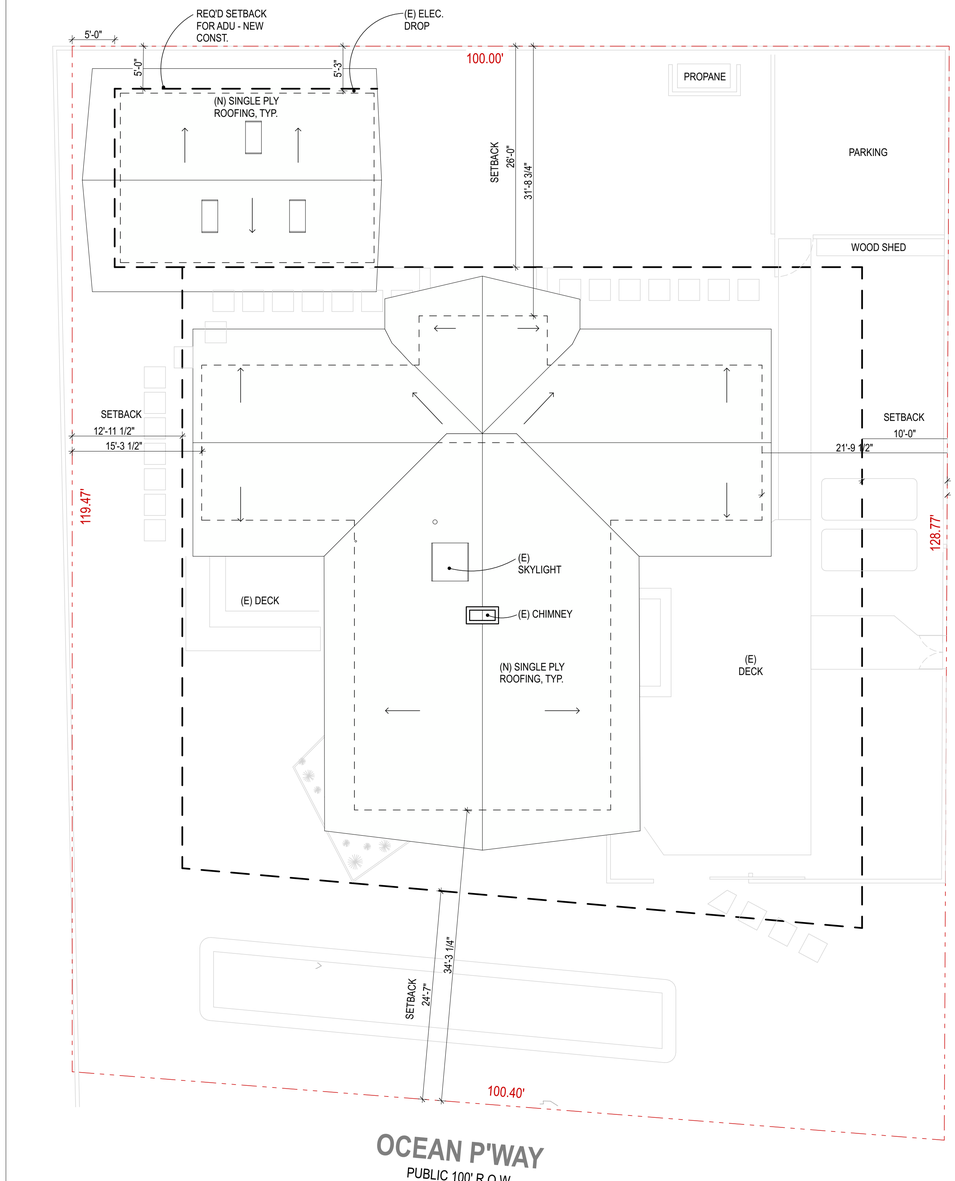


1 (E) SITE PLAN

SCALE: 1/8" = 1'-0"

0 2' 4' 8'

PLAN NORTH

SCOPE OF WORK

PROPERTY INFORMATION

SITE ADDRESS: 230 OCEAN PARKWAY BOLINAS, CA 94924
APN: 191-161-05
LOT: 14,393 sq ft (PER CAD)

R2

PROJECT SCOPE:

~~AN INTERIOR REMODEL TO EXISTING SINGLE FAMILY RESIDENCE. NEW DETACHED CATEGORY 1 ACCESSORY DWELLING UNIT, AND NEW ACCESSORY STRUCTURE <120 SF. WORK TO SFR INCLUDES REMODEL OF 2 EXISTING BATHROOMS, REMOVE AND REPLACE FINISHES,FIXTURES, AND WINDOWS/DOORS THROUGHOUT THE HOUSE (INCLUDING EXISTING KITCHEN).~~ NEW CATEGORY 1 ADU INVOLVES CONVERSION OF AN EXISTING OUTBUILDING (GARAGE/STUDIO) WITH ~60 SF ADDITION TO PROVIDE ACCESS (EGRESS) TO THE UNIT.

NOTE:

IF THIS PROJECT INVOLVES EXCAVATION, DRILLING, OR OTHER EARTHWORK OR ANY BARE GROUND IS EXPOSED BETWEEN OCTOBER 15 AND APRIL 15. EROSION CONTROL MEASURES MUST BE IN PLACE AND MAINTAINED CONTINUOUSLY DURING THOSE PERIODS. A SIGNED COPY OF THE EROSION CONTROL PLAN MUST BE POSTED AT THE SITE, ALONG WITH THE BUILDING PERMIT.

APPLICABLE CODES

ALL WORK SHALL CONFORM TO:
2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA RESIDENTIAL CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA GREEN BUILDING CODE AND MARIN COUNTY ALL APPLICABLE LOCAL APPLICABLE.

DEFERRED SUBMITTALS

FIRE SPRINKLERS
SOLAR PANELS

PROJECT DIRECTORY

OWNER: JOHN AND HOLLY HANKE
58 CREST RD,
PIEDMONT, CA 94611
holly.hanke@gmail.com
PHONE: 510-520-6651

DESIGNED BY: BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
Marco@buildinglab.com
PHONE: 775-450-3085

STRUCT ENG: MOSSWOOD ENGINEERING
NATE WILLIAMS
3360 ADELINE ST,
BERKELEY, CA 94703
nate@mosswoodengineering.com
PHONE: 510-470-9495

JURISDICTION: MARIN COUNTY

PROJECT DATA

ZONING & PLANNING INFORMATION

GLOBAL COORDINATES: 37.899120, -122.700630

T24 ZONE: CZ3
WUI ZONE: YES
FLOOD ZONE: NO

ZONING: C-RA-B2
NEIGHBORHOOD: BOLINAS QUAIL REFUGE
HEIGHT LIMIT: 25' MAIN
15' ACCESORY
FRONT SETBACK: 25'
BACK SETBACK: 10'
SIDE SETBACK: 20% LOT/25' MAX

OCCUPANCY: R-3; U
BLDG TYPE: VB
FIRE SPRINKLERS: EXISTING: NOT SPRINKLERED
PROPOSED: SPRINKLERED

MAIN HOUSE FLOOR AREA

EXISTING:	2,331 SF
PROPOSED:	-10 SF
TOTAL:	2,321 SF

ADU FLOOR AREA (SEE OTHER PERMIT) R1

EXISTING:	587 SF
PROPOSED:	60 SF
TOTAL:	647 SF

MISCELLANEOUS
WOOD SHED: 30 SF

FLOOR AREA RATIO(FAR)

EXISTING:	0.20
PROPOSED:	0.21

DECK FLOOR AREA

EXISTING:	1216 SF
PROPOSED:	726 SF
TOTAL:	1942 SF

ACCESSORY STRUCTURE

SHOWER/STORAGE:	95 SF
TRELLIS:	102 SF
TOTAL:	197 SF

IMPERVIOUS SURFACE AREA

EXISTING:	2918 SF
PROPOSED:	186 SF
TOTAL:	3104 SF

ABBREVIATIONS

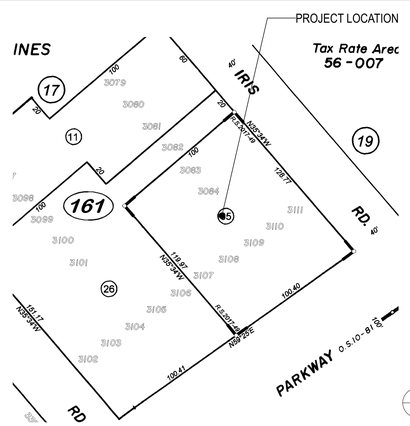
Ø	DIAMETER
AB.	ABOVE
A.F.F.	ABOVE FINISHED FLOOR
AFCI	ARC FAULT CIRCUIT INTERRUPTOR
ALT.	ALTERNATE
ARCH.	ARCHITECTURAL
BD.	BOARD
BLDG.	BUILDING
B.O.	BOTTOM OF
CAB.	CABINET
CBC	CALIFORNIA BUILDING CODE
C.H.	CEILING HEIGHT
C.J.	CONTROL JOINT
C.L.	CENTERLINE
CLG.	CEILING
CLR.	CLEAR
C.M.U.	CONCRETE MASONRY UNIT
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
D.	DRYER
DBL.	DOUBLE
DEPT.	DEPARTMENT
D.F.	DOUGLAS FIR
DIM.	DIMENSION
DN.	DOWN
DTL.	DETAIL
DW	DISHWASHER
DWG.	DRAWING
D.S.	DOWNSPOUT
(E)	EXISTING
EA.	EACH
ELEV.	ELEVATION
ELEC.	ELECTRICAL
EQ.	EQUAL
EQUIP.	EQUIPMENT
EST.	ESTIMATE
EXH	EXHAUST
EXT.	EXTERIOR
FA	FIRE ALARM
FAU	FORCED AIR UNIT
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINISH FLOOR
FIN.	FINISH
FIXT.	FIXTURE
FLR.	FLOOR(ING)
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUD
FT or (')	FEET OR FOOT
FV	FOUNDATION VENT
GA.	GAUGE
GM	GAS METER
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTEXRRUPTER
G.S.M.	GALVANIZED SHEET METAL
GWB.	GYPSUM WALL BOARD
HB	HOSE BIB
HDWR.	HARDWARE
HORIZ.	HORIZONTAL
HWD.	HARDWOOD
HT.	HEIGHT
H.W	HOT WATER
(I)	INSERT WINDOW
I.D.	INSIDE DIAMETER (DIM.)
IN.OR (")	INCH
INCL.	INCLUDE
INSUL.	INSULATION
INT.	INTERIOR
JT.	JOINT
LAV.	LAVATORY
MAX.	MAXIMUM
MTR	METER
MECH.	MECHANICAL
MED.	MEDIUM
MEMB.	MEMBRANE
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.R.	MOISTURE RESISTANT
MS	MOTION SENSOR
MTL.	METAL
N	NORTH
(N)	NEW
N.I.C.	NOT IN CONTRACT
NO. OR #	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER(DIM.)
OPNG.	OPENING
OPP.	OPPOSITE
PERF.	PERFORATED
PLY.	PLYWOOD
PROJ.	PROJECT
PROP.	PROPERTY
PTD.	PAINTED
P.T.	PRESSURE TREATED
(R)	REMODELED
R	RISER
R.C.P.	REFLECTED CEILING PLAN
REF.	REFRIGERATOR
REQ'D.	REQUIRED
RM.	ROOM
R.O.	ROUGH OPENING
R.O.W.	RIGHT OF WAY
(RS)	REPLACEMENT SASH
SOUTH	S
S.4.S.	SURFACED 4 SIDES
SCHED.	SCHEDULE
S.D.	SMOKE DETECTOR
SEL.	SELECT
SHWR	SHOWER
SIM.	SIMILAR
SM	SEWER MANHOLE
SPEC	SPECIFICATION(S)
SQ	SQUARE
SSD	SEE STRUCTURAL DRAWINGS
S.S.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
T	TREAD
T&G	TONGUE AND GROOVE
TEL.	TELEPHONE
THRU.	THROUGH
T.O.	TOP OF
T.O.W.	TOP OF WALL
TV	TELEVISION
TYP	TYPICAL
U.O.	UNDERSIDE OF
U.O.N.	UNLESS OTHERWISE NOTED
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
VS	VACANCY SENSOR
W.	WEST, WASHER
W/	WITH
W/O	WITHOUT
W.C.	WATER CLOSET
WD.	WOOD
W.H.	WATER HEATER
WP.	WATERPROOF
WMM	WATER METER MANHOLE

SYMBOLS/LEGEND

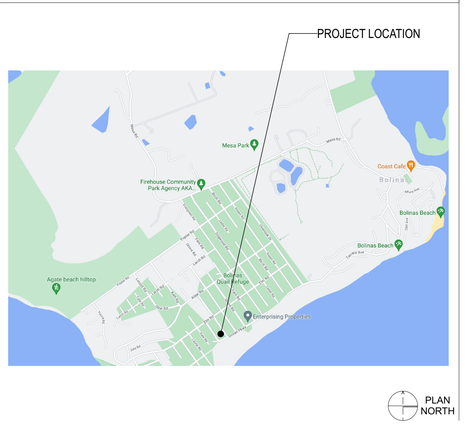
WALL
LINE BELOW
LINE OVERHEAD OR HIDDEN
(N) WALL
DEMO WALL
DEMO
X'-X" TO FACE OF FRAMING
X'-X" TO FACE OF FINISH
PROPERTY LINE
SETBACK
ROOM NAME / 000 ROOM NAME/NUMBER
GENERIC NOTE TYPICAL NOTE
ALIGN ALIGNMENT NOTE
01 STRUCTURAL LINE
+00'-00" POINT ELEVATION
PT. OF DIMENSION +00'-00" ELEVATION HEIGHT MARKER
ITEM# SHEET# ELEVATION INDICATOR
<SHEET#> INTERIOR ELEVATION INDICATOR
ITEM# SHEET# BUILDING SECTION
ITEM# SHEET# DETAIL SECTION
ITEM# SHEET# DETAIL INDICATOR
W1 CONSTRUCTION ASSEMBLY TYPE SYMBOL SEE 1/A5.2
REVISION SYMBOL
CENTERLINE
(#) I ### NEW WINDOW SASH IN (E) WINDOW JAMB
R# R ### NEW REPLACEMENT WINDOW OR DOOR
N# N ### NEW WINDOW OR DOOR

DRAWING INDEX

PARCEL MAP



LOCATION MAP



COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

building Lab
design / construction / fabrication
www.buildinglab.com

HANKE RESIDENCE

APN: 191-161-05
230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner

JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared

BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

issue	
BLDG. PERMIT	24.06.26
R1 RESPONSE	24.10.04
R2 RESPONSE	24.12.18

issue	date
drawn by	
checked by	

TITLE SHEET

sheet no.

A0.1

GENERAL INFORMATION					
01	Project Name	Ocean Parkway Remodel			
02	Run Title	Title 24 Analysis			
03	Project Location	230 Ocean Parkway			
04	City	Bolinas	05	Standards Version	2022
06	Zip code	94924	07	Software Version	EnergyPro 9.3
08	Climate Zone	3	09	Front Orientation (deg/ Cardinal)	135
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Addition and/or Alteration	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft^2)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	2321	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft^2)	2321	19	Glazing Percentage (%)	31.03%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	Natural gas	23	No Dwelling Units:	No

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	Building does not incorporate Special Features

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	65.35	0	64.81	0	0.54
Space Cooling	0	15.82	0	13.83	0	1.99
IAQ Ventilation	0	0	0	0	0	0
Water Heating	0	17.28	0	17.28	0	0
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	0	98.45	0	95.92	0	2.53
Photovoltaics		0		0		
Battery				0		
Flexibility						
Indoor Lighting	0	7.05	0	7.05		
Appl. & Cooking	0	14.3	0	14.29		
Plug Loads	0	20.7	0	20.7		
Outdoor Lighting	0	1.77	0	1.77		
TOTAL COMPLIANCE	0	142.27	0	139.73		

ENERGY USE INTENSITY				
	Standard Design (kBtu/ft^2 - yr)	Proposed Design (kBtu/ft^2 - yr)	Compliance Margin (kBtu/ft^2 - yr)	Margin Percentage
Gross EUI[1]	28.19	27.99	0.2	0.71
Net EUI[2]	28.19	27.99	0.2	0.71

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

REQUIRED SPECIAL FEATURES
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
* NO SPECIAL FEATURES REQUIRED

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

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Ocean Parkway Remodel	2321	1	2	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Status
Living Area	Conditioned	HVAC System1	2321	8	DHW Sys 1	Existing Unchanged

OPAQUE SURFACES										
01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
Front Wall	Living Area	R-0 Wall	135	Front	544	220.1	90	none	Existing	No
Left Wall	Living Area	R-0 Wall	225	Left	472	163.8	90	none	Existing	No
Rear Wall	Living Area	R-0 Wall	315	Back	544	139.3	90	none	Existing	No
Right Wall	Living Area	R-0 Wall	45	Right	472	160.9	90	none	Existing	No
Roof 2	Living Area	R-11 Roof Attic	n/a	n/a	2285	n/a	n/a		Existing	No
Raised Floor	Living Area	R-0 Floor Crawlspace	n/a	n/a	2321	n/a	n/a		Existing	No

OPAQUE SURFACES - CATHEDRAL CEILINGS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Azimuth	Orientation	Area (ft^2)	Skylight Area (ft^2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof	Status	Verified Existing Condition	Existing Construction
Roof	Living Area	R-11 Roof Attic	180	n/a	36.1	36	3	0.1	0.85	No	Existing	No	

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic Living Area	Attic Roof/Living Area	Ventilated	3	0.1	0.85	No	No	Existing	No

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
01R	Window	Front Wall	Front	135			1	9.2	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
02R	Window	Front Wall	Front	135			1	9.2	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
03R	Window	Front Wall	Front	135			1	9.2	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
04R	Window	Front Wall	Front	135			1	9.2	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
08R	Window	Front Wall	Front	135			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
09R	Window	Front Wall	Front	135			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
10R	Window	Front Wall	Front	135			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
11R	Window	Front Wall	Front	135			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
Door 02N	Window	Front Wall	Front	135			1	21.8	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
12R	Window	Left Wall	Left	225			1	9.2	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
13R	Window	Left Wall	Left	225			1	9.2	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
14R	Window	Left Wall	Left	225			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
15R	Window	Left Wall	Left	225			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
16N	Window	Left Wall	Left	225			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
18R	Window	Left Wall	Left	225			1	26	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
17N	Window	Left Wall	Left	315			1	45	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
Door 02N 2	Window	Rear Wall	Back	315			1	73.3	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
20N	Window	Rear Wall	Back	315			1	7	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
21N	Window	Rear Wall	Back	315			1	14	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No

UNDER SEPERATE PERMIT

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
19R	Window	Right Wall	Right	45			1	24	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
22R	Window	Right Wall	Right	45			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
05R	Window	Right Wall	Right	45			1	31.1	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
Door 01N	Window	Right Wall	Right	45			1	23.3	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
06R	Window	Right Wall	Right	45			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
07R	Window	Right Wall	Right	45			1	27.5	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
Skylight	Skylight	Roof		180			1	16	0.3	NFRC	0.35	NFRC		New	NA
Skylight 2	Skylight	Roof		180			1	20	0.3	NFRC	0.35	NFRC		New	NA

OPAQUE SURFACE CONSTRUCTIONS						
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco
R-11 Roof Attic1	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-11	None / None	0.085	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-11 / 2x4 Inside Finish: Gypsum Board

OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Attic Roof/Living Area	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-0 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.216	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12
R-11 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-11	None / None	0.081	Over Ceiling Joists: R-1.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION				
01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Not Required	Not Required	N/A	n/a	n/a

WATER HEATING SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Hydronic	Recirculating	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)	Existing	No	

WATER HEATERS														
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location	Status	Verified Existing Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	UEF	0.82	Btu/Hr	200000	0	n/a	n/a		Existing	No

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

SPACE CONDITIONING SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Existing HVAC System
HVAC System1	Heating and cooling system other	Heating Component 1	1	Cooling Component 1	1	n/a	n/a	n/a	Existing	No	

HVAC - HEATING UNIT TYPES				
01	02	03	04	05
Name	System Type	Number of Units	Heating Efficiency	Heating Unit Brand
Heating Component 1	Combined hydronic	1	AFUE - 84.44	n/a

HERS RATER VERIFICATION OF EXISTING CONDITIONS

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I, I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Timothy Carstairs	Documentation Author Signature: Timothy Carstairs
Company: Carstairs Energy Inc.	Signature Date: 2024-06-24 08:14:58
Address: 2238 Bayview Heights Drive, Suite E	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Los Osos, CA 93402	Phone: 805-904-9048

RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.	
Responsible Designer Name: Marco Hyman-Romero	Responsible Designer Signature: Marco Hyman-Romero
Company: Building Lab	Date Signed: 2024-06-24 15:58:43
Address: 999 43rd Street	License:
City/State/Zip: Oakland, CA 94608	Phone: 510-420-1132

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 178617
Date: 2/6/2025

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this document. It is the Registration Provider responsibility for the accuracy of the information.

Easy to Verify at CalCERTS.com

Carstairs Energy Inc.
2238 Bayview Heights Drive, Suite E
Los Osos, CA 93402
805-904-9048
ttlis224@yahoo.com
www.carstairsenergy.com

Ocean Parkway Remodel

A0.2 - MAIN HOUSE

RESIDENTIAL MEASURES SUMMARY — RMS-1

Project Name: Ocean Parkway Remodel	Building Type: ☑ Single Family ☐ Multi Family	☐ Addition Alone ☑ Existing+ Addition/Alteration	Date: 6/24/2024
Project Address: 230 Ocean Parkway Bolinas	California Energy Climate Zone: CA Climate Zone 0/3	Total Cond. Floor Area: 2,321	Addition: 0	# of Units: 1

INSULATION

Construction Type	Cavity	Area (ft^2)	Special Features	Status
Floor — Wood Framed w/Crawl Space	- no insulation	1,871		Existing
Wall — Wood Framed	- no insulation	324		Existing
Wall — Wood Framed	- no insulation	308		Existing
Wall — Wood Framed	- no insulation	405		Existing
Wall — Wood Framed	- no insulation	311		Existing
Roof — Wood Framed Attic	R 11	2,285		Existing

FENESTRATION — Total Area: 720 | Glazing Percentage: 31.0% | New/Altered Average U-Factor: 0.30

Orientation	Area(ft^2)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (SE)	220.1	0.300	0.35	none	none	N/A	Altered
Left (SW)	163.8	0.300	0.35	none	none	N/A	Altered
Rear (NW)	139.3	0.300	0.35	none	none	N/A	Altered
Right (NE)	160.9	0.300	0.35	none	none	N/A	Altered
Skylight	36.0	0.300	0.35	none	none	N/A	New

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Combined Hydronic	see DHW	No Cooling	14.0 SEER	Setback	Existing

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
HVAC System	Radiant Floor	Ductless	n/a	n/a	Existing

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status

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2022 Single-Family Residential Mandatory Requirements Summary

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

Ventilation and Indoor Air Quality:

§ 150.0(o)1: **Requirements for Ventilation and Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.*

§ 150.0(o)1B: **Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning system when the damper(s) is closed andcontrolled per §150.0(o)1Biiiiiv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.

§ 150.0(o)1C: **Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses .** Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1C-ii.

§ 150.0(o)1G: **Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of §150.0(o)1Giii;enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giv-v. Airflow must be measured by the installer per §150.0(o)1Gvi, and rated for sound per §150.0(o)1Gvii.*

§ 150.0(o)1H&I: **Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C.

§ 150.0(o)2: **Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G.

Pool and Spa Systems and Equipment:

§ 110.4(a): **Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDBS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*

§ 110.4(b)1: **Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.

§ 110.4(b)2: **Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.

§ 110.4(b)3: **Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.

§ 110.5: **Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.

§ 150.0(p): **Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*

Lighting:

§ 110.9: **Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*

§ 150.0(k)1A: **Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 40 lumens per watt.

§ 150.0(k)1B: **Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*

§ 150.0(k)1C: **Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.

§ 150.0(k)1D: **Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

§ 150.0(k)1E: **Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.

§ 150.0(k)1F: **Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).

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2022 Single-Family Residential Mandatory Requirements Summary

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

Building Envelope:

§ 110.6(a)1: **Air Leakage.** Manufactured fenestration, exterior doors, and exterior jet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *

§ 110.6(a)5: **Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).

§ 110.6(b): **Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.

§ 110.7: **Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.*

§ 110.8(a): **Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).

§ 110.8(g): **Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).

§ 110.8(i): **Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a roof roof is specified on the CF1R.

§ 110.8(j): **Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.

§ 150.0(a): **Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof attentions minimum R-19 or area-weighted average U-factor of 0.064 or less. Attic access doors must be insulated to the same insulation level as the surrounding surfaces. Access doors must be weatherstripped to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*

§ 150.0(b): **Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.

§ 150.0(c): **Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framed wall or have a U-factor of 0.102 or less; or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*

§ 150.0(d): **Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*

§ 150.0(f): **Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).

§ 150.0(g)1: **Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).

§ 150.0(g)2: **Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.

§ 150.0(r): **Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45.

Fireplaces, Decorative Gas Appliances, and Gas Logs:

§ 110.5(a): **Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.

§ 150.0(e)1: **Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.

§ 150.0(e)2: **Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.

§ 150.0(e)3: **Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0 § 110.3: **Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.*

§ 110.2(a): **HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *

§ 110.2(b): **Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.

§ 110.2(c): **Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*

§ 110.3(c)3: **Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.

§ 110.3(c)6: **Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

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2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1C: **Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*

§ 150.0(k)1H: **Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

§ 150.0(k)1I: **Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.

§ 150.0(k)2A: **Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.

§ 150.0(k)2B: **Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems.

§ 150.0(k)2A: **Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off.*

§ 150.0(k)2B: **Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).

§ 150.0(k)2C: **Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.

§ 150.0(k)2D: **Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the applicable requirements in § 190.0(k)2A.

§ 150.0(k)2E: **Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one [illegible] luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside [illegible] and cabinets with opaque doors or doors must have controls that turn the light off when the drawer or door is closed.

§ 150.0(k)2F: **Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, [illegible] and bedrooms) must be readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted [illegible] down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.*

§ 150.0(k)2K: **Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets [illegible] ceiling-installed lighting.

§ 150.0(k)3A: **Residential Outdoor Lighting.** For single-family residences, [illegible] permanently mounted to a residential building, or to other buildings on the same lot, must have a motion sensor or automatic time switch control or an astronomical time clock. An [illegible] specified control functionality and meets all applicable requirements may be used.*

§ 150.0(k)4: **Internally Illuminated address signs.** [illegible] ply with § 140.8 or consume no more than 5 watts of power.

§ 150.0(k)5: **Residential Garages for [illegible]** garages for eight or more vehicles must comply with the applicable requirements of [illegible] 130.4, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a)1: **Single-family [illegible]** [illegible] ssions with 70 or more single-family residences and where the [illegible] has been deemed complete and approved by the enforcement agency, [illegible] ply with the requirements of § 110.10(b)-(d).

§ 110.10(b): [illegible] e a minimum total area as described below. The solar zone must comply with [illegible] requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any [illegible] the solar zone total area must be comprised of areas that have no dimension less than 5 [illegible] each for buildings with roof areas less than or equal to 10,000 square feet or no less than 100 [illegible] roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be [illegible] on one building and have a total area no less than 250 square feet.*

§ 110.10(c): [illegible] the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.

§ 110.10(c)1: [illegible] ne must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof [illegible] ument.

§ 110.10(c)2: 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 [illegible] orizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the [illegible] olar zone, measured in the vertical plane.

§ 110.10(c)3: **Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.

§ 110.10(d): **Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.

§ 110.10(e)1: **Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(d) must be provided to the occupant.

§ 110.10(e)2: **Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.

§ 110.10(e)2: **Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric.

Electric and Energy Storage Ready:

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2022 Single-Family Residential Mandatory Requirements Summary

§ 110.0: **Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas' fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.*

§ 150.0(h)1: **Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volumes, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

§ 150.0(h)3A: **Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.

§ 150.0(h)3B: **Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.

§ 150.0(j)1: **Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code.*

§ 150.0(j)2: **Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space (between the building's thermal envelope and the point of connection with the space conditioning system) must include a Class I or Class II vapor retarder with all joints sealed. Insulation covering cold water piping must include a vapor retarder and be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind, and must be waterproof and non-crushable casing or sleeve.

§ 150.0(n)1: **Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5 x 2.5 x 7 x 7' suitable for the future installation of a heat pump water heater. The area must meet electrical and plumbing requirements, based on the distance between the designated space and the water heater's location, and a condensate drain no more than 2' higher than the base of the water heater.

§ 150.0(n)3: **Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a testing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)3: **Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify (at the time, in writing, that the insulation meets this requirement.

§ 150.0(m)1: **CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible, and Table 6-2. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections between rigid ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and fiber mesh or tape must be used to seal openings greater than ¼", if mastic or tape is used. Building cavities, air handler boots or connected with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must be compressed.*

§ 150.0(m)2: **Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.

§ 150.0(m)3: **Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.

§ 150.0(m)4: **Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.

§ 150.0(m)5: **Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.

§ 150.0(m)6: **Protection of Insulation.** Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.

§ 150.0(m)10: **Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.

§ 150.0(m)11: **Duct System Sealing and Leakage Test.** When space conditioning systems use forced air ducts to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.*

§ 150.0(m)12: **Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems that have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter.*

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2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(n): **Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits per § 150.0(n), at least four branch circuits must be identified and have a source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with sleeveless installed between the panelboard and the switch location to allow the connection of backup power source.

§ 150.0(o): **Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as '240V ready;' and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

§ 150.0(v): **Electric Cooktop Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as '240V ready;' and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

§ 150.0(y): **Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as '240V ready;' and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

5/6/22

Carstairs Energy, Inc.
2238 Bayview Heights Drive, Suite E
Los Osos, CA 93402
805-904-9048
titiz24@yahoo.com
www.carstairsenergy.com

Ocean Parkway Remodel

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

A0.3 - MAIN HOUSE

UNDER SEPERATE PERMIT

GENERAL INFORMATION					
01	Project Name	Ocean Parkway ADU			
02	Run Title	Title 24 Analysis			
03	Project Location	230 Ocean Parkway			
04	City	Bolinas	05	Standards Version	2022
06	Zip code	94924	07	Software Version	EnergyPro 9.3
08	Climate Zone	3	09	Front Orientation (deg/ Cardinal)	135
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Addition and/or Alteration	13	Number of Bedrooms	1
14	Addition Cond. Floor Area (ft^2)	61	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	587	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft^2)	648	19	Glazing Percentage (%)	30.71%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	Natural gas	23	No Dwelling Unit:	No

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	Building does not incorporate Special Features

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	75.06	0	76.31	0	-1.25
Space Cooling	0	21.75	0	20.3	0	1.45
IAQ Ventilation	0	0	0	0	0	0
Water Heating	0	50.09	0	45.47	0	4.62
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	**0**	**146.9**	**0**	**142.08**	**0**	**4.82**
Photovoltaics		0		0		
Battery				0		
Flexibility						
Indoor Lighting	0	10.61	0	10.61		
Appl. & Cooking	0	48.42	0	48.42		
Plug Loads	0	58.96	0	58.96		
Outdoor Lighting	0	2.05	0	2.05		
TOTAL COMPLIANCE	**0**	**266.94**	**0**	**262.12**		

ENERGY USE INTENSITY

	Standard Design (kBtu/ft^2 - yr)	Proposed Design (kBtu/ft^2 - yr)	Compliance Margin (kBtu/ft^2 - yr)	Margin Percentage
Gross EUI[1]	51.61	50.57	1.04	2.02
Net EUI[2]	51.61	50.57	1.04	2.02

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

REQUIRED SPECIAL FEATURES

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

- NO SPECIAL FEATURES REQUIRED

HERS FEATURE SUMMARY

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

- Kitchen range hood

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Ocean Parkway ADU	648	1	1	2	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Status
Existing Living Area	Conditioned	HVAC System1	587	8	DHW Sys 1	Existing Unchanged
New Living Area	Conditioned	HVAC System1	61	8	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
Front Wall	Existing Living Area	R-0 Wall	135	Front	152	0	90	none	Existing	No
Left Wall	Existing Living Area	R-0 Wall	225	Left	168	0	90	none	Existing	No
Rear Wall	Existing Living Area	R-0 Wall	315	Back	224	22	90	none	Existing	No
Right Wall	Existing Living Area	R-0 Wall	45	Right	168	136	90	none	Existing	No
Front Wall 2	New Living Area	R-15 Wall	135	Front	72	20	90	Extension	New	n/a
Left Wall 2	New Living Area	R-15 Wall	225	Left	48	0	90	Extension	New	n/a
Right Wall 2	New Living Area	R-15 Wall	45	Right	48	21	90	Extension	New	n/a
Interior Surface	New Living Area>>Existing Living Area	R-0 Wall1	n/a	n/a	72	0	n/a		New	n/a
Roof	Existing Living Area	R-11 Roof Attic	n/a	n/a	587	n/a	n/a		Existing	No
Roof 2	New Living Area	R-30 Roof Attic	n/a	n/a	61	n/a	n/a		New	n/a
Raised Floor	Existing Living Area	R-0 Floor Crawlspace	n/a	n/a	587	n/a	n/a		Existing	No
Raised Floor 2	New Living Area	R-19 Floor Crawlspace	n/a	n/a	61	n/a	n/a		New	n/a

ATTIC

01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic Existing Living Area	Attic RoofExisting Living Area	Ventilated	3	0.1	0.85	No	No	Existing	No
Attic New Living Area	Attic RoofNew Living Area	Ventilated	3	0.1	0.85	Yes	No	New	n/a

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
23N	Window	Rear Wall	Back	315			1	22	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
Door 13N	Window	Right Wall	Right	45			1	136	0.3	NFRC	0.35	NFRC	Bug Screen	Altered	No
Door 14N	Window	Front Wall 2	Front	135			1	20	0.3	NFRC	0.35	NFRC	Bug Screen	New	NA
21N	Window	Right Wall 2	Right	45			1	21	0.3	NFRC	0.35	NFRC	Bug Screen	New	NA

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
R-0 Wall1	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic RoofExisting Living Area	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Attic RoofNew Living Area	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12
R-0 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.216	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x12
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x10 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10
R-11 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-11	None / None	0.081	Over Ceiling Joists: R-1.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Not Required	Not Required	N/A	n/a	n/a

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)	New	NA	

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location	Status	Verified Existing Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	UEF	0.93	Btu/Hr	200000	0	n/a	n/a		New	n/a

WATER HEATING - HERS VERIFICATION

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

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Existing HVAC System
HVAC System1	Heating and cooling system other	Heating Component 1	1	Cooling Component 1	1	n/a	n/a	Setback	New	No	

HVAC - HEATING UNIT TYPES

01	02	03	04	05
Name	System Type	Number of Units	Heating Efficiency	Heating Unit Brand
Heating Component 1	Gas wall furnace	1	AFUE - 75	n/a

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Timothy Carstairs	Documentation Author Signature: Timothy Carstairs
Company: Carstairs Energy Inc.	Signature Date: 2024-06-24 08:14:58
Address: 2238 Bayview Heights Drive, Suite E	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Los Osos, CA 93402	Phone: 805-904-9048

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

Responsible Designer Name: Marco Hyman-Romero	Responsible Designer Signature: Marco Hyman-Romero
Company: Building Lab	Date Signed: 2024-06-24 15:58:43
Address: 999 43rd Street	License: [illegible]
City/State/Zip: Oakland, CA 94608	Phone: 510-420-1133

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this report. Registration Provider responsibility for the accuracy of the information.

