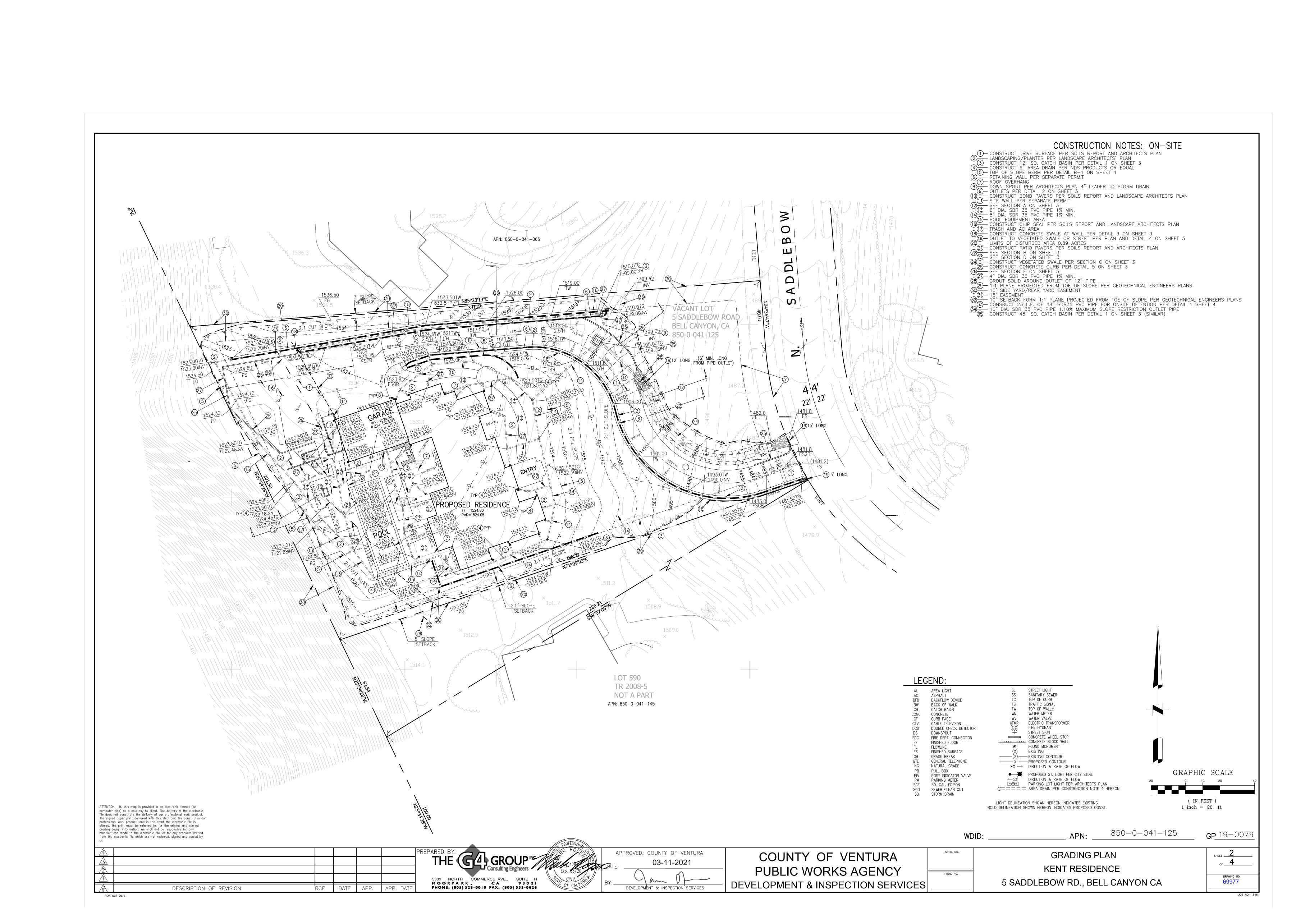
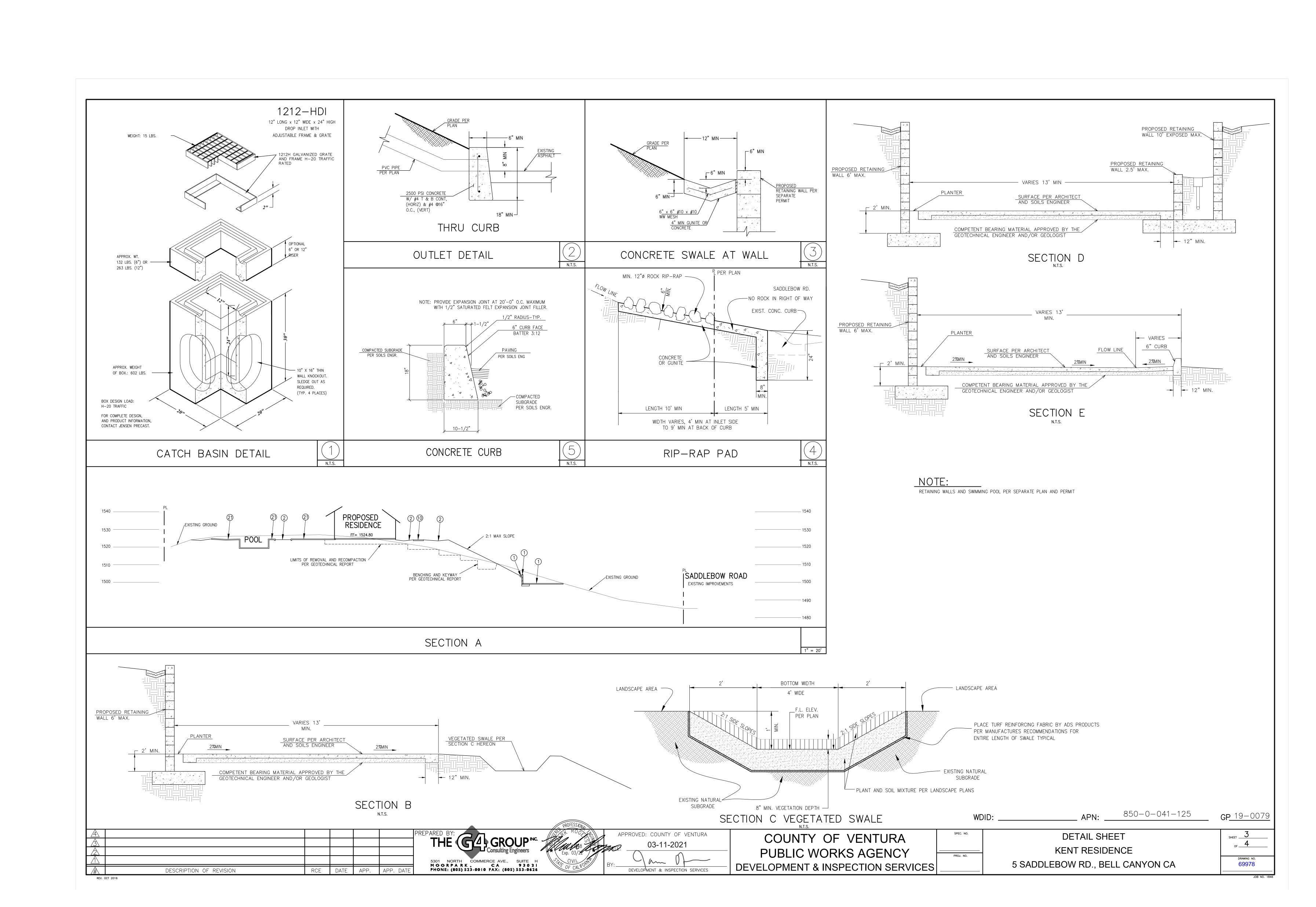
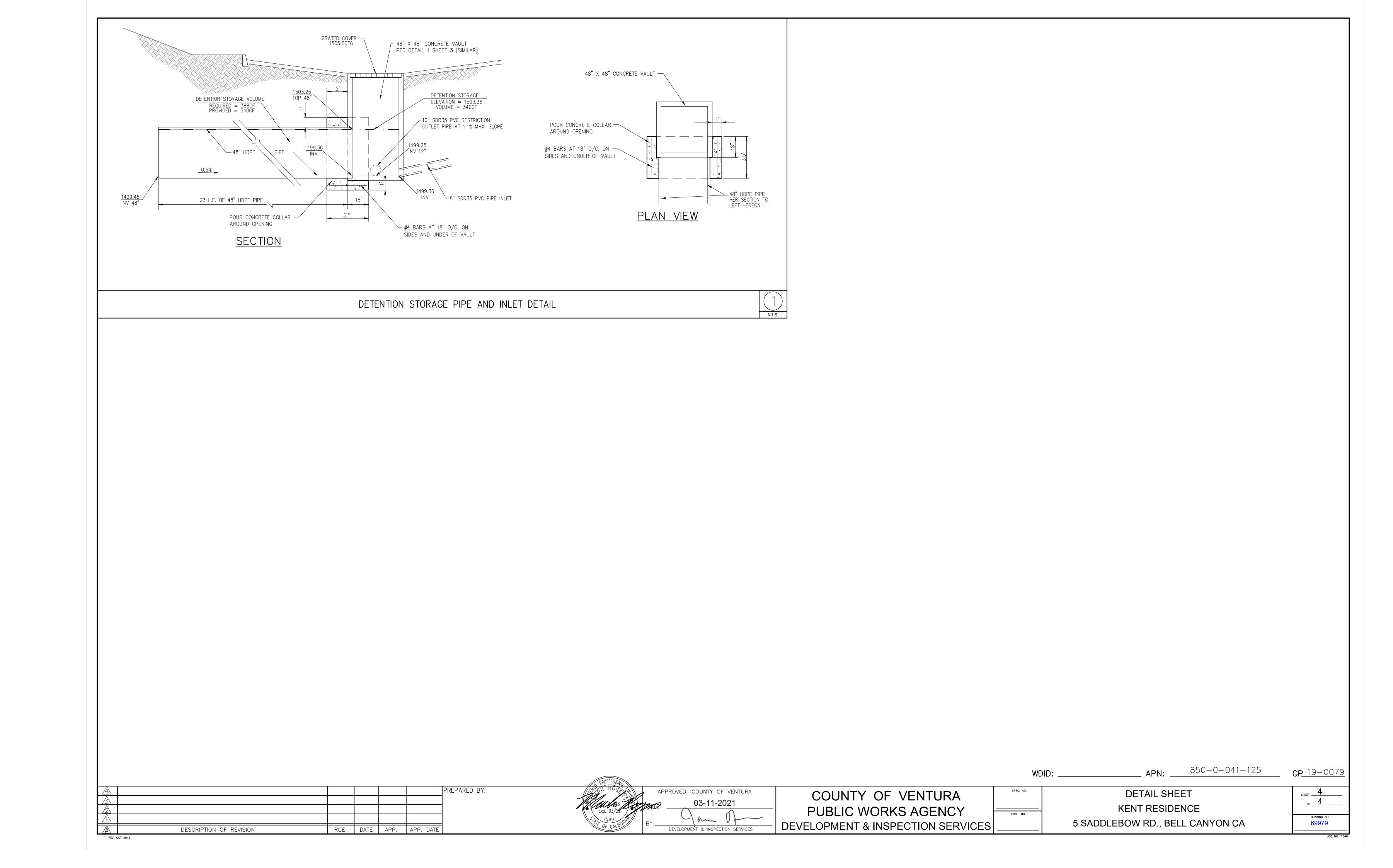
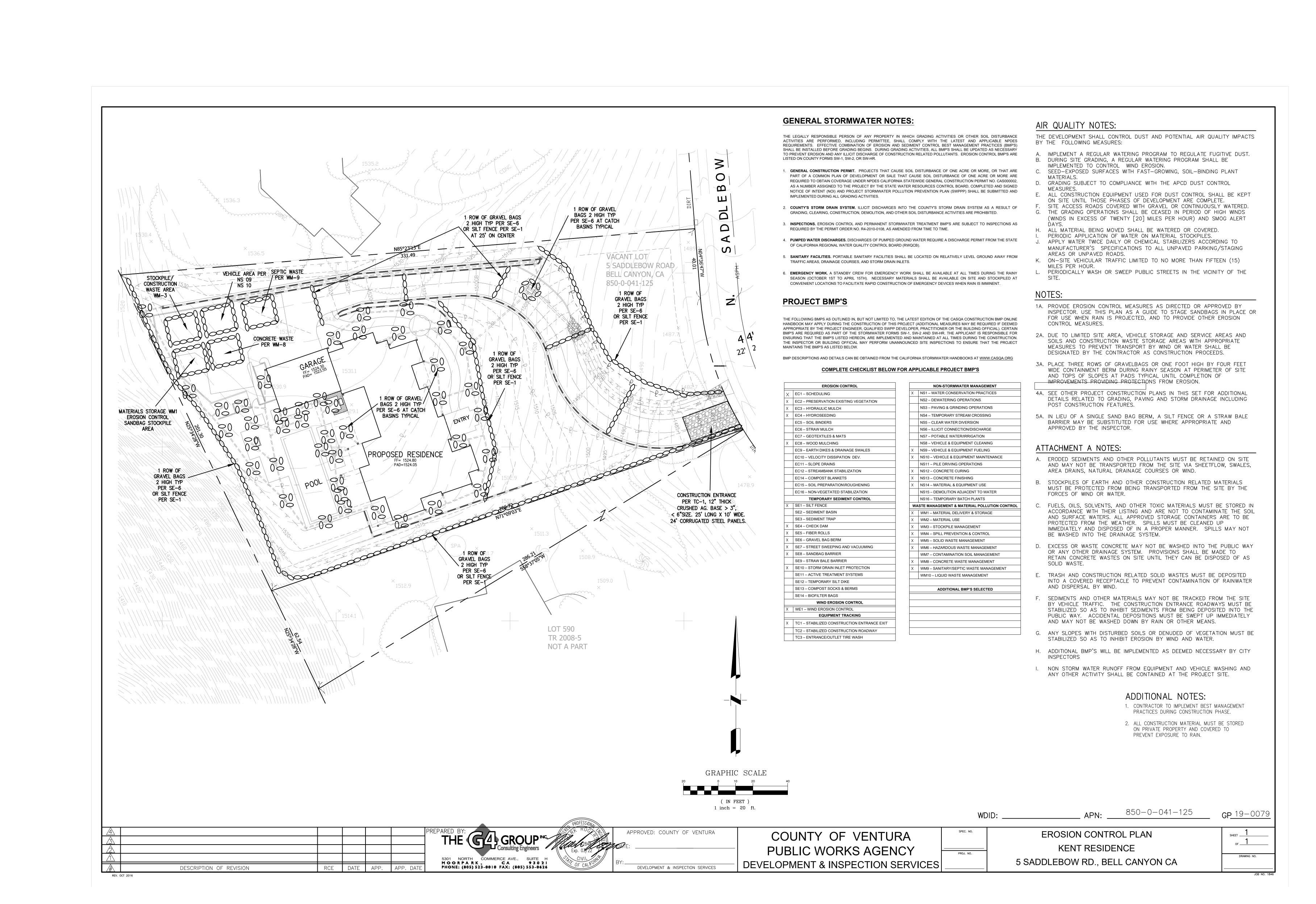


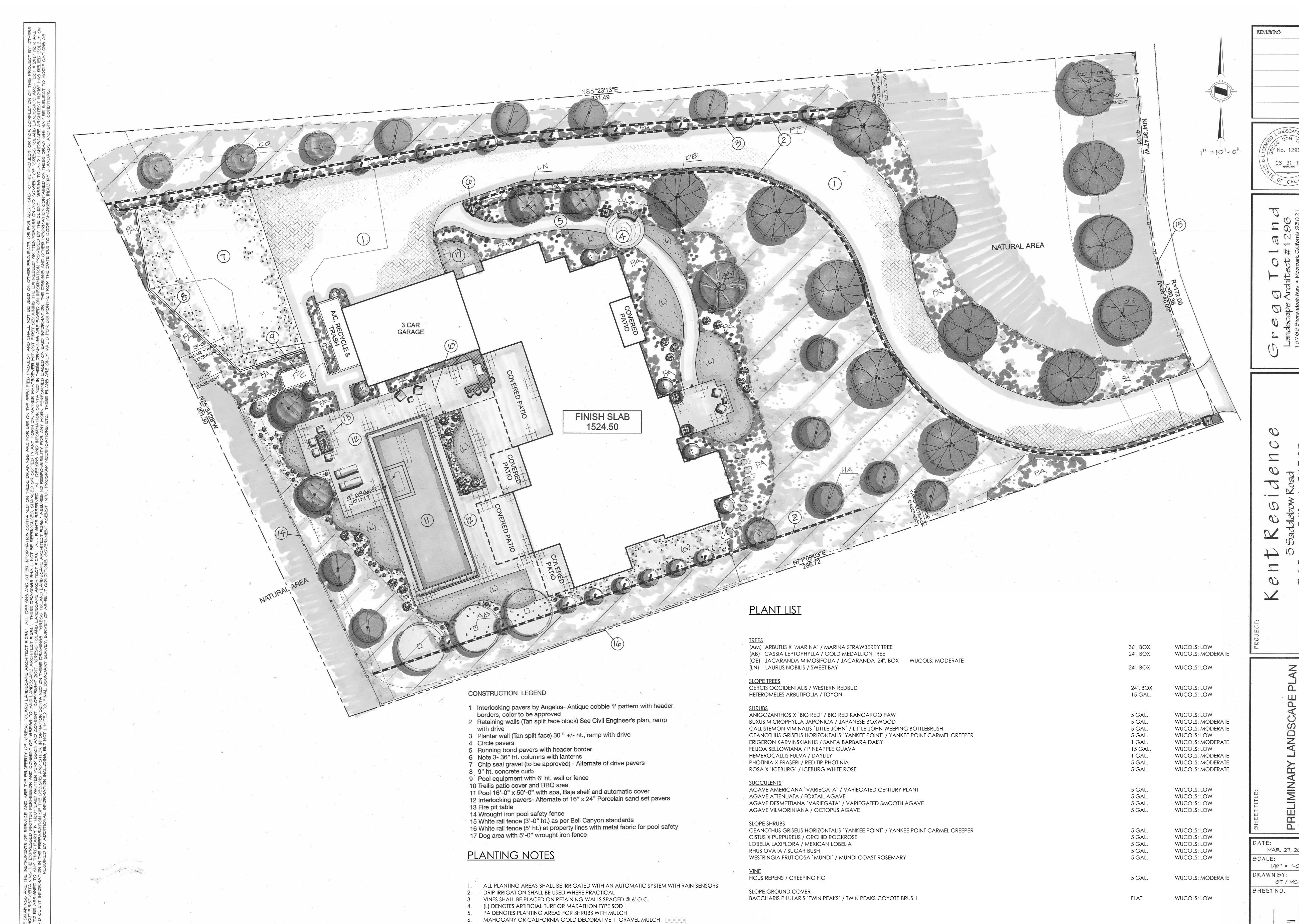
GENERAL GRADING NOTES:	ENGINEERED GRADING INSPECTION CERTIFICATES	COUNTY	OF VENTURA
<ol> <li>GRADING ACTIVITIES SHALL BE IN ACCORDANCE WITH THE VENTURA COUNTY BUILDING CODE APPENDIX J GRADING, LATEST EDITION.</li> <li>THE GRADING PERMIT AND WORK SHOWN IN THESE PLANS IS VALID ONLY TO THE EXTENT OF THE VENTURA COUNTY BUILDING CODE APPENDIX J - GRADING. PERMITS OF PERMISSIONS THAT MAY BE REQUIRED BY OTHER REGULATORY AGENCIES OR INTERESTED PARTIES ARE THE RESPONSIBILITY OF THE PERMITTEE.</li> </ol>	JOB ADDRESS OR LOT AND TRACT NO:5 SADDLEBOW ROAD  R		
3. A PRECONSTRUCTION MEETING SHALL BE HELD AT THE SITE PRIOR TO ANY GRADING ACTIVITY OR LAND DISTURBANCES WITH THE FOLLOWING PARTIES PRESENT: OWNER GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, COUNTY GRADING INPECTOR(S), AND OTHER JURISDICTIONAL AGENCIES WHEN REQUIRED.  4. HEAVY EQUIPMENT NOISE & TRUCK DELIVERIES SHALL NOT BEGIN UNTIL AFTER 7:00 A.M. NO WORK BEYOND 4:30 PM UNLESS APPROVED BY PWA.	ROUGH GRADING CERTIFICATION  (A) BY SOILS ENGINEER	PUBLIC WO	RKS AGENCY
5. NO GRADING ACTIVITY SHALL OCCUR IN ANY WETLAND, BLUE-LINE STREAM, RED-LINE CHANNEL, OR FLOODPLAIN WITHOUT THE PROPER PERMITS & PERMISSION FROM THE PW. & RESOURCE MANAGEMENT AGENCY (RMA), OR OTHER AUTHORITIES HAVING JURISDICTION.	A I CERTIFY THAT THE ROUGH GRADING WORK INCORPORATES ALL RECOMMENDATIONS CONTAINED IN THE REPORT OR REPORTS FOR WHICH I AM RESPONSIBLE AND ALL RECOMMENDATIONS THAT I HAVE MADE BASED ON FIELD INSPECTION OF THE WORK AND TESTING DURING GRADING. I FURTHER CERTIFY THAT WHERE		
6. RETAINING WALLS AND BRIDGES REQUIRE A SEPARATE PERMIT FROM BUILDING AND SAFETY.  7. ALL RECOMMENDATIONS MADE BY THE SOILS ENGINEER (AND ENGINEERING GEOLOGIST, WHERE EMPLOYED) CONTAINED IN THE REPORTS AS APPROVED BY THE COUNT	THE REPORTS OF AN ENGINEERING GEOLOGIST, RELATIVE TO THIS SITE, HAVE RECOMMENDED THE INSTALLATION OF BUTTRESS FILLS OR OTHER SIMILAR STABILIZATION MEASURES, SUCH EARTHWORK CONSTRUCTION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED DESIGN.  Y LOT NOS:	GENERAL STORMWATER NOTES:	i. P.
SHALL BE A PART OF THIS GRADING PLAN.  8. ALL DISTURBED SURFACES SUBJECT TO EROSION SHALL BE PROTECTED IN ACCORDANCE WITH THE VENTURA COUNTYWIDE MUNICIPAL STORMWATER NPDES PERMIT		THE LEGALLY RESPONSIBLE PERSON OF ANY PROPERTY IN WHICH GRADING ACTIVITIES OR OTHER SOIL DISTURBA ACTIVITIES ARE PERFORMED, INCLUDING PERMITTEE, SHALL COMPLY WITH THE LATEST AND APPLICABLE NP	
SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED FULLY FUNCTIONAL.  9. ALL UNSUITABLE MATERIAL, I.E. LUMBER, LOGS, BRUSH, COMPRESSIBLE SOILS, OR ANY ORGANIC MATERIALS OR RUBBISH, SHALL BE REMOVED AS REQUIRED BY THE SOIL ENGINEER AND ENGINEERING GEOLOGIST FROM ALL AREAS TO RECEIVE FILL.		REQUIREMENTS. EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BM SHALL BE INSTALLED BEFORE GRADING BEGINS. DURING GRADING ACTIVITIES, ALL BMP'S SHALL BE UPDATED AS NECESS. TO PREVENT EROSION AND ANY ILLICIT DISCHARGE OF CONSTRUCTION RELATED POLLUTANTS, EROSION CONTROL BMP'S LISTED ON COUNTY FORMS SW-1, SW-2, OR SW-HR.	IP'S) ARY
10. ALL AREAS TO RECEIVE FILL SHALL BE INSPECTED AND APPROVED BY THE SOILS ENGINEER (AND ENGINEERING GEOLOGIST WHERE EMPLOYED) AFTER REMOVAL OUNSUITABLE MATERIAL AND EXCAVATION OF KEYWAYS AND BENCHES, AND PRIOR TO PLACEMENT OF SUBSURFACE DRAINAGE SYSTEMS OR FILL.	F	1. GENERAL CONSTRUCTION PERMIT. PROJECTS THAT CAUSE SOIL DISTURBANCE OF ONE ACRE OR MORE, OR THAT	ARE d
11. ALL MATERIALS DEEMED UNSUITABLE FOR PLACEMENT IN COMPACTED FILL SHALL BE REMOVED FROM THE SITE. MATERIALS SUCH AS CONSTRUCTION INERT DEBRIS, OF IMPORTED MATERIALS SHALL BE APPROVED BY THE SOILS ENGINEER AND COUNTY PRIOR TO USE IN COMPACTED FILL. WHERE EXCAVATED MATERIAL IS LARGER THAN TWELV INCHES IN LARGEST DIMENSION, IT MUST BE BROKEN INTO SMALLER PARTICLE SIZES, BEFORE BEING USED AS FILL.	R SOILS ENGINEER REG, NO DATE E (SIGNATURE)	PART OF A COMMON PLAN OF DEVELOPMENT OR SALE THAT CAUSE SOIL DISTURBANCE OF ONE ACRE OR MORE REQUIRED TO OBTAIN COVERAGE UNDER NPDES CALIFORNIA STATEWIDE GENERAL CONSTRUCTION PERMIT NO. CASOOD AS A NUMBER ASSIGNED TO THE PROJECT BY THE STATE WATER RESOURCES CONTROL BOARD, COMPLETED AND SIGNATION OF THE PROJECT STORMWATER BOLL LITION PREVENTION BLAN (SWARD), SHALL BE SUBMITTED.	0002, NED FACE OF
12. THE SOILS ENGINEER SHALL DIRECT THE REMOVAL OF ANY EXISTING UNDERGROUND STRUCTURES SUCH AS SEPTIC TANKS, IRRIGATION LINES, ETC.  13. ANY WATER WELL LOCATED WITHIN THE AREA OF DISTURBANCE SHALL BE REPORTED TO THE WATER RESOURCES DIVISION, WATERSHED PROTECTION DISTRICT PRIOR TO IT	S (B) BY ENGINEERING GEOLOGIST	NOTICE OF INTENT (NOI) AND PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE SUBMITTED A IMPLEMENTED DURING ALL GRADING ACTIVITIES.	
MODIFICATION, ABANDONMENT, OR DESTRUCTION,  14. ANY OIL WELL LOCATED WITHIN THE AREA OF DISTURBANCE SHALL BE REPORTED TO THE STATE OF CALIFORNIA, DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES PRIOR	LOCATION THAT THE ROUGH OPENING MODE INCORPORATE ALL OF THE RESOLUTIONS OF THE REPORT OF REPORT OF REPORT OF	2. COUNTY'S STORM DRAIN SYSTEM. ILLICIT DISCHARGES INTO THE COUNTY'S STORM DRAIN SYSTEM AS A RESULT GRADING, CLEARING, CONSTRUCTION, DEMOLITION, AND OTHER SOIL DISTURBANCE ACTIVITIES ARE PROHIBITED.	R. I AMERICAN
TO ITS MODIFICATION, ABANDONMENT, OR DESTRUCTION.  15. ALL TEMPORARY EXCAVATED SLOPES OR BENCHES AND KEYS FOR BUTTRESS OR STABILIZATION FILLS MUST BE EXAMINED BY THE ENGINEERING GEOLOGIST AND SOIL ENGINEER TO INSURE THAT ALL POTENTIAL PLANES OF FAILURE HAVE BEEN EXPOSED IN THE EXCAVATION AND WILL BE ADEQUATELY SUPPORTED BY THE PROPOSE!	S LOT NOS:	<ol> <li>INSPECTIONS. EROSION CONTROL AND PERMANENT STORMWATER TREATMENT BMP'S ARE SUBJECT TO INSPECTIONS REQUIRED BY THE PERMIT ORDER NO. R4-2010-0108, AS AMENDED FROM TIME TO TIME.</li> </ol>	TERRACE OR INTERCEPTOR SEE DETAIL B-2
BUTTRESS. FIELD CERTIFICATION MUST BE SUBMITTED BY THE CONSULTANTS PRIOR TO PLACING FILL.  16. THE SOILS ENGINEER AND ENGINEERING GEOLOGIST (WHERE EMPLOYED) SHALL PROVIDE RECOMMENDATIONS AND APPROVE CORRECTIVE WORK TO INSURE SLOPE STABILITY	v	4. PUMPED WATER DISCHARGES, DISCHARGES OF PUMPED GROUND WATER REQUIRE A DISCHARGE PERMIT FROM THE ST OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD (RWQCB).	ATE
WHERE UNSTABLE MATERIAL IS EXPOSED AT THE TOP OF CUTS AND EXCAVATIONS.  17. THE USE OF CORRUGATED STEEL PIPE IS NOT ALLOWED IN ANY COUNTY RIGHTS OF WAY. THE USE OF CORRUGATED STEEL PIPE ON PRIVATE PROPERTY SHOULD BE MINIMIZED HOWEVER, IF USED SHOULD BE COATED TO MINIMIZE CORROSION AND TO EXTEND SERVICE TIME.	ENGINEERING GEOLOGIST CERT. NO. DATE (SIGNATURE)	5. SANITARY FACILITIES. PORTABLE SANITARY FACILITIES SHALL BE LOCATED ON RELATIVELY LEVEL GROUND AWAY FOR TRAFFIC AREAS, DRAINAGE COURSES, AND STORM DRAIN INLETS.	FACE OF BUILDING C
18. INTERIM SOILS AND GEOLOGIC REPORTS SHALL BE SUBMITTED TO THE COUNTY AS REQUIRED BY THE BUILDING OFFICIAL.	BEAL	6. EMERGENCY WORK, A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RASES ON (OCTOBER 1ST TO APRIL 15TH). NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED CONVENIENT LOCATIONS TO SACULTATE BARD CONSTRUCTION OF EMERGENCY DEVICES VALUE RANGES AND STOCKPILED	
19. ROUGH GRADE SOILS ENGINEERING AND (IF APPLICABLE) ENGINEERING GEOLOGY REPORTS SUMMARIZING ALL EARTHWORK PERFORMED AND CONCLUDING THAT THE WORL HAS BEEN COMPLETED ACCORDING TO THE APPROVED REPORTS SHALL BE SUBMITTED TO THE COUNTY FOR APPROVAL OF THE ROUGH GRADING BY THE BUILDING OFFICIA PRIOR TO CALLING FOR BUILDING AND SAFETY INSPECTION.	I CERTIFY TO THE SATISFACTORY COMPLETION OF ROUGH GRADING INCLUDING GRADING TO APPROXIMATE FINAL ELEVATIONS; PROPERTY LINES LOCATED AND	CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.	ANY HEIGHT 2' MIN (H/2)' (H/3)  (H/2)' (H/5)' 15' MAX 40'MA
20. FINAL SOILS ENGINEERING AND (IF APPLICABLE) ENGINEERING GEOLOGY REPORTS SUMMARIZING ALL EARTHWORK PERFORMED SINCE ROUGH GRADING AND CONCLUDING THAT THE WORK HAS BEEN COMPLETED ACCORDING TO THE APPROVED REPORTS SHALL BE SUBMITTED WITH THE AS-BUILT PLANS (RECORD DRAWING) TO THE COUNTY PRIOR TO FINAL INSPECTION BY THE BUILDING OFFICIAL.		PROJECT BMP'S	20' MAX   10' MAX
EADTUNODIC OLIANITITICO	LOT NOS:	THE FOLLOWING BMPS AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CASQA CONSTRUCTION BMP ONI HANDBOOK MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEED APPROPRIATE BY THE PROJECT ENGINEER, QUALIFIED SWPP DEVELOPER, PRACTITIONER OR THE BUILDING OFFICIAL). CERT	MED TAIN
EARTHWORK QUANTITIES  TRD	CIVIL ENGINEER REG. NO DATE DATE	BMP'S ARE REQUIRED AS PART OF THE STORMWATER FORMS SW-1, SW-2 AND SW-HR. THE APPLICANT IS RESPONSIBLE IN ENSURING THAT THE BMP'S LISTED HEREON, ARE IMPLEMENTED AND MAINTAINED AT ALL TIMES DURING THE CONSTRUCT THE INSPECTION OR BUILDING OFFICIAL MAY PERFORM UNANNOUNCED SITE INSPECTIONS TO ENSURE THAT THE PROJUMENTAINS THE RMP'S AS LISTED BELOW.	ION. DETAIL A
CUT: 4,992 CU, YDS. EXPORT: 3,404 CU, YDS. DISPOSAL SITE TBD  ** FILL: 1588 CU, YDS ** IMPORT: 0 CU, YDS SOURCE	(BIGNATURE)	MAINTAINS THE BMP'S AS LISTED BELOW.  BMP DESCRIPTIONS AND DETAILS CAN BE OBTAINED FROM THE CALIFORNIA STORMWATER HANDBOOKS AT <u>WWW.CASQA.OR</u>	<u>G</u>
1 5001 5001 500 5001 500 5001 500 5001 500 500	SEAL	COMPLETE CHECKLIST BELOW FOR APPLICABLE PROJECT BMP'S	FILL PLACEMENT AND DRAINAGE DETAILS  DETAIL
	FINAL GRADING CERTIFICATION	TC3 - ENTRANCE/OUTLET TIRE WASH   X   EC1 - SCHEDULING   NON-STORMWATER MANAGEMENT	TREATMENT AS REQUIRED BY GENERAL GRADING NOTES 9, 10, AND 11
THIS PROJECT INCLUDES POST CONSTRUCTION BMP'S YES XNO	BY CIVIL ENGINEER  I CERTIFY TO THE SATISFACTORY COMPLETION OF GRADING IN ACCORDANCE WITH THE APPROVED PLANS, ALL DRAINAGE DEVICES REQUIRED BY THE GRADING PERMIT, GRADING PLANS AND GRADING ORDINANCE HAVE BEEN INSTALLED. EROSION TREATMENT OF SLOPES AND IRRIGATION SYSTEMS (WHERE REQUIRED)	X EC2 - PRESERVATION EXISTING VEGETATION  X NS1 - WATER CONSERVATION PRACTICES  X EC3 - HYDRAULIC MULCH  NS2 - DEWATERING OPERATIONS	DETAIL 2:1
THE TOTAL ESTIMATED DISTURBED AREA OF GRADING AND CONSTRUCTION IS 0.91 ACRES, PROJECTS THAT ARE 1.0 ACRE OR GREATER IN DISTURBED AREA WILL REQUIRE ASSOCIATION OF THE STATE REGIONAL WATER QUALITY CONTROL BOARD AS DESCRIBED ABOVE.	HAVE BEEN INSTALLED. ADEQUATE PROVISIONS HAVE BEEN MADE FOR DRAINAGE OF SURFACE WATERS FROM EACH BUILDING SITE AS OF THIS DATE.  LOT NOS:	X EC4 - HYDROSEEDING NS3 - PAVING & GRINDING OPERATIONS EC5 - SOIL BINDERS NS4 - TEMPORARY STREAM CROSSING	B-2
AVERAGE NATURAL SLOPE IN THE AREA OF GRADING 21.8 %		EC6 – STRÁW MULCH  EC7 – GEOTEXTILES & MATS  NS6 – ILLICIT CONNECTION/DISCHARGE	SLOPE AWAY FROM KEYWAY  SLOPE AWAY FINITE  COMPACTE  3 TO 4 FOOT HEIGHT AT EACH
THE TOTAL AMOUNT OF IMPERVIOUS AREA TO BE CONSTRUCTED AS PART OF THIS PROJECT IS 13,935 SQ. FT.	CIVIL ENGINEER REG, NO DATE	X EC8 - WOOD MULCHING  EC9 - EARTH DIKES & DRAINAGE SWALES  NS8 - VEHICLE & EQUIPMENT CLEANING  Y NS9 - VEHICLE & EQUIPMENT CLEANING	PEIGHT AT EACH  BENCHES  BENCHES
TOTAL PROPOSED LANDSCAPED AREASQ. FT. TOTAL NATIVE PLANTING LANDSCAPE AREA% (PERCENT OF TOTAL LANDSCAPE AREA)	GRADING CONTRACTOR CERTIFICATION SEAL	EC10 - VELOCITY DISSIPATION DEV.  X NS9 - VEHICLE & EQUIPMENT FUELING  X NS10 - VEHICLE & EQUIPMENT MAINTENANCE  EC12 - STREAMBANK STABILIZATION  X NS11 - PILE DRIVING OPERATIONS	10' MIN. KEYWAY
	GRADING CONTRACTOR CERTIFICATION  BY GRADING CONTRACTOR	EC12 - STREAMBANK STABILIZATION  EC14 - COMPOST BLANKETS  EC15 - SOIL PREPARATION/ROUGHENING  X NS12 - CONCRETE CURING  X NS13 - CONCRETE FINISHING	KEYWAYS AND BENCHES SHALL BE EXCAVATED INTO FIRM EARTH MATERIAL AS EXAMINED & APPROVED BY THE SOILS ENGINEER (& ENGINEERING GEOLOGIST, WHERE EMPLOYED).  LONGITUDIN
LAND DEVELOPMENT & INSPECTION SERVICES MUST BE NOTIFIED TEN (10) WORKING DAYS PRIOR TO ANY EXPORT/IMPORT TO/FROM THE PROJECT SITE.  PERMITS	I CERTIFY THAT THE GRADING WAS DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, THE GRADING ORDINANCE, AND THE RECOMMENDATIONS OF THE CIVIL ENGINEER, SOILS ENGINEER AND ENGINEERING GEOLOGIST. IT IS UNDERSTOOD THAT THIS CERTIFICATION INCLUDES ONLY THOSE ASPECTS OF THE	EC16 - NON-VEGETATED STABILIZATION  X NS14 - MATERIAL & EQUIPMENT USE  TEMPORARY SEDIMENT CONTROL  NS15 - DEMOLITION ADJACENT TO WATER	ENGINEER (& ENGINEERING GEOLOGIST, WHERE EMPLOYED).  LONGITUDIN, SHALL BE THAN 5
VENTURA COUNTY WATERSHED PROTECTION	WORK THAT CAN BE DETERMINED BY ME, AS A COMPETENT GRADING CONTRACTOR, WITHOUT SPECIAL EQUIPMENT OR PROFESSIONAL SKILLS,  GRADING CONTRACTOR DATE DATE	X SE1 – SILT FENCE NS16 – TEMPORARY BATCH PLANTS  SE2 – SEDIMENT BASIN WASTE MANAGEMENT & MATERIAL POLLUTION CONTI	ROL 6' MIN.
COUNTY ENCROACHMENT PERMIT NO.  DATE DATE DATE DATE	(SIGNATURE) INSTRUCTIONS: THE OWNER MAY SIGN IF THE GRADING WAS NOT DONE BY A LICENSED GRADING CONTRACTOR.	× SE4 - CHECK DAM X WM2 - MATERIAL USE	INISH SLOPE NIN NIN NIN NIN NIN NIN NIN NIN NIN NI
STATE ENCROACHMENT PERMIT NO. FLOODPLAIN DEVELOPMENT PERMIT		X SE6 - FIBER ROLLS  X WM3 - STOCKPILE MANAGEMENT  X SE6 - GRAVEL BAG BERM  X WM4 - SPILL PREVENTION & CONTROL  X SE7 - STREET SWEEPING AND VACUUMING  X WM5 - SOLID WASTE MANAGEMENT	COMPACTED FILL MANUELLE STATE OF MIN.
DATE DATE		X SEB - SANDBAG BARRIER X WM6 - HAZARDOUS WASTE MANAGEMENT SEB - STRAW BALE BARRIER WM7 - CONTAMINATION SOIL MANAGEMENT	DETAIL B-1 TYPICAL BERM AT TOP  BENCH  DETAIL B-2 TYPICAL TERRACE
LOCATION & VICINITY MAP APPROVAL BY CONSL	II TANTS	X SE10 – STORM DRAIN INLET PROTECTION  SE11 – ACTIVE TREATMENT SYSTEMS  X WM8 – CONCRETE WASTE MANAGEMENT  X WM9 – SANITARY/SEPTIC WASTE MANAGEMENT	OF FILL SLOPES FOR CUT OR FILL
Stanley Food Best   THIS GRADING PLAN IS ACCEPTABLE IN REGARD TO SOILS (AND AND CONFORMS TO THE RECOMMENDATION OF THE SUPPORTIVE IS	GEOLOGIC - IF APPLICABLE) CONDITIONS	SE12 - TEMPORARY SILT DIKE  WM10 - LIQUID WASTE MANAGEMENT  SE13 - COMPOST SOCKS & BERMS  SE14 - BIOFILTER BAGS  APPLICABLE BADIS SELECTED	1) TERRACE DRAINS, INTERCEPTOR DRAINS & DOWNDRAINS SHALL BE CONSTRUCTED OF REINFORCED CONCRETE REINFORCED WITH 6 x 6 x 10 x 10 W.W.M. & SHALL BE OF SEMI-CIRCULAR OR TRIANGULAR CROSS SECTION.
Artist Design Store ©  SOILS ENGREE SIGNETS: SG 628-W	STEVE & PATTI KENT 400 PRADO DE LAS FRUTAS CALABASAS, CA. 91302	SE14 - BIOFILTER BAGS   ADDITIONAL BMP'S SELECTED	2) FOR INTERCEPTOR DRAIN AT TOP OF CUT SLOPES AND DOWN DRAINS, MINIMUM WIDT
GARY C. MASJERMAN 567	SHICK GEOTECHNICAL, INC. 7650 HASKELL AVE., SUITÉ D VAN NUYS, CA. 91406  BENCH MARK DATA	X TC1 – STABILIZED CONSTRUCTION ENTRANCE EXIT	DETAIL B
Bell Canyon Association (RCE NO.)	B18-905-8011  TOP OF SPIKE AND WASHER AT INTERSECTION OF BELL CANYON ROAD AND SADDLEBOW ROAD.	TC2 - STABILIZED CONSTRUCTION ROADWAY	
ENGINEERING GEOLOGY REPORTS: SG 628-W	TOPOGRAPHY DATA	GEOTECHNICAL REPORT REFERENCES/DATES  • "Geologic and Soils Engineering Exploration, Proposed Residence and Pool, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, Ventura County, Calif	fornia," dated June 30, 2007;
(ENGINEERING GEOLOGIST SIGNATURE)	E.G. 1300  TOPOGRAPHY VERIFICATION, CONTOURS WERE VERIFIED BY FIELD SURVEY DATED MAY 2006 BY CHRIS NELSON & ASSOCIATES, INC.	<ul> <li>County of Ventura Public Works Agency, Review of Grading Permit Application, dated November 26, 2007;</li> <li>"Response to Review Letter, Lot 591, Tract 2008-5, 5 Saddlebow Road, Beil Canyon, California," dated February 18, 2008;</li> <li>County of Ventura Public Works Agency, Review of Grading Permit Application, 2nd Plan Check, dated March 19, 2008;</li> </ul>	
WAYNE\ SCHICK 1300	PREPARED MAY 2006	<ul> <li>"Response to Review Letter #2, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated April 20, 2008;</li> <li>"Addendum Geologic and Soils Engineering Exploration, Proposed Residence and Pool, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, Ventura</li> </ul>	a County, California," dated February 20, 2019;
(PRINT NAME) CERT. NO.	CALIFORNI PREPARED BY:	<ul> <li>County of Ventura Public Works Agency, Grading Permit 19-0079 - 1st Plan Check, dated August 12, 2019;</li> <li>"Response to County of Ventura Public Works Agency Review Letter, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, Ventura County, California</li> </ul>	a," dated September 30, 2019;
(PRINT NAME) CERT. NO.  S Saddlebow Road  Cave of Munits (PRINT NAME)  CERT. NO.  I HEREBY STATE THAT THESE PLANS ARE IN COMPLIANCE WITH THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGNAL ENGINEERS ACT. LUNDERSTAND THAT THE CHECK	THE ADOPTED SOUNTY STANDARDS AND	<ul> <li>County of Ventura Public Works Agency, Review of Grading Permit Application, 2nd Plan Check, dated October 18, 2019;</li> </ul>	
(PRINT NAME) CERT. NO.	THE ADOPTED SCUNTY STANDARDS, AND GN OF THE PROJECT AS DEFINED IN THE COUNTY SLIEVE ME, AS ENGINEER OF RECORD, OF	<ul> <li>County of Ventura Public Works Agency, Review of Grading Parmit Application, 2nd Plan Check, dated October 18, 2019;</li> <li>"Response to County of Ventura Public Works Agency Review Letter (10-18-19), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," date County of Ventura Public Works Agency, Grading Permit 19-0079 - 3rd Plan Check, dated July 21, 2020;</li> <li>"Response #3 to County of Ventura Public Works Agency Review Letter (7-21-20), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," date (7-21-20)</li> </ul>	
(PRINT NAME) CERT. NO.  S Saddlebow Road  Cave of Munits (S)  HEREBY STATE THAT THESE PLANS ARE IN COMPLIANCE WITH THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIP PROFESSIONAL ENGINEERS ACT. I UNDERSTAND THAT THE CHECK OF VENTURA IS CONFINED TO A REVIEW ONLY AND DOES NOT REMAY RESPONSIBLE THESE PLANS ARE IN COMPLIANCE WITH THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIR PROFESSIONAL ENGINEERS ACT. I UNDERSTAND THAT THE CHECK OF VENTURA IS CONFINED TO A REVIEW ONLY AND DOES NOT REMAY RESPONSIBLE THE FOR PROJECT DESIGN.	THE G4 GROUP INC  THE G4 GROUP INC  THE G4 GROUP INC  5301 NORTH COMMERCE AVE., SUITE H  THE GA GROUP INC  THE GA GROUP	<ul> <li>"Response to County of Ventura Public Works Agency Review Letter (10-18-19), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," date</li> <li>County of Ventura Public Works Agency, Grading Permit 19-0079 - 3rd Plan Check, dated July 21, 2020;</li> <li>"Response #3 to County of Ventura Public Works Agency Review Letter (7-21-20), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.</li> <li>"Floor Slab Design, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.</li> </ul>	dated July 21, 2020;
(CIVIL ENGINEER SIGNATURE)  GATE CODE  (PRINT NAME)  Cave of Munits (PRINT	THE ADOPTED SCENTY STANDARDS, AND GN OF THE PROJECT AS DEFINED IN THE COF PROJECT DRAWINGS BY THE COUNTY CLIEVE ME, AS ENGINEER OF RECORD, OF A SOCIATES, INC.  THE G4 GROUP INC 5301 NORTH COMMERCE AVE., SUITE H MOORPARK, CA. 93021 805-523-0010  Chris N Son  Associates, 104 Westlakevillage, CA. 91362 Voice: 818.991.1040 Fax: 818.991.0614	<ul> <li>"Response to County of Ventura Public Works Agency Review Letter (10-18-19), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated County of Ventura Public Works Agency, Grading Permit 19-0079 - 3rd Plan Check, dated July 21, 2020;</li> <li>"Response #3 to County of Ventura Public Works Agency Review Letter (7-21-20), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.</li> <li>"Floor Slab Design, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.</li> </ul>	APN: 850-0-041-125
(CIVIL ENGINEER SIGNATURE)  GATE CODE  (PRINT NAME)  Cave of Munits (PRINT	Chris N Son  Chris	<ul> <li>"Response to County of Ventura Public Works Agency Review Letter (10-18-19), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," date</li> <li>County of Ventura Public Works Agency, Grading Permit 19-0079 - 3rd Plan Check, dated July 21, 2020;</li> <li>"Response #3 to County of Ventura Public Works Agency Review Letter (7-21-20), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.</li> <li>"Floor Slab Design, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.</li> </ul>	lated July 21, 2020;



