ABBREVIATIONS

&	AND	LAM.	LAMINATE	E.	EAST	S.C.	SOLID CORE
	ANGLE	LAV.	LAVATORY	EA.	EACH	SCHED.	SCHEDULE
@	AT	L.O.	LINE OF	EL.	ELEVATION	S.D.	SOAP DISPENSER
CL	CENTERLINE	LT.	LIGHT	ELEC.	ELECTRICAL	SECT.	SECTION
	DIAMETER OR ROUND			ELEV.	ELEVATOR	SH.	SHELF
#	POUND OR NUMBER	MAX.	MAXIMUM	ENCL.	ENCLOSURE	SHR.	SHOWER
(D)	DEMOLISH	M.C.	MEDICINE CABINET	EQ.	EQUAL	SHT.	SHEET
(E)	EXISTING	MECH.	MECHANICAL	EQUIP.	EQUIPMENT	SIM.	SIMILAR
(R)	REMOVE	MEMB.	MEMBRANE	EXST.	EXISTING	SL.	SLOPE
A.B.	ANCHOR BOLT	MFR.	MANUFACTURER	EXT.	EXTERIOR	SPEC.	SPECIFICATION
ADJ.	ADJACENT	MIN.	MINIMUM			SQ.	SQUARE
AGG.	AGGREGATE	MIR.	MIRROR			S.S.D.	SEE STRUCURAL DRAWINGS
ALUM.	ALLUMINUM	MISC.	MISCELLANEOUS	F.D.	FLOOR DRAIN	S.S.	STAINLESS STEEL
APPROX.	APPROXIMATE	MTD.	MOUNTED	FDN.	FOUNDATION	STD.	STANDARD
A.S.	AIR SPACE	MTL.	METAL	FIN.	FINISH	STL.	STEEL
		N.	NORTH	FLR.	FLOOR	STOR.	STORAGE
BD.	BOARD	N.I.C.	NOT IN CONTRACT	FLASH.	FLASHING	STRUC.	STRUCTURAL
BLDG.	BUILDING	NO.	NUMBER	FLUOR.	FLUORESCENT	SYM.	SYMMETRICAL
BLK.	BLOCK	NOM.	NOMINAL	FIXT.	FIXTURE		
BLKG.	BLOCKING	N.T.S.	NOT TO SCALE	F.O.C.	FACE OF CONCRETE	T.	TREAD
BM.	BEAM			F.O.S.	FACE OF STUD	T.B.	TOWEL BAR
BOT.	BOTTOM	O.A.	OVERALL	F.R.	FIRE RATED	TEL.	TELEPHONE
B.O.	BOTOM OF	OBS.	OBSCURE	F.S.	FULL SIZE	T&G	TONGUE AND GROOVE
		OBS.	OBSCURE	FT.	FOOT OR FEET	THK.	THICK
CAB.	CABINET	O.C.	ON CENTER	FTG.	FOOTING	TMPR.	TEMPERED
CEM.	CEMENT	O.D.	OUTSIDE DIAMETER	FURR.	FURRING	T.O.C.	TOP OF CONCRETE
CER.	CERAMIC	OPP.	OPPOSITE			T.O.P.	TOP OF PAVEMENT
CLG.	CEILING			G.S.M.	GALVANIZED SHEET METAL	T.O.W.	TOP OF WALL
CLKG.	CAULKING	P.G.	PAINT GRADE				
CL.	CLOSET	PL.	PLATE	GA.	GAUGE	T.P.D .	TOILET PAPER DISPENSER
CLR.	CLEAR	P. LAM	PLASTIC LAMINATE				
COL.	COLUMN	PLYWD.	PLYWOOD	G.F.I.	GROUND FAULT INTERCEPTOR	T.S.	TUBULAR STEEL
CONC.	CONCRETE	PR.	PAIR			T.V.	TELEVISION
CONT.	CONTINUOUS	PROP. LN.	PROPERTY LINE	GL.	GLASS	TYP.	TYPICAL
CTR.	CENTER	P.T.	PRESSURE TREATED	GND.	GROUND		
				GR.	GRADE	V.C.T.	VINYL COMPOSITION TILE
DBL.	DOUBLE	R.	RISER	GYP.	GYPSUM		
DET.	DETAIL	RAD.	RADIUS			VERT.	VERTICAL
DIA.	DIAMETER	RDWD.	REDWOOD	H.	HIGH	V.I.F.	VERIFY IN FIELD
DIM.	DIMENSION	REF.	REFEREMCE	H.B.	HOSE BIB		
DISP.	DIPENSER	REFRIG.	REFRIGERATOR	H.C.	HOLLOW CORE		
DN.	DOWN	REINF.	REINFORCED	HDWD.	HARDWOOD	W.	WEST
D.O.	DOOR OPENING	REQ'D.	REQUIRED	HDWR.	HARDWARE	W/	WITH
DR.	DOOR	RM.	ROOM	HGT.	HEIGHT	WD.	WOOD
D.S.	DOWNSPOUT	R.O.	ROUGH OPENING	HORIZ.	HORIZONTAL	W/O	WITHOUT
DWG.	DRAWING			HR.	HOUR	WT.	WEIGHT
DWR.	DRAWER	S.	SOUTH	I.D.	INSIDE DIAMETER		
				INSUL.	INSULATION		
				INT.	INTERIOR		

GENERAL NOTES

1. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE BUILDING CODES AND REGULATIONS. THE 2022 CALIFORNIA BUILDING STANDARD CODE WAS USED FOR THE DESIGN OF THIS PROJECT (2022 CALIFORNIA BUILDING CODE, 2022 CALIFORNIA RESIDENTIAL BUILDING CODE, 2022 CALIFORNIA PLUMBING CODE, 2022 CALIFORNIA MECHANICAL CODE, 2022 CALIFORNIA ELECTRICAL CODE, 2022 CALIFORNIA FIRE CODE, CALIFORNIA ENERGY CODE & GREEN BUILDING STANDARDS) AND THE 2025 MARIN COUNTY MUNICIPAL CODE . 1

2. ALL SUBCONTRACTORS TO THE GENERAL CONTRACTOR SHALL INSPECT THE SITE AND SHALL CONVEY ANY QUESTIONS REGARDING DESIGN INTENT AND SCOPE OF WORK TO THE DESIGNER PRIOR TO SUBMITTING BID AND PRIOR TO COMMENCING WORK.

3. ALL CONSTRUCTION MATERIALS AND SUPPLIES ARE TO BE STORED, HANDLED AND INSTALLED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.

4. IF ERRORS OR OMISSIONS ARE FOUND IN THE DRAWINGS, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER BEFORE PROCEEDING WITH THE WORK.

5. DRAWINGS SCHEMATICALLY INDICATE NEW CONSTRUCTION. THE CONTRACTOR SHOULD ANTICIPATE, BASED ON EXPERIENCE, A REASONABLE NUMBER OF ADJUSTMENTS TO BE NECESSARY TO MEET THE DESIGN OBJECTIVES AND SHOULD CONSIDER SUCH ADJUSTMENTS AS INCLUDED IN THE SCOPE OF WORK.

6. ALL DIMENSIONS ARE TO BE TAKEN FROM NUMERIC DESIGNATIONS ONLY; DIMENSIONS ARE NOT TO BE SCALED OFF OF DRAWINGS.

7. THESE NOTES APPLY TO ALL DRAWINGS AND GOVERN UNLESS MORE SPECIFIC REQUIREMENTS ARE INDICATED APPLICABLE TO PARTICULAR DIVIDIONS OF WORK. SEE SPECIFICATIONS AND GENERAL NOTES IN THE

SUBSECTIONS OF THESE DRAWINGS.

8. ALL DIMENSIONS FOR NEW CONSTRUCTION ARE TO FACE OF STUD, UNLESS OTHERWISE NOTED..

PROJECT DATA

PROJECT ADDRESS: 6 CRESCENTE AVE.
BOLINAS, CA

APN: 193-081-37

OWNERS: MARK & SAMANTHA KEENE
2511 BROADWAY ST
SAN FRANCISCO, CA 94115-1113
415-310-8058

ZONING: C-RA-B2

LOT AREA: 21,014 SQ.FT.

(E) MAIN HOUSE
- MAIN LEVEL: 1,474 SQ. FT.
- BEDROOMS: 2
- BATHROOMS: 2

NEW ADDITIONS:
- LIVING ROOM: 231 SQ. FT.
- MUDROOM /
- STORAGE: 586 SQ. FT.
- PRIMARY SUITE: 586 SQ. FT.
- TOTAL ADDITIONS: 1,403 SQ. FT.

PROPOSED MAIN HOUSE (MAIN HOUSE + ADDITIONS):
- LOWER LEVEL: 586 SQ. FT.
- MAIN LEVEL: 2,291 SQ. FT.
- TOTAL: 2,877 SQ. FT.
- BEDROOMS: 4
- BATHROOMS: 3

EXISTING DECKS: 1,303 SQ. FT.
PROPOSED DECKS: 1,062 SQ. FT.

EXISTING LOT COVERAGE
- IMPERMEABLE: 1,856 SQ.FT.

PROPOSED LOT COVERAGE
- IMPERMEABLE: 2,198 SQ.FT.