COUNTY OF MARIN
Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 178617
Date: 9/6/2025

Easy to Verify at CalCERTS.com

Carstairs Energy Inc.
2238 Bayview Heights Drive, Suite E
Los Osos, CA. 93402
805-904-9048 tim24@yahoo.com
www.carstairsenergy.com

Ocean Parkway ADU

A0.4 - ADU

MARIN COUNTY GREEN BUILDING FORM
STANDARDS FOR SINGLE-FAMILY RENOVATIONS 750 SQUARE FEET OR MORE

The provisions of this checklist apply to projects where the cumulative scope of the permitted work is 750 square feet or more. These green building standards have been established to ensure that single-family residential (one- and two-family dwellings and townhouses) undergoing renovations (aka additions and alterations) in Marin County are healthy for occupants, have limited impact on the environment, reduce demand for energy, and result in cost savings from building operations. Requirements were adopted November 2022 and enforced starting January 1, 2023, ending December 31, 2025. The three-step process below helps applicants understand and comply with the County's green building requirements. Please reference Title 19.04 and 19.07 of the Marin County Building Code to comply.

GREEN BUILDING PROJECT PROCESS

1 PROJECT DESIGN

It is important for project owners, architects, engineers, and designers to understand the applicable state and local green building requirements prior to project design. Early consideration of these standards allows for design of buildings and systems that are compliant, energy efficient, and cost effective, and minimize back and forth.

2 PLANNING APPLICATION (*IF REQUIRED*)

If your project is subject to planning review, be prepared to identify in your planning application what compliance methods you've selected and how you plan to meet the requirements. If you anticipate difficulties meeting the requirements outlined in the Green Building Checklist, these concerns and any requests for exemptions should be identified in your planning application.

3 INITIAL BUILDING PERMIT SUBMITTAL

All the following MUST be included with your initial application for a building permit:

- ☐ Completed Marin County Green Building Checklist (*page 2-3*)
- ☐ Completed Marin County CALGreen Tier 1 Checklist (*pages 4-15*), with plan sheet references where applicable.
- ☐ Completed Marin County Energy Checklist (*unless exempt, pages* 16-22)
- ☐ Energy Code compliance documents as required under State Energy Code

DEFINITION OF "NEW CONSTRUCTION"
Removal or substantial modification of more than 75 percent of the linear sum of a building's exterior walls for each story shall be considered demolition of the building (County of Marin Development Code Chapter 22.130.030), triggering the new construction requirements. If your renovation (addition and alteration) project meets this definition, please see the guide for new construction.

MARIN COUNTY GREEN BUILDING CHECKLIST
STANDARDS FOR SINGLE-FAMILY RENOVATIONS 750 SQUARE FEET OR MORE

PROJECT ADDRESS: 230 Ocean Parkway, Bolinas, CA

APN: 191-161-05 APPLICANT NAME: Marco Hyman-Romero

1. GREEN BUILDING AND EV READINESS

☐ Complete this Marin County Green Building Checklist AND CALGreen Tier 1 Checklist.
VERIFICATION: Checklists must be signed by a qualified building professional, such as an architect, engineer, or a qualified green building professional and attached to your application.

2. ENERGY EFFICIENCY AND ELECTRIFICATION (Check One of the Following)

☐ Complete the Marin County Energy Checklist.
VERIFICATION: Checklist must be signed by a qualified building professional, such as an architect, engineer, or a qualified green building professional and attached to your application.

☐ Newer Vintage Building Exemption (Constructed on or after January 1, 2011)
VERIFICATION: Provide evidence of the original permit date for construction of your building

☐ All-Electric Exemption
Proposed design includes ALL the following: All-electric end uses, no natural gas, and no electric resistance space or water heat. Gas meters or propane infrastructure are not allowed, except that infrastructure is not required to be removed after being capped.
VERIFICATION: Attach Title 24 Energy Reports that complies with State minimum energy code

3. LOW CARBON CONCRETE (Check One of the Following)

☐ Permit application includes completed Cement or Embodied Carbon limit compliance forms that can be found on the County's Low-Carbon Concrete Requirements webpage.
VERIFICATION: Compliance forms must be signed re-submitted after completion of poured concrete along with batch (proof) receipts.

☐ Not applicable; the project does not include pouring new concrete.

4. PROJECT VERIFICATION

This form and all referenced forms herein have been completed by Marco Hyman-Romero (name) of building Lab (company), the party responsible for this building permit application for the above listed project who affirms under penalty of perjury that it accurately represents the project plans. Applicant still must complete the CALGreen Tier 1 Checklist, Energy Checklist, and/or Low Carbon Concrete form, as applicable.

Marco Hyman-Romero
Signature

6/25/24
Date

Marco Hyman-Romero
Name (Please Print)

5. SUMMARIZING ENERGY END USE (CHECK BOXES AND INPUT VALUES):

☑ Total Conditioned Floor Area within the Project Scope 2,969 square feet

SELECT either the Performance or Prescriptive-based Compliance Pathway below and submit appropriate documentation as requested (Check One of the Following):

- ☑ For projects using the Performance Based Pathway to Compliance, submit data extract in .xml format from the 2022 Energy Code Compliance Software (CBECC or EnergyPro)
- ☐ For projects using the Prescriptive Based Pathway to Compliance (Check One of the Following):
  - ☐ Submit data extract in .xml format from the 2022 Energy Code Compliance Software (CBECC or EnergyPro), OR
  - ☐ If Energy Code Compliance Software was not used, please select the following measures planned for installation in Table 1 below, within the scope of your project (check all that apply):

Table 1. Measures and Appliances Installed

Check All That Apply	Measures Installed	Check All That Apply	Measures Installed
☐	Air Sealing	☐	Heat Pump Water Heater, High Efficiency, NEEA Tier 3
☐	Cool Roof	☐	Hot water pipe and tank insulation, low-flow fixtures
☐	Duct Sealing	☐	Induction Cooktop
☐	Exterior Photosensor	☐	LED lamp vs CFL
☐	Heat Pump Dryer	☐	New Ducts
☐	Heat Pump HVAC	☐	R-49 Attic Insulation
☐	Heat Pump HVAC, High Efficiency, SEER 21 or greater; HSPF 11 or greater	☐	Solar PV _____ kW DC
☐	Heat Pump Water Heater	☐	Battery (storage) _____ kWh
☐	Other (please describe): ______		

VERIFICATION: Compliance will be verified by 1) submitting 2022 Energy Code Compliance Software data extract (.xml) and attaching Title 24 Energy Reports that complies with State minimum energy code, OR 2) completing Table 1 above.

MARIN COUNTY CALGREEN TIER 1 CHECKLIST
STANDARDS FOR SINGLE-FAMILY RENOVATIONS 750 SQUARE FEET OR MORE

This checklist is effective January 1, 2023 and applies to additions and alterations of one- and two-family dwellings and townhouses with attached private garages.

The provisions of this checklist apply to projects where the cumulative scope of the permitted work being added to or altered is 750 square feet or more. Existing site and landscaping improvements that are not otherwise disturbed are not subject to CALGreen.

Submit this CALGreen Tier 1 checklist accompanied with the Marin County Green Building Checklist (page 2 above) with your plans to demonstrate compliance with the green building ordinance. This checklist includes modifications specific to Marin County. For more information on the County's Green Building requirements, please visit www.maringreenbuilding.org

For more information on CALGreen and complete measure language, see Marin County Building Code, Chapter 19.04.135, Subchapter 2 which requires (with amendments) CALGreen Chapters 4 and Appendix A4.

PROJECT DETAILS

230 Ocean Parkway, Bolinas, CA
Project Address

191-161-05
APN

Marco Hyman-Romero
Applicant Name (Please Print)

PROJECT VERIFICATION

The green building professional[1] has reviewed the plans and certifies that the mandatory and elective measures listed below are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2022 California Green Building Standards Code as amended by the County of Marin.

Marco Hyman-Romero
Signature

6/25/24
Date

Marco Hyman-Romero
Name (Please Print)

---

[1] A qualified building professional can be an architect, engineer, contractor, or qualified green building professional, such as a CALGreen Special inspector or LEED AP.

DIVISION 4.1 PLANNING AND DESIGN

- ✓ *All measures marked as **(MANDATORY)** are required unless not in project scope.*
- ✓ *For all measures marked as (**ELECTIVE**), a minimum of TWO **ELECTIVE** measures must be selected.*
- ✓ *Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.*

4.106.2 (MANDATORY) A plan is developed and implemented to manage stormwater runoff from the construction activities through compliance with the County of Marin's Stormwater Runoff Pollution Prevention Ordinance.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* ______

4.106.3 (MANDATORY) Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* ______

A4.106.2.3 (MANDATORY) Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* ______

A4.106.4 (MANDATORY) Permeable paving is utilized for not less than 20 percent of the total parking, walking, or patio surfaces.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.106.5 (MANDATORY) Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI) equal to or greater than the values specified in Tables A4.106.5.1(3).
In Marin County, this measure does not apply to low-rise residential. This measure applies only to high-rise residential buildings, hotels, and motels with a roof slope >2:12.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.106.8.1 (MANDATORY) For one- and two-family dwellings and townhouses with attached private garages, if the project scope includes an upgrade of the electrical service panel, install a dedicated 208/240-volt branch circuit, including an overcurrent protective device rated at 40 amperes minimum per dwelling unit for future EV charging, in accordance with *CALGreen Measure A4.106.8.1 Tier 1 and Tier 2*.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.103.1 Site Selection (ELECTIVE) - A site which complies with at least one of the following characteristics (check at least one):

- ☐ Infill
- ☐ Greyfield
- ☐ EPA-recognized Brownfield

Plan sheet reference (if applicable): N/A

A4.103.2 Site Selection (ELECTIVE) - Facilitate Community connectivity by locating w/in true walking distance of (check at least one):

- ☐ ¼ mile of at least 4 basic services
- ☐ ½ mile of at least 7 basic services
- ☐ Other methods increasing access to additional resources

Plan sheet reference (if applicable): N/A

A4.104.1 Site Preservation (ELECTIVE) - An individual with oversight responsibility of the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities
Completed ☑ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.105.2 Deconstruction and Reuse of Existing Materials (ELECTIVE) - Existing buildings are disassembled for reuse or recycling of building material. The proposed structure utilizes at least one of the following materials which can be easily reused (check at least one):

- ☐ Light fixtures
- ☐ Plumbing fixtures
- ☑ Doors and trim
- ☐ Masonry
- ☐ Electrical devices
- ☐ Appliances
- ☑ Foundations or portions of foundations

Plan sheet reference (if applicable): A1.3 & A1.4

A4.106.2.1 Site Development (ELECTIVE) – Soil analysis is performed by a license design professional and the findings utilized in the structural design of the building
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* S1

A4.106.2.2 Site Development (ELECTIVE) – Soil disturbance and erosion are minimized by using one of the following (check at least one):

- ☐ Natural drainage patterns are evaluated and erosion controls are implemented to minimize erosion during construction and after occupancy.
- ☐ Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways.
- ☐ Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed and the soil is replaced using accepted compaction methods.

Plan sheet reference (if applicable): N/A

A4.106.3 Site Development (ELECTIVE) – Postconstruction landscape designs accomplish one or more of the following (check at least one):

- ☐ Areas disrupted during construction are restored to be consistent with native vegetation species and patterns
- ☐ Utilize 75 percent of native California or drought tolerant plant and tree species appropriate for the climate zone region.

A4.106.6 Site Development (ELECTIVE) – Install a vegetated roof for at least 50 percent of roof area and shall comply with requirements for roof gardens and landscaped roofs in California Building Code, Chapter 15/16
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.106.7 Site Development (ELECTIVE) – Reduce nonroof heat islands for 50 percent of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.106.9 Site Development (ELECTIVE) – Provide bicycle parking facilities as noted below or meet a local ordinance as per section A4.106.9.1, A4.106.9.2, or A4.106.9.3
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.306.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE)
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

DIVISION 4.2 ENERGY EFFICIENCY

- ✓ *All measures marked as **(MANDATORY)** are required unless not in project scope.*
- ✓ *Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.*

COMPLETE ENERGY CHECKLIST (MANDATORY) Building meets or exceeds the energy efficiency, electric readiness, and electrification requirements illustrated in the Marin County Energy Checklist below (pg. 16) and in accordance with *Marin County Building Code, Chapter 19.04.130* which amends Title 24, part 6 of the California Building Energy Efficiency Standards.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T1.1

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

- ✓ *All measures marked as **(MANDATORY)** are required unless not in project scope.*
- ✓ *For all measures marked as (**ELECTIVE**), a minimum of TWO **ELECTIVE** measures must be selected.*
- ✓ *Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.*

4.303.1 Indoor Water Use (MANDATORY) Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.5.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.303.1.4.3 Indoor Water Use (MANDATORY) – Metering faucets in residential buildings shall not deliver more than 0.2 gallons per cycle.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

4.303.2 Indoor Water Use (MANDATORY) – Submeters for multifamily building and dwelling units in mixed-use residential/commercial buildings. Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the *California Plumbing Code*.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

4.303.3 Indoor Water Use (MANDATORY) – Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the *California Plumbing Code* and shall meet the applicable referenced standards.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.304.1 Outdoor Water Use (MANDATORY) – Residential developments shall comply with local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.305.1 Water Reuse Systems (MANDATORY) – Newly constructed residential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, may be required to have recycled water supply systems installed, allowing the use of recycled water for residential landscape irrigation systems.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.303.1 Indoor Water Use (ELECTIVE) – The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.303.2 Indoor Water Use (ELECTIVE) – Alternate water sources for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the *California Plumbing Code.*
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.303.3 Indoor Water Use (ELECTIVE) – Install at least one qualified ENERGY STAR dishwasher or clothes washer.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.303.4 Indoor Water Use (ELECTIVE) – Nonwater urinals and waterless toilets are installed.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.303.5 Indoor Water Use (ELECTIVE) – One- and two-family dwellings shall be equipped with a demand hot water recirculation system.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.304.1 Outdoor Water Use (ELECTIVE) – A rainwater capture system is designed and installed.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.304.2 Outdoor Water Use (ELECTIVE) – A landscape design is installed that eliminates the use of potable water.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.304.3 Outdoor Water Use (ELECTIVE) – For new water service connections, landscaped irrigated areas less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.305.1 Water Reuse Systems (ELECTIVE) – Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.305.2 Water Reuse Systems (ELECTIVE) – Recycled water piping is installed.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.305.3 Water Reuse Systems (ELECTIVE) – Recycled water is used for landscape irrigation.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.306.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE) – Items that address innovative concepts or local environmental conditions.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

DIVISION 4.4 MATERIAL CONSERVATION & RESOURCE EFFICIENCY

- ✓ *All measures marked as **(MANDATORY)** are required unless not in project scope.*
- ✓ *For all measures marked as (**ELECTIVE**), a minimum of TWO **ELECTIVE** measures must be selected.*
- ✓ *Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.*

A4.403.2 Foundation Systems (MANDATORY) – Cement use in foundation mix design is reduced in accordance with *Marin County Building Code, Chapter 19.07 – Carbon Concrete Requirements*. Select one Pathway and submit the appropriate compliance forms during Plan Review AND for Final Inspection:

- ☑ Cement Limit Pathway
  - ☑ For Plan Review: Design Team (Structural Engineer/Architect) Low Carbon Concrete Cement Compliance Form
  - ☐ For Final Inspection: Contractor Low Carbon Concrete Cement Compliance Form accompanied by batch receipts from ready-mix supplier
- ☐ Embodied Carbon Pathway
  - ☐ For Plan Review: Design Team (Structural Engineer/Architect) Low Carbon Concrete EC Compliance Form
  - ☐ For Final Inspection: Contractor Low Carbon Concrete EC Compliance Form accompanied by batch receipts from ready-mix supplier

Plan sheet reference (if applicable): S2.3

A4.405.3 Material Sources (MANDATORY) – Postconsumer or preconsumer recycled content value (RCV) materials are used on the project, not less than a 10 percent recycled content value.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.406.1 Enhanced Durability and Reduced Maintenance (MANDATORY) – Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.408.1 Construction Waste Reduction, Disposal and Recycling (MANDATORY) – Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with the reporting standards outlined by Zero Waste Marin.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.408.1 Construction Waste Reduction, Disposal and Recycling (MANDATORY) – Construction waste generated at the site is diverted to recycle or salvage in compliance with at least a 65 percent reduction. Any mixed recyclables that are sent to mixed-waste recycling facilities shall include a qualified third party verified facility average diversion rate. Verification of diversion rates shall meet minimum certification eligibility guidelines, acceptable to the local enforcing agency.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.410.1 Building Maintenance and Operation (MANDATORY) – An operation and maintenance manual shall be provided to the building occupant or owner.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.410.2 Building Maintenance and Operation (MANDATORY) – Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve all buildings on the site and is identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance if more restrictive.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.403.1 Foundation Systems (ELECTIVE) - Frost protected foundation systems is designed and constructed.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.404.1 Efficient Framing Techniques (ELECTIVE) – Beams and headers and trimmers are the minimum size to adequately support the load.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* S1.0

A4.404.2 Efficient Framing Techniques (ELECTIVE) – Dimensions and layouts are designed to minimize waste.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* A1.4

A4.404.3 Efficient Framing Techniques (ELECTIVE) – Use premanufactured building systems to eliminate solid sawn lumber whenever possible.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.404.4 Efficient Framing Techniques (ELECTIVE) – Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.405.1 Material Sources (ELECTIVE) – One or more of the following materials, that do not require additional resources for finishing are used (check at least one):

- ☐ Exterior trim not requiring paint or stain
- ☑ Windows not requiring paint or stain
- ☐ Siding or exterior wall coverings which do not require paint or stain

Plan sheet reference (if applicable): ______

A4.405.2 Material Sources (ELECTIVE) – Floors that do not require additional coverings are used including but not limited to stained, natural or stamped concrete floors
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.405.4 Material Sources (ELECTIVE) – Renewable source building products are used.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.407.1 Water Resistance and Moisture Management (ELECTIVE) – Install foundation and landscape drains.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.407.2 Water Resistance and Moisture Management (ELECTIVE) – Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved on-site location.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.407.3 Water Resistance and Moisture Management (ELECTIVE) – Provide flashing details on the building plans and comply with accepted industry standards or manufacturer's instructions.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.407.4 Water Resistance and Moisture Management (ELECTIVE) – Protect building materials delivered to the construction site from rain and other sources of moisture.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.407.6 Water Resistance and Moisture Management (ELECTIVE) – Exterior doors to the dwelling are protected to prevent water intrusion.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.407.7 Water Resistance and Moisture Management (ELECTIVE) – A permanent overhang or awning at least 2 feet in depth is provided.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.411.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE)
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

DIVISION 4.5 ENVIRONMENTAL QUALITY

- ✓ *All measures marked as **(MANDATORY)** are required unless not in project scope.*
- ✓ *For all measures marked as (**ELECTIVE**), a minimum of ONE **ELECTIVE** measure must be selected for this division.*
- ✓ *Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.*

4.503.1 Fireplaces (MANDATORY) – Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with the U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances in accordance with *Marin County Building Code, Chapter 19.08*
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

4.504.1 Pollutant Control (MANDATORY) – Duct openings and other related air distribution component openings shall be covered during construction.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.2.1 Pollutant Control (MANDATORY) – Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.2.2 Pollutant Control (MANDATORY) – Paints, stains and other coatings shall be compliant with VOC limits.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.2.3 Pollutant Control (MANDATORY) – Aerosol paints and coatings shall be compliant with product weighted MIR Limits for ROC and other toxic compounds.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.2.4 Pollutant Control (MANDATORY) – Documentation shall be provided to verify that compliant VOC limit finish materials have been used.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.3 Pollutant Control (MANDATORY) – Carpet and carpet systems shall be compliant with VOC limits.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.4 Pollutant Control (MANDATORY) – 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.504.5 Pollutant Control (MANDATORY) – Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.504.2 Pollutant Control (MANDATORY) – Install VOC compliant resilient flooring systems. Ninety (90) percent of floor area receiving resilient flooring shall comply with the VOC-emission limits established in section A4.504.2.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.504.3 Pollutant Control (MANDATORY) – Thermal insulation installed in the building shall be in compliance with VOC limits.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.505.2 Interior Moisture Control (MANDATORY) – Vapor retarder and capillary break is installed at slab on grade foundations.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.505.3 Interior Moisture Control (MANDATORY) – Moisture content of building materials used in wall and floor framing is checked before enclosure.
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.506.1 Indoor Air Quality and Exhaust (MANDATORY) – Each bathroom shall be provided with the following:

1. ENERGY STAR fans ducted to terminate outside the building.
2. Fans must be controlled by a humidity control (Separate or built-in); OR functioning as a component of a whole-house ventilation system.
3. Humidity controls with manual or automatic means of adjustment, capable of adjustment between a relative humidity range of ≤ 50 percent to a maximum of 80 percent.

Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

4.507.2 Environmental Comfort (MANDATORY) – Duct systems are sized, designed, and equipment is selected using the following methods:

1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2016 or equivalent.
2. Size duct systems according to ANSI/ACCA 1 Manual D – 2016 or equivalent.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014 or equivalent.

Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.504.1. Pollutant Control (ELECTIVE) – Use composite wood products made with either California Air Resources Board approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins.
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

A4.506.2 Indoor Air Quality and Exhaust (ELECTIVE) – Provide filters on return air openings rated MERV 8 or higher during construction when it is necessary to use HVAC equipment
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.506.3 Indoor Air Quality and Exhaust (ELECTIVE) – Direct-vent appliances shall be used when equipment is located in conditioned space; or the equipment must be installed in an isolated mechanical room
Completed ☑ N/A ☐ *Plan sheet reference (if applicable):* T24.6

A4.509.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE)
Completed ☐ N/A ☑ *Plan sheet reference (if applicable):* N/A

MARIN COUNTY ENERGY CHECKLIST
STANDARDS FOR SINGLE-FAMILY RENOVATIONS 750 SQUARE FEET OR MORE

This checklist is effective January 1, 2023 and applies to additions and alterations of one- and two-family dwellings and townhouses being added to or altered when the cumulative square footage of the project is 750 square feet or more.

Submit this checklist accompanied with the Green Building Checklist with your plans to demonstrate compliance with the green building ordinance.

For more information on the energy requirements and complete measure language, see Marin County Building Code, Chapter 19.04.130, Subchapter 2 which requires (with amendments) stronger energy and electrification requirements under the State Energy Code.

PROJECT DETAILS

230 Ocean Parkway, Bolinas
Project Address

191-161-05
APN

Marco Hyman-Romero
Applicant Name (Please Print)

PROJECT VERIFICATION

The green building professional[2] has reviewed the plans and certifies that the measures indicated in this form are incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2022 California Energy Code as amended by the County of Marin.

Marco Hyman-Romero
Signature

6/25/24
Date

Marco Hyman-Romero
Name (Please Print)

---

[2] A qualified building professional can be an architect, engineer, contractor, or qualified green building professional, such as a CALGreen Special inspector or LEED AP.

1. MANDATORY MEASURES REQUIRED OF ALL PROJECTS

☑ **Complete Steps (1) – (2) below as listed in Table 1. Mandatory Measures.**

Table 1. Mandatory Measures

Check (☒)	Measures: Specification	Measures: Spec. ID	Steps
☑	LED + Exterior Photosensor *Mandatory*	E1	(1) All measures installed or to be installed MUST be marked with a Check (☒) in this table's far left column. (2) Use the Specification Number (Spec. ID) column as a key and conform to the List of Measure Specifications in Table 4, pages 19-21, below. Table 4 describes, specifies, and details compliance with each corresponding measure. (*Continue below to Section 2*).
☑	Electric Readiness Measures *Mandatory* when remodeling kitchen, laundry, or upgrading panel	ER2	

2. LOW INCOME EXEMPTION (Check One of the Following)

☐ A resident owner or occupant applicant can be exempt if they can demonstrate low-income qualification by submitting proof (e.g., copy of a utility bill) of enrollment in one of the following:

- ☐ PG&E California Alternative Rates for Ener gy (CARE) program
- ☐ PG&E Family Electric Rate Assistance (FERA) program

<u>MANDATORY</u>: **Low-income exempt applicants are still required to install the following measures** See List of Measure Specifications in Table 4, pages 19-21 below (Must check all the following)**:**

- ☐ **E1 (Lighting)**
- ☐ **ER2 (Electric Readiness)**
- ☐ **E2 (Water Heating Package)**

<u>NOTE</u>**: This completes your application. DO NOT CONTINUE to Section 3.**

☑ Not applicable (*Continue to Section 3 on the following page 18*)**.**

3. MEASURE MENU AND TARGET SCORE

☑ **Complete Steps (1) – (6) below as listed in Table 2. Energy and Electrification Menu of Measures by Climate Zone.**

Table 2. Energy and Electrification Menu of Measures by Climate Zone

Measures			Climate Zone (CZ)		Steps
			2 ☐	3 ☑	(1) Choose your Climate Zone (CZ) based on zip codes listed in Table 5, pg. 22, then continue to Step 2
			Target Score		
Check All That Apply	Specification	ID (*Table 4*)	8	6	(2) Note minimum target score needed to comply (*1 point = 1MMBTU savings per yr.*) then continue to Step 3
☐	Water Heating Package	E2	1	1	3) Choose a measure or a combination of measures that adds up to at least the minimum target score noted in step 2 above. (4) Measures installed or to be installed MUST be marked with a corresponding Check (☒) in this table's far left column. (5) Use the Specification Number (Spec. ID) column as a key and conform to the List of Measure Specifications in Table 4, pages 19-21 below. Table 4 describes, specifies, and details compliance with each corresponding measure.
☐	Air Sealing	E3	1	1	
☐	R-49 Attic Insulation	E4	1	1	
☐	Duct Sealing	E5	1	--	
☐	New Ducts + Duct Sealing	E6	2	2	
☑	PV + Electric Ready Pre-Wire	ER1	12	12	
☐	Heat Pump Water Heater (HPWH)	FS1	12	12	
☐	High Eff HPWH	FS2	13	13	
☐	HVAC Heat Pump	FS3	13	10	
☐	High Eff HVAC Heat Pump	FS4	14	11	
☐	Heat Pump Clothes Dryer	FS5	1	1	
☐	Induction Cooktop	FS6	1	1	
	Total Points Claimed			12	(6) Sum points then complete Summary of Results a., b., c. in Table 3, Section 4 on the following page 19.

COUNTY OF MARIN
Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 178617
Date: 2/6/2025

building Lab
design / construction / fabrication
www.buildinglab.com

HANKE RESIDENCE

230 OCEAN PARKWAY
BOLINAS, CA 94924

APN: 191-161-05

Owner

JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared

BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

	issue	
	BLDG. PERMIT	24.06.26
R1	R1 RESPONSE	24.10.04
R2	R2 RESPONSE	24.12.18
	issue	date
	drawn by	
	checked by	

MARIN CALGREEN CHECKLIST

sheet no.

A0.6

4. SUMMARY OF RESULTS (from Table 2 Above)

☐ **Complete a., b., and c. listed below in Table 3. Summary of Results.**

Table 3. Summary of Results

a.	6	Target Score (*from Table 2, Step 2 where CZ 2 = 8 points and CZ 3 = 6 points*)
b.	12	Total Points Claimed (*from Table 2, Step 6*)
c.	0	Subtract line a from line b (*must be greater than or equal to 0 to comply*)

You have completed your application

5. LIST OF MEASURE SPECIFICATIONS

Table 4. List of Measure Specifications

ID	Measure Specification
Energy Measures	
E1	Lighting Measures – Replace all interior and exterior screw-in incandescent, halogen, and compact fluorescent lamps with LED lamps. Install photocell controls on all exterior lighting luminaires.
E2	Water Heating Package: Add exterior insulation meeting a minimum of R-6 to existing storage water heaters. Insulate all accessible hot water pipes with pipe insulation a minimum of ½ inch thick. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces or crawlspaces. Upgrade fittings in sinks and showers to meet current California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements. Exception 1: Water heater blanket is not required on water heaters less than 20 gallons. Exception 2: Water heater blanket not required if application of a water heater blanket voids the warranty on the water heater. Exception 3: Upgraded fixtures are not required if existing fixtures have rated or measured flow rates of no more than ten percent greater than 2022 California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements. Exception 4: Water heaters with factory installed insulation of R-24 or greater
E3	Air Sealing: Seal all accessible cracks, holes, and gaps in the building envelope at walls, floors, and ceilings. Pay special attention to penetrations including plumbing, electrical, and mechanical vents, recessed can light luminaires, and windows. Weather-strip doors if not already present. Verification shall be conducted following a prescriptive checklist that outlines which building aspects need to be addressed by the permit applicant and verified by an inspector. Compliance can also be demonstrated with blower door testing conducted by a certified HERS Rater no more than three years prior to the permit application date that either: a) shows at least a 30 percent reduction from pre-retrofit conditions; or b) shows that the number of air changes per hour at 50 Pascals pressure difference (ACH50) does not exceed ten. If combustion appliances are located within the pressure boundary of the building, conduct a combustion safety test by a professional certified by the Building Performance Institute in accordance with the ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings[1], the Whole House Combustion Appliance Safety Test Procedure for the Comfortable Home Rebates Program 2020 or the California Community Services and Development Combustion Appliance Safety Testing Protocol.