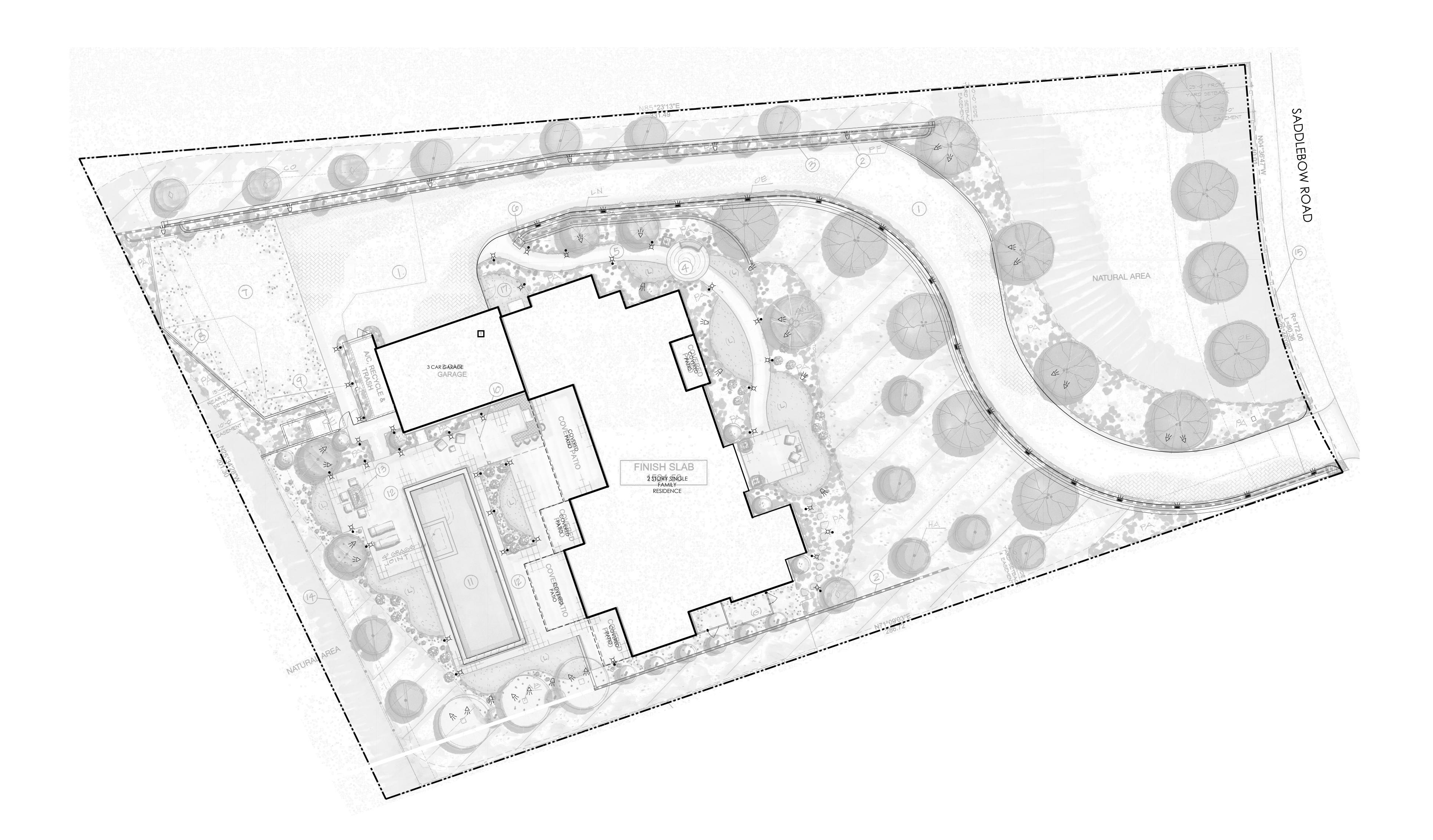








MAR. 27, 2019 1/10" = 1'-0" GT / MC



# LIGHTING SCHEDULE

ЦСПП	NG 3CHEDULE										
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>	<u>Material</u>	<u>Finish</u>	Mounting	<u>Options</u>	<u>Lamp</u>	<u>Watts</u>	Color Temp	<u>Beamspread</u>	<u>Accessories</u>
4	TREE UPLIGHT - FX LUMINAIRE VS LOW VOLTAGE - 47 LUMENS	22	Brass	(AB) Antique Bronze	3-Prong Spike		VS-1LED	2W	2700K	Spot	
•¤	PATH LIGHT - FX LUMINAIRE HC LOW VOLTAGE - 31 LUMENS	35	Copper	(AB) Antique Bronze	3-Prong Spike		HC-1LED	2W	2700K	Flood	
	WALL LIGHT FX LUMINAIRE LM LOW VOLTAGE - 14 LUMENS	15	Copper	(AB) Antique Bronze	Direct Mount		LM-2LED	4.2W	2700K	Very Wide Flood	
	PLANTER LIGHT - FX LUMINAIRE LC LOW VOLTAGE - 50 LUMENS	14	Brass	(AB) Antique Bronze	3-Prong Spike		LC-1LED	2W	2700K	Very Wide Flood	
<u>SYMBOL</u>	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>									
Т	TRANSFORMER - FX LUMINAIRE DX	1									

### LIGHTING NOTES:

- LANDSCAPE LIGHTING SHALL BE INSTALLED & MAINTAINED IN COMPLIANCE WITH THE LIGHTING REGULATIONS OF SECTION 8109-4.8.2
  (HABITAT CONNECTIVITY & WILDLIFE CORRIDOR) OF THE VENTURA COUNTY NON-COASTAL ZONING ORDINANCE
   LIGHTING TIMER SHALL BE SET TO SHUT OFF LANDSCAPE UP LIGHTS BY 10 PM EVERY NIGHT
   ALL LIGHTS ARE PROPOSED, THERE ARE NO EXISTING LANDSCAPE LIGHTS ONSITE



	NOTES:		•			-	-	
	REVISION:	•	•		•	•		•
-	DR LA LIC	NE	SC	CA	PE			

DESIGN CONSULTANTS COLLABORATION VISION ARTISTRY

2815 PORTER LANE VENTURA, CA. 93003

DRAWING #

DATE: 10-18-20 SCALE: 1"=10'-0" DRAWN BY: JC JOB NUMBER: 2020101801



**EXTERIOR LIGHT FIXTURE LEGEND:** RECESSED LED LIGHT FIXTURE WALL MOUNTED LED LIGHT FIXTURE

**EXTERIOR RECESSED LIGHT** H4 LED Downlight Series 2nd Generation -The Halo H4 LED is a family of 4" aperture recessed downlights with H457 series housings designed for use with Halo EL406 Series LED Light Engines and compatible TL4 and TLS4 Series LED trims. Halo H4 LED housings have integral LED drivers that offer dimming as a Halo H4 LED is a three part system: EL406 Light Engines, with TL4/ TLS4 trims and H457 housings. H4 LED 2nd Generation features 90 CRI color rendering index and offers a superior optical design that yields productive beam lumens, good cutoff and low glare.

QUALIFICATION Halo LED offers the choice of four

**COLOR SPECIFICATION &** QUALITY STANDARDS Halo employs a tight chromaticity correlated color temperatures: specification and LED color binning process to ensure LED • 90 CRI color uniformity, sustainable Color Rendering Index (CRI) and • LED package consisting of an Correlated Color Temperature (CCT) consistency over the useful to create one virtual source, for a in insulated ceiling environments. Halo H4 LED chromaticity specification is 3SDCM initial and choices, with selection from 5SDCM at rated life, which exceeds ENERGY STAR® SSL color standards (as per ANSI 

• H4 LED Light Engines are 78.377-2008). Every Halo LED Module is quality with designated LED trims\* tested and performance measured • Can be used to meet State of on the production line, and serialized to register lumens, wattage, CRI and CCT Halo LED's serialized testing and measurement process further

ensures color and lumen Cooper Lighting Solutions specifications and exceed light engine to be installed in any

• Halo LED Modules and light in the model number Example: EL406927

designated LED trims\* LED emits no ultraviolet and only consistency to meet stringent minimal infrared wavelengths ROHS compliant ENERGY STAR® SSL standards engines include color designation 2700°K nominal CCT

2700°K, 3000°K, 3500°K, 4000°K

engineered array of multiple LEDs

multiple reflector, baffle, and lens

ENERGY STAR® Qualified as used

International Energy Conservation

requirements when used with

California Title 24, and

Code – IECC, High Efficacy

productive "cone of light"

trim options

Designed for interchangeable trim

Туре

Date

**Downlight** 

4-Inch LED

Light Engine

**H457 Series** 

**FOR USE WITH** 

4" LED Housings

High Efficacy LED

2nd Generation

2700K, 3000K,

3500K, 4000K



DATE ISSUED FOR

04.01.19 BCAAC SUBMITTAL

J.M. Nolan Architects, Inc. 116 Stagecoach Road Bell Canyon, CA 91307 818 710-6600 818 716-7100 Fax

**BUILDING & SAFETY** 

PERMIT NUMBER C21-000211

JOBNO. 21807A DRAWN BY CM As Noted 3/17/2021

SHEET TITLE

EXTERIOR BUILDING LIGHTING PLAN SHEET NO.

L-LP.02

- WHEN AN OPERABLE WINDOW IS LOCATED MORE THAN 6 FEET ABOVE FINISHED GRADE WITH THE LOWEST PART OF THE WINDOW OPENING BEING LESS THAN 24" ABOVE FINISHED FLOOR, AND THE OPENING IS LARGER THAN A 4" DIAMETER SPHERE. THE WINDOW SHALL BE PROVIDED WITH EITHER A FALL PREVENTION DEVICE COMPLYING WITH ASTM F2090 OR PROVIDED WITH A WINDOW OPENING CONTROL DEVICE. CRCR312.2
- WALLS AND CEILINGS OF THE ENCLOSED SPACE UNDER STAIRWAY SHALL BE PROTECTED ON THE ENCLOSED SIDE WITH 1/2" THICK GYPSUM BOARD. CRC R302.7
- ADD THIS NOTE TO PLANS FOR NEW CONSTRUCTION. "WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED THEY SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL ALARMS IN THE DWELLING UNIT." CRC.R314.4
- COMBINATION SMOKE ALARMS AND CARBON MONOXIDE ALARMS SHALL BE LISTED AND APPROVED IN ACCORDANCE WITH UL 217 AND UL 2034. CRC R314.1.1
- ADD THIS NOTE TO PLANS: "SMOKE ALARMS AND CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH A BATTERY BACKUP." CRC R314.6. R315.5

#### E. LIGHT, VENTILATION, SANITATION & ELECTRICAL

- FOR THE PURPOSES OF HUMIDITY CONTROL, BATHROOMS CONTAINING A BATHTUB SHOWER OR TUB/SHOWER COMBINATION, SHALL BE MECHANICALLY VENTILATED AT A RATE OF 20 CFMFOR CONTINUOUS VENTILATION; OTHERWISE A RATE OF 50 CFM SHALL BE USED FOR INTERMITTENT VENTILATION. AN OPERABLE WINDOW IS NOT A PERMISSIBLE METHOD. EXHAUST AIR SHALL BE DUCTED TO TERMINATE OUTSIDE THE BUILDING. CRC R303.3.1, CGBC 4.506.1
- EXHAUST FANS PROVIDED FOR HUMIDITY CONTROL SHALL MEET THE FOLLOWING: A.) ENERGY STAR COMPLIANT, AND
- I.) CONTROLLED BY A HUMIDITY CONTROL UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE /ENTILATION SYSTEM. HUMIDITY CONTROLL SHALL OPERATE AS FOLLOWS (CGBC4.506.1) II.) HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF A
- GREATER THAN OR EQUAL TO 50% TO A MAXIMUM OF 80%. THE HUMIDITY CONTROL MAY UTILIZE MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT AND. III.) A HUMIDITY CONTROL MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN AND IS NOT REQUIRED TO BE IV) LIGHTING INTEGRAL TO BATHROOM EXHAUST FANS SHALL COMPLY WITH THE CALIFORNIA ENERGY CODE.
- IN BATHROOM, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS. PROVIDE A WINDOW NOT LESS THAN 3 SQ. FT. GLAZING AREA, 1/2 OF WHICH SHALL BE OPENABLE, OR PROVIDED EXHAUST FANS WITH EXHAUST RATE OF 50 CFM FOR INTERMITTENT VENTILATION OR 20 CFM FOR CONTINUOUS VENTILATION. THE EXHAUST AIR SHALL BE EXHAUSTED DIRECTLY TO THE OUTDOORS. CRC 303.3.1
- THE PLUMBING FIXTURES AND PLUMBING FITTING SHALL MEET THE STANDARDS NOTED BELOW (CGBC 4.303) A.) WATER CLOSET = 1.28 GALLONS PER FLUSH MAX. B.) SHOWERHEADS = 2.0 GPM MAX (MULTIPLE SHOWERHEADS IN A SINGLE SHOWER: COMBINED FLOW IS 2.0 GPM MAX.) C.) KITCHEN FAUCETS = 1.8 GPM MAX. D.) LAVATORY FAUCETS = 1.2 GPM MAX.
- E.) URINALS = 0.5 GALLS PER FLUSH MAX (0.125 GALLONS PER FLUSH WHEN WALL MOUNTED) KITCHEN HOODS, IF PROVIDED, SHALL BE MECHANICALLY

VENTED, WHEN USED FOR INTERMITTENT VENTILATION 100 CFM

MINIMUM OR IF CONTINUOUS VENTILATION 50 CFM MINIMUM. IF

PART OF THE INDOOR AIR QUALITY SYSTEM, THE EXHASUST

HOOD SHALL TERMINATE AT THE EXTERIOR OF THE BUILDING.

CMC TABLE 403.7, CEnC 150.0(O) GARAGE

H. ROOFS

- PROVIDE 1/2" THICK GYPSUM BOARD BETWEEN GARAGE AND DWELLING ON GARAGE WALL SIDE ONLY. CRC R302.6
- UNVENTED ATTIC & ENCLOSED RAFTER ASSEMBLIES ARE PERMITTED IF ALL THE CONDITIONS OF CRC R806.5 ARE MET: PROVIDE DETAILS & ICC APPROVED REPORT NUMBER FOR INSULATION.
- RESIDENTIAL ENERGY EFFICIENCY REQUIREMENTS PART 6,
- SHOW ON PLANS THE FOLLOWING TO FACILITATE REVIEW FOR COMPLIANCE WITH ENERGY CONSERVATION STANDARDS: B.) ON THE CROSS SECTIONS, SHOW INSULATION ENVELOPE, CALL OUT R-VALUES OF INSULATION FOR WALL, ROOF & FLOOR ASSEMBLIES CORRESPONDING TO THE ENERGY CALCULATIONS.
- PROVIDE A WINDOW SCHEDULE THAT INCLUDES THE FOLLOWING: A.) THE U FACTOR, SHGC COEFFICIENTS, AND RATING AGENCY (NFRC RATING) C.) THE WINDOW SCHEDULE SHALL INCLUDE THIS NOTE: "WINDOW LABELING IS TO REMAIN IN PLACE ON THE WINDOW(S) AT THE TIME OF THE INSPECTION AND SHALL MATCH THE FACTORS & COEFFICIENTS ON THE T24 ENERGY CALCULATIONS.
- PROVIDE THE SPECIFICATIONS AND INPUT RATING FOR THE INSTANTANEOUS WATER HEATER.
- THE INSTANTANEOUS WATER HEATER WITH AN INPUT RATING GREATER THAN 6.8KBTU/HR (2KW) SHALL HAVE ISOLATION VALVES ON BOTH THE COLD WATER SUPPLY AND THE HOT WATER PIPE LEAVING THE WATER HEATER. AND HOSE BIBS OR OTHER FITTINGS ON EACH VALVE FOR FLUSHING THE WATER

HEATER WHEN THE VALVES ARE CLOSED. CEnC 150.1(c)8, 150.2(a)

- FOR THE NEW DWELLING / ADDITION > 1000SF. PROVIDE THE WHOLE BUILDING VENTILATION REQUIREMENTS. ON THE PLANS PROVIDE: THE AIRFLOW RATE (CFM). THE LOCATION OF THE UNIT(S). THE MAX. SOUND RATING OF 1 SONE AND INCLUDE SWITCH LABELING REQUIREMENTS. 24 CAC.150(o)
- GREEN BUILDING STANDARDS PART 11, TITLE 24
- PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT WHICH IN TOTAL DISTURBS ONE ACRE OR MORE, SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. INCLUDE THE STORWATER QUALITY MANAGEMENT PROGRAM BMP MEASURES OF THE PLANS. SEE THE SW-1 FORM AND ATTACH BMP'S TO PLAN. CALGREEN 4.106
- N. REQUIREMENTS BY OTHER AGENCIES
  - ADD THE FOLLOWING NOTES TO THE PLANS. VCFC ORD. 30 A.) THE ADDRESS SHALL BE VISIBLE & LEGIBLE FROM THE STREET OR FRONTAGE ROAD. B.) THE ADDRESS NUMBERS SHALL BE OF A MINIMUM OF FOUR INCHES (4") IN HEIGHT. C.) THE ADDRESS NUMBERS SHALL BE OF CONTRASTING COLOR TO THEIR BACKGROUND (BRASS OR GOLD NUMBERS SHALL NOT BE POSTED. (ADDRESS NUMBERS ON CURBS ARE NOT ACCEPTABLE) D.) PERMANENT ADDRESS NUMBERS SHALL BE PROVIDED ON THE MAILBOX OR ON A PERMANENT SIGN OR POST ADJACENT TO THE DRIVEWAY ENTRANCE OF A FLAG LOT.

#### <u>DIV. 26 ELECTRICAL</u>

GFI PROTECTED, NEC. ART, 210-8.

1. ALL WIRING SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES AND ORDINANCES. CONVENIENCE OUTLETS IN BATHROOMS, OUTDOORS, AND IN GARAGES AND BASEMENTS ( OTHER THAN FOR LAUNDRY AND SIMILAR EQUIPMENT ) SHALL BE

3. ELECTRICAL SYSTEM GROUND TO BE PROVIDED PER NEC, ART. 250-81. I. WHERE NM CABLE ( ROMEX ) IS RUN ACROSS THE TOP OF CEILING JOISTS AND/ OR WHERE THE ATTIC IS NOT ACCESSIBLE BY PERMANENT STAIRS OR LADDERS.

PROTECTION WITHIN 6' OF THE NEAREST EDGE OF THE SCUTTLE HOLE OR ATTIC ENTRANCE SHALL BE PROVIDED. (E.C. 320-14). 5. WHERE THE ELECTRICAL SERVICE IS LOCATED IN/ON THE ATTACHED GARAGE AND A FURRED GARAGE WALL IS THE METHOD USED TO RUN THE NON METALLIC-SHEATHED CABLES TO THE RESIDENCE THRU THE FIRE WALL, PROVIDE APPROVED FIRE-STOPPING.

HARD-WIRED SMOKE ALARMS WITH BATTERY BACK-UP ARE REQUIRED IN ROOMS WITH HIGH OR SLOPED CEILINGS 24" ABIVE THAT OF THE ADJACENT HALLWAY LEADING TO SLEEPING AREAS. THE ALARM SHALL BE AUDIBLE IN ALL SLEEPING AREAS OF THE DWELLING UNIT WHICH THEY SERVE. PIPES, DUCTS AND OTHER NON STRUCTURAL CONSTRUCTION SHALL NOT NTERFERE WITH ACCESSIBILITY TO OR WITHIN UNDER FLOOR AREA. LAMPS USED IN LUMINAIRES FOR GENERAL LIGHTING IN KITCHENS AND

BATHROOMS SHALL HAVE AN EFFICACY OF NOT LESS THAN 40 LUMENS / WATT. (FLUORESCENT TYPE LIGHTING, O.K.). ). INSTALL ALL EXTERIOR PLASTER RINGS ON ALL ELECTRICAL BOXES PRIOR TO COMPLETION OF ROUGH ELECTRICAL INSPECTION.

#### **DIV. 27 COMMUNICATION**

. SEE ARCHITECTURAL DRAWINGS FOR ALL REQUIREMENTS

#### **DIV. 28 SECURITY**

. ALL ENTRY DOORS TO DWELLING UNITS OR GUEST ROOMS SHALL BE ARRANGED SO THAT THE OCCUPANT HAS A VIEW OF THE AREA IMMEDIATELY OUTSIDE THE DOOR WITHOUT OPENING THE DOOR. SUCH VIEW MAY BE PROVIDED BY A DOOR VIEWER. THROUGH WINDOWS LOCATED IN THE VICINITY OF THE DOOR OR THROUGH VIEW PORTS IN THE DOOR OR ADJOINING WALL.

2. SCREENS, BARRICADES, OR FENCES MADE OF A MATERIAL WHICH WOULD PRECLUDE HUMAN CLIMBING SHALL BE PROVIDED AT EVERY PORTION OF EVERY ROOF, BALCONY, OR SIMILAR SURFACE WHICH IS WITHIN 8 FT. OF THE UTILITY POLE OR SIMILAR STRUCTURES. B. WOOD FLUSH-TYPE DOORS SHALL BE 1-3/8" THICK MINIMUM WITH SOLID CORE

CONSTRUCTION. DOOR STOPS OF IN-SWINGING DOORS SHALL BE OF ONE-PIECE CONSTRUCTION WITH THE JAMB OR JOINED BY RABBET TO THE JAMB. 4. EVERY DOOR IN A SECURITY OPENING FOR AN APARTMENT HOUSE SHALL BE PROVIDED WITH A LIGHT BULB (60 WATT MIN.) AT A MAXIMUM HEIGHT OF 8 FEET ON THE EXTERIOR.

5. ALL PIN-TYPE DOOR HINGES ACCESSIBLE FROM OUTSIDE SHALL HAVE NON-REMOVABLE HINGE PINS. HINGES SHALL HAVE MIN. 1/4" DIA. STEEL JAMB STUD WITH 1/4" MIN. PROTECTION. THE STRIKE PLATE FOR LATCHES AND HOLDING DEVICE FOR PROJECTING DEAD BOLTS IN WOOD CONSTRUCTION SHALL BE SECURED TO THE JAMB AND THE WALL FRAMING WITH SCREWS NO LESS THAN

6. PROVIDE DEAD BOLTS WITH HARDENED INSERTS; DEADLOCKING LATCH WITH KEY-OPERATED LOCKS ON EXTERIOR. DOORS MUST BE OPERABLE FROM THE INSIDE WITHOUT A KEY, SPECIAL KNOWLEDGE, OR SPECIAL EFFORT (LATCH NOT REQUIRED IN B. F. AND S OCCUPANCIES). '. STRAIGHT DEAD BOLTS SHALL HAVE A MIN. THROW OF 1" AND AN EMBEDMENT OF NOT LESS THAN 5/8", AND A HOOK-SHAPED OR AN EXPANDING-LUG DEADBOLT

8. WOOD PANEL TYPE DOORS MUST HAVE PANELS AT LEAST 9/16 IN. THICK WITH SHAPED PORTIONS NOT LESS THAN 1/4 IN. THICK AND INDIVIDUAL PANELS MUST BE NO MORE THAN 300 SQ. IN. IN AREA. MULLIONS SHALL BE CONSIDERED A PART OF ADJACENT PANELS EXCEPT MULLIONS NOT OVER 18 INCHES LONG MAY HAVE AN OVERALL WIDTH OF NOT LESS THAN 2 INCHES. STILES AND RAILS SHALL BE OF SOLID LUMBER IN THICKNESS WITH OVERALL DIMENSIONS OF NOT LESS THAN 1-3/8 INCHES AND 3 INCHES IN WIDTH.

SHALL HAVE A MINIMUM THROW OF 3/4".

SUBJECTED TO THE TESTS SPECIFIED IN SEC. 6717.1

9. SLIDING DOORS SHALL BE PROVIDED WITH A DEVICE IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT RAISING AND REMOVING OF THE MOVING PANEL FROM TRACK WHILE IN THE CLOSED POSITION. 10. SLIDING GLASS DOORS PANELS SHALL BE CLOSED AND LOCKED WHEN

11. METAL OR WOODEN OVERHEAD OR SLIDING DOORS SHALL BE SECURED WITH A CYLINDER LOCK, PADLOCK WITH A MIN. 9/32" DIAMETER HARDENED STEEL SHACKLE AND BOLTED, HARDENED STEEL HASPS, METAL SLIDE BOARD, BOLT OR EQUIVALENT DEVICE UNLESS SECURED ELECTRICALLY OPERATED. 12. PROVIDE METAL GUIDES AT TOP AND BOTTOM OF METAL ACCORDION GRATE OR GRILLE-TYPE DOORS AND CYLINDER LOCKS OR PADLOCKS. CYLINDER GUARDS

SHALL BE INSTALLED ON ALL CYLINDER LOCKS WHENEVER THE CYLINDER

PROJECTS BEYOND THE FACE OF THE DOOR OR IS OTHERWISE ACCESSIBLE TO

13. IN GROUP B, F, M, AND S OCCUPANCIES, PANES OF GLAZING WITH AT LEAST ONE DIMENSION GREATER THAN 5 IN. BUT LESS THAN 48 IN, SHALL BE CONSTRUCTED OF TEMPERED OR APPROVED BURGLARY-RESISTANT MATERIAL OR PROTECTED WITH METAL BARS OR GRILLES.

14. GLAZED OPENINGS WITHIN 40" OF THE REQUIRED LOCKING DEVICE OF THE DOOR, WHEN THE DOOR IS IN THE CLOSED AND LOCKED POSITION AND WHEN THE DOOR IS OPENABLE FROM THE INSIDE WITHOUT USE OF KEY, SHALL BE FULLY TEMPERED GLASS PER SECTION 2406. OR APPROVED BURGLARY RESISTANT MATERIAL, OR SHALL BE PROTECTED BY METAL BARS, SCREENS OR GRILLS HAVING A MAXIMUM OPENING OF 2". THE PROVISIONS OF THIS SECTION SHALL NOT APPLY TO SLIDE GLASS DOORS WHICH CONFORM TO THE PROVISIONS OF SECTION 6710 OR TO VIEW PORTS OR WINDOWS WHICH DO NOT EXCEED 2" IN THEIR GREATEST DIMENSIONS.

15. LOUVERED WINDOWS SHALL BE PROTECTED BY METAL BARS OR GRILLS WITH OPENINGS THAT HAVE AT LEAST ONE DIMENSION OF 6" OR LESS, WHICH ARE CONSTRUCTED TO PRECLUDE HUMAN ENTRY. 16. OTHER OPENABLE WINDOWS SHALL BE PROVIDED WITH SUBSTANTIAL

LOCKING DEVICES. IN GROUP B, F, M AND S OCCUPANCIES, SUCH DEVICES SHALL BE GLIDE BARS, BOLTS, CROSS-BARS, AND/OR PADLOCKS WITH MINIMUM 9/32" HARDENED STEEL SHACKLES AND BOLTED, HARDENED STEEL HASPS. 17. SLIDING WINDOWS SHALL BE PROVIDED WITH LOCKING DEVICES. A DEVICE SHALL BE INSTALLED IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT RAISING AND REMOVING OF THE MOVING PANEL IN THE CLOSED OR PARTIALLY

18. SLIDING GLASS WINDOWS SASH SHALL BE CLOSED AND LOCKED WHEN SUBJECTED TO THE TESTS SPECIFIED IN SEC. 6717.2. 19. ANY RELEASE FOR METAL BARS. GRILLS. GRATES OR SIMILAR DEVICES CONSTRUCTED TO PRECLUDE HUMAN ENTRY THAT ARE INSTALLED SHALL BE LOCATED ON THE INSIDE OF THE ADJACENT ROOM AND AT LEAST 24 INCHES FROM THE CLOSEST OPENING THROUGH SUCH METAL BARS, GRILLS, GRATES OR SIMILAR DEVICES THAT EXCEEDS TWO INCHES IN ANY DIMENSION.

20 ALL OTHER OPENINGS OTHER THAN DOORS OR GLAZED OPENINGS MUST BE PROTECTED BY METAL BARS OR GRILLES WITH OPENINGS OF NOT LESS THAN 6 INCHES IN ONE DIMENSION.

## **DIV. 31 EARTHWORK**

1. SEE CIVIL DRAWINGS FOR ALL REQUIREMENTS.

**DIV. 32 EXTERIOR IMPROVEMENTS** 

 SEE CIVIL DRAWINGS FOR ALL REQUIREMENTS. 2. SEE LANDSCAPE DRAWINGS FOR ALL REQUIREMENTS.

### **DIV. 11 EQUIPMENT**

1. SEE ARCHITECTURAL PLANS FOR ALL REQUIREMENTS.

KITCHENS ARE TO HAVE A POWER EXHAUST FAN OVER THE RANGE AREA OR OTHER APPROVED METHOD TO BE VENTED TO OUTSIDE AIR.

### **DIV. 12 FURNISHINGS**

I. SEE ARCHITECTURAL PLANS FOR ALL REQUIREMENTS.

**DIV. 13 SPECIAL CONSTUCTION** 

. SEE ARCHITECTURAL DRAWINGS FOR ALL REQUIREMENTS.

### **DIV. 14 CONVEYING SYSTEMS**

1. SEE ARCHITECTURAL DRAWINGS FOR ALL REQUIREMENTS.

### . SEE ARCHITECTURAL DRAWINGS FOR ALL REQUIREMENTS.

**DIV. 21 FIRE SUPPRESSION** 

- **DIV. 22 PLUMBING** ALL PLUMBING SHALL COMPLY WITH THE UNIFORM PLUMBING CODE, UNIFORM
- MECHANICAL CODE AND LOCAL CODES AND ORDINANCES. GROUP ALL PLUMBING VENTS WHERE POSSIBLE AND BREAK TO REAR OF
- ALL FIXTURES, EQUIPMENT, PIPING, AND MATERIALS SHALL BE LISTED.
- L. ALL PLUMBING FIXTURES SHALL MEET THE FLOW REQUIREMENTS SPECIFIED IN THE LOS ANGELES PLUMBING CODE. (LAPC 403.0)
- WATER PIPE AND FITTINGS WITH A LEAD CONTENT WHICH EXCEEDS 0.25% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER.
- INSTALL A CONTROL VALVE IN THE DOMESTIC WATER SUPPLY TO EACH AN APPROVED PRESSURE REGULATING VALVE (PRV) SHALL BE INSTALLED TO
- REDUCE THE WATER PRESSURE AT ANY FIXTURE TO 80 PSI OR LESS. THE PRESSURE REGULATING VALVE (PRV) SHALL BE INSTALLED AT ABOVE GRADE OR FINISHED FLOOR. THE PRV SHALL NOT BE INSTALLED IN A PIT
- INSTALL A CHECK VALVE BETWEEN THE RECIRCULATION PUMP AND THE WATER HEATING EQUIPMENT.
- PROVIDE WATER HOOK UP TO REFRIGERATORS AND ICE MAKERS. 1. HOSE BIBS AND LAWN SPRINKLER SYSTEMS SHALL HAVE APPROVED BACK
- FLOW PREVENTION DEVICES.
- 13. SHOWERS SHALL BE PROVIDED WITH INDIVIDUAL TEMPERING VALVES

WHERE IT CAN BECOME SUBMERGED IN WATER.

NO PIPE SHALL BE EMBEDDED INTO CONCRETE.

- 3. PROVIDE HOT-MOPPED PANATALL SHOWERS 14. WATER PIPING SHALL BE COPPER HAVING A WEIGHT OF NO LESS THAN TYPE L,
- PIPES, DUCTS AND OTHER NON-STRUCTURAL CONSTRUCTION SHALL NOT INTERFERE WITH ACCESSIBILITY TO OR WITHIN UNDERFLOOR AREA. PIPING, WEATHER BURIED OR UNBURIED, FOR RECIRCULATING SYSTEMS OF
- DOMESTIC HOT WATER SYSTEMS. PIPING FROM THE HEATING SOURCE TO THE STORAGE TANK FOR AN INDIRECT-FIRED DOMESTIC WATER HEATING SYSTEM. COOLING SYSTEM PIPING BELOW 55 DEGREES FAHRENHEIT. AND THE FIRST FIVE FEET OF HOT AND COLD WATER PIPES FROM STORAGE TANK FOR NON-RECIRCULATING SYSTEMS SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE NO. 1-T.
- 7. PROVIDE AN APPROVED TYPE SEISMIC GAS SHUT-OFF VALVE.
- 18. THE SEISMIC GAS SHUT-OFF VALVE SHALL BE MOUNTED RIGIDLY TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS
- 19. NO GAS PIPE SHALL BE INSTALLED UNDER THE BUILDING UNLESS IT IS 20. GAS VENTS AND NON COMBUSTIBLE PIPING, IN WALLS, PASSING THROUGH
- THREE FLOORS OR LESS SHALL BE EFFECTIVELY DRAFT STOPPED AT EACH FLOOR OR CEILING.
- 21. GAS FIRED WATER HEATER REQUIRES A MINIMUM OF 50 SQ. IN. COMBUSTION AIR OPENING WITHIN 12" OF CEILING AND 50 SQ. IN. WITHIN 12" OF FLOOR AND A COMPARTMENT DOOR 2'-0" (MIN.) WIDE. (NOT PERMITTED IN ANY BEDROOM,
- 22. VENT WATER HEATERS TO OUTSIDE AIR. 23. WATER HEATER FLAME TO BE MINIMUM OF 24" ABOVE GARAGE FLOOR.

BATHROOM OR CLOTHES CLOSET).

- 24. WATER HEATER TO BE PROVIDED WITH 3/4" MIN. TEMPERATURE & PRESSURE RELIEF VALVE, DRAIN TO EXTERIOR.
- 25. GAS FIRED WATER HEATER WITH NON-RIGID CONNECTIONS SHALL BE STRAPPED FOR LATERAL SUPPORT.

26. GAS SHUT OFF VALVES FOR APPLIANCES SHALL BE WITHIN 3 FEET OF THE

APPLIANCE 7. GAS SHUT OFF VALVES FOR FIREPLACES AND BARBECUES SHALL BE WITHIN 4 FEET OF THE APPLIANCE SERVED AND OUTSIDE THE HEARTH.

### DIV. 23 HEATING, VENTILATION & AIR CONDITIONING

- ALL HEATING AND/OR COOLING SYSTEMS OTHER THAN WOOD STOVES SHALL HAVE AN AUTOMATIC THERMOSTAT WITH A CLOCK MECHANISM OR OTHER SETBACK MECHANISM THAT SHUTS THE SYSTEM OFF DURING PERIODS OF NON-USE AND THAT ALLOWS THE BUILDING OCCUPANT TO AUTOMATICALLY SET BACK THE THERMOSTAT SETPOINTS FOR AT LEAST 2 PERIODS WITHIN 24
- HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL A. THAT PREVENT SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE: AND B. IN WHICH THE CUT-ON TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-ON TEMPERATURE FOR SUPPLEMENTARY HEATING
- AND THE CUT-OFF TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-OFF TEMPERATUREFOR SUPPLEMENTARY HEATING. THE AIR HANDLING DUCT SYSTEM SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED IN CHAPTER 6 OF THE UNIFORM MECHANICAL CODE. ( MUST BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 OR BE IN CONDITIONED SPACE ).
- ALL FAN SYSTEMS EXHAUSTING AIR FROM THE BUILDING TO THE OUTSIDE SHALL BE PROVIDED WITH BACKDRAFT OR AUTOMATIC DAMPERS TO PREVENT STORAGE WATER HEATERS WITH AN ENERGY FACTOR OF <0.58 SHALL BE

EXTERNALLY WRAPED WITH INSULATION HAVING INSTALLED THEMAL

- RESISTANCE OF R-12 OR GREATER. UNFIRED HOT WATER TANKS, SUCH AS STORAGE TANKS AND BACKUP STORAGE TANKS FOR SOLAR HOT WATER HEATING SYSTEMS, SHALL BE
- EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSTALLED THERMAL RESISTANCE OF R-12 OR GREATER OR HAVE INTERNAL INSULATION OF AT LEAST R-16 AND A LABEL ON THE EXTERIOR OF THE TANK SHOWING THE INSULATION R-VALUE.
- DUCT SYSTEMS SHALL COMPLY WITH UL 181, INCLUDING COLLARS, CONNECTIONS AND SPLICES. ALL PRESSURE SENSITIVE TAPES, HEAT ACTIVATED TAPES, AND MASTICS SHALL COMPLY WITH UL 181, UL 181A, AND
- s. ALL HEATING, VENTILATING AND COOLING SYSTEMS AND APPLIANCES SHALL COMPLY WITH THE UNIFORM MECHANICAL CODE.