EXISTING F.A.R.: 7.01%
PROPOSED F.A.R.: 13.7%

OFF STREET PARKING (ON PROPERTY): 1
ON STREET PARKING: 1

MINIMUM SETBACK TO PROPERTY LINE: 0' (EXISTING HOUSE WEST REAR)
MAXIMUM HEIGHT FROM (E) GRADE: 24'-10 3/8"

LATITUDE: 37°54'34.46"N
LONGITUDE: 122°40'59.94"W

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE:
PETER NISSEN
CONSULTING ENGINEER
250 BEL MARIN KEYS BLVD, SUITE D2
NOVATO, CA 9494x9
415-382-7790 PH.
415-382-7791 FAX
peter@nissenengineering.com

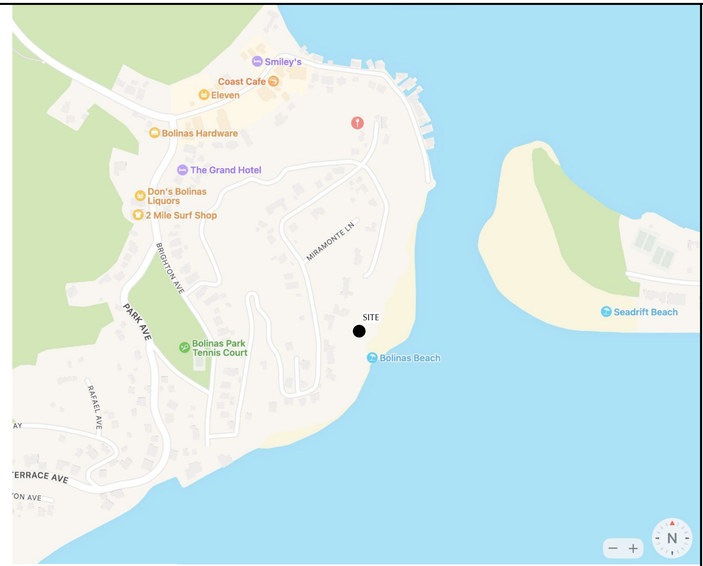
NOTE: STRUCTURAL OBSERVATION SHALL BE REQUIRED BY THE STRUCTURAL ENGINEER FOR STRUCTURAL CONFORMANCE TO THE APPROVED PLANS.

NOTE: THE CIVIL DESIGN ENGINEER SHALL CERTIFY TO THE COUNTY IN WRITING THAT ALL GRADING, DRAINAGE AND RETAINING WALL CONSTRUCTION WAS DONE IN ACCORDANCE WITH PLANS AND FIELD DIRECTIONS. DRIVEWAY, PARKING AND OTHER SITE IMPROVEMENTS SHALL BE INSPECTED BY A DEPT. OF PUBLIC WORKS ENGINEER.

NOTE: A SPECIAL INSPECTION IS REQUIRED BY THE STRUCTURAL ENGINEER FOR CONCRETE & DRILLED PIERS.

1

NOTE: A. THIS PROJECT IS NOT LOCATED IN A FLOOD ZONE.
B. WUI CODES ARE APPLICABLE FOR THIS PROJECT.
C. THIS PROJECT IS LOCATED IN SEISMIC DESIGN CATAGORY E



VICINITY MAP

SCOPE OF WORK

THE SCOPE OF WORK FOR THIS PROJECT IS A REMODEL OF THE EXISTING RESIDENCE, INCLUDING A 231 SQ. FT. ADDITION TO THE LIVING ROOM / DINING ROOM OF THE MAIN HOUSE AND A NEW PRIMARY SUITE AND MUDROOM ATTACHED TO THE MAIN HOUSE BY A COVERED BREEZEWAY TOTALING 1,172 SQ. FT. ALSO INCLUDED ARE 1,062 SQ. FT. OF DECKS. NEW WINDOWS WILL BE INSTALLEDIN THE EXISTING HOUSE AND THE HEATING AND WATER HEATING SYSTEMS WILL BE UPGRADED TO NEW ENERGYEFFICIENT SYSTEMS. A NEW SPRINKLER SYSTEM WILL BE INSTALLED.

SHEET INDEX

SHEET NO.	DESCRIPTION
A1	TITLE SHEET, VICINITY MAP, ABBREVIATIONS, SYMBOLS KEY, PROJECT DATA
A1.1	EXISTING SITE PLAN, NEIGHBORHOOD MAP
A2	SITE PLAN 2
A3	EXISTING FLOOR PLAN
A4	PROPOSED FLOOR PLAN
A5	BUILDING SECTIONS
A6	BUILDING SECTIONS
A7	EXTERIOR ELEVATIONS
A8	EXTERIOR ELEVATIONS
A9	ROOF PLAN
A10	SCHEDULES
A11	SCHEDULES
A12	DETAILS
A13	DETAILS
A14	TITLE 24 REPORT
A15	TITLE 24 REPORT
A16	TITLE 24 REPORT
A17	GREEN BUILDING CHECKLIST
A18	GREEN BUILDING CHECKLIST
A19	GREEN BUILDING CHECKLIST
A20	GREEN BUILDING CHECKLIST
EMP1	ELECTRICAL / MECHANICAL / PLUMBING NOTES, SYMBOLS LEGEND
EMP2	ELECTRICAL PLANS
S1	STRUCTURAL NOTES
S2	FOUNDATION PLAN
S3	FLOOR FRAMING PLAN
S4	ROOF FRAMING PLAN
S5	CROSS SECTIONS, DETAILS
S6	CROSS SECTIONS, DETAILS
S7	HOT TUB DECK PLAN & DETAILS
C1.0	SITE OVERVIEW PLAN 2
C1.1	PROJECT NOTES
C1.2	MCSTOPPP DETAILS
C1.3	CONSTRUCTION BMPS
C2.0	GRADING PLAN
C2.1	DRAINAGE PLAN
C3.0	DETAILS
C4.0	IMPERVIOUS DATA

1

AN AUTOMATIC FIRE SPRINKLER SYSTEM IS REQUIRED FOR THIS PROJECT IN BOTH THE EXISTING MAIN HOUSE AND THE NEW ADDITION.
SUBMIT DRAWINGS AND CALCULATIONS TO THE BUILDING AND SAFETY DIVISION OF THE COUNTY OF MARIN WITH A MINIMUM THREE WEEKS BEFORE REQUESTING THE CLOSE-IN INSPECTION

DEFERRED SUBMITTALS:

SPRINKLER PLAN & CALCS.

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 179822 ap 7/10/25

Date: 8/12/2025

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP
2	7/7/25	AFP

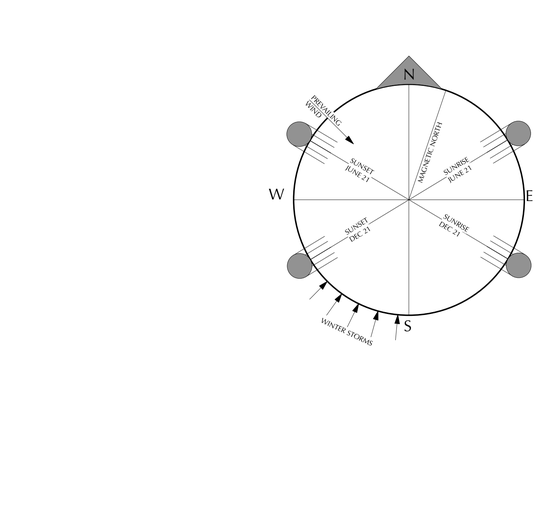
Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

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Sheet Title
TITLE SHEET

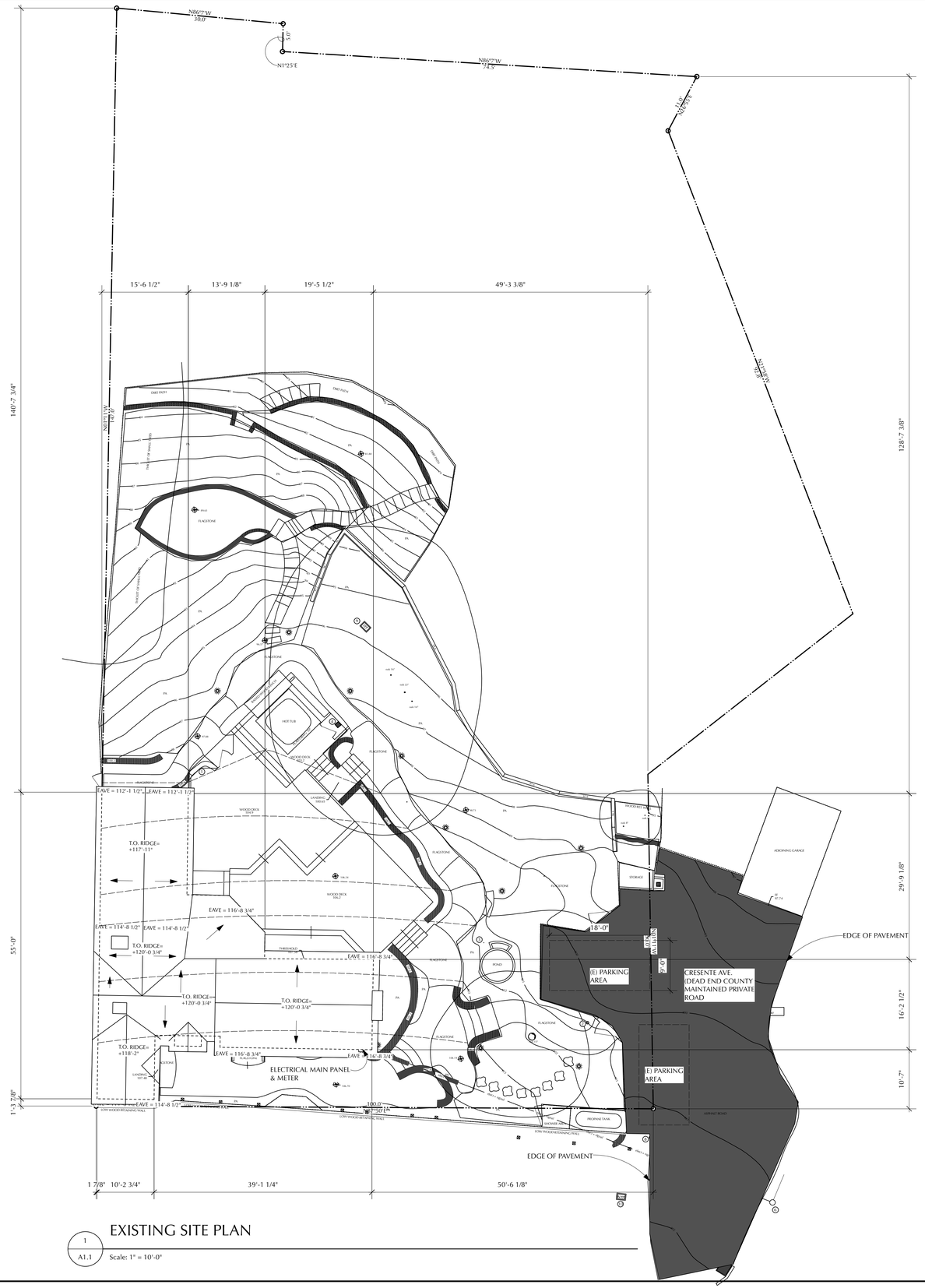
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NEIGHBORHOOD MAP

2 / A1.1

Scale: N.T.S.