E4	R-49 Attic Insulation: Attic insulation shall be installed to achieve a weighted assembly U-factor of 0.020 or insulation installed at the ceiling level shall have a thermal resistance of R-49 or greater for the insulation alone. Recessed downlight luminaires in the ceiling shall be covered with insulation to the same depth as the rest of the ceiling. Luminaires not rated for insulation contact must be replaced or fitted with a fire-proof cover that allows for insulation to be installed directly over the cover. Exception: In buildings where existing R-30 is present and existing recessed downlight luminaires are not rated for insulation contact, insulation is not required to be installed over the luminaires.
E5	Duct Sealing: Air seal all space conditioning ductwork to meet the requirements of the 2022 Title 24 Section 150.2(b)1E. The duct system must be tested by a HERS Rater no more than three years prior to the Covered Single Family Project permit application date to verify the duct sealing and confirm that the requirements have been met. This measure may not be combined with the New Ducts and Duct Sealing measure in this Table.
E6	New Ducts + Duct Sealing: Replace existing space conditioning ductwork with new R-8 ducts that meet the requirements of 2022 Title 24 Section 150.0(m)11. This measure may not be combined with the Duct Sealing measure in this Table. To qualify, a preexisting measure must have been installed no more than three years before the Covered Single Family Project permit application date.
E7	Windows: Replace all existing windows with high performance windows with an area-weighted average U-factor no greater than 0.32.
E8	R-13 Wall Insulation: Install wall insulation in all exterior walls to achieve a weighted U-factor of 0.102 or install wall insulation in all exterior wall cavities that shall result in an installed thermal resistance of R-13 or greater for the insulation alone.
Fuel Substitution Measures	
FS1	Heat Pump Water Heater (HPWH): Replace all existing electric resistance and natural gas storage water heaters with heat pump water heaters.
FS2	High Efficiency Heat Pump Water Heater (HPWH): Replace all existing electric resistance and natural gas storage water heaters with heat pump water heaters with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating.
FS3	HVAC Heat Pump: Replace all existing gas space heating system and existing electric resistance heating systems with electric heat pump systems.
FS4	High Efficiency HVAC Heat Pump: Replace all existing gas space heating system and existing electric resistance heating systems with electric heat pump systems with a SEER rating of 21 or greater and an HSPF rating of 11 or greater.
FS5	Heat Pump Clothes Dryer: Replace all existing gas and electric resistance clothes dryers with heat pump dryers with no resistance element and cap the gas lines.
FS6	Induction Cooktop: Replace all existing gas and electric resistance stove tops with inductive stove tops and cap the gas lines.
Solar PV and Electric-Readiness Measures	
ER1	PV+ Electric Ready Pre-Wire: For New PV Systems: Install a new solar PV system that meets the requirements of 2022 Title 24 Section 150.1(c)14 and upgrade the service panel to meet the requirements of ER2.G. and install any two of the other measures from ER2.A – ER2.F. For Existing PV Systems: If the home already has an existing PV system that meets the requirements above, to claim credit for this measure, ER1, upgrade the service panel to

	meet the requirements of ER2.G. and install any two of the other measures from ER2.A – ER2.F. The size of the system may be reduced to the maximum allowable under NEM requirements.
ER2	Electric Readiness Measures: To claim credit for Item ER1, in addition to the solar PV system installed, upgrade the panelboard to meet the requirements of Item ER2.G and install any two of the other measures ER2.A – ER2.F, below to allow for installation of electric appliances at a future date. If the service panel is being upgraded, install any two of the other measures below. If the laundry room is being remodeled, comply with Item ER2.D and upgrade the panelboard to meet the requirements of Item ER2.G. If the kitchen is being remodeled, comply with Item ER2.C and upgrade the service panel to meet the requirements of Item ER2.G. A. Heat Pump Water Heater Ready, as specified in Section 150.0(n)1. B. Heat Pump Space Heater Ready, as specified in Section 150.0(t). C. Electric Cooktop Ready, as specified in Section 150.0(u). D. Electric Clothes Dryer Ready, as specified in Section 150.0(v). E. Energy Storage Systems (ESS) Ready, as specified in Section 150.0(o). F. EV Charger Ready. Install a listed raceway for an EV charger, that meets the requirements of the California Green Building Standards Code (Title 24, Part 11) Section A4.106.8.1, Tier 1 and 2, which otherwise applies to new construction. G. Upgrade the panelboard serving the individual dwelling to either: (i) a minimum 200 amp panel with a minimum 225 amp busbar rating to accommodate future connection of electric appliances, including heat pump water heaters, heat pump space heaters, electric cooktops, electric clothes dryers as specified in California Energy Code Section 150.0 (n), (t), (u) and (v) and Level 2 electric vehicle supply equipment; or, (ii) provide electrical load calculations and appliance specifications for serving all of these end-uses with a minimum 100-amp panel. Exception: If an electrical permit is not otherwise required for the project other than compliance with this Item, ER2.

6. CHOOSING CLIMATE ZONE BY ZIP CODE

Table 5. Climate Zone by Zip Code

Marin Zip Codes	Climate Zone	Marin Zip Codes	Climate Zone
94901	2	94947	2
94903	2	94948	2
94904	2	94949	2
94912	2	94950	3
94913	2	94952	2
94914	2	94956	3
94915	2	94957	2
94920	3	94960	2
94924	3	94963	2
94925	3	94964	2
94929	3	94965	3
94930	2	94966	3
94933	3	94970	3
94937	3	94971	3
94938	3	94973	2
94939	2	94974	2
94940	3	94976	3
94941	3	94977	3
94942	3	94978	2
94945	2	94979	2
94946	2	94998	2

If the climate zone can't be found using Table 5, visit and use the California Energy Commission climate zone tool finder.

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

building Lab
design / construction / fabrication
www.buildinglab.com

HANKE RESIDENCE

APN: 191-161-05

230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner

JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared

BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

	issue	
	BLDG. PERMIT	24.06.26
1	R1 RESPONSE	24.10.04
2	R2 RESPONSE	24.12.18

	issue	date
	drawn by	
	checked by	

MARIN CALGREEN CHECKLIST

sheet no.

A0.7

2022 CALGREEN MANDATORY MEASURES NOTES

A4.106.2.3 DISPLACED TOPSOIL SHALL BE STOCKPILED FOR REUSE IN A DESIGNATED AREA AND COVERED OR PROTECTED FROM EROSION.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT WHICH IN TOTAL DISTURBS ONE ACRE OR MORE, SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. IN ORDER TO MANAGE STORM ATER DRAINAGE DURING CONSTRUCTION, ONE OR MORE OF THE FOLLOWING MEASURES SHALL BE IMPLEMENTED TO PREVENT FLOODING OF ADJACENT PROPERTY, PREVENT EROSION AND RETAIN SOIL RUNOFF ON THE SITE.

1. RETENTION BASINS OF SUFFICIENT SIZE SHALL BE UTILIZED TO RETAIN STORM WATER ON THE SITE.
2. WHERE STORM WATER IS CONVEYED TO A PUBLIC DRAINAGE SYSTEM, COLLECTION POINT, GUTTER OR SIMILAR DISPOSAL METHOD, WATER SHALL BE FILTERED BY USE OF A BARRIER SYSTEM, WATTLE OR OTHER METHOD APPROVED BY THE ENFORCING AGENCY.
3. COMPLIANCE WITH A LAWFULLY ENACTED STORM WATER MANAGEMENT ORDINANCE.

4.106.3 GRADING AND PAVING. CONSTRUCTION PLANS SHALL INDICATE HOW THE SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS. EXAMPLES OF METHODS TO MANAGE SURFACE WATER INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. SWALES
2. WATER COLLECTION AND DISPOSAL SYSTEMS
3. FRENCH DRAINS
4. WATER RETENTION GARDENS
5. OTHER WATER MEASURES WHICH KEEP SURFACE WATER AWAY FROM BUILDINGS AND AID IN GROUNDWATER RECHARGE.

EXCEPTION: ADDITIONS AND ALTERATIONS NOT ALTERING THE DRAINAGE PATH.

4.303.1 INDOOR WATER USE PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) INSTALLED IN RESIDENTIAL BUILDINGS SHALL COMPLY WITH THE PRESCRIPTIVE REQUIREMENTS OF SECTIONS 4.303.1.1 THROUGH 4.303.1.4.5.

4.303.1 INDOOR WATER USE PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) INSTALLED IN RESIDENTIAL BUILDINGS SHALL COMPLY WITH THE FOLLOWING PRESCRIPTIVE REQUIREMENTS

NOTE: ALL NONCOMPLIANT PLUMBING FIXTURES IN ANY RESIDENTIAL REAL PROPERTY SHALL BE REPLACED WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY, OR FINAL PERMIT APPROVAL BY THE LOCAL BUILDING DEPARTMENT. SEE CIVIL CODE SECTION 1101.1, ET SEQ., FOR THE DEFINITION OF A NONCOMPLIANT PLUMBING FIXTURE, TYPES OF RESIDENTIAL BUILDINGS AFFECTED AND OTHER IMPORTANT ENACTMENT DATES.

4.303.1.1 WATER CLOSETS. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.

NOTE: THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.

4.303.1.2 URINALS. THE EFFECTIVE FLUSH VOLUME OF WALL MOUNTED URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH. THE EFFECTIVE FLUSH VOLUME OF ALL OTHER URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

4.303.1.3.1 SINGLE SHOWERHEAD. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.

4.303.1.3.2 MULTIPLE SHOWERHEADS SERVING ONE SHOWER. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ONLY ALLOW ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.

NOTE: A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.

4.303.1.4.1 RESIDENTIAL LAVATORY FAUCETS. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.

4.303.1.4.2 LAVATORY FAUCETS IN COMMON AND PUBLIC USE AREAS. THE MAXIMUM FLOW RATE OF LAVATORY FAUCETS INSTALLED IN COMMON AND PUBLIC USE AREAS (OUTSIDE OF DWELLINGS OR SLEEPING UNITS) IN RESIDENTIAL BUILDINGS SHALL NOT EXCEED 0.5 GALLONS PER MINUTE AT 60 PSI. **4.303.1.4.3 METERING FAUCETS.** METERING FAUCETS WHEN INSTALLED IN RESIDENTIAL BUILDINGS SHALL NOT DELIVER MORE THAN 0.2 GALLONS PER CYCLE.

4.303.1.4.4 KITCHEN FAUCETS. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.

NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

4.303.1.4.5 PRE-RINSE SPRAY VALVES.
WHEN INSTALLED, SHALL MEET THE REQUIREMENTS IN THE *CALIFORNIA CODE OF REGULATIONS*, TITLE 20 (APPLIANCE EFFICIENCY REGULATIONS), SECTIONS 1605.1 (H) (4) TABLE H-2, SECTION 1605.3 (H)(4)(A), AND SECTION 1607 (D)(7) AND SHALL BE EQUIPPED WITH AN INTEGRAL AUTOMATIC SHUTOFF.

4.303.3 INDOOR WATER USE PLUMBING FIXTURES AND FITTINGS REQUIRED IN SECTION 4.303.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE *CALIFORNIA PLUMBING CODE* AND SHALL MEET THE APPLICABLE REFERENCED STANDARDS.

4.303.3 INDOOR WATER USE PLUMBING FIXTURES AND FITTINGS REQUIRED IN SECTION 4.303.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE *CALIFORNIA PLUMBING CODE* AND SHALL MEET THE APPLICABLE REFERENCED STANDARDS.

A4.303.3 INDOOR WATER USE INSTALL AT LEAST ONE QUALIFIED ENERGY STAR DISHWASHER OR CLOTHES WASHER.

A4.303.5 INDOOR WATER USE - ONE- AND TWO-FAMILY DWELLINGS SHALL BE EQUIPPED WITH A DEMAND HOT WATER RECIRCULATION SYSTEM.

A4.405.3 MATERIAL SOURCES - POSTCONSUMER OR PRECONSUMER RECYCLED CONTENT VALUE (RCV) MATERIALS ARE USED ON THE PROJECT, NOT LESS THAN A 10 PERCENT RECYCLED CONTENT VALUE.

4.406.1 ENHANCED DURABILITY AND REDUCED MAINTENANCE. ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN SOLE/BOTTOM PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR A SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.

4.408.1 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NONHAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH THE REPORTING STANDARDS OUTLINED BY ZERO WASTE MARIN.

A4.408.1 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING - CONSTRUCTION WASTE GENERATED AT THE SITE IS DIVERTED TO RECYCLE OR SALVAGE IN COMPLIANCE WITH AT LEAST A 65 PERCENT REDUCTION. ANY MIXED RECYCLABLES THAT ARE SENT TO MIXED-WASTE RECYCLING FACILITIES SHALL INCLUDE A QUALIFIED THIRD PARTY VERIFIED FACILITY AVERAGE DIVERSION RATE. VERIFICATION OF DIVERSION RATES SHALL MEET MINIMUM CERTIFICATION ELIGIBILITY GUIDELINES, ACCEPTABLE TO THE LOCAL ENFORCING AGENCY.

4.410.1 OPERATION AND MAINTENANCE MANUAL. AN OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER.

4.504.1 POLLUTANT CONTROL. DUCT OPENINGS AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED DURING CONSTRUCTION.

4.504.2.1 POLLUTANT CONTROL. ADHESIVES, SEALANTS AND CAULKS SHALL BE COMPLIANT WITH VOC AND OTHER TOXIC COMPOUND LIMITS.

4.504.2.2 POLLUTANT CONTROL. PAINTS, STAINS AND OTHER COATINGS SHALL BE COMPLIANT WITH VOC LIMITS.

4.504.2.3 POLLUTANT CONTROL. AEROSOL PAINTS AND COATINGS SHALL BE COMPLIANT WITH PRODUCT WEIGHTED MIR LIMITS FOR ROC AND OTHER TOXIC COMPOUNDS.

4.504.2.4 POLLUTANT CONTROL. DOCUMENTATION SHALL BE PROVIDED TO VERIFY THAT COMPLIANT VOC LIMIT FINISH MATERIALS HAVE BEEN USED.

4.504.3 POLLUTANT CONTROL . CARPET AND CARPET SYSTEMS SHALL BE COMPLIANT WITH VOC LIMITS.

4.504.4 POLLUTANT CONTROL. 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH SPECIFIED VOC CRITERIA.

4.504.5 POLLUTANT CONTROL. PARTICLEBOARD, MEDIUM DENSITY FIBERBOARD (MDF), AND HARDWOOD PLYWOOD USED IN INTERIOR FINISH SYSTEMS SHALL COMPLY WITH LOW FORMALDEHYDE EMISSION STANDARDS.

A4.504.2 POLLUTANT CONTROL. INSTALL VOC COMPLIANT RESILIENT FLOORING SYSTEMS. NINETY (90) PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH THE VOC-EMISSION LIMITS ESTABLISHED IN SECTION A4.504.2.

A4.504.3 POLLUTANT CONTROL. THERMAL INSULATION INSTALLED IN THE BUILDING SHALL BE IN COMPLIANCE WITH VOC LIMITS.

4.505.2 INTERIOR MOISTURE CONTROL. VAPOR RETARDER AND CAPILLARY BREAK IS INSTALLED AT SLAB ON GRADE FOUNDATIONS.

4.505.3 INTERIOR MOISTURE CONTROL. MOISTURE CONTENT OF BUILDING MATERIALS USED IN WALL AND FLOOR FRAMING IS CHECKED BEFORE ENCLOSURE.

4.506.1 INDOOR AIR QUALITY AND EXHAUST. EACH BATHROOM SHALL BE PROVIDED WITH THE FOLLOWING:

1. ENERGY STAR FANS DUCTED TO TERMINATE OUTSIDE THE BUILDING.
2. FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL (SEPARATE OR BUILT-IN); OR FUNCTIONING AS A COMPONENT OF A WHOLE-HOUSE VENTILATION SYSTEM.
3. HUMIDITY CONTROLS WITH MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT, CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF ≤ 50 PERCENT TO A MAXIMUM OF 80 PERCENT.

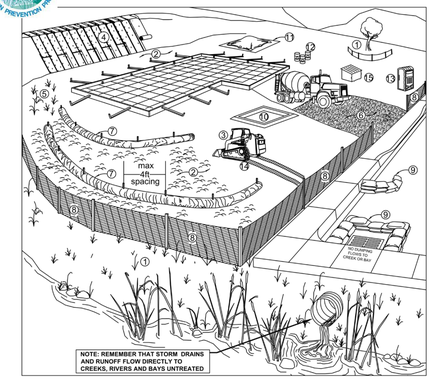
A4.506.2 INDOOR AIR QUALITY AND EXHAUST. PROVIDE FILTERS ON RETURN AIR OPENINGS RATED MERV 8 OR HIGHER DURING CONSTRUCTION WHEN IT IS NECESSARY TO USE HVAC EQUIPMENT

A4.506.3 INDOOR AIR QUALITY AND EXHAUST. DIRECT-VENT APPLIANCES SHALL BE USED WHEN EQUIPMENT IS LOCATED IN CONDITIONED SPACE; OR THE EQUIPMENT MUST BE INSTALLED IN AN ISOLATED MECHANICAL ROOM

R1

Marin County Stormwater Pollution Prevention Program

Minimum Control Measures
For Small Construction Projects

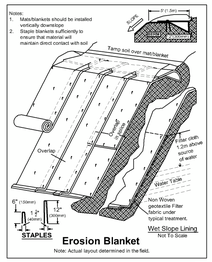


Erosion Controls	Sediment Controls	Good Housekeeping
NS Scheduling	6. Tracking Controls	10. Concrete Washout
1. Preserve Vegetation & Creek Set Backs	7. Fiber Rolls	11. Stockpile Management
2. Soil Cover	8. Silt Fence	12. Hazardous Material Management
3. Soil Preparation/ Roughening	9. Drain Inlet Protection	13. Sanitary Waste Management
4. Erosion Control Blankets	NS Trench Dewatering	14. Equipment and Vehicle Maintenance
5. Revegetation		15. Litter and Waste Management

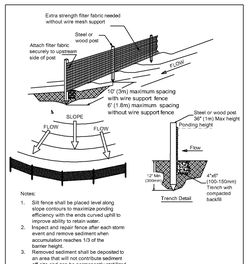
NS=not shown on graphic

Note: Select an **effective combination of control measures from each category**. Erosion Control, Sediment Control, and Good Housekeeping. Control measures shall be **continually implemented and maintained throughout the project** until activities are complete, disturbed areas are stabilized with permanent erosion controls, and the local agency has signed off on permits that may have been required for the project. **Inspect and maintain the control measures** before and after rain events, and as required by the local agency or state permit.
More detailed information on the BMPs can be found in the related California Stormwater Quality Association (CASQA) and California Department of Transportation (Caltrans) BMP Factsheets. CASQA factsheets are available by subscription in the *California Best Management Practices Handbook Portal: Construction* at http://www.casqa.org. Caltrans factsheets are available in the *Construction Site BMP Manual March 2003* at http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm.
Visit www.mcstoppp.org for more information on construction site management and Erosion and Sediment Control Plans.

If you require materials in alternative formats, please contact:
415-473-4381 voice/TTY or disabilityaccess@co.marin.ca.us

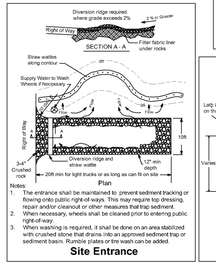


Erosion Blanket
Note: Actual layout determined in the field.



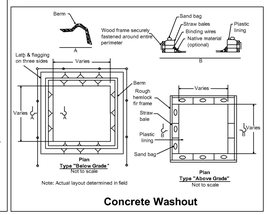
Notes:
1. Silt fence shall be placed level along slope contours to maximize ponding efficiency with the ends curved uphill to improve ability to retain water.
2. Inspect and repair fence after each storm event and remove sediment when accumulation reaches 1/3 of the fence height.
3. Removed sediment shall be deposited to an area that will not contribute sediment off-site and can be permanently stabilized

Silt Fence
NOT TO SCALE



Notes:
1. The entrance shall be maintained to prevent sediment tracking or flowing onto public right-of-ways. This may require top dressing, repair and/or cleanout or other measures that trap sediment.
2. When necessary, wheels shall be cleaned prior to entering public right-of-way
3. When washing is required, it shall be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. Rumble plates or tire wash can be added

Site Entrance



Note: Actual layout determined in field

Concrete Washout

Catch Basins with Gravel Bags
(Do not use sand bags near inlets)

Control Measure	General Description
Erosion Control Best Management Practices	
N/A Scheduling	Plan the project and develop a schedule showing each phase of construction. Schedule construction activities to reduce erosion potential, such as scheduling ground disturbing activities during the summer and phasing projects to minimize the amount of area disturbed. *For more info see the following factsheets: CASQA: EC-1; or Caltrans: SS-1.*
1 Preserve Existing Vegetation and Creek Setbacks	Preserve existing vegetation to the extent possible, especially along creek buffers. Show creek buffers on maps and identify areas to be preserved in the field with temporary fencing. Check with the local Planning and Public Works Departments for specific creek set back requirements. *For more info see the following factsheets: CASQA: EC-2; or Caltrans: SS-2.*
2 Soil Cover	Cover exposed soil with straw mulch and tackifier (or equivalent). *For more info see the following factsheets: CASQA: EC-3, EC-5, EC-6, EC-7, EC-8, EC-14, EC-16; or Caltrans: SS-2, SS-4, SS-5, SS-6, SS-7, SS-8.*
3 Soil Preparation/ Roughening	Soil preparation is essential to vegetation establishment and BMP installation. It includes soil testing and amendments to promote vegetation growth as well as roughening surface soils by mechanical methods (decompacting, scarifying, stair stepping, etc.). *For more info see the following factsheets: CASQA: EC-15.*
4 Erosion Control Blankets	Install erosion control blankets (or equivalent) on disturbed sites with 3:1 slopes or steeper. Use wildlife-friendly blankets made of biodegradable natural materials. Avoid using blankets made with plastic netting or fixed aperture netting. See: http://www.coastal.ca.gov/nps/Wildlife-Friendly_Products.pdf. *For more info see the following factsheets: CASQA: EC-7; or Caltrans: SS-7.*
5 Revegetation	Re-vegetate areas of disturbed soil or vegetation as soon as practical. *For more info see the following factsheets: CASQA: EC-4; or Caltrans: SS-4.*
Sediment Control Best Management Practices	
6 Tracking Controls	Stabilize site entrance to prevent tracking soil offsite. Inspect streets daily and sweep street as needed. Require vehicles and workers to use stabilized entrance. Place crushed rock 12-inches deep over a geotextile, using angular rock between 4 and 6-in. Make the entrance as long as can be accommodated on the site, ideally long enough for 2 revolutions of the maximum tire size (16-20 feet long for most light trucks). Make the entrance wide enough to accommodate the largest vehicle that will access the site, ideally 10 feet wide with sufficient radii for turning in and out of the site. Rumble pads or rumble racks can be used in lieu of or in conjunction with rock entrances. Wheel washes may be needed where space is limited or where the site entrance and sweeping is not effective. *For more info see the following factsheets: CASQA: TC-1; TC-3; or Caltrans: TC-1; TC-3.*
7 Fiber Rolls	Use fiber rolls as a perimeter control measure, along contours of slopes, and around soil stockpiles. On slopes space rolls 10 to 20 feet apart (using closer spacing on steeper slopes). Install parallel to contour. If more than one roll is used in a row overlap roll do not abut. J-hook end of roll upslope. Install rolls per either Type 1 (stake rolls into shallow trenches) or Type 2 (stake in front and behind roll and lash with rope). Use wildlife-friendly fiber rolls made of biodegradable natural materials. Avoid using fiber rolls made with plastic netting or fixed aperture netting. See: http://www.coastal.ca.gov/nps/Wildlife-Friendly_Products.pdf. Manufactured linear sediment control or compost socks can be used in lieu of fiber rolls. *For more info see the following factsheets: CASQA: SE-5 (Type 1); SE-12, SE-13; or Caltrans: SC-5 (Type 1 and Type 2).*
8 Silt Fence	Use silt fence as a perimeter control measure, and around soil stockpiles. Install silt fence along contours. Key silt fence into the soil and stake. Do not use silt fence for concentrated water flows. Install fence at least 3 feet back from the slope to allow for sediment storage. Wire backed fence can be used for extra strength. Avoid installing silt fence on slopes because they are hard to maintain. Manufactured linear sediment control can be used in lieu of silt fences. *For more info see the following factsheets: CASQA: SE-1; SE-12; or Caltrans: SC-1.*
9 Drain Inlet Protection	Use gravel bags, (or similar product) around drain inlets located both onsite and in gutter as a last line of defense. Bags should be made of a woven fabric resistant to photo-degradation filled with 0.5-1-in washed crushed rock. Do not use sand bags or silt fence fabric for drain inlet protection. *For more info see the following factsheets: CASQA: SE-10; or, Caltrans: SC-10.*
N/A Trench Dewatering	Follow MCSTOPPP BMPs for trench dewatering. http://www.marincounty.org/depts/pw/divisions/mcstoppp/development/~/media/Files/Departments/PW/mcstoppp/development/Trenching/SWRegMCSTOPPPFinal6_09.pdf. *For more info see the following factsheets: CASQA: NS-2; or Caltrans: NS-2.*
Good Housekeeping Best Management Practices	
10 Concrete Washout	Construct a lined concrete washout site away from storm drains, waterbodies, or other drainages. Ideally, place adjacent to stabilized entrance. Clean as needed and remove at end of project. *For more info see the following factsheets: CASQA: WM-8; or, Caltrans: WM-8.*
11 Stockpile Management	Cover all stockpiles and landscape material and berm properly with fiber rolls or sand bags. Keep behind the site perimeter control and away from waterbodies. *For more info see the following factsheets: CASQA: WM-3 or Caltrans: WM-3.*
12 Hazardous Material Management	Hazardous materials must be kept in closed containers that are covered and within secondary containment; do not place containers directly on soil. *For more info see the following factsheets: CASQA: WM-6; or Caltrans: WM-6.*
13 Sanitary Waste Management	Place portable toilets near stabilized site entrance, behind the curb and away from gutters, storm drain inlets, and waterbodies. Tie or stake portable toilets to prevent tipping and equip units with overflow pan/tray (most vendors provide these). *For more info see the following factsheets: CASQA: WM-9; or Caltrans: WM-9.*
14 Equipment and Vehicle Maintenance	Prevent equipment fluid leaks onto ground by placing drip pans or plastic tarps under equipment. Immediately clean up any spills or drips. *For more info see the following factsheets: CASQA: NS-8, NS-9, and NS-10; or Caltrans: NS-8, NS-9, and NS-10.*
15 Litter and Waste Management	Designate waste collection areas on site. Use watertight dumpsters and trash cans; inspect for leaks. Cover at the end of each work day and when it is raining or windy. Arrange for regular waste collection. Pick up site litter daily. *For more info see the following factsheets: CASQA: WM-5; or Caltrans: WM-5.*

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 178617
Date: 2/6/2025

building Lab
design / construction / fabrication
www.buildinglab.com

HANKE RESIDENCE

APN: 191-161-05
230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared
BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

issue		
	BLDG. PERMIT	24.06.26
1	R1 RESPONSE	24.10.04
2	R2 RESPONSE	24.12.18

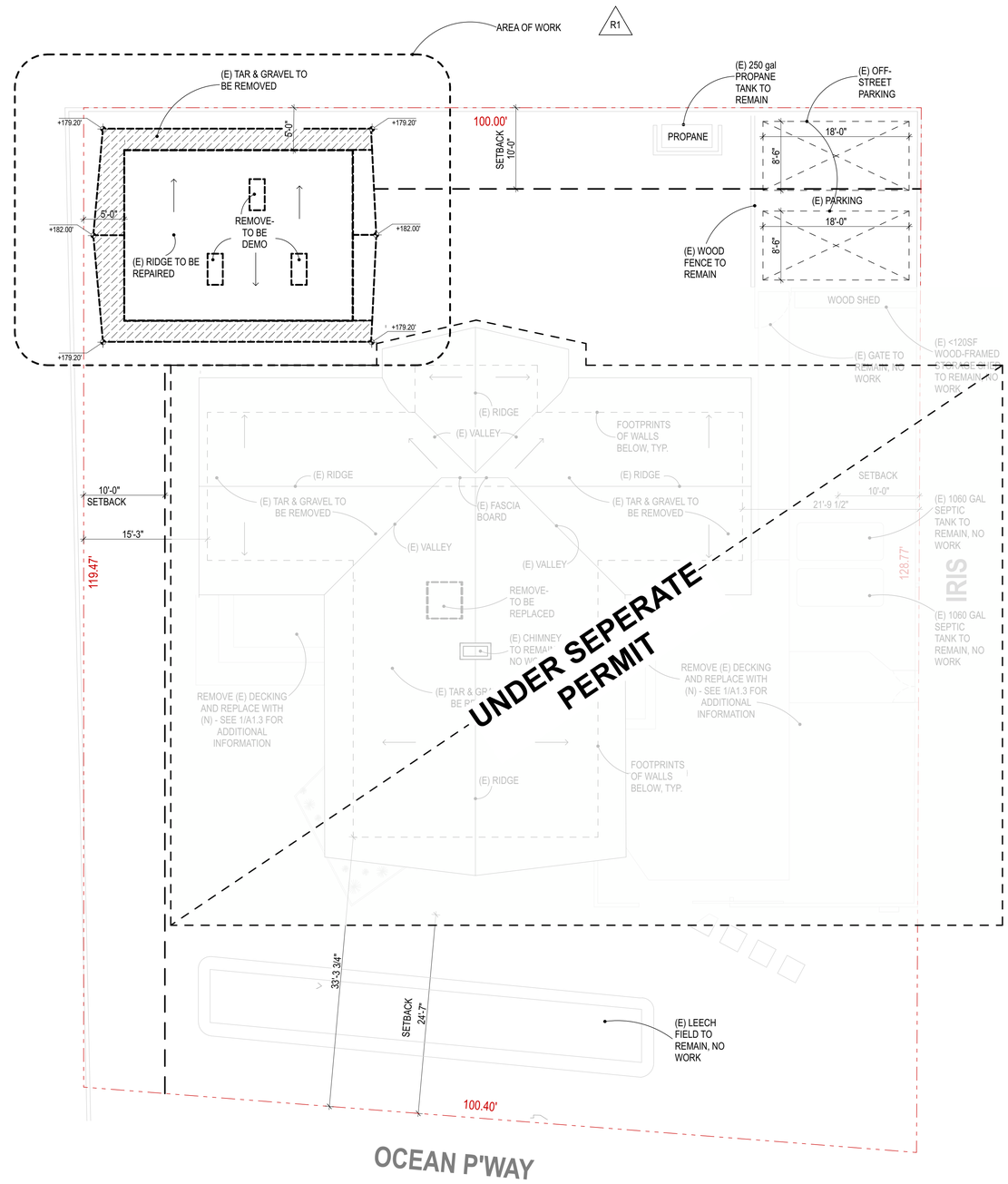
issue	date
drawn by	
checked by	

CALGreen NOTES

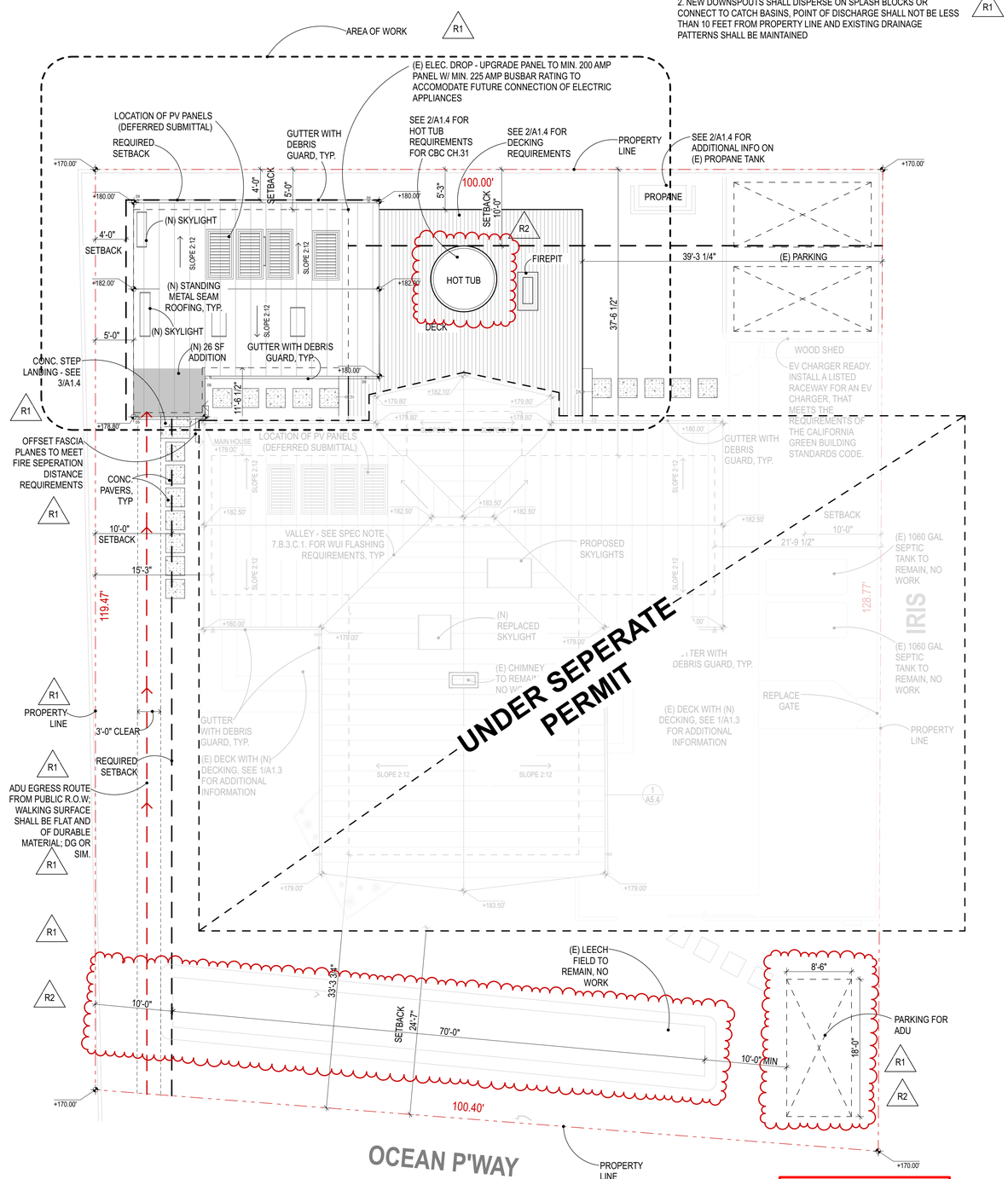
sheet no.