THE FOLLOWING ARE REQUIRED FOR THE FORCED AIR FURNACES:

- A. COMPARTMENT DIMENSIONS SHALL HAVE 3" MINIMUM CLEARANCE ON SIDES AND BACK / 6" MINIMUM CLEAR FROM FRONT OF EQUIPMENT TO COMBUSTION AIR INTAKE. (M.C. 704) THE MINIMUM WIDTH PERMITTED IS 12" GREATER THAN THE EQUIPMENT. B. AREA OF COMBUSTION AIR OPENINGS OF 1 SQ. INCH PER 1000 BTU (100 SQ. IN. MIN.) IS REQUIRED INTO COMPARTMENT, HALF OF AREA WITHIN 12 INCHES OF CEILING AND HALF WITHIN 12 INCHES OF FLOOR.(M.C. 601, 602) C. COMBUSTION AIR FROM ATTIC THROUGH 26 GA. GALV. STEEL SLEEVE EXTENDING 6 INCHES MINIMUM ABOVE CEILING JOISTS AND NOT SCREENED. ATTIC TO HAVE ADEQUATE OPENINGS. (M.C. 603) D. COMBUSTION AIR FROM OUTSIDE TO COMPARTMENT WITH 1/4" SCREEN AT OUTSIDE OPENING. (M.C. 604)
- OPENINGS, (M.C. 603.2.) (M.C. 604-6) F. CIRCULATING AIR SUPPLY OPENING OR DUCT OF 2 SQ. IN. PER 1000 BTU IS REQUIRED. 0. THE FOLLOWING ARE REQUIRED FOR ATTIC FURNACE OR COMFORT COOLING **FOUIPMENT** A. SCUTTLE 30" X 30" NOT OVER 20 FEET FROM EQUIPMENT IS REQUIRED. ( M.C. 505 & 708 )

. SEPARATE DUCTS FOR UPPER AND LOWER COMBUSTION AIR SUPPLY

- B. UNOBSTRUCTED PASSAGEWAY 24 INCHES WIDE OF SOLID CONTINUOUS FLOORING FROM SCUTTLE TO EQUIPMENT AND ITS CONTROLS. (M.C. 708) . UNOBSTRUCTED WORKSPACE OF 30" MIN. DEPTH IN FRONT OF EQUIPMENT. (M.C. 703) D. LIGHT OVER FOUIPMENT WITH SWITCH AT SCUTTLE. ( M.C. 708 )
- E. VENT THROUGH ROOF A MINIMUM OF 5 FT. ABOVE THE HIGHEST VENT COLLAR WHICH IT SERVES. (M.C. 906) . PROVIDE 26 GA. GALV. IRON OR STEEL DUCT THRU GARAGE TO DWELLING SEPARATION OR PROVIDE APPROVED DAMPER.
- 2. PIPES, DUCTS AND OTHER NON-STRUCTURAL CONSTRUCTION SHALL NOT INTERFERE WITH ACCESSIBILITY TO OR WITHIN UNDERFLOOR AREA.

## DIV. 7 THERMAL & MOISTURE PROTECTION - CON'T.

**VENTURA COUNTY NOTES** 

WATERPROOFING SPECIFICATIONS THE FOLLOWING ARE SPECIFICATIONS FOR WATERPROOFING WHERE OCCURS ON THIS PROJECT

A. ALL CONCRETE SLAB ON GRADE & BASEMENT FLOORS PROVIDE ONE (1)

PROTECTIVE MEMBRANE LAYER OF STEGO® WRAP 15-MIL CLASS "A" VAPOR

BARRIER. TO BE INSTALLED FOLLOWING THE RECOMMENDATIONS OF THE

MANUFACTRUER AND THE GEOTECHNICAL ENGINEER. THE SAND LAYER BENEATH

THE VAPOR BARRIER OR RETARDER MAY BE REPLACED WITH A 4-INCH-THICK

GRAVEL LAYER, IF REQUIRED BY CODE. THE GRAVEL SHOULD BE ROUNDED TO REDUCE THE POTENTIAL FOR IT TO PUNCTURE THE VAPOR BARRIER. ALUMINUM TERMINATION BAR SHALL BE INSTALLED W/ URETHANE CAULKING AT ALL PERIMETER EDGES. ALL PENETRATIONS (PLUMBING, ELECTRICAL CONDUIT\U+2026) SHALL BE URETHANE CAULKED AND/OR TAPED. IT IS RECOMMENDED THAT A SURFACE SEAL BE PLACED ON SLABS WHICH WILL RECEIVE A VINYL OR WOOD FLOOR. THE FLOOR INSTALLER SHOULD BE CONSULTED REGARDING AN ADEQUATE PRODUCT. B. BASEMENT WALLS (BELOW-GRADE) - THOROUGHLY CLEAN AND SCRAPE C.M.U. BLOCK AND/OR CONCRETE EXTERIOR STEM WALLS. MECHANICALLY GRIND ALL PROTRUSIONS SMOOTH AND FILL ALL VOIDS/CAVITIES WITH ACRYLIC MODIFIED PORTLAND CEMENT AND TROWELED SMOOTH TO MATCH ADJACENT SURFACES. ALL STRUCTURAL CONCRETE MUST BE CURED A MINIMUM OF SEVEN PRIME ALL EXTERIOR FOUNDATION SURFACES AND THEN INSTALL LIQUID MEMBRANE AT ALL JOINTS. PENETRATIONS AND TRANSITIONS. PROVIDE "CANTING" AT STEM WALL TO FOOTING CORNER. APPLY PRIMER AND INSTALLATION OF ONE (1) LAYER OF BITUTHENE 3000 PRODUCT BY WR GRACE OR MIRADRI 860 WATERPROOFING MEMBRANE BY MIRADRI, INC. OR PROTECTO WRAP'S JIFFY SEAL 140/60. ALL TERMINATIONS OF THE MEMBRANE SHALL RECEIVE A TROWELED BEAD OF MASTIC. INSTALL ONE (1) LAYER OF HYDRODUCT 220 OR MIRADRAIN 6200 OR DELTA DRAIN 6200 DRAINAGE BOARD SYSTEM. ALL SEAMS TO BE SEALED ACCORDING TO MANUFACTURER SPECIFICATIONS. E. INSTALL SUPERSTOP WATERSTOP AT ALL TOP OF FOOTINGS

INSTALLATION OF FILTER FABRIC, 3/4 IN CRUSHED ROCK AND PERFORATED

FRENCH DRAINAGE SYSTEM PER GEOLOGIST AND OR CIVIL ENGINEER SPECIFICATIONS AND RECOMMENDATIONS F. WATERPROOFING @ WOOD TO CONCRETE/C.M.U. BLOCK INTERSECTIONS -PRIME ALL SURFACES W/ MANUFACTURER PRIMER. INSTALL ONE (1) LAYER OF A "PEEL & STICK" MEMBRANE; ICE & WATER SHIELD JIFFY SEAL OR MIRADRI 300HT AT ALL AREAS. MINIMUM LAPPING OF MEMBRANE SHALL BE 3INCH. MEMBRANE SHALL EXTEND MINIMUM OF 12 INCHES ABOVE CONCRETE ONTO WOOD FRAMING AND 6 INCHES BELOW ON CONCRETE. SEAL AND CAULK ALL JOINTS AND PENETRATIONS WITH SCHNEE MOREHEAD 7150 LOW SOLVENT URETHANE CAULKING G. DECKING, TERRACES AND BALCONIES (SUB FINISH SURFACES ONLY) SAND ALL METAL FLASHING SURFACES FOR ADHESION. ETCH ALL METAL FLASHINGS WITH SOLVENT AND PRIMER. INSTALL A 4 INCH WIDTH DETAIL COAT OF LM-60H AT ALL WOOD AND FLASHING JOINTS. REINFORCE WITH POLYESTER TAPE. INSTALL 120 MILS OF "UNDER TILE" ELASTOMETRIC WATERPROOFING MEMBRANE GACO WESTERN'S LM-60 FLUID APPLIED MEMBRANE. INSTALL HORIZONTAL TYPE DRAINAGE BOARD SUCH AS MIRADRAIN 9900 OR DELTA DRAIN 9000. H. DOOR & WINDOW OPENINGS - PRIME ALL SURFACES WITH PROTECTO WRAP JIFFY SEAL PRIMER. INSTALL ONE (1) LAYER OF JIFFY SEAL ICE & WATER SHIELD AND WATER GUARD AT BOTTOM SILL OF ALL DOORS AND WINDOWS. AFTER INSTALLATION OF SHEET METAL PAN, INSTALL ICE & WATER GUARD AT THE OTHER THREE SIDES AND EXTEND ONTO METAL PAN. INSTALL ADDITIONAL LAYER OF ICE & WATER SHIELD OVER METAL FLASHINGS THAT ARE CURFED INTO DOOR AND WINDOW FRAMES.

### **LATH** (2507.2)

- . THE FOLLOWING ITEMS ARE TO BE COMPLETED PRIOR TO COMMENCEMENT OF LATH INSTALLATION:
- CHECK ALL FRAMING LUMBER, ALL INSIDE CORNERS, RUN MOLDS, ETC. B. EXPOSED GRADE A MINIMUM OF 8" BELOW TOP OF FOUNDATION. CHIP AWAYANY CONCRETE THAT PROJECTS BEYOND FRAMING
- MEMBERS TO A MINIMUM OF 4" BELOW GRADE. INSTALL ALL PLASTER RINGS ON ELECTRICAL BOXES. ALL SHEET METAL DOOR PANS ARE TO BE INSTALLED PER
- F. ALL DOORS AND WINDOWS ARE TO BE INSTALLED PER DETAILS. H. ALL SHEET METAL DRIP EDGES ARE TO BE INSTALLED ABOVE ALL DOORS,
- WINDOWS AND SOFFIT EDGES PER DETAILS. ALL HORIZONTAL SURFACES THAT ARE TO RECEIVE EXTERIOR PLASTER ARE TO BE SLOPED 1/4" PER 12" MINIMUM TO DRAIN. J. ALL " GRACE " WATER AND ICE SHIELD AND WATERPROOFING MUST BE
- INSTALLED WITH BOTTOM FLAP LOOSE FOR MINIMUM OF 3" OVERLAP IF INSTALLED BY OTHERS K. ALL INSULATION MUST BE INSTALLED PRIOR TO LATH ON ALL AREAS NOT ACCESSIBLE FROM INTERIOR, I.E.: SOFFITS, INTERIOR SHEAR PANELING,
- INTERIOR PLASTER LOCATIONS, ETC ALL PENETRATIONS MUST BE FLASHED WITH BOTTOM FLAP LOOSE I.E.: BEAMS, SCUPPERS, VENT PIPED, CONDUITS, ETC.
- M. ALL DECKS MUST BE PROVIDED WITH SHEET METAL FLASHING PER PROVIDE DOUBLE BACKING AT ALL PLASTER EXPANSION JOINTS.
- PROVIDE WOOD PLASTER GROUNDS AT BASE OF ALL INTERIOR WALLS WERE INTERIOR PLASTER IS TO BE INSTALLED. PROVIDE 1/4" GAP P. PROVIDE 5"-0" CLEAN AND SEMI-LEVEL GRADE AT ALL EXTERIOR
- SURFACES THAT ARE TO BE PLASTERED. GRADE TO SLOPE AWAY FROM Q. EXTERIOR LATH: PROVIDE TWO LAYERS OF GRADE B PAPER OVER ALL WOOD BASE SHEATHING. LAYERS SHALL BE INSTALLED INDEPENDENTLY

### **DIV. 8 OPENINGS**

SWING OUTWARD.

- SEE ARCHITECTURAL PLANS, SCHEDULES AND NOTES FOR ALL FINISH CARPENTRY REQUIREMENTS. . SLIDING GLASS DOORS ( PATIO TYPE ) HAVE A MINIMUM CATEGORY CLASSIFICATION OF II PER 1997 UBC STD. 24-2, TABLE 24-2-A.
- GLAZING IN DOORS AND FIXED GLAZED PANELS OF MORE THAN NINE SQUARE FEET HAVE A MINIMUM CATEGORY CLASSIFICATION OF II PER 1997 UBC STD. 24-2, TABLE 24-2-A. . GLAZING IN DOORS AND FIXED GLAZED PANELS OF NINE SQ. FT OR LESS HAVE
- GLAZING IN DOORS AND ENCLOSURES FOR BATHTUBS AND SHOWERS HAVE A MINIMUM CATEGORY CLASSIFICATION OF II PER 2013 UBC STD. 24-2, TABLE

A MINIMUM CATEGORY CLASSIFICATION OF I PER 1997 STD. 24-2, TABLE 24-2-A.

- GLAZING WARDROBE DOORS MEET IMPACT TEST PER 2013 UBC STD. 24-2, PART II. LAMINATED GLASS MUST ALSO MEET THE BOIL TEST REQUIREMENTS OF 2013 UBC STD. 24-2, PART II. . IN ALL BATHS, GLASS ENCLOSURE DOORS AND PANELS MUST BE 3/16", FULLY TEMPERED, 1/4" LAMINATED OR OF AN APPROVED PLASTIC. ALL DOORS TO
- GLASS DOOR, ADJACENT PANELS, AND ALL GLAZED OPENINGS WITHIN 18" OF THE ADJACENT FLOOR SHALL BE OF GLASS APPROVED FOR IMPACT HAZARD

. GLAZED OPENINGS WHOSE NEAREST VERTICAL EDGE IS WITHIN 12" OF THE

- DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE WALKING SURFACE SHALL BE FULLY TEMPERED. 10. GLASS SHOWER AND TUB ENCLOSURE DOORS AND PANELS MUST BE LABELED CATEGORY II. DOORS MUST SWING OUTWARD.
- 11. WINDOW FINISH SILLS SHALL BE NO MORE THAN 44" ABOVE FINISHED FLOOR IN BEDROOMS. 12. DOORS SHALL OPEN OVER A LANDING NOT MORE THAN 1/2" BELOW THE
- 13. GARAGE DOOR SPRINGS SHALL CONFORM TO THE ASTM DESIGNATION (5 AND REQUIREMENT OF B1319, CHAPTER 8, AND 14, TITLE 24, CALIFORNIA ADMINISTRATIVE CODE.

# **DIV. 9 FINISHES**

REQUIREMENTS.

GARAGES.

- . SEE ARCHITECTURAL PLANS, DETAILS AND NOTES FOR ALL ROOFING.
- SEE ARCHITECTURAL PLANS. SCHEDULES. NOTES AND DETAILS FOR ALL WATERPROOFING REQUIREMENTS.
- . SEE ARCHITECTURAL PLANS, SCHEDULES, NOTES AND DETAILS FOR ALL SKYLIGHT REQUIREMENTS. INTERIOR FINISH IN GROUP R-3 OCCUPANCIES SHALL HAVE A MINIMUM FLAME SPREAD CLASSIFICATION OF III EXCEPT IN KITCHENS, BATHROOMS, AND
- INSPECTION IS REQUIRED FOR ALL EXTERIOR IN-PLACE LATH AND INTERIOR GYP. BOARD BEFORE ANY PLASTERING IS APPLIED OR ANY JOINTS AND FASTENERS HAVE BEEN TAPED AND FINISHED.
- 6. PLASTERED SURFACES ON WALLS, CEILINGS, AND ROOF SOFFITS EXPOSED TO THE WEATHER SHALL HAVE EXTERIOR LATH AND PLASTER. EXTERIOR WALL STUCCO WIRE TO BE ATTACHED TO TOP PLATES AND MUDSILLS WITH BOUNDARY NAILS AT 6" O.C., U.O.N.
- THE LONG DIMENSION OF CEILING GYPSUM BOARD SHEETS SHALL BE PERPENDICULAR TO FRAMING MEMBERS WHOSE SPACING EXCEEDS 16" O.C. ( 24" O.C. MAX. ).

9. ALL DRYWALL IS TO BE SCREW APPLIED.

10. SHOWER WALLS AND WALLS OVER BATH TUBS SHALL BE OF APPROVED NONABSORBENT WATERPROOF MATERIAL TO A HEIGHT OF MINIMUM 6 FEET ABOVE THE DRAIN, WAINSCOT SHALL ALSO EXTEND FULL 4" BEYOND THE FACE OF TUB OR SHOWER PAN.

### **DIV.10 SPECIALTIES**

REQUIREMENTS.

- . SEE ARCHITECTURAL PLANS FOR ALL FIREPLACE REQUIREMENTS.
- MASONRY OR FACTORY BUILT FIREPLACES SHALL HAVE THE FOLLOWING: A. CLOSEABLE METAL OR GLASS DOORS COVERING THE ENTIRE OPENING OF THE FIREBOX. B. A COMBUSTION AIR INTAKE TO DRAW AIR FROM THE OUTSIDE OF THE

BUILDING DIRECTLY INTO THE FIREBOX, WHICH IS AT LEAST SIX SQUARE INCHES IN AREA AND IS EQUIPPED WITH A READILY ACCESSIBLE, OPERABLE,

SEE ARCHITECTURAL PLANS FOR ALL TOILET AND BATH ACCESSORIES

AND TIGHT FITTING DAMPER OR CONTROL DEVICE. NOTE: THIS IS NOT REQUIRED IF FIREPLACE IS INSTALLED OVER A SLAB AND WILL NOT BE LOCATED ON AN EXTERIOR WALL. C. A FLUE DAMPER WITH READILY ACCESSIBLE CONTROL. EXCEPTION: WHEN A GAS LOG, LOG LIGHTER, OR DECORATIVE GAS APPLIANCE IS INSTALLED IN A FIREPLACE, THE FLUE DAMPER SHALL BE BLOCKED OPEN IF REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS OR THE STATE MECHANICAL CODE.

D. CONTINUOUS BURNING PILOT LIGHTS AND THE USE OF INDOOR AIR FOR COOLING A FIREBOX JACKET, WHEN THAT INDOOR AIR IS VENTED TO THE

OUTSIDE OF THE BUILDING ARE PROHIBITED. 4. CHIMNEYS TO HAVE SPARK ARRESTORS WITH MAXIMUM 1/2" SCREEN.

### DIV. 1 GENERAL REQUIREMENTS - CONT.

19. TERMINOLOGY, ABBREVIATIONS, AND SYMBOLS USED ON THE PROJECT 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 WEBSTERS UNABRIDGED DICTIONARY OF THE AMERICAN LANGUAGE WILL GOVERN. REFER UNCERTAINTIES TO ARCHITECT BEFORE

ARRANGE FOR ALL TESTING AND INSPECTIONS REQUIRED BY THE PROJECT DOCUMENTS, LOCAL BUILDING DEPARTMENT, GRADING DEPARTMENT, HEALTH DEPARTMENT, AND OTHER AGENCIES HAVE JURISDICTIONS OVER THE PROJECT. PRODUCTS SPECIFIED ON THE PROJECT CONTRACT 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. SELECTIONS OF PRODUCTS WHICH COMPLY WITH REQUIREMENTS INCLUDING APPLICABLE STANDARDS IS CONTRACTOR'S OPTION WHERE NO PRODUCT NAMES ARE INDICATED BY OWNER OR CONTRACT DOCUMENTS.

22. WHERE CONSTRUCTION DOCUMENTS CONFLICT WITH CODES, THE MORE STRINGENT SHALL APPLY. 23. NO CHANGES ARE TO BE MADE ON THESE PLANS WITHOUT THE KNOWLEDGE OR CONSENT OF THE ARCHITECT WHO PREPARED THESE DOCUMENTS.

#### **DIV.2- SITE WORK**

REVIEW AT ARCHITECT'S OFFICE.

1. THE CONTRACTOR SHALL PROVIDE TEMPORARY FACILITIES AS NECESSARY AND AS REQUIRED BY CODE 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. S. THE CONTRACTOR SHALL REVIEW FOUNDATION REPORT WHERE PROVIDED AND

BE FAMILIAR WITH ITS CONTENTS, WHEN AVAILABLE, COPIES ARE AVAILABLE FOR

4. STAKE AND FLAG PROPERTY LINES IN ACCORDANCE WITH A LICENSED SURVEY 5. SEE THE SOIL REPORT FOR EXCAVATION PROCEDURE, SHORING AND SUB-GRADE PREPARATIONS WHEN PROVIDED

DIVERT ALL WATER AS NECESSARY FROM OPEN EXCAVATIONS

7. INCLEMENT WEATHER: SUITABLE TEMPORARY DRAINAGE FACILITIES SHOULD BE MAINTAINED BY THE CONTRACTOR TO PROTECT THE SLOPES AND ADJOINING PROPERTY IN THE EVENT OF RAIN. B. ALL MAN-MADE FILL SHALL BE COMPACTED TO A MINIMUM 90 PERCENT OF THE MAXIMUM DRY DENSITY OF THE FILL MATERIAL PER THE LATEST VERSION OF ASTM D 1557. WHERE COHESIONLESS SOIL HAVING LESS THAN 15 PERCENT FINER THAT 0.005 MILLIMETERS IS USED FOR FILL. IT SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION BASED ON MAXIMUM DRY DENSITY (ASTM D 1556).

9. COMPLY WITH THE REQUIREMENTS FOR EXCAVATIONS CONTAINED IN THE STATE CONSTRUCTION SAFETY ORDERS ENFORCED BY THE STATE DIVISION OF INDUSTRIAL

PLACEMENT OF GRAVEL IN LIEU OF COMPACTION FILL IS ALLOWED ONLY IF

COMPLYING WITH THE CODE, AND APPROVED BY THE SOILS ENGINEER.

### **DIV. 3 CONCRETE**

SEE STRUCTURAL DRAWIMNGS FOR ALL REQUIREMENTS.

#### **DIV. 4 MASONRY** . SEE STRUCTURAL DRAWIMNGS FOR ALL REQUIREMENTS.

#### DIV. 5 METALS **SHEETMETAL**

FOR A WATERTIGHT JOB. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: "Z" BAR FLASHINGS, DUCTS FROM FANS AND VENTS, WALL AND PARAPET COPINGS, VALLEY FLASHINGS, AND FOUNDATION WEEP SCREEDS.  $^{\circ}$  . THE SHEET METAL USED FOR WALL AND PARAPET COPINGS SHALL BE A MIN. OF 24 GA., PRIME COATED, GALVANIZED IRON. ALL OTHER SHEET METAL SHALL BE A MIN. OF 26 GA., PRIME COATED GALVANIZED IRON. 3. A CORROSION RESISTANT WEEP SCREED WHICH WILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING IS REQUIRED AT OR BELOW THE STUCCO AT THE FOUNDATION PLATE LINE A MINIMUM OF 4" ABOVE GRADE.

. CLOTHES DRYER MOISTURE EXHAUST DUCT IS LIMITED TO 14' WITH TWO

THE CONTRACTOR SHALL FABRICATE AND INSTALL ALL SHEET METAL REQUIRED

ELBOWS FROM THE CLOTHES DRYER TO POINT OF TERMINATION. REDUCE THIS LENGTH BY 2' FOR EVERY ELBOW IN EXCESS OF 2. 5. GALVANIZED SHEET METAL ( 24 GAUGE MIN. ) ROOF VALLEY FLASHING IS REQUIRED (1501). 6. FLASH AND COUNTER FLASH AT ALL ROOF TO WALL CONDITIONS, AROUND ALL CHIMNEYS AND AROUND ALL VENTS. G.I. FLASH AND CAULK WOOD BEAMS AND OUTLOOKERS PROJECTING FROM EXTERIOR WALL OR ROOF SURFACE. . THE CENTER OF ALL FLASHING FOR VENT PIPES, HEATER PIPES, ELECTRICAL

SERVICE CONNECTIONS, ETC. SHALL BE NOT LESS THAN 12" FROM THE CENTER OF ANY VALLEY. ). UNDER-FLOOR AREAS SHALL BE VENTILATED BY AN APPROVED MECHANICAL MEANS OR BY OPENINGS IN EXTERIOR FOUNDATION WALLS. SUCH OPENINGS SHALL HAVE A NET AREA OF NOT LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER-FLOOR AREA. OPENINGS SHALL BE LOCATED AS CLOSE TO CORNERS AS PRACTICAL AND SHALL PROVIDE CROSS VENTILATION. THE REQUIRED AREA OF SUCH OPENINGS SHALL BE APPROXIMATELY EQUALLY DISTRIBUTED ALONG THE LENGTH OF AT LEAST TWO OPPOSITE SIDES. THEY SHALL BE COVERED WITH CORROSION-RESISTANT WIRE MESH WITH MESH OPENINGS OF 1/4 INCH IN DIMENSION. WHERE MOISTURE DUE TO CLIMATE AND GROUND CONDITIONS IS NOT CONSIDERED EXCESSIVE, THE BUILDING OFFICIAL MAY ALLOW THE REQUIRED NET AREA OF VENT OPENING TO BE REDUCED TO 10% OF THE ABOVE, PROVIDED THE UNDER-FLOOR GROUND SURFACE AREA IS COVERED WITH AN APPROVED VAPOR BARRIER. (1203.4)

**DIV. 6 WOOD AND PLASTIC & COMPOSITES** . SEE ARCHITECTURAL DRAWINGS FOR ALL REQUIREMENTS.

SKYLIGHT REQUIREMENTS.

FOLLOWING:

5. PARAPET WALLS:

10. ALL Z-BAR FLASHING ENDS TO BE CLOSED AND SEALED.

# **DIV. 7 - THERMAL & MOISTURE PROTECTION**

1. SEE ARCHITECTURAL PLANS, SCHEDULES AND NOTES FOR ALL ROOFING 2. SEE ARCHITECTURAL PLANS, SCHEDULES, NOTES AND DETAILS FOR ALL WATERPROOFING REQUIREMENTS. 3. SEE ARCHITECTURAL PLANS, SCHEDULES, NOTES, AND DETAILS FOR ALL

**BUILT-UP ROOFING:** 4. PRODUCTS: A.. SHALL BE ONE MANUFACTURES MATERIALS. THESE SPECIFICATIONS ARE BASED ON CONGLAS ND-20B-CAP 20 YEAR TYPE, U/L CLASS ' A '. OTHER MANUFACTURE'S EQUAL MAY BE USED WHEN APPROVED BY J.M.NOLAN ARCHITECTS INC

B. THE SUMMARY OF MATERIALS PER 100 SQ. FT. SHALL NOT BE LESS THAN THI

NO. 25 GLASS BASE SHEET 25 LBS. ASPHALT MOP BETWEEN PLIES (3@30 LBS. EA.) NO. 8 GLASS SHTS. ( 2 @ 8 LBS. EA. ) 16 LBS. NO. 75 GLASS CAP SHEET TOTAL WEIGHT

A APPLY 75# GLASS CAP SHEET BY MOPPING WALL AND BACK MOPPING CAP SHEET. EXTEND CAP SHEET FROM TOP OF CANT STRIP TO OUTSIDE TOP OF EDGE WALL. NAIL OFF TOP 12" ON CENTER USING 1" HEAD CONCRETE NAILS. A. FURNISH AND INSTALL 3" FIBER CANT STRIPS AT ALL VERTICAL WALL ANGLES. CURBS, AND ELEVATED ROOF OPENINGS.

### **LEGEND**

- DIV. 1 GENERAL REQUIREMENTS 2 SITE WORK
- DIV. 3 CONCRETE DIV. 4 MASONRY DIV. 5 METALS
- DIV. 6 WOOD AND PLASTIC & COMPOSITES DIV. 7 THERMAL & MOISTURE PROTECTION DIV. 8 OPENINGS
- DIV 11 FOUIPMENT DIV. 12 FURNISHINGS DIV. 13 SPECIAL CONSTRUCTION DIV. 14 CONVEYING EQUIPMEN

DIV. 9 FINISHES

DIV. 10 SPECIALTIES

- DIV. 21 FIRE SUPPRESSION DIV. 22 PLUMBING
- DIV. 23 HEATING, VENTILATION & AIR CONDITIONING (HVAC) DIV. 26 ELECTRICAL DIV. 27 COMMUNICATION
- DIV. 28 SECURITY DIV. 31 EARTHWORK DIV. 32 EXTERIOR IMPROVEMENTS

### **CRITERIA**

CODE:

DIV. 33 UTILITIES

NOTE: ALL PROJECT DEVELOPMENT SHALL CONFORM TO ALL REPORT RECOMMENDATIONS

- 2019 VENTURA COUNTY BUILDING CODE 2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA GREEN-BUILDING CODE 2019 CALIFORNIA RESIDENTIAL CODE
- CALIFORNIA CODE OF REGULATIONS TITLE 24 CALIFORNIA CODE OF REGULATIONS TITLE 1 ALL LOCAL GOVERNMENTAL BODIES HAVING JURISDICTION

2019 CALIFORNIA MECHANICAL CODE

2019 CALIFORNIA PLUMBING CODE

- SOILS & GEOTECHNICAL REPORT PROVIDED BY: SCHICK GEOTECHNICAL, INC PROJECT NO. SG 6286-W
- "Geologic and Soils Engineering Exploration, Proposed Residence and Pool, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, Ventura County, California,"

Saddlebow Road, Bell Canyon, California," dated February 18, 2008;

- dated June 30, 2007; • County of Ventura Public Works Agency, Review of Grading Permit Application, dated November 26, 2007; • "Response to Review Letter, Lot 591, Tract 2008-5, 5
- County of Ventura Public Works Agency, Review of Grading Permit Application, 2nd Plan Check, dated March 19, 2008; "Response to Review Letter #2, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated April 20, 2008;
- "Addendum Geologic and Soils Engineering Exploration, Proposed Residence and Pool, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, Ventura County, California," dated February 20, 2019;
- County of Ventura Public Works Agency, Grading Permit 19-0079 - 1st Plan Check, dated August 12, 2019;
- "Response to County of Ventura Public Works Agency Revie Letter, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, Ventura County,
- California," dated September 30, 2019; County of Ventura Public Works Agency, Review of Grading Permit Application, 2nd Plan Check, dated October 18, 2019;

"Response to County of Ventura Public Works Agency Review

California," dated May 18, 2020; • County of Ventura Public Works Agency, Grading Permit 19-0079 - 3rd Plan Check, dated July 21, 2020; "Response #3 to County of Ventura Public Works Agency Review Letter (7-21-20), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon,

Letter (10-18-19), Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon,

#### California," dated July 21, 2020; "Floor Slab Design, Lot 591, Tract 2008-5, 5 Saddlebow Road, Bell Canyon, California," dated September 14, 2020.

. EXPANSIVE INDEX OF ALLUVIUM: 7-

**DIV. 1 GENERAL REQUIREMENTS** 

CONSTRUCTION IS BEGUN.

1. ALL WORK, CONSTRUCTION AND MATERIALS SHALL COMPLY WITH PROVISIONS OF THE BUILDING SELECTION OF PRODUCTS WHICH COMPLY WITH CODE AND WITH OTHER RULES, REGULATIONS AND ORDINANCES GOVERNING THE PLACE OF THE BUILDING. BUILDING CODE REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWINGS AND IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR OR MATERIALS OR BOTH TO INSTALL HIS WORK IN CONFORMANCE WITH THE CODE AND TO BRING TO THE ATTENTION OF THE ARCHITECT ANY DISCREPANCIES OR CONFLICT BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS. 2. BEFORE STARTING CONSTRUCTION, THE CONTRACTORS SHALL REVIEW AND VERIFY ALL DRAWINGS, DIMENSIONS AND CONDITIONS AT THE JOB SITE. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL

3. SHOULD THE CONTRACTOR FIND ANY OTHER DISCREPANCIES OR QUESTIONS IN THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THEY SHOULD NOTIFY THE ARCHITECT IMMEDIATELY. 4. EACH CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY LEGAL AUTHORITIES BEFORE PROCEEDING WITH THEIR PROSPECTIVE

INSTALLATION. THEY SHALL ALSO ARRANGE AND PAY FOR ALL INSPECTIONS AND

FIELD CONDITIONS SHALL BE REPORTED TO THE ARCHITECT BEFORE

EXAMINATIONS REQUIRED BY THOSE AUTHORITIES (UNLESS AGREEMENT WITH OWNER STATES OTHERWISE). . THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, UNLESS OTHERWISE SHOWN, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVE OF THE ARCHITECT SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME. ANY SUPPORT SERVICES PERFORMED B THE ARCHITECT DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT, WHETHER

OF MATERIAL OR WORK, AND WHETHER PERFORMED PRIOR TO, DURING, OR

AFTER COMPLETION OF CONSTRUCTION ARE PERFORMED SOLELY FOR THE

PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE

WITH CONTRACT DRAWINGS AND SPECIFICATIONS, BUT THEY DO NOT GUARANTEE

CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION 3. ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE !" #CUPATIONAL SAFETY AND HEALTH REGULATIONS " OF THE U.S. DEPT. OF LABOR# AND WITH THE STATE OF CALIF. DEPT. OF INDUSTRIAL RELATIONS' " CONSTRUCTION SAFETY ORDERS".

SAFETY AND HEALTH REGULATION " OF THE U.S. DEPT. OF LABOR OR WITH THE STATE OF CALIFORNIA DEPT. OF LABOR. 8. REVIEW OF SHOP DRAWINGS BY ARCHITECT SHALL NOT BE CONSTRUED AS ACCEPTING RESPONSIBILITY FOR SAFE CONSTRUCTION PRACTICES. 9. CONSTRUCTION SAFETY: PROTECTION FENCES SHALL BE CONSTRUCTED AND MAINTAINED CONFORMING TO THE REQUIREMENTS OF THE BUILDING CODE.

10. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE

CONSTRUCTION OF THE PROJECT. INCLUDING SAFETY OF ALL PERSONS AND

PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE

LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL

DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ARCHITECT HARMLESS

RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF

7. THE ARCHITECT SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE

CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH THE "OCCUPATIONAL

FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT. 11. INDICATED DIMENSIONS SHALL GOVERN OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS.

DETAIL NUMBER OR LETTER DENOTES DETAILS AT LOCATION

14. THE TYPICAL NOTES AND DETAILS SHALL APPLY IN ALL CASES UNLESS SPECIFIC DETAILS OCCUR ELSEWHERE. WHERE NO DETAIL IS SHOWN, CONSTRUCTION SHALL BE AS FOR SIMILAR WORK. 15. ALL A.S.T.M. DESIGNATIONS SHALL BE AMENDED TO DATE UNLESS OTHERWISE 16. APPROVAL BY THE INSPECTOR DOES NOT MEAN APPROVAL OF FAILURE TO COMPLY WITH THE PLANS, SPECIFICATIONS AND CODES, ANY DESIGN WHICH FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE ARCHITECT FOR INTERPRETATION OR CLARIFICATIONS. 17. STAIRWAYS AND LANDINGS ARE TO HAVE A MAXIMUM 7" RISE. A MINIMUM 11" RUN AND A MINIMUM 6"-8" HEADROOM. PROVIDE HANDRAIL 34" TO 38" ABOVE STAIR NOSING, EXTENDING 6" BEYOND BOTTOM AND TOP RISERS.

18. CONTRACTOR SHALL CONSULT WITH REPRESENTATIVE OF WATER, ELECTRIC,

GAS, TELEPHONE AND TELEVISION COMPANIES TO VERIFY AVAILABLE FACILITIES,

12. USE ONLY DRAWINGS STAMPED "APPROVED FOR CONSTRUCTION".

SHOWN AND ATALL LIKE CONDITIONS.

DENOTES SHEET NUMBER.

WHERE REQUIRED.

ISSUED FOR

04.01.19 BCAAC SUBMITTAL

DATE

STAMPS/ SEALS REN. 06-30-2021



J.M. Nolan Architects, Inc. 116 Stagecoach Road Bell Canyon, CA 91307 818 710-6600

**BUILDING & SAFETY** 

PERMIT NUMBER

21807A DRAWN BY CM As Noted

3/17/2021

**ARCHITECTURAL** 

**GENERAL NOTES** 

SHEET TITLE

818 716-7100 Fax

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East County Office • 3855-F Alamo St., 2nd Fl. # 2019A, Simi Valley, CA 93065 • 805-582-8064 **Mandatory Residential Green Features and Measures** 

Pollutant Control	Method of Compliance	Plan Review	Inspector	Documentation	
<b>4.504.1</b> Duct openings and other related air	Contractor to comply				
distribution component openings shall be covered			<b>☑</b>		
during construction.					
<b>4.504.2.1</b> Adhesives, sealants and caulks shall be	Contractor to provide		Ø		
compliant with VOC and other toxic compound limits.	documentation	J	y	U	
<b>4.504.2.2</b> Paints, stains and other coatings shall be	Contractor to provide		Ø		
compliant with VOC limits.	documentation		¥	_	
4.504.2.3 Aerosol paints and coatings shall be	Contractor to provide				
compliant with product weighted MIR limits for ROC	documentation		◪		
and other toxic compounds.					
<b>4.504.2.4</b> Documentation shall be provided to verify	Contractor to provide				
that compliant VOC limit finish materials have been	documentation		☑′	☑	
used.					
<b>4.504.3</b> Carpet and carpet systems shall be compliant	Contractor to provide		<b>□</b>		
with VOC limits.	documentation		<b>W</b>		
<b>4.504.4</b> 80 percent of floor area receiving resilient	Contractor to provide				
flooring shall comply with the VOC-emission limits	documentation				
defined in the Collaborative for High Performance					
Schools (CHPS) Low-emitting Materials List or be					
certified under UL GREENGUARD Gold (formerly					
Greenguard Children & Schools program) or be					
certified under the Resilient Floor Covering Institute			<b>☑</b>		
(RFCI) FloorScore program or meet the California					
Department of Public Health, "Standard Method for					
the Testing and Evaluation of VOC Emissions from					
Indoor Sources Using Environmental Chambers,"					
Version 1.1, February 2010 (also known as					
Specification 01350).					
<b>4.504.5</b> Hardwood plywood, particleboard and	Contractor to provide				
medium density fiberboard composite wood products	doumentation				
used on the interior or exterior of the building shall					
meet the requirements for formaldehyde as specified			M		
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					
of 2016 CGBSC.					

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East County Office • 3855-F Alamo St., 2nd Fl. # 2019A, Simi Valley, CA 93065 • 805-582-8064 Mandatory Residential Green Features and Measures (Continued)

Interior Moisture Control	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.505.2</b> Vapor retarder and capillary break is installed at slab on grade foundations.	Foundation plan slab specification	☑′	ď	
<b>4.505.3</b> Moisture content of building materials used in wall and floor framing is checked before enclosure.	Contractor to provide documentation		☑	<b>☑</b>
Indoor Air Quality and Exhaust	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.506.1</b> Exhaust fans which terminate outside the building are provided in every bathroom.	Shown in bathrooms in floor plans	Ø.	<b>u</b> ⁄	
Environmental Comfort	Method of Compliance	Plan Review	Inspector	Documentation
<ul> <li>4.507.2 Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods:</li> <li>1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J—2011 (<i>Residential Load Calculation</i>), ASHRAE handbooks or other equivalent design software or methods.</li> <li>2. Duct systems are sized according to ANSI/ACCA 1 Manual D—2014 (<i>Residential Duct Systems</i>), ASHRAE handbooks or other equivalent design software or methods.</li> <li>3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S—2014 (<i>Residential Equipment Selection</i>) or other equivalent design software or methods.</li> </ul>	Indicated in T-24 sheets	⊠í	⊠′	
Installer and Special Inspector Qualifications Qualifications	Method of Compliance	Plan Review	Inspector	Documentation
<b>702.1</b> HVAC system installers are trained and certified in the proper installation of HVAC systems.	Contarctor to provide documentation		☑′	
<b>702.2</b> Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.	Contractor to provide documents		٦	
Verifications	Method of Compliance	Plan Review	Inspector	Documentation
<b>703.1</b> Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.	Architectural plans and documents by contractor	⊠í	⊠	⊠

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#### **Mandatory Residential Green Features and Measures**

<u>Instructions:</u> Fill-in all of the spaces in the "Method of Compliance" column. Specify how compliance is achieved (i.e. proposed products) and specify the sheet number of the plans where compliance is shown. In the "Verification" columns, check-off the box to indicate when verification will occur. If documentation is to be provided to the Building Inspector, both the "Inspector" and "Documentation" boxes need to be checked-off.

Site Development	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.106.2</b> Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction.	See Best Management practies in Civil plans		<b>☑</b>	ⅎ
<b>4.106.3</b> The site shall be planned and developed to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface waterflows.	See sheet A-1.1 Site plan	Ø		٥
<b>4.106.4</b> New construction shall comply with Sections 4.106.4.1 and 4.106.4.2 of the 2016 California Green Standards Code (CGBSC) to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.	In Garage Sheet A-4	<b>☑</b>	<b>☑</b>	
Energy Efficiency-General	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.201.1</b> Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards.	Sheet T24 Performance Method	Ø	ⅎ	٥
Water Efficiency and Conservation-Indoor Water Use	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.303.1</b> Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with 2016 CGBSC sections 4.303.1.1, 4.303.1.2, 4.303.1.3 and 4.303.1.4 respectively.	Will comply	Ø	☑′	٥

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Method of Compliance	Plan Review	Inspector	Documentation
Landscape plans			
	₫	<b>z</b> í	
Method of	Plan Review	Inspector	Documentation
Compliance			
Seal Joints & Openings per Energy compliance Forms		<b>A</b>	
	J	<u> </u>	
Method of	Plan Review	Inspector	Documentation
Compliance			
Comply with Ventura County Ordinance 4357 and complete reporting forms B & C			⊠
	Method of Compliance Seal Joints & Openings per Energy compliance Forms  Method of Compliance  Comply with Ventura County Ordinance 4357 and complete	Landscape plans  Method of Compliance  Seal Joints & Openings per Energy compliance Forms  Method of Compliance  Comply with Ventura County Ordinance 4357 and complete reporting forms B & C	Landscape plans  Method of Compliance Seal Joints & Openings per Energy compliance Forms  Method of Compliance Plan Review Inspector Ins

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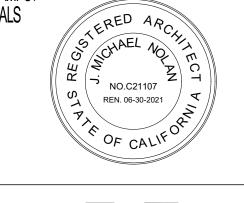
Mandatory Residential Green Features and Measures (Conti	nued)

.408.2 Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.  1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.  2. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).  3. Identify diversion facilities where the construction and demolition waste material will be taken.  4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.  5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.	Contractor to provide construction waste management plan		Ø	
<b>4.408.4</b> Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 pounds per square foot of the building area shall meet the minimum 65 percent construction waste reduction requirement in Section 4.408.1.	Contractor to provide doumentation	٥	ū <b>'</b>	
Building Maintenance and Operation	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.410.1</b> An operation and maintenance manual shall be provided to the building occupant or owner.	Contractor to provide.		₫	✓
ENVIRONMENTAL QUALITY Fireplaces	Method of Compliance	Plan Review	Inspector	Documentation
<b>4.503.1</b> Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and	Specified on sheet A3.1 Plan note #13	Ø	۵	

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SIDENCE

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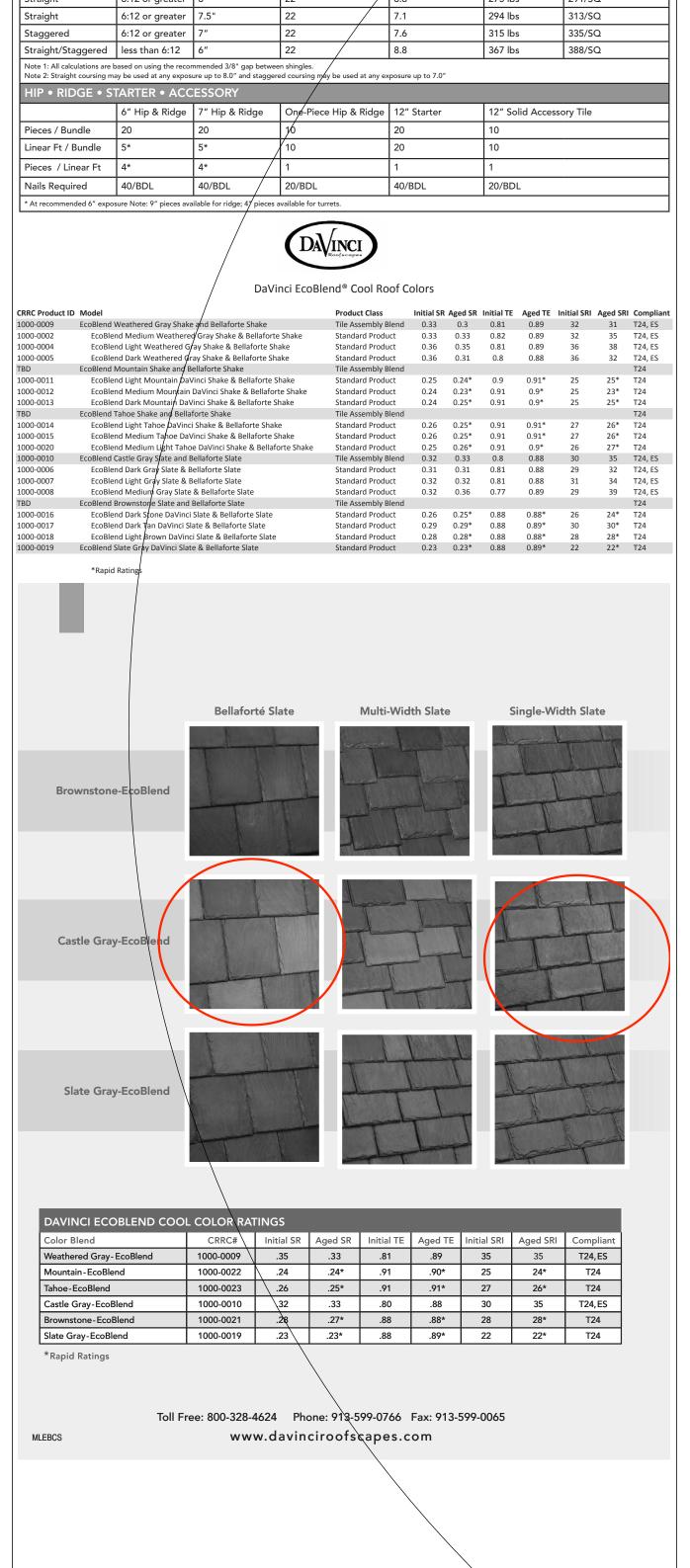
PERMIT NUMBER

JOB NO. 21807A DRAWN BY CM SCALE As Noted 3/17/2021

GREEN CODE NOTES & FORMS
SHEET NO.