EXISTING SITE PLAN

1 / A1.1

Scale: 1" = 10'-0"

LEGEND

- OHT — OVERHEAD UTILITIES
- 73.66 — CONTROL POINT WITH ELEVATION
- 120.18 — EXISTING ELEVATION
- FEATURE PER LIST
- TREE SHOWN APPROXIMATE SIZE
- FENCE
- 102 — APPROXIMATE 1' INTERVAL CONTOUR
- GB — GRADEBREAK
- EDGE ASPHALT PAVEMENT
- APPROXIMATE TREE DRIP LINE
- PA — PLANTED AREA
- 6x6 WOOD POST
- YARD LIGHT
- STONE WALL WITH TOP ELEVATION
- STEEL I-BEAM SOLDIER PILE WALL WITH PT WOOD LAGGING
- STEP DOWN

FEATURES

1. PORTION OF WALL UNDER DECK
2. 3" CLEANOUT
3. 4" CLEANOUT
4. 18" SQ DROP INLET
5. COUNTY DROP INLET
6. JOINT UTILITY POLE WITH GUY
7. ELECTRIC METER
8. MONUMENT NOT OF KNOWN RECORD BRASS DISK WITH TACK LS 3775 (MAY BE PROPERTY CORNER)
9. IRRIGATION CONTROL BOX
10. WATER METER

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Sheet Title: EXISTING SITE PLAN

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Project ID

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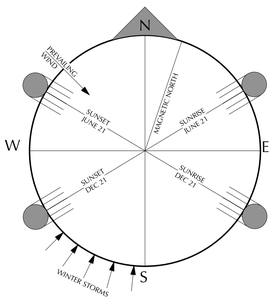
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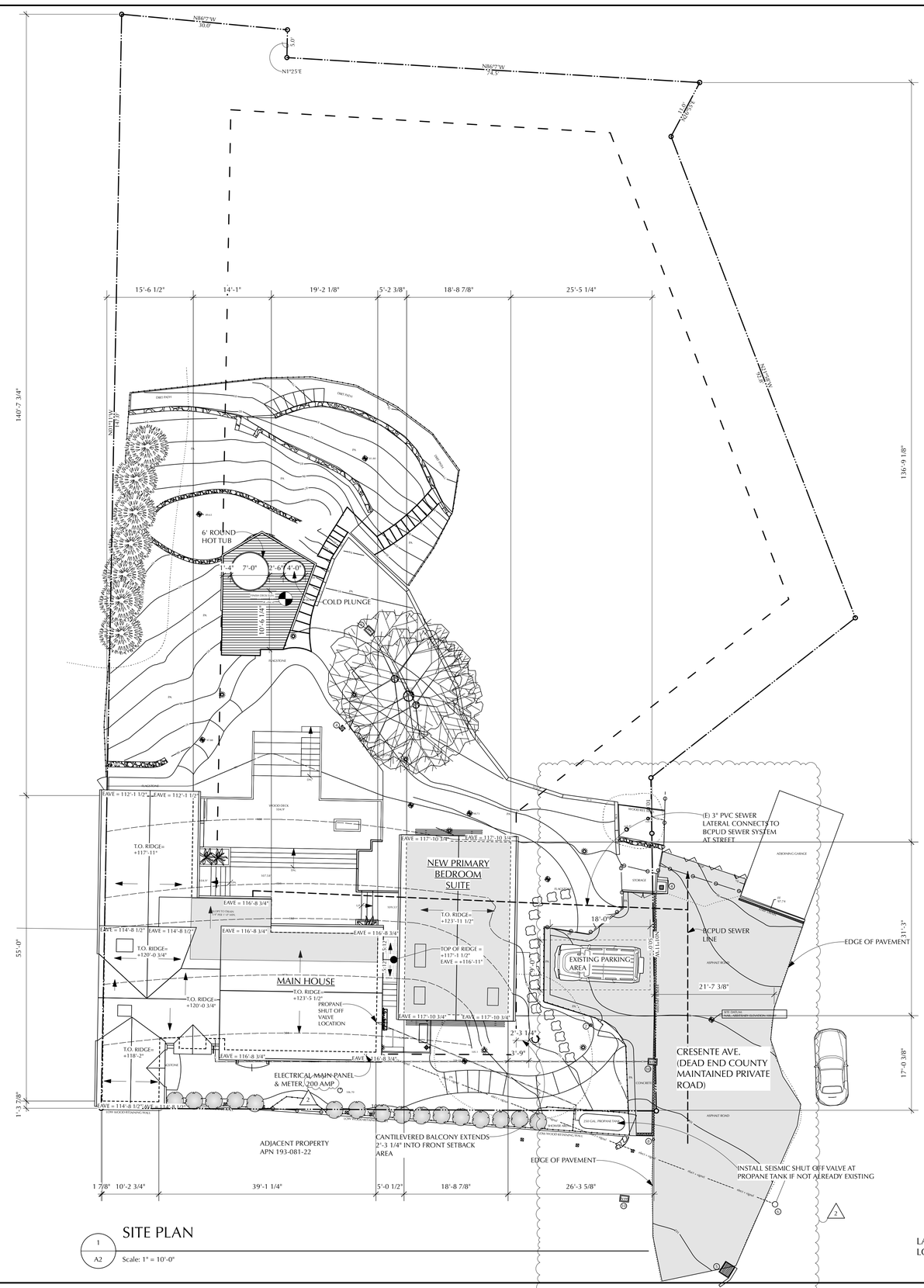
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1 / A2 SITE PLAN

Scale: 1" = 10'-0"

LEGEND

- OVERHEAD UTILITIES
- CONTROL POINT WITH ELEVATION
- EXISTING ELEVATION
- FEATURE PER LIST
- TREE SHOWN APPROXIMATE SIZE
- FENCE
- APPROXIMATE 1' INTERVAL CONTOUR
- GRADEBREAK
- EDGE ASPHALT PAVEMENT
- APPROXIMATE TREE DRIP LINE
- PLANTED AREA
- 6x6 WOOD POST
- YARD LIGHT
- STONE WALL WITH TOP ELEVATION
- STEEL I-BEAM SOLDIER PILE WALL WITH PT WOOD LAGGING
- STEP DOWN

FEATURES

1. PORTION OF WALL UNDER DECK
2. 3" CLEANOUT
3. 4" CLEANOUT
4. 24" SQ DROP INLET
5. COUNTY DROP INLET
6. JOINT UTILITY POLE WITH GUY
7. ELECTRIC METER
8. MONUMENT NOT OF KNOWN RECORD BRASS DISK WITH TACK (LS 3775)MAY BE PROPERTY CORNER
9. IRRIGATION CONTROL BOX
10. WATER METER

NOTE: THIS PROPERTY HAS A SEWER CONNECTION AND IS SERVED BY THE BOLINAS PUBLIC UTILITY DISTRICT.

LATITUDE: 37°54'34.46"N
LONGITUDE: 122°40'59.94"W

COUNTY OF MARIN

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Date: 8/12/2025
afp

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193-081-37

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415-226-8900

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Sheet Title: SITE PLAN

Project Manager

Project ID

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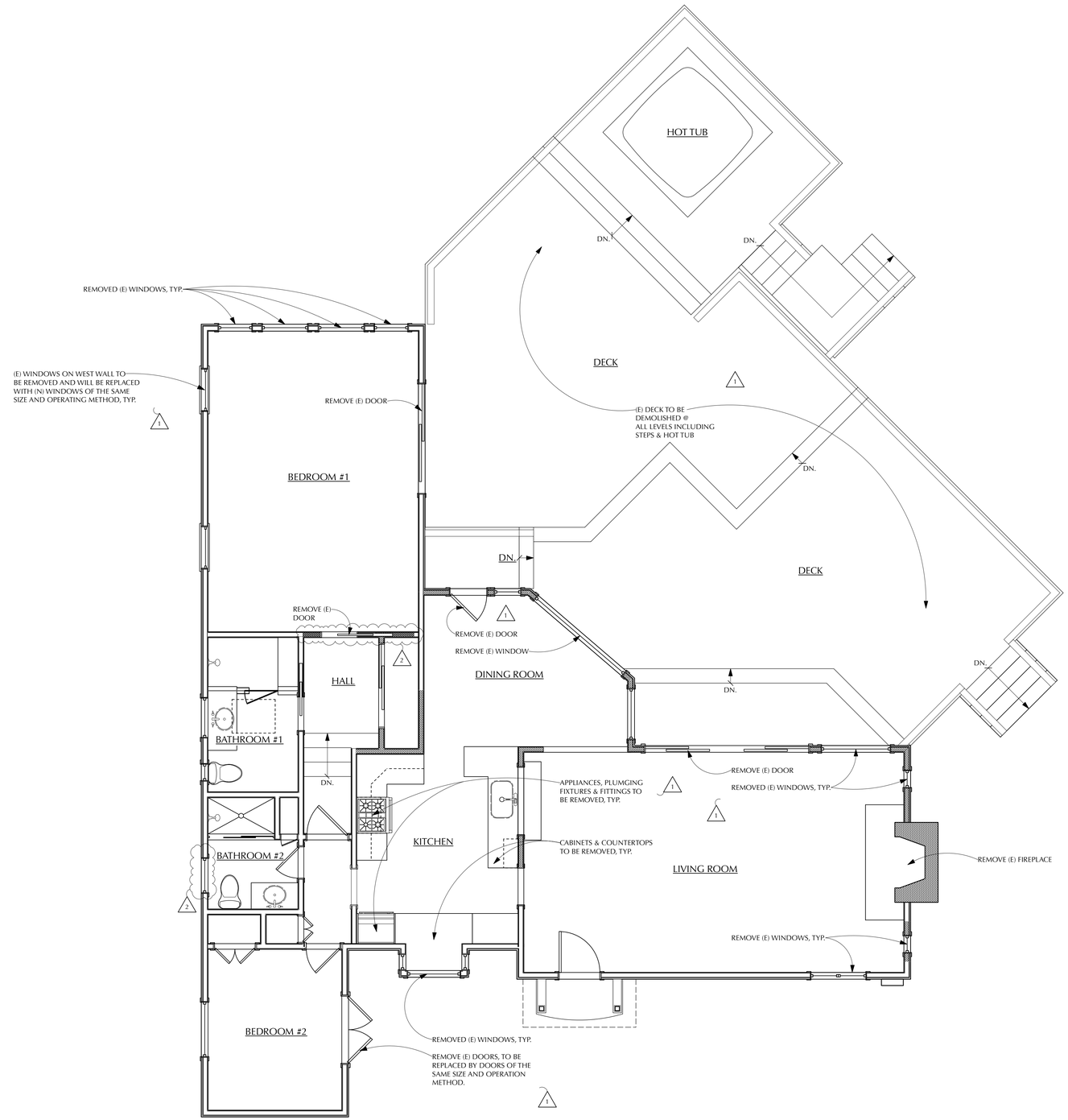
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LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- NEW WALL
- FOUNDATION VENT LOCATION