A0.8

SITE PLAN NOTES:
1. SLOPE EXISTING GROUND MIN. 5% AWAY FROM BUILDING FOUNDATIONS.
2. NEW DOWNSPOUTS SHALL DISPERSE ON SPLASH BLOCKS OR CONNECT TO CATCH BASINS, POINT OF DISCHARGE SHALL NOT BE LESS THAN 10 FEET FROM PROPERTY LINE AND EXISTING DRAINAGE PATTERNS SHALL BE MAINTAINED



1 (E) SITE/ROOF PLAN
SCALE: 1/8" = 1'-0"



2 (N) SITE/ROOF PLAN
SCALE: 1/8" = 1'-0"

COUNTY OF MARIN
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SYMBOLS/LEGEND
SPOT ELEVATION MARKER

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APN: 191-161-05
230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared
BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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R2 RESPONSE	24.12.18

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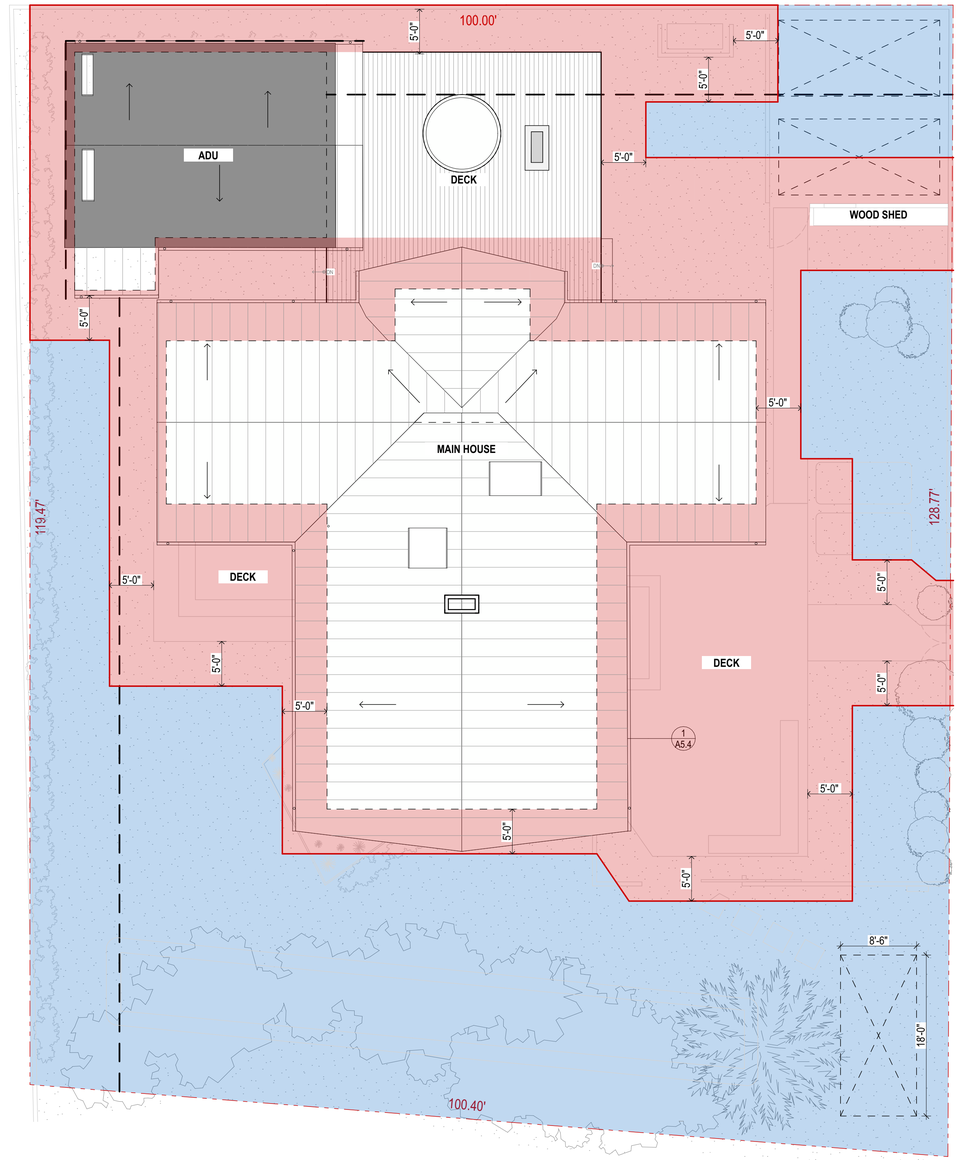
SITE PLAN

sheet no.
A1.0

LEGEND

IMMEDIATE ZONE-
MOST VULNERABLE, NON-COMBUSTIBLE
NO VEGETATION RECOMMENDED

INTERMEDIATE ZONE-
"LEAN, CLEAN AND GREEN"
REDUCE IMPACT AND SPREAD



1 VEGATATION MANAGEMENT PLAN

SCALE: 1/8" = 1'-0"

0 2" 4"

COUNTY OF MARIN PLAN NORTH

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BOLINAS, CA 94924

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holly.hanke@gmail.com
T: 510-520-6651

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OAKLAND, CA 94608
E:Marco@buildinglab.com
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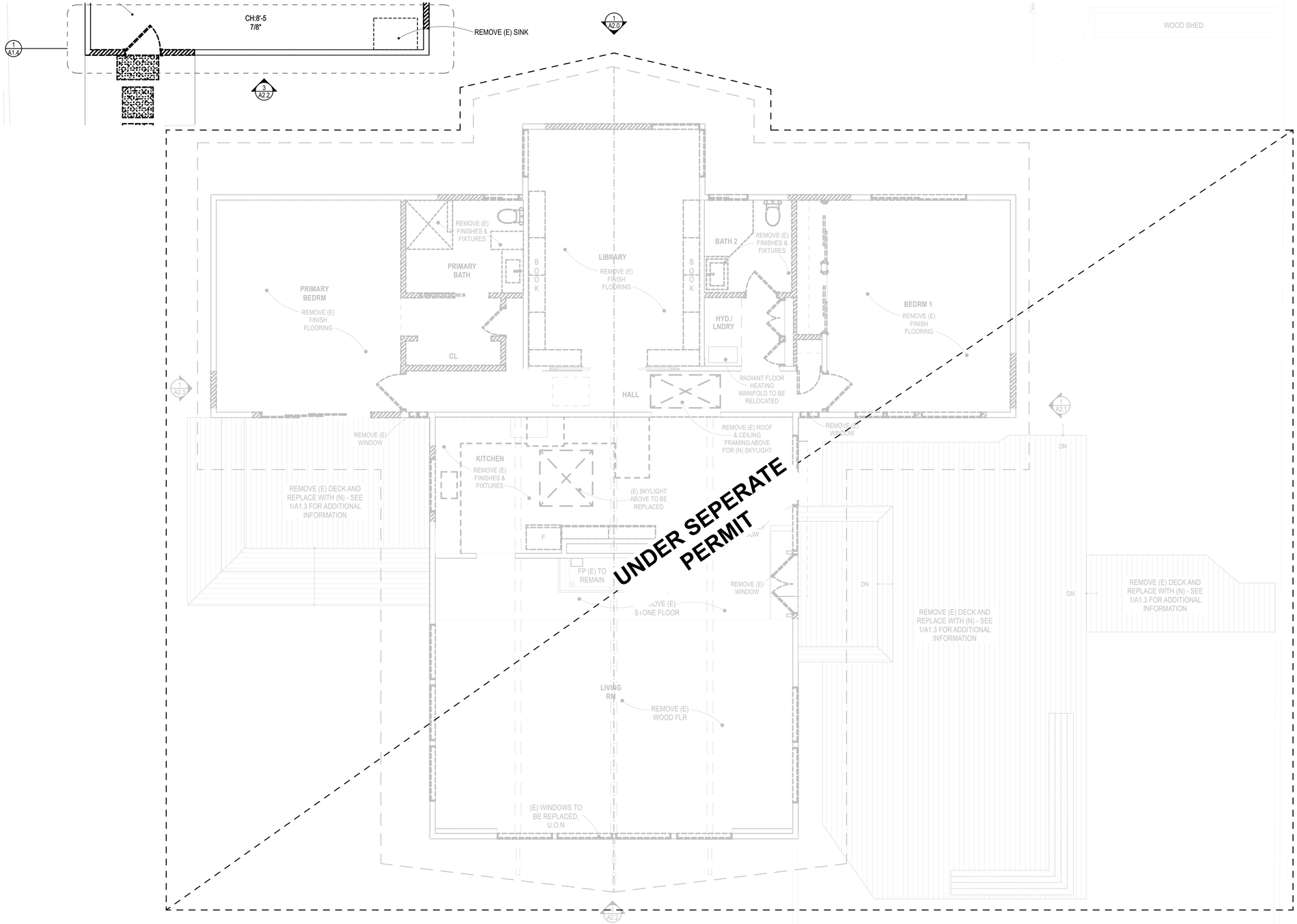
VEGETATION MANAGEMENT PLAN

sheet no.

A1.1

DEMO FLOOR PLAN LEGEND

- (E) WALLS TO REMAIN
- WALLS & ELEMENTS TO BE REMOVED
- ELEMENTS BELOW
- ELEMENTS ABOVE



1 (E)/DEMO FLOOR PLAN - GROUND FLOOR

SCALE: 1/4" = 1'-0"

0 2' 4' 8' PLAN NORTH

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BOLINAS, CA 94924

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holly.hanke@gmail.com
T: 510-520-6651

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999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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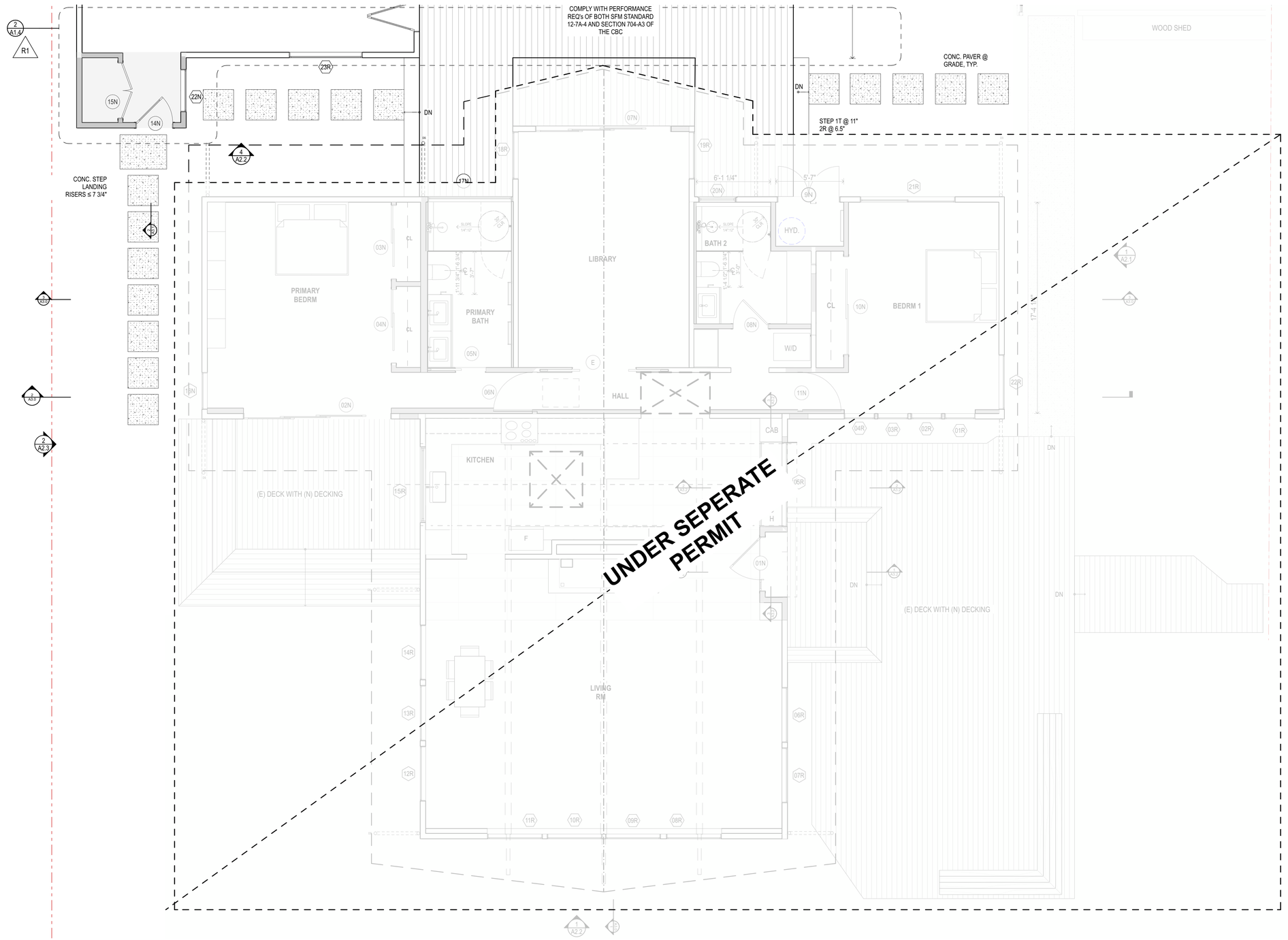
MAIN HOUSE - DEMO PLAN

sheet no.

A1.2



1 (N)/PROPOSED FLOOR PLAN - GROUND FLOOR

SCALE: 1/4" = 1'-0"

0 2' 4' 8' PLAN NORTH

FLOOR PLAN LEGEND

- (E) WALLS TO REMAIN
- NEW WALLS
- ELEMENTS BELOW
- ELEMENTS ABOVE
- X — WALL TYPES, SEE

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230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner

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230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared

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MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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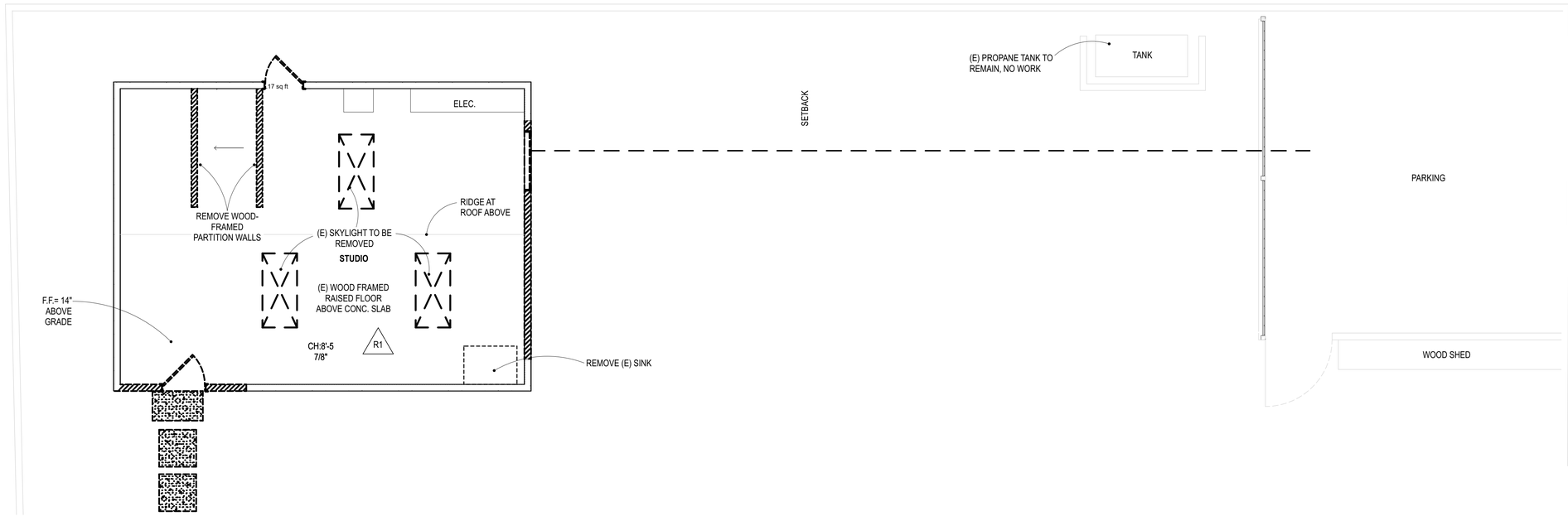
MAIN HOUSE - FLOOR PLAN

sheet no.

A1.3

ADU FLOOR PLAN LEGEND

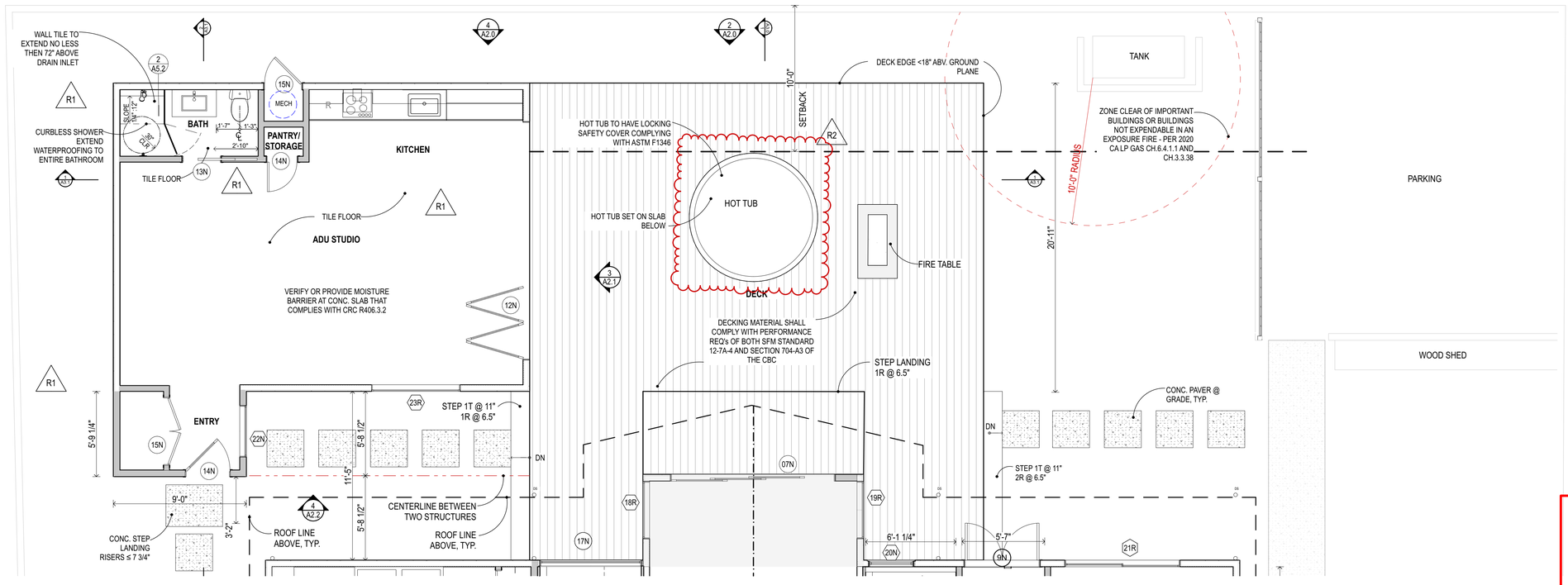
- (E) WALLS TO REMAIN
- WALLS & ELEMENTS TO BE REMOVED
- NEW WALLS
- ELEMENTS BELOW
- ELEMENTS ABOVE
- X — WALL TYPES, SEE



1 (E)/DEMO FLOOR PLAN - ADU

SCALE: 1/4" = 1'-0"

0 2' 4' 8' PLAN NORTH



2 (N)/PROPOSED FLOOR PLAN - ADU

SCALE: 1/4" = 1'-0"

0 2' 4' 8' PLAN NORTH

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MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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ADU - FLOOR PLANS

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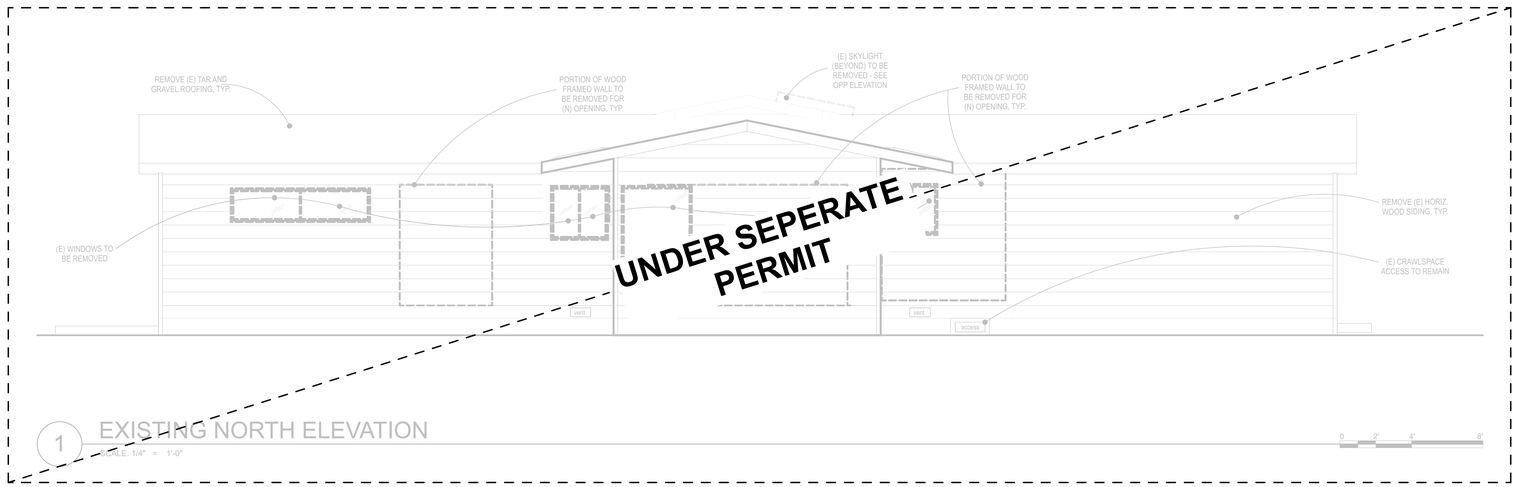
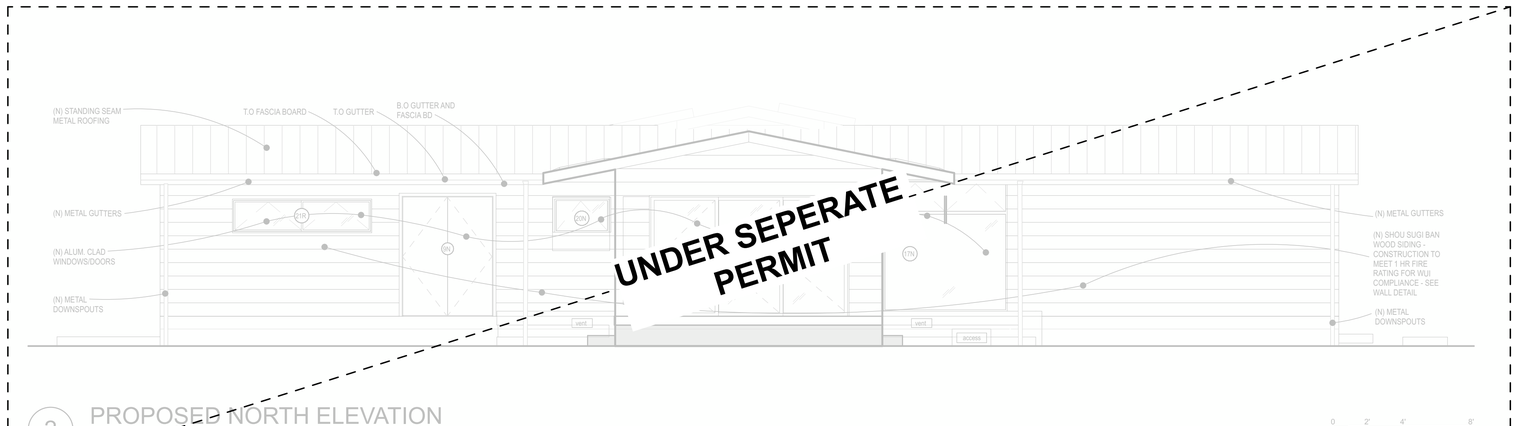
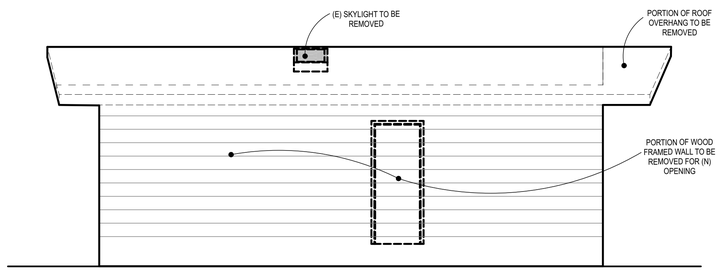
A1.4



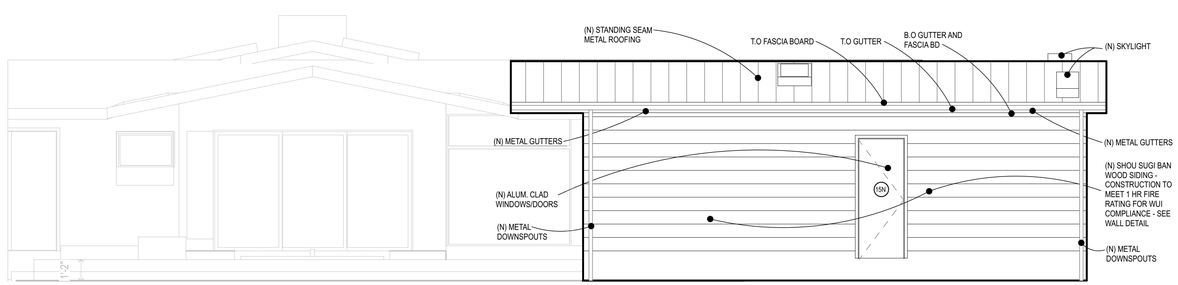
1 EXISTING NORTH ELEVATION
SCALE: 1/4" = 1'-0"



2 PROPOSED NORTH ELEVATION
SCALE: 1/4" = 1'-0"



3 EXISTING NORTH ELEVATION - ADU
SCALE: 1/4" = 1'-0"



4 PROPOSED NORTH ELEVATION - ADU
SCALE: 1/4" = 1'-0"

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230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
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holly.hanke@gmail.com
T: 510-520-6651

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MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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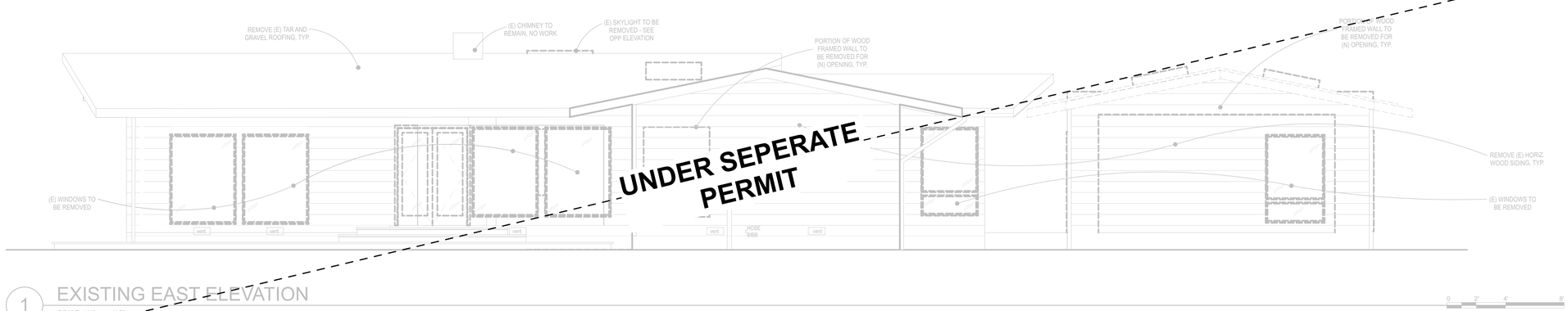
(E) & (N) NORTH ELEVATION

sheet no.

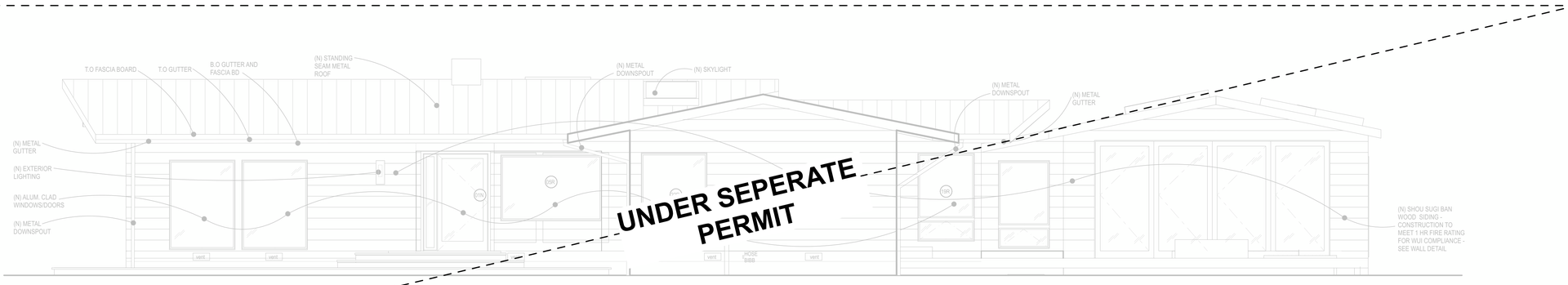
A2.0



1 EXISTING EAST ELEVATION

SCALE: 1/4" = 1'-0"

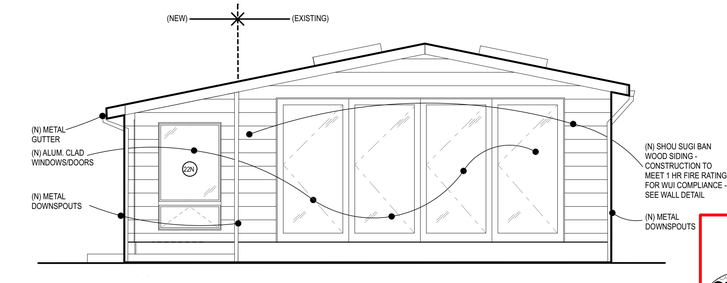
0 2' 4' 8'



2 PROPOSED EAST ELEVATION

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



3 PROPOSED EAST ELEVATION - ADU

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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BOLINAS, CA 94924

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T:775-450-3085

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(E) & (N) EAST ELEVATION

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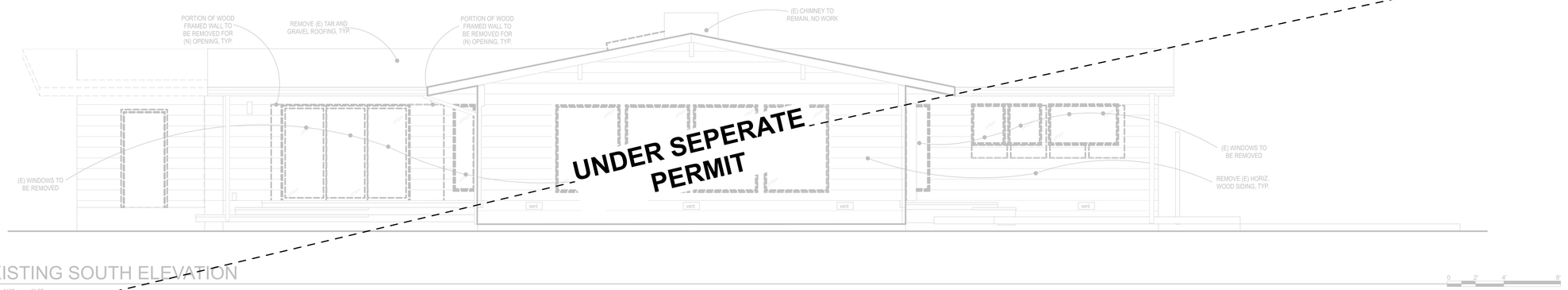
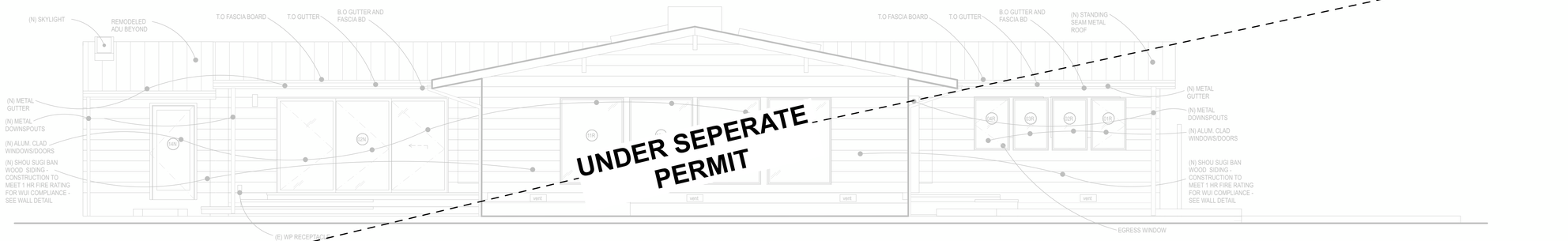
A2.1



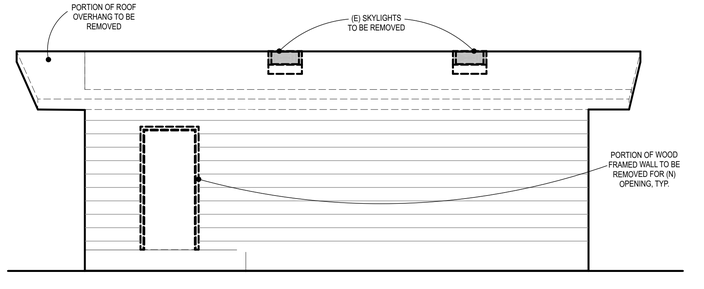
1 EXISTING SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