A-2.2

#### **ROOF TILE** NGLE-WIDTH SLATE Thickmess at Butt - 1/2" Thickness at Tip - 1/8 Length - 18" Roof Pitch Max. Exposure Pieces / Bundle Bundles / Square Weight / Square Nails Required 6:12 or greater 294 lbs 6:12 or greater 7.5 6:12 or greater 367 lbs raight/Staggered | less than 6:12 1: All calculations are based on using the recommended 3/8" gap between shingles. 6" Hip & Ridge | 7" Hip & Ridge | One-Piece Hip & Ridge | 12" Starter | 12" Solid Accessory Tile Pieces / Bundle 20 inear Ft / Bundle 40/BDL Nails Required 40/BDL recommended 6" exposure Note: 9" pieces available for ridge; 4/ pieces available for turre DAVINCI Roofscapes DaVinci EcoBlend® Cool Roof Colors CRRC Product ID Model Product Class Initial SR Aged SR Initial TE Aged TE Initial SRI Aged SRI Complian 1000-0009 EcoBlend Weathered Gray Shake and Bellaforte Shake Tile Assembly Blend 0.33 0.3 0.81 0.89 32 31 T24, ES EcoBlend Medium Weathered Gray Shake & Bellaforte Shake Standard Product 0.33 0.33 0.82 0.89 32 35 T24, ES EcoBlend Light Weathered Gray Shake & Bellaforte Shake Standard Product 0.36 0.35 0.81 0.89 36 38 T24, ES 0.36 0.31 0.8 0.88 36 32 T24, ES Standard Product 0.25 0.24\* 0.9 0.91\* 25 25\* T24 EcoBlend Light Mountain DaVinci Shake & Bellaforte Shake EcoBlend Medium Mountain DaVinci Shake & Bellaforte Shake Standard Product 0.24 0.23\* 0.91 0.9\* 25 23\* T24 Standard Product 0.24 0.25\* 0.91 0.9\* 25 25\* T24 EcoBlend Dark Mountain DaVinci Shake & Bellaforte Shake EcoBlend Tahoe Shake and Bellaforte Shake Tile Assembly Blend Standard Product 0.26 0.25\* 0.91 0.91\* 27 26\* T24 EcoBlend Medium Tahoe DaVinci Shake & Bellaforte Shake EcoBlend Medium Light Tahoe DaVinci Shake & Bellaforte Shake Standard Product 0.25 0.26\* 0.91 0.9\* 26 27\* T24 Tile Assembly Blend 0.32 0.33 0.8 0.88 30 35 T24, ES 1000-0010 EcoBlend Castle Gray State and Bellaforte Slate Standard Product 0.31 0.31 0.81 0.88 29 32 T24, ES Standard Product 0.32 0.32 0.81 0.88 31 34 T24, ES EcoBlend Dark Gray Slate & Bellaforte Slate EcoBlend Light Gray Slate & Bellaforte Slate EcoBlend Medium Gray Slate & Bellaforte Slat Standard Product 0.32 0.36 0.77 0.89 29 39 T24, ES EcoBlend Brownstone Slate and Bellaforte Slate Tile Assembly Blend Standard Product 0.26 0.25\* 0.88 0.88\* 26 24\* T24 EcoBlend Dark Stone DaVinci Slate & Bellaforte Slate EcoBlend Dark Tan DaVinci Slate & Bellaforte Slate Standard Product 0.29 0.29\* 0.88 0.89\* 30 30\* T24 Standard Product 0.28 0.28\* 0.88 0.88\* 28 EcoBlend Light Brown DaVinci Slate & Bellaforte Slate Standard Product 0.23 0.23\* 0.88 0.89\* 22 22\* T24 1000-0019 EcoBlend Slate Gray DaVinci Slate & Bellaforte Slate Multi-Width Slate Single-Width Slate Bellaforté Slate Brownstone-EcoBlend



The attributes of the roof tiles have been verified as

conforming to the provisions of CALGreen Section

A5.406.1.2 for reduced maintenance. Note that decisions on

compliance for those areas rest with the user of this report

The user is advised of the project-specific provisions that

may be contingent upon meeting specific conditions, and

the verification of those conditions is outside the scope of

this report. These codes or standards often provide

The DaVinci Slate roof shingle is available in various colors

and in widths of 6, 7, 9, 10 and 12 inches (152, 178, 229,

254 and 305 mm) with a length of 18 inches (457 mm

exposure is 6 to 8 inches (152 to 203 mm), resulting in ar

installed weight of 351 to 264 pounds, respectively, per 100

3.3 DaVinci Shake and DaVinci Select Shake Roof

The DaVinci Shake roof shingle is available in various colors

and in widths of 4, 6, 7, 8, 9 and 10 inches (102, 152, 178,

203, 229 and 254 mm) with a length of 22 inches (559 mm

Exposure is 9 to 10 inches (229 to 254 mm), resulting in an

installed weight of 377 to 300 pounds, respectively, per 100

The Bellaforté Shake roof shingle is available in various

colors and in a width of 12<sup>3</sup>/<sub>4</sub> inches (324 mm) and a length

resulting in an installed weight of 194 pounds per 100

The Bellaforté Slate roof shingle is available in various

colors and in a width of 123/4 inches (324mm) and a length

resulting in an installed weight of 162 pounds per 100

Underlayment must be a minimum of two layers of ASTM

D226 Type I (No. 15) asphalt-saturated organic felt, one

layer of ASTM D226 Type II (No. 30) asphalt-saturated

organic felt, unless otherwise noted in Table 1 of this report.

4.3.2 Bellaforté Shake and Bellaforté Slate Roof

Shingles: Bellaforté Shake or Bellaforté Slate

(123/4 inches wide [324 mm]) must be installed on top of

starter tiles and must extend approximately 1 inch (25.4

mm) over the eaves. The shingles are secured to the

sheathing using three fasteners, two through the premolded

nail markers and one through the tab; or five fasteners, four

through the premolded nail markers and one through the

tab. Fasteners are as described in Section 3.8. See Table 2

4.4.4 Bellaforté Shake and Bellaforte Slate: Bellaforté

Vallevs must be flashed in accordance with 2015 IBC

and the manufacturer's published installation instructions,

The DaVinci roof shingles, when installed as a system

described in Table 1, comply with IBC Section 1505.2 and

IRC Section R902.1 as a classified Class A or B roof

The allowable wind uplift pressures for the DaVinci roof

shingles described in this report are as noted in Table 2. The

allowable design wind uplift pressures must be determined

5.2 The roof shingles are manufactured in Lenexa,

using the flashing described in Section 3.7.

The field shingles must be installed flush with the starter

for additional fastening details.

4.4 Hips and Ridges:

slate or shake shingles on the lower edges.

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of  $15^{1/2}$  inches (394 mm). Exposure is 12 inches (305 mm).

of  $16^{1/4}$  inches (413 mm). Exposure is 12 inches (305 mm).

square feet (18.4 to 14.6 kg/m<sup>2</sup>). See Figure 1.

square feet (9.5 kg/m<sup>2</sup>). See Figure 2.

square feet (8.0 kg/m<sup>2</sup>). See Figure 3.

3.4 Bellaforté Shake:

3.5 Bellaforté Slate:

The DaVinci Slate, DaVinci Shake, Bellaforté Shake, and Where an ice barrier is required, underlayment must be as

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supplemental information as guidance.

3.2 DaVinci Slate Roof Shingle:

**ICC-ES Evaluation Report** ESR-2119 Reissued August 2019 Revised February 2021 This report is subject to renewal August 2021. www.icc-es.org | (800) 423-6587 | (562) 699-0543 A Subsidiary of the International Code Council® DIVISION: 07 00 00—THERMAL AND MOISTURE with a proprietary formulation using both high-density and low-density polyethylene polymers and other additives.

Section: 07 31 33—Composite Rubber Shakes REPORT HOLDER: DaVINCI ROOFSCAPES, LLC **EVALUATION SUBJECT:** DaVINCI SLATE, DaVINCI SHAKE, DaVINCI SELECT SHAKE, BELLAFORTÉ SHAKE, AND BELLAFORTÉ

1.1 Compliance with the following codes:

1.2 Evaluation to the following green code:

(CALGreen), Title 24, Part 11

Attributes verified:

■ See Section 3.1

3.0 DESCRIPTION

3.1 General:

2.0 USES

■ 2019 California Green Building Standards Cod

The DaVinci Slate, DaVinci Shake, DaVinci Select Shake,

Bellaforté Shake, and Bellaforté Slate roof shingles are used

as roof covering materials and are classified as a Class A or

based roof shingles designed to provide the look of natural

slate or shake, respectively. The shingles are manufactured

B roof covering when installed in accordance with Table 1 3.6 Underlayment:

Bellaforté Slate roof shingles are engineered polymeric-noted in Section 4.2 of this report.

SLATE ROOF SHINGLES

1.0 EVALUATION SCOPE

■ 2021, 2018 and 2015 International Building Code® (IBC) ■ 2021, 2018 and 2015 International Residential Code® square feet (17.1 to 12.9 kg/m²). See Figure 1. ■ 2013 Abu Dhabi International Building Code (ADIBC) <sup>†</sup>The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced Properties evaluated: Weather resistance Fire classification Wind resistance

> Copyright © 2021 ICC Evaluation Service, LLC. All rights reserved. ESR-2119 | Most Widely Accepted and Trusted Flashing must be minimum 16-oz/ft² (No. 23 gage) copper allowable exposure is 8 inches (203 mm) for DaVinci Slate or other corrosion-resistant metal with a thickness of not roof shingles, and 10 inches (254 mm) for DaVinci Shake less than 0.019 inch (0.483 mm). See Section 4.5 for valley and DaVinci Select Shake roof shingles. 3.8 Fasteners: Fasteners used to secure DaVinci roof shingles to the sheathing must be <sup>1</sup>/<sub>8</sub>-inch-diameter-shank (3.18 mm) hotdipped galvanized roofing nails complying with ASTM F1667, with <sup>3</sup>/<sub>8</sub>-inch-diameter (9.5 mm) heads. The DaVinci Shake roofing may be secured with 1/8-inch-diameter-shank

(3.18 mm) stainless steel nails complying with ASTM F1667. with <sup>3</sup>/<sub>8</sub>-inch-diameter (9.5 mm heads). Fasteners must be of sufficient length to penetrate through the sheathing a minimum of  $\frac{3}{16}$  inch (12.7 mm). .0 INSTALLATION 4.1 General: The roof shingles must be installed in accordance with this 4.4.1 General: The top of hips and ridges must be covered

report, the applicable code and the manufacturer's with a minimum 6-inch-wide (152 mm) flashing as noted in published installation instructions. The manufacturer's Section 3.7. Flashing must be attached to the sheathing installation instructions must be available at the jobsite at all using No. 12 gage, ring-shank, corrosion-resistant nails. times during installation. Nails must be compatible with the flashing material, and have sufficient length to penetrate the sheathing <sup>3</sup>/<sub>4</sub> inch (19 The shingles must be installed on roofs with solid mm) or through the sheathing, whichever is less. sheathing and a minimum slope of 3:12 (25 percent slope). Solid sheathing must be minimum 15/32-inch4.4.2 DaVinci Slate Roof Shingles: On top of the thick (11.9 mm) exterior-grade plywood, <sup>7</sup>/<sub>16</sub>-inch-thick flashing, 6-inch-wide (1930 mm) or 7-inch-wide (11.1 mm) oriented strand board (OSB), or nominally (178 mm) DaVinci Slate roof shingles are installed on each 1-inch-thick (25.4 mm) lumber. The sheathing must be side of hips and ridges, with the shingles butting at the top. structurally adequate and fastened to resist the wind loads Both hip and ridge shingles must be installed with a 6-inch as specified by IBC Section 1609, or IRC Section R301.2, (152 mm) exposure. Shingles must be secured with the for components and cladding. fasteners described in Section 3.8. 4.2 Underlayment: 4.4.3 DaVinci Shake and DaVinci Select Shake Roof Underlayment as described in Section 3.6 and Table 1, must Shingles: On top of the flashing, 6-inch-wide (152 mm) DaVinci Shake and DaVinci Select Shake roof shingles are

be installed in accordance with IBC Section 1507.7.3 or IRC Section R905.6.3, as applicable. The underlayment must be installed on each side of hips and ridges, with the shingles installed parallel to the roof eave with a 6-inch (152 mm) lap butting at the top. Both hip and ridge shingles must be on the ends, a 6-inch (152.4 mm) side lap and a minimum installed with a 10-inch (254 mm) exposure. Shingles must 6-inch (152 mm) lap over eaves. The underlayment is be secured with the fasteners described in Section 3.8. fastened, only as necessary to hold in place. In areas where the average daily temperature in January

Shake or Bellaforte Slate one-piece hip and ridge tiles are is 25°F (-4°C) or less, or where there is a possibility of ice installed at a 12-inch (305 mm) exposure. The tiles are forming along the eaves and causing a backup of water, an nailed once on each side approximately 3/4 inch (19 mm) ice barrier that consists of at least two layers of from the outside edge and 12<sup>1</sup>/<sub>2</sub> inches underlayment cemented together, or a self-adhering (305 mm) from the butt of the tile. Shingles must be secured underlayment complying with ASTM D1970 or currently with the fasteners described in Section 3.8. recognized in an ICC-ES evaluation report as complying with the ICC-ES Acceptance Criteria for Self-adhered Underlayments for Use as Ice Barriers (AC48), must extend from the eave's edge to a point 24 inches (610 mm) inside

Section 1507.7.7 or IRC Section R905.6.6, as applicable, the exterior wall line of the building. 4.3 Roof Shingles:

4.3.1 DaVinci Slate, DaVinci Shake and DaVinci Select 4.6 Fire Classification: Shake Roof Shingles: Starting with a row of 12-inch-wide (305 mm) DaVinci Starter Slates or Shakes, the shingles must extend approximately 1 inch (25.4 mm) over the eaves and <sup>3</sup>/<sub>4</sub> inch (19 mm) over the rakes. The shingles are secured to the sheathing using two or four fasteners, driven through the premolded nail markers. 4.7 Wind Resistance: Fasteners are as described in Section 3.8. See Table 2 for additional fastening details. The field shingles must be installed flush with the starter slate or shake shingles on the outer and lower edges. A maximum gap of 3/8 inch (9.5 mm) is recommended between shingles, with a minimum 1/4-inch (6.4 mm) gap required.

in accordance with the requirements of Chapter 16 of the IBC or Section R301.2.1, as applicable, by a registered design professional and must not exceed the allowable wind The gaps between shakes at adjacent courses must be uplift pressures in Table 2. offset a minimum of  $1^{1}/_{2}$  inches (38 mm). The maximum ESR-2119 | Most Widely Accepted and Trusted Tables 3 and 4 provide maximum design wind speeds on 5.1 Installation must comply with the applicable code, the low-rise buildings with a mean roof height of 60 feet or less based on ASCE 7. If the building does not meet the criteria this report. In the event of a conflict between this report and the manufacturer's published installation in Tables 3 and 4, or is constructed on an isolated hill, ridge, or escarpment constituting an abrupt change in the general instructions, this report governs. topography ( $K_{zt} > 1.0$ ), the maximum design wind speeds

Kansas, under a quality-control program with with the Chapter 16 of the IBC or Section R301.2.1, as inspections by ICC-ES. 6.0 EVIDENCE SUBMITTED 4.8 Reroofing: Data in accordance with the ICC-ES Acceptance Criteria for Prior to application of the shingles, the existing roof covering Special Roofing Systems (AC07), dated February 2014 and underlayment must be completely removed. Any damaged sheathing must be replaced. The installation of barrier membrane may remain in place if covered with a new ice barrier membrane in accordance with the applicable

and mean roof height must be determined in accordance

the skingles must then proceed as described in 7.0 IDENTIFICATION Sections 4.1 through 4.5. An existing self-adhered ice
7.1 Each roof shingle is labeled with the report holder's name (DaVinci Roofscapes, LLC) and address, the product name, the shingle width, a production date code. The roof classification is as noted in Section 4.6 and code, and the ICC-ES evaluation report number (ESR-5.0 CONDITIONS OF USE

**7.2** The report holder's contact information is the following: The DaVinci Slate, DaVinci Shake, DaVinci Select Shake, DaVINCI ROOFSCAPES, LLC Bellaforté Shake, and Bellaforté Slate roof shingles 13890 WEST 101ST STREET described in this report comply with, or are suitable LENEXA, KANSAS 66215 alternatives to what is specified in, those codes listed in (913) 599-0766 Section 1.0 of this report, subject to the following conditions:

TABLE 1—FIRE CLASSIFICATIONS

ESR-2119 | Most Widely Accepted and Trusted

www.davinciroofscapes.com

DaVinci Slate

DaVinci Shake

DaVinci Select Shake

ROOF NO. CLASS DECK Roof Shingle DaVinci Slate of ASTM D226 Type I (No. 15) asphalt-saturated One layer GAF Versashield® Fire-Resistant Roof DaVinci Shake Deck Protection (ESR-2053) DaVinci Select Shake DaVinci Slate One layer ASTM D226 Type II (No. 30) asphalt-DaVinci Shake saturated organic felt plus one layer of ASTM D3909 mineral-surfaced cap sheet Bellaforté Shake DaVinci Slate DaVinci Shake Two layers ASTM D226 Type II (No. 30) asphalt-DaVinci Select Shake coated glass-fiber-mat Bellaforté Shake Bellaforté Slate DaVinci Slate DaVinci Shake DaVinci Select Shake One layer Eco Chief Products SolarHide™-SRW Bellaforté Slate One layer Eco Chief Products SolarHide™-SRW DaVinci Slate

(<u>ESR-4035</u>) Bellaforté Shake Bellaforte Slate For SI: 1-inch =25.4 mm; 1ft = 0.305i 1ASTM D226 Type I (No. 15), ASTM D226 Type II (No. 30) underlayment and ASTM D3909 cap sheet must be installed in accordance with the Eco Chief Products SolarHide™-SRW underlayment must be installed in accordance with ESR-4035.

One layer Eco Chief Products SolarHide™-SRW

**VELUX SKYLIGHT** 

Originally Issued: 10/08/2010 Revised: 08/14/2015 DESCRIPTION **EVALUATION SUBJECT:** Deck Mount Glass-Glazed Unit Skylights 2.2.1 Insulating Glass Units **Curb Mount Glass-Glazed Unit Skylights Tubular Daylighting Devices** 

REPORT HOLDER: VELUX America, Inc. P.O. Box 5001 Greenwood, South Carolina 29648-5001 (864) 941-4828 www.veluxusa.com CSI Division: 08—DOORS AND WINDOWS CSI Section: 08 62 00—Unit Skylights

1.0 SCOPE OF EVALUATION 1.1 Compliance to the following codes & regulations 2015 and 2012 International Building Code® (IBC) 2015 and 2012 International Residential Code® • 2015 and 2012 International Energy Conservation required air tightness. Code® (IECC)

 2013 California Building Code (CBC) – See attached Supplement 1.2 Evaluated in accordance with: AAMA/WDMA/CSA 101/I.S.2/A440-11 NFRC 100-2010 NFRC 200-2010 NFRC 500-2010

an electronic retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written pe Ph: 1-877-4IESRPT • Fax: 909.472.4171 • web: www.uniform-es.org • 4755 East Philadelphia Street, Ontario, California 91761-2816 – USA

formed aluminum glazing retaining profiles that are secured to Glass is continuously supported on all four sides using a roll-

the sash or frame using No. 8 stainless steel screws of various formed aluminum frame (assembled with ASA corner keys) to

lengths (1 and 2-1/2 inches (25.4 and 63.5 mm) for VS, VSE resist uplift wind loads. Curb mount products are particularly

and VSS and 1-1/4 inch (31.8 mm) for FS spaced every 9 well-suited for replacement of existing curb-mounted

operator with radio frequency remote control and have exterior

3.2.1 Insulating Glass Units: Insulating glass units (IGU)

sensors to automatically trigger the operator to close an open used in curb mount glass-glazed unit skylights complying with

sash when rain droplets are present. VSS skylights use solar Section 10.2 of AAMA/WDMA/CSA 101/I.S.2/A440-11

powered batteries to operate the sash. VS skylights utilize a comply with ASTM E2190 and are constructed from either a

Sizes, general dimensions and fastener requirements for deck (5.56 mm) thick laminated glass lite inboard and a stainless

mount units are described in Tables 1 (FS) and 2 steel spacer system for an overall thickness of 5/8 inch (15.9)

and 4 (VS/VSE/VSS) of this report. Certified energy, light and sheets of 3/32 inch (2.4 mm) thick heat strengthened glass that

comfort factors (U, SHGC, VT and CR) shall conform to 2015 are each permanently bonded to either a 0.030 or 0.090 inch

IRC Section N1101.10.3, 2012 IRC Section N1101.12.3 and (0.8 or 2.3 mm) thick polyvinyl butyral (PVB) clear interlayer.

2015 and 2012 IECC Sections C303.1.3 and R303.1.3 (NFRC When increased thermal performance is desired, an additional

100 and 200) and NFRC 500 for all sizes and are shown in Low-E coating is applied on the interior glass surface of the

Originally Issued: 10/08/2010 Revised: 08/14/2015

inches (229 mm). All VS, VSE and VSS skylights are skylights.

VSE and VSS skylights employ an electric motor-driven sash

(VS/VSE/VSS) and Figures 1 (FS), 2 (FS), 3 (VS/VSE/VSS)

Based on the positive and negative performance grade

size(s) shall be selected that have performance grades in

ratings listed in Tables 1 and 2 of this report, the product

excess of the design pressures that are applicable to the

unit's final location. Uplift wind ratings recognized in this

report are based on attachment to a lumber substrate

exhibiting a minimum specific gravity of 0.43 as defined in

engagement. Installation on wood substrates with a specific

gravity less than 0.43 may result in a lower wind uplift

3.0 CURB MOUNT GLASS-GLAZED UNIT

from the horizontal plane. Each unit is designed to attach to a

Table 11.3.2A of the ANSI/AF&PA NDS with full nail

manually-driven rotary operator.

Table 3 of this report.

SKYLIGHTS

2.3 DESIGN AND INSTALLATION

 Air and Water Tightness Operating Forces Thermal and Optical Performance MOUNT GLASS-GLAZED UNIT **2.1 USES** VELUX® FS, VS, VSE and VSS No Leak Skylights™ are unit skylights complying with IBC Section 2405.5 that provide natural light and views into the interior of building spaces. The skylights are intended for use on building roofs sloped

from 3 units vertical in 12 units from the horizontal (25percent slope) plane to 85 degrees from the horizontal plane. Each unit contains an integral supporting frame with continuous mounting flange intended for direct attachment to roofing substrate. VS, VSE and VSS skylights provide natural ventilation via an operable top-hinged sash. FS units are fixed. The glass is continuously supported on all four sides.

1.3 Properties assessed:

Structural Performance

Insulating glass units (IGU) used in deck mount glass-glazed unit skylights complying with Section 10.2 of AAMA/WDMA/CSA 101/I.S.2/A440-11 comply with ASTM E2190 and are constructed from a 1/8 inch (3.2 mm) thick clear Low-E<sup>3</sup>-coated tempered glass lite outboard, a sheet of 7/32 inch (5.6 mm) thick laminated glass lite inboard and a stainless steel spacer system for an overall thickness of 5/8 inch (15.9) mm). The Laminated glass lite inboard is comprised of two sheets of 3/32 inch (2.4 mm) thick heat strengthened glass that are each permanently bonded to either a 0.030 or 0.090 inch (0.8 or 2.3 mm) thick polyvinyl butyral (PVB) clear interlayer. When increased thermal performance is desired, an additional Low-E coating is applied on the interior glass surface of the IGU. The space between glass lites is filled with 95% argon

2.2.2 Assembly Details: Condensation control gasketing for all skylight models directs accumulated water droplets from the inner glass surface to the exterior without compromising

VELUX FS, VS, VSE and VSS skylights consist of several integrated components: one panel of flat IGU top-mounted onto an aluminum-clad wood sash (VS, VSE and VSS), or directly onto an aluminum-clad wood frame (FS). Top-hinged sash on any VS, VSE or VSS skylight is fastened to and supported on a similar aluminum-clad wood frame. Sash and frames are manufactured from white-finished pine wood having a nominal specific gravity of 0.47 and are covered on the weather-exposed sides with roll-formed aluminum cladding that is coated with Kynar and lacquer. Frames have mortised corners secured with adhesive and

aligned and stabilized by a 1-3/4 inch (44.5 mm) long corner nail. A continuous galvanized steel mounting flange with mitered and welded corners is attached to the lower part of the frame and rests upon a foam isolation pad to interface with the mounting surface. Galvanized nails secure the flange to the frame every 9 inches (229 mm) or less. Only the VS, VSE and VSS frames have a support ledge all around the interior face. to which a gasket is stapled for a tight seal with the sash frame. The frames also support the fixed half of the extruded aluminum sash hinge on the top of the frame head, fastened with 1 inch (25.4 mm) long No. 8 screws spaced at 10 inches

 10-Year\* Limited Heat Exchanger Warranty for Residential Use VELUX VS, VSE and VSS skylight sashes also use a mortise • 5-Year Limited Parts Warranty joint corner construction with one 5/16 inch (7.9 mm) long staple at each corner. The rotating half of the extruded 1-Year Reasonable Labor aluminum hinge is fastened with 1 inch (25.4 mm) long No. 8 screws spaced at 10 inches (254 mm) on center. The IGU is secured with hot-applied primary sealant bonded to roll

Valid Through: 09/30/2016

1/8 inch (3.18 mm) or 5/32 inch (3.97 mm) thick clear Low-

E<sup>3</sup>-coated tempered glass lite outboard, a sheet of 7/32 inch

mm). The Laminated glass lite inboard is comprised of two

IGU. The space between glass lites is filled with 95 percent

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provisions of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safely, as applicable, in accordance with IBC Section 104.11. Copyright © 2015 by International Association of Plumbing and Mechanical Officials. All rights reserved. Printed in the United States. No part of this publication may be reproduced, stored in circulated water on the domestic water side, in accordance with the Installation Manual. Refer to Noritz Limited Warranty for complete coverage details. \*\*This product complies with California AB 1953 Low Lead Law and Section 1417(d) of the Safe Drinking Water Act

NORITZ AMERICA CORPORATION 1160 Grace Avenue, Fountain Valley, CA 92708 Tel. 1-866-7NORTZ www.noritz.com

**NORITZ** 

• Standard Input- Gas consumption ranges:

Heating Mode Input- Gas consumption ranges:

Durable Steel Casing with Polyester Coating

Mode: 90°F to 140°F, Heating Mode: 80°F to 180°F

Comfort with Outdoor Temperature Sensor (included)

Power Cord Installation Kit-6' power cord is included

Freezing Prevention Device, Fan Rotation Detector

for pre-heating of internal plate heat exchanger

the use of conversion kit (#SV-CK-2)

Direct Electronic Ignition

• **Heat Exchanger**- Manufactured with 316L stainless steel

NRCR199 · 18 000 BTUh to 199 900 BTUh

NRCB180: 18.000 BTUh to 180.000 BTUh

NRCB199: 18,000 BTUh to 120,000 BTUh

• Turndown Ratio - 6.7 (NRCB199) and 5.6 (NRCB180)

• Capacity Range- Flow rates of 0.4 GPM up to 11.1GPM (NRCB199) and 9.8 GPM

• Compact Design- ANSI Z21.13/CSA 4.9 certified design that can be wall-mounted

**Venting Options-** For indoor installation only. Convertible to Single Vent (-SV) with

• Temperature Controls- Includes remote thermostat that can precisely adjust the

Outdoor Reset Control- Built-in customizable programming for Energy Savings and

Safety Devices- Flame Rod, High Limit Switch, Lightning Protection Device (ZNR),

• Internal Pump- Heating Mode: used for primary closed loop. Domestic Mode: used

output temperature with the capability to display temperatures in °C, Domestic

NRCB180: 18,000 BTUh to 100,000 BTUh

Dimensions 17.8" (451mm) 5.1" (130mm) 10.1" (256mm) Ø2.4" (Ø61mm) FLUE COLLAR WATER DRAIN VALVE PRESSURE RELIEF VALVE HEATING WATER INLET (1") WATER DRAIN VALVE (WATER FILTER) AUTO FEEDER WATER INLET (1/2")

**WATER HEATER** 

Model NRCB 199DV (GHQ-C3201WX-FF US)

and NRCB180QV (GHQ-C2801WX-FF US)

Residential Condensing Gas Combination Boiler

SSE NORITZ

NRCB199DV (GHQ-C3201WX-FF US)

NRCB180DV (GHQ-C2801WX-FF US)

NRCB Manifold Kit (#MK-NRCB-1)

Isolation Valves (# IK-WV-200-1)

Inlet Screen

☐ Plastic Rain Cap (#PRC-1)

☐ NRCB Service Kit (#SPK-NRCB 1)

☐ Neutralizer (¥NC-1) (For 1 Water Heater)

☐ 3" Horizontal Hood Termination (#PVT-HL)

2" & 3" Bird Screen (#VT2-PVCS) & (#VT3-PVCS)

SV Conversion Kit (#SV-CK-2) 90 Elbow with

Quick Connect Cord (#QC-2)

2" & 3" PVC Termination (#PVC-2CT) & (#PVC-3CT)

3.2.2 Assembly Details Condensation and air leakage control is accomplished through the use of baffled weep holes in the pane support gasketing. VELUX FCM, VCE, VCM and VCS skylights consist of several integrated components. One panel of aluminumframed flat IGU is bottom-mounted onto a rigid polyvinyl chloride (PVC) sash for the VCE, VCM and VCS skylights and is directly mounted in the field onto the site-built curb for the FCM skylight. Hot-applied primary sealant is bonded to the aluminum frame prior to IGU placement, for all three models. Top-hinged sashes on the VCE, VCM and VCS Skylights are fastened to and supported on a similar rigid PVC frame with extruded aluminum counter flashing. This frame is supported in the field by the site-built curb. VELUX FCM skylight utilizes a dual-durometer thermoplastic elastomer (TPE) inner frame gasket that is T-nailed to the glazing frame VELUX® FCM, VCE, VCM, and VCS No Leak Skylights<sup>TM</sup> to lock the IGU in place for sealant curing and handling are unit skylights complying with IBC Section 2405.5 that stability. VCE, VCM and VCS counter flashing is a mitered

erature Domestic Hot Water

provide natural light and views into the interior of building and welded frame that is used to fasten the entire unit to the spaces. The skylights are intended for use on building roofs site-built curb. All VELUX VCE, VCM and VCS skylights sloped from 0° (0:12 slope) from the horizontal plane to 60° are equipped with insect screens. site-built curb that is constructed from nominal 2 inch (50.8 VCE and VCS skylights employ an electric motor-driven mm) by 4 inch (102 mm) wood members of sufficient strength sash operator with radio frequency remote control and have to transfer the skylight loads to the framing members. exterior sensors to automatically trigger the operator to close Skylights may be attached to other curb materials of equal or an open sash when rain droplets are present. VCS skylights greater size and strength. VCE, VCM and VCS skylights use solar powered batteries to operate the sash. VCM

Page 2 of 18

provide natural ventilation via an operable top-hinged sash skylights utilize a manually-driven rotary operator. Sizes,

supported by an integral frame assembly. FCM units are fixed. general dimensions and fastener requirements for curb

Originally Issued: 10/08/2010 Revised: 08/14/2015 Valid Through: 09/30/2016

4.2.2 ASSEMBLY DETAILS

TGC, TGF and TGR standard series consist of a low profile (VCE/VCM/VCS) and 7 (VCE/VCM/VCS) of this report. flashing that mounts to the roof deck, projects 4 inches (102) Certified energy, light and comfort factors (U, SHGC, VT mm) upward and aligns the dome base to be parallel to the and CR) for all sizes shall conform to 2015 IRC Section roof deck. TMC, TMF and TMR standard series consist of N1101.10.3, 2012 IRC Section N1101.12.3 and 2015 and a pitched flashing that mounts to the roof deck and projects 2012 IECC Sections C303.1.3 and R303.1.3 (NFRC 100 9 inches (229 mm) upward on the downward roof slope and and 200) and NFRC 500. The ratings are shown in Table 6 allows the dome base to be inclined relative to the adjacent of this report. eof. TCC and TCR standard series consist of a square 3.3 DESIGN AND INSTALLATION flashing designed for mounting on a site-built curb of any material or height. Optional tile roof flashing kits are available for all the series.

Based on the positive and negative performance grade ratings listed in Tables 4 and 5 of this report, the product size(s) shall be selected that have performance grades in Each SUN TUNNEL series is available in up to three model excess of the design pressures that are applicable to the sizes – 10, 14 and 22 inches (254, 355 and 559 mm) defined unit's final location. Uplift wind ratings recognized in this by the tunnel diameter - depending on the series selected. report are based on attachment of the curb to a lumber substrate exhibiting a minimum specific gravity of 0.43 as mm) models and the 22 inch (559 mm) TGF are the defined in Table 11.3.2A of the ANSI/AF&PA NDS with full nail engagement. Installation on lumber substrates with buildings. Domes for all other 22 inch (559 mm) models a specific gravity less than 0.43 may result in a lower wind 4.0 TUBULAR DAYLIGHTING DEVICES

mount units are described in Tables 4 (FCM) and 5

(VCE/VCM/VCS) and Figures 5 (FCM), 6

if the dome elevation needs to be higher than standard. An VELUX SUN TUNNEL™ TCR, TGR, TGF, TMR, and optional galvanized steel fire band is available to protect the TMF Residential Skylights, and TCC, TGC and TMC dome edge where Class A, B or C roof coverings are Commercial Skylights are tubular daylighting devices (TDD) complying with 2015 IBC Sections 1709.6 and 240: and 2012 IBC Section 1710.6 and 2405 that collect and conduct natural light from above into building spaces. All series listed are intended for use on building roofs sloped up to 60 degrees from the horizontal plane. The TGF, TGR. TMF and TMR series are designed for slopes of 3 units

and above. 4.2 DESCRIPTION 4.2.1 VELUX SUN TUNNEL<sup>TM</sup> TCC, TCR, TGC, TGF, TGR, TMC, TMF and TMR Skylights are series of tubular daylighting devices, each consisting of an exterior steel roof flashing capped with a clear molded acrylic copolymer (Plexiglas® HFI-7) exterior dome unit, and an interior diffuser assembly consists of extruded aluminum and a single acrylic diffuser joined by a rigid metallic telescopic or flexible tunnel tube with a reflective interior surface. The Dome materials comply as Class CC2 light-transmitting plastics in accordance with criteria prescribed in IBC Section 2606.4 and the standard referenced in IBC Section

vertical in 12 units from the horizontal plane (25-percent) <u>Diffuser Assemblies:</u> Three bottom designs are available:

Page 3 of 18

Flexible tunnels are used on the TGF and TMF series, in 14 and 22 inch (355 and 559 mm) sizes. Rigid tunnels with elbow fittings are used for all other standard series. Rigid tunnel joints are easily fastened in the field with Flexi Loc™ spring clips and sealed with metalized tape, included in standard kits. Where building insulation is installed at the roof level, an optional thermal break section can be inserted into 14 and 22 inch (355 and 559 mm) rigid tunnels in line with that insulation for enhanced energy performance. Assemblies with this option carry numbers ending in ...E0 and have certified thermal ratings. Where needed, a poweroperated daylight controller wafer is available as an additional rigid tunnel option.

Domes for all available in 10 and 14 inches (254 and 355

traditional "shallow dish" shape proven on residential

use a new light-directing assembly that is significantly taller

and houses the SunCurve Daylight Directing device more appropriate for larger, nonresidential spaces. An optional

12 or 36 inch (305 or 914 mm) long steel turret extender is

available for all 14 and 22 inch (355 and 559 mm) flashing

• Type THC, for use where a rigid ceiling will support the diffusers and lower tunnel. This assembly holds up to four light diffusing acrylic glazing layers, with two being standard. Two additional layers are recommended when the attic insulation is at the ceiling, and are available as part of the 'residential" Energy Kit. That kit also includes

(WATER FILTER) WIRING THOROUGHWAY WATER DRAIN VALVE
(WATER FILTER)

WIRING THOROUGHWAY
(AC120V)

ATING WATER INLET (4") GAS INLET (3/4") CONDENSATE DRAIN (1/2" DOMESTIC WATER OUTLET (3/4") WATER DRAIN VALVE Flow Rates nperature Rise (°F) 30 40 45 50 60 70 80 90 100 NRCB199DV 11.1 9.5 8.4 7.6 6.3 \$.4 4.7 4.2 3.8 NRCB180DV 9.8 8.5 7.5 6.8 5.7 / 4.9 4.3 3.8 3.4 NRCB Internal Pump Curve 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0/1 Flow Rate(GPM) Flow Rate (GPM)

NG: 210W LP: 210W Freeze Prevention 125W NG: 200W LP: 200W Freeze Prevention 125W

80\*-180°F (In 1°F intervals) (81 Options

32°C,35°C,37°C-48°C (In 1°C intervals),50°C,55°C,60°C (17 Options)

Specifications

Noritz America reserves the right to discontinue, or change at any time, the designs and/or specifications of its products without notice.