NORTH

1 / A3 EXISTING FLOOR PLAN

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

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193-081-37

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Design Firm
Alethea Patton Design
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415-226-8900

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EXISTING FLOOR PLAN

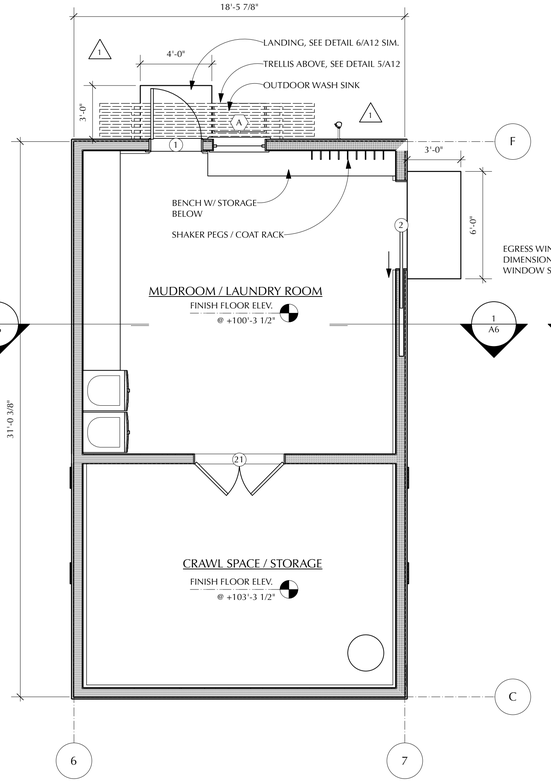
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FOUNDATION VENT ANALYSIS

MAIN HOUSE =1591 SQ. FT. ÷ 150 = 10.6 SQ. FT. OF VENTS REQUIRED
10.6 X 144 = 1,526 SQ. IN. ÷ 62 SQ. IN. = 24.6 = 25 8" X 14" FOUNDATION VENTS.

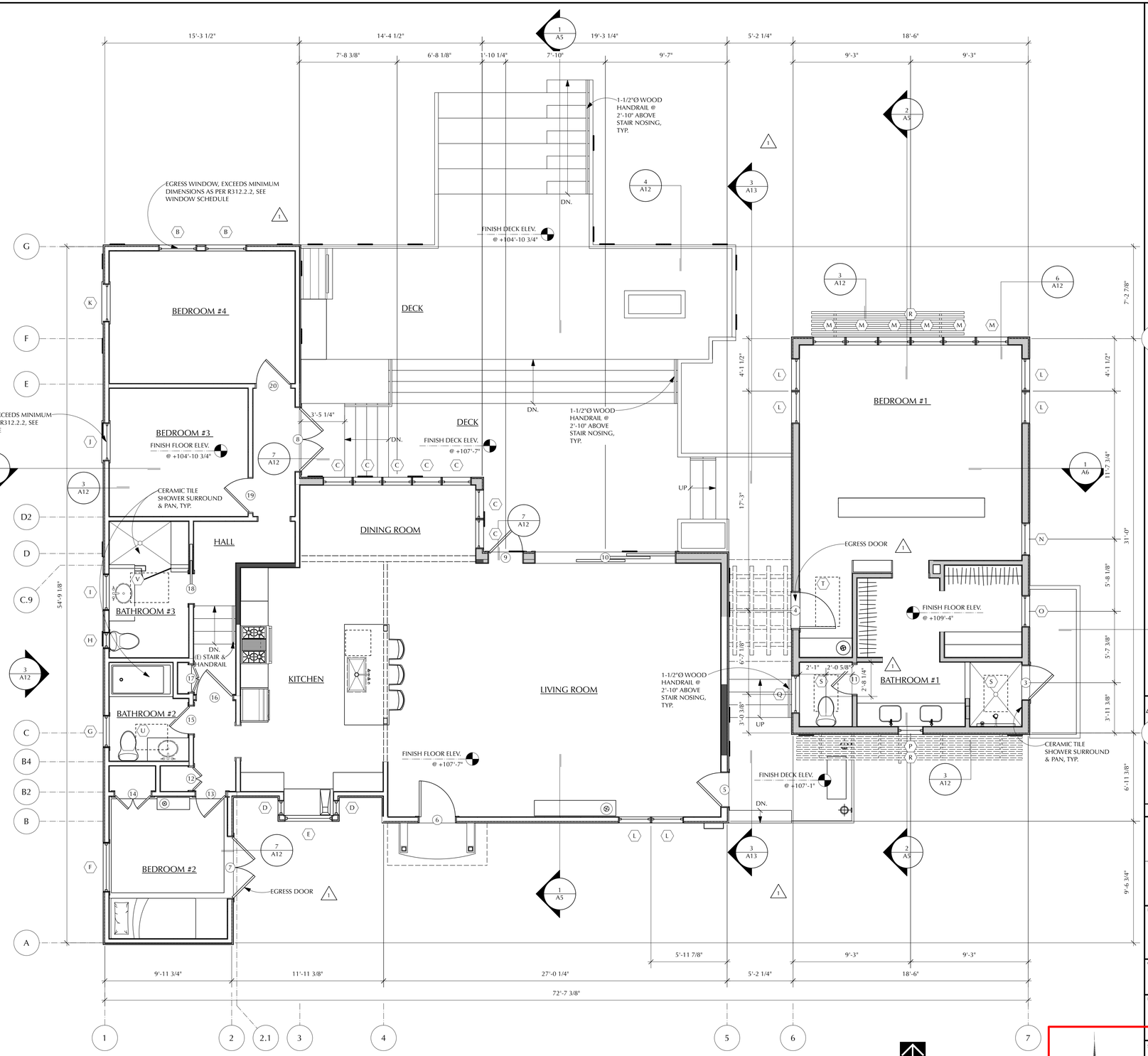
PRIMARY SUITE CRAWL SPACE = 248 SQ. FT. ÷ 150 = 1.7 SQ/ FT.
1.7 X 144 = 238 SQ. IN. ÷ 62 = 3.8 = 4 8" X 14" FOUNDATION VENTS.

VENTS ARE TO BE WUI APPROVED, FIRE RESISTANT VULCAN BRAND VENTS, MODEL VFS814FF.



PROPOSED LOWER LEVEL FLOOR PLAN

2 / A4 — Scale: 1/4" = 1'-0"



PROPOSED MAIN LEVEL FLOOR PLAN

1 / A4 — Scale: 1/4" = 1'-0"

LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- NEW WALL
- FOUNDATION VENT LOCATION

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

4 / A12 SIM.

No.	Date	Issue Notes
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C		

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Alethea Patton Design
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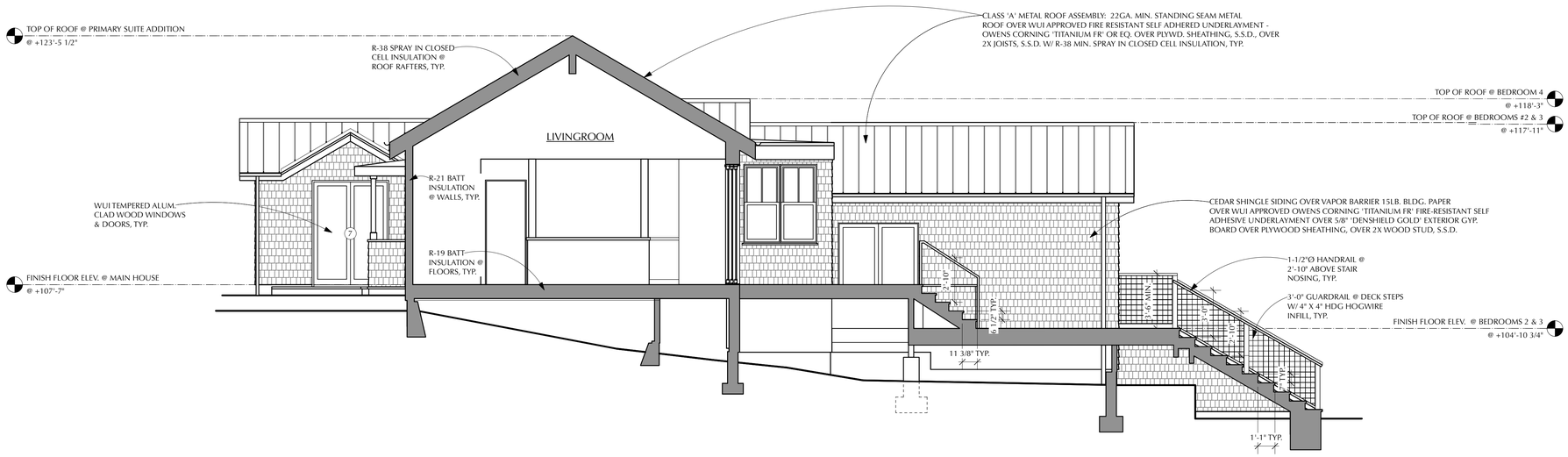
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Sheet Title
PROPOSED FLOOR PLANS