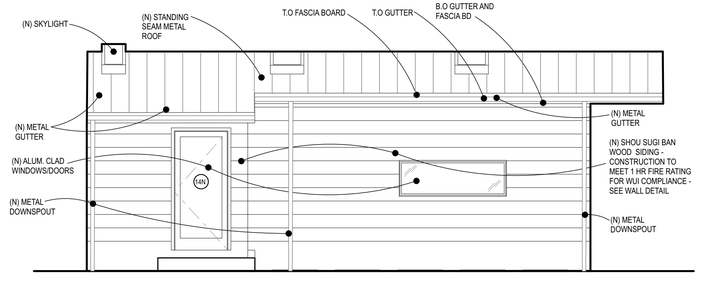
2 PROPOSED SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



3 EXISTING SOUTH ELEVATION - ADU

SCALE: 1/4" = 1'-0"



4 PROPOSED SOUTH ELEVATION - ADU

SCALE: 1/4" = 1'-0"

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230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
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holly.hanke@gmail.com
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MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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(E) & (N) SOUTH ELEVATION

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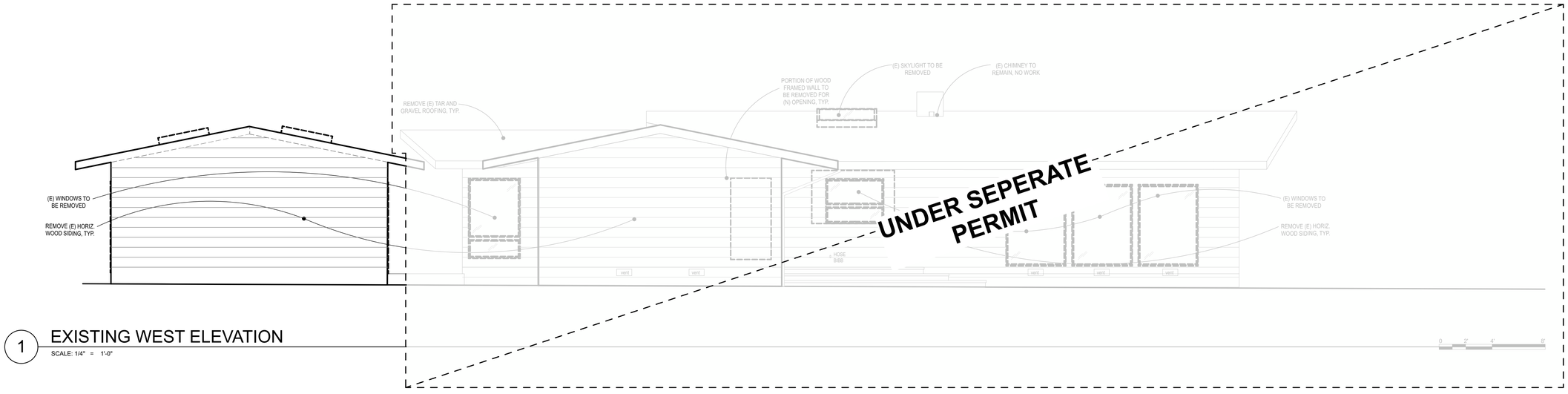
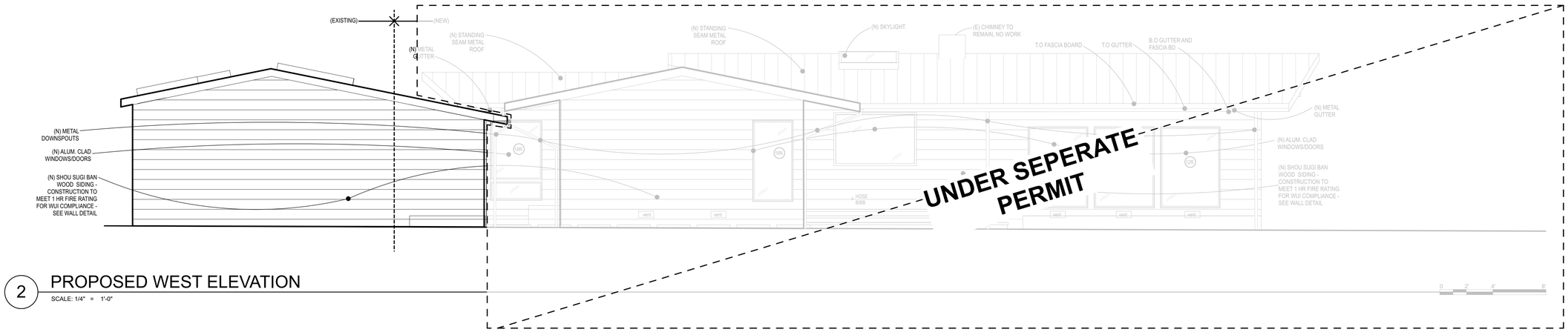
A2.2



1 EXISTING WEST ELEVATION

SCALE: 1/4" = 1'-0"



2 PROPOSED WEST ELEVATION

SCALE: 1/4" = 1'-0"

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E:Marco@buildinglab.com
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(E) & (N) WEST ELEVATION

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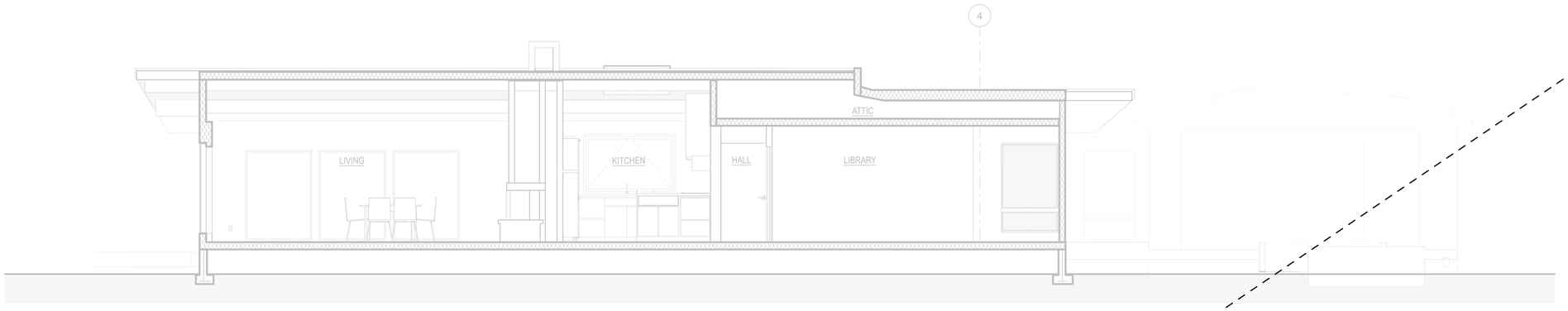
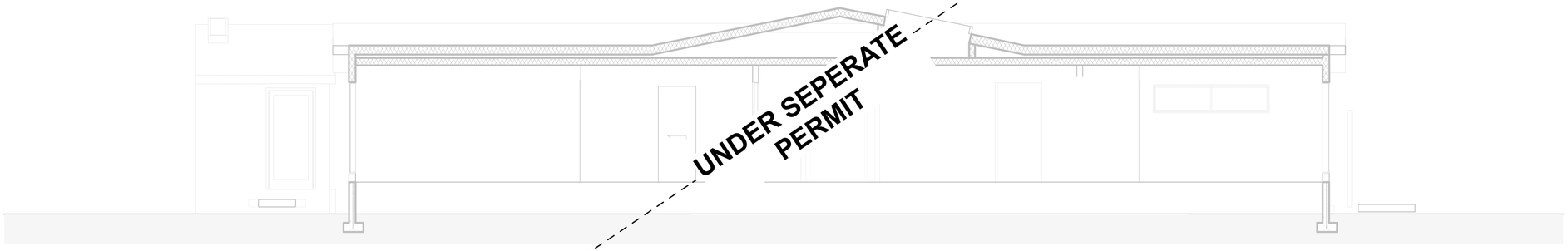
A2.3



1 SECTION A-A'
SCALE: 1/4" = 1'-0"



2 SECTION B-B'
SCALE: 1/4" = 1'-0"

3 SECTION C-C'
SCALE: 1/4" = 1'-0"

UNDER SEPERATE PERMIT

0 2' 4' 8'

COUNTY OF MARIN

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BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

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BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
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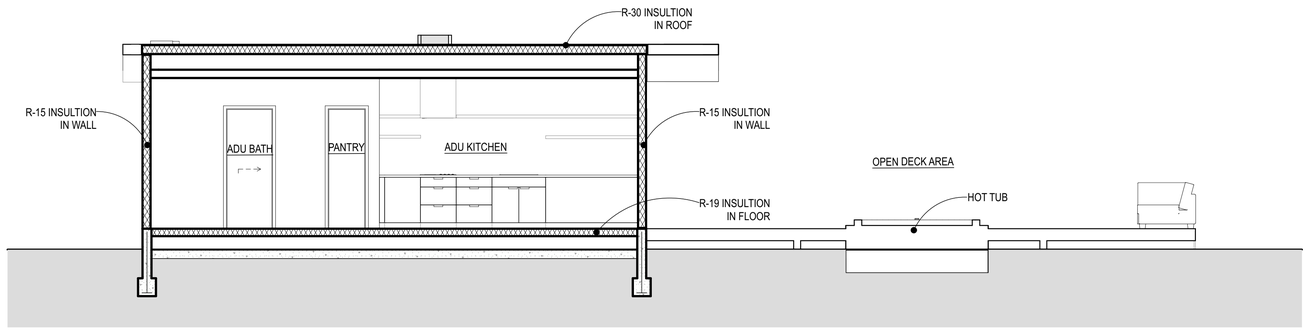
SECTIONS A, B & C

sheet no.

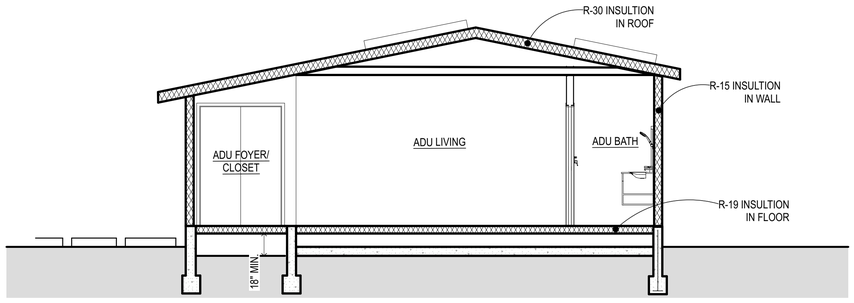
A3.0



1 SECTION D-D'

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



2 SECTION E-E'

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

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230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
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holly.hanke@gmail.com
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SECTIONS D & E

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A3.1

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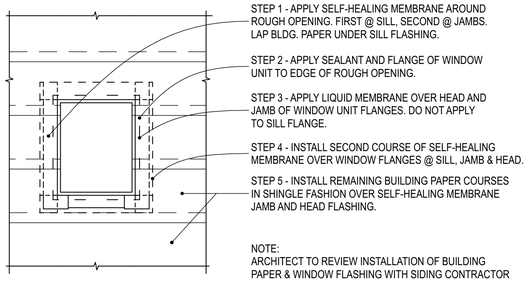


STEP 1 - APPLY SELF-HEALING MEMBRANE AROUND ROUGH OPENING. FIRST @ SILL, SECOND @ JAMBS. LAP BLDG. PAPER UNDER SILL FLASHING.

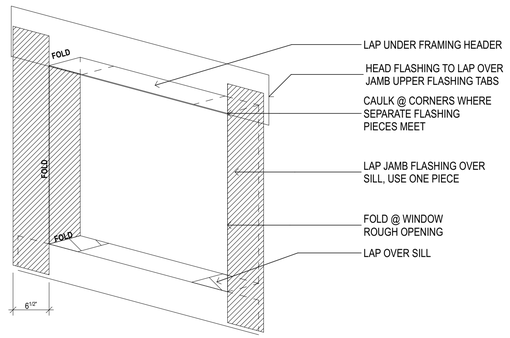
STEP 2 - APPLY SEALANT AND FLANGE OF WINDOW UNIT TO EDGE OF ROUGH OPENING.

STEP 3 - APPLY LIQUID MEMBRANE OVER HEAD AND JAMB OF WINDOW UNIT FLANGES. DO NOT APPLY TO SILL FLANGE.

STEP 4 - INSTALL SECOND COURSE OF SELF-HEALING MEMBRANE OVER WINDOW FLANGES @ SILL, JAMB & HEAD.

STEP 5 - INSTALL REMAINING BUILDING PAPER COURSES IN SHINGLE FASHION OVER SELF-HEALING MEMBRANE JAMB AND HEAD FLASHING.

NOTE:
ARCHITECT TO REVIEW INSTALLATION OF BUILDING PAPER & WINDOW FLASHING WITH SIDING CONTRACTOR & WINDOW INSTALLER.



1 FLASHING DETAILS

SCALE: 3" = 1'-0"

0 2' 4' 8'

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T:775-450-3085

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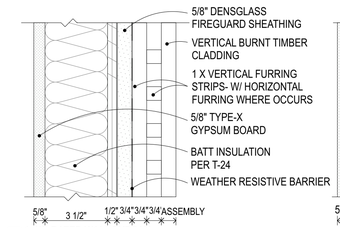
	BLDG. PERMIT	24.06.26
1	R1 RESPONSE	24.10.04
2	R2 RESPONSE	24.12.18

	issue	date
	drawn by	
	checked by	

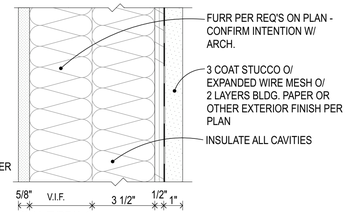
WINDOW DETAILS

sheet no.

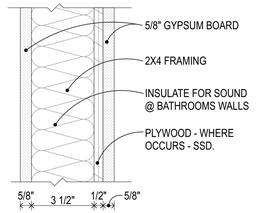
A5.1



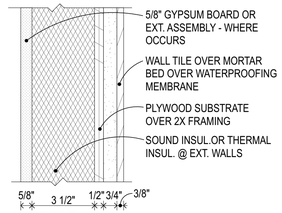
W1 **1 -HR RATED WALL TYPE 'A'**
TYPICAL EXTERIOR WALL RAIN SCREEN ASSEMBLY



WALL TYPE 'A.1'
EXTERIOR WALL FURRED @ INTERIOR FACE



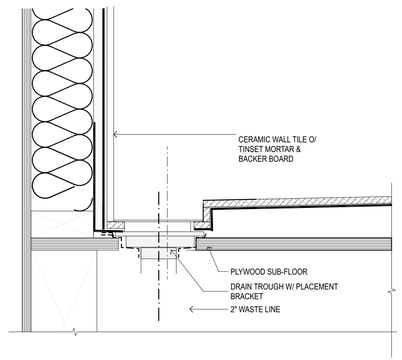
WALL TYPE 'B'
TYPICAL INTERIOR WALL

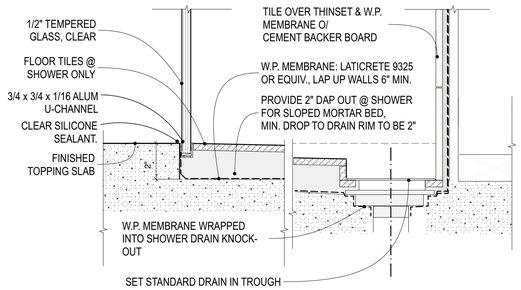


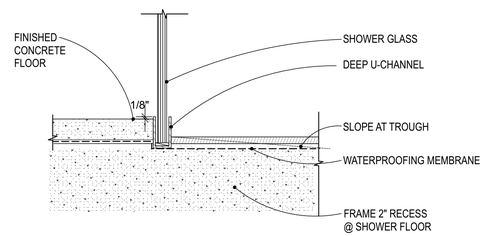
WALL TYPE 'C'
WALL TILE @ WET CONDITIONS

1 WALL TYPE

SCALE: 3" = 1'-0"







SHOWER GLASS @ MH MASTER BATH2

2 CURBLESS SHOWER DETAIL

SCALE: 3" = 1'-0"

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

building Lab
design / construction / fabrication
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HANKE RESIDENCE

APN: 191-161-05
230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared
BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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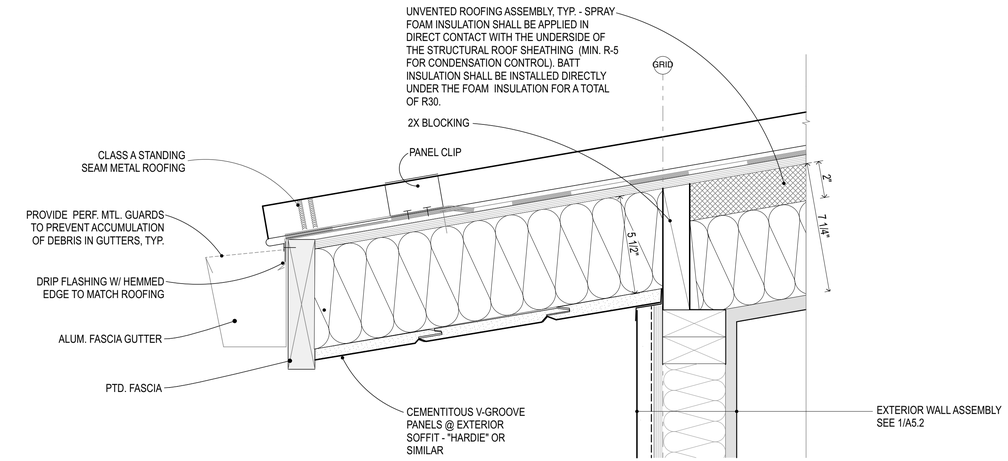
DETAILS

sheet no.

A5.2



1 ROOF EAVE

SCALE: 3" = 1'-0"

0 2' 4' 8'

building Lab
design / construction / fabrication
www.buildinglab.com

HANKE RESIDENCE

APN: 191-161-05

230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner

JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared

BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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ROOFING DETAILS

sheet no.

A5.4

COUNTY OF MARIN

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Date: 2/6/2025

WINDOW/ DOOR NOTES:

1. "ESCAPE OR RESCUE WINDOWS (WINDOWS LOCATED IN A SLEEPING ROOM) SHALL INCLUDE THE FOLLOWING:

• BOTTOM OF THE CLEAR OPENING SHALL NOT GREATER BE THAN 44 INCHES MEASURED FROM THE FLOOR.
• A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET.
• MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES
• MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES
• OPERATIONAL FROM THE INSIDE OF THEROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE."

CRC R310.1, R310.1.1, R310.2, R310.2.1, R310.2.2, R310.2.3, R310.2.3.1, R310.2.3.2 (AS APPLICABLE)

2. A "SLEEPING ROOM", AS INTERPRETED BY THE CITY OF MILL VALLEY PLANNING AND BUILDING DEPARTMENT, IS A HABITABLE SPACE
OTHER THAN A KITCHEN OR DINING ROOM THAT HAS A DOOR THAT SEPARATES IT FROM ADJOINING HABITABLE OR NON-HABITABLE AREAS AND THAT COULD REASONABLY BE CONSIDERED AS A ROOM WHO'S FUNCTIONS COULD INCLUDE USE FOR SLEEPING PURPOSES.

3. OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SELF-CLOSING AND SELF-LATCHING DEVICES OR
AUTOMATIC-CLOSING AND SELF-LATCHING DEVICE.

4. FOR ALL PROPOSED OR ALTERED WINDOWS AND DOORS:
WUI REQUIREMENT: "EXTERIOR WINDOW AND DOOR GLAZING OF ANY TYPE MUST CONTAIN AT LEAST ONE PANE OF TEMPERED GLASS." CRC R337.8.2.1

THIS INCLUDES:
1. EXTERIOR WINDOWS.
2. EXTERIOR GLAZED DOORS.
3. GLAZED OPENINGS WITHIN EXTERIOR DOORS.
4. GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS.
6. SKYLIGHTS.
7. VENTS (IF APPLICABLE)

5. ALL PROPOSED (NEWLY-INSTALLED) DOORS SHALL COMPLY WITH ONE OF THE FOLLOWING PER CRC R337.8.3:

(A).THE EXTERIOR SURFACE SHALL BE TESTED TO MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1 OR
(B). THE EXTERIOR SURFACE OR CLADDING SHALL BE OF NONCOMBUSTABLE MATERIAL OR IGNITION RESISTANT MATERAL OR
(C). CONSTRUCTED OF SOLID CORE WOOD AND NOT HAVE STILES AND RAILS NOT BE LESS THAN 1 3/8" THICK WITH INTERIOR FIELD PANELS NO LESS THAN 1 1/4" THICK OR
(D). HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MIN. WHEN TESTED ACCORDING TO NFPA 252

6. EXTERIOR GARAGE DOORS (IF APPLICABLE) SHALL RESIST THE INTRUSION OF EMBERS FROM ENTERING BY PREVENTING GAPS BETWEEN DOORS AND DOOR OPENINGS, AT THE BOTTOM, SIDES AND TOPS OF DOORS, FROM EXCEEDING 1/8 INCH. GAPS BETWEEN DOORS AND DOOR OPENINGS SHALL BE CONTROLLED BY ONE OF THE FOLLOWING METHODS PER CRC R337.8.4:

WEATHER STRIPPING PRODUCTS MADE OF MATERIALS THAT:

(A) HAVE BEEN TESTED FOR TENSILE STRENGTH IN ACCORDANCE WITH ASTM D638 AFTER EXPOSURE TO ASTM G155 FOR A PERIOD OF 2,000 HOURS, WHERE THE MAXIMUM ALLOWABLE DIFFERENCE IN TENSILE STRENGTH VALUES BETWEEN EXPOSED AND NON-EXPOSED SAMPLES DOES NOT EXCEED 10% AND

(B) EXHIBIT A V-2 OR BETTER FLAMMABILITY RATING WHEN TESTED TO UL 94, STANDARD FOR TESTS FOR FLAMMABILITY OF PLASTIC MATERIALS
FOR PARTS IN DEVICES AND APPLIANCES." CRC R337.8.4

6. SKYLIGHT SHALL COMPLY WITH **WUI REQUIREMENTS** (TEMPERED GLASS/OTHER TO MAINTAIN CLASS A ASSEMBLY @ ROOF). "OPERABLE SKYLIGHTS SHALL BE PROTECTED BY A NON COMBUSTABLE MESH SCREEN WHERE THE DIMENSIONS OF THE OPENINGS IN THE SCREEN SHALL NOT EXCEED 1/8" " R337.8.2.2

ADU DOOR SCHEDULE

R1

ID	ROOM	TYPE	OPERATION	W	HT	DOOR THICKNESS	MATERIAL/FINISH	MFGR	GLZ	U/SHGC	HDW SET	HAND'G	NOTE:
12N	STUDIO ADU	FOLDING	4 STACK LEFT	192"	96 1/16"	1 3/8"	ALUM/ BLCK	TBD	TEMP. CLEAR	0.3/0.23			
13N	ADU BATH	FLUSH	HINGED	30"	80"	1 3/4"	WD/ PT	--					
14N	ADU PANTRY	FLUSH	HINGED	24"	80"	1 3/8"	WD/ PT	--	--				
14N	STUDIO ENTRY	SNGL LITE	HINGED	36"	80"	1 3/8"	ALUM/ BLCK	--	TEMP. CLEAR	0.3/0.23			EGRESS
15N	CL - ADU	FLUSH	SLIDING	54"	80"	1 3/8"	WD/ PT	--	--				
15N	MECH	FLUSH	HINGED	30"	80"	1 3/8"	FIBERGLASS/ PTD.	--	--				

ADU WINDOW SCHEDULE

R1

ID	ROOM	NET SIZE		TYPE	MFGR / MODEL	MATERIAL/ FINISH	GLAZING			SCREEN	REMARKS/ DETAILS
		WIDTH	HEIGHT				CLR/ OBSC?	Tempered	U/ SHGC		
22N	ADU - ENTRY	42"	72"	FIXED/ AWN	tbd	ALUM/ BLCK	CLR	☒			

MAIN HOUSE DOOR SCHEDULE

R1

ID	ROOM	TYPE	OPERATION	W	HT	DOOR THICKNESS	MATERIAL/FINISH	MFGR	GLZ	U/SHGC	HDW SET	HAND'G	NOTE:
01N	ENTRY DOOR	SNGL LITE + SIDE LITE	HINGED	42"	80"	1 3/8"	ALUM/ BLCK	TBD	TEMP. CLEAR		---		
02N	P. BDRM	SLIDING	OXX	144"	80"	1 1/4"	ALUM/ BLCK	TBD	TEMP. CLEAR		---		
03N	CL - P. BDRM	FLUSH	SLIDING	72"	80"	1 3/8"	WD/ PT	--	--		---		
04N	CL - P. BDRM	FLUSH	SLIDING	72"	80"	1 3/8"	WD/ PT	--	--		---		
05N	P. BATH	FLUSH	POCKET	30"	80"	1 3/4"	WD/ PT	--			---		
06N	P. BDRM	FLUSH	HINGED	38 1/4"	80"	1 3/8"	WD/ PT	--	--		---		
07N	LIBRARY	SLIDING	XXO	132"	80"	1 1/4"	ALUM/ BLCK		TEMP. CLEAR		---		EGRESS
08N	BATH 2	FLUSH	HINGED	34"	80"	1 3/8"	WD/ PT	--	--		---		
9N	UTILITY	FLUSH	HINGED	60"	80"	1 3/4"	FIBERGLASS/ PTD.				---		
10N	CL - BDRM 1	FLUSH	SLIDING	96"	80"	1 3/8"	WD/ PT	--	--		---		
11N	BDRM 1	FLUSH	HINGED	37 15/16"	80"	1 3/8"	WD/ PT	--	--		---		

MAIN HOUSE WINDOW SCHEDULE

R1

ID	ROOM	NET SIZE		TYPE	MFGR / MODEL	MATERIAL/ FINISH	GLAZING			SCREEN	REMARKS/ DETAILS
		WIDTH	HEIGHT				CLR/ OBSC?	Tempered	U/SHGC		
01R	BDRM 1	30"	44"	CASEMENT	tbd	ALUM/ BLCK	CLR		0.30 / 0.23		
02R	BDRM 1	30"	44"	FIXED	tbd	ALUM/ BLCK	CLR		0.30 / 0.23		
03R	BDRM 1	30"	44"	FIXED	tbd	ALUM/ BLCK	CLR		0.30 / 0.23		
04R	BDRM 1	30"	44"	CASEMENT	tbd	ALUM/ BLCK		☐	0.30 / 0.23		EGRESS
05R	ENTRY	82 15/16"	54"	FIXED	tbd	ALUM/ BLCK		☐	0.30 / 0.23	--	
06R	LIVING RM.	54"	73 3/8"	FIXED/ AWN.	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
07R	LIVING RM.	54"	73 3/8"	FIXED/ AWN.	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
08R	LIVING RM.	54"	73 3/8"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
09R	LIVING RM.	54"	73 3/8"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
10R	LIVING RM.	54"	73 3/8"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
11R	LIVING RM.	54"	73 3/8"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
12R	LIVING RM.	54"	73 3/8"	FIXED/ AWN.	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
13R	LIVING RM.	54 1/2"	73 3/8"	FIXED/ AWN.	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
14R	LIVING RM.	54"	73 3/8"	FIXED/ AWN.	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
15R	KITCHEN	74 1/4"	47 3/4"	AWNING	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
16N	P. BDRM	36 5/8"	73 3/8"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
17N	P. BATH	82 1/2"	88"	AWN./ FIXED	tbd	ALUM/ BLCK	OBSC.	☐	0.30 / 0.23		
18R	LIBRARY	46 5/8"	72"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
19R	LIBRARY	46 1/2"	72"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
20N	BATH 2	36"	22"	AWNING	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
21R	BDRM 1	93 1/2"	22 3/8"	SLIDER	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		
22R	BDRM 1	54"	73 3/8"	FIXED	tbd	ALUM/ BLCK	CLR	☐	0.30 / 0.23		

UNDER SEPERATE PERMIT

COUNTY OF MARIN

Reviewed for Code Compliance As Verified by Field Inspection

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HANKE RESIDENCE

APN: 191-161-05

230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared
BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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checked by	

WINDOW AND DOOR SCHEDULE

sheet no.

A7.1

MEP LEGEND

NOTE:

1: LAYOUT OF OUTLETS PER CODE. V.I.F.
2: ALL NEW LIGHTING FIXTURES TO BE LED

ABBREVIATIONS

(E)	EXISTING
(R)	REPLACE (E)
WP	WATER PROOF

ELECTRICAL MECHANICAL PLUMBING SYMBOL LEGEND:

LIGHTING FIXTURES

- LED RECESSED LIGHT
- PENDANT LIGHT
- LED CEILING MOUNT LIGHT
- WALL MOUNTED LIGHT
- LED STRIP LIGHT
- LED DIRECTIONAL RECESSED LIGHT
- LED STEP LIGHT
- LED SPOT LIGHT ON FLOOR
- LED TRACK LIGHT
- LED PANEL LIGHT

SWITCHING/OUTLETS

- LOCATE ITEM IN CABINET OR HIDDEN
- S SWITCH
- 3 3 WAY SWITCH
- D DIMMER SWITCH
- OS OCCUPANCY SENSOR SWITCH
- V VACANCY SENSOR SWITCH
- H HUMIDISTAT SWITCH
- J JAMB SWITCH
- A AIR SWITCH
- C ASTRONOMICAL SWITCH
- WIRE PASS-THRU PLATE
- ELEC. DUPLEX RECEPTACLE (WALL) ARC FAULT CIRCUIT INTERRUPTER RECEPTACLE
- WP ELEC. DUPLEX RECEPTACLE (WALL) GFCI WATERPROOF
- ELEC. QUAD RECEPTACLE (WALL)
- ELEC. OUTLET (FLR)
- ELEC. OUTLET (CEILING)
- GFCI GFCI GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- PLUGMOLD
- BLANK PLATE

ACCESSORY ITEMS

- ELEC. METER
- ELEC. MAIN PANEL
- SUB ELEC. SUBPANEL
- TF TRANSFORMER
- T THERMOSTAT
- DOOR OR GATE OPERATOR
- S SECURITY ALARM KEYPAD
- TEL TELEPHONE JACK
- DATA DATA (CAT 5 ETHERNET CABLE)
- TV TV CABLE
- HDMI HDMI CABLE
- HDMI TV RECESSED MEDIA PLATE
- DOOR BUZZER OR INTERCOM
- DOOR CHIME
- ALARM BELL
- MOTION DETECTOR
- MODEM CABLE MODEM
- VI VACUUM INLET
- CO COMB. OF CARBON MONOXIDE / SMOKE DETECTOR, HARDWIRED
- S SMOKE DETECTOR, HARDWIRED
- CO CARBON MONOXIDE DETECTOR, HARDWIRED
- B BATTERY OPERATED
- SPK SPEAKER
- ITEM ON WALL

HVAC SYMBOLS

- SUPPLY OR RETURN AIR GRILLE ON FLOOR
- SUPPLY OR RETURN AIR GRILLE ON WALL
- SUPPLY OR RETURN AIR GRILLE ON CEILING
- FAN
- FAN W/ LIGHT

PLUMBING SYMBOLS

- WATER M WATER METER
- M.W.S. MAIN WATER SHUT OFF
- C COLD WATER SHUT OFF
- H HOT WATER SHUT OFF
- DRAIN DRAIN
- HB WATER BIB
- GD GARBAGE DISPOSER
- GAS M GAS METER
- G GAS SHUTOFF
- DS DOWN SPOUT
- FLR DRAIN
- C.O. CLEAN OUT
- IN LINE WATER FILTER
- FIRE SPRINKLER

UTILITY SYMBOLS

- W WATER
- G GAS
- SS SANITARY SEWER
- E ELECTRIC LINE
- E EJECTOR PUMP
- FD FOUNDATION DRAIN PER S.S.D.
- TD TRENCH DRAIN
- SD SURFACE DRAIN
- SP SOLID ABS PIPE
- ENERGY DISSIPATOR
- DN SLOPE (UP OR DN) DIRECTION OF FLOW
- OVERLAP-NON-INTERSECTING
- LOCATION OF INVERSION
- DS DOWNSPOUT
- CLEAN OUT

ELECTRICAL & LIGHTING NOTES

GENERAL:
1. SEE GENERAL NOTES FOR APPLICABLE BUILDING CODES. REFER TO T24 ENERGY COMPLIANCE DOCUMENTATION FOR SPECIFIC REQUIREMENTS.

2. ALL ELECTRICAL SYSTEMS TO BE DESIGN/BUILD BY THE ELECTRICAL SUBCONTRACTOR.

3. ALL EQUIPMENT SHALL BE INSTALLED AND USED IN ACCORDANCE WITH THE LISTING REQUIREMENTS AND MANUFACTURERS INSTRUCTIONS.

4. ELECTRICAL SUBCONTRACTOR TO PROVIDE ALL PRODUCT INSTALLATION AND USAGE MANUALS FOR ALL EQUIPMENT AND MATERIALS INSTALLED. INSTRUCT OWNERS ON OPERATION OF ALL EQUIPMENT.

5. ALL ELECTRICAL EQUIPMENT, METAL BOXES, COVER PLATES AND PLASTER RINGS SHALL BE GROUNDED. ALL ELECTRICAL OUTLETS TO BE GFCI PROTECTED AT BATHROOMS, GARAGES, AT-GRADE STORAGE AND WORK AREAS, EXTERIOR LOCATIONS, CRAWL SPACES, UNFINISHED BASEMENT WORK AND STORAGE AREAS, KITCHEN COUNTERTOP RECEPTACLES, LAUNDRY, UTILITY, AND WET BAR RECEPTACLES WITHIN 6 FT. OF SINK EDGE.