SEALS REN. 06-30-2021

ISSUED FOR

04.01.19 BCAAC SUBMITTAL

DATE



J.M. Nolan Architects, Inc. 116 Stagecoach Road Bell Canyon, CA 91307 818 710-6600 818 716-7100 Fax

**BUILDING & SAFETY** 

PERMIT NUMBER

DRAWN BY CM As Noted 3/17/2021

**APPROVALS & PRODUCT SPECIFICATIONS** 

**ROOF VENT INSTALLATION** 

For Further information please Contact:

Tonya Hőover, Assistant State Fire Marshal

Code Development & Analysis Division

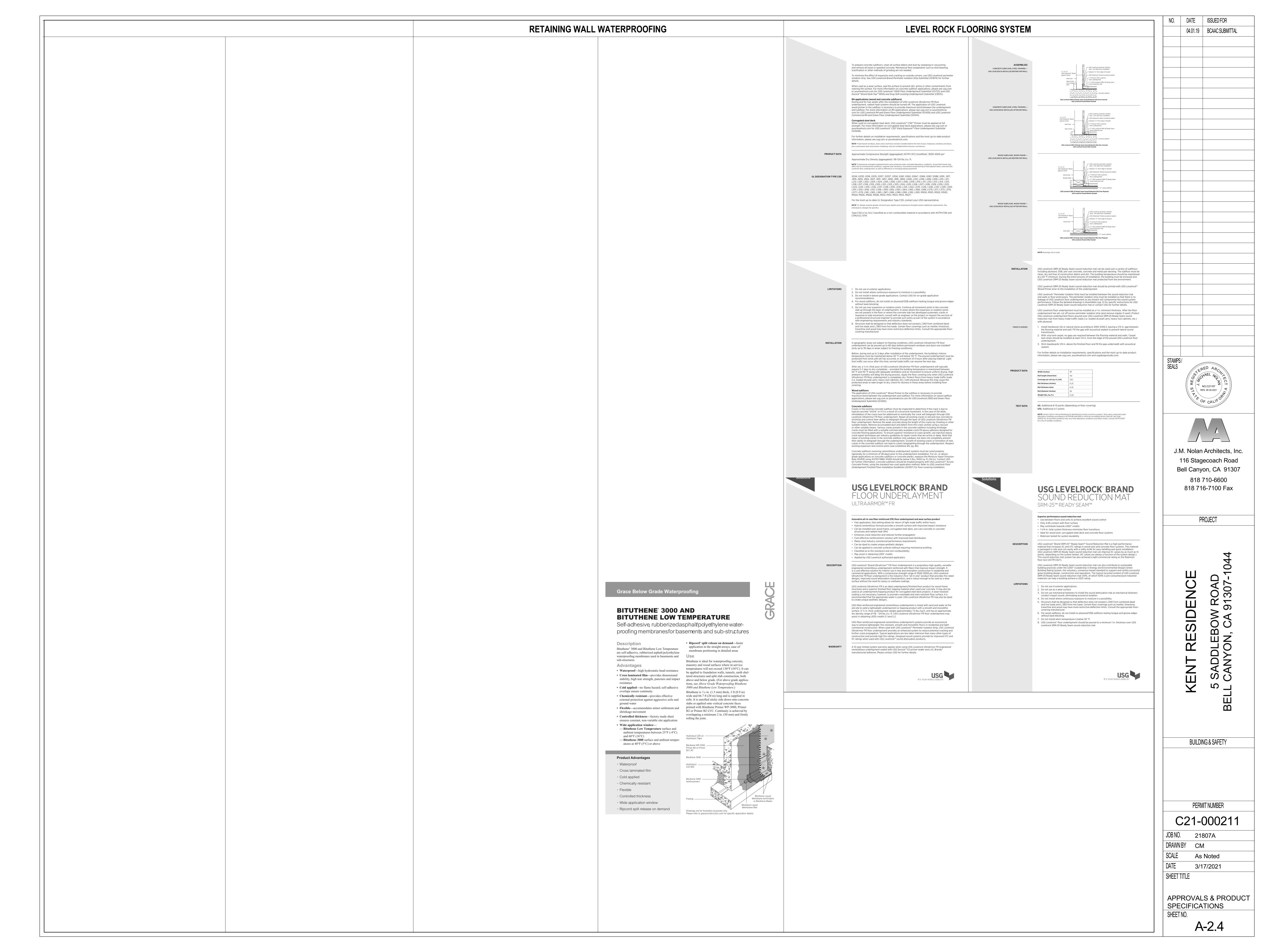
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CAL FIRE, Office of the State Fire Marshal

Ethan Foote, Assistant Chief for Wildland-Urban Interface Building Standards





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CHECKED BY

72 
 Front
 71
 1
 7
 0.3
 NFRC
 0.21
 NFRC
 Bug Screen

 Front
 71
 1
 48
 0.3
 NFRC
 0.21
 NFRC
 Bug Screen

 Front
 71
 1
 48
 0.3
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 Front
 71
 1
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 Bug Screen

 Front
 71
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 Bug Screen
 02 03 04 05 06 07 08 09 10 11 12 13 14 1 25 0.3 NFRC 0.21 NFRC Bug Screen North Frame Wall 5 Right 341 Window East Frame Wall C - Wind. Window 
 North Frame Wall 5
 Right
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 C - Wind. 2 East Frame Wall Window 
 East Frame Wall 4
 Front
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 1
 37.5
 0.3
 NFRC
 0.21
 NFRC
 Bug Screen

 South Frame Wall 4
 Left
 161
 5
 5
 1
 25
 0.3
 NFRC
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 NFRC
 Bug Screen
 Depth Dist Up Left Extent Right Extent Flap Ht. Depth Top Up Dist L Bot Up Depth Top Up Dist R Bot Up Window D Window Window C 4 168 0.3 NFRC 0.21 NFRC Bug Screen 1 10.42 0.3 NFRC 0.21 NFRC Bug Screen Wind. C 4 Window South Frame Wall 2 Window L Window South Frame Wall 4 Left 161 1 6 0.3 NFRC 0.21 NFRC Bug Screen 1 7.5 0.3 NFRC 0.21 NFRC Bug Screen South Frame Wall 4 North Frame Wall 3 Window M Window H 1 25 0.3 NFRC 0.21 NFRC Bug Screen 1 6.25 0.3 NFRC 0.21 NFRC Bug Screen North Frame Wall 3 Window N Window South Frame Wall 4 Left 161 Window J 1 25 0.3 NFRC 0.21 NFRC Bug Screen South Frame Wall 4 1 9 0.3 NFRC 0.21 NFRC Bug Screen North Frame Wall 3 Window P 1 12.5 0.3 NFRC 0.21 NFRC Bug Screen 108 - Slid. Glass Door 1 22.5 0.3 NFRC 0.21 NFRC Bug Screen East Frame Wall 2 Window Q Window South Frame Wall 4 1 25 0.3 NFRC 0.21 NFRC Bug Screen 1 25 0.3 NFRC 0.21 NFRC Bug Screen East Frame Wall 2 Window C 5 Window South Frame Wall 4 
 Back
 251
 2.5
 4.17
 1
 10.43
 0.3
 NFRC
 0.21
 NFRC
 Bug Screen
 East Frame Wall 2 1 | 12.5 | 0.3 | NFRC | 0.21 | NFRC | Bug Screen Window L 2 Window West Frame Wall 5 C - Wind. 2 
 Back
 251
 2.5
 4.17
 1
 10.43
 0.3
 NFRC
 0.21
 NFRC
 Bug Screen
 South Frame Wall 3 1 12.5 0.3 NFRC 0.21 NFRC Bug Screen Window L 3 West Frame Wall 5 
 Back
 251
 10
 8
 1
 80
 0.3
 NFRC
 0.21
 NFRC
 Bug Screen
 Window South Frame Wall 3 1 12.5 0.3 NFRC 0.21 NFRC Bug Screen 110 - Slid. Glass Door Window West Frame Wall 5 Window C 4 South Frame Wall 3 1 12.5 0.3 NFRC 0.21 NFRC Bug Screen Skylight 05 Skylight R-38 Attic HP 1 4.7 0.47 NFRC 0.29 NFRC None South Frame Wall 3 1 | 12.5 | 0.3 | NFRC | 0.21 | NFRC | Bug Screen OPAQUE DOORS Window L 3 0 0 Window West Frame Wall 3 1 12.5 0.3 NFRC 0.21 NFRC Bug Screen 02 03 Window West Frame Wall 3 1 | 12.5 | 0.3 | NFRC | 0.21 | NFRC | Bug Screen 110 - Slid. Glass Door 0 0 Name Side of Building Area (ft<sup>2</sup>) **U-factor** Window West Frame Wall 3 Back 251 1 12.5 0.3 NFRC 0.21 NFRC Bug Screen 103 - SC Door North Frame Wall 24 0.2 West Frame Wall 3 Back 251 1 7 0.3 NFRC 0.21 NFRC Bug Screen 102 - SC Door North Frame Wall 2 0.2 Window North Frame Wall 4 Right 341 1 64 0.3 NFRC 0.21 NFRC Bug Screen 111 - SC Door 0.2 West Frame Wall 5 24 Window East Frame Wall 3 Front 71 1 7 0.3 NFRC 0.21 NFRC Bug Screen Registration Number: 221-P010041256B-000-000-0000000-0000 HERS Provider: Registration Date/Time: **HERS Provider:** Registration Date/Time: Registration Date/Time: 221-P010041256B-000-000-0000000-0000 CalCERTS inc. CalCERTS inc. 2021-03-11 09:53:54 2021-03-11 09:53:54 221-P010041256B-000-000-0000000-0000 2021-03-11 09:53:54 CalCERTS inc.

Report Version: 2019.1.300

Schema Version: rev 20200901

Report Generated: 2021-03-11 09:03:27 CA Building Energy Efficiency Standards - 2019 Residential Compliance

ERTIFICATE OF COMPLIANC															
	NCE					CF1R-PRF-01E	CERTIFICATE OF COMP	LIANCE						CF1R-PRF-01E	CERTIFICATE OF COMPLIANCE
roject Name: New 2-Story I				Date/Time: 2021-03-11T0		(Page 1 of 19)	-	-			-	021-03-11T09:01:05-0	08:00	(Page 2 of 19)	
alculation Description: Title	itle 24 Analysis		Input File	ame: 19092505_EP8_R03.	ribd19x		Calculation Description	1: Title 24 Analysis		Inpu	it File Name: 190925	05_EP8_R03.ribd19x			Calculation Description: Title 24 Analysis Input File Name: 19092505_EP8_R03.ribd19x
ENERAL INFORMATION							ENERGY DESIGN RATING								REQUIRED SPECIAL FEATURES
01		lew 2-Story Residence itle 24 Analysis								Energy Design R	atings		Compliance Margi	ins	The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.  • PV power electronics: Microinverters
03	Project Location 5	·							Efficiency	y¹ (EDR)	Total² (EDR)	Efficiency¹ (E	EDR)	Total² (EDR)	<ul> <li>Indoor air quality, balanced fan</li> <li>Cool roof</li> </ul>
04	City B	ell Canyon	05	Standard	ds Version 2019		S	tandard Design	42.	.9	26				Insulation below roof deck
6 8	Zip code 9	1307	07		re Version EnergyPro 8.2		P	roposed Design	39.	.4	21.9	3.5		4.1	<ul> <li>Window overhangs and/or fins</li> <li>Exposed slab floor in conditioned zone</li> </ul>
3	Climate Zone 9  Building Type S	ingle family	09	Front Orientation (deg/					·	RESULT: 3: COM	PLIES				<ul> <li>Non-standard duct location (any location other than attic)</li> <li>Recirculating with demand control, push button</li> </ul>
!	Project Scope N		13	Number of E					ouilding envelope and more efficie						HERS FEATURE SUMMARY
Addition Co	n Cond. Floor Area (ft²)		15	Number	of Stories 2				onse measures such as photovolt impliance margins are greater that		batteries				The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this compute
Existing Co	g Cond. Floor Area (ft <sup>2</sup> )	/a	17	Fenestration Average				/ Capacity: 3.87 kWdc	ed electricity use by 2.5% which m	nav violate NFM rules	Contact local utility				detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry  Building-level Verifications:
	I Cond. Floor Area (ft <sup>2</sup> )	917.34	19		entage (%) 24.28%		Troposed TV KVVIII	output exceeds propose	2.5% WHICH III	idy violate ivelvi raies.	Contact local atility.				Quality insulation installation (QII)
	ADU Bedroom Count In Natural Gas Available?	/a es	21	ADU Conditioned F	n/a					ENERGY USE SUM	IMARY	nc			<ul> <li>Indoor air quality ventilation</li> <li>Kitchen range hood</li> </ul>
			CLINI	<del>), 111</del>			Energy U	se (kTDV/ft <sup>2</sup> -yr)	Standard Des	sign	Proposed Design	Complian	ce Margin	Percent Improvement	Cooling System Verifications:  Minimum Airflow
PLIANCE RESULTS  01 Building Com	omplies with Computer P		RS PRO	VIDER			Spa	ce Heating	16.68	SPR	17.67	-0.	.99	-5.9	<ul> <li>Verified EER</li> <li>Verified SEER</li> </ul>
			nd/or verification by a certific	d HERS rater under the super	vision of a CEC-approved H	ERS provider.	•	ce Cooling Ventilation	18.36 2.66		11.74 2.66	6.0	62	36.1	<ul> <li>Verified Refrigerant Charge</li> <li>Fan Efficacy Watts/CFM</li> </ul>
03 This building	ng incorporates one or m	ore Special Features show	n below					er Heating	5.92		5.55	0.3	37	6.3	Heating System Verifications:  • Verified HSPF
								on/Flexibility Credit	n/a		0	C	0	n/a	<ul> <li>Verified heat pump rated heating capacity</li> <li>HVAC Distribution System Verifications:</li> </ul>
							Compliar	nce Energy Total	43.62		37.62	•	6	13.8	Duct leakage testing
							REQUIRED PV SYSTEMS -	SIMPLIFIED							Domestic Hot Water System Verifications:  • None
							01	02	03 04	05	06 07	08 09	10	11 12	BUILDING - FEATURES INFORMATION
							DC System Size	Exception M	odule Type Array Type	Power Electronic	cs CFI Azimut		gle Tilt: (x in Inv	verter Eff. Annual Solar Access	01 02 03 04 05 06
							(kWdc)	- N	oddie Type Array Type	1 ower Electronic	(deg)	Input (deg)	12)	(%)	Project Name Conditioned Floor Area (ft <sup>2</sup> ) Number of Dwelling Units Number of Bedrooms Number of Zones Cooling Systems
							4.3	NA	Standard Fixed	Microinverters	true 150-27	0 n/a n/a	<=7:12	96 95	New 2-Story Residence         4917.34         1         5         4         0
	010041256B-000-000-0000000 y Standards - 2019 Reside		Registration Date/Ti	2021-03-11 09:53:54	HERS Provider:  Report Generated: 2	CalCERTS inc. 2021-03-11 09:03:27	Registration Number: 22° CA Building Energy Efficie	1-P010041256B-000-000-00 ency Standards - 2019 R		Registration D	2021-03-11 09:53	:54	ERS Provider: eport Generated: 202	CalCERTS inc. 21-03-11 09:03:27	Registration Number: Registration Date/Time: HERS Provider: 221-P010041256B-000-00000000000000000000000000000000
IFICATE OF COMPLIAN	ANCE		Schema Version: rev	0200901		CF1D DDF 01E					on: rev 20200901				Schema Version: rev 20200901
TIFICATE OF COMPLIAN  ect Name: New 2-Story			Calculatio	Date/Time: 2021-03-11T0	09:01:05-08:00	CF1R-PRF-01E (Page 4 of 19)	CERTIFICATE OF COMF	PLIANCE						CF1R-PRF-01E	CERTIFICATE OF COMPLIANCE  Project Name: New 2-Story Residence  Calculation Date/Time: 2021-03-11T09:01:05-08:00
ulation Description: Titl				lame: 19092505_EP8_R03		, ,	Project Name: New 2-	-				2021-03-11T09:01:05-0	08:00	(Page 5 of 19)	
E INFORMATION							Calculation Descriptio OPAQUE SURFACES	n: Title 24 Analysis		Inp	ut File Name: 190925	05_EP8_R03.ribd19x			OPAQUE SURFACES - CATHEDRAL CEILINGS
01	02	03	04	05	06	07	01	02	03	04	05	06	07	08	01 02 03 04 05 06 07 08 09 10
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft <sup>2</sup> )	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2	Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft <sup>2</sup> )	Vindow and Door Area (ft2)	Tilt (deg)	Name Zone Construction Azimuth Orientation Area (ft²) Skylight Area Roof Rise (x in Roof Roof Emire
st Fl/Mud Laundry	Conditioned	CU#11	446	10	DHW Sys 1	N/A	South Frame Wall 4	1st Fl/Mstr Bdrm	R-21 Wall	161	Left	715	105.67	90	1ct EI/Crt  P 29 Poof Attic
Lst Bdrms/2nd Fl	Conditioned	FAU #2 & 32	1676.34	10	DHW Sys 1	N/A	West Frame Wall 5	1st Fl/Mstr Bdrm	R-21 Wall	251	Back	810	124.85	90	R-38 Attic HP   1st Fry Git   R-38 K00 Attic   0   n/a   4.8   4.7   5   0.26   0.9
FI/Grt Rm/Kitchen	Conditioned	FAU #53	1542	10	DHW Sys 1	N/A	Wall to Garage	1st FI/Mud Laundry>>Garage	R-15 Wall	n/a	n/a	220	24	n/a	ATTIC
1st FI/Mstr Bdrm	Conditioned	FAU #44	1253	10	DHW Sys 1	N/A	Wall to 1st Bedrooms	1st Fl/Mud	R-0 Wall	n/a	n/a	512	0	n/2	01 02 03 04 05 06 07
QUE SURFACES	A	•	-				wall to 1st Bedrooms	Laundry>>1st Bdrms/2nd Fl	K-U Wali	11/a	Пуа	512	U	n/a	Name     Construction     Type     Roof Rise (x in 12)     Roof Reflectance     Roof Emittance     Radiant Barrier       AtticGarage     Attic Garage Roof Cons     Ventilated     4     0.1     0.85     No
01	02	03	04	5 06	07	08	Wall to 1st Mud	1st Fl/Grt Rm/Kitchen>>1st	R-0 Wall	n/a	n/a	205	0	n/a	Attic 1st Fl/Mud Attic Roof1st Fl/Mud Ventilated 5 0.26 0.9 No
Name	Zone	Construction	Azimuth Orie	ation Gross Area (ft <sup>2</sup>	Window and Door	Tilt (deg)	Laundry	FI/Mud Laundry		·	·				Laundry Laundry
	1st Fl/Mud Laundry	R-21 Wall	341 R		Alea (It2)	90	Wall to 1st Entry/Bdrm	1st Fl/Grt Rm/Kitchen>>1st	R-0 Wall	n/a	n/a	506	0	n/a	Attic 1st Bdrms/2nd Fl Attic Roof1st Bdrms/2nd Fl Ventilated 5 0.26 0.9 No
um Frame Wall I 1st	1st Fl/Mud Laundry	9 1		ft 146	24	90	Wall to 1st Grt	Bdrms/2nd Fl  1st Fl/Mstr Bdrm>>1st	(2)	$C = \mathbb{R}$		nc			Attic 1st Fl/Grt Rm/Kitchen Attic Roof1st Fl/Grt Ventilated 5 0.26 0.9 No
	13t 1 1/ Widd Lauridi y		101					TSC LIVINGE DOLLIN / TS				220	0	n/a	Assis Douglast El/Ades
uth Frame Wall 1st	1st Fl/Mud Laundry	R-21 Wall		ck 30	0	90	Rm/Kitch.	FI/Grt Rm/Kitchen	R-0 Wall	n/a	n/a	220		n/a	
uth Frame Wall 1st est Frame Wall 1st th Frame Wall 2 1s	1st Fl/Mud Laundry 1st Bdrms/2nd Fl	R-21 Wall	251 B 341 R	ht 452	109.34	90	Rm/Kitch. R-38 Attic HP 2	FI/Grt Rm/Kitchen  1st FI/Mud Laundry	R-38 Roof Attic HP	n/a	n/a	177	n/a	n/a	Attic 1st Fl/Mstr Bdrm
uth Frame Wall 1st est Frame Wall 1st th Frame Wall 2 1s est Frame Wall 1s	1st Fl/Mud Laundry 1st Bdrms/2nd Fl 1st Bdrms/2nd Fl	R-21 Wall R-21 Wall	251 B 341 R 71 Fi	ht 452 nt 795	184.5	90	Rm/Kitch.  R-38 Attic HP 2  R-38 Attic HP 3	FI/Grt Rm/Kitchen 1st FI/Mud Laundry 1st Bdrms/2nd FI	R-38 Roof Attic HP R-38 Roof Attic HP	n/a n/a	n/a n/a	177 949.34	n/a	n/a n/a	I LATTIC IST FI/MISTY BOYM I I VENTILIZADO I 5 I 1176 I 119 I NO
uth Frame Wall 1st est Frame Wall 1st th Frame Wall 2 1s est Frame Wall 1st th Frame Wall 1s	1st Fl/Mud Laundry 1st Bdrms/2nd Fl	R-21 Wall	251 B 341 R 71 Fi 161 L	ht 452 nt 795		90	Rm/Kitch. R-38 Attic HP 2	FI/Grt Rm/Kitchen  1st FI/Mud Laundry	R-38 Roof Attic HP	n/a	n/a	177		n/a	Attic 1st FlyMstr Barm Bdrm Ventilated 5 0.26 0.9 No
uth Frame Wall 1st est Frame Wall 2 1st	1st Fl/Mud Laundry 1st Bdrms/2nd Fl 1st Bdrms/2nd Fl 1st Bdrms/2nd Fl	R-21 Wall R-21 Wall R-21 Wall	251 B 341 R 71 Fi 161 L 251 B	ht 452 nt 795 ft 865	184.5	90 90 90	Rm/Kitch.  R-38 Attic HP 2  R-38 Attic HP 3  R-38 Attic HP 4	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI	R-38 Roof Attic HP R-38 Roof Attic HP R-38 Roof Attic HP	n/a n/a n/a	n/a n/a n/a	177 949.34 392.34	n/a n/a	n/a n/a n/a	Attic 1st FlyMstr Bdrm
uth Frame Wall 1st est Frame Wall 2 1st th Frame Wall 2 1st est Frame Wall 2 1st est Frame Wall 2 1st th Frame Wall 2 1st th Frame Wall 2 1st th Frame Wall 3 1st est Frame Wall 3 1st est Frame Wall 2 1st	1st Fl/Mud Laundry 1st Bdrms/2nd Fl	R-21 Wall R-21 Wall R-21 Wall R-21 Wall R-21 Wall R-21 Wall	251 B 341 R 71 FI 161 L 251 B 341 R 71 FI	ht 452 nt 795 ft 865 ck 36 ht 240 nt 282	184.5 168 0 56 50	90 90 90 90 90 90	Rm/Kitch. R-38 Attic HP 2 R-38 Attic HP 3 R-38 Attic HP 4 R-38 Attic HP 5 R-38 Attic HP 6 Roof	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI  1st FI/Grt Rm/Kitchen	R-38 Roof Attic HP R-38 Roof Attic HP R-38 Roof Attic HP R-38 Roof Attic HP	n/a n/a n/a n/a	n/a n/a n/a n/a	177 949.34 392.34 1537.3	n/a n/a n/a	n/a n/a n/a n/a	Attic 1st Fl/Mstr Bdrm
uth Frame Wall 1st est Frame Wall 2 1st th Frame Wall 2 1s ast Frame Wall 2 1s th Frame Wall 2 1s st Frame Wall 2 1s th Frame Wall 3 1s st Frame Wall 3 1s th Frame Wall 3 1s	1st Fl/Mud Laundry 1st Bdrms/2nd Fl	R-21 Wall	251 B 341 R 71 Fi 161 L 251 B 341 R 71 Fi 161 L	ht 452 nt 795 ft 865 ck 36 ht 240	184.5 168 0 56	90 90 90 90 90	Rm/Kitch.  R-38 Attic HP 2  R-38 Attic HP 3  R-38 Attic HP 4  R-38 Attic HP 5  R-38 Attic HP 6	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI  1st FI/Grt Rm/Kitchen  1st FI/Mstr Bdrm	R-38 Roof Attic HP	n/a n/a n/a n/a n/a	n/a n/a n/a n/a n/a	177 949.34 392.34 1537.3 1253	n/a n/a n/a n/a	n/a n/a n/a n/a n/a	Attic 1st Fl/Mstr Bdrm
uth Frame Wall 1st est Frame Wall 2 1st th Frame Wall 2 1st est Frame Wall 3 1st	1st Fl/Mud Laundry 1st Bdrms/2nd Fl	R-21 Wall R-21 Wall R-21 Wall R-21 Wall R-21 Wall R-21 Wall	251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 161 L	ht 452 nt 795 ft 865 ck 36 ht 240 nt 282 ft 240	184.5 168 0 56 50	90 90 90 90 90 90 90	Rm/Kitch.  R-38 Attic HP 2  R-38 Attic HP 3  R-38 Attic HP 4  R-38 Attic HP 5  R-38 Attic HP 6  Roof  Floor over 1st/Mud Laundr  Floor over	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI  1st FI/Grt Rm/Kitchen  1st FI/Mstr Bdrm Garage	R-38 Roof Attic HP R-0 Roof Attic	n/a n/a n/a n/a n/a n/a	n/a n/a n/a n/a n/a n/a n/a n/a	177 949.34 392.34 1537.3 1253 919.12	n/a n/a n/a n/a n/a	n/a n/a n/a n/a n/a n/a	Attic 1st Fl/Mstr Bdrm
uth Frame Wall 1st est Frame Wall 2 1st th Frame Wall 2 1st th Frame Wall 2 1st Frame Wall 2 1st Frame Wall 2 1st Frame Wall 3 1st Frame Wall 4 1st Frame Wall 4 1st Frame Wall 3 1st Frame Wall 3 1st Frame Wall 3 1st Frame Wall 3 1st Frame Wall 4 1st Frame Wall 3 1st Frame Wall	1st Fl/Mud Laundry  1st Bdrms/2nd Fl  st Fl/Grt Rm/Kitchen  st Fl/Grt Rm/Kitchen	R-21 Wall	251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 71 FI	ht 452 nt 795 ft 865 ck 36 ht 240 nt 282 ft 240 ck 282 ht 128 nt 83	184.5 168 0 56 50 50 44.5 64 7	90 90 90 90 90 90 90 90 90	Rm/Kitch. R-38 Attic HP 2 R-38 Attic HP 3 R-38 Attic HP 4 R-38 Attic HP 5 R-38 Attic HP 6 Roof Floor over 1st/Mud Laundr	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI  1st FI/Grt Rm/Kitchen  1st FI/Mstr Bdrm Garage  1st Bdrms/2nd FI	R-0 Wall  R-38 Roof Attic HP  R-0 Roof Attic  R-0 Floor No Crawlspace	n/a	n/a	177 949.34 392.34 1537.3 1253 919.12 269	n/a n/a n/a n/a n/a n/a	n/a n/a n/a n/a n/a n/a n/a	FENESTRATION / GLAZING
ath Frame Wall 1st est Frame Wall 2 1st th Frame Wall 2 1st th Frame Wall 2 1st th Frame Wall 2 1st Frame Wall 2 1st th Frame Wall 3 1st Frame Wall 3 1st Frame Wall 3 1st Frame Wall 3 1st Frame Wall 4 1st Frame	1st Fl/Mud Laundry 1st Bdrms/2nd Fl st Fl/Grt Rm/Kitchen st Fl/Grt Rm/Kitchen	R-21 Wall	251 B 341 R 71 Fi 161 L 251 B 341 R 71 Fi 161 L 251 B 341 R 71 Fi 161 L 251 B 341 R 71 Fi 251 B	ht 452 nt 795 ft 865 ck 36 ht 240 nt 282 ft 240 ck 282 ht 128 nt 83 ck 481	184.5 168 0 56 50 50 44.5 64 7 162.017	90 90 90 90 90 90 90 90 90 90	Rm/Kitch. R-38 Attic HP 2 R-38 Attic HP 3 R-38 Attic HP 4 R-38 Attic HP 5 R-38 Attic HP 6 Roof Floor over 1st/Mud Laundr Floor over 1st/Bedrm/Entr Garage Wall North Garage Wall East	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI  1st FI/Grt Rm/Kitchen  1st FI/Mstr Bdrm Garage  1st Bdrms/2nd FI  1st Bdrms/2nd FI	R-0 Wall  R-38 Roof Attic HP  R-0 Roof Attic HP  R-0 Roof Attic  R-0 Floor No Crawlspace	n/a	n/a	177 949.34 392.34 1537.3 1253 919.12 269	n/a n/a n/a n/a n/a n/a	n/a	FENESTRATION / GLAZING
th Frame Wall 1st est Frame Wall 2 1st th Frame Wall 3 1st Frame Wall 4 1st Frame Wall 3 1st Frame Wall 4 1st Frame Wall 4 1st Frame Wall 4 1st Frame Wall 4 1st Frame Wall 5 1st Frame Wall 4 1st Frame Wall 5 1st Frame	1st Fl/Mud Laundry  1st Bdrms/2nd Fl  st Fl/Grt Rm/Kitchen  st Fl/Grt Rm/Kitchen	R-21 Wall	251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 161 L 251 B 341 R 71 FI 251 B 341 R	ht 452 nt 795 ft 865 ck 36 ht 240 nt 282 ft 240 ck 282 ht 128 nt 83	184.5 168 0 56 50 50 44.5 64 7	90 90 90 90 90 90 90 90 90	Rm/Kitch. R-38 Attic HP 2 R-38 Attic HP 3 R-38 Attic HP 4 R-38 Attic HP 5 R-38 Attic HP 6 Roof Floor over 1st/Mud Laundr Floor over 1st/Bedrm/Entr Garage Wall North Garage Wall South	FI/Grt Rm/Kitchen  1st FI/Mud Laundry  1st Bdrms/2nd FI  1st Bdrms/2nd FI  1st FI/Grt Rm/Kitchen  1st FI/Mstr Bdrm Garage  1st Bdrms/2nd FI  1st Bdrms/2nd FI Garage Garage Garage Garage Garage	R-38 Roof Attic HP R-0 Roof Attic R-0 Floor No Crawlspace R-0 Floor No Crawlspace Garage Ext Wall Garage Ext Wall Garage Ext Wall	n/a	n/a	177 949.34 392.34 1537.3 1253 919.12 269 123.34 363 26 363	n/a n/a n/a n/a n/a n/a	n/a	FENESTRATION / GLAZING
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Report Generated: 2021-03-11 09:03:27 CA Building Energy Efficiency Standards - 2019 Residential Compliance

101 - Swing. glass Door

Window F 3

Window S 3

Window S 6

Window T

Window S 7

Window S 8

Window B

109 - Slid. Glass Door

Window B 2

Window

Window

Window

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Report Version: 2019.1.300

Schema Version: rev 20200901

CF1R-PRF-01E

(Page 12 of 19)

Calculation Date/Time: 2021-03-11T09:01:05-08:00

SLAB FLOORS							Calculation Description:  OPAQUE SURFACE CONSTR			Input	ut File Name: 19092505_E	28_R03.ribd19x		Calculation Descripti OPAQUE SURFACE CON				input File Name:	: 19092505_EP8_R	<u>J3.ribd19x</u>	
01	02	03	04	05	06	07 08	01	02	03	04	05 06		08	01	02	03	04	1 05	06	07	08
Name	Zone	Area (ft <sup>2</sup> )	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction Heated	Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value Interior / Contin	nuous U-factor	Assembly Layers	Construction Name	Surface Ty	pe Constructio	on Type Fran	ning Total Cav	' I (ONTINIIOIIS		Assembly Layers
Slab-on-Grade	1st Fl/Mud Laundry	446	26	none	0	0% No							Inside Finish: Gypsum B		Ceilings (be	low Wood Fra	amed 0.0001				ver Ceiling Joists: R-19.1 insul.
Slab-on-Grade 2	1st Bdrms/2nd Fl	1284	133	none	0	0% No	R-15 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15 None /	<sup>7</sup> None 0.086	Cavity / Frame: R-15 / Other Side Finish: Gypsum		attic)	Ceilin	2x8 @ 16	in. O. C. R-38	None / None		Cavity / Frame: R-18.9 / 2x8 Inside Finish: Gypsum Board
Slab-on-Grade 3	1st Fl/Grt Rm/Kitchen	1542	63	none	0	0% No	R-0 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0 None /	/ None 0.277	Inside Finish: Gypsum B Cavity / Frame: no insul.	2x4	1					0.406	Floor Surface: Carpeted Floor Deck: Wood
Slab-on-Grade 4	1st Fl/Mstr Bdrm	1253	147.3	none	0	0% No	_		<del>                                     </del>				Other Side Finish: Gypsum  Roofing: Light Roof (Asphalt		ce Interior Flo	ors Wood Frame	ed Floor 2x12 @ 16	5 in. O. C. R-0	None / None	C	Siding/sheathing/decking avity / Frame: no insul. / 2x12 ing Below Finish: Gypsum Board
Garage Slab	Garage	919.12	122.67	none	0	0% No	Attic Garage Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0 None /	/ None 0.644	Roof Deck: Wood Siding/sheathing/deck	BUILDING FAIVE ORE	HERS VERIFICATION	$\Delta$					
PAQUE SURFACE CONST	STRUCTIONS 02	03	04	05	06 07	08	<u> </u>			ICED	TC I		Cavity / Frame: no insul.  Roofing: Light Roof (Asphalt	ningle)	01		02				04
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous U-facto	or Assembly Layers	Attic Roof1st Fl/Mud Laundry	Attic Roofs	Wood Framed Ceiling	2x6 @ 24 in. O. C.	R-19 None /	10.00	Roof Deck: Wood Siding/sheathing/deck	Quality insulatio	n Installation (QII)	High R-va	Not Required		Envelope Air Leakage  Not Required		n/a
			. N 5	N-value	R-value	Inside Finish: Gypsum Board	_		HE	ERS PR	OVIDE	R	Cavity / Frame: R-19 / Roofing: Light Roof (Asphalt		EMS		HERS	PROV	IDEF		
Garage Ext Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	. R-0	None / None 0.361		Attic Roof1st Bdrms/2nd Fl	Attic Roofs	Wood Framed Ceiling	2x6 @ 24 in. O. C.	R-19 None /	/ None 0.055	Roof Deck: Wood Siding/sheathing/deck Cavity / Frame: R-19 /	~	02	( Distribute	tion Type Wat	04	05	06 stem Compact Distr	07 ibution HERS Verification
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	. R-21	None / None 0.069	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6	<b>—</b>				+		Roofing: Light Roof (Asphalt		System Ty  Domestic Hot	Water Demand R	ecirculation D	er Heater Name (#)  HW Heater 1 (2)	Solar Heating Sys	None	
						Exterior Finish: 3 Coat Stucco	Attic Roof1st Fl/Grt Rm/Kitchen	Attic Roofs	Wood Framed Ceiling	2x6 @ 24 in. O. C.	R-19 None /	/ None 0.055	Roof Deck: Wood Siding/sheathing/deck Cavity / Frame: R-19 / 2	g L ,	(DHW)	Manua	l Control		1,70		.,,,
D 20 Df A++;- UD4	Cath a dual Caillin an	Wood Framed	2v0 @ 46 in . O. 6	D 20	D 10 / Nove	Roofing: Light Roof (Asphalt Shingle Roof Deck: Wood Siding/sheathing/decking							Roofing: Light Roof (Asphalt								
R-38 Roof Attic HP1	Cathedral Ceilings	Ceiling	2x8 @ 16 in. O. C.	. R-38	R-19 / None 0.019	Cavity / Frame: R-38 / 2x8 Sheathing / Insulation: R-19 Sheathi	Attic Roof1st FI/Mstr ing Bdrm	Attic Roofs	Wood Framed Ceiling	2x6 @ 24 in. O. C.	R-19 None /	/ None 0.055	Roof Deck: Wood Siding/sheathing/deck Cavity / Frame: R-19 /								
						Inside Finish: Gypsum Board	R-0 Roof Attic	Ceilings (below	Wood Framed	2x4 @ 24 in. O. C.	D.O. Nave	/Nana 0.494	Cavity / Frame: R-19 /								
							K-0 ROOT ALLIC	attic)	Ceiling		R-0 None /	None 0.481	Inside Finish: Gypsum B	rd							
	21-P010041256B-000-000-00 ciency Standards - 2019 R			ion Date/Time: 2021-03-11 ( ersion: 2019.1.300	1 09:53:54	HERS Provider: CalCERT Report Generated: 2021-03-11 09:03:27		-P010041256B-000-000-000	,00000-0000	Registration Da	Date/Time: 2021-03-11 09:53:54	HEF	RS Provider:	Registration Number: CERTS inc.	221-P010041256B-000	-000-0000000-0000	F	Registration Date/Time: 2021-0	03-11 09:53:54	HERS Provid	ler: CalCERTS in
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VATER HEATERS	02 0	3 04 05	06 07	7 08	09 10	11 12	SPACE CONDITIONING SYS	STEMS 02	03	04 05	5 06	07 08	09 10	01	02	03	04 05	06 07	08	09	10 11
	Heating	# of Tank	Energy Input P	Tank Pating Insulation	Standby Loss	g NEEA Heat Pump Tank Location	n or Name	System T	Heating Uni		Distribution Re	equired	Verified Heating	Cooling	System Type	Number of Units	Heating		Cooling		ompressor HERS Verification
Name	Element Tank Type	Type Units Vol.	Factor or   or Di	itating   insulation	or Recovery Eff or Flow Rate	~		System i	Name	Name Fan Na	i Name i	ermostat Status Type	Condition Count	Count	<del>                                     </del>		HSPF/COP Cap 47			Controlled	Type Single Heat Pump System
DHW Heater 1	Gas Comn Instant		0.97-TE 2000 Btu/		97 n/a	n/a n/a	FAU #53	Heating and coo other		Cooling nt Component HVAC Fa	Fan 3 Distribution See	etback New	NA 1	1 Heat Pump System 1	Central split HP	1	8.5 18000	12200 16	5 12.2	Not Zonal	Speed 1-hers-htpump
ECIDCUII ATION LOODS								Heating and coo	oling system Heating	- 1	Air			HVAC HEAT PUMPS - H	HERS VERIFICATION	02	04	05	06	07	08 09
ECIRCULATION LOOPS 01	•	02	03		04	05	FAU #44	other	I COMBONEN	nt Component HVAC Fa	Fan 4 Distribution Se System 4	etback New	NA 1	Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	ed Refrigerant Charge		fied Heating Verified Heating Cap 47 Cap 17
Water Heating Syste  DHW Sys 1		er of Recirculation Loops  1	Loop Insulation	<u></u>	Recirculation Loop Location Conditioned Space	on Recirculation Pump Power (W	N) HVAC - HEATING UNIT TYP	PES						Heat Pump System 1-hers-htpump	Required	350	Required	Required	Yes	Yes	Yes Yes
ATER HEATING - HERS	S VERIFICATION		JCEI	DTC	Inc		01 Name	10	02 System 1	Type	03 Number of Units		04  Heating Efficiency	HVAC COOLING - HERS	VERIFICATION			EDTC	In		
01	02	03	04	05 Compact Distribution	06 n	07 08  Central DHW Shower Drain Wa	Heating Comp		Central gas	311	2	IC.	AFUE-80	01		02	03	04		05	06
Name  DHW Sys 1 - 1/2	Pipe Insulation  Not Required	Parallel Piping  Not Required	Not Required	Type None	Recirculation Control  Not Required	Distribution Heat Recovery  Not Required Not Required	Y Heating Com	ponent 3	Central gas	furnace R	OVIDI	E R	AFUE-96.2	Name  Cooling Compone		Required	Airflow Target	<b>Verified</b> Require		Verified SEER  Not Required	Verified Refrigerant Charge  Required
PACE CONDITIONING SY							Heating Com	ponent 4	Central gas	furnace	1		AFUE-80	2-hers-cool  Cooling Compone	ent	Required	350	Require		Not Required	Required
01	02	03	04	05 06	07 08	09 10 11	HVAC - COOLING UNIT TY	PES	02	04	05	06	07	3-hers-cool  Cooling Compone	ent	Required	350	Require		Not Required	Required
Name	System	Type Heating Ui	nit Cooling Unit Fa	an Name Distribution	_   Inermostat   Status		nent Name	System Type	Number of Units	Efficiency EER/CEER E	Efficiency SEER Zonal	lly Controlled	Mulit-speed Compressor HERS Ve	4-hers-cool						·	<u> </u>
		Heat Pum	np Heat Pump	Air	Туре	Condition Count Coun	Cooling Component 2	Central split AC	2	13	14 N	Not Zonal	Single Speed Cooling C								
CU#11	Heat pump hea	ting cooling System 1		VAC Fan 1 Distribution System 1		, NA 1 1	Cooling Component 3	Central split AC	1	11.75	14 N	Not Zonal	Single Speed Cooling C 3-her	nponent							
FAU #2 & 32	Heating and coo	I COMBONE		Air VAC Fan 2 Distributio		, NA 2 2	Cooling Component 4	Central split AC	1	12.5	14 N	Not Zonal	Single Speed Cooling C 4-her	nponent							
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CA Building Energy Efficience CERTIFICATE OF COME Project Name: New 2- Calculation Description HVAC - DISTRIBUTION SY  01  Name  Air Distribution System 1  Air Distribution System 2  Air Distribution System 3  Air Distribution System 4  HVAC DISTRIBUTION - H  01	MPLIANCE 2-Story Residence ion: Title 24 Analysis  SYSTEMS  02  Type  Unconditioned garage  Unconditioned attic  Unconditioned attic  HERS VERIFICATION  02  Duct Leakage  I	O3 O4  Design Type Supp  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  O3  O4  Duc  R-6  Verified R-6	Report Verified Duct Design	/ersion: 2019.1.300 /version: rev 20200901  Calculation Date/Tir Input File Name: 190  Diagram	ime: 2021-03-11T09:01:05- 9092505_EP8_R03.ribd19x  08	CalCER? Report Generated: 2021-03-11 09:03:27  CF1R-PRIF. G-08:00 (Page 16 of Section 1)  Bypass Duct Duct Leakage Verificate  No Bypass Duct Sealed and Tested System 1-hers-of System 2-hers-of Sealed and Tested Duct System 3-hers-of System 3-hers-of Sealed and Tested Duct System 3-hers-of System 3-hers-of System 3-hers-of System 3-hers-of System 3-hers-of System 4-hers-of Duct Duct System 4-hers-of Duct System 4-hers-of Duct System 4-hers-of Duct Sealed and Tested Duct System 4-hers-of Duct Sealed and Tested Duct System 4-hers-of Duct Sealed System 4-hers-of D	CA Building Energy Efficie  F-01E of 19) Project Name: New 2-S Calculation Description HVAC DISTRIBUTION - HE  01  Stion Air Distribution System 3-hers-dist Air Distribution System 4-hers-dist  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS - HEI  Be By in Bed HVAC - HI  HVAC -	PLIANCE Story Residence In: Title 24 Analysis ERS VERIFICATION  02  Duct Leakage Verification  Yes  Yes  11  Name  HVAC Fan 1  HVAC Fan 2  HVAC Fan 4  ERS VERIFICATION  01  Name	O3  Duct Leakage Target (%)  5.0  Not F	Report Version Schema Version Schema Version Calculation	2021-03-11 09:53:54 ion: 2019.1.300 sion: rev 20200901  alculation Date/Time: 2021 put File Name: 19092505_	Total Representation of the control	OS:00 CF OS:00 (Pa  CF OS:00 (Pa  Low-leakage Air Handler Cor  Not Required  Not Required  HVAC Fan 1-he  HVAC Fan 2-he  HVAC Fan 4-he  O3  Aired Fan Efficacy (Watts/CFM)	CA Building Energy Eff 3:27  CERTIFICATE OF CO Project Name: New Calculation Descrip  IAQ (INDOOR AIR QU  09  eakage ntirely in itioned fan  fan  fan  fan  Gan	it  ot 1-1  ot 2-1  Cooling load summar	e lysis  02  IAQ CFM  100  100  ry is submitted as part	Diance  O3  IAQ Watts/CFN  0.28  0.28  c of the calculations require	Report Version: 2019.1.300 Schema Version: rev 20200  Calculation Date Input File Nam  O4  I IAQ Fan  Balance Balance	0 0901  te/Time: 2021-03-2  ie: 19092505_EP8_  4  n Type	Report Gen 11T09:01:05-08:00 _R03.ribd19x  05 Recovery Effectiveness 77 77 RACTUAL HEATING & AC	CF1R-PRF-0 (Page 18 of 2)  06 IAQ Recovery Effectiveness SREIAQ Recovery Effectiveness - SRE n/a n/a
CERTIFICATE OF COME Project Name: New 2- Calculation Description HVAC - DISTRIBUTION SY  01  Name  Air Distribution System 1  Air Distribution System 3  Air Distribution System 4  HVAC DISTRIBUTION - H  01  Name  Air Distribution System 4	MPLIANCE 2-Story Residence ion: Title 24 Analysis  SYSTEMS  02  Type  Unconditioned garage  Unconditioned attic  Unconditioned attic  HERS VERIFICATION  02  Duct Leakage  I	O3 O4  Design Type Supp  Non-Verified R-6  Non-Verified R-6	Report Verified Duct Design Required Not Red	/ersion: 2019.1.300  Version: rev 20200901  Calculation Date/Tir Input File Name: 190  Diagram	1 09:53:54	CalCER? Report Generated: 2021-03-11 09:03:27  CF1R-PRIF. G-08:00 (Page 16 c)  To a comparison of the	CA Building Energy Efficie  F-01E of 19) Project Name: New 2-S Calculation Description HVAC DISTRIBUTION - HE  01  Stion Air Distribution System 3-hers-dist Air Distribution System 4-hers-dist  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS - HEI  Beger System - Hell  HVAC - HAN SYSTEMS - HEI  HVAC - HAN SYSTEMS - HEI  Beger System	PLIANCE Story Residence In: Title 24 Analysis ERS VERIFICATION  02  Duct Leakage Verification  Yes  Yes  11  Name HVAC Fan 1 HVAC Fan 2 HVAC Fan 4  ERS VERIFICATION  01  Name  AC Fan 1-hers-fan  VAC Fan 2-hers-fan	O3  Duct Leakage Target (%)  5.0  Not F	Report Version Schema Version Schema Version Calculation    Total Calculation    Required    Required    Not Required    Required    Not Required    Not Required    A Not Required    Not Required    A Required	2021-03-11 09:53:54 ion: 2019.1.300 sion: rev 20200901  alculation Date/Time: 2021 put File Name: 19092505_  O6  Duct Not Required  Not Required  Fan Pov  att Draw ad ad ad ad	Total Representation of the control	Description of the provided service of the provided se	CA Building Energy Eff 3:27  CERTIFICATE OF CO Project Name: New Calculation Descrip  IAQ (INDOOR AIR QU  09  eakage ntirely in itioned fan  fan  fan  fan  Gan	it  ot 1-1  ot 2-1  Cooling load summar	e lysis  02  IAQ CFM  100  100  ry is submitted as part	Diance  O3  IAQ Watts/CFN  0.28  0.28  c of the calculations require	Report Version: 2019.1.300 Schema Version: rev 20200  Calculation Date Input File Nam  O4  I IAQ Fan  Balance Balance	0 0901  te/Time: 2021-03-2 ne: 19092505_EP8_  4 n Type	Report Gen 11T09:01:05-08:00 _R03.ribd19x  05 Recovery Effectiveness 77 77 RACTUAL HEATING & AC	CF1R-PRF-0 (Page 18 of 1)  06  IAQ Recovery Effectiveness SREIAQ Recovery Effectivenes - SRE  n/a  n/a
CERTIFICATE OF COMP Project Name: New 2- Calculation Descriptio  HVAC - DISTRIBUTION SY  01  Name  Air Distribution System 1  Air Distribution System 3  Air Distribution System 4  HVAC DISTRIBUTION - H  01  Name  Air Distribution	MPLIANCE 2-Story Residence ion: Title 24 Analysis  SYSTEMS  02  Type  Unconditioned garage  Unconditioned attic  Unconditioned attic  HERS VERIFICATION  02  Duct Leakage  I	O3 O4  Design Type Supp  Non-Verified R-6  Non-Verified R-6	Report Verified Duct Design	/ersion: 2019.1.300  Version: rev 20200901  Calculation Date/Tir Input File Name: 190  Diagram	1 09:53:54	CalCER? Report Generated: 2021-03-11 09:03:27  CF1R-PRIF. G-08:00 (Page 16 c)  To a comparison of the	CA Building Energy Efficie  F-01E of 19) Project Name: New 2-S Calculation Description HVAC DISTRIBUTION - HE  01  Stion Air Distribution System 3-hers-dist Air Distribution System 4-hers-dist  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS  HVAC - FAN SYSTEMS - HEI  Beger System - Hell  HVAC - HAN SYSTEMS - HEI  HVAC - HAN SYSTEMS - HEI  Beger System	PLIANCE Story Residence In: Title 24 Analysis ERS VERIFICATION  02  Duct Leakage Verification  Yes  Yes  11  Wame  HVAC Fan 1  HVAC Fan 2  HVAC Fan 4  ERS VERIFICATION  01  Name  /AC Fan 1-hers-fan /AC Fan 3-hers-fan	O3  Duct Leakage Target (%)  5.0  Not F	Report Version Schema Version Schema Version Calculation    Total Calculation    Required    Required    Not Required    Required    Not Required    Not Required    A Not Required    Not Required    A Required    A Required    Required    Required    Required    Required    Required    Required	2021-03-11 09:53:54 ion: 2019.1.300 sion: rev 20200901  alculation Date/Time: 2021 put File Name: 19092505_  O6  Duct Not Required  Not Required  Fan Pov  att Draw ad ad ad ad	Total Representation of the control	Description of the provided state of the pro	CA Building Energy Eff 3:27  CERTIFICATE OF CO Project Name: New Calculation Descrip  IAQ (INDOOR AIR QU  09  PROJECT NOTES Attached Heating & C  fan fan fan fan	MPLIANCE  V 2-Story Residence  Validation: Title 24 Ana  Vality) FANS  iit  Ot 1-1  Ot 2-1  Cooling load summan	e lysis  02  IAQ CFM  100  100  ry is submitted as part	Diance  O3  IAQ Watts/CFN  0.28  0.28  c of the calculations require	Report Version: 2019.1.300 Schema Version: rev 20200  Calculation Data Input File Nam  O4  I IAQ Far  Balance  Balance  ed by the current regulation	ote/Time: 2021-03-2 ie: 19092505_EP8_  in Type IAQ ed HRV ed HRV ons. DO NOT USE FOR	Report Gen 11T09:01:05-08:00 _R03.ribd19x  05 Recovery Effectiveness 77 77 RACTUAL HEATING & AC	CF1R-PRF-0 (Page 18 of 1)  06 IAQ Recovery Effectiveness SREIAQ Recovery Effectivenes - SRE n/a n/a DESIGN
CERTIFICATE OF COMP Project Name: New 2- Calculation Description HVAC - DISTRIBUTION SY  01  Name  Air Distribution System 1  Air Distribution System 3  Air Distribution System 4  HVAC DISTRIBUTION - H  01  Name  Air Distribution System 4  HVAC DISTRIBUTION - H  01  Rame  Air Distribution System 4  Air Distribution System 5  Air Distribution System 6  Air Distribution System 7  Air Distribution System 8  Air Distribution System 9  Air Distribution System 1-hers-dist  Air Distribution System 1-hers-dist  Air Distribution System 2-hers-dist  Registration Number:	MPLIANCE 2-Story Residence ion: Title 24 Analysis  SYSTEMS  02  Type  Unconditioned garage  Unconditioned attic  Unconditioned attic  HERS VERIFICATION  02  Duct Leakage  I	O3 O4 Duc Design Type Supp Non-Verified R-6 Non-Verified R-6 Non-Verified R-6 Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6  Non-Verified R-6	Report Verified Duct Designation Not Required Not Registrat	/ersion: 2019.1.300  Version: rev 20200901  Calculation Date/Tir Input File Name: 190  Diagram	ime: 2021-03-11T09:01:05- 9092505_EP8_R03.ribd19x  08	CalCER? Report Generated: 2021-03-11 09:03:27  CF1R-PRIF. G-08:00 (Page 16 c)  To a comparison of the	CA Building Energy Efficie  F-01E of 19) Project Name: New 2-S Calculation Description HVAC DISTRIBUTION - HE  01  Stion Mame  Air Distribution System 3-hers-dist  Air Distribution System 4-hers-dist  HVAC - FAN SYSTEMS  tion m dist  HVAC - FAN SYSTEMS  HVAC FAN SYSTEMS - HEI  ge ly in ed  HVAC FAN SYSTEMS - HEI  ge ly in ed  HVAC FAN SYSTEMS - HEI  HVAC FAN SYSTEMS - HEI  GREAT - HEI  HVAC FAN SYSTEMS - HEI  HVAC FAN SYSTEMS - HEI  HVAC FAN SYSTEMS - HEI  GREAT - HEI	PLIANCE Story Residence In: Title 24 Analysis ERS VERIFICATION  02  Duct Leakage Verification  Yes  Yes  11  Wame  HVAC Fan 1  HVAC Fan 2  HVAC Fan 4  ERS VERIFICATION  01  Name  /AC Fan 1-hers-fan /AC Fan 3-hers-fan	O3  Duct Leakage Target (%)  5.0  Not F	Report Version Schema Version Schema Version Calculation    Total Calculation    Required    Required    Not Required    Required    Not Required    Not Required    A Not Required    Not Required    A Required    A Required    Required    Required    Required    Required    Required    Required	2021-03-11 09:53:54 ion: 2019.1.300 sion: rev 20200901  alculation Date/Time: 2021 put File Name: 19092505_	Tequipment of the control of the con	Description of the provider of	CA Building Energy Eff 3:27  CERTIFICATE OF CO Project Name: New Calculation Descrip  IAQ (INDOOR AIR QU D9  PROJECT NOTES Attached Heating & C  Registration Number	it  Cooling load summar  221-P010041256B-00	2019 Residential Com e lysis  02 IAQ CFM  100 100  ry is submitted as part	IAQ Watts/CFN  0.28  0.28  c of the calculations require	Registration Date/Time:	0 0901  te/Time: 2021-03-2  ie: 19092505_EP8_  4  n Type	Report Gen 11T09:01:05-08:00 _R03.ribd19x  05 Recovery Effectiveness 77 77  RACTUAL HEATING & AC	CF1R-PRF-0 (Page 18 of 1)  06 IAQ Recovery Effectiveness SREIAQ Recovery Effectivenes - SRE n/a n/a DESIGN