COUNTY OF MARIN

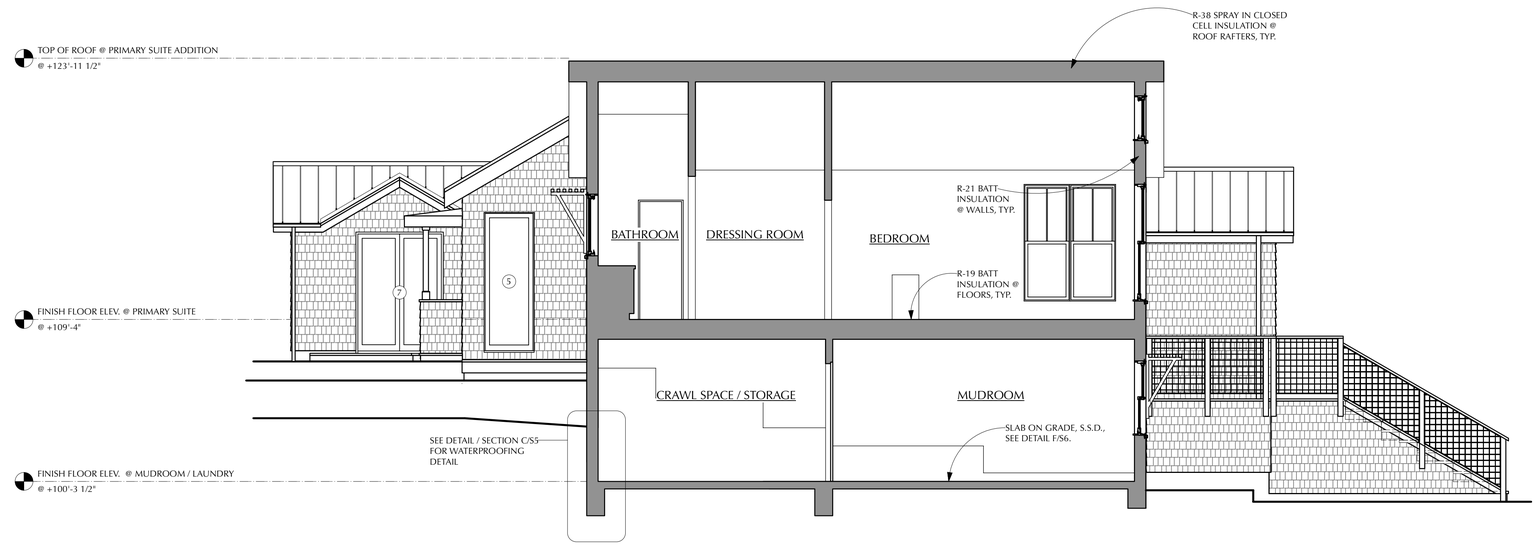
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1 / A5 BUILDING CROSS SECTION THROUGH LIVING ROOM

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



2 / A5 BUILDING CROSS SECTION THROUGH LIVING ROOM

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

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193-081-37

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Design Firm
Alethea Patton Design
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Philo, CA 95466
415-226-8900

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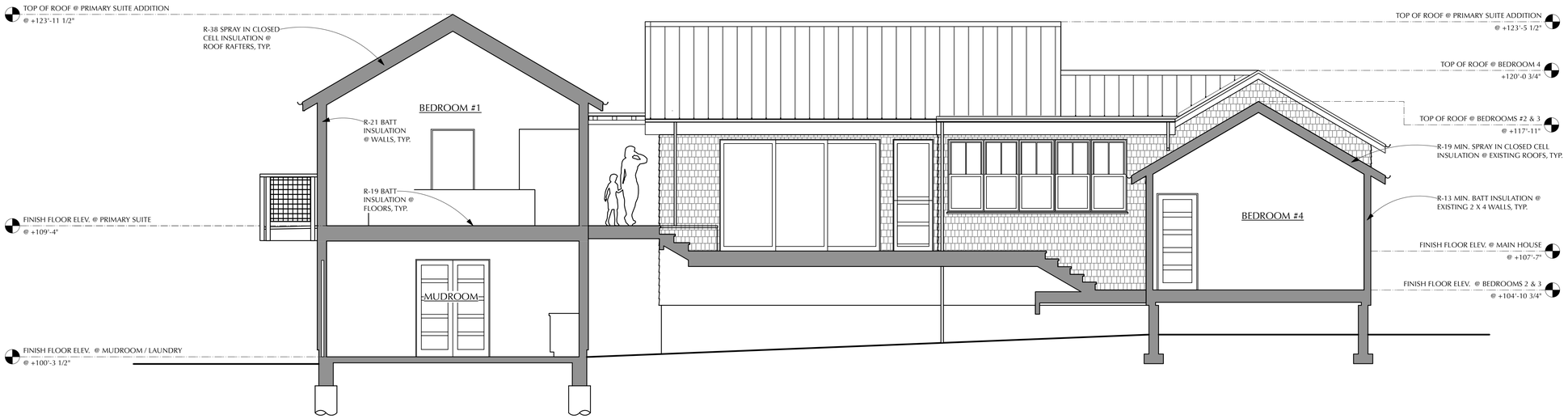
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Sheet Title
BUILDING SECTIONS

COUNTY OF MARIN

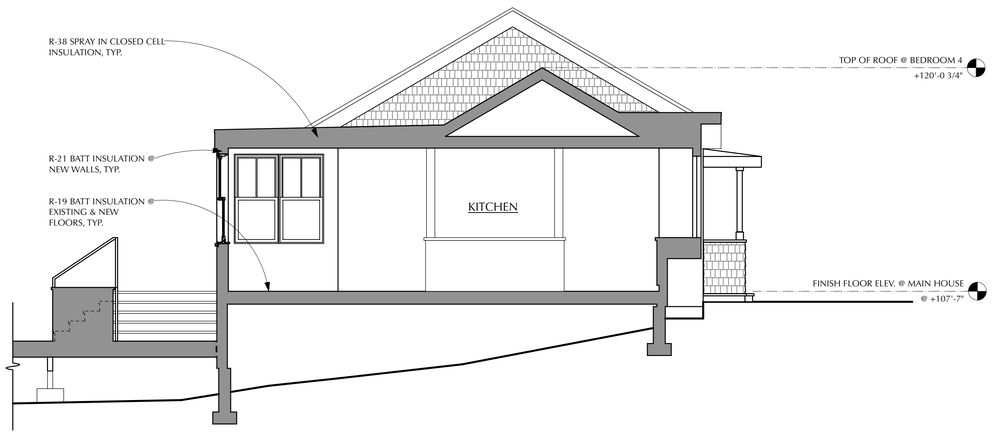
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Date: 8/12/2025

Project Manager	alp
Project ID	
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Sheet No.	A5 of 38
Date	7/7/2
CAD File Name	Keene - Bldg. Permit.vwx



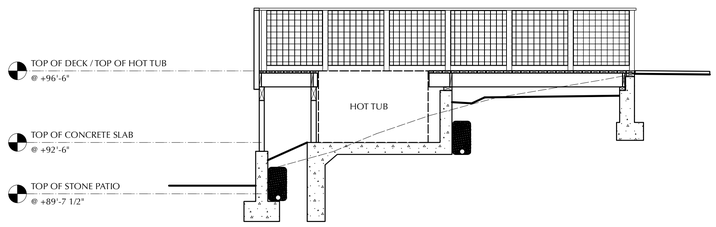
1 / A6 BUILDING SECTION

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



2 / A6 BUILDING SECTION

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



3 / A6 SECTION THROUGH HOT TUB DECK

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

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection

Permit Number: 179822, 179823

Date: 8/12/2025

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
BUILDING SECTIONS

Project Manager: alp	Project ID
	Scale: 1/4" = 1'-0"
Date: 7/10/25	Sheet No.: A6 of 38
CAD File Name: Keene - Bldg. Permit.vwx	



1 / A7 NORTH ELEVATION

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



2 / A7 EAST ELEVATION

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

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP

Alethea Patton Design
P.O. Box 98
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415-226-8900

Consultant

Project Title: KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title: EXTERIOR ELEVATIONS

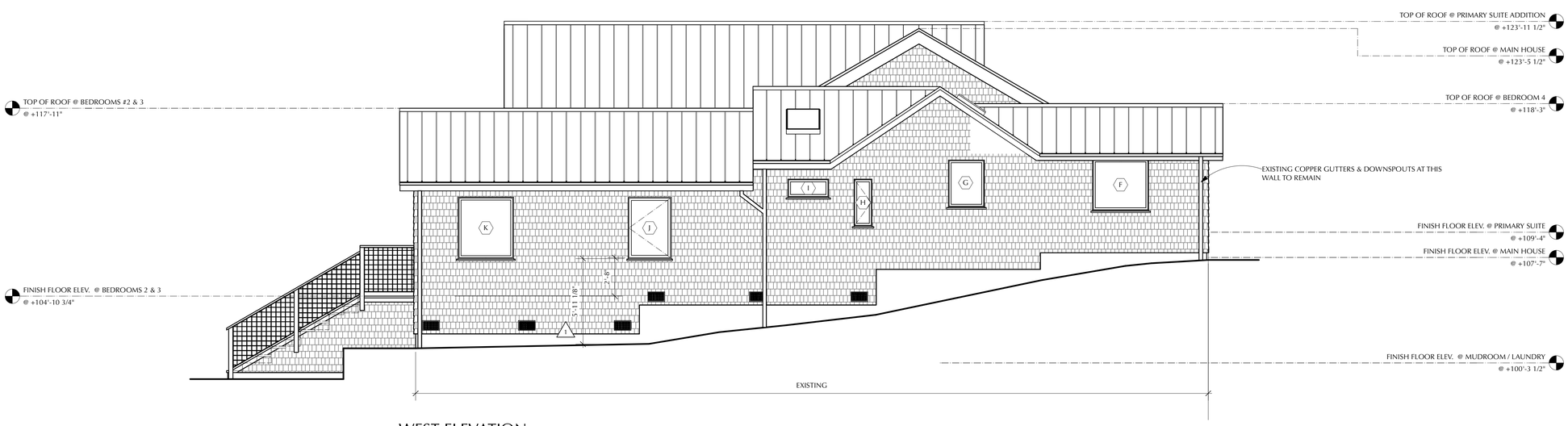
Project Manager: alp
Project ID:
Scale: 1/4" = 1'-0"
Date: 7/7/2
Sheet No.: A7 of 38
CAD File Name: Keene - Bldg. Permit.vwx