6. LOCATION OF ALARM CONTROLS TO BE VERIFIED WITH BUILDING LAB IN THE FIELD.

7. DO NOT INSTALL ELECTRICAL PANELS LARGER THAN 16 SQUARE INCHES IN RATED FIRE WALLS. GARAGE TO DWELLING UNIT SEPARATION IS NOT A RATED FIRE WALL. (R302.4.2) NEVER INSTALL ELECTRICAL PANELS IN CLOSET. MAINTAIN A CLEARANCE OF 36" IN FRONT OF THE PANELS. (CEC 110.26)

8. PROVIDE A MINIMUM OF ONE 20 AMP RECEPTACLE IN AREAS DESIGNATED FOR LAUNDRY EQUIPMENT. (CEC 210.52F)

9. KITCHENS AND DINING AREAS MUST HAVE A MINIMUM OF TWO 20 AMP CIRCUITS. KITCHEN COUNTER OUTLETS MUST BE INSTALLED IN EVERY COUNTER SPACE 12" OR WIDER, NOT GREATER THAN 4' O.C. AND WITHIN 24" OF THE END OF ANY COUNTER SPACE. (CEC 210.52)

10. GFCI OUTLETS ARE REQUIRED FOR ALL KITCHEN RECEPTACLES THAT ARE DESIGNED TO SERVE COUNTERTOP SURFACES, IN BATHROOMS, IN UNDERFLOOR SPACES AT OR BELOW GRADE LEVEL, IN EXTERIOR OUTLETS, IN LAUNDRY AREAS, AND IN ALL GARAGE OUTLETS NOT DEDICATED TO A SINGLE DEVICE OR APPLIANCE. (CEC 210.8) ALL DWELLINGS MUST HAVE AT LEAST ONE EXTERIOR OUTLET AT THE FRONT AND THE BACK OF THE DWELLING. (CEC 210.52E)

11. RECEPTACLES MUST BE INSTALLED AT 12' O.C. MAXIMUM IN WALLS. WALLS LONGER THAN 2 FEET AND HALLS LONGER THAN 10' MUST HAVE A RECEPTACLE. A RECEPTACLE MUST BE PROVIDED WITHIN 3' OF BATHROOM SINKS. (CEC 210.52)

12. BOND ALL METAL GAS AND WATER PIPES TO GROUND. ALL GROUND CLAMPS MUST BE ACCESSIBLE AND OF AN APPROVED TYPE. (CEC 250.104)

13. FURNACES INSTALLED IN ATTICS AND CRAWL SPACES MUST HAVE AN ACCESS PLATFORM (CATWALK IN ATTICS), LIGHT, LIGHT SWITCH, AND RECEPTACLE IN THE SPACE. (CMC 904.10)

14. NEW DWELLINGS MUST HAVE A 120V POWERED SMOKE ALARM IN EVERY SLEEPING ROOM, OUTSIDE EACH SLEEPING ROOM, ON EVERY STORY OF THE DWELLING, INCLUDING BASEMENTS AND HABITABLE ATTICS, BUT NOT INCLUDING CRAWL SPACES OR UNINHABITABLE ATTICS. (R314.3)

15. WHEN MORE THAN ONE SMOKE ALARM OR CARBON MONOXIDE ALARM IS REQUIRED THE ALARM DEVICES SHALL BE INTERCONNECTED. IF THE PROPOSED SCOPE OF WORK DOES NOT RESULT IN THE REMOVAL OF WALL AND CEILING FINISHES EXPOSING AREAS REQUIRING INSTALLATION, IN BUILDINGS BUILT PRIOR TO JANUARY 1, 2011, DEVICES MAY BE BATTERY OPERATED. (R314.4 & R315.7)

16. WHEN ALTERATIONS, REPAIRS, OR ADDITIONS REQUIRE A PERMIT OR SLEEPING ROOMS ARE ADDED OR CREATED, SMOKE ALARMS SHALL BE INSTALLED WHERE REQUIRED IN NEW DWELLINGS. (R314.2.2)

17. FOR NEW CONSTRUCTION AND WORK IN AN EXISTING DWELLING, WHERE AN ADDITION IS MADE TO AN EXISTING DWELLING OR A FUEL-BURNING APPLIANCE IS ADDED, CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN SLEEPING ROOMS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED, OUTSIDE OF EACH SLEEPING AREA, AND ON EACH OCCUPIABLE LEVEL. CARBON MONOXIDE ALARMS ARE NOT REQUIRED IN DWELLINGS WHERE THERE IS NO FUEL-FIRED APPLIANCE OR ATTACHED GARAGE. (R315.1; R315.2)

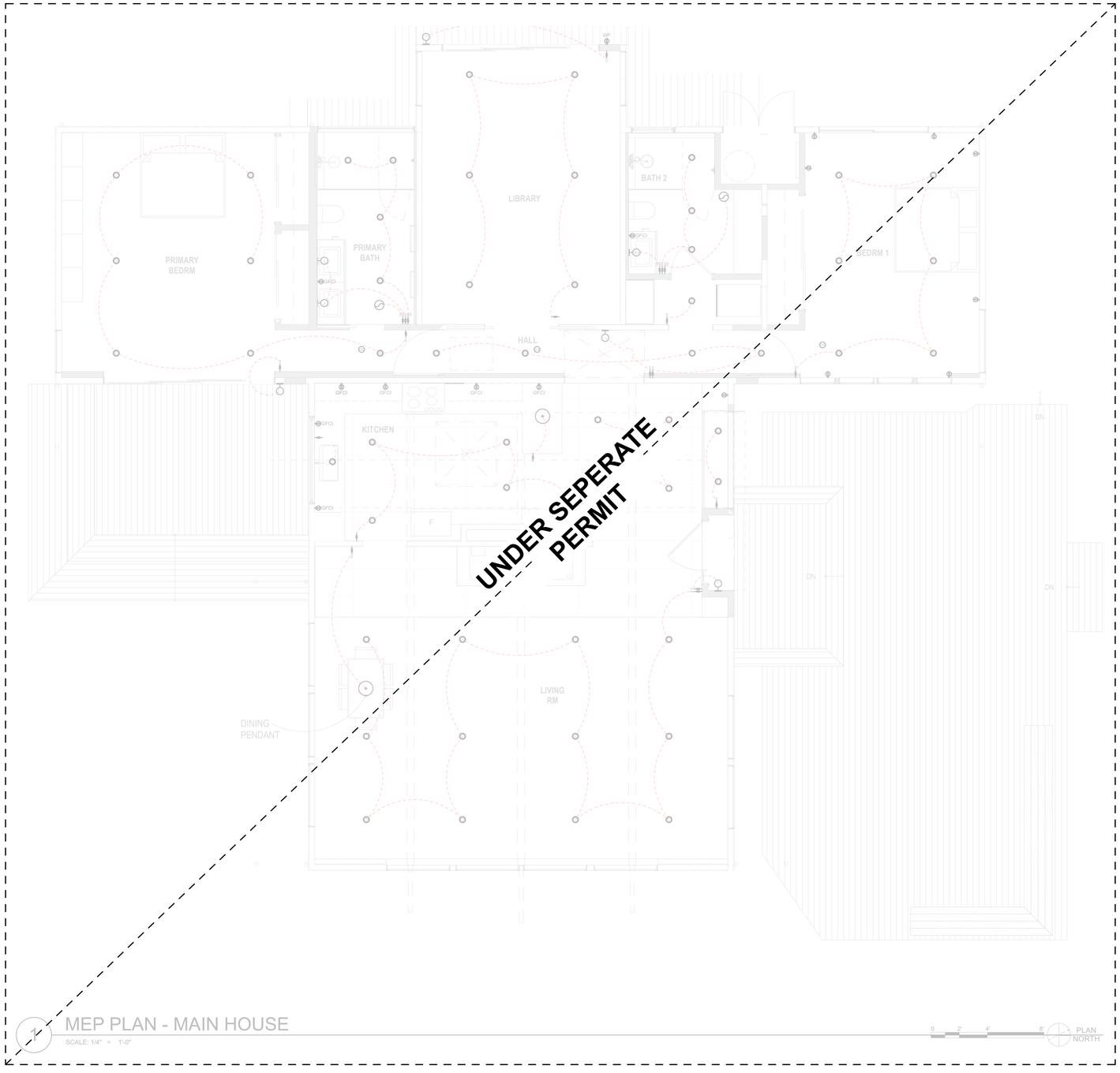
18. ALL 120-VOLT 15 AND 20 AMP BRANCH CIRCUITS IN DWELLING UNITS EXCEPT THOSE IN BATHROOMS, UNFINISHED BASEMENTS, GARAGES AND OUTDOORS SHALL HAVE AFCI PROTECTION. (CEC 210.12)

19. RECEPTACLES ON 120-VOLT 15 AND 20 AMP CIRCUITS SHALL BE TAMPER RESISTANT. EXCEPT WHEN LOCATED MORE THAN 5.5' ABOVE THE FLOOR OR WHEN PART OF A LUMINAIRE OR APPLIANCE. (CEC 406.12)

20. BATHROOMS TO HAVE MECHANICAL VENTING, MIN. 50 CUBIC FEET PER MINUTE, EXHAUSTED THROUGH THE ROOF. EACH BATHROOM (WITH TUB OR SHOWER) SHALL INCLUDE THE FOLLOWING:

- ENERGY STAR FANS DUCTED TO THE OUTSIDE OF THE BUILDING AND
- FANS MUST BE CONTROLLED BY A HUMIDITY CONTROLLER OR FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM AND
- HUMIDITY CONTROLS MUST HAVE A MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT, CAPABLE OF ADJUSTING BETWEEN A RELATIVE HUMIDITY RANGE OF LESS THAN OR EQUAL TO 50% UP TO A MAXIMUM OF 80%.

21. PROVIDE AT LEAST ONE 20-AMP CIRCUIT FOR BATHROOM OUTLETS, WITH NO OTHER OUTLETS ON THE CIRCUIT. §210.11(C)(3).



1 MEP PLAN - MAIN HOUSE
SCALE: 1/4" = 1'-0"

0 2' 4' 8' PLAN NORTH

COUNTY OF MARIN

Reviewed for Code Compliance As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

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www.buildinglab.com

HANKE RESIDENCE

APN: 191-161-05

230 OCEAN PARKWAY
BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared
BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

issue	
BLDG. PERMIT	24.06.26
1 R1 RESPONSE	24.10.04
2 R2 RESPONSE	24.12.18

issue	date
drawn by	
checked by	

(N) MEP GROUND FLOOR PLAN - MAIN HOUSE

sheet no.

A8.1

MEP LEGEND

NOTE:

1: LAYOUT OF OUTLETS PER CODE. V.I.F.
2: ALL NEW LIGHTING FIXTURES TO BE LED

ABBREVIATIONS

(E)	EXISTING
(R)	REPLACE (E)
WP	WATER PROOF

ELECTRICAL MECHANICAL PLUMBING SYMBOL LEGEND:

LIGHTING FIXTURES

- LED RECESSED LIGHT
- PENDANT LIGHT
- LED CEILING MOUNT LIGHT
- WALL MOUNTED LIGHT
- LED STRIP LIGHT
- LED DIRECTIONAL RECESSED LIGHT
- LED STEP LIGHT
- LED SPOT LIGHT ON FLOOR
- LED TRACK LIGHT
- LED PANEL LIGHT

SWITCHING/OUTLETS

- LOCATE ITEM IN CABINET OR HIDDEN
- SWITCH
- 3 WAY SWITCH
- D DIMMER SWITCH
- OS OCCUPANCY SENSOR SWITCH
- V VACANCY SENSOR SWITCH
- H HUMIDISTAT SWITCH
- J JAMB SWITCH
- A AIR SWITCH
- C ASTRONOMICAL SWITCH
- WIRE PASS-THRU PLATE
- ELEC. DUPLEX RECEPTACLE (WALL) ARC FAULT CIRCUIT INTERRUPTER RECEPTACLE
- WP ELEC. DUPLEX RECEPTACLE (WALL) GFCI WATERPROOF
- ELEC. QUAD RECEPTACLE (WALL)
- ELEC. OUTLET (FLR)
- ELEC. OUTLET (CEILING)
- GFCI GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- PLUGMOLD
- BLANK PLATE

ACCESSORY ITEMS

- ELEC. METER
- ELEC. MAIN PANEL
- SUB ELEC. SUBPANEL
- TF TRANSFORMER
- THERMOSTAT
- DOOR OR GATE OPERATOR
- SECURITY ALARM KEYPAD
- TEL TELEPHONE JACK
- DATA DATA (CAT 5 ETHERNET CABLE)
- TV TV CABLE
- HDMI HDMI CABLE
- HDMI TV RECESSED MEDIA PLATE
- DOOR BUZZER OR INTERCOM
- DOOR CHIME
- ALARM BELL
- MOTION DETECTOR
- CABLE MODEM
- VI VACUUM INLET
- COMB. OF CARBON MONOXIDE / SMOKE DETECTOR, HARDWIRED
- SMOKE DETECTOR, HARDWIRED
- CARBON MONOXIDE DETECTOR, HARDWIRED
- BATTERY OPERATED
- SPK SPEAKER
- ITEM ON WALL

HVAC SYMBOLS

- SUPPLY OR RETURN AIR GRILLE ON FLOOR
- SUPPLY OR RETURN AIR GRILLE ON WALL
- SUPPLY OR RETURN AIR GRILLE ON CEILING
- FAN
- FAN W/ LIGHT

PLUMBING SYMBOLS

- WATER METER
- M.W.S. MAIN WATER SHUT OFF
- C COLD WATER SHUT OFF
- H HOT WATER SHUT OFF
- DRAIN DRAIN
- WB WATER BIB
- GD GARBAGE DISPOSER
- GAS METER
- G GAS SHUTOFF
- DS DOWN SPOUT
- FLR DRAIN
- C.O. CLEAN OUT
- IN LINE WATER FILTER
- FIRE SPRINKLER

UTILITY SYMBOLS

- W WATER
- G GAS
- SS SANITARY SEWER
- E ELECTRIC LINE
- E EJECTOR PUMP
- FD FOUNDATION DRAIN PER S.S.D.
- TD TRENCH DRAIN
- SD SURFACE DRAIN
- SP SOLID ABS PIPE
- ENERGY DISSIPATOR
- DN SLOPE (UP OR DN) DIRECTION OF FLOW
- OVERLAP-NON-INTERSECTING
- LOCATION OF INVERSION
- DS DOWNSPOUT
- CLEAN OUT

22. CLOTHES CLOSET LIGHT FIXTURE CLEARANCES SHALL CONFORM TO §410.16. INCANDESCENT FIXTURES WITH OPEN OR PARTIALLY ENCLOSED LAMPS AND PENDANT FIXTURES OR LAMP HOLDERS ARE NOT ALLOWED IN CLOSETS.

23. LIGHT FIXTURES WITHIN THE OUTSIDE DIMENSION OF TUB OR SHOWER ENCLOSURES OR LESS THAN 8' VERTICALLY FROM THE TOP OF THE BATHTUB RIM OR SHOWER THRESHOLD, OR IN OTHER WET/DAMP LOCATIONS SHALL BE LABELED 'SUITABLE FOR DAMP LOCATIONS' (OR "SUITABLE FOR WET LOCATIONS" IF SUBJECT TO SHOWER SPRAY OR RAIN. §410.10(A) AND (D)

24. SMOKE AND CARBON MONOXIDE DETECTORS SHALL BE EQUIPPED WITH BATTERY BACKUP PER CRC §R314 AND §R315.

25. ALL PLUMBING FIXTURES WITHIN THE BUILDING THAT ARE NON-COMPLIANT SHALL BE UPGRADED WITH WATER CONSERVING PLUMBING FIXTURES.

26. IF LIGHTING IS TO BE NEWLY INSTALLED- NEWLY INSTALLED LUMINAIRES INSTALLED IN WET OR DAMP LOCATIONS SHALL BE INSTALLED SUCH THAT WATER CANNOT ENTER OR ACCUMULATE IN WIRING COMPARTMENTS, LAMPHOLDERS, OR OTHER ELECTRICAL PARTS. IF LUMINAIRE IS TO BE NEWLY INSTALLED ADD THE FOLLOWING NOTE TO THE PLANS: "ALL LUMINAIRES INSTALLED IN WET LOCATIONS SHALL BE MARKED "SUITABLE FOR WET LOCATIONS." ALL LUMINAIRES INSTALLED IN DAMP LOCATIONS SHALL BE RATED "SUITABLE FOR WET LOCATIONS" OR "SUITABLE FOR DAMP LOCATIONS." CEC 410.10(A)

27.THE SCOPE OF THIS PROJECT IS SUCH THAT IT WILL BE UNSAFE TO OCCUPY THE BUILDING DURING THE COURSE OF CONSTRUCTION. STATE ONE OF THESE TWO OPTIONS ON THE TITLE SHEET OF THE PLANS:

"THE EXISTING ELECTRIC SERVICE PANEL MAY REMAIN IN PLACE BUT THE PANEL'S INTERIOR ENERGIZING COMPONENTS SHALL BE REMOVED AND REPLACED BY NO GREATER THAN (3) 120V AND (1) 220V"TWIST-LOCK" RECEPTACLES. INSPECTION OF THE ALTERED PANEL AS DESCRIBED SHALL BE THE FIRST INSPECTION REQUESTED. THERE SHALL BE NO FURTHER INSPECTIONS UNTIL THE TEMPORARY POWER INSTALLATION HAS BEEN APPROVED BY THE CITY OF MILL VALLEY."

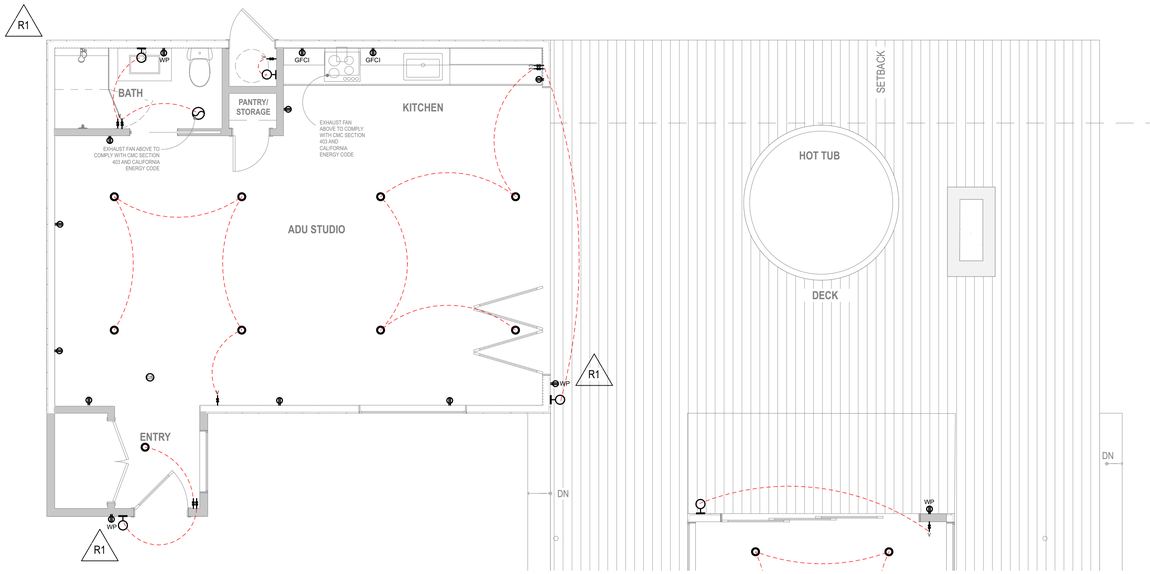
28. "PRODUCT AND UL (OR OTHER RECOGNIZED AGENCY) LISTING INFORMATION FOR ALL APPLIANCES SHALL BE SUBMITTED TO AND APPROVED BY THE CITY OF MILL VALLEY PLANNING AND BUILDING DEPARTMENT PRIOR TO INSTALLATION."

ENERGY EFFICIENCY
4.201.1 SCOPE. BUILDING MEETS OR EXCEEDS THE REQUIREMENTS OF THE CALIFORNIA BUILDING ENERGY
EFFICIENCY STANDARDS.

WATER EFFICIENCY AND CONSERVATION
4.303.1 PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS)
INSTALLED IN RESIDENTIAL BUILDINGS SHALL COMPLY WITH THE FOLLOWING PRESCRIPTIVE REQUIREMENTS:
• WATERS CLOSETS: ≤ 1.28 GAL/FLUSH
• URINALS: ≤ 0.125 GAL/FLUSH
• SINGLE SHOWERHEADS: ≤ 1.8 GPM @ 80 PSI
• MULTIPLE SHOWERHEADS: COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR OTHER
SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GPM @ 80 PSI OR ONLY ONE
SHOWER OUTLET IS TO BE IN OPERATION AT A TIME
• RESIDENTIAL LAVATORY FAUCETS: ≤ 1.2 GPM @ 60 PSI
• KITCHEN FAUCETS: ≤ 1.8 GPM @ 60 PSI
4.303.2 PLUMBING FIXTURES AND FITTINGS REQUIRED IN SECTION 4.303.1 SHALL BE INSTALLED IN
ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE REFERENCED
STANDARDS.

ENVIRONMENTAL QUALITY
4.507.2: HEATING AND AIR CONDITIONING SYSTEM DESIGN: MECHANICAL DESIGNER OR INSTALLER TO
PROVIDE ACCA J, D, & S CALCULATIONS TO SPECIAL INSPECTOR FOR VERIFICATION.

4.507.2: HEATING AND AIR CONDITIONING SYSTEM DESIGN: MECHANICAL DESIGNER OR
INSTALLER TO PROVIDE ACCA J, D, & S CALCULATIONS TO SPECIAL INSPECTOR FOR VERIFICATION



1 MEP PLAN - ADU
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0 2' 4' 8' PLAN NORTH

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HANKE RESIDENCE

APN: 191-161-05 230 OCEAN PARKWAY BOLINAS, CA 94924

Owner
JOHN AND HOLLY HANKE
230 OCEAN PARKWAY
holly.hanke@gmail.com
T: 510-520-6651

Designed / Prepared
BUILDING LAB INC.
MARCO HYMAN-ROMERO
999 43RD ST.
OAKLAND, CA 94608
E:Marco@buildinglab.com
T:775-450-3085

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(N) MEP GROUND FLOOR PLAN - ADU

sheet no.

A8.2

STRUCTURAL NOTES

1. GENERAL

A. ALL CONSTRUCTION SHALL CONFORM TO THE CALIFORNIA BUILDING CODE, 2022 EDITION AND ANY APPLICABLE LOCAL ORDINANCES.

B. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT.

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

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

E. DETAILS SHOWN SHALL BE INCORPORATED INTO THE PROJECT AT ALL APPROPRIATE LOCATIONS WHETHER SPECIFICALLY CALLED OUT OR NOT.

F. THESE DRAWINGS ARE TO SHOW STRUCTURAL INFORMATION ONLY. FOR ALL NON-STRUCTURAL INFORMATION AND DETAILS INCLUDING BUT NOT LIMITED TO WATERPROOFING, FINISHES, ACCESSIBILITY, FIRE PROTECTION, ETC. REFER TO ARCHITECT'S DRAWINGS.

G. HOLES AND OPENINGS THROUGH WALLS AND FLOOR DUCTS, PIPING, AND VENTILATION SHALL BE CHECKED BY THE CONTRACTOR, WHO SHALL VERIFY SIZES AND LOCATION OF SUCH HOLES OR OPENINGS WITH THE PLUMBING, HEATING, VENTILATION AND ELECTRICAL DRAWINGS AND THESE SUBCONTRACTORS.

H. DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SHORING AND MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL UNDERTAKE ALL NECESSARY MEASURES TO INSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT/ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.

I. AS EXCAVATION PROGRESSES, CONDITIONS MAY DEVELOP REQUIRING CHANGES. CONTACT THE ENGINEER OF RECORD.

J. WHEREVER PRACTICAL, EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE. NO MATERIAL IS TO BE EXCAVATED UNNECESSARILY.

2. DESIGN CRITERIA

A. STRUCTURAL DESIGN PER CHAPTER 16 OF THE CALIFORNIA BUILDING CODE, EDITION 2022 USING ALLOWABLE STRESS DESIGN (ASD).

B. DEAD LOADS

ROOF:	15 PSF
FLOOR:	15 PSF
DECK:	8 PSF

C. LIVE LOADS (REDUCIBLE)

ROOF:	20 PSF
FLOOR/STAIRS:	40 PSF
DECK:	60 PSF

D. LATERAL LOADS

1. SEISMIC (DESIGN CATEGORY D)

   EQUIVALENT LATERAL FORCE PROCEDURE
   V = Cs*W Cs = S_{DS} / R*I S_{DS} = 1.51 R = 6.5 I = 1.0

2. WIND (91 MPH, EXPOSURE D)
   ENVELOPE PROCEDURE

3. EXISTING CONDITIONS

A. EXISTING STRUCTURAL ELEMENTS SHOWN ON THESE DRAWINGS ARE REPRESENTED BASED ON EXISTING DRAWINGS (IF AVAILABLE), DOCUMENTATION BY OTHERS, AND KNOWN CONSTRUCTION PRACTICES. MOSSWOOD ENGINEERING DOES NOT WARRANT THAT THESE CONDITIONS ARE REPRESENTATIVE OF THOSE EXISTING. THE OWNER AND CONTRACTOR SHALL INVESTIGATE EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION.

B. WHERE DRAWINGS INDICATE EXISTING CONDITIONS, OR VERIFY IN FIELD (V.I.F.), IT IS REQUIRED THAT THE CONTRACTOR EITHER VERIFY THE EXISTING CONDITION, PROVIDE NEW MATERIALS TO CREATE SUCH CONDITION, OR NOTIFY THE ENGINEER OF CONFLICTING CONDITIONS.

C. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER IF VISUAL OBSERVATION OR DEMOLITION EXPOSE CONDITIONS THAT CONFLICT WITH THE DRAWING.

1. GEOTECHNICAL NOTES

A. FOUNDATION DESIGN PER SOILS REPORT BY: SALEM HOWES ASSOCIATES
1202 GRANT AVENUE, STE F
NOVATO, CA 94945
(415) 892-8528

B. MINIMUM FOUNDED DEPTH OF FOOTINGS:

BELOW LOWEST EXTERIOR GRADE	18 INCHES

C. MINIMUM WIDTH OF FOOTINGS:

CONTINUOUS SPREAD FOOTINGS	12 INCHES
ISOLATED SPREAD FOOTINGS	NOT ALLOWED

D. ALLOWABLE BEARING PRESSURES:

DEAD LOAD + LIVE LOAD	3000 PSF
TOTAL LOAD	4000 PSF

E. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILLS AT, OR EXCEEDING, DEPTHS SHOWN ON THE DRAWINGS.

F. ALL FOOTING EXCAVATIONS SHALL BE NEAT. OVER EXCAVATIONS IN DEPTH AND WIDTH SHALL BE FILLED WITH CONCRETE. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.

G. SOIL REMOVAL AND RECOMPACTION SHALL BE PER GEOTECHNICAL INVESTIGATION AND CONTRACT DOCUMENTS. SOILS WORK SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER.

H. GEOTECHNICAL ENGINEER SHALL OBSERVE FOOTING EXCAVATIONS BEFORE PLACEMENT OF REINFORCING OR CONCRETE. FOOTING OBSERVATION AND COMPACTION REPORTS SHALL BE SENT TO THE ENGINEER AND BUILDING OFFICIAL.

I. ROOF AND AREA DRAINAGE SHALL BE DIRECTED AWAY FROM THE FOUNDATIONS.

J. EXCAVATIONS SHALL BE PROPERLY BACKFILLED. BACKFILL FOR WALLS SHALL BE PERVIOUS MATERIAL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER. DO NOT PLACE BACKFILL BEHIND WALLS BEFORE THEY HAVE ATTAINED THEIR DESIGN STRENGTH. SHORE AND PROTECT WALLS FROM LATERAL LOADS UNTIL THE SUPPORTING MEMBERS ARE IN PLACE AND HAVE DEVELOPED SPECIFIED STRENGTHS.

5. CONCRETE

A. REINFORCE ALL CONCRETE. INSTALL ALL INSERTS, BOLTS, ANCHORS, AND REINFORCING AND SECURELY TIE PRIOR TO PLACING CONCRETE.

B. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE II, LOW ALKALI. CEMENT QUANTITY TO COMPLY WITH LOW CARBON REQUIREMENTS. SEE SHEET S2.3 FOR REQUIREMENTS.

C. CONCRETE SHALL BE HARDROCK CONCRETE AND SHALL ATTAIN THE FOLLOWING ULTIMATE COMPRESSIVE STRENGTHS AT 28 DAYS.

LOCATION	MIN. STRENGTH @ 28 DAYS -- PSI	MAX. AGG. SIZE -- INCHES	MAX. SLUMP -- INCHES
FOOTINGS	2500	3/4	4
MAT SLAB/ GRADE BEAMS	3000*	3/4	4
SLAB ON GRADE	2500	3/8	4

*DESIGNED FOR 2500 PSI. NO SPECIAL INSPECTION REQUIRED.

D. CONCRETE SHALL BE CONTINUOUSLY CURED FOR 10 DAYS AFTER PLACING IN ANY APPROVED MANNER, INCLUDING CURING COMPOUND, CURING PAPER, ETC. NOTE: FOOTINGS ARE EXCEPTED FROM THIS REQUIREMENT.

E. WHEN PLACING NEW CONCRETE OR SHOTCRETE AGAINST EXISTING CONCRETE OR MASONRY, ROUGHEN SURFACE OF EXISTING MATERIAL BY EITHER SANDBLASTING OR SCARIFYING TO 1/4" AMPLITUDE AND APPLY BONDING AGENT. BONDING AGENT SHALL BE LARSEN PRODUCTS CORPORATION'S WELD-CRETE OR APPROVED EQUIVALENT. AT EXISTING BRICK, ROUGHENING NOT REQUIRED IF EXISTING BRICK HAS A NATURAL ROUGH SURFACE. BONDING AGENT IS NOT REQUIRED AT EXISTING BRICK SURFACE UNLESS OTHERWISE NOTED ON PLANS AND/OR DETAILS.

6. REINFORCING STEEL

A. ALL REINFORCING STEEL BARS EXCEPT AS NOTED BELOW SHALL CONFORM WITH THE STANDARD SPECIFICATIONS FOR DEFORMED BILLET-STEEL FOR CONCRETE REINFORCEMENT, ASTM DESIGNATION A615 LATEST EDITION, GRADE 60.

B. WELDING OF REINFORCEMENT BARS SHALL COMPLY WITH AWS SECTION D1.4. USE GRADE A706 UNLESS SHOWN OTHERWISE.

C. SUITABLE DEVICES OF STANDARD MANUFACTURER SHALL BE USED TO HOLD REINFORCEMENTS IN ITS TRUE HORIZONTAL AND VERTICAL POSITIONS. THESE DEVICES SHALL BE SUFFICIENTLY RIGID AND NUMEROUS TO PREVENT DISPLACEMENT OF THE REINFORCING DURING PLACING OF CONCRETE.

D. LAP SPLICE ALL BARS A MINIMUM OF 48 BAR DIAMETERS, UNLESS OTHERWISE NOTED. STAGGER ALL LAPS A MINIMUM OF 24 INCHES.

E. UNLESS OTHERWISE NOTED, MAINTAIN COVERAGE TO FACE OF BARS AS FOLLOWS (PER ACI 318, SECTION 1905):

1. 3" FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.
2. 2" FOR #6 AND LARGER, 1-1/2" FOR #5 AND SMALLER, FOR CONCRETE EXPOSED TO EARTH OR WEATHER.
3. 3/4" FOR #11 AND SMALLER, FOR SLABS, WALLS & JOISTS: FOR CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND.

7. SAWN LUMBER

A. SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU OR WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES. FSC CERTIFIED LUMBER IS PREFERRED.

B. LUMBER SHALL BE THE SPECIES AND GRADE NOTED BELOW UNLESS OTHERWISE NOTED ON PLAN:

USE	SPECIES/GRADE	Fb (PSI)
STUDS 2" AND WIDER	DF-LARCH STUD GRADE	700
DIM. LUMBER 2" TO 4" THICK	DF-LARCH #1	1000
BEAMS 5" x 5" AND GREATER	DF-LARCH #1	1350
POSTS 5"x5" AND GREATER	DF-LARCH #1	1250

C. ALL LUMBER IN CONTACT WITH CONCRETE OR CMU SHALL BE PRESSURE TREATED, UNLESS AN APPROVED MOISTURE BARRIER IS PROVIDED.

D. FRAMING ACCESSORIES AND STRUCTURAL FASTENERS SHALL BE MANUFACTURED BY SIMPSON STRONG TIE (OR APPROVED EQUAL) AND OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. ALL NAIL HOLES SHALL BE FILLED WITH STRUCTURAL FASTENERS, UNLESS NOTED OTHERWISE ON THE DRAWINGS. FASTENERS SHALL BE INSTALLED FOLLOWING ALL MANUFACTURER'S REQUIREMENTS. ALLOWABLE LOADS FOR THE SUBSTITUTED ACCESSORIES SHALL HAVE AN EQUAL OR GREATER CAPACITY THAN THE SIMPSON ACCESSORIES. FASTENERS FOR PRESSURE TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE, OR COPPER PER CBC 2304.10.5.

