible from the street ( $\overline{4}$  inches high). Verify exact location with Project Superintendent.
- 12. PVC Conduit in Footings: Electrical Sub-Contractor shall supply a separate I" diameter capped PVC conduit for irrigation controller, CATV, and telephone underground feed. Conduit shall be installed by Concrete Sub-Contractor.
- 13. <u>Required smoke detectors</u> shall receive their primary power from the building wiring. Such wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke detectors shall be equipped with a battery backup power source and shall be wired so that when one is activated, all are activated.

### Colors and Design Switch plates, covers, etc .: As selected by Owner.

2. <u>Fixtures</u>: As selected by Owner. <u>Fire warning system:</u> Smoke detectors and alarm system shall be hard-wired with battery back-up power and low battery signal and installed as required. Detectors shall be placed in corridors, adjacent rooms and sleeping rooms - per manufacturer's recommendations. Detectors shall be placed in close proximity to stairway when bedrooms are located on upper floor. All detectors shall be interconnected to sound a simultaneous alarm audible in all sleeping areas of the dwelling unit.

- 1. Verify all requirements with governing utility company.
- Electrical plans and calculations: 1. Shall be drawn and submitted by the Electrical Sub-Contractor to the building department for approval. Submit one (1) set to the Architect for review for conformance with the visual design

with the Architect's.

# Equipment Requirements

Mandatory requirements for the manufacture, construction, and installation of systems, equipment, and building components - State of California.

- Any appliance for which there is a California standard established in the appliance efficiency regulations may be installed only if the Manufacturer has certified to the Commission that the appliance complies with the applicable standard for that appliance.
- 2. <u>Controls for heat pumps</u> with supplementary electric resistance heaters shall comply with the requirements of Section 112(b).
- 3. Any service water heating system or equipment may be installed only if the Manufacturer has certified that the system or equipment complies with the requirements of Section 113.
- 4. Any pool or spa heating system or equipment may be installed only if the Manufacturer has certified that the system or equipment complies with Section 114.
- 5. <u>Any natural gas system</u> or equipment listed below may be installed only if it does not have any continuously burning pilot (ā) Fan type central furnaces.
- (b) Household cooking appliances. Exception: Household cooking appliances without an electrical supply voltage connection and in which each pilot consumes less than 150 btu/hr. (c) Pool heaters. (d) Spa heaters.
- 6. <u>Any manufactured doors or mindows</u> or manufactured
- fenestration product may be installed only if the Manufacturer has certified to the Commission, or if an independent certifying organization approved by the Commission has certified, that the product complies with all applicable requirements of Section 116. 7. Joints and other openings in the building envelope that are
- potential sources of air leakage shall be caulked, gasketed, weather-stripped, or otherwise sealed to limit infiltration and exfiltration. Drop ceilings that are a component of the building envelope, including but not limited to those between conditioned and unconditioned spaces that create a vented attic space
- above, shall be caulked, gasketed, or otherwise sealed to limit infiltration and exfiltration 8. Any insulation of the type and form listed in Section 118 may be installed only if the Manufacturer has certified that the insulation complies with the California quality standards for insulating material.
- 9. Any automatic time switch control device, occupant-sensing device, automatic daylighting control device, lumen maintenance control device, or interior photocell sensor device may be installed only if the Manufacturer has certified to the Commission that the device complies with all applicable requirements of Section 119, and if the device is installed in compliance with Subsection 119(h).

manufacturer's recommendations. Provide anti-oxide compound on

witch centerline. letal junction boxes with
and fans occur. Lighting ional feet of chain and
bended fixtures.
nrooms, garage, and at
fault circuit interrupter.
aster Bathroom electrical

concept. Electrical Sub-Contractor shall coordinate his drawings

Lowrise residential buildings subject to the standards must contain these measures regardless of the compliance approach used. Items marked with an asterisk (\*) may be superseded by more stringent compliance requirements listed on the Certificate of Compliance. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as binding minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

Building Envelope Measures:

Division 18

118:

116-17:

150(e):

150(m):

114:

115:

- \*150(a): Minimum R-19 ceiling insulation Loose fill insulation manufacturers labeled R-value. 150(b): \*150(c): Minimum R-13 wall insulation in framed walls (does not
- apply to exterior mass walls). Minimum R-13 raised floor insulation in framed floors; \*|50(d): Minimum R-8 in concrete raised floors.
  - Insulation specified or installed meets CEC quality standards. Indicate type and form. Fenestration products, exterior doors infiltration/exfiltration controls
  - a. Doors and windows between conditioned and unconditioned spaces designed to limit air leakaae b. Manufactured fenestration products have label
  - with certified U-value, and infiltration certification. c. Exterior doors and windows weather-stripped; all joints and penetration caulked and sealed. Installation of fireplaces, decorative gas appliances and
  - Masonry and factory-built fireplaces have: a. Closeable metal or glass doors covering the entire opening of the fire box which can be closed when the fire is burning
  - b. A combustion air intake to draw air from the outside of the building directly into the firebox, which is at least six  $(\overline{6})$  sq. inches in area and is equipped with a readily accessible, operable and tight fitting damper or combustion air control device.
  - c. Flue damper with readily accessible control. 2. No continuous burning gas pilots allowed.

Vapor barriers mandatory in climate zones 14 and 16 only. Special infiltration barrier installed to comply with Section 151 meets CEC quality standards. Slab edge insulation - water absorption rate no greater than 2.0 perm.inch.

<u>Space Conditioning, Water Heating and Plumbing System Measures:</u> HVAC equipment, water heaters, showerheads and faucets certified by the CEC. 150(i):

- Pipe and tank insulation I. Indirect hot water tanks (e.g., unfired storage tanks or backup solar hot water tanks) have insulation
- blanket (R-12 or greater) or combined interior/exterior insulation (R-16 or greater) 2. First 5 feet of pipes closest to water heater tank,
- non-recirculation sustems, insulated (R-4 or areater). 3. All buried or exposed piping insulated in
- re-circulation sections of hot water system. 4. Cooling system piping below 55 degrees insulated.
- 5. Piping insulated between heating source and indirect hot water tank. Ducts and fans
- . Ducts constructed, installed and sealed to comply with CMC Chapter 6; ducts insulated to a minimum installed value of R-6 or ducts enclosed entirely within conditioned space.
- 2. Exhaust fan systems have back draft or automatic dampers. 3. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually
- operated dampers. Pool and spa heating systems and equipment 1. System is certified with 78% thermal efficiency , on-off
- switch, weatherproof operating instructions, no electric resistance heating and no pilot light. 2. System installed with: a. At least 36 inches pipe between filter and heater
- for future solar heating b. Cover for outdoor pools or outdoor spa. 3. Pool system has directional inlets and a circulation
- pump time switch. Gas-fired central furnace, pool heater, spa heater or household cooking appliance have no continuously burning pilot light (exception: non-electrical cooking appliance with pilot <150 btu/hr).

## Design Criteria

Foundation engineering has been predicated on data and recommendations contained in the soils report (when available) Report is considered part of the calculations and construction documents and is to be adhered to in all of its recommendations and requirements. Verify minimum foundation depth, width, reinforcing steel and additional expansive soil requirements with valid soils report and if they are any more restrictive, then they shall supersede the Andresen

Architecture, Inc. minimums. <u>Lateral Loads & Design Loads</u> (Refer to Structural Calculations for Loading Conditions)



General I	