COUNTY OF MARIN
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1 / A8 SOUTH ELEVATION

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



2 / A8 WEST ELEVATION

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

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BOLINAS, CA. 94924
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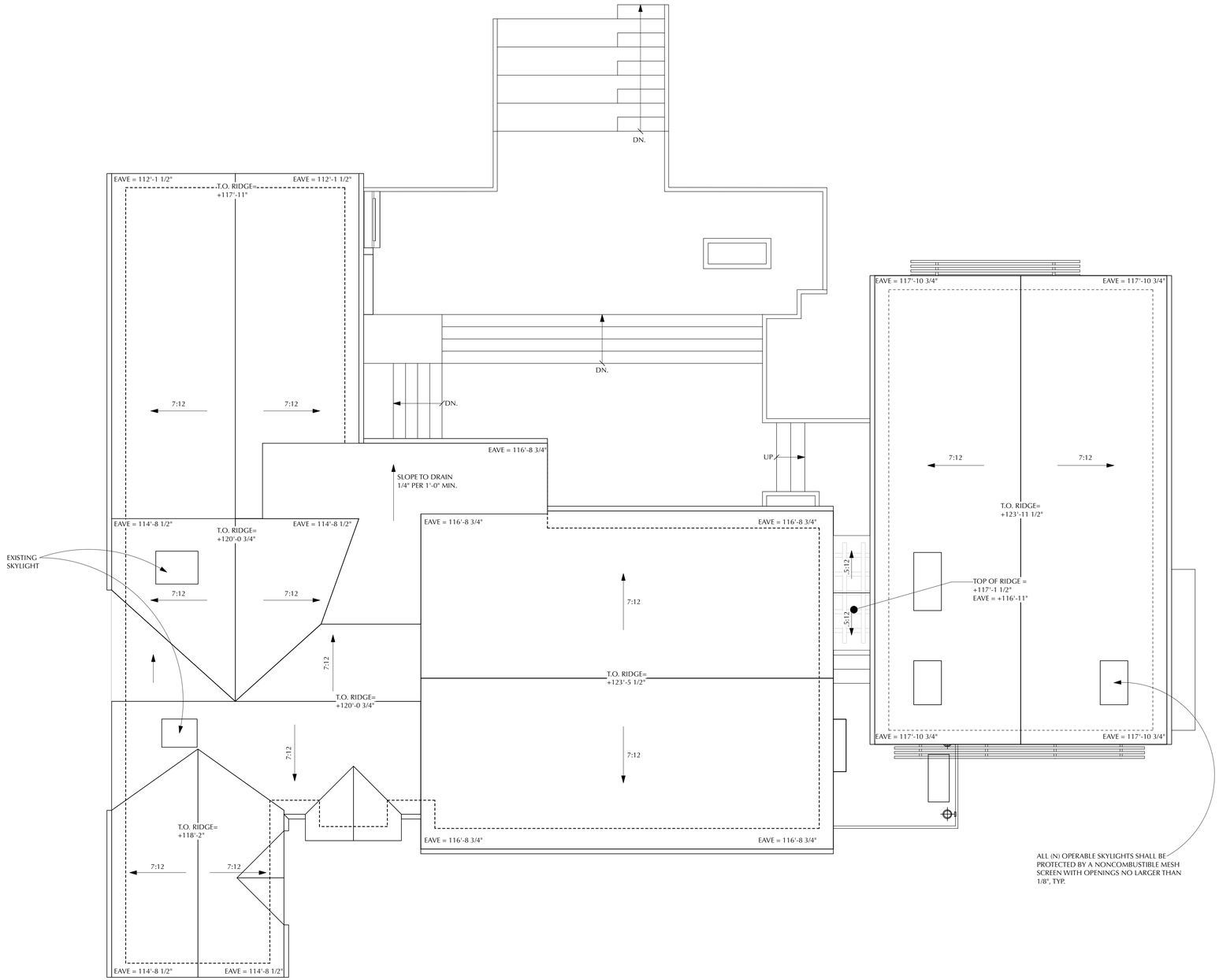
Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
EXTERIOR ELEVATIONS

COUNTY OF MARIN

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Project Manager	AJP
Project ID	
Scale	1/4" = 1'-0"
Date	7/7/25
Sheet No.	A8 of 38
CAD File Name	Keene - Bldg. Permit.vwx



1

PROPOSED ROOF PLAN

1 / A9

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

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP

Design Firm
Alethea Patton Design
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Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
ROOF PLAN

COUNTY OF MARIN

Reviewed for Code Compliance
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Permit Number: 179822, 179823

Date: 8/12/2025

Project Manager	afp
Project ID	
Scale	1/4" = 1'-0"
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DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THK	FRAME TYPE	CORE	FINISH	MATERIAL	FINISH	HARDWARE	REMARKS
1	3'-0"	6'-10"	2-1/4"	SINGLE HINGED TERRACE DOOR	ALUM. CLAD WOOD / GLASS	WHITE	ALUM. CLAD WOOD	WHITE	ENTRY / DEAD BOLT	LOEWEN TD1 0921, R.O. = 37-1/8" X 81-7/8". OUTSWING DOOR, HINGE RIGHT AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
2	5'-0"	6'-10"	1-3/4"	CUSTOM EXTERIOR POCKET SLIDER	WOOD	PAINT	WOOD	PAINT	ENTRY / DEAD BOLT	USE CS CAVITY SLIDER ULTIMATE PICKET DOOR FRAME W/ WEATHERSTRIPPING. TEMPERED GLAZING.
3	3'-0"	6'-10"	2-1/4"	SINGLE HINGED TERRACE DOOR	ALUM. / GLASS	WHITE	ALUMINUM	WHITE	ENTRY / DEAD BOLT	BLOMBERG , R.O. = 37-1/8" X 81-7/8". OUTSWING DOOR, HINGE LEFT AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
4	3'-0"	6'-10"	2-1/4"	SINGLE HINGED TERRACE DOOR	ALUM. CLAD WOOD / GLASS	WHITE	ALUM. CLAD WOOD	WHITE	ENTRY / DEAD BOLT	LOEWEN TD1 0921, R.O. = 37-1/8" X 81-7/8". INSWING DOOR, HINGE RIGHT AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
5	2'-8"	7'-8"	2-1/4"	SINGLE HINGED TERRACE DOOR	ALUM. CLAD WOOD / GLASS	WHITE	ALUM. CLAD WOOD	WHITE	ENTRY / DEAD BOLT	LOEWEN TD1 0824 , R.O. = 34-1/2" X 95 1/16". INSWING DOOR, HINGE LEFT AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
6	3'-0"	7'-0"	1-3/4"	HINGED ENTRY DOOR	WOOD/GLASS	STAIN	WOOD	TBD	ENTRY / DEAD BOLT	CUSTOM ENTRY DOOR, INSWING, HINGE LEFT AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
7	4'-10"	6'-8"	2-1/4"	PAIR HINGED TERRACE DOOR	ALUM. CLAD WOOD / GLASS	WHITE	ALUM. CLAD WOOD	WHITE	ENTRY / DEAD BOLT	LOEWEN TD2 CUSTOM WIDTH, NEW DOOR IN EXISTING R.O. OUTSWING FOX. VERIFY R.O. IN FIELD PRIOR TO ORDERING. TEMPERED GLAZING.
8	5'-0"	6'-8"	2-1/4"	PAIR HINGED TERRACE DOOR	ALUM. CLAD WOOD / GLASS	WHITE	ALUM. CLAD WOOD	WHITE	ENTRY / DEAD BOLT	LOEWEN TD2 1520, OUTSWING OX. TEMPERED GLAZING.
9	2'-8"	7'-8"	1-3/4"	SINGLE HINGED DUTCH DOOR	WOOD / GLASS	STAIN	WOOD	STAIN	ENTRY / DEAD BOLT	CUSTOM DUTCH DOOR. OUTSWING, HINGE RIGHT AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
10	11'-0"	7'-8"	2-1/4"	MULTISLIDE	ALUM. CLAD WOOD / GLASS	WHITE	ALUM. CLAD WOOD	WHITE	ENTRY / DEAD BOLT	LOEWEN MULTISLIDE 3 PANEL DOOR, XXO AS VIEWED FROM THE EXTERIOR. TEMPERED GLAZING.
11	2'-6"	6'-8"	1-3/8"	HINGED	WOOD	TBD	WOOD	TBD	PRIVACY	CUSTOM INTERIOR DOORS, SEE OFFICE OF CHARLES DE LISLE SPECIFICATIONS. HINGE LEFT.
12	2'-0"	6'-8"	1-3/8"	PAIR HINGED TERRACE DOOR	WOOD	TBD	WOOD	TBD	DUMMY KNOBS	EXISTING DOOR TO REMAIN. REFINISH TO MATCH SPECS OF THE OFFICE OF CHARLES DE LISLE.
13	2'-6"	6'-8"	1-3/8"	HINGED	WOOD	TBD	WOOD	TBD	PRIVACY	EXISTING DOOR TO REMAIN. REFINISH TO MATCH SPECS OF THE OFFICE OF CHARLES DE LISLE.
14	3'-0"	6'-8"	1-3/8"	PAIR HINGED	WOOD	TBD	WOOD	TBD	DUMMY KNOBS	EXISTING DOOR TO REMAIN. REFINISH TO MATCH SPECS OF THE OFFICE OF CHARLES DE LISLE.
15	2'-4"	6'-8"	1-3/8"	HINGED	WOOD	TBD	WOOD	TBD	PRIVACY	EXISTING DOOR TO REMAIN. REFINISH TO MATCH SPECS OF THE OFFICE OF CHARLES DE LISLE.
16	3'-0"	6'-8"	1-3/8"	HINGED	WOOD	TBD	WOOD	TBD	PASSAGE	EXISTING DOOR TO REMAIN. REFINISH TO MATCH SPECS OF THE OFFICE OF CHARLES DE LISLE.
17	2'-4"	6'-8"	1-3/8"	PAIR HINGED	WOOD	TBD	WOOD	TBD	DUMMY KNOBS	EXISTING DOOR TO REMAIN. REFINISH TO MATCH SPECS OF THE OFFICE OF CHARLES DE LISLE.
18	2'-6"	6'-8"	1-3/8"	POCKET	WOOD	TBD	WOOD	TBD	POCKET PRIVACY	CUSTOM INTERIOR DOORS, SEE OFFICE OF CHARLES DE LISLE SPECIFICATIONS.
19	2'-8"	6'-8"	1-3/8"	HINGED	WOOD	TBD	WOOD	TBD	PRIVACY	CUSTOM INTERIOR DOORS, SEE OFFICE OF CHARLES DE LISLE SPECIFICATIONS. HINGE RIGHT.
20	2'-8"	6'-8"	1-3/8"	HINGED	WOOD	TBD	WOOD	TBD	PRIVACY	CUSTOM INTERIOR DOORS, SEE OFFICE OF CHARLES DE LISLE SPECIFICATIONS. HINGE LEFT.
21	5'-0"	6'-8"	1-3/4"	HINGED	WOOD	TBD	WOOD	TBD	PASSAGE	

NOTE: ALL EXTERIOR DOORS MUST HAVE A FIRE RATING OF 20 MIN. OR MORE, HAVE AN EXTERIOR SURFACE OF NON-COMBUSTIBLE OR IGNITION RESISTANT CLADDING, BE SOLID CORE WOOD COMPLYING WITH STILES AND RAILSNOT LESS THAN 1-3/8" THICK, BE TESTED TO ASTM E2702, OR BE TESTED TO SFM STANDARD 12-7A-1 (R337.8.3).