Calculation Date/Time: 2021-03-11T09:01:05-08:00

CF1R-PRF-01E CERTIFICATE OF COMPLIANCE

(Page 11 of 19) Project Name: New 2-Story Residence

CF1R-PRF-01E

Calculation Date/Time: 2021-03-11T09:01:05-08:00

Input File Name: 19092505\_EP8\_R03.ribd19x

(Page 10 of 19) CERTIFICATE OF COMPLIANCE

Project Name: New 2-Story Residence

CERTIFICATE OF COMPLIANCE

Project Name: New 2-Story Residence

Calculation Description: Title 24 Analysis

CERTIFICATE OF COMPLIANCE		CF1R-PRF-01E
Project Name: New 2-Story Residence	Calculation Date/Time: 2021-03-11T09:01:05-08:00	(Page 19 of 19)
Calculation Description: Title 24 Analysis	Input File Name: 19092505_EP8_R03.ribd19x	
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT		
1. I certify that this Certificate of Compliance documentation is accurate and comple	ete.	
Documentation Author Name: Milos Sojic	Documentation Author Signature:	
Company:	Signature Date:	
Solargy, Inc.	2021-03-11 09:10:43	
Address: 22028 Ventura Bl., Ste. 207	CEA/ HERS Certification Identification (If applicable):  na	
City/State/Zip: Woodland Hills, CA 91364	Phone: 818-347-6096	
	Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the Calif e of Compliance are consistent with the information provided on other applicable compliance do	•
Responsible Designer Name:  Michael Nolan	Responsible Designer Signature:  Michael Nolan	
Company: J. M. Nolan Architects, Inc.	Date Signed: 2021-03-11 09:53:54	
Address: 116 Stagecoach Road	License: na	
City/State/Zip: Bell Canyon, CA 91307	Phone: 818-710-6600	

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

221-P010041256B-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2019 Residential Compliance Registration Date/Time: 2021-03-11 09:53:54 Report Version: 2019.1.300 Schema Version: rev 20200901

Easy to Verify at CalCERTS.com Report Generated: 2021-03-11 09:03:27

<u>RESIDE</u>	NTIAL MEAS	SURES SI	JMM/	ARY						RMS-
Project Name New 2-Sto	ory Residence		Build	ding Type			ly □ Addition □ Existing-		/Alteration	Date 3/11/202
Project Addre	-		Calif	fornia Ene	rgy Clima	te Zone	Total Cond. Flo	oor Area	Addition	# of Unit
5 Saddleb	ow Road Bell Ca	anyon	С	A Clima	ate Zor	e 09	4,917	7	n/a	1
INSULAT					Area					
Construc	ction Type		Cav	<u>rity</u>	(ft <sup>2</sup> )	S	pecial Fea	tures		Status
Roof V	ood Framed Attic		R 38		4,309	Add=R	-19.0 Cool Roof	•		New
Wall V	ood Framed		R 21		4,924					New
Door O	paque Door		R-5		72					New
	nheated Slab-on-Grade			sulation	4,525	Perim =	= 369′			New
	/ood Framed		R 15		196					New
	/ood Framed			sulation	1,443					New
Demising W	/ood Framed w/o Crawl	Space	- no ins	sulation	392					New
FENEST	DATION	<u> </u>	4.404				14.004			0.00
	on Area( <i>ft</i> ²)	Total Area: U-Fac SI	1,194 HGC			<sub>ge:</sub> 2 Sidefi		ered Averag ior Sha	ge U-Factor:	0.30
Left (S)	24.0	0.300	0.21	Overh	iang		N/A	ior Sna	ides	Status New
Right (N)	166.3	0.300	0.21	none		none	N/A			New
Front (E)	231.0	0.300	0.21	none		none	N/A			New
Front (E)	48.0	0.300	0.21	none		none	N/A			New
Left (S)	193.0	0.300	0.21	16.3		none	N/A			New
Left (S)	130.7	0.300	0.21	none		none	N/A			New
Rear (W)	44.5	0.300	0.21	none		none	N/A			New
Skylight	4.7	0.470	0.29	none		none	N/A			New
Right (N)	64.0	0.300	0.21	none		none	N/A			New
Rear (W)	8.0	0.300	0.21	4.8		none	N/A			New
Rear (W)	30.0	0.300	0.21	4.8		none	N/A			New
Rear (W)	64.0	0.300	0.21	4.8		none	N/A			New
Rear (W)	60.0	0.300	0.21	10.8		none	N/A			New
Right (N)	25.0	0.300	0.21	16.3		none	N/A			New
HVAC S	<b>YSTEMS</b>									
Qty. He	ating	Min. Eff	Co	oling		Min	. Eff	Theri	nostat	Status
1 Spl	it Heat Pump	8.50 HSPF	Spl	it Heat Pui	тр	16.0	SEER	Setback		New
2 Cer	ntral Furnace	80% AFUE	Spl	it Air Cond	litioner	14.0	SEER	Setback		New
	ntral Furnace	96% AFUE	Spl	it Air Cond	litioner	14.0	SEER	Setback		New
	STRIBUTION		_		_				uct	<b>0</b> .
Location		ating		oling	Duc	t Loca	ation		-Value	Status
CU#1	Ducted		Duc		Garag	9		6.		New
FAU #2 & 3	Ducted		Duc		Attic			6.		New
FAU #5	Ducted		Duc	tea	Attic			6.	υ	New
	HEATING	Galle	one	Min. I	⊏ff	Dictri	bution			Status
Qty. Ty			OHS					.44.0.0		
2 Lai	rge Instantaneous Gas	1		0.97		recirc/L	Demand Push Bu	жит		New
- D 0	2 by EnergySoft Use	r Number: 1111					ID: 10/	092505_EP	8 R03	Page 22 of

Project Name New 2-Story Re			<b>JMMARY</b>				RMS-1
New 2-Story Ri	. ,		Building Type		ily Addition Alone	/ A I	Date
Project Address	esidence		California Eng	☐ Multi Family ergy Climate Zone	/ ☐ Existing+ Addition		3/11/2021 # of Units
5 Saddlebow F	Road Bell Ca	anyon		ate Zone 09	4,917	n/a	1
INSULATION		-		Area	· ·		
Construction	n Type		Cavity	$(ft^2)$ S	pecial Features		Status
FENESTRAT Orientation	_	Total Area: U-Fac SH	1,194 Glazing		24.3% New/Altered Ave		0.30 Status
Rear (W)	20.8	0.300	0.21 8.5	none	N/A	laacs	New
Rear (W)	80.0	0.300	0.21 12.0	none	N/A		New
HVAC SYSTE	EMS						
HVAC SYSTE		Min. Eff	Cooling	Mir	n. Eff The	ermostat	Status
	g	Min. Eff	<b>Cooling</b> Split Air Cond		a. Eff The		Status New
Qty. Heatin  1 Central Fu	urnace	80% AFUE	Split Air Cond	ditioner 14.0	SEER Setbac	Duct	New
Qty. Heatin  1 Central Fu  HVAC DISTR Location	g urnace RIBUTION Hea	80% AFUE	Split Air Cond	Duct Loca	SEER Setbac	Duct R-Value	New Status
	urnace	80% AFUE	Split Air Cond	ditioner 14.0	SEER Setbac	Duct	New

### **General Notes**

- 1. Compliance information The builder shall leave in the building, copies of the completed, signed and submitted compliance documents for the building owner at occupancy. For low-rise residential buildings, such information shall, at a minimum, include copies of all Certificate of Compliance Certificate of Installation, and Certificate of Verification documentation submitted. . [10-103(b)1]
- 2. Operating information. The builder shall provide the building owner at occupancy, operating information for all applicable features, materials, components, and mechanical devices installed in the building. Operating information shall include instructions on how to operate the features, materials, components, and mechanical devices correctly and efficiently. The instructions shall be consistent with specifications set forth by the Executive Director. For residential buildings, such information shall be contained in a folder or manual which provides all Certificate of Compliance, Certificate of Installation, and Certificate of Verification documentations. This operating information shall be in paper or electronic format. [10-103(b)2]
- 3. Maintenance information. The builder shall provide to the building owner at occupancy, maintenance information for all features, materials, components, and manufactured devices that require routine maintenance for efficient operation. Required routine maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying, by title and/or publication number, the operation and maintenance manual for that particular model and type of feature, material, component or manufactured device. [10-103(b)3]
- 4. Ventilation information. The builder shall provide to the building owner at occupancy, a description of the quantities of outdoor air that the ventilation system(s) are designed to provide to the building's conditioned space, and instructions for proper operation and maintenance of the ventilation system. [10-103(b)4]
- 5. All systems, equipment, appliances and building components shall comply with the applicable manufacturing, construction, and installation provisions of Sections 110.0 through 110.11 for newly constructed buildings.
- 6. Any appliance regulated by the Appliance Efficiency Regulations, Title 20 California Code of Regulations, Section 1601 et seq., may be installed only if the appliance fully complies with Section 1608(a) of those regulations. [110.1(a)]
- 7. Service water-heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use as listed in Table 3, Chapter 50 of the ASHRAE Handbook, HVAC Applications Volume. [110.3(a)1]
- 8. On systems that have a total capacity greater than 167,000 Btu/hr, outlets that require higher than service water temperatures as listed in the ASHRAE Handbook, Applications Volume, shall have separate remote heaters, heat exchangers, or boosters to supply the outlet with the higher temperature. [110.3(c)1]
- 9. Service hot water systems with circulating pumps or with electrical heat trace systems shall be capable of automatically turning off the system. [110.3(c)2]
- 10. Controls for service water-heating systems shall limit the outlet temperature at public lavatories to 110°F. [110.3(c)3]
- 11. Unfired service water-heater storage tanks and backup tanks for solar water-heating systems shall
- a. External insulation with an installed R-value of at least R-12, or
- b. Internal and external insulation with a combined R-value of at least R-16, or c. The heat loss of the tank surface based on an 80°F water-air temperature difference shall be less

than 6.5 Btu/hr per square foot. [110.3 (c)4]

12. For Nonresidential, high-rise residential, and hotel/motel buildings, space conditioning systems shall meet the efficiency standards specified Section

- 13. Continuously burning pilot light shall be prohibited for the following natural gas system or equipment listed below: [110.5]
- a. Fan-type central furnaces
- b. Household cooking appliances, except for 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
- 14. Any pool or spa heating system or equipment shall: [110.4]
- a. A thermal efficiency that complies with the
- Appliance Efficiency Regulations b. Have a readily accessible on-off switch, mounted on the outside of the heater that allows
- thermostat setting. c. Not utilize electric resistance heating.

shutting off the heater without

- d. Have a cover for outdoor pools or spas that have a heat pump or gas heater.
- e. Have a permanent, easily readable, and weatherproof instruction card that gives instructions for the energy efficient operation of the pool or spa heater and for the proper care of pool or spa water
- when a cover is used. f. Have at least 36 inches of pipe installed between the filter and heater or dedicated suction and return lines, or built-in or built-up connections shall be
- heating equipment. g. Have directional inlets for the pool or spa that adequately mix the pool water.

installed to allow for the future addition of solar

- h. A time switch or similar control mechanism shall be installed as part of a pool water circulation control system that will allow all pumps to be set or programmed to run only during the off-peak electric demand period and for the minimum time necessary to maintain the water in the condition required by applicable public health standards.
- 15. Manufactured fenestration products & exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft2 of window area, 0.3 cfm/ft2 of residential door area, 0.3 cfm/ft2 of nonresidential single door area, & 1.0 cfm/ft2 of nonres double door area. [110.6(a)1]
- 16. Fenestration products shall be rated in accordance with NFRC 100 for U-factor, NFRC 200 for SHGC, and VT or use the applicable default value. Fenestration products shall have a temporary label for manufactured fenestration products or a label certificate when the Component Modeling Approach is used and for site-built fenestration meeting the requirements of Section 10-111(a)1. [110.6(a)2, 110.6(a)3, 110.6(a)4, 110.6(a)5]
- 17. Field-fabricated fenestration products and exterior doors, other than unframed glass doors and fire doors, shall be caulked between the fenestration products or exterior door and the building, & shall be weatherstripped. [110.6(b)]
- 18. Joints, penetrations & openings in building envelope may be potential sources of air leakage shall be caulked, gasketed, weather stripped or otherwise sealed to limit infiltration & exfiltration. [110.7]
- 19. Insulation shall be certified by Department of Consumer Affairs, Bureau of Home Furnishing and Thermal Insulation that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24, Part 12, Chapter 12-13, Article 3, "Standards for Insulating
- 20. Urea formaldehyde foam insulation may only be used in exterior side walls, & requires a four-mil-thick plastic polyethylene vapor barrier between the urea formaldehyde foam insulation & the interior space in all applications. [110.8(b)]
- 21. Insulating material shall be installed in compliance with the flame spread rating and smoke density requirements of the CBC. [110.8(c)] 22. Insulation installed on an existing space

conditioning duct, it shall comply with Section 604.0 of

the CMC. [110.8(d)3]

23. External insulation installed on an existing unfired water storage tank or on an existing back-up tank for a solar water-heating system, it shall have an R-value of at least R-12, or the heat loss of the tank surface based on an 80 EF water-air temperature difference shall be less than 6.5 Btu per hour per square foot. [110.8(d)2] E.

#### Residential Notes:

- 1. A masonry or factory-built fireplace shall have the following: [150.0(e)1]
- a. Closeable metal or glass doors covering the entire opening of
- b. A combustion air intake to draw air from the outside of the building directly into the firebox, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device (Exception: An outside combustion-air intake is not required if the fireplace will be installed over concrete slab flooring and the fireplace will not be
- c. A flue damper with a readily accessible control. [150.0 (e)C]

located on an exterior wall.); and

- 2. Heating or cooling systems shall be equipped with a setback thermostat that meet the requirements of Section 110.2(c). [150.0(i)]
- 3. Gas or propane water heaters shall have: [150.0(n)] a. A 120V electrical receptacle that is within 3 feet from the water
- b. A Category III or IV vent, or a Type B vent with straight pipe. c. Condensate drain that is no more than 2 inches higher than the
- d. A gas supply line with a capacity of at least 200,000 Btu/hr
- 4. All pumps and pump motors installed shall be listed in the Commission's directory of certified equipment and shall comply with the Appliance Efficiency Regulations. [150.0(p)1.A]
- 5. The minimum installed weight per square foot of any loose-fill insulation shall conform with the insulation manufacturer's labeled R-value. [150.0 (b)]
- 6. The minimum depth of concrete-slab floor perimeter insulation shall be 16 inches or the depth of the footing of the building, whichever is less. [150.1(c)(1)(D)]
- 7. The crawl space shall be covered with a vapor retarder over the entire floor. [150.1(c)1.D]
- 8. Insulations are required for: [150.0(j)2.A]
- a. All hot water pipes from the heating source to the kitchen
- b. All piping with a nominal diameter of 3/4 inch or larger. c. The first 5 feet (1.5 meters) of hot and cold water pipes from the storage tank.
- d. All piping associated with a domestic hot water recirculation e. Piping from the heating source to storage tank or between tanks.
- f. Piping buried below grade.
- 9. Insulation shall be provided for water heaters as follows:
- a. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater or have internal insulation of at least R-16 and a label on the exterior of the tank showing the insulation R-value. [150.0 (j)1]
- 10. Lighting [150.0(k)]

Appendix JA8.

- a. Installed luminaires shall be classified as high-efficacy in accordance with TABLE 150.0-A.
- b. Exhaust fans shall be switched separately from lighting

c. Luminaries shall be switched with readily accessible controls

- that permit the luminaries to be manually switched ON and OFF. d. Lighting installed in attached and detached garages, laundry rooms, and utility rooms, at least one luminaire in each of these
- spaces shall be controlled by vacancy sensors. e. Dimmers or vacancy sensors shall control all luminaires required to have light sources compliant with Reference Joint
- EXCEPTION 1: Luminaires in closets less than 70 square feet. **EXCEPTION 2: Luminaires in hallways.** f. A. 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 shall be high efficacy luminaires or controlled by an occupant sensor. g. 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 in that
- i) Comply with the applicable requirements in Sections 110.9, 130.0. 130.1. 140.6 and 141.0; and
- ii) Lighting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors shall be capable of turning the light fully On and Off from all designed paths

### 2019 Low-Rise Residential Mandatory Measures Summary

<b>Building Envelop</b>	e Measures:
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
· ,	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables
§ 110.6(b):	110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.*
§ 110.7:	<b>Air Leakage.</b> All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked gasketed, or weather stripped.
§ 110.8(a):	<b>Insulation Certification by Manufacturers.</b> Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Go and Services (BHGS).
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer A
§ 150.0(a):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0 Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed i direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not lin to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	<b>Wall Insulation.</b> Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood fram have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry we must meet Tables 150.1-A or B.*
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	<b>Slab Edge Insulation.</b> Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone w facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	<b>Vapor Retarder.</b> In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	<b>Fenestration Products.</b> Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
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 fireplaces.
§ 150.0(e)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	<b>Combustion Intake.</b> Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in a and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
- , ,	ng, Water Heating, and Plumbing System Measures:
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated
§ 110.2(a):	appliances must be certified by the manufacturer to the California Energy Commission.*  HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heater must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which t cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for supplementary heating.*
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)4:	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 110.3(c)6:	<b>Isolation Valves.</b> Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with h bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (exceappliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour ); and pool and spa here
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards



### 2019 Low-Rise Residential Mandatory Measures Summary

Requirements fo	or Ventilation and Indoor Air Quality:
§ 150.0(o)1:	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.
§ 150.0(o)1C:	Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
	Multifamily Attached Dwelling Units. Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in
§ 150.0(o)1E:	accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(o)1F:	Multifamily Building Central Ventilation Systems. Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(o)1G:	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2:	<b>Field Verification and Diagnostic Testing.</b> Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Sy	rstems and Equipment Measures:
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric
§ 110.4(b)1:	resistance heating.*  Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
<u> </u>	
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
	rate, piping, filters, and valves.*
§ 150.0(p): Lighting Measur § 110.9:	rate, piping, filters, and valves.*
Lighting Measu	rate, piping, filters, and valves.*  res:  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements
Lighting Measur	rate, piping, filters, and valves.*  res:  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
Lighting Measur § 110.9: § 150.0(k)1A:	rate, piping, filters, and valves.*  es:  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or
Lighting Measur § 110.9: § 150.0(k)1A: § 150.0(k)1B:	rate, piping, filters, and valves.*  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.  Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.  Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
\(\)\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rate, piping, filters, and valves.*  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.  Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.  Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.  Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
\[ \frac{110.9}{110.9} \] \[ \frac{150.0(k)1A}{150.0(k)1B} \] \[ \frac{150.0(k)1B}{150.0(k)1C} \] \[ \frac{150.0(k)1C}{150.0(k)1D} \]	rate, piping, filters, and valves.*  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.  Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.  Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.  Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be
\( \) \( \)	rate, piping, filters, and valves.*  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.  Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.  Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.  Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.  Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods)
\[ \text{lighting Measure} \] \[ \text{110.9:} \] \[ \text{150.0(k)1A:} \] \[ \text{150.0(k)1B:} \] \[ \text{150.0(k)1C:} \] \[ \text{150.0(k)1D:} \] \[ \text{150.0(k)1E:} \] \[ \text{150.0(k)1F:} \]	rate, piping, filters, and valves.*  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.  Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.  Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.  Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.  Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).*
\( \) \( \)	rate, piping, filters, and valves.*  Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*  Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.  Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.  Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.  Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.  Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.  Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).*  Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*  Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated
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### 2019 Low-Rise Residential Mandatory Measures Summary

ENERGY COMMISSION	
§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer
§ 150.0(h)3B:	<b>Liquid Line Drier.</b> Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	Storage Tank Insulation. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must hav a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
} 150.0(j)2A:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.*
§ 150.0(j)3:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour
§ 150.0(n)2:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	<b>Solar Water-heating Systems.</b> Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans	Measures:
§ 110.8(d)3:	<b>Ducts.</b> Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	<b>CMC Compliance.</b> All air-distribution system ducts and plenums must meet the requirements of the CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts an plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.*
§ 150.0(m)2:	<b>Factory-Fabricated Duct Systems.</b> Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	<b>Field-Fabricated Duct Systems.</b> Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	<b>Gravity Ventilation Dampers.</b> Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	<b>Protection of Insulation.</b> Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation expose to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
3 150.0(m)10:	Porous Inner Core Flex Duct. Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
§ 150.0(m)12:	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Pressure drops and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service.*
§ 150.0(m)13:	Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be $\geq 350$ CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy $\leq 0.45$ watts per CFM for gas furnace air handlers and $\leq 0.58$ watts per CFM for all others. Small duct high velocity systems must provide an airflow $\geq 250$ CFM per ton of nominal cooling capacity, and an air-handlin unit fan efficacy $\leq 0.62$ watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*

# 2019 Low-Rise Residential Mandatory Measures Summary

ENERGY COMMISSION	
§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(k)2K:	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to othe 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 lot 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 w the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	Internally illuminated address signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)5:	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must:  i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and  ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.

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). Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access. pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of

the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.\* 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 Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.\*

Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents. Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system. **Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.

Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.

breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit

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3.4 Insulation Performance Definitions R-value: The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area. For the purposes of the Seal and Insulate with ENERGY STAR program, Imperial units will only be accepted [(h·ft²·°F)/Btu]. Smoke-Development Index: The characteristic of a material to emit smoke when exposed to flame or fire compared to red oak and inorganic cement. Flame-Spread Index: The characteristic of a material to resist the spreading of flames when exposed to flame or fire compared to red oak and inorganic cemen

3.5 Thermal Resistance: The AP™ Foil-Faced Sheathing <sup>®</sup> insulation has thermal resistance *R*-values as noted in Table 1 of ESR-3398. 3.6 Installation **3.6.1 General:** The installation of the insulation must be in accordance with the requirements set forth in the manufacturer's

published installation instructions (a copy is reprinted at the end of this supplement). The personal protective equipment (PPE) is described in the manufacturer's published installation instructions, which are reprinted at the end of this supplement. The manufacturer's PPE information is reprinted in this report for informational purposes 3.6.2 Occupancy Time after Application: There are no specific requirements related to time before re-entry or re-occupancy after installation of the insulation. 3.6.3 Figures: The figures shown represent general installations of the insulation in the following applications: below-grade interior walls; above-grade exterior walls; crawl spaces (vented and unvented); and attics and cathedral/vaulted ceilings (vented, unvented and knee walls). These figures are for illustration purposes and are not to be construed or used as

This supplement expires concurrently with the evaluation report, reissued December 2020.

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construction documents.

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ATTICS AND CATHEDRAL/VAULTED CEILINGS

Johns Manville AP<sup>TM</sup> Foil-Faced insulation sheathing board is an excellent choice for insulating attics and cathedral/vaulted ceilings. Polyiso provides one of the highest R-values per inch of any rigid insulation (R-6.5 at 1 inch). When applied to the interior face of rafters, Johns Manville AP Foil-Faced insulation provides a layer of continuous insulation that eliminates thermal bridging. This prevents heat flow and condensation, thereby increasing the ceiling's overall insulation value. AP Foil-Faced insulation is lightweight and easy to install. AP Foil-Faced insulation must be covered with an approved thermal or ignition barrier, as required by local building code, and cannot be left exposed. BEFORE YOU BEGIN:

Always follow local building codes. AP Foil-Faced sheathing must be separated from the interior of a building by a minimum of 1/2-inch gypsum board or equivalent 15-minute thermal barrier as required by code. When AP Foil-Faced insulation sheathing is installed within an attic where entry is made only for service of utilities, an ignition barrier must be installed in accordance

Materials Checklist Safety glasses and gloves Measuring tape and pencil Utility knife or handsaw Straight edge · Construction-grade polyurethane adhesive, such as Liquid Nails Mechanical fasteners such as masonry nails with 1-inch metal Flashing tape such as 3M 8067, Grace Vvcor Pro, or Lamatek Sealant such as Tremco Canned foam such as Touch'nSeal All Season, Hilti CF 810 or CF-F, Dow Great Stuff or

Great Stuff Pro

ATTIC INSTALLATION

with local building codes. Gather all materials.

Measuring and Cutting Measure the board by tape hook across the surface of the board create a crease while holding the tape at the desired length. Using a straight edge as a guide, deeply score the crease. There is no need to cut Snap the board along the score line over the edge of a table or

Figure 1. Vented Ceiling - Across Rafters OPTION 1A: Vented Roof - Foam Board Across Rafters 1. Ensure that proper ventilation is maintained below the roof sheathing, from the soffit vents to the ridge vent at the peak of the roof. This is best accomplished by installing baffles on the underside of the roof sheathing between every rafter prior to installing insulation. Baffles maintain a clear ventilation space and prevent cold air 2. If required, install insulation between the rafters. Options r insulating between rafters include Johns Manville

Formaldehyde-free™ fiber glass batts (Unfaced, Faced, or ComfortTherm®), JM Climate Pro® blown-in fiber glass in the Blow-In-Blanket® system, JM Spider® Custom Insulation System, JM spray polyurethane foams (Corbond III<sup>®</sup>, Corbond MCS™ or Open-cell) or other approved insulation product. Fiber glass batts should not be compressed. The level of insulation installed in the rafter cavity will depend on the product chosen and the depth of the rafters. 3. Install AP Foil-Faced foam sheathing across the inside rafter surface. Use maximum board lengths to minimize number of

ioints. Locate joints square to rafters and center end joints over rafters. Provide additional blocking as necessary. It is not necessary to stagger board joints. Butt board edges together tightly, and carefully fit around openings and penetrations.

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ATTIC INSTALLATION CONTINUED

from penetrating into the rafter insulation.

s and Cathedral/Vaulted Ceilir

OPTION 1A: Vented Roof - Foam Board Across Rafters - continued

4. Fasten foam insulation boards to the interior of the rafters using screws or nails with 1-inch minimum washers or caps. Alternate fasteners may be used, with the type and length as recommended by their manufacturer for securing foam plastic insulating sheathing. Fasteners should be long enough to penetrate in to the rafter a minimum of 3/4 inch. 5. Space fasteners approximately 16 inches on center around the perimeter and in the field of each board (16 or 24 inches on center across rafters, depending on spacing). Drive fasteners so the washer or stress plate is tight and flush with the

poard surface, but do not countersink. 6. When installing boards that butt-up at different angles, such as a wall to a sloped ceiling, or sloped ceiling to flat ceiling junctions, mitre the edge of the foam board. This will provide a better fit as well as cover wall headers and other thermal

Cover AP Foil-Faced insulation with a 15-minute thermal barrier or ignition barrier as required by local building codes. OPTION 1B: Vented Roof - Foam Board Between Rafters

the roof. This is best accomplishing by installing baffles on the underside of the roof sheathing in between every rafter prior to installing insulation between the rafters. Baffles maintain a clear ventilation space and prevent cold air from

1. Ensure that proper ventilation is maintained below the roof sheathing, from the soffit vents to the ridge vent at the peak of

2. Cut AP Foil-Faced foam sheathing to fit snuggly between the rafters, and install against the baffles. Properly cut boards should friction-fit between the rafters without falling out. Secure insulation boards and seal all board edges using one-part

3. If additional insulation is required, install in the remaining rafter space. Options for insulating the remaining rafter depth include Johns Manville Formaldehyde-free™ fiber glass batts (Unfaced, Faced, or ComfortTherm), JM Climate Pro blownin fiber glass in the Blow-In-Blanket system, JM Spider Custom Insulation System or other approved insulation product. Fiber glass batts should not be compressed. The level of additional insulation will depend on the product chosen and the depth of the rafters. All additional insulation must be secured to hold it in place.

4. If additional insulation is not required, the foil facing of AP Foil-Faced foam sheathing can provide additional thermal

performance to the attic by functioning as a radiant barrier. The reflective side of the board should be oriented to the

interior, and the nonreflective white side should be oriented to the exterior. To gain radiant barrier performance, an air space of at least ½ inch should be left between the foam insulation and the thermal or ignition barrier. 5. Cover AP Foil-Faced insulation with a 15-minute thermal barrier or ignition barrier as required by local building code.

Figure 2. Vented Ceiling – Between Rafters

THE TAX DESCRIPTION HOUSE AND ADDRESS OF THE PARTY OF THE BID-0153 10/3/13 © 2013 Johns Manville. Printed in USA.

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ATTIC INSTALLATION CONTINUED OPTION 2: Unvented Roof Sheathing 1. Cut AP Foil-Faced foam sheathing to fit snuggly between the rafters.

2. Install AP Foil-Faced foam boards between rafters, directly against the bottom of the roof sheathing. The Rvalue of the insulation must meet local building code requirements for unvented attics to prevent condensation. Multiple layers of foam board may be required. If multiple layers are installed, stagger board 3. Fasten insulation boards to the roof sheathing per the

 Secure insulation boards between the rafters and seal board edges using one-part canned foam. Properly cut boards should friction-fit between rafters without falling out. Use screws or nails with 1-inch minimum washers or caps. Alternate fasteners may be used, with the type and length as recommended by their

manufacturer for securing foam plastic insulating sheathing. Fasteners should be long enough to penetrate in to the roof sheathing a minimum of ½ inch, but not too long as to penetrate through the roof waterproofing. Fasteners are not required around the perimeter of the boards. Space fasteners approximately 24 inches on center in the field. Seal all board edges and penetrations with one-part expanding canned foam to prevent air leakage and water vapor diffusion to the roof sheathing. 5. If additional insulation is required, install in the remaining rafter space. Options to insulate the remaining rafter depth

include Johns Manville Formaldehyde-free™ fiber glass batts (Unfaced, Faced, or ComfortTherm), JM Climate Pro blownin fiber glass in the Blow-In-Blanket system, JM Spider Custom Insulation System or other approved insulation product.

Fiber glass batts should not be compressed. The level of additional insulation will depend on the product chosen and the

depth of the rafters. Additional insulation must be secured. 6. If additional insulation is not required, the foil facing of AP Foil-Faced foam sheathing can provide additional thermal performance to the attic by acting as a radiant barrier. The reflective side of the board should be oriented to the interio and the nonreflective white side should be oriented to the exterior. To gain radiant barrier performance, an air space of at

least ½ inch should be left between the foam insulation and the thermal or ignition barrier. 7. Cover AP Foil-Faced insulation with a 15-minute thermal barrier or ignition barrier as required by local building code. OPTION 3: Knee Walls 1. If desired, insulate the knee wall cavity with either Johns knee wall framing AP Foll-Faced insulation board cavity insulation

Manville Formaldehyde-free™ fiber glass batts (Unfaced, Faced, or ComfortTherm), JM Climate Pro blown-in fiber glass in the Blow-In-Blanket system, JM Spider Custom Insulation System, JM spray polyurethane foam (Corbond III, Corbond MCS or Open-cell) or other approved insulation product. Fibe glass batts should not be compressed. The amount of nsulation will depend on the product chosen and the depth of the framing. 2. There are two options for installing continuous foam

board insulation over knee wall framing: Use wood lath or strapping fastened to the exterior of the knee wall framing to secure cavity insulation. Install AP Foil-Faced insulation as described in section 1A. Ensure that there is a ventilation space below the roof sheathing at the intersection of the knee wall and roof.

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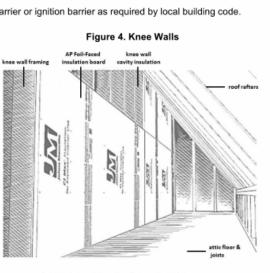


Figure 3.Unvented Ceiling – Between Rafters

AP Foil-Faced insulation board wood rafter roof decking

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CATHEDRAL CEILING INSULATION ESR REPORT

5.4 Jobsite certification and labeling of the insulation must 5.13 AP™ Foil-Faced Sheathing and CI Max® Foam comply with 2018 or 2015 IRC Sections N1101.10.1 insulation boards are manufactured by Johns Manville and N1101.10.1.1 [2012 IRC Section N1101.12 or in Bremen, Indiana: Cornwall, Ontario, Canada: 2009 IRC Section N1101.41; and 2018, 2015 and 2012 Fernley, Nevada: Hazle Township, Pennsylvania, and Jacksonville, Florida, under a quality control program IECC Section C303.1.1.1 R303.1.1 or 2009 IECC Section 303.1.1, as applicable. with inspections by ICC-ES. **5.5** Use of insulation in areas where the probability of **6.0 EVIDENCE SUBMITTED** termite infestation is "very heavy" must be in 6.1 Data in accordance with the ICC-ES Acceptance accordance with 2018, 2015 and 2012 IBC Section

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boards with an approved thermal barrier as required in

IBC Section 2603.4 or IRC Section R316.4.

Section 4.3.2.2, respectively.

surface of the exterior wall.

Section R703.6.31.

R601.3 and R806.4).

4.2.2.3 for the AP™ Foil-Faced Sheathing.