E. ALL FRAMING NAILS SHALL BE OF THE SIZE AND NUMBER INDICATED ON THE DRAWINGS AND CONFORM TO ASTM F 1667, "STANDARD SPECIFICATION OF DRIVEN FASTENERS: NAILS, SPIKES, AND STAPLES" AND NER-272 "POWER-DRIVEN STAPLES AND NAILS FOR USE IN ALL TYPES OF BUILDING CONSTRUCTION." NAILS SHALL BE IDENTIFIED BY LABELS (ATTACHED TO THEIR CONTAINERS) THAT SHOW THE MANUFACTURER'S NAME AND NES REPORT NUMBER, NAIL SHANK DIAMETER, AND LENGTH. NAILING NOT SHOWN SHALL BE AS INDICATED ON 2022 CBC TABLE 2304.10.1. THE FOLLOWING NAIL SIZES SHALL BE USED:

NAIL TYPE	SHANK DIAMETER (IN.)	MIMIMUM PENETRATION INTO FRAMING MEMBER (IN.)
8d	0.131	1.625
10d	0.148	1.75
16d	0.162	2

F. BOLTS AND LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1-1981. ALL BOLTS AND LAG SCREWS SHALL BE INSTALLED WITH STANDARD CUT WASHERS. ALL A307 BOLTS SHALL HAVE CUT THREADS.

G. STRUCTURAL SCREWS TO BE "RSS RUGGED STRUCTURAL SCREW" BY GRK FASTENERS, A DIVISION OF ILLINOIS TOOL WORKS, INC. SIMPSON SDS SCREWS OF THE SAME LENGTH MAY BE SUBSTITUTED.

H. SALVAGED LUMBER SHALL BE GRADES BY AN APPROVED GRADING AGENCY PRIOR TO USE AND SHALL MEET THE MINIMUM BENDING STRESSES SHOWN ABOVE.

8. WOOD STRUCTURAL PANELS

A. UNLESS NOTED OTHERWISE, PANELS SHALL BE APA RATED SHEATHING, STRUCTURAL 1, OF THE THICKNESS AND SPAN RATING SHOWN ON THE DRAWINGS.

B. WOOD STRUCTURAL PANEL INSTALLATION SHALL BE IN CONFORMANCE WITH APA RECOMMENDATIONS. ALLOW 1/8" SPACING AT PANEL ENDS AND EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.

C. ALL ROOF SHEATHING AND SUB-FLOORING SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS, EXCEPT AS INDICATED ON THE DRAWINGS.

D. NEW EXTERIOR WALLS NOT NOTED AS SHEARWALLS SHALL BE SHEATHED WITH ½" CD-X SHEATHING w/ 8d @ 6" o.c. EDGE NAILING AND 8d @ 12" o.c. FIELD NAILING.

9. STRUCTURAL COMPOSITE LUMBER (SCL)

A. ENGINEERED COMPOSITE WOOD PRODUCTS SUCH AS LAMINATED VENEER LUMBER (MICROLLAM), PARALLEL STRAND LUMBER (PARALLAM), AND LAMINATED STRAND LUMBER (TIMBERSTRAND) SHALL BE OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS, MANUFACTURED BY TRUS JOIST MCMILLAN OR AN APPROVED EQUAL.

B. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM DESIGN PROPERTIES:

COMPOSITE LUMBER TYPE	MODULUS OF ELASTICITY (PSI)	FLEXURAL STRESS* (PSI)
PSL	2,200,000	2,900
LVL	2,000,000	2,600
LSL	1,500,000	2,000

*FLEXURAL STRESSES ARE FOR A 12-INCH MEMBER. DEEPER MEMBERS SHALL BE DESIGNED FOR REDUCED STRESSES PER THE MANUFACTURER'S REQUIREMENTS.

10. INSTALLING EPOXY-SET DOWELS AND ANCHOR BOLTS

A. EPOXY OR RESIN ADHESIVE SHALL BE USED IN ALL LOCATIONS WHERE EITHER ALL-THREAD ROD OR REBAR ARE BEING EMBEDDED INTO EXISTING CONCRETE OR MASONRY.

B. CONTRACTOR SHALL MIX AND INSTALL RESIN AND HARDENER.

C. HOLES SHALL BE DRILLED WITH ROTARTY DRILL. FOR HOLES IN BRICK MASONRY, A HAMMER ACTION DRILL SHALL NOT BE USED. SIZE SHALL BE PER MANUFACTURER'S RECOMMENDATION.

D. HOLES IN CONCRETE SHALL NOT BE CORE-DRILLED UNLESS SPECIFICALLY NOTED IN THE DETAILS.

E. EXISTING REINFORCEMENT SHALL NOT BE CUT OR DAMAGED UNLESS PERMITTED IN WRITING BY THE ENGINEER.

F. IMMEDIATELY BEFORE APPLYING ADHESIVE, HOLES SHALL BE REAMED WITH A CIRCULAR WIRE BRUSH ATTACHED TO A DRILL MOTOR AND THEN BLOWN OUT WITH OIL-FREE COMPRESSED AIR.

G. ADHESIVE SHALL BE SIMPSON STRONG-TIE'S SET-XP (ICC ESR NO. 2508) OR HILTI'S HIT-RE500 (ICC ESR-2322) ADHESIVE FOR ALL SEISMIC APPLICATIONS INCLUDING SHEARWALL AND HOLDOWN ANCHOR BOLTS TO EXISTING CONCRETE. SIMPSON STRONG-TIE'S SET ADHESIVE OR HILTI'S HIT HY-150 MAX ADHESIVE MAY BE USED FOR ALL OTHER CONDITIONS. ALTERNATES WILL BE CONSIDERED UPON REQUEST AND SUBMISSION OF SPECIFICATIONS AND EVALUATION REPORT.

11. HELICAL PIERS

A. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ENGINEERING AND DESIGN SERVICES, SUPERVISION, LABOR, TOOLS, MATERIALS, AND EQUIPMENT TO PERFORM ALL WORK NECESSARY TO INSTALL A HELICAL PIER SYSTEM THAT CAN DEVELOP THE LOAD CAPACITIES AS DETAILED ON THESE DRAWINGS AND PER THE GEOTECHNICAL REPORT.

B. INSTALLERS SHALL HAVE DOCUMENTED CERTIFICATION FROM THE MANUFACTURER AND SHALL HAVE EXPERIENCE IN PERFORMING DESIGN AND CONSTRUCTION OF HELICAL PIERS.

C. MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES.

D. ALL WELDING TO BE DONE BY WELDERS CERTIFIED UNDER THE AWS CODE.

E. A HELICAL PIER TESTING PROGRAM SHALL BE COMPLETED PER THE GEOTECHNICAL REPORT.

F. PER THE GEOTECHNICAL REPORT, THE GEOTECHNICAL ENGINEER SHALL BE PRESENT ON A FULL-TIME BASIS DURING THE INSTALLATION OF THE HELICAL PIERS, TO OBSERVE DRIVING OF EACH OF THE HELICAL PIERS, TO DOCUMENT THE DRIVING PRESSURE AND TORQUE, TO ESTIMATE THE ACTUAL DOWNWARD CAPACITY OF EACH PIER, AND TO DETERMINE THE ACTUAL REQUIRED DEPTH FOR EACH PIER BASED ON THE MINIMUM DESIGN CAPACITY REQUIREMENTS.

G. PRIOR TO COMMENCING HELICAL PILE INSTALLATION, CONTRACTOR SHALL INSPECT THE WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SAID WORK IS COMPLETED TO THE POINT WHERE HELICAL PIERS MAY COMMENCE WITHOUT RESTRICTION. THE CONTRACTOR SHALL VERIFY THAT ALL HELICAL PIERS MAY BE INSTALLED IN ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS REGARDING SUCH ITEMS AS UNDERGROUND OBSTRUCTIONS, RIGHT-OF-WAY LIMITATIONS, UTILITIES, ETC. IF THE HELICAL PIER IS REFUSED OR DEFLECTED BY A SUBSURFACE OBSTRUCTION, THE INSTALLATION SHALL BE TERMINATED AND THE PIER REMOVED. THE OBSTRUCTION SHALL BE REMOVED IF FEASIBLE, AND THE HELICAL PIER RE-INSTALLED. IF THE OBSTRUCTION CANNOT BE REMOVED, THE HELICAL PIER SHALL BE INSTALLED AT AN ADJACENT LOCATION, SUBJECT TO REVIEW AND ACCEPTANCE BY THE OWNER.

H. TOLERANCES:

1. HELICAL PIER PLUMBNESS SHALL BE WITHIN TWO DEGREES OF DESIGN ALIGNMENT.
A. TOP ELEVATION OF HELICAL PIER SHALL BE WITHIN +1 TO -2 INCHES OF THE DESIGN VERTICAL ELEVATION.

I. ALL HELICAL PIERS SHALL BE CORROSION PROTECTED BY HOT-DIP GALVANIZATION. HOT-DIP GALVANIZE PER ASTM A123, LATEST EDITION AND PER THE GEOTECHNICAL REPORT.

J. INSTALLATION UNITS SHALL CONSIST OF A ROTARY TYPE TORQUE MOTOR WITH FORWARD AND REVERSE CAPABILITIES, AND SHALL BE ELECTRIC OR HYDRAULIC POWERED.

K. HELICAL PIERS SHALL BE DRIVEN TO A CAPACITY EQUAL TO TWICE THE DESIGN DOWNWARD LOAD . THE HELICAL PIER SHAFT CAN BE DRIVEN TO A MAXIMUM ALLOWABLE TORQUE OF 11,000 FOOT-POUNDS, WITH A CORRESPONDING MAXIMUM ULTIMATE AXIAL CAPACITY OF 100 KIPS PER PIER, WITHOUT ANY SAFETY FACTOR.

HELICAL PIER DESIGN LOAD SCHEDULE	
PIER	DEAD LOAD + LIVE LOAD
TYPICAL VERTICAL PIER	8 KIPS

L. THE HELICAL PIERS SHALL HAVE THREE HELIXES. THE HELICAL PIERS SHOULD BE DRIVEN UNTIL THE UPPER HELIX HAS PENETRATED THREE FEET BELOW THE GROUND SURFACE AND THE HELICAL PIER DEVELOPS THE REQUIRED DOWNWARD CAPACITY. THE ACTUAL DEPTHS WILL BE DETERMINED DURING THE TESTING PROGRAM AND INSTALLATION. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

M. SPACE HELIX PIERS A MINIMUM OF 5 HELIX DIAMETERS (USING THE DIAMETER OF THE LARGEST HELIX) APART IF DRIVEN VERTICALLY. SPACE HELIX PIERS A MINIMUM OF 2 HELIX DIAMETERS (USING THE DIAMETER OF THE LARGEST HELIX) APART IF HELICAL PIERS ARE BATTERED. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

12. TESTS, INSPECTIONS, AND OBSERVATIONS

A. TESTS AND INSPECTIONS SHALL BE PROVIDED FOR ALL ITEMS AS REQUIRED BY THE CBC, CHAPTER 17.

B. THE OWNER SHALL BE RESPONSIBLE FOR RETAINING AN INDEPENDENT TESTING AND INSPECTION LABORATORY TO PERFORM ALL REQUIRED TESTING AND INSPECTION.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE TESTING AND INSPECTION LABORATORY WITH CONSTRUCTION SCHEDULES TO ENSURE PROPER COORDINATION OF WORK.

D. THE FOLLOWING ITEMS SHALL BE INSPECTED BY AN APPROVED TESTING AND INSPECTION LABORATORY:

1. SOILS (CBC 1705.6). MAY BE PERFORMED BY GEOTECHNICAL ENGINEER OF RECORD.
2. HOLDOWN ANCHOR BOLTS CONNECTED TO CONCRETE WITH ADHESIVE (CBC 1705.3). MAY BE PERFORMED BY ENGINEER OF RECORD.
3. NAILING, BOLTING, ANCHORING AND OTHER FASTENING COMPONENTS OF SHEARWALLS WITH EDGE NAILING SPACING OF 4" o.c. OR LESS (CBC 1705.11.1 AND 1705.12.2). MAY BE PERFORMED BY ENGINEER OF RECORD.
4. HELICAL PIERS

E. IN ADDITION TO ANY SPECIAL INSPECTIONS, THE FOLLOWING SPECIFIED ITEMS SHALL HAVE PERIODIC STRUCTURAL OBSERVATION BY THE ENGINEER OF RECORD:

1. REINFORCING STEEL PRIOR TO CONCRETE POUR
2. HOLDOWNS IN WALLS AND CONCRETE
3. WOOD FRAMING AND CONNECTIONS
4. NAILING OF PLYWOOD ON WALLS, FLOORS, AND ROOFS

F. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OR INSPECTOR A MINIMUM OF 48 HOURS (EXCLUDING WEEKENDS) PRIOR TO THE TIME OF A REQUIRED INSPECTION OR OBSERVATION.

LEGEND

WALL BELOW	POST BELOW
WALL ABOVE	POST ABOVE (OR ABOVE & BELOW)
SHEARWALL BELOW	HOLDOWN @ POST (2-2x MIN. IF NO POST)
SHEARWALL ABOVE	BEAM w/ HANGER PER SCHEDULE
SHEARWALL TYPE AND MINIMUM LENGTH (X / 4'-0")	CONCEALED FLANGE HGR, HUC UNO
JOISTS BEARING ON WALL/BEAM	STRAP BELOW FRM'G
FLUSH FRAMED JOIST, PROVIDE HGR PER SCHED	STRAP ABOVE FRM'G
	STRAP TO F.O. FRM'G

POST HD

HANGER SCHEDULE
(TYP U.O.N.)

SAWN LUMBER MEMBER SIZE	FACE MOUNT[2]	I-JOIST/SCL MEMBER SIZE	FACE MOUNT[2]
2x[1]	LUS[1]	I-JOIST	IUS
4x8 or SMALLER	HUS	1 3/4" x LVL	HU
4x10 or LARGER	HHUS	3 1/2" x LVL/PSL	HHUS
6x6	HUS	5 1/4" x LVL/PSL	HHUS
6x8 or LARGER	HHUS	7" x LVL/PSL	HGUS

NOTES:
1. USE ROUGH SAWN LUMBER HANGER PER 2017 SIMPSON CATALOG FOR (E) 2x MEMBERS WITH THICKNESS GREATER THAN 1-1/2"
2. CONTACT E.O.R. FOR TOP FLANGE HANGER OPTION IF DESIRED

STRAP SCHEDULE

S1	LSTA24[1]	S4	MST27[2]
S2	LSTA30[1]	S5	MST37[2]
S3	MSTA36[1]	S6	MST48[2]

1. USE 2x OR 1 3/4" SCL BLK'G
2. USE 4x OR 3 1/2" SCL BLK'G

ABBREVIATIONS

AB	ANCHOR BOLT	LSL	LAMINATED STRAND LUMBER
ACI	AMERICAN CONCRETE INSTITUTE	LVL	LAMINATED VENEER LUMBER
ADD'L	ADDITIONAL	MAX	MAXIMUM
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MFR	MANUFACTURER
ALT	ALTERNATE	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MISC	MISCELLANEOUS
AWS	AMERICAN WELDING SOCIETY	(N)	NEW
BLD'G	BUILDING	NTS	NOT TO SCALE
BM	BEAM	o/	OVER
BN	BOUNDARY NAILING	o.c.	ON CENTER
BOT	BOTTOM	OH	OPPOSITE HAND
B.O.	BOTTOM OF	OPN'G	OPENING
c.c.	CENTER TO CENTER	PCF	POUNDS PER CUBIC FOOT
C.B.	CEILING BEAM	PERIM	PERIMETER
CBC	CALIFORNIA BUILDING CODE	PERP	PERPENDICULAR
C.J.	CEILING JOIST	PL	PLATE
CL	CENTERLINE	PLYWD	PLYWOOD
CLR	CLEAR	PSF	POUNDS PER SQUARE FOOT
COL	COLUMN	PSI	POUNDS PER SQUARE INCH
CONC	CONCRETE	PSL	PARALLEL STRAND LUMBER
CONN	CONNECTION	PT	PRESSURE TREATED
CONSTR	CONSTRUCTION	REF	REFERENCE
CONT	CONTINUOUS	REINF	REINFORCING
DBL	DOUBLE	REQ'D	REQUIRED
DIA, Ø	DIAMETER	S.A.D.	SEE ARCHITECTURAL DRAWINGS
DIAG	DIAGONAL	SCHED	SCHEDULE
DJ	DOUBLE JOIST	SCL	STRUCTURAL COMPOSITE LUMBER
DL	DEAD LOAD	SHRWL	SHEARWALL
DTL	DETAIL	SHT	SHEET
DWG	DRAWING	SHT'G	SHEATHING
(E), EXIST	EXISTING	SIM	SIMILAR
EA	EACH	SN	SILL NAILING
EMBED	EMBEDMENT	S.O.G.	SLAB ON GRADE
EN	EDGE NAILING	SPEC	SPECIFICATION
EOR	ENGINEER OF RECORD	SQ	SQUARE
EQ	EQUAL	SS	STAINLESS STEEL
EXT	EXTERIOR	STD	STANDARD
FDN	FOUNDATION	STL	STEEL
FN	FIELD NAILING	STRUCT	STRUCTURAL
FLR	FLOOR	S.W.	SHEARWALL
FT	FOOT	SYM	SYMMETRY
FTG	FOOTING	THRU	THROUGH
GA	GAUGE	TO	TOP OF
GALV	GALVANIZED	T&G	TONGUE AND GROOVE
GLB	GLUE-LAMINATED BEAM	TS	TUBE STEEL
HDG	HOT-DIPPED GALVANIZED	TYP	TYPICAL
HGR	HANGER	U.N.O.	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	U.O.N.	UNLESS OTHERWISE NOTED
ICBO	INTERNATIONAL CONFERENCE OF BUILDING MATERIALS	VERT	VERTICAL
IN	INCH	V.I.F.	VERIFY IN FIELD
INT	INTERIOR	w/	WITH
K	KIPS	WD	WOOD
KSF	KIPS PER SQUARE FOOT	WF	WIDE FLANGE
KSI	KIPS PER SQUARE INCH	w/o	WITHOUT
LB	POUND	WP	WORK POINT
LL	LIVE LOAD	WWF	WELDED WIRE FABRIC

mosswood engineering
structural design for the bay area
3360 Adeline Street • Berkeley, CA 94703
T: 510-470-9495
www.mosswoodengineering.com

Stamp:

HANKE RESIDENCE
230 OCEAN PARKWAY
BOLINAS, CA 94924

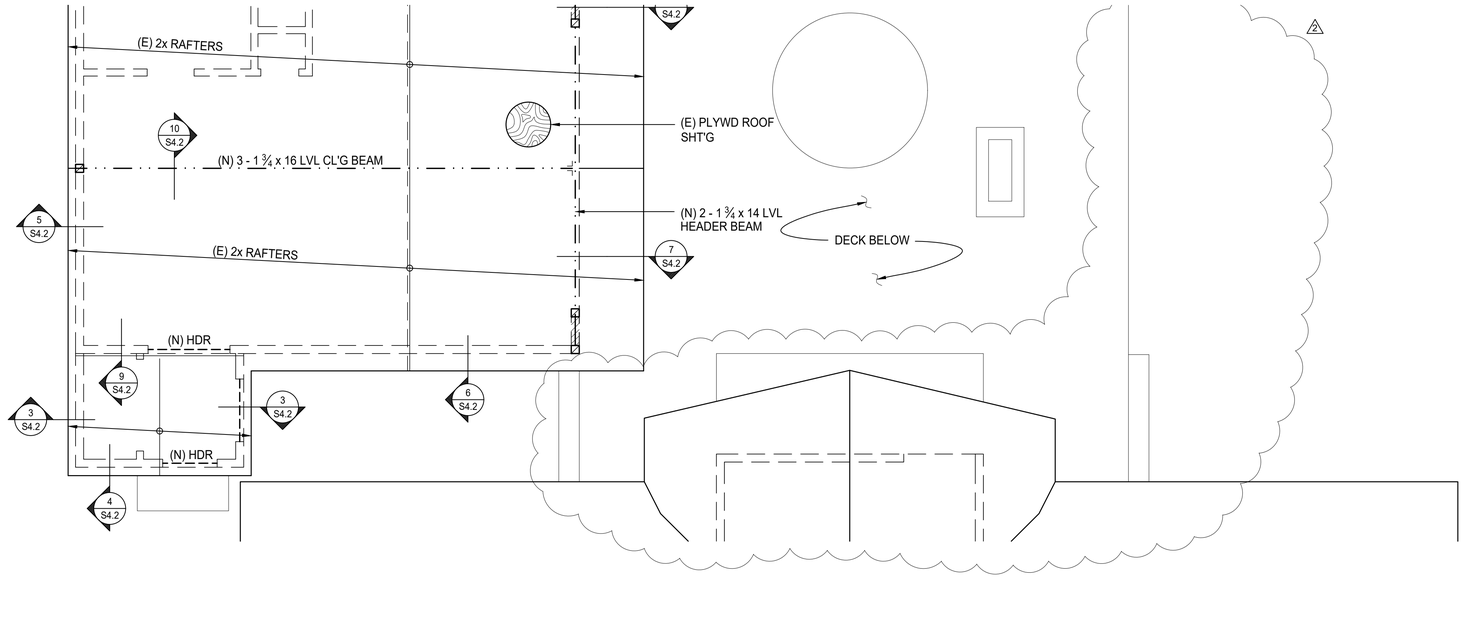
Revisions:		
2	12/19/2024	NW

Sheet Title:
STRUCTURAL NOTES

Date:	--/--/--
Project No:	24002
Drawn By:	TES
Checked By:	NW

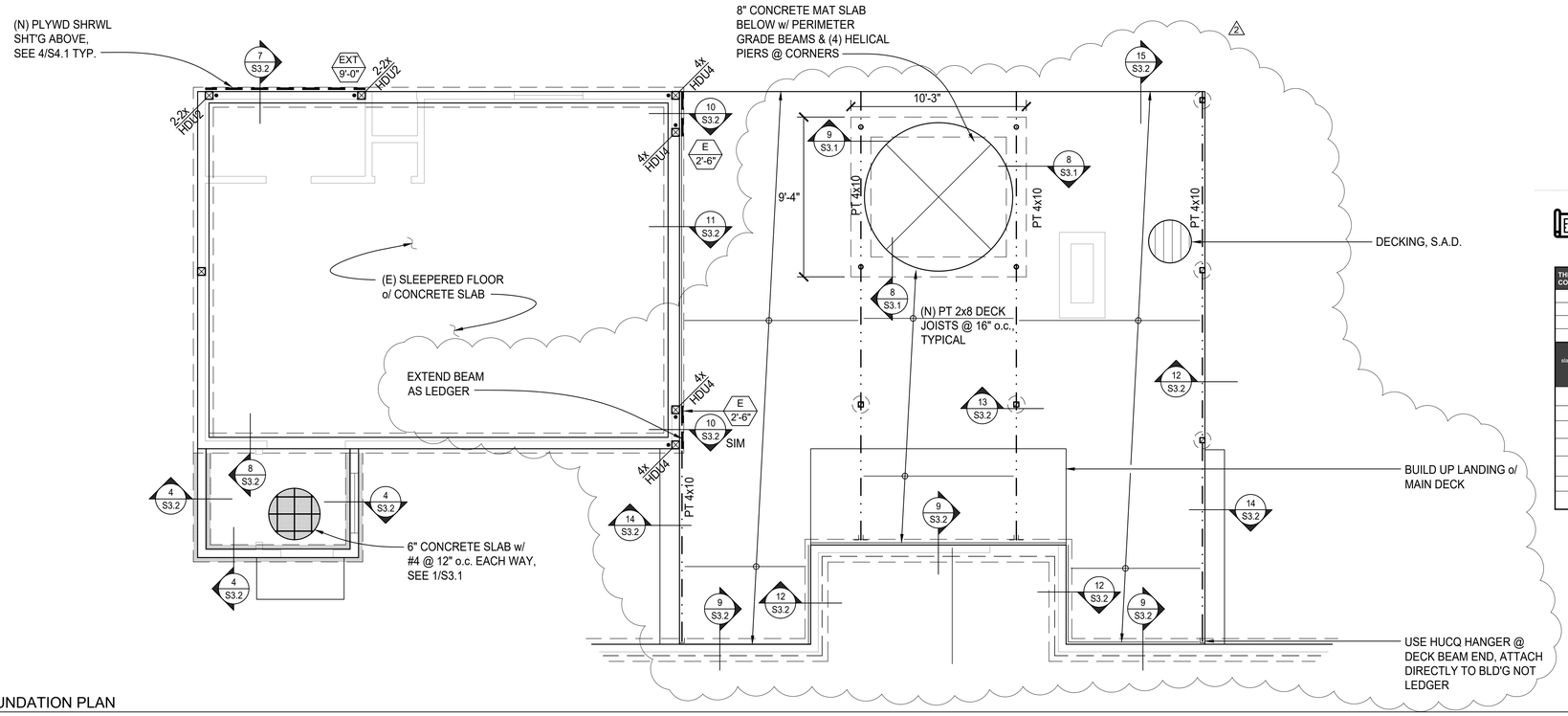
Sheet:
S1.0

CALL ENGINEER OF RECORD FOR PRE-CONSTRUCTION MEETING AFTER DRYWALL DEMO.



PLAN NORTH

1 ROOF FRAMING PLAN
1/4"=1'-0"



1 FLOOR FRAMING/ FOUNDATION PLAN
1/4"=1'-0"

Design Professional: Low Carbon Concrete Compliance Form
Cement Limit Pathway

Project Name: HANKE RESIDENCE
Project Address: 230 OCEAN PARKWAY, BOLINAS, CA

THE STRUCTURAL ENGINEER OR RESPONSIBLE APPLICANT ON THE DESIGN TEAM SHALL COMPLETE AND SUBMIT TO THE BUILDING DEPARTMENT FOR PLAN CHECK TO REVIEW.					STEPS
Date:	6/21/2024				1) Provide Date, Company Information, and Signature
Company Name:	Mosswood Engineering				
Print Name:	Nate Williams				
Signature:					
Application (e.g., foundation, slab, sidewalks, pool, etc.)	**If Applicable, Pre-Qualified Mix Design** (County Reference No.)	**Specified Strength** (psi)	**Allowable Cement** See Table 19.07.050 (par.2 below) as per MBC, Title 19 (lbs/cyd)	**If Applicable, Allowable Cement** High Early Strength-add 5% (lbs/cyd)	2) Provide information for ALL unique concrete mix designs used on the project. 3) If Ready-Mix Design Number has been pre-qualified, provide County issued pre-qualified reference number. See pre-qualified mixes at https://marincounty.org/lowcarbonconcretecodes 4) Place or print this compliance form within structural plans. If a licensed professional is present, that person MUST stamp the mix design to ensure it complies, otherwise a signature of the responsible applicant will suffice.
ex. Sidewalks	*ex. 00001*	*ex. 3000*	*ex. 410*	*ex. 533*	
Foundation		2500	362		

v4 Last Updated 10/19/2023

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

PLAN NORTH

Mosswood engineering
structural design for the bay area
3360 Adeline Street • Berkeley, CA 94703
T: 510-470-9495
www.mosswoodengineering.com

Stamp:

PROFESSIONAL ENGINEER NATHAN WILLIAMS No. C62068 REGISTERED CIVIL ENGINEER STATE OF CALIFORNIA

HANKE RESIDENCE
230 OCEAN PARKWAY
BOLINAS, CA 94924

Revisions:

2	12/19/2024	NW

Sheet Title:
ROOF AND FLOOR FRAMING/ FOUNDATION PLANS

Date: --/--/--

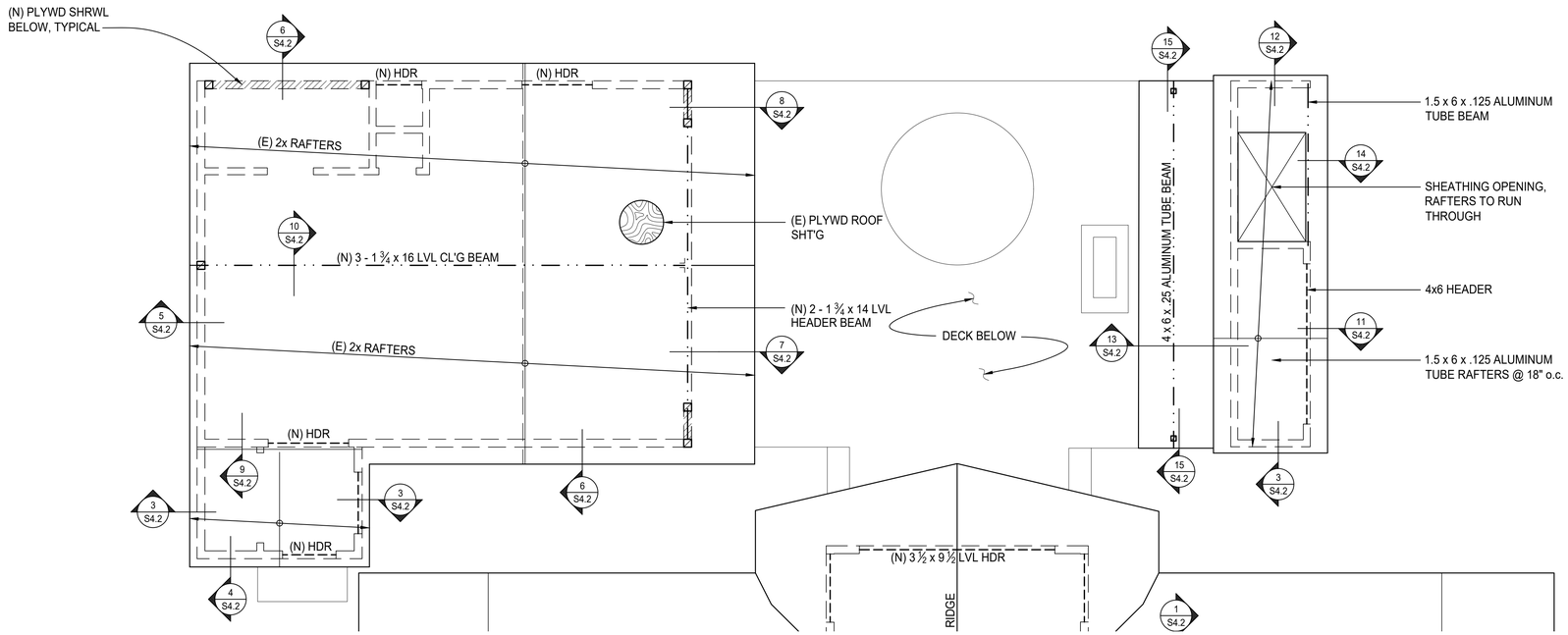
Project No: 24002

Drawn By: TES

Checked By: NW

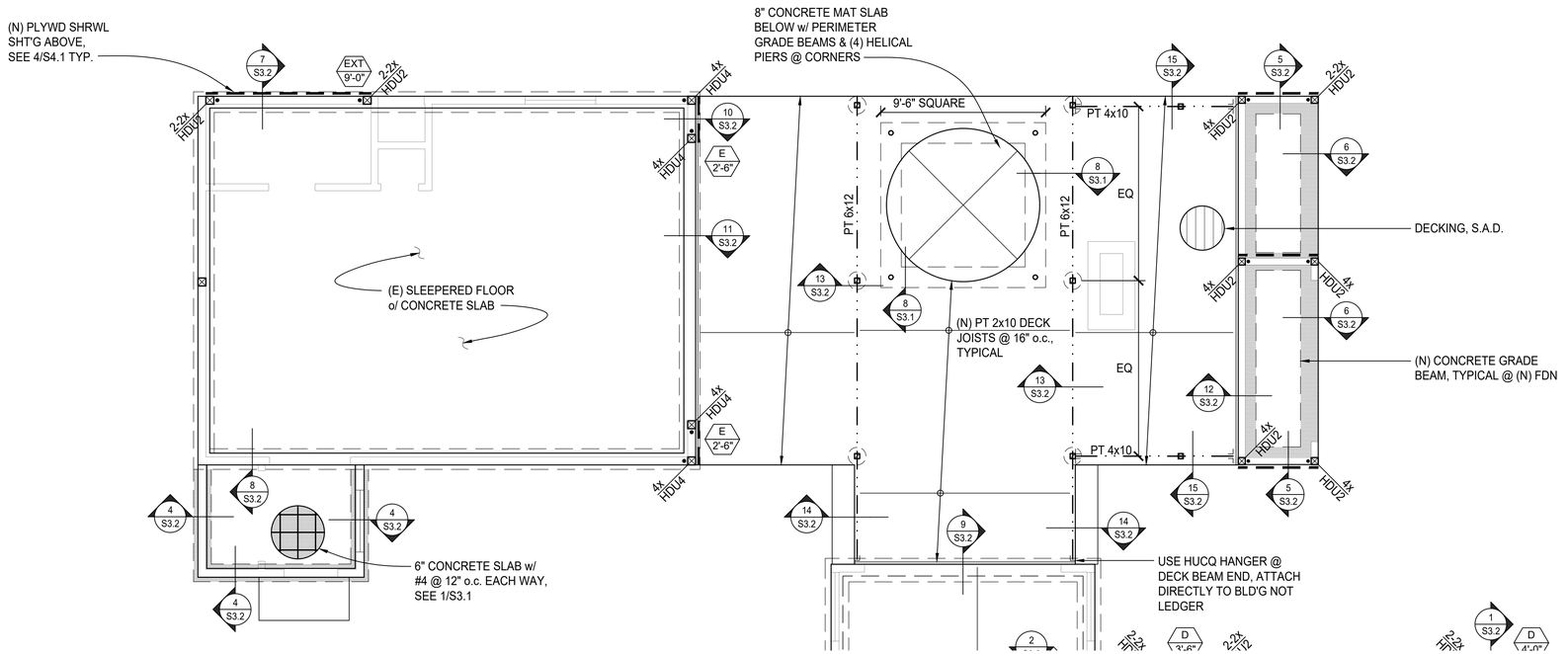
Sheet:
S2.1

CALL ENGINEER OF RECORD FOR PRE-CONSTRUCTION MEETING AFTER DRYWALL DEMO.