WINDOW SCHEDULE

MARK	MANUFACTURER	MODEL #	SIZE (R.O.) WXH	TYPE	FINISH	QUANTITY	REMARKS
A	LOEWEN	DH1 3020	36-9/16" x 49"	DBL. HUNG	WHITE CLAD	1	
B	LOEWEN	DH1 CUSTOM	3'-3" x 77"	DBL. HUNG	WHITE CLAD	2	
C	LOEWEN	DH1 2226	28-9/16" X 61"	DBL. HUNG	WHITE CLAD	7	5 MULLED TOGETHER AS ONE UNIT AND 2 MULLED TOGETHER AS ONE UNIT.
D	CUSTOM STAINED GLASS		14- 9/16" X 55 7/8"	FIXED WOOD	PAINT	2	NEW WINDOW IN EXISTING ROUGH OPENING - HEIGHT TO BE ADJUSTED TO NEW WINDOW HEIGHT.
E	CUSTOM STAINED GLASS		36-3/16" X 55 7/8"	FIXED WOOD	PAINT	1	NEW WINDOW IN EXISTING ROUGH OPENING - HEIGHT TO BE ADJUSTED TO NEW WINDOW HEIGHT.
F	LOEWEN	CA 1211	48" X 42"	FIXED CASEMENT	WHITE CLAD	1	NEW WINDOW IN EXISTING ROUGH OPENING.
G	LOEWEN	CA1 7510	30-1/4" X 40-1/8"	FIXED CASEMENT	WHITE CLAD	1	NEW WINDOW IN EXISTING ROUGH OPENING.
H	LOEWEN	CA1 0410	16-1/2" X 40-1/8"	CASEMENT	WHITE CLAD	1	NEW WINDOW IN EXISTING ROUGH OPENING. HINGE RIGHT AS VIEWED FROM THE EXTERIOR.
I	LOEWEN	AW1 CUSTOM	34-7/16" X 15-3/4"	FIXED AWNING	WHITE CLAD	1	NEW WINDOW IN EXISTING ROUGH OPENING.
J	LOEWEN	CA1 CUSTOM	36-3/16" X 51"	CASEMENT	WHITE CLAD	1	NEW WINDOW IN EXISTING ROUGH OPENING. HINGE LEFT AS VIEWED FROM THE EXTERIOR.
K	LOEWEN	CA1 CUSTOM	46-3/16" X 51"	FIXED CASEMENT	WHITE CLAD	1	NEW WINDOW IN EXISTING ROUGH OPENING.
L	LOEWEN	DH(L) CUSTOM	2'-6 3/4" X 6'-6 1/4"	DBL. HUNG	WHITE CLAD	6	2 WINDOWS MULLED INTO ONE UNIT - 3 SETS. VERIFY TOTAL WIDTH PRIOR TO ORDERING.
M	LOEWEN	DH(L) CUSTOM	2'-6 3/4" X 6'-6 1/4"	DBL. HUNG	WHITE CLAD	6	6 WINDOWS MULLED TOGETHER INTO ONE UNIT. CUSTOM UNIT WIDTH = 2'-6 3/4". VERIFY TOTAL WIDTH PRIOR TO ORDERING.
N	LOEWEN	DH(L) CUSTOM	2'-6 3/4" X 6'-6 1/4"	DBL. HUNG	WHITE CLAD	1	AT LIVING ROOM & PRIMARY SUITE. CUSTOM UNIT FRAME WIDTH = 2'-6 3/4". VERIFY TOTAL WIDTH PRIOR TO ORDERING.
O	LOEWEN	DH1 2423	30-9/16" x 54"	DBL. HUNG	WHITE CLAD	1	
P	LOEWEN	CA1 0611	24-3/8" X 42"	CASEMENT	WHITE CLAD	1	HINGE RIGHT AS VIEWED FROM THE EXTERIOR.
Q	LOEWEN	AW1 0905	36 3/16" X 20 7/16"	AWNING	WHITE CLAD	1	
R	LOEWEN	CA1 0575	20-7/16" X 30-1/4"	FIXED CASEMENT	WHITE CLAD	2	
S	VELUX	VCE 2234	OUTSIDE CURB = 25-1/2" X 37-1/2"	ELEC. OPERATED SKYLIGHT	ANODIZED BRONZE	2	TEMPERED GLAZING.
T	VELUX	VCE 2246	OUTSIDE CURB = 25-1/2" X 49-1/2"	ELEC. OPERATED SKYLIGHT	ANODIZED BRONZE	1	TEMPERED GLAZING.
U	(E) SKYLIGHT		2'-0" X 2'-6"				EXISTING SKYLIGHT TO REMAIN.
V	(E) SKYLIGHT		2'-4" X 3'-0"				EXISTING SKYLIGHT TO REMAIN.

NOTE: ALL NEW WINDOWS ARE TO BE LOW E2 DOUBLE GLAZING, WUI TEMPERED AND ARE TO HAVE COASTAL HARDWARE.

VERIFY ALL EXISTING ROUGH OPENINGS IN THE FIELD PRIOR TO ORDERING.

ALL WINDOWS WITH SDL MULLIONS ARE TO HAVE 5/8" PUTTY GLAZING STOPS & SQUARE INTERIOR BARS. INCLUDE SHADOW BARS.

CRESCENTE
CABINET HARDWARE SCHEDULE
12.19.2024

FOR PRICING ONLY

The Office of Charles de Lisle
60 Gate 5 Road, Unit D
Sausalito CA 94965
P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
HD-01	Throughout; U.O.N	Typical Privacy/Passage Door Knob	Item: Door Knob Set Manufacturer: Baldwin Item # 5041 Knob Dimensions: 2.125" diam knob x 2.25" projection Finish: **TBD**	GC		**GC to confirm all parts and components required. Front door to include keyed mortise set.*
HD-02	Throughout; U.O.N	Typical Privacy/Passage Rose	Item: Contemporary Rose - Privacy & Passage Manufacturer: Baldwin Item # R048 Dimensions: OAD TBD; .25" Projection Finish: **TBD**	GC		**GC to confirm all parts and components required.*
HD-03	Throughout; U.O.N	Typical Thumb Turn (Privacy)	Item: Turn Piece Manufacturer: Baldwin Item #: 6750 Dimensions: OAD TBD; 0.91" projection Finish: **TBD**	GC		**GC to confirm all parts and components required.*
HD-04	Throughout; U.O.N	Typical Door Hinge	Item: Square Corner Hinge Mfr: Baldwin Item #: 1040 Dimensions: 4" x 4" Finish: **TBD**	GC		**GC to confirm all parts and components required. Confirm if compatible with specified doors.*
HD-05	Throughout; U.O.N	Typical Door Stop	Item: **TBD** Manufacturer: Item #: Dimensions: Finish:	GC		**GC to confirm all parts and components required. Exact locations TBD.*
HD-06	Exterior	Exterior Door Set	Item: **TBD** Manufacturer: Loewen Item #: Dimensions: Finish:	GC		**GC to confirm all parts and components required. All exterior door sets to be Loewen.*
NOTES:						

CRESCENTE
CABINET HARDWARE SCHEDULE
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Item #	Location	Item	Specification	Source	Image	Notes
1. Prior to procurement all specifications and installation requirements to be confirmed by contractor. *2. Due to their prior and existing knowledge of the project, GC to purchase from designer specified vendor unless otherwise noted.* *3. All hardware to be placed on-site by CDL prior to installation.*						

CRESCENTE
APPLIANCE SCHEDULE
12.19.2024

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Item #	Location	Item	Specification	Source	Image	Notes
AP-01	Kitchen	Range	Item: AGA Classic R7 100 Manufacturer: AGA Item #: AR7339 Dimensions: 38-7/8"W x 27"D x 36"H Finish: Linen Quantity: (1)	By Contractor		
AP-02	Kitchen	Hood	Item: Hood Insert Manufacturer: Ventahood Item #: BH140SLD Dimensions: 40-3/8"W x 19-1/4"D x 12"H Finish: TBD Quantity: (1)	By Contractor		*GC to confirm hood insert is compatible with range*
AP-03	Kitchen	Refrigerator	Item: 30 Inch Classic Bottom Mount Refrigerator with Glass Door: Stainless Steel, Pro Handle, Right Hinge Manufacturer: Sub Zero Item #: CL3050UG Dimensions: 30"W x 26-3/16"D x 84"H Finish: Stainless Steel Quantity: (1)	By Contractor		
AP-04	Kitchen	Dishwasher	Item: 24" 800 Series panel ready Manufacturer: Bosch Item #: SHV78T73UC Dimensions: 34 1/16"W x 23 9/16"D x 21 5/8"H Finish: Panel Ready Quantity (1)	By Contractor		
AP-05	Kitchen	Wine Refrigerator	Item: Signature Series 18" Depth Wine Reserve Manufacturer: Perlick Item #: HH24WS-4-2R/L Dimensions: 24" x 18" x 32-1/4" Finish: Panel ready Quantity: (1)	By Contractor		
AP-06	Living Room	Fireplace	Item: The Jotul GF 370 DV IPI Manufacturer: Jotul Item #:GF 370 DV IPI Dimensions: 18.25"W x 18.75"D x 45.5"H Finish: White	By Contractor		

CRESCENTE
APPLIANCE SCHEDULE
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Item #	Location	Item	Specification	Source	Image	Notes
AP-07	Laundry Room	Washer	Item: 4.5 cu. ft. Ultra Large Capacity Smart wi-fi Enabled Front Load Washer Manufacturer: LG Item #: WM4000HWA Dimensions: **TBD** Finish: White	By Contractor		
AP-08	Laundry Room	Dryer	Item: 7.4 cu. ft. Ultra Large Capacity Smart wi-fi Enabled Front Load Electric Dryer Manufacturer: LG Item #: DLEX4000W Dimensions: **TBD** Finish: White	By Contractor		
NOTES: *1. Prior to procurement all specifications and installation requirements to be confirmed by contractor.*						

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822 rev 173823
Date: 8/12/2025
afp

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP
2	7/7/25	AFP

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
SCHEDULES

Project Manager

Project ID

Scale
N.T.S.