1404.3 [2015, 2012 and 2009 IBC Section 1405.3] and

IRC Section R702.7 and R806.5 (2009 IRC Section

Criteria for Foam Plastic Insulation (AC12), dated June 2603.9. 2009 IBC Section 2603.8 or IRC Section 2015 (editorially revised October 2017). R318.4, as applicable. In these areas, the insulation must not be installed on the exterior of foundation walls Criteria for Foam Plastic Sheathing Panels Used as or below floor slabs on grade or in contact with soil. Weather-resistive Barriers (AC71), dated February Also, in these areas, there must be a clearance of at 2003 (editorially revised January 2018) (AP™ least 6 inches (152 mm) between the foam plastic insulation and exposed earth. Foil-Faced Sheathing only). **5.6** When the AP™ Foil-Faced Sheathing boards are used **6.3** Reports of potential heat tests in accordance with

NFPA 259 (AP™ Foil-Faced Sheathing only). on exterior walls of buildings of Type I, II, III or IV construction, installation must be as described in 6.4 Reports of fire propagation characteristics testing in Section 4.2.2 and Table 2. accordance with NFPA 285 (AP™ Foil-Faced 5.7 When the AP™ Foil-Faced Sheathing insulation Sheathing only). boards are used in interior assemblies, the interior of **6.5** Engineering analysis addressing use of alternate the building must be separated from the insulation exterior wall constructions in Types I, II, III, and

Faced Sheathing only). 5.8 When the CI Max Foam Sheathing insulation boards **6.6** Reports of air leakage tests in accordance with ASTM are used in interior assemblies, the interior of the E2178 and ASTM E2357 (AP™ Foil-Faced Sheathing building must be separated from the insulation boards with an approved thermal barrier or ignition barrier, as **6.7** Reports of fire test for evaluating contribution of wall required in IBC Section 2603.4 or IRC Section R316.4 and ceiling interior finish to room fire growth in and IBC Section 2603.4.1.6 and IRC Sections accordance with NFPA 286 (CI Max® Foam Sheathing R316.5.3 and R316.5.4, respectively, except when the installation is in accordance with Section 4.3.1.2 or

5.9 When the CI Max Foam Sheathing is used on exterior 7.1 The AP™ Foil-Faced Sheathing and CI Max® Foam walls in buildings of Type I through IV construction, the Sheathing insulation boards described in this report insulation boards are limited to use on the interior are identified by a label on the boards or on the packaging material bearing the manufacturer's name (Johns Manville), the plant code or address, **5.10** A water-resistive barrier complying with the the product name, the flame spread and smoke requirements of the applicable code must be provided developed indices and the evaluation report except when installation is as described in Section number (ESR-3398): except for the AP™ Foil-Faced Sheathing that is used in Type I, II, III and **5.11** AP™ Foil-Faced Sheathing insulation boards must not IV construction, which must always have the be used as a water-resistive barrier with Portland above-noted information printed on the boards cement plaster where two layers of water-resistive barrier complying with ASTM E2556 Type I are **7.2** The report holder's contact information is the following:

IV construction based on NFPA 285 testing (AP™ Foil-

required or two layers of Grade D paper are required JOHNS MANVILLE in accordance with IBC Section 2510.6 or 2018 and 2015 IRC Section R703.7.3 [2012 and 2009 IRC 717 17TH STREET **DENVER. COLORADO 80202** (303) 978-2000 **5.12** The AP™ Foil-Faced Sheathing insulation is a Class I www.jm.com vapor retarder as described in Section 3.5 and its use is subject to the requirements of 2018 IBC Section

7.0 IDENTIFICATION

ESR-3398 | Most Widely Accepted and Trusted Page 5 of 27 TABLE 1—THERMAL RESISTANCE (R-VALUES)

THICKNESS (INCHES)	R-VALUE [(°F-ft²-hr)/BTU] at 75°F MEAN TEMPERATURE
1	6.0
2	13
4	26
4.5 <sup>1</sup>	28

<sup>1</sup>Thermal Resistance (*R*-Value) at 4.5 inches applies to the AP™ Foil Faced Sheathing Boards only.

ESR-3398 CBC, CRC and CEC Supplement ICC-ES Evaluation Report Reissued December 2020 This report is subject to renewal November 2022.

www.icc-es.org | (800) 423-6587 | (562) 699-0543 A Subsidiary of the International Code Council® DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 21 00—Thermal Insulation Section: 07 25 00—Water-Resistive Barriers/Weather Barriers Section: 07 27 00—Air Barriers

REPORT HOLDER: JOHNS MANVILLE

**EVALUATION SUBJECT:** JOHNS MANVILLE AP™ FOIL-FACED SHEATHING AND CI MAX® FOAM SHEATHING

1.0 REPORT PURPOSE AND SCOPE The purpose of this evaluation report supplement is to indicate that the Johns Manville AP™ Foil-Faced Sheathing and CI

Max® Foam Sheathing, described in ICC-ES evaluation report ESR-3398, have also been evaluated for the codes noted below. Applicable code edition: ■ 2016 California Building Code (CBC) For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

■ 2016 California Residential Code (CRC) ■ 2016 California Energy Code (CEC) 2.0 CONCLUSIONS

The Johns Manville AP™ Foil-Faced Sheathing and CI Max® Foam Sheathing, described in Sections 2.0 through 7.0 of the evaluation report ESR-3398, comply with the 2016 CBC and CRC, provided the design and installation are in accordance with the 2015 International Building Code® (IBC) provisions noted in the evaluation report.

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

The Johns Manville AP™ Foil-Faced Sheathing and CI Max® Foam Sheathing, described in Sections 2.0 through 7.0 of the evaluation report ESR-3398, comply with the 2016 CEC, provided the design and installation are in accordance with the 2015 International Building Code® (IBC) provisions noted in the evaluation report. 2.2.1 Conditions of Use:

In accordance with Section 110.8 of the 2016 California Energy Code, verification of certification by the Department of Consumer Affairs, Bureau of Household Goods and Services, must be provided to the code official, demonstrating that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24, Part 12, Chapters 12-13, Article 3, "Standards for Insulating Material." The certification must be verified with the DCA Bureau of Household Goods and Services. The following directory link may be used for verification: https://bhgs.dca.ca.gov/consumers/ti\_directory.pdf

This supplement expires concurrently with the evaluation report, reissued December 2020.

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ESR-3398 Seal & Insulate with **ICC-ES Evaluation Report ENERGY STAR® Supplement** Reissued December 2020

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Section: 07 21 00—Thermal Insulation Section: 07 25 00—Water-Resistive Barriers/Weather Barriers Section: 07 27 00—Air Barriers REPORT HOLDER:

**JOHNS MANVILLE EVALUATION SUBJECT:** 

3.0 DEFINITIONS

JOHNS MANVILLE AP™ FOIL-FACED SHEATHING AND CI MAX® FOAM SHEATHING

1.0 EVALUATION SCOPE Conformance to the following requirements:

Seal and Insulate with ENERGY STAR Program, Definitions and Testing Requirements for Residential Insulation, Properties evaluated:

Thermal resistance ■ Surface-burning characteristics

2.0 PURPOSE OF THIS SUPPLEMENT This supplement is issued to certify that the insulation product described in Sections 2.0 through 7.0 of the master report (ESR-3398) has been reviewed for compliance with the applicable codes noted in Section 1.0 of the master report and with the requirements set forth in the Seal and Insulate with ENERGY STAR Program. Definitions and Testing Requirements for Residential Insulation, Version 1.0. The insulation products covered by this supplement are classified as "Board Insulation." The requirements for testing laboratory qualifications and product sampling, as well as the specific material and test standards and editions used in this evaluation, are as set forth in the applicable documentation noted in Section 6.0 of the master evaluation report.

The following definitions are from Definitions and Testing Requirements for Residential Insulation, Version 1.0, and are applicable to the subject of this report. 3.1 General Definitions

Insulation: Any material mainly used to slow down heat flow. It may be mineral or organic, fibrous, cellular, or reflective (aluminum foil). It may be in rigid, semi-rigid, flexible, or loose-fill form. 3.2 Insulation Product Definitions Board Insulation: Semi-rigid insulation preformed into rectangular units having a degree of suppleness particularly related to their geometrical dimensions. Typical materials include, but are not limited to fiberglass, expanded polystyrene (EPS), extruded

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polystyrene (XPS), polyisocyanurate, or polyurethane. The product may or may not be faced.

REPORT HOLDER: JOHNS MANVILLE **EVALUATION SUBJECT:** JOHNS MANVILLE AP™ FOIL-FACED SHEATHING AND

Section: 07 27 00—Air Barriers

**ICC-ES Evaluation Report** 

Section: 07 21 00—Thermal Insulation

DIVISION: 07 00 00—THERMAL AND MOISTURE

Section: 07 25 00—Water-Resistive Barriers/Weather

CI MAX® FOAM SHEATHING of basement foundation walls. The AP™ Foil-Faced Sheathing may be used on the 1.0 EVALUATION SCOPE exterior face of exterior walls of any type of construction 1.1 Compliance with the following codes: When used in exterior walls in Types I, II, III, and IV construction, construction must be in accordance with ■ 2018, 2015, 2012 and 2009 International Building Code® ■ 2018, 2015, 2012 and 2009 International Residential

Section 4.2.2 of this report. The AP™ Foil-Faced Sheathing insulation boards may be used as an alternative to the water-resistive barrier specified Code® (IRC) in IBC Section 1404.2 and R703.2 when installed on exterior ■ 2018, 2015, 2012 and 2009 International Energy walls in accordance with Section 4.2.2.3. Conservation Code® (IECC) 2.2 CI Max<sup>®</sup> Foam Sheathing: ■ 2013 Abu Dhabi International Building Code (ADIBC)<sup>†</sup> CI Max® Foam Sheathing is used as nonstructural, thermal insulating material for use in interior applications in Type I.

<sup>†</sup>The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced II. III. IV and V construction (IBC) and dwellings construction Properties evaluated: under the IRC. The insulation boards may be left exposed to the interior of the building without a thermal barrier when Surface-burning characteristics installed on either walls only or ceilings only. The insulation Thermal resistance boards may be left exposed without an ignition barrier in Water vapor transmission attics and crawl spaces when installed on either walls only or ceilings only. The insulation boards must be installed with

■ Water-resistive barrier 3.0 DESCRIPTION Air barrier 3.1 AP™ Foil-Faced Sheathing: Air permeability 1.2 Evaluation to the following green code(s) and/or

■ Exterior walls in Types I through IV construction

Attic and crawl space installatio

AP™ Foil-Faced Sheathing has a closed-cell, rigid polyisocyanurate foam plastic core, bonded on both sides with an aluminum foil and kraft paper laminate. The foam plastic core has a nominal density of 1.7 pcf (28.8 kg/m<sup>3</sup>). ■ 2019 California Green Building Standards Code The boards have square edges and are available in various (CALGreen), Title 24, Part 11 lengths and widths and in thicknesses between ■ 2015, 2012 and 2008 ICC 700 National Green Building  $\frac{1}{2}$  inch and  $\frac{4^{1}}{2}$  inches (12.7 and 114 mm). The insulation boards are classified as Type I, Class 1 material in Standard™ (ICC 700-2015, ICC 700-2012 and ICC 700-

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Attribute verified:

2.1 AP™ Foil-Faced Sheathing:

See Section 3.1

2.0 USES

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ESR-3398 | Most Widely Accepted and Trusted The attributes of the AP™ Foil-Faced Sheathing as an 3.7 Air Permeability:

alternative water-resistive barrier have been verified as conforming to the provisions of (i) CALGreen Section 5.407.1 and (ii) ICC 700-2015 Section 602.1.8. 11.602.1.8 and 12.6.602.1.8; (iii) ICC 700-2012 Section 602.1.8, 11.602.1.8 and 12.5.602.1.8; and (iv) ICC 700-2008 Section 602.9 for water-resistive barriers. The attributes of the AP™ Foil-Faced Sheathing have been verified as conforming to the provisions of ICC 700-2008 Section 703.2.1.1.1(c) as an air impermeable Note that decisions on compliance for those areas rest this report. The manufacturer's published installation with the user of this report. The user is advised of the

conditions is outside the scope of this report. These codes 4.2 AP™ Foil-Faced Sheathing: or standards often provide supplemental information as At a maximum thickness of 4<sup>1</sup>/<sub>2</sub> inches (114 mm), AP™ Foil-3.2 CI Max™ Foam Sheathing: CI Max® Foam Sheathing has the same closed-cell, rigid applications, the insulation boards polvisocvanurate foam plastic core as the AP™ Foil-Faced must be attached with fasteners spaced a maximum of Sheathing boards and is bonded on one side with a nonprinted glass-mat laminated with aluminum foil facer and mm) on center on the perimeter. For interior applications, is bonded on the other side with a printed bilaminate (kraft the insulation boards must be attached with fasteners paper laminated with aluminum foil) facer. The boards have spaced a maximum of 24 inches (610 mm) on center along square edges and are available in various lengths and

widths and in thicknesses between 1/2 inch and 4 inches

(12.7 and 102 mm). The insulation boards are classified as

project-specific provisions that may be contingent upon

meeting specific conditions, and the verification of those

Type I, Class 1 material in accordance with ASTM C1289-3.3 Joint-sealing: 3.3.1 Johns Manville UltraFast® (3M All Weather) Flashing Tape: Johns Manville UltraFast® (3M All Weather) Flashing Tape (ESR-2797) is nominally 4 inches wide and is used in conjunction with AP™ Foil-Faced Sheathing to seal joints between two or more edges of the boards, when the insulation boards are installed as an alternative waterresistive barrier or an air barrier. The installation must be as described in Sections 4.2.2.3 and 4.2.2.4, respectively. 3.3.2 Sealant: A sealant complying with ASTM C920 Type S, Grade NS, Class 100/50, Use NT, M, G, A and O must be used with AP™ Foil-Faced Sheathing to seal exterior penetrations and panel defects, when the insulation

boards are installed as an alternative water-resistive barrier or an air barrier. The installation must be as described in Sections 4.2.2.3 and 4.2.2.4, 3.4 Surface-burning Characteristics: The foam core of AP™ Foil-Faced Sheathing has a 4.2.2.1 General: When used on exterior walls of Type I, II, flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 at a maximum thickness of  $4^{1}/_{2}$  inches (114 mm). The faced CI Max® Foam Sheathing has a flame-spread index of 25 or less and a smoke-developed index of 450 or

less at a maximum thickness of 4 inches (102 mm). 3.5 Thermal Resistance, R-values: AP™ Foil-Faced Sheathing and CI Max® Foam Sheathing has the thermal resistances (R-value) at a mean temperature of 75°F (24°C) as shown in Table 1. 3.6 Vapor Retarder: At a minimum thickness of 1 inch (25.4 mm), the AP™ Foil-

Faced Sheathing insulation board has a vapor permeance of less than 0.1 perm [5.7x10<sup>-12</sup> kg/ (Pa-s-m<sup>2</sup>)] when tested

in accordance with ASTM E96 (desiccant method)

The boards can be installed in Type I, II, III or IV (Procedure A), and qualify as a Class I vapor retarder. construction greater than 40 feet (12 192 mm) in height

ESR-3398 | Most Widely Accepted and Trusted under the 2018, 2015 and 2012 IBC when the wall (610 mm) on center along the width of the board and a assemblies comply with Section 4.3 and are as described in maximum of 48 inches (1219 mm) on center along the The boards can be installed either horizontally or vertically 4.3.1.2 Application without a Prescriptive Thermal directly to framing spaced a maximum of **Barrier**: At a maximum thickness of 4 inches (102 mm), the 24 inches (610 mm) on center or over exterior sheathing. The reflective side of the boards must be oriented to the the building without installation of the prescriptive thermal exterior. The edges of the boards must be placed tightly barrier when installed in accordance with this section. The

When applied directly to framing or over exterior sheathing, the boards must be secured with 2-inch (51 mm) capped fasteners with No. 10 self-tapping screws long enough to penetrate framing a minimum of three threads. Fasteners must be spaced a maximum of 4.3.2 Attics and Crawl Spaces: 16 inches (406 mm) on center around the board perimeter and in the field. Seams and joints between the boards must be completely covered with Johns Manville UltraFast® Flashing Tape applied so that it is centered over the joint or seam. Exterior with IBC Section 2603.4.1.6 or IRC R316.5.3 and R316.5.4 penetrations must be sealed with either Johns Manville UltraFast® Flashing Tape or a sealant complying with ASTM C920 Type S, Grade NS, Class 100/50, Use NT, M, G, A and O, in accordance with the Johns Manville installation the foam plastic insulation is not exposed. instructions. See Figures 1 and 2.

installed prior to window installation. After window Window installation must be in accordance with the window manufacturer's instructions. must be covered with an approved exterior wall covering within the time set forth in the report holder's published instructions. The wall covering must be installed in

4.2.2.4 Air Barrier:

4.2.2.4.1 Air Barrier Material: When used as an air barrier material, the AP™ Foil-Faced Sheathing insulation boards must be installed in accordance with the Johns Manville installation instructions and this report. 4.2.2.4.2 Air Barrier Assembly: When installed on exterior walls as a water-resistive barrier as described in Section 4.2.2.3, the AP™ Foil-Faced Sheathing insulation boards comply with the requirements for an air barrier 3. Combustion air is provided in accordance with IMC assembly in accordance with C402.5.1.2.2 of the 2018 and 2015 IECC [Section C402.4.1.2.2 of the 2012 IECC], based 5.0 CONDITIONS OF USE

qualifies as a continuous air barrier as prescribed in Section C402.5.1 of the 2018 and 2015 IECC [Section C402.4.1 of Penetrations in the air barrier assembly must be sealed as described in Section 4.2.2.3 and in accordance with 2012 IECC Section C402.4.2. Wall coverings must be mechanically attached through the insulation to wall framing or sheathing. 4.3 CI Max<sup>®</sup> Foam Sheathing:

on testing in accordance with ASTM E2357. The assembly

4.3.1 General: 4.3.1.1 Application with a Prescriptive Thermal Barrier: At a maximum thickness of 4 inches (102 mm). CI Max® Foam Sheathing may be used as nonstructural insulation material with a thermal barrier on any or all surfaces (wall or ceiling assembly) in any type of structure. For interior applications, the CI Max® boards must be attached with fasteners spaced a maximum of 24 inches

the insulation boards must be installed at a maximum thickness of  $4^{1}/_{2}$  inches (114 mm). The potential heat of the AP™ Foil-Faced Sheathing insulation boards is 1677 Btu/ft<sup>2</sup> (19.0 MJ/m<sup>2</sup>) per inch of thickness when tested in accordance with NFPA 259. 4.2.2.2 Specific Wall Assemblies: Wall assemblies complying with Section 4.3 must be as described in Table 2. 4.2.2.3 Water-resistive Barrier:

The AP™ Foil-Faced Sheathing insulation boards may be

used as an alternative to the water-resistive barrier prescribed in IBC 1404.2 and IRC R703.2 when installed on exterior walls in accordance with this section.

length of the board.

together and carefully fitted around openings and CI Max must be applied to either the walls only or ceilings only. The CI Max® boards must be attached with either masonry nails, or No. 6 screws or nails, and 11/2-inch metal washers or caps spaced 24 inches (610 mm) on center along the width of the board and a maximum of 48 inches (1219 mm) on center along the length of the board. 4.3.2.1 Application with a Prescriptive Ignition Barrier: crawl spaces, where entry is made only for service of utilities, an ignition barrier must be installed in accordance as applicable. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in such a manner that 4.3.2.2 Application without a Prescriptive Ignition

CI Max insulation may be installed exposed to the interior of

For window installation, refer to Figure 3. Sill flashing is

Barrier: CI Max® Foam Sheathing may be installed at a maximum thickness of 4 inches (102 mm) to either the walls installation, jam flashing is installed, and then head flashing. or the ceilings of attics and crawl spaces without a prescriptive ignition barrier when all of the following conditions apply, as applicable: When installed in accordance with this section, the boards

1. Attic ventilation is provided when required by 2018 IBC Section 1202.2.1 [2015, 2012 and 2009 IBC Section 1203.2] or IRC Section R806, except air-impermeable

insulation is permitted in unvented attics in accordance accordance with the wall covering manufacturer's with 2018 IBC Section 1202.3 [2015 IBC Section IRC Section R806.4). 2. Under-floor (crawl space) ventilation is provided when Section 1203.3 (2012 and 2009 IBC Section 1203.3)] or IRC Section R408.1, as applicable, except unvented crawl spaces are permitted under the conditions prescribed in 2018, 2015 and 2012 IRC Section

> The Johns Manville AP™ Foil-Faced Sheathing and CI Max™ Foam Sheathing described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions: 5.1 Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the manufacturer's published installation instructions

(International Mechanical Code) Section 701.

**5.2** Use of the insulation boards to resist structural loads is outside the scope of this report. The walls must be braced in accordance with the requirements of the applicable code. 5.3 The insulation boards must not be used as a nailing base for exterior siding materials. All nailing must be into the wall framing as required by the siding manufacturer's instructions or the applicable code.

and this report, this report governs.

STAMPS/ SEALS

DATE

ESR-3398

Reissued December 2020

This report is subject to renewal November 2022.

AP™ Foil-Faced Sheathing is used as nonstructural,

thermal insulating material in Types I, II, III, IV and V

construction (IBC) and dwellings under the IRC. The

insulation boards may be used with a thermal barrier within

or on interior or exterior walls and ceiling assemblies, and

also in attics and crawl spaces with a thermal or ignition

barrier. Additionally, the boards may be used at the

perimeter of concrete slab on-grade and on the interior side

the nonprinted side exposed. See Section 4.3 for additional

At a minimum thickness of 1 inch (25.4 mm), the AP™ Foil-

Faced Sheathing insulation board is considered

AP™ Foil-Faced Sheathing and CI Max® Foam Sheathing

must be installed in accordance with the Johns Manville

instructions must be available on the jobsite at all times

Faced Sheathing may be used as nonstructural insulating

material with a thermal barrier on any or all surfaces (wall or

ceiling assembly) in any type of structure. For exterior wall

24 inches (610 mm) on center in the field and 16 inches (406

the width of the board and a maximum o

48 inches (1219 mm) on center along the length of the

transverse loads. For exterior wall covering applications,

fasteners for insulation board thicker than 11/2 inches

(38 mm) must be considered for lateral resistance to ensure

support for the exterior wall coverings. All walls must be

braced in accordance with 2018 and 2015 IBC Section

2308.6 [2012 and 2009 IBC Sections 2308.9.3 and

4.2.1 Attics and Crawl Spaces: When AP™ Foil-Faced

Sheathing is installed within attics and crawl spaces, where

entry is made only for service of utilities, an ignition barrier

must be installed in accordance with IBC Section 2603.4.1.6

or IRC Section R316.5.3 or R316.5.4, as applicable. The

ignition barrier must be consistent with the requirements for

the type of construction required by the applicable code, and

must be installed in such a manner that the foam plastic

4.2.2 Exterior Walls of Types I, II, III and IV

Section 2603.5 of the IBC and this section (Section 4.3), and

insulation is not exposed.

2308.12.4] or IRC Section R602.10, as applicable.

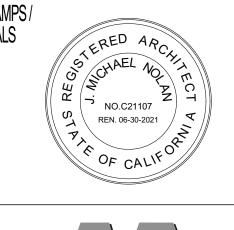
The wall covering must be structurally adequate to resist

air-impermeable based on testing in accordance with ASTM

Page 1 of 27

accordance with ASTM C1289-15.

BCAAC SUBMITTAL





116 Stagecoach Road Bell Canyon, CA 91307 818 716-7100 Fax

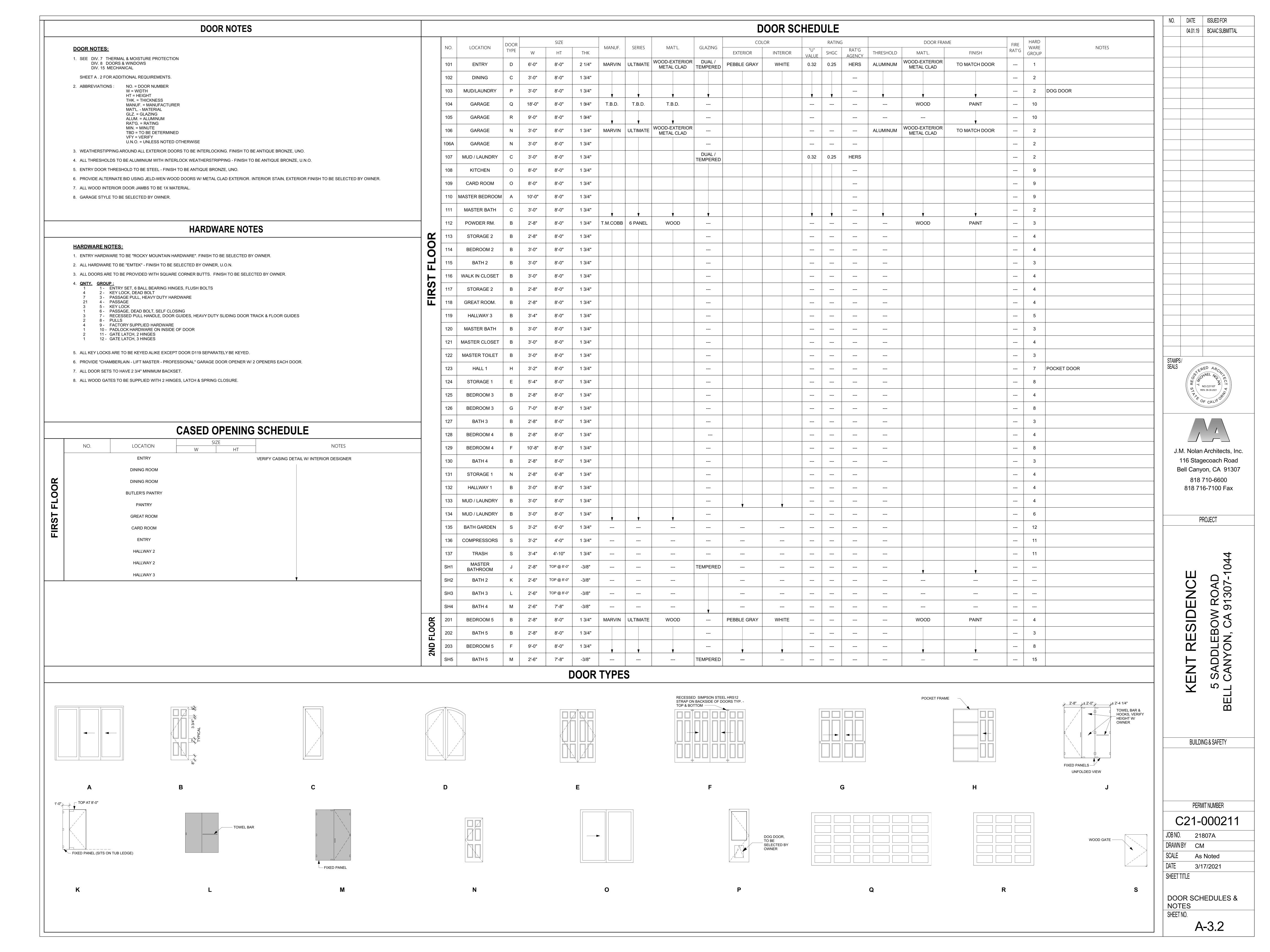
**BUILDING & SAFETY** 

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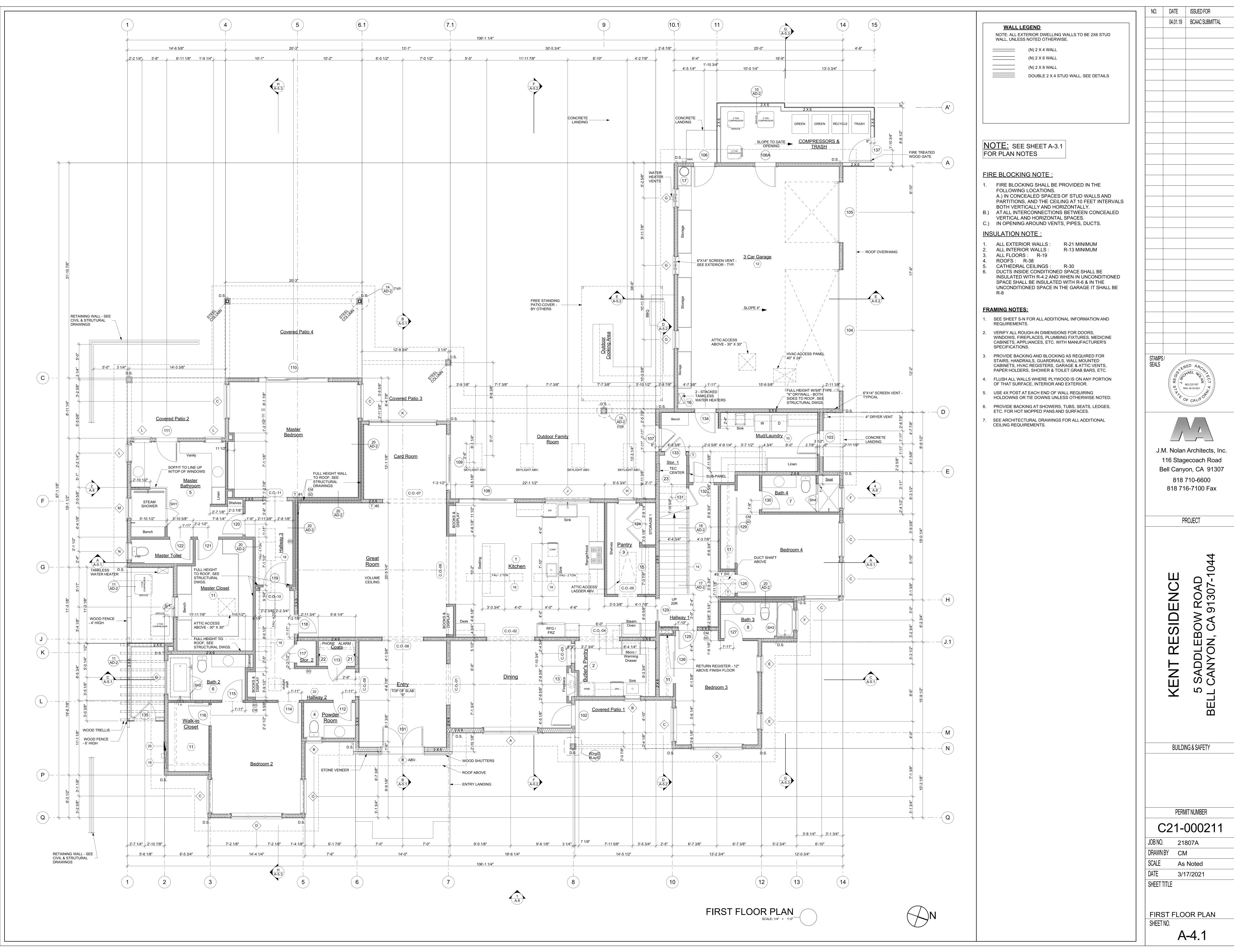
CM As Noted