PLAN NORTH

2 ADU ROOF FRAMING PLAN
1/4"=1'-0"



1 ADU FOUNDATION PLAN
1/4"=1'-0"

Design Professional: Low Carbon Concrete Compliance Form
Cement Limit Pathway

Project Name: HANKE RESIDENCE

Project Address: 230 OCEAN PARKWAY, BOLINAS, CA

THE STRUCTURAL ENGINEER OR RESPONSIBLE APPLICANT ON THE DESIGN TEAM SHALL COMPLETE AND SUBMIT TO THE BUILDING DEPARTMENT FOR PLAN CHECK TO REVIEW.					STEPS
Date:	6/21/2024				1) Provide Date, Company Information, and Signature
Company Name:	Mosswood Engineering				
Print Name:	Nate Williams				
Signature:					
Application (e.g., foundation, slab, sidewalks, pool, etc.)	**If Applicable, Pre-Qualified Mix Design** (County Reference No.)	**Specified Strength** (psi)	**Allowable Cement** See Table 19.07.050 (pg.2 below) as per MDc, Title 19 (lbs/cyd)	**If Applicable, Allowable Cement** High Early Strength-add 30% (lbs/cyd)	2) Provide information for ALL unique concrete mix designs used on the project.
ex. Sidewalks	*ex. 00001*	*ex. 3000*	*ex. 410*	*ex. 533*	3) If Ready-Mix Design Number has been pre-qualified, provide County issued pre-qualified reference number. See pre-qualified mixes at https://marincounty.org/lowcarbonconcretecodes
Foundation		2500	362		
					4) Place or print this compliance form within structural plans. If a licensed professional is present, that person MUST stamp the mix design to ensure it complies, otherwise a signature of the responsible applicant will suffice.

v9 Last Updated 10/16/2023

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

Date: 2/6/2025

mosswood engineering
structural design for the bay area
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Stamp:

PROFESSIONAL ENGINEER NATHAN WILLIAMS No. C62068 CIVIL STRUCTURAL STATE OF CALIFORNIA

HANKE RESIDENCE
230 OCEAN PARKWAY
BOLINAS, CA 94924

Revisions:

Sheet Title: ADU STRUCTURAL PLANS

Date: --/--/--

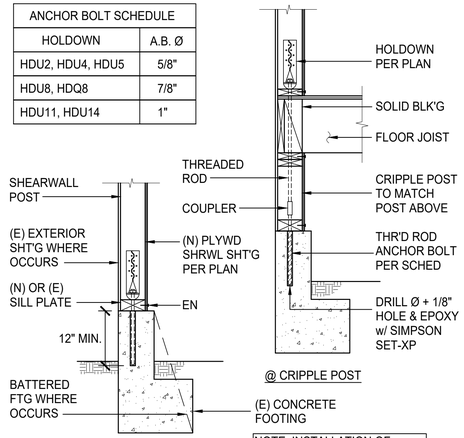
Project No: 24002

Drawn By: TES

Checked By: NW

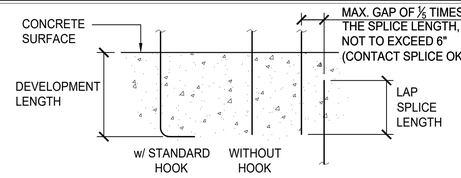
Sheet: S2.3

ANCHOR BOLT SCHEDULE	
HOLDOWN	A.B. Ø
HDU2, HDU4, HDU5	5/8"
HDU8, HDQ8	7/8"
HDU11, HDU14	1"



NOTE: INSTALLATION OF EPOXIED ANCHOR BOLT MUST BE WITNESSED BY THE EOR OR 3RD PARTY INSPECTOR.

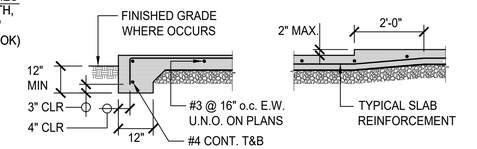
7 HOLDOWN TO EXISTING FOOTING
3/4"=1'-0"



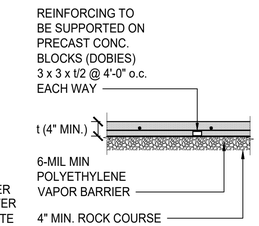
BAR SIZE	HORIZ. BARS w/ MORE THAN 12" OF FRESH CONC. BELOW			ALL OTHER BARS		
	DEVELOPMENT		LAP SPLICE LENGTH	DEVELOPMENT		LAP SPLICE LENGTH
	w/ STD. HOOK	WITHOUT HOOK		w/ STD. HOOK	WITHOUT HOOK	
#3	9"	14"	19"	9"	12"	15"
#4	12"	19"	25"	12"	15"	18"
#5	15"	25"	32"	15"	19"	25"
#6	18"	36"	46"	18"	27"	36"
#7	21"	60"	78"	21"	46"	60"
#8	24"	78"	102"	24"	60"	78"

1. ALL REINFORCING STEEL SHALL BE GRADE 60 w/ 1 ½" MIN. FROM CENTER OF BAR TO F.O. CONC. AND MIN. SPACING OF 3 TIMES THE BAR DIAMETER
2. THE ABOVE LENGTHS ARE FOR CAST-IN-PLACE AND PRECAST CONCRETE w/ MIN. CONCRETE STRENGTH, f'c = 2,500 PSI (LENGTHS SHOWN WILL BE CONSERVATIVE FOR GREATER CONCRETE STRENGTHS)
3. IF BARS BEING LAPPED HAVE DIFFERENT DIAMETERS, THE LAP SPLICE LENGTH IS TAKEN AS THE GRETER OF THE DEVELOPMENT OF THE LARGER BAR OR THE SPLICE LENGTH OF THE SMALLER BAR.

4 REBAR DEVELOPMENT & SPLICE LENGTHS
N.T.S.

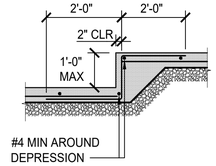


EDGE OF SLAB



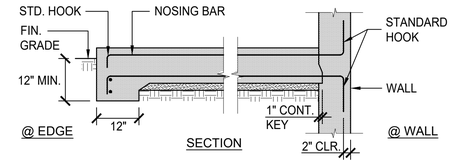
TYPICAL SLAB-ON-GRADE

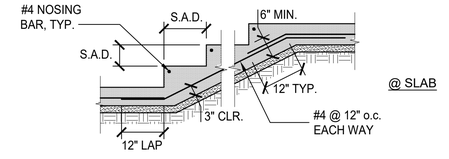
SLAB DEPRESSION 2" OR LESS

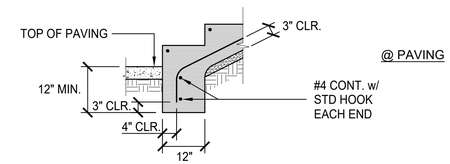


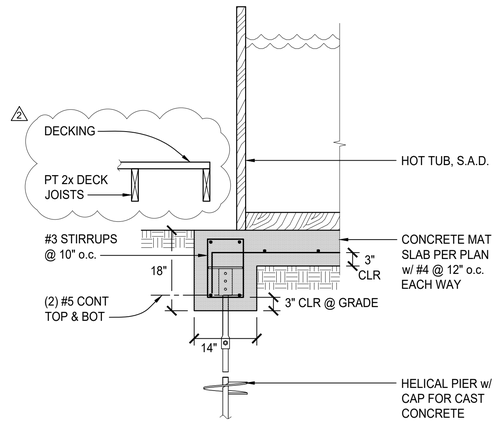
SLAB DEPRESSION GREATER THAN 2"

1 SLAB-ON-GRADE DETAILS
3/4"=1'-0"

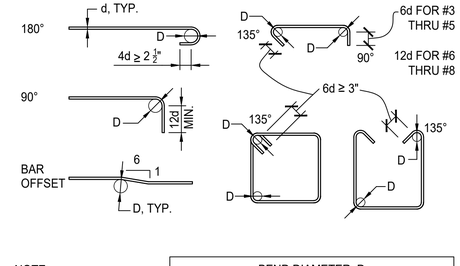








8 MAT SLAB @ HOT TUB
3/4"=1'-0"



NOTE:

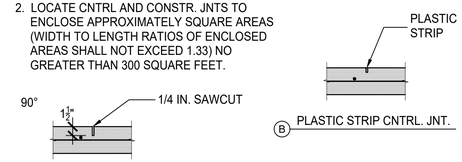
1. DO NOT FIELD BEND REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE.

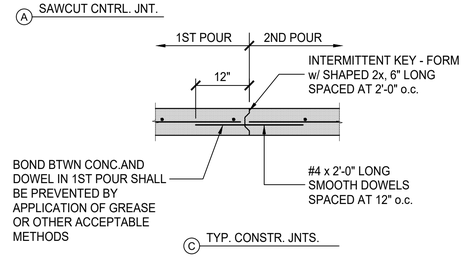
BEND DIAMETER, D		
BAR SIZE	STD HOOKS & BENDS	STIRRUPS, TIES & HOOPS
#3 THRU #5	6d	4d
#6 THRU #8	6d	6d
#9 THRU #11	8d	NA
#14 THRU #18	10d	NA

5 HOOKS & BENDS
N.T.S.

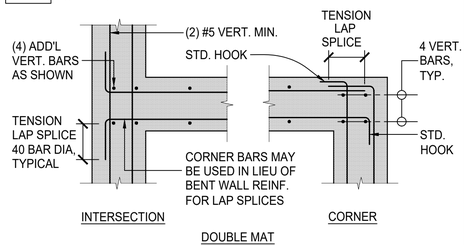
NOTES:

1. AT CONTRACTOR'S OPTION USE EITHER SAWCUT OR PLASTIC STRIP CNTRL JNTS.
2. LOCATE CNTRL AND CONSTR. JNTS TO ENCLOSE APPROXIMATELY SQUARE AREAS (WIDTH TO LENGTH RATIOS OF ENCLOSED AREAS SHALL NOT EXCEED 1.33) NO GREATER THAN 300 SQUARE FEET.

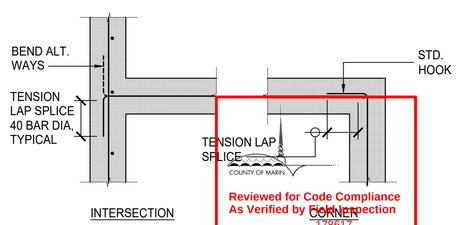




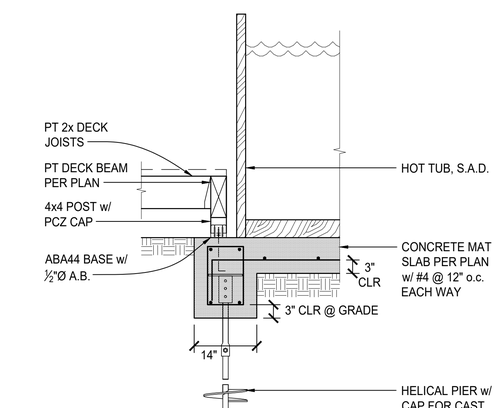
2 CONCRETE STAIRS ON GRADE
3/4"=1'-0"



DOUBLE MAT



SINGLE MAT



9 MAT SLAB @ HOT TUB
3/4"=1'-0"

6 CONSTRUCTION AND CONTROL JOINTS
3/4"=1'-0"

3 TYP. INTERSECTION OF CONC. WALLS AND FTGS
3/4"=1'-0"

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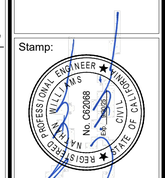

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BOLINAS, CA 94924

Revisions:

2	12/19/2024	NW

Sheet Title: CONCRETE DETAILS

Date: --/--/--

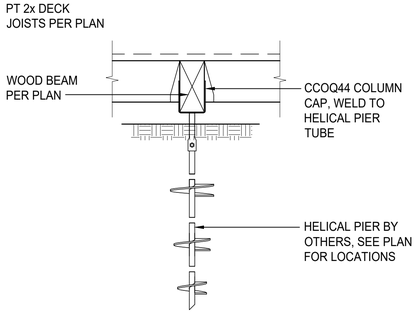
Project No: 24002

Drawn By: TES

Checked By: NW

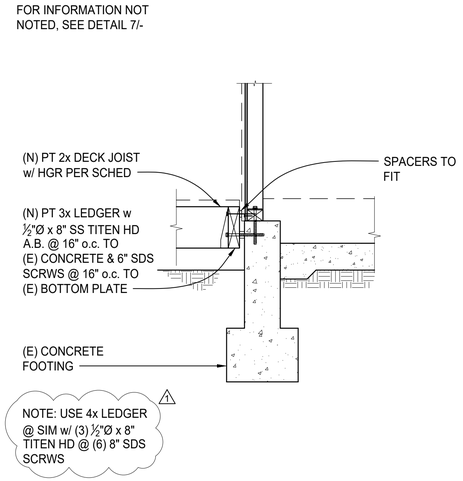
Sheet: S3.1

Reviewed for Code Compliance
As Verified by Field Inspection
COUNTY OF MARIN
Permit Number: 178617
Date: 2/6/2025



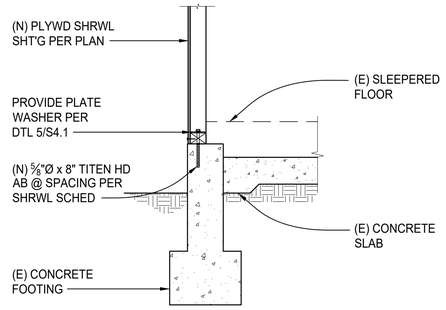
13 DECK BEAM @ HELICAL PIER
3/4"=1'-0"

FOR INFORMATION NOT NOTED, SEE DETAIL 13/-



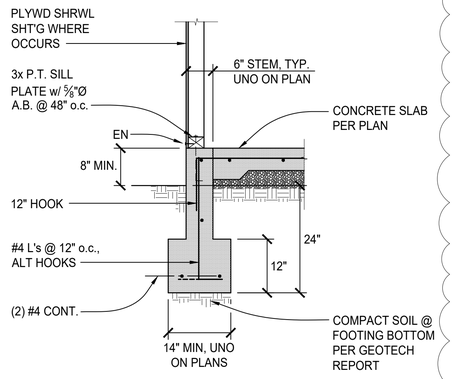
10 (N) DECK CONNECTION
3/4"=1'-0"

FOR INFORMATION NOT NOTED, SEE DETAIL 10/-



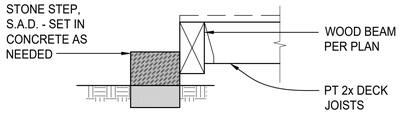
7 (N) SHEARWALL @ (E) SLEEPERED FLOOR
3/4"=1'-0"

FOR INFORMATION NOT NOTED, SEE DETAIL 7/-

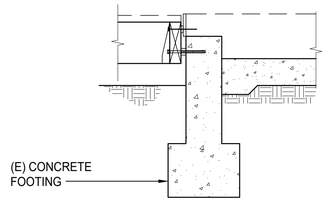


4 EXTERIOR WALL FOOTING
3/4"=1'-0"

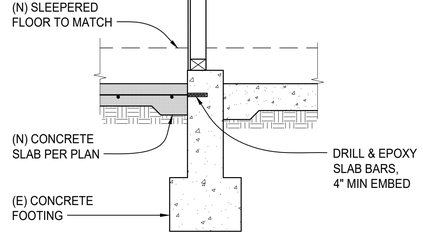
1 NOT USED
3/4"=1'-0"



14 DECK STEPS
3/4"=1'-0"



11 (N) DECK CONNECTION
3/4"=1'-0"

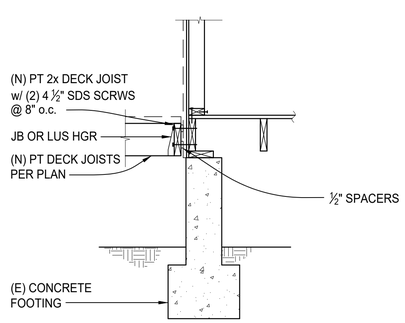


8 (N) SLAB CONNECTION
3/4"=1'-0"

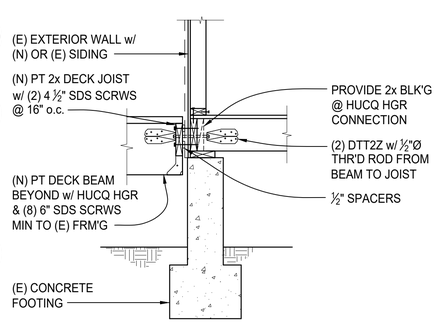
5 NOT USED
3/4"=1'-0"

2 NOT USED
3/4"=1'-0"

FOR INFORMATION NOT NOTED, SEE DETAIL 9/-



12 (N) DECK CONNECTION
3/4"=1'-0"



9 (N) DECK CONNECTION
3/4"=1'-0"

6 EXTERIOR WALL MONO FOOTING
3/4"=1'-0"

3 NOT USED
3/4"=1'-0"

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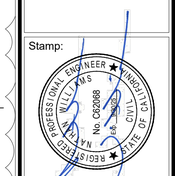

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Revisions:

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Sheet Title: CONCRETE DETAILS

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Project No: 24002

Drawn By: TES

Checked By: NW

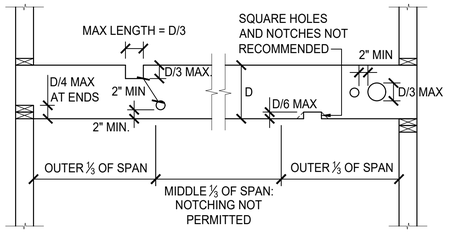
Sheet: S3.2

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 178617

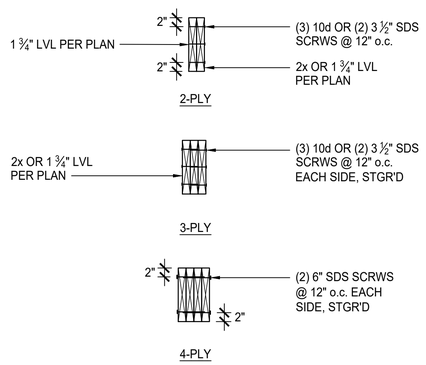
Date: 2/6/2025



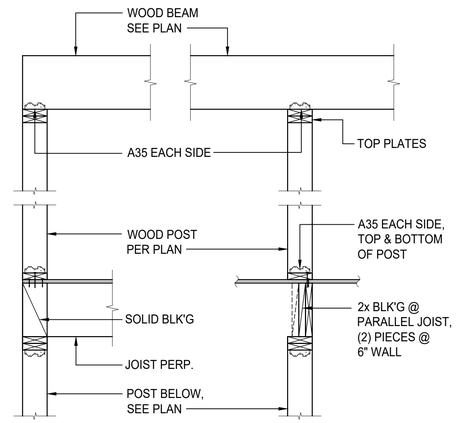
NOTES:

1. NO HOLES OR NOTCHES PERMITTED WHERE DEPTH OF BEAM/JOIST IS 5 ½" OR LESS.
2. VERTICAL HOLDES ARE NOT PERMITTED.
3. APPLY PRESERVATIVE TO HOLES IN PRESSURE TREATED WOOD.
4. THIS DETAIL APPLIES TO SOLID SAWN WOOD MEMBERS ONLY. FOR OTHER MANUFACTURED WOOD PRODUCTS, NOTCH AND DRILL PER MANUFACTURER'S PUBLISHED INSTRUCTIONS AND LIMITATIONS.

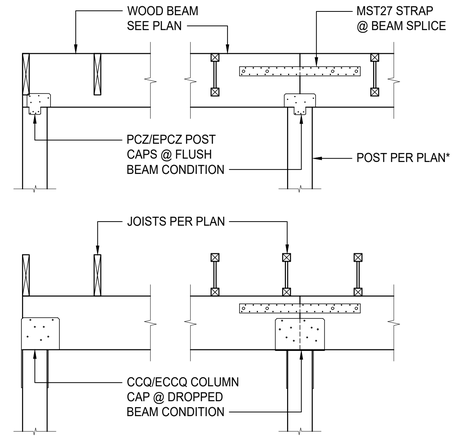
10 HOLES AND NOTCHES IN BEAMS AND JOISTS
3/4"=1'-0"



11 MULTIPLE-MEMBER CONNECTION
3/4"=1'-0"

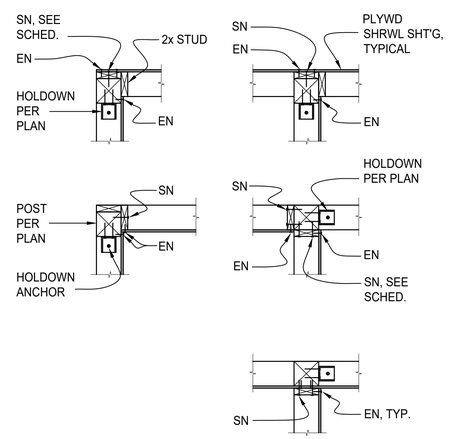


7 BEAM/POST CONNECTIONS @ PLATFORM FRAMING
3/4"=1'-0"



*NOTE: SEE DETAIL 7/- WHERE TOP PLATE OCCURS BETWEEN POST & BEAM

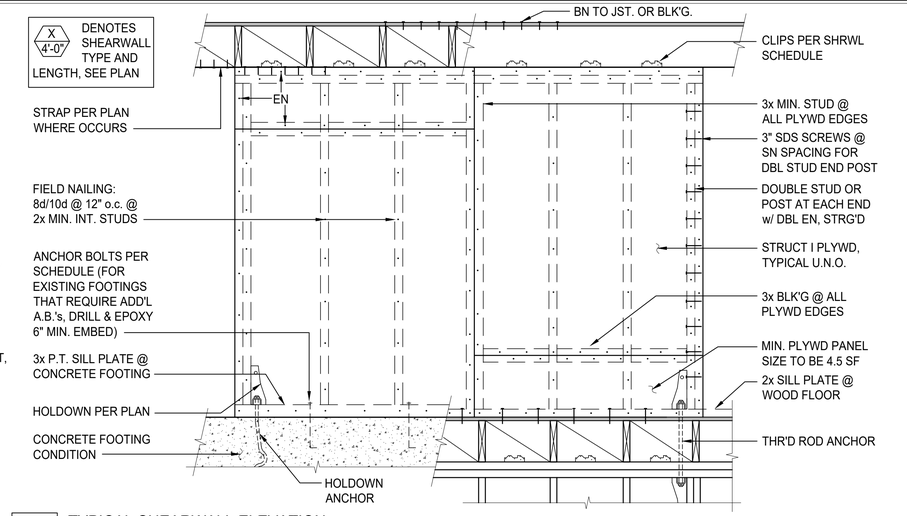
8 BEAM TO POST CONNECTIONS
3/4"=1'-0"



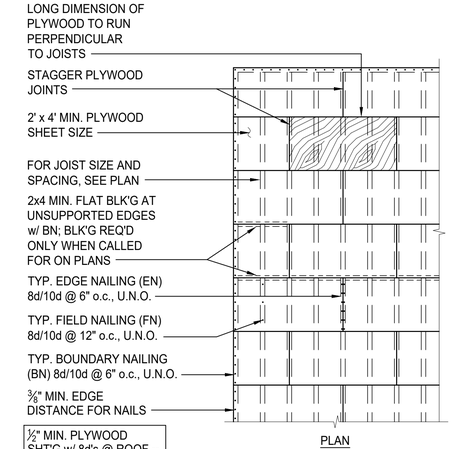
9 SHEARWALL INTERSECTIONS
3/4"=1'-0"

X 4'-0" DENOTES SHEARWALL TYPE AND LENGTH, SEE PLAN

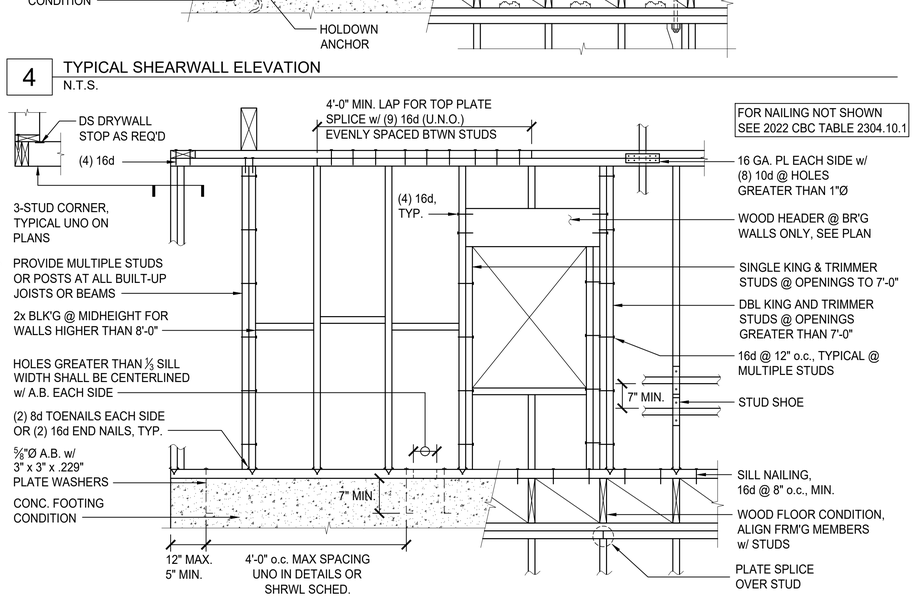
4 TYPICAL SHEARWALL ELEVATION
N.T.S.



5 TYPICAL WALL CONSTRUCTION (UP TO 10'-0")
N.T.S.



6 PLYWOOD SHEATHING
N.T.S.



SHEARWALL CONNECTION SCHEDULE

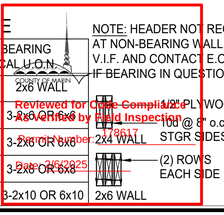
TYPE	MIN. THICK.	(EN) EDGE NAILING	5/8"Ø A.B. SPACING [2,4]	(SN) 4" SDWH TIMBER-HEX SCREWS [4,5]	A35/LTP4 CLIP SPACING [4]	ALLOW. LOAD
EXT	15/32" [6]	8d @ 6" o.c. [7]	48" o.c.	16" o.c.	24" o.c.	260 PLF
D	15/32" [1]	10d @ 6" o.c. [1]	32" o.c.	12" o.c.	18" o.c.	340 PLF
E [3]	15/32" [1]	10d @ 4" o.c. [1]	24" o.c.	8" o.c.	16" o.c.	510 PLF
F [3]	15/32" [1]	10d @ 3" o.c. [1]	16" o.c.	6" o.c.	12" o.c.	665 PLF
G [3]	15/32" [1]	10d @ 2" o.c. [1]	16" o.c.	6" o.c.	8" o.c.	870 PLF

1. PLYWOOD TO BE STRUCT I. 10d NAILS MUST HAVE 1-1/2" MIN. PENETRATION.
2. MUDSILL ANCHOR BOLTS SHALL INCLUDE 3" x 3" x .229" STEEL PLATE WASHERS -- HOLE MAY BE DIAGONALLY SLOTTED PER CBC 2305.3.11.
3. USE 3x FRAMING MEMBERS AT ABUTTING PANELS (OR 2-2x's SISTERED w/ 10d @ EN SPACING). PANEL JOINT NAILING SHALL BE STAGGERED.
4. USE TWICE AS MANY CONNECTORS @ DOUBLE-SIDED SHEARWALL.
5. CENTER SCREWS ON RIM JOIST/BLK'G WHERE 1-3/4" THICK OR LESS.
6. C-D EXPOSURE 1 (CD-X) PLYWOOD MAY BE USED AT TYPE "EXT".
7. 8d NAILS MUST HAVE 1-3/8" MIN. PENETRATION AT TYPE "EXT".

HEADER SCHEDULE

ROUGH OPENING WIDTH	HEADER @ BEARING WALL, TYPICAL U.O.N.	
	2x4 WALL	2x6 WALL
UP TO 3'-0"	2-2x6 OR 4x6	3-2x6 OR 6x6
3'-0" TO 5'-0"	2-2x8 OR 4x8	3-2x6 OR 6x6
5'-0" TO 7'-0"	2-2x10 OR 4x10	3-2x8 OR 6x8
7'-0" TO 9'-0"	2-2x12 OR 4x12	3-2x10 OR 6x10

NOTE: HEADER NOT REQ'D AT NON-BEARING WALL, V.I.F. AND CONTACT E.O.R. IF BEARING IN QUESTION



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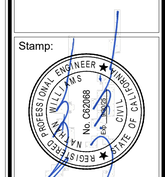

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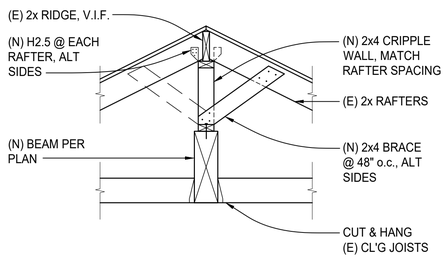
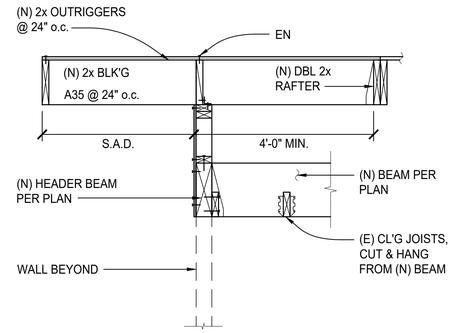
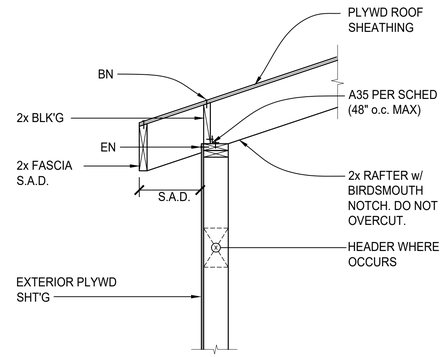
Sheet: S4.1



10 (N) CEILING BEAM
3/4"=1'-0"



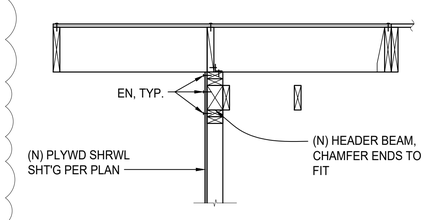
7 (N) GABLE END OVERHANG
3/4"=1'-0"



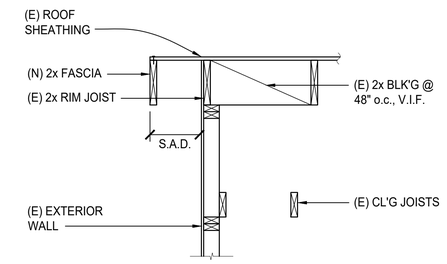
4 RAFTERS PERPENDICULAR
3/4"=1'-0"

1 NOT USED
1"=1'-0"

FOR INFORMATION NOT NOTED, SEE DETAIL 7/-



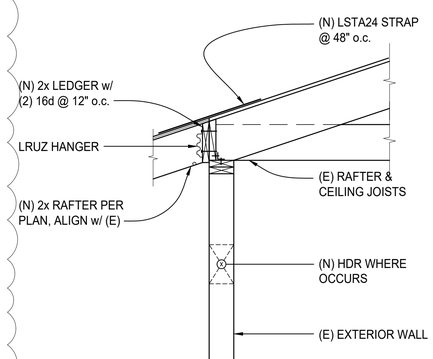
8 (N) GABLE END OVERHANG @ SHEARWALL
3/4"=1'-0"



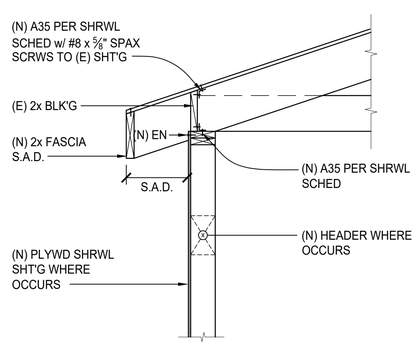
5 (E) RAFTERS PARALLEL
3/4"=1'-0"

2 NOT USED
1"=1'-0"

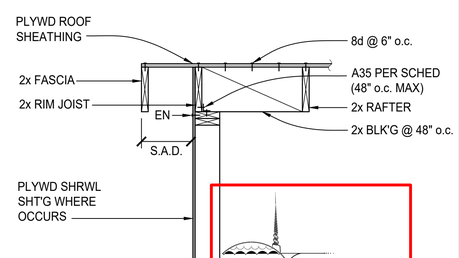
FOR INFORMATION NOT NOTED, SEE DETAIL 3/-



9 (N) ROOF CONNECTION
3/4"=1'-0"



6 (E) RAFTERS/CEILING JOISTS PARALLEL
3/4"=1'-0"



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3 RAFTERS PARALLEL
3/4"=1'-0"

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Sheet:
S4.2