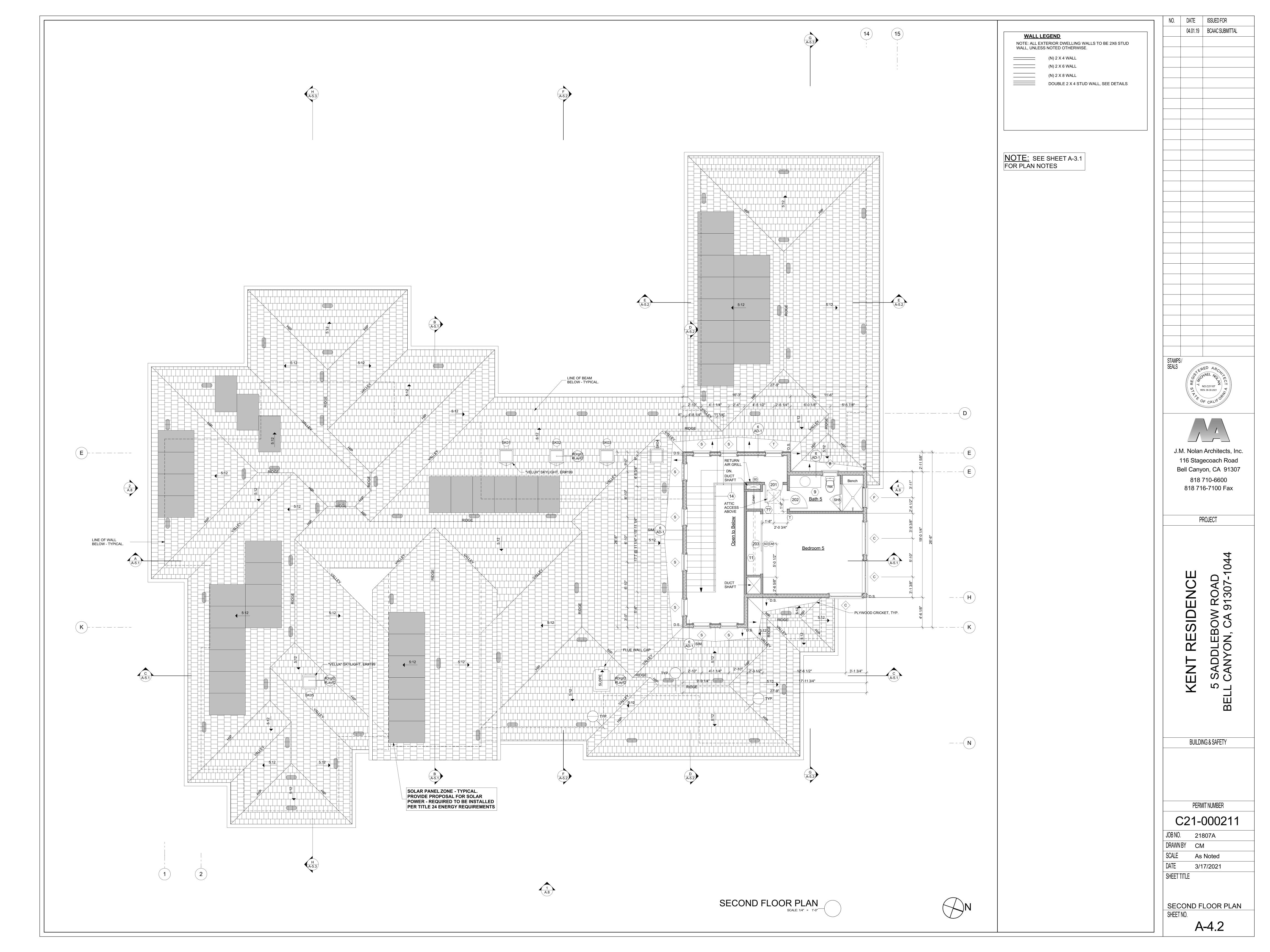
**APPROVALS & PRODUCT** 

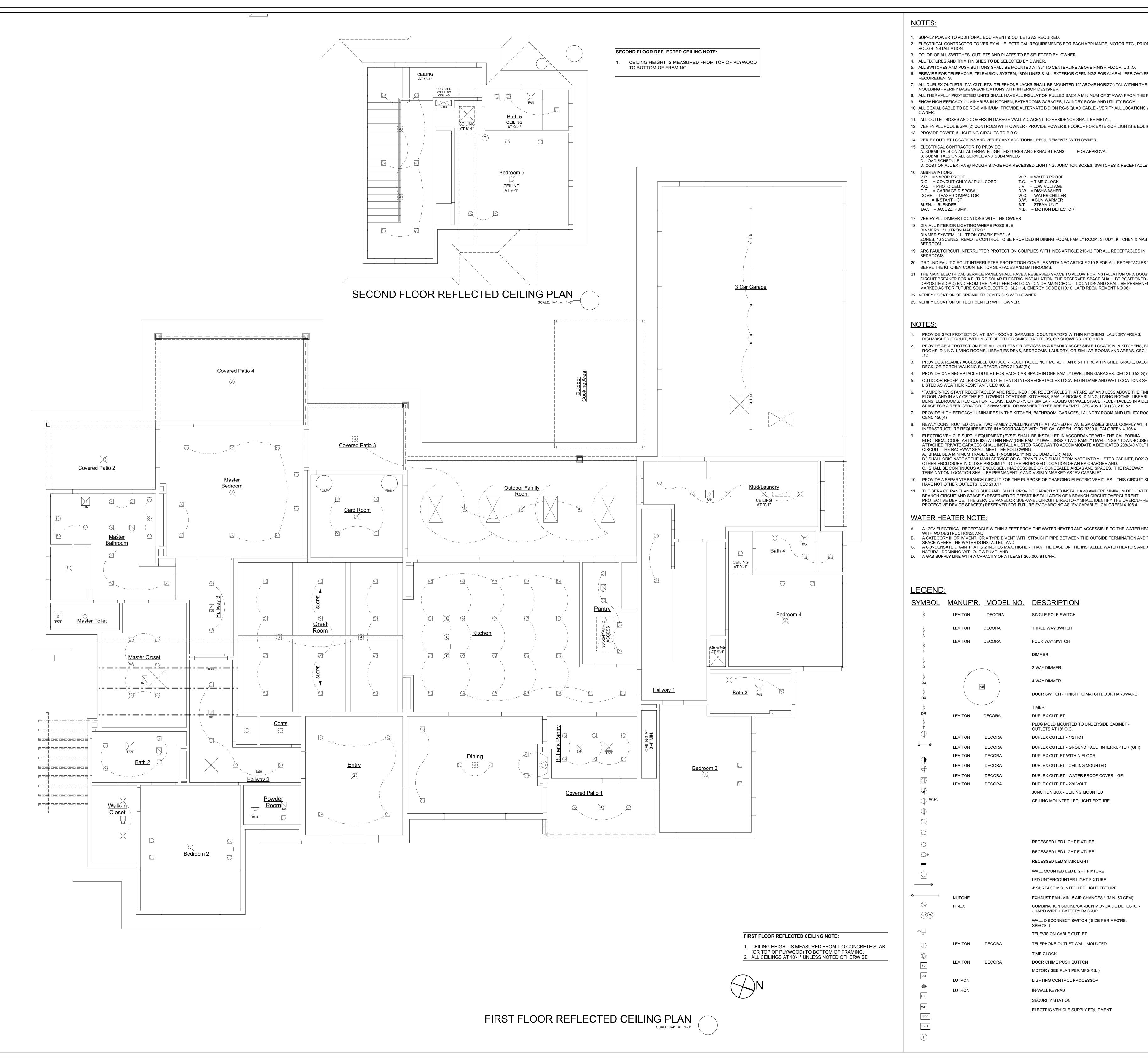
PLAN	PLAN NOTES		FINISH SCHEDULE				
NOTE:	BATH 5 - PROVIDE: (SEE SHEET A . 2 FOR ADDITIONAL INFORMATION)	ROOM NAME	FLOOR BASE			AN NOTE REMARKS	
1. THE FOLLOWING WATER SAVING DEVICES SHALL BE INSTALLED TO THE SATISFACTION OF THE ADMINISTRATIVE AUTHORITY.	A. TOILET - ELONGATED  1. TOILET PAPER DISPENSER - MOUNT AT + 26"  2. EXHAUST FAN - MIN. (1) ONE AIR CHANGE EVERY 12 MINUTES	ENTRY	STONE WOOD	GYP. BOARD	~GYP. BOARD/WOOD BOARDS	~WOOD BEAMS @ CEILING & * CORK UNDERLAYMENT FOR	
A. TOILETS OF A DESIGN THAT PROVIDES MAXIMUM FLUSH NOT	B. LAV. 1. UNDER COUNTER MOUNTED	DINING	* WOOD		~GYP. BOARD/WOOD BOARDS	WOOD FLOORS	
TO EXCEED 1.28 GALLONS.  B. WATER SAVING SHOWER HEADS WHICH LIMIT THE FLOW TO A MAXIMUM OF 2.0 GALLONS PER MINUTE.	2. FAUCET C. MIRROR - TOP AT 8'-0" ABOVE FINISH FLOOR D. TOWEL BAR - 1 TOTAL - MOUNT AT + 42"	BUTLER'S PANTRY			GYP. BOARD	* CORK UNDERLAYMENT	
C. WATER SAVING KITCHEN FAUCETS WHICH LIMIT THE FLOW TO A MAXIMUM OF 1.8 GALLONS PER MINUTE.	E. SHOWER STALL WITH:  1. TILE FLOOR - SLOPE TO DRAIN	HALLWAY 1					
D. WATER SAVING LAVATORY FAUCETS WHICH LIMIT THE FLOW TO A MAXIMUM OF 1.2 GALLONS PER MINUTE. E. WATER SAVING URINALS WHICH LIMIT THE FLOW TO A	2. TILE - WALL TO CEILING 3. TILE CEILING 4. SHOWER HEAD	BEDROOM 3					
MAXIMUM OF 0.5 GALLONS PER FLUSH MAX., 0.125 GALLONS PER FLUSH WHEN WALL MOUNTED.	4. SHOWER HEAD 5. VALVES 6. HAND SPRAY	BATH 3 SHOWER	TILE TILE				
2. ALL THE FOLLOWING ITEMS TO BE PROVIDED WHETHER	6. RECESSED SHAMPOO SHELF BELOW SHOWER HEAD - R.O.= 14" X 20"	BATH 3	<b>↓ ↓</b>	GYP. BOARD			
REFERENCED ON PLANS, OR NOT.	7. HOT MOP PAN, SHELF & SEAT AS REQUIRED  F. CABINET WITH:	BEDROOM 4	* WOOD WOOD	▼		* CORK UNDERLAYMENT	
1 <u>KITCHEN</u> - PROVIDE (SEE SHEET A . 2 FOR ADDITIONAL INFORMATION)	1. LOWER WITH STONE TOP & SPLASH	BATH 4 SHOWER	TILE TILE				
A. FARM SINK WITH :  1. FAUCET	LAUNDRY / MUD ROOM - PROVIDE: (SEE SHEET A . 2 FOR ADDITIONAL INFORMATION)	BATH 4	WOOD			▼	
2. GARBAGE DISPOSAL W/ AIR SWITCH & ELECTRICAL POWER 3. SOAP DISPENSER	A. WASHER (BY OWNER) WITH: 1. COMBINED VALVES AND WASTE IN RECESSED WALL UNIT	MUD/LAUNDRY	<b>+</b>			* CORK UNDERLAYMENT	
4. AIR GAP 5. INSTANT HOT & COLD DISPENSER 6. OSMOSIS WATER FILTER UNDER SINK	B. DRYER (BY OWNER) WITH: 1. FUEL GAS 2. VENT TO OUTSIDE AIR	GARAGE	** CONCRETE *CONCRE	TE		** EPOXY FINISH * CONCRETE CURB	
B. DISHWASHER  1. ELECTRICAL POWER	C. CABINETS  1. UPPER 15" DEEP CABINET ABOVE WASHER AND DRYER	STORAGE 1	* WOOD WOOD			* CORK UNDERLAYMENT	
C. STEAM - WATER OVEN / MICROWAVE - WITH :  1. ELECTRICAL POWER  2. GAS	2. UPPER 3. LOWER CABINET W/TILE TOP & SPLASH	STAIR					
2. GAS 3. VENT AS REQUIRED 4. WATER	D. LAUNDRY TRAY 'CECO NO. 860' WITH:  1. FAUCET  2. SOAP DISPENSER	PANTRY					
D. REFRIGERATOR/FREEZER 48" WITH:  1. ELECTRICAL POWER		KITCHEN	<b>↓ ↓</b>		•		
2. TRIM FOR OVERLAY CABINET INSERT, IF REQUIRED  3. WATER TO ICEMAKER  5. CARINETS	BUILT-IN CLOSET SYSTEM - PROVIDE:  A. PROVIDE A MINIMUM OF 3 BIDS	OUTDOOR FAMILY ROOM	INTERLOCKING STONE PAVERS	EXTERIOR PLASTER	EXTERIOR PLASTER		
E. CABINETS  1. UPPER  2. LOWER WITH GRANITE TOP & TILE BACKSPLASH TO	B. SUBCONTRACTOR TO PROVIDE SHOP DRAWINGS FOR OWNER APPROVAL	CARD ROOM	* WOOD WOOD	GYP. BOARD	GYP. BOARD	* CORK UNDERLAYMENT	
UNDERSIDE OF UPPER CABINET 3. RANGE HOOD CABINET	CAPACE PROVIDE:	GREAT ROOM					
F. CENTER ISLAND  1. PLUG MOLD -24" O.C. RECESSED UNDER LIP OF	GARAGE - PROVIDE:  A. 5/8" TYPE "X" GYP. BOARD ON ALL WALLS, AND ATTIC SPACES -  2 LAYERS ON CEILINGS SEPARATING GARAGE FROM THE	HALLWAY 2					
COUNTER TOP-3 SIDES  2. FARM SINK WITH:  A. FAUCET	2 LAYERS ON CEILINGS SEPARATING GARAGE FROM THE DWELLING. B. 14" X 6" SCREENED VENT- INSTALL WITHIN 12" MAX. OF FLOOR &	COATS					
A. FAUCE I B. GARBAGE DISPOSAL W/ AIR SWITCH C. SOAP DISPENSER	12" MAX. OF CEILING - DRYWALL & FINISH AT ALL OPENINGS.	STORAGE 2	▼ STONE			<b>▼</b>	
D. AIR GAP G. MICROWAVE	FIREPLACES - PROVIDE: (SEE SHEET A2.6 FOR ADDITIONAL	POWDER ROOM	STONE MOSAIC				
1. ELECTRICAL POWER H. RANGE - 48" WITH:	INFORMATION) - INSTALLATION AND USE SHALL BE IN ACCORDANCE WITH THEIR LISTING.	BEDROOM 2	TILE * WOOD			* CORK UNDERLAYMENT	
1. FUEL GAS 2. ELECTRICAL POWER J. STAINLESS HOOD LINER - 1200FM PT WITH:	MODEL A - "AMERICAN HEARTH" MADISON SERIES DVD36FP  W/ HEARTH TO BE FLUSH WITH FINISH FLOOR.  1. FUEL GAS	WALK-IN-CLOSET					
1. REMOTE INLINE BLOWER ON ROOF 2. CABINET PANEL COVER	2. ELECTRICAL POWER 3. MAKE-UP AIR (EXTERIOR WALL UNITS)		TII =			<b>★</b>	
3. ELECTRICAL POWER K. 30" WARMING DRAWER WITH:	4. FACTORY SUPPLIED WALL FLUE CAP ´ 5. HEARTH SURFACE TO BE SELECTED BY OWNER	BATH 2 SHOWER	TILE TILE				
1. STAINLESS TRIM KIT 2. ELECTRICAL POWER L. TRASH COMPACTOR WITH:	6. MANTEL & SURROUND TO BE SELECTED BY OWNER	BATH 2 SHOWER	TILE				
1. ELECTRICAL POWER	HANDRAIL/GUARDRAIL - PROVIDE:	HALLWAY 3	WOOD			~WOOD BEAMS @ CEILING & * CORK UNDERLAYMENT FOR	STAMPS/
2 BUTLER'S PANTRY - PROVIDE: A. WINE REFRIGERATOR -	A. HANDRAIL WITH:  1. 34" TO 38" ABOVE NOSE OF TREAD.  2. ALL HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH	MASTER BEDROOM	* WOOD			WOOD BEAMS @ CEILING & * CORK UNDERLAYMENT FOR WOOD FLOORS	SEALS STERED ARCHES SHAEL AGAIN
B. CONVECTION STEAM / MICROWAVE OVEN - C. DISHWASHER -	OF THE STAIRS. HANDGRIP PORTION OF ALL HANDRAILS SHALL NOT BE LESS THAN 1.5" OR MORE THAN 2" IN CROSS-	MASTER BATH	TILE TILE	▼	•		W NO.C21107
D. SINK  1. FAUCET  2. GARBAGE DISPOSAL W/ AIR SWITCH & ELECTRICAL POWER	SECTIONAL DIMENSION, OR SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.	MASTER BATH SHOWER	STONE STONE	STONE	STONE		REN. 06-30-2021
2. GARBAGE DISPOSAL W/ AIR SWITCH & ELECTRICAL FOWER  3. SOAP DISPENSER  4. AIR GAP	3. OPEN HANDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT A SPHERE 4" IN DIAMETER CANNOT PASS THROUGH.	MASTER BATH TOILET	TILE TILE	GYP. BOARD	GYP. BOARD		OF CALIFORN
	A. GUARDRAIL WITH:  1. 36" HIGH MINIMUM GUARDRAIL ABOVE FINISH FLOOR	MASTER WALK-IN-CLOSET	* WOOD WOOD			* CORK UNDERLAYMENT	
3 PANTRY & STORAGE - 1 - PROVIDE: A. 6 SHELVES - PAINTED W/ RAISED EDGE WOOD TRIM	2. OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT A SPHERE 4" IN DIAMETER	BEDROOM 5				•	
B. ELECTRICAL POWER	CANNOT PASS THROUGH.	BATH 5	TILE TILE				
4 POWDER ROOM - PROVIDE:	ATTIC ACCESS - PROVIDE:  A. 30" W. X 54" L. ATTIC ACCESS LADDER BY: WERNER " ATTIC	BATH 5 SHOWER					
4 A. TOILET - ELONGATED  1. EXHAUST FAN - MIN. (1) ONE AIR CHANGE EVERY 12  MINUTES	MASTERS " MODEL WH2510 OR OWNER APPROVED EQUAL		· · · · · · · · · · · · · · · · · · ·	Ţ	,		J.M. Nolan Architects, Inc.
B. LAV.  1. UNDER COUNTER MOUNTED		FINISH NOTES:					116 Stagecoach Road Bell Canyon, CA 91307
2. FAUCET C. MIRROR - BEVELED GLASS - WALL MOUNTED IN FRAME	WATER HEATER - PROVIDE:  A. "RINNAI RUR98i" TANKLESS GAS WATER HEATER: (SEE SHT. A-	1. SEE DIV. 9 FINISHES DIV. 10 SPECIALTIES					818 710-6600
D. TOWEL BAR - 1 TOTAL - MOUNT AT + 42"  E. TOILET PAPER DISPENSER - MOUNT AT + 26"	2.3 & PLUMBING DRAWINGS, FOR ADDITIONAL INFORMATION)  1. THE INSTANTANEOUS WATER HEATER WITH AN INPUT RATING	DIV. 10 SPECIALTIES DIV. 22 PLUMBING DIV. 23 HVAC					818 716-7100 Fax
F. CABINET WITH STONE TOP & SPLASH  MASTER BATH - PROVIDE: (SEE SHEET A . 2 FOR ADDITIONAL	GREATER THAN 6.8KBTU/HR (2KW) SHALL HAVE ISOLATION VALVES ON BOTH THE COLD WATER SUPPLY AND THE HOT WATER PIPE LEAVING THE WATER HEATER, AND HOSE BIBS OR	DIV. 26 ELECTRICAL SEE SHEET A.2.1 & A.2.2 FOR AD	DITIONAL INFORMATION & REQUIF	EMENTS			
5 INFORMATION) A. TOILET - ELONGATED	OTHER FITTING ON EACH VALVE FOR FLUSHING THE WATER HEATER WHEN THE VALVES ARE CLOSED. CEnC 150.0(n), 110.3(c)	2. ALL DRYWALL TO BE 5/8" "FIF	ECODE® X"				
1. TOILET PAPER DISPENSER - MOUNT AT + 26" 2. EXHAUST FAN - MIN. (1) ONE AIR CHANGE EVERY 12 MINUTES	7 2. A 120 V ELECTRICAL RECEPTACLE WITHIN 3 FEET FROM THE	3. ALL DRYWALL TO RECEIVE A		TAL OR SUSSESSES			PROJECT
B. LAV'S (2) WITH:  1. UNDER COUNTER MOUNTED  2. FAUCET (2)	WATER HEATER & ACCESSIBLE TO THE WATER HEATER WITH NO OBSTRUCTIONS; AND  3. A CATEGORY II OR IV VENT, OR A TYPE B VENT WITH		ES AND CORNERS TO RECEIVE ME RECEIVE TILE ARE TO BE SET OVE				
2. FAUCET (2) C. MIRROR (2) WITH: 1. BEVELED GLASS - WALL MOUNTED IN FRAME	STRAIGHT PIPE BETWEEN THE OUTSIDE TERMINATION & THE SPACE WHERE THE WATER IS INSTALLED; AND	<ul><li>5. ALL INTERIOR WALLS WHICH</li><li>6. ALL WOOD BASE TO BE 3/4" &gt;</li></ul>		UNAUG DUAKU			
D. SHOWER STALL WITH:  1. STONE FLOOR - SLOPE TO DRAIN	4. A CONDENSATE DRAIN THAT IS 2" MAX. HIGHER THAN THE BASE ON THE INSTALLED WATER HEATER, AND ALLOWS						-
2. STONE - WALL TO CEILING 3. STONE - CEILING - SLOPE 16" FROM RIDGE	NATURAL DRAINING WITHOUT A PUMP; AND 5. A GAS SUPPLY LINE WITH A CAPACITY OF AT LEAST 200,000 BTU/HR						4
4. SHOWER HEAD 5. 2 VALVES 6. 18" WIDE BENCH X 18 HEIGHT - SLOPE TO DRAIN	BTU/HR 6. MOUNT MIN +36" ABOVE FINISH FLOOR						Ш ~ 2
7. HAND HELD SPRAY ON VERTICAL TRACK 8. RECESSED SHAMPOO NICHE - R.O.= 16" X 20" - HOT MOP	BUILT-IN VACUUM - PROVIDE:						
9. HOT MOP PAN, NICHE SHELF & SEAT AS REQUIRED 10. STEAM UNIT - W/ FLUSH CONTROL ON WALL	A. DUCTS USED IN CENTRAL VACUUM CLEANING SYSTEM WITHIN A DWELLING UNIT MAY BE OF PVC SCHEDULE 40. COPPER OR						2 08
E. CABINETS (2) WITH:  1. LOWER WITH STONE TOP & SPLASH  F. TOWEL BAR - MOUNT AT +42" - (2)	FERROUS PIPES OR CONDUITS EXTENDING FROM WITHIN A GARAGE AND DWELLING UNIT TO THE CENTRAL VACUUMING						回 8.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00
F. TOWEL BAR - MOUNT AT +42" - (2)  BATH 2 - PROVIDE: (SEE SHEET A . 2 FOR ADDITIONAL INFORMATION)	UNIT MAY BE USED. B. ELECTRICAL POWER						
$igg( 6 \ igg)$ A. TOILET - ELONGATED 1. TOILET PAPER DISPENSER - MOUNT AT + 26"	FORCED AIR UNIT - PROVIDE: (SEE A . 2 FOR ADDITIONAL						S & S
2. EXHAUST FAN - MIN. (1) ONE AIR CHANGE EVERY 12 MINUTES R. LAV	INFORMATION & MECHANICAL PLANS) A. FUEL GAS						L EB Č
B. LAV.  1. UNDER COUNTER MOUNTED  2. FAUCET	B. ELECTRICAL POWER  C. VENT TO OUTSIDE AIR						
C. MIRROR - TOP AT 8'-0" ABOVE FINISH FLOOR D. TOWEL BAR - 1 TOTAL - MOUNT AT + 42"	D. MAKE-UP AIR  E. PROVIDE FOR ALL REQUIREMENTS FOR HORIZONTAL MOUNTED  ATTIC UNITS						
E. JACUZZI TUB / SHOWER STALL WITH:  1. TUB & PUMP ACCESS PANEL (12" SQ. MIN) SOLID SOLDERED  CONNECTION LOCATED IN CLOSET	400 AMP. ELECTRIC SERVICE & METER						Z
CONNECTION LOCATED IN CLOSET  2. STONE - WALL TO CEILING  3. STONE CEILING							
4. SHOWER HEAD 5. VALVES - HANDSPRAY	CABLE SERVICE BOX - ABOVE  TELEPHONE SERVICE BOX - BELOW						$\prec$ $\prec$ $\prec$
6. RECESSED SHAMPOO NICHE BELOW SHOWER HEAD - R.O.=  14" X 20" - HOT MOP  7. HOT MOP SHAMPOO NICHE AS REQUIRED	A. ELECTRICAL POWER						
7. HOT MOP SHAMPOO NICHE AS REQUIRED  F. CABINET WITH:  1. STONE TOP & SPLASH	20 ALARM PANEL						Δ
1. STOINE TOLIC GOLLAGIT	A. TO BE SELECTED BY OWNER B. ELECTRICAL POWER						
1. TOILET PAPER DISPENSER - MOUNT AT + 26" 2. EXHAUST FAN - MIN. (1) ONE AIR CHANGE EVERY 12	21 PHONE - PROVIDE:  A. HARD WIRED  B. LLI APPROVED						BUILDING & SAFETY
MINUTES  B. LAV.  1. UNDER COUNTER MOUNTED	B. U.L. APPROVED C. ELECTRICAL POWER						
2. FAUCET C. MIRROR - TOP AT 8'-0" ABOVE FINISH FLOOR	$\langle 22 \rangle$ <b>TEC CENTER</b> - " PRO LAN 24 " BY U. S. TEC OR APPROVED EQUAL						
D. TOWEL BAR - 1 TOTAL - MOUNT AT + 42" E. SHOWER STALL WITH:	A. ELECTRICAL POWER						
1. TILE FLOOR - SLOPE TO DRAIN 2. TILE - WALL TO CEILING							
3. TILE CEILING 4. SHOWER HEAD 5. VALVES	$\langle 23 \rangle$						
6. RECESSED SHAMPOO SHELF - R.O.= 14" X 20" - HOT MOP 7. HOT MOP PAN, SHELF & SEAT AS REQUIRED							PERMIT NUMBER
F. CABINET WITH:  1. LOWER WITH STONE TOP & SPLASH							C21-000211
BATH 4 - PROVIDE: (SEE SHEET A . 2 FOR ADDITIONAL INFORMATION)  A. TOILET  1 TOILET BARER DISPENSER MOUNT AT + 26"							JOB NO. 21807A
1. TOILET PAPER DISPENSER - MOUNT AT + 26" 2. EXHAUST FAN - MIN. (1) ONE AIR CHANGE EVERY 12 MINUTES							DRAWN BY CM
MINUTES  B. TUB WITH:  1. TUB WITH "SOLID SOLDERED CONNECTION."							SCALE As Noted
2. VALVES AND SPOUT 3. SHOWER HEAD							DATE 3/17/2021
4. RECESSED SHAMPOO NICHE - R.O.= 14" X 20" - HOT MOP W/ TILE FINISH							SHEET TITLE
C. LAV 1. UNDER COUNTER MOUNTED							
2. FAUCET D. CABINETS 1. LOWER WITH TILE TOP & SPLASH							FINISH SCHEDULES &
E. TOWEL BAR - MOUNT AT +42"							PLAN NOTES
F. CABINET WITH: 1. LOWER WITH STONE TOP & SPLASH		1					I SHEETINU.
							SHEET NO.











1. SUPPLY POWER TO ADDITIONAL EQUIPMENT & OUTLETS AS REQUIRED. 2. ELECTRICAL CONTRACTOR TO VERIFY ALL ELECTRICAL REQUIREMENTS FOR EACH APPLIANCE, MOTOR ETC., PRIOR TO

3. COLOR OF ALL SWITCHES, OUTLETS AND PLATES TO BE SELECTED BY OWNER.

5. ALL SWITCHES AND PUSH BUTTONS SHALL BE MOUNTED AT 36" TO CENTERLINE ABOVE FINISH FLOOR, U.N.O. 6. PREWIRE FOR TELEPHONE, TELEVISION SYSTEM, ISDN LINES & ALL EXTERIOR OPENINGS FOR ALARM - PER OWNERS

MOULDING - VERIFY BASE SPECIFICATIONS WITH INTERIOR DESIGNER.

7. ALL DUPLEX OUTLETS, T.V. OUTLETS, TELEPHONE JACKS SHALL BE MOUNTED 12" ABOVE HORIZONTAL WITHIN THE BASE 8. ALL THERMALLY PROTECTED UNITS SHALL HAVE ALL INSULATION PULLED BACK A MINIMUM OF 3" AWAY FROM THE FIXTURE.

9. SHOW HIGH EFFICACY LUMINARIES IN KITCHEN, BATHROOMS, GARAGES, LAUNDRY ROOM AND UTILITY ROOM. 10. ALL COXIAL CABLE TO BE RG-6 MINIMUM. PROVIDE ALTERNATE BID ON RG-6 QUAD CABLE - VERIFY ALL LOCATIONS WITH

11. ALL OUTLET BOXES AND COVERS IN GARAGE WALL ADJACENT TO RESIDENCE SHALL BE METAL. 12. VERIFY ALL POOL & SPA (2) CONTROLS WITH OWNER - PROVIDE POWER & HOOKUP FOR EXTERIOR LIGHTS & EQUIPMENT.

13. PROVIDE POWER & LIGHTING CIRCUITS TO B.B.Q. 14. VERIFY OUTLET LOCATIONS AND VERIFY ANY ADDITIONAL REQUIREMENTS WITH OWNER.

B. SUBMITTALS ON ALL SERVICE AND SUB-PANELS C. LOAD SCHEDULE D. COST ON ALL EXTRA @ ROUGH STAGE FOR RECESSED LIGHTING, JUNCTION BOXES, SWITCHES & RECEPTACLES.

V.P. = VAPOR PROOF W.P. = WATER PROOF C.O. = CONDUIT ONLY W/ PULL CORD T.C. = TIME CLOCK P.C. = PHOTO CELL L.V. = LOW VOLTAGE

D.W. = DISHWASHER COMP. = TRASH COMPACTOR W.C. = WATER CHILLER I.H. = INSTANT HOT B.W. = BUN WARMER S.T. = STEAM UNIT M.D. = MOTION DETECTOR

17. VERIFY ALL DIMMER LOCATIONS WITH THE OWNER.

18. DIM ALL INTERIOR LIGHTING WHERE POSSIBLE. DIMMERS: "LUTRON MAESTRO" DIMMER SYSTEM: "LUTRON GRAFIK EYE" - 6

ZONES, 16 SCENES, REMOTE CONTROL TO BE PROVIDED IN DINING ROOM, FAMILY ROOM, STUDY, KITCHEN & MASTER

20. GROUND FAULT CIRCUIT INTERRUPTER PROTECTION COMPLIES WITH NEC ARTICLE 210-8 FOR ALL RECEPTACLES TO SERVE THE KITCHEN COUNTER TOP SURFACES AND BATHROOMS.

21. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE SOLAR ELECTRIC INSTALLATION. THE RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER LOCATION OR MAIN CIRCUIT LOCATION AND SHALL BE PERMANENTLY MARKED AS 'FOR FUTURE SOLAR ELECTRIC'. (4.211.4, ENERGY CODE §110.10, LAFD REQUIREMENT NO.96)

22. VERIFY LOCATION OF SPRINKLER CONTROLS WITH OWNER. 23. VERIFY LOCATION OF TECH CENTER WITH OWNER.

PROVIDE GFCI PROTECTION AT: BATHROOMS, GARAGES, COUNTERTOPS WITHIN KITCHENS, LAUNDRY AREAS, DISHWASHER CIRCUIT, WITHIN 6FT OF EITHER SINKS, BATHTUBS, OR SHOWERS. CEC 210.8

PROVIDE AFCI PROTECTION FOR ALL OUTLETS OR DEVICES IN A READILY ACCESSIBLE LOCATION IN KITCHENS, FAMILY ROOMS, DINING, LIVING ROOMS, LIBRARIES DENS, BEDROOMS, LAUNDRY, OR SIMILAR ROOMS AND AREAS. CEC 100, 210

PROVIDE A READILY ACCESSIBLE OUTDOOR RECEPTACLE, NOT MORE THAN 6.5 FT FROM FINISHED GRADE, BALCONY, DECK, OR PORCH WALKING SURFACE. (CEC 21 0.52(E)) 4. PROVIDE ONE RECEPTACLE OUTLET FOR EACH CAR SPACE IN ONE-FAMILY DWELLING GARAGES. CEC 21 0.52(G) (1)

OUTDOOR RECEPTACLES OR ADD NOTE THAT STATES RECEPTACLES LOCATED IN DAMP AND WET LOCATIONS SHALL BE LISTED AS WEATHER RESISTANT. CEC 406.9. "TAMPER-RESISTANT RECEPTACLES" ARE REQUIRED FOR RECEPTACLES THAT ARE 66" AND LESS ABOVE THE FINISHED FLOOR, AND IN ANY OF THE FOLLOWING LOCATIONS: KITCHENS, FAMILY ROOMS, DINING, LIVING ROOMS, LIBRARIES DENS, BEDROOMS, RECREATION ROOMS, LAUNDRY, OR SIMILAR ROOMS OR WALL SPACE. RECEPTACLES IN A DEDICATED

SPACE FOR A REFRIGERATOR, DISHWASHER, OR WASHER/DRYER ARE EXEMPT. CEC 406.12(A) (C), 210.52 PROVIDE HIGH EFFICACY LUMINAIRES IN THE KITCHEN, BATHROOM, GARAGES, LAUNDRY ROOM AND UTILITY ROOM.

NEWLY CONSTRUCTED ONE & TWO FAMILY DWELLINGS WITH ATTACHED PRIVATE GARAGES SHALL COMPLY WITH THE EV

INFRASTRUCTURE REQUIREMENTS IN ACCORDANCE WITH THE CALGREEN. CRC R309.8, CALGREEN 4.106.4 ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE, ARTICLE 625 WITHIN NEW (ONE-FAMILY DWELLINGS / TWO-FAMILY DWELLINGS / TOWNHOUSES) WITH ATTACHED PRIVATE GARAGES SHALL INSTALL A LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208/240 VOLT BRANCH CIRCUIT. THE RACEWAY SHALL MEET THE FOLLOWING: A.) SHALL BE A MINIMUM TRADE SIZE 1 (NOMINAL 1" INSIDE DIAMETER) AND, B.) 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 AND,

C.) SHALL BE CONTINUOUS AT ENCLOSED, INACCESSIBLE OR CONCEALED AREAS AND SPACES. THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE". PROVIDE A SEPARATE BRANCH CIRCUIT FOR THE PURPOSE OF CHARGING ELECTRIC VEHICLES. THIS CIRCUIT SHALL HAVE NOT OTHER OUTLETS. CEC 210.17

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. THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE SPACE(S) RESERVED FOR FUTURE EV CHARGING AS "EV CAPABLE". CALGREEN 4.106.4

### **WATER HEATER NOTE:**

A. A 120V ELECTRICAL RECEPTACLE WITHIN 3 FEET FROM THE WATER HEATER AND ACCESSIBLE TO THE WATER HEATER WITH NO OBSTRUCTIONS: AND B. A CATEGORY III OR IV VENT, OR A TYPE B VENT WITH STRAIGHT PIPE BETWEEN THE OUTSIDE TERMINATION AND THE

SPACE WHERE THE WATER IS INSTALLED; AND A CONDENSATE DRAIN THAT IS 2 INCHES MAX. HIGHER THAN THE BASE ON THE INSTALLED WATER HEATER, AND ALLOWS

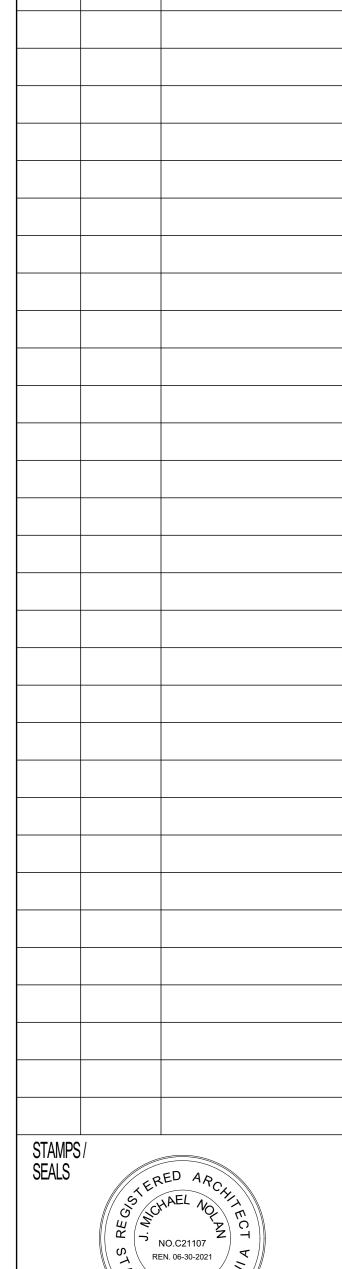
NATURAL DRAINING WITHOUT A PUMP; AND D. A GAS SUPPLY LINE WITH A CAPACITY OF AT LEAST 200,000 BTU/HR.

<u>SYMBOL</u>	MANUF'R.	MODEL NO.	<u>DESCRIPTION</u>		
\$	LEVITON	DECORA	SINGLE POLE SWITCH		
\$	LEVITON	DECORA	THREE WAY SWITCH		
<b>3</b> \$	LEVITON	DECORA	FOUR WAY SWITCH		
4			DIMMER		
\$ D			3 WAY DIMMER		
\$ D3	A	(S)	4 WAY DIMMER		
\$ D4			DOOR SWITCH - FINISH TO MATCH DOOR HARDWARE		
\$			TIMER		
DR	LEVITON	DECORA	DUPLEX OUTLET		
\$ T			PLUG MOLD MOUNTED TO UNDERSIDE CABINET - OUTLETS AT 18" O.C.		
$\bigoplus$	LEVITON	DECORA	DUPLEX OUTLET - 1/2 HOT		
<b>•</b>	LEVITON	DECORA	DUPLEX OUTLET - GROUND FAULT INTERRUPTER (GFI		
	LEVITON	DECORA	DUPLEX OUTLET WITHIN FLOOR		
$\bigoplus_{i \in \mathcal{I}} A_i$	LEVITON	DECORA	DUPLEX OUTLET - CEILING MOUNTED		
	LEVITON	DECORA	DUPLEX OUTLET - WATER PROOF COVER - GFI		
	LEVITON	DECORA	DUPLEX OUTLET - 220 VOLT		
			JUNCTION BOX - CEILING MOUNTED		
₩.P.			CEILING MOUNTED LED LIGHT FIXTURE		
J)					
X					
			RECESSED LED LIGHT FIXTURE		
$\bigcirc\!$			RECESSED LED LIGHT FIXTURE		
_			RECESSED LED STAIR LIGHT		
			WALL MOUNTED LED LIGHT FIXTURE		
$\subseteq$			LED UNDERCOUNTER LIGHT FIXTURE		
——•			4' SURFACE MOUNTED LED LIGHT FIXTURE		
0	NUTONE		EXHAUST FAN -MIN. 5 AIR CHANGES * (MIN. 50 CFM)		
(SD)(CM)	FIREX		COMBINATION SMOKE/CARBON MONOXIDE DETECTOR - HARD WIRE + BATTERY BACKUP		
(SD) CIVI)			WALL DISCONNECT SWITCH ( SIZE PER MFG'RS. SPEC'S. )		
A/C			TELEVISION CABLE OUTLET		
$\bigcirc$	LEVITON	DECORA	TELEPHONE OUTLET-WALL MOUNTED		
			TIME CLOCK		
TC	LEVITON	DECORA	DOOR CHIME PUSH BUTTON		
<u> </u>			MOTOR ( SEE PLAN PER MFG'RS. )		
DC	LUTRON		LIGHTING CONTROL PROCESSOR		

IN-WALL KEYPAD

SECURITY STATION

ELECTRIC VEHICLE SUPPLY EQUIPMENT



DATE

04.01.19 | BCAAC SUBMITTAL





J.M. Nolan Architects, Inc. 116 Stagecoach Road Bell Canyon, CA 91307 818 710-6600 818 716-7100 Fax

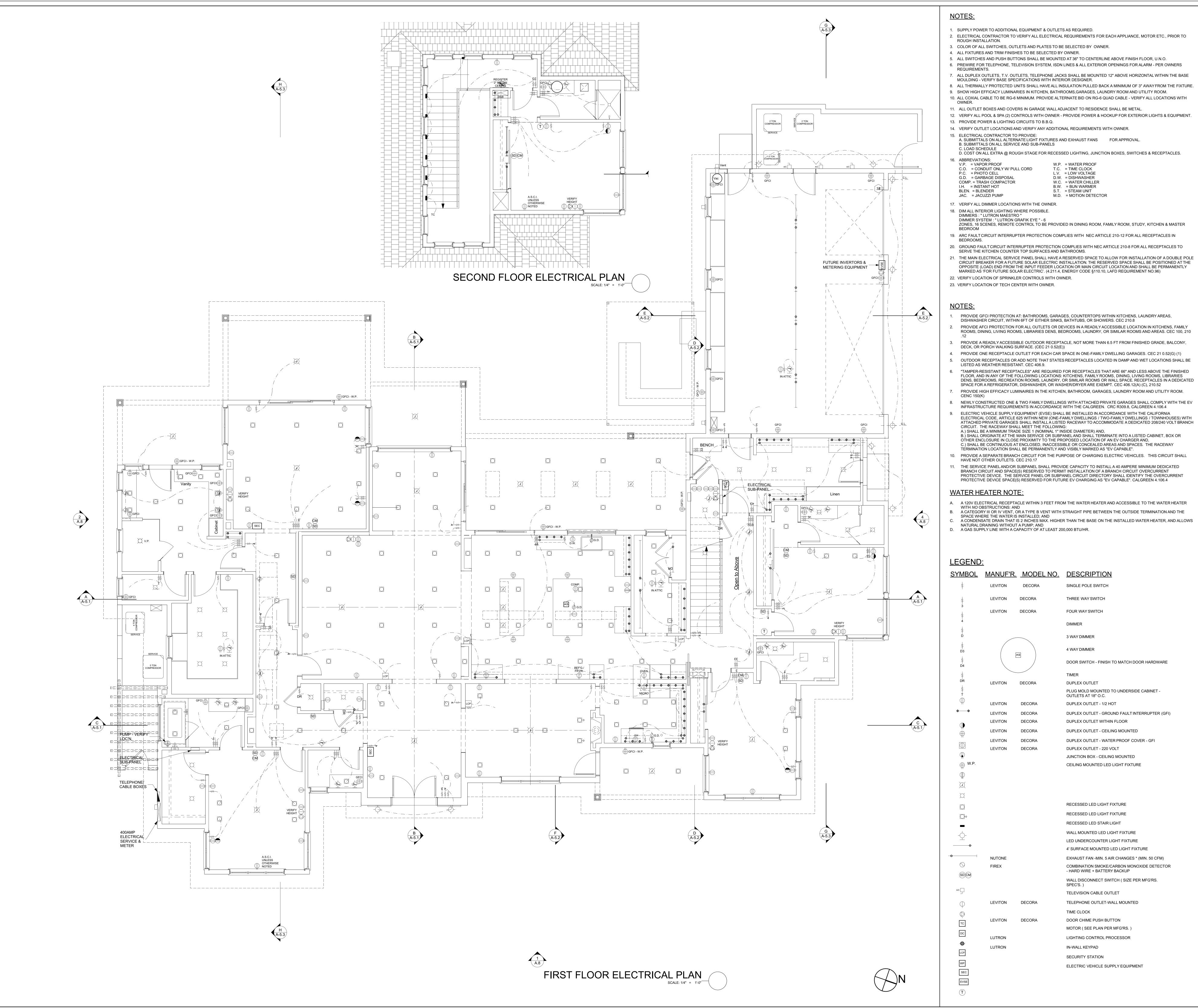
**BUILDING & SAFETY** 

PERMIT NUMBER C21-000211

JOBNO. 21807A DRAWNBY CM As Noted 3/17/2021 SHEET TITLE FIRST & SECOND FLOOR

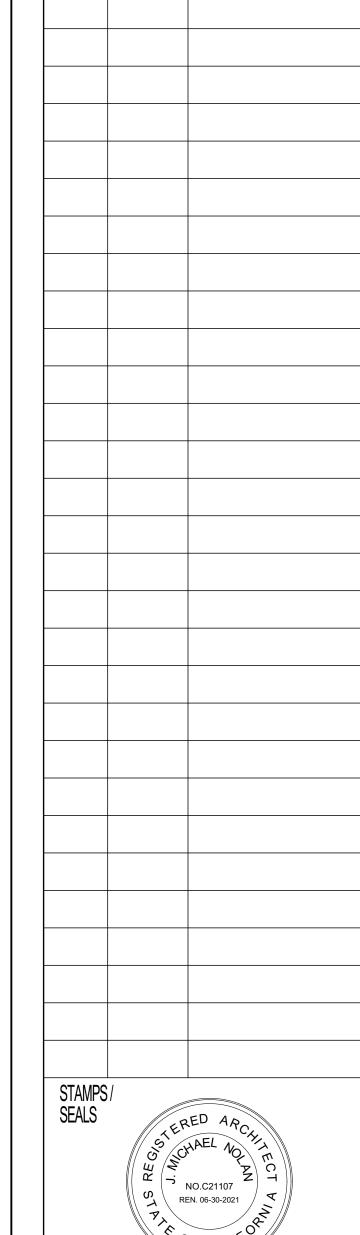
REFLECTED CEILING PLANS, LEGEND & NOTES SHEET NO.

A-4.3



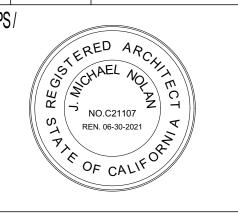
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ELECTRICAL CODE, ARTICLE 625 WITHIN NEW (ONE-FAMILY DWELLINGS / TWO-FAMILY DWELLINGS / TOWNHOUSES) WITH ATTACHED PRIVATE GARAGES SHALL INSTALL À LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208/240 VOLT BRANCH



DATE

04.01.19 BCAAC SUBMITTAL





116 Stagecoach Road Bell Canyon, CA 91307 818 710-6600 818 716-7100 Fax

**BUILDING & SAFETY** 

PERMIT NUMBER

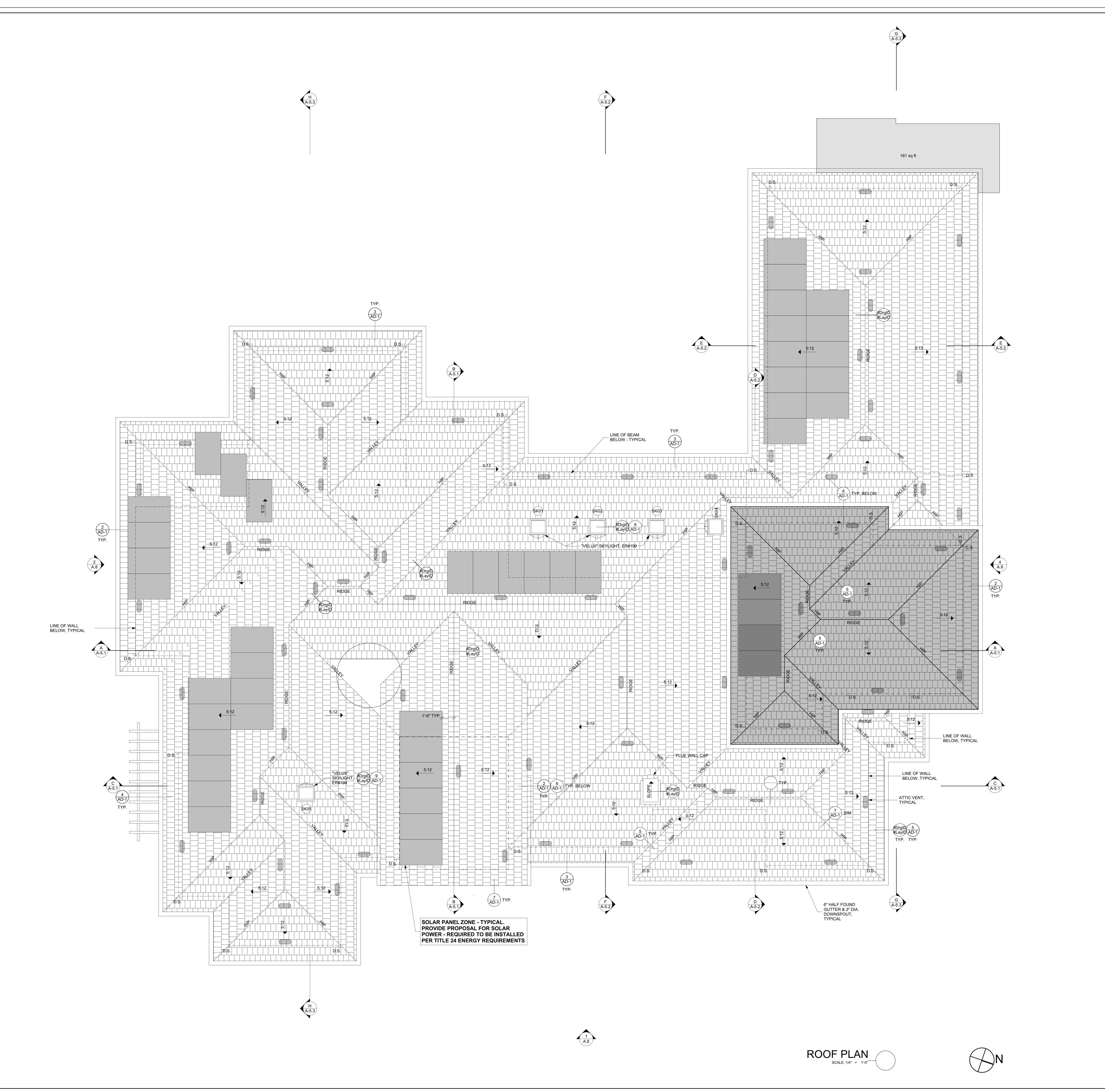
C21-000211 21807A

DRAWNBY CM As Noted 3/17/2021

SHEET TITLE

FIRST & SECOND FLOOR ELECTRICAL PLANS

SHEET NO. A-4.4



## ROOF NOTES:

- 1. DAVINCI SLATE BELLAFONTE SLATE, CASTLE GRAY-ECOBLEND ROOFING PRODUCTS, PER MANUFACTURERS SPECIFICATIONS, UNDERLAYMENT AS PER MANUFACTURES REQUIREMENTS, MINIMUM. EVALUATION REPORTS OVER PLYWOOD SHEATHING. CLASS "A" ROOF. ESR 2119 OR APPROVED EQUAL.
- GROUP ALL PLUMBING VENTS AND INSTALL ON REAR SIDE OF RIDGE WHERE POSSIBLE. ALL VENTS SHALL BE FINISHED TO MATCH ROOFING MATERIAL COLOR.
- 3. ROOF CONTRACTOR TO PROVIDE ALL G.I. METAL AT ALL ROOF CONNECTIONS, EAVES, VALLEYS, CHIMNEY, VENT FLASHING, ETC. PAINT COLOR TO MATCH ROOF MATERIAL.
- 4. ENCLOSED RAFTER SPACES WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF FRAMING MEMBERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATION OPENINGS BLOCKING AND BRIDGING. BLOCKING AND BRIDGING SHALL BE ARRANGED SO AS NOT TO INTERFERE WITH THE MOVEMENT OF AIR.
- 5. A MINIMUM OF 1 INCH AIR SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND ROOF SHEATHING. SEE INSULATION SPECIFICATIONS.
- 6. RAFTER BAYS WHICH ARE INTERRUPTED BY FRAMING FOR SKYLIGHTS, DORMERS AND OTHER SMALLER FEATURES SHALL HAVE CROSS VENTILATION PROVIDED WHICH MEETS ABOVE REQUIREMENTS.
- 7. VENT OPENINGS INTO ATTIC AND OTHER ENCLOSED AREAS SHALL BE COVERED WITH 1/4" CORROSION RESISTANT WIRE MESH EXCEPT FOR OPENINGS WITH SASH OR DOORS.
- 8. ALL ROOF VENTILATION TO BE "O'HAGIN LOW-PROFILE MODEL FLAT FIRE AND ICE "ATTIC VENTS" ICC-ES REPORT SBCCI-9650A OR APPROVED EQUAL. (707) 303-3660
- ALL VENTS SHALL BE PLACED IN A MANNER WHICH PROVIDES CROSS VENTILATION THAT IS EQUAL ON BOTH SIDES OF THE RIDGE WHERE POSSIBLE.
- 10. ATTIC VENTILATION: ATTIC SPACES OF COMBUSTABLE MATERIAL SHALL HAVE NET FREE VENTILATING AREA OF 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 VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE CORNICE VENTS.

#### **ROOF VENT CALCULATIONS:**

HOUSE LOWER LEVEL ROOF: 4,496 S.F. ÷ 150 = REQ'D 29.97 S.F. X 144 = 4,316 ÷ 98.75 = 43.71 TOTAL REQUIRED. 22 TOP REQUIRED (24PROVIDED) 22 BOTTOM REQUIRED (22 PROVIDED)

HOUSE UPPER ROOF AREA: 607 S.F. ÷ 150 = REQ'D 4.04 S.F. X 144 = 582.72 ÷ 98.75 = 5.96 TOTAL REQUIRED. 3 TOP REQUIRED (4 PROVIDED) 3 BOTTOM REQUIRED (6 PROVIDED)

GARAGE ROOF AREA: 1,087.25 S.F. ÷ 150 = REQ'D 7.25 S.F. X 144 = 1043.76 ÷ 98.75 = 10.57 TOTAL REQUIRED. 5 TOP REQUIRED (5 PROVIDED) 6 BOTTOM REQUIRED (7 PROVIDED)

NO. DATE ISSUED FOR

04.01.19 BCAAC SUBMITTAL





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PROJECT

KENI RESIDENCE 5 SADDLEBOW ROAD ELL CANYON, CA 91307-104

BUILDING & SAFETY

PERMIT NUMBER

C21-000211

JOBNO. 21807A

DRAWN BY CM

CALE As Noted
ATE 3/17/2021

SHEET TITLE

ROOF PLAN & ROOF NOTES
SHEET NO.

A-4.5