Sheet No.
A10
of
38

Date
7/7/25

CAD File Name
Keene - Bldg. Permit.vwx

CRESCENTE
FINISH SCHEDULE
12.19.2024

FOR PRICING ONLY

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60 Gate 5 Road, Unit D
Sausalito CA 94965
P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
PAINT						
PT-01	Typical Throughout U.O.N.	Walls Ceiling	Item: GWB Manufacturer: Assume color match to Benjamin Moore Finish: Painted, See Paint Schedule Walls/ceilings - Flat; Baseboard/windows/door casings - Satin; Millwork - Satin	GC		**See paint schedule*
WOOD						
WD-01	Exterior	Decking	Item: TimberTech® Advanced PVC Decking by AZEK® Collection: Vintage Collection Manufacturer: Timber Tech Item #: TBD Dimensions: 1x6" grooved, length TBD Finish: TBD	GC		*Layout to be reviewed with architect and designer*
WD-02	Typical Throughout U.O.N.	Floors	Item: Engineered Heart Pine, Premium Select Mixed Grain Manufacturer: Pioneer Millworks Item #: S-43149 Dimensions: 5/8"Thick; 4"W Finish: Water-based Poly or unfinished, contractor to recommend	GC		*Submittal sample required for review and approval*
WD-03	Guest Bedroom Bunk Bedroom	Painted Floors	Item: Engineered Heart Pine, Premium Select Mixed Grain Manufacturer: Pioneer Millworks Item #: S-43149 Dimensions: 5/8"Thick; 4"W Finish: Water-based Poly or unfinished, contractor to recommend, to be painted a TBD color	GC		*Contractor to advise if existing flooring is useable for application*
WD-04	Entry Living Room Kitchen Primary Bedroom	Walls (Paneling) Ceiling	Item: Rotary Cut Fir Plywood; Marine Grade A, CDL & client to approve Manufacturer: By contractor Item #: N/A Dimensions: TBD, contractor to recommend Finish: Sanded; Painted TBD	GC		*Submittal sample to designer required of final finish and grade for review and approval. See drawings for details*

CRESCENTE
FINISH SCHEDULE
12.19.2024

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Item #	Location	Item	Specification	Source	Image	Notes
WD-05	Entry Living Room Kitchen Primary Bedroom	Walls (Paneling) Ceiling	Item: Old Growth Red Wood Paneling Manufacturer: TBD Item #: N/A Dimensions: 6 - 8" Panels Finish: TBD	GC		**ALT material for pricing YS Plywood*
WD-06	Secondary Bedrooms Hallway	Ceilings	Item: Old Growth Red Wood Paneling Manufacturer: TBD Item #: N/A Dimensions: Finish: TBD	GC		**ALT material for pricing YS GYP ceilings at bedrooms*
WD-07	Kitchen Bathrooms Primary Closet	Kitchen- Lower Cabinets Kitchen - Upper Cabinet frames Vanity Frames Closet Millwork	Item: Straight Grain Doug Fir, as per CDL approved sample Manufacturer: By contractor Item #: N/A Dimensions: N/A Finish: To be reviewed with contractor	GC		*Submittal sample required for review and approval*
WD-08	Kitchen	Upper Cabinet Faces	Item: Paint Grade Cabinet Faces Manufacturer: By contractor Item #: N/A Dimensions: N/A Finish: Painted; Color TBD	GC		*Submittal sample required for review and approval*
WD-09	Hallway	Walls	Item: Wavy Wall in Red Wood Manufacturer: Good Wood Portland Item #: N/A Dimensions: 7"W x TBD Finish: TBD	GC		
WD-10	Laundry	Millwork	Item: Perforated panels cabinet fronts Manufacturer: TBD Item #: TBD Dimensions: TBD Finish: Natural	GC		*GC to recommend MFR for perforated cabinets*
TILE						

CRESCENTE
FINISH SCHEDULE
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Item #	Location	Item	Specification	Source	Image	Notes
TL-01	Kitchen	Backsplash	Item: Classic Essential Collection Manufacturer: McIntyre Item #: TBD Dimensions: 4"x 4" Finish: Beige	GC		*Refer to elevations for layout. Final layout to be reviewed onsite with CDL prior to installation. Tile + grout mock up to be submitted to CDL for approval*
TL-02	Secondary Bathrooms	Floor Tile Shower Floor Tile	Item: Ceramic Floor Tile Manufacturer: Mercury Mosaics Item #: TBD Dimensions: 2" x 2" Finish: 57 Forest - Matte	GC		*Refer to elevations for layout. Final layout to be reviewed onsite with CDL prior to installation. Tile + grout mock up to be submitted to CDL for approval*
TL-03	Secondary Bathrooms	Shower Wall Tile	Item: Classic Essential Collection Manufacturer: McIntyre Item #: TBD Dimensions: 4"x 4" Finish: Kiwi	GC		*Refer to elevations for layout. Final layout to be reviewed onsite with CDL prior to installation. Tile + grout mock up to be submitted to CDL for approval*
TL-04	Primary Bathroom	Floor Tile	Item: Face Brick Manufacturer: Endicott Item #: Dimensions: 2" x 6" Finish: Desert Ironspot Light - Smooth	GC		*Refer to elevations for layout. Final layout to be reviewed onsite with CDL prior to installation. Tile + grout mock up to be submitted to CDL for approval*
STONE						
ST-01	Kitchen	Countertops Island	Item: Marina Grey Soapstone Manufacturer: TBD Item #: Dimensions: Slab Finish: Honed	GC		**Slabs to be approved by CDL*
ST-02	Secondary Bathrooms Primary Bathroom	Countertop Backsplash	Item: Pietra Del Cardoso Granite Manufacturer: Item #: Dimensions: Slab Finish: Honed	GC		**Slabs to be approved by CDL Assume 2"-4" backsplash behind vanities*
ST-03	Deck - Outdoor BBQ	Countertop	Item: Marina Grey Soapstone Manufacturer: TBD Item #: Dimensions: Slab Finish: Honed	GC		**Slabs to be approved by CDL*

CRESCENTE
FINISH SCHEDULE
12.19.2024

FOR PRICING ONLY

The Office of Charles de Liste
60 Gate 5 Road, Unit D
Sausalito CA 94965
P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
GLASS						
GL-01	Kitchen	Stained Glass	Item: Stained Glass Window Manufacturer: Ted allison Item #: Dimensions: See window schedule Finish:	CDL		In CDL Scope **Contractor to advise on installation*
WALLCOVERING						
WC-01	Secondary Bedrooms	Walls	Item: Wallcovering Manufacturer: TBD Item #: Dimensions: TBD Finish:	CDL		**TBD - assume level 5 GYP in all bedrooms*
PLASTER						
PL-01	Primary bathroom	Walls Shower Walls Ceiling	Item: Tadelekt Manufacturer: TBD Item #: Dimensions: Finish: TBD	GC		
LAMINATE						
SF-01	Secondary Bathrooms	Cabinet Faces	Item: Marmoleum Manufacturer: Forbo Item #: 3750 Pine Forest Dimensions: < 108.27 ft x 78.74 in Finish:	GC		
NOTES:						

1. Prior to procurement all specifications and installation requirements to be confirmed by contractor.
2. Finish submittals and brushouts to be submitted to CDL for approval prior to production.
3. For all wallcoverings: prior to installation, surfaces to be primed with Level 5 finish and prepared by GC per manufacturer's instruction.
4. Due to their prior and existing knowledge of the project, GC to purchase from designer specified vendor unless otherwise noted.

CRESCENTE
PLUMBING SCHEDULE
12.19.2024

FOR PRICING ONLY

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Sausalito CA 94965
P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
PF-01	Kitchen	Faucet	Item: Linus Silgranit Manufacturer: Blanco Item #: SKU 526365 Dimensions: 1-1/8"Dia x 11-1/8"H x 8-11/16" Projection Finish: Chrome	GC		
PF-02	Kitchen	Rinse Spray Set	Item: Rinsing spray set Manufacturer: Dornbracht Item #: 27.713.970-00 0010 Dimensions: **TBD** Finish: Chrome	GC		
PF-03	Kitchen	Main Sink	Item: Kitchen Sink Manufacturer: Franke Item #: CUX11030 / 122.0371.978 Dimensions: 31-9/16" x 17-3/4"D Finish: Stainless Steel	GC		*To be ordered with all accessories*
PF-04	Kitchen Coffee Station	Rinse Station	Item: Pitcher Rinser 600mm + Spinjet Manufacturer: Rhino Coffee Gear Item #: RHPR600-S Dimensions: 9.38"W x 23.6"D x 3.35"H Finish: Stainless Steel	GC		*Drain hose sold separately*
PF-05	Kitchen Coffee Station	Instant Hot Water Faucet	Item: Instant Hot Water Faucet Manufacturer: Insinkerator Item #: FH3010 Dimensions: 2.90"W x 5.21"D x 9"H Finish: Chrome	GC		
PF-06	Bathrooms Throughout	Toilet	Item: Kathryn one-piece compact toilet w concealed trapway, 1.28 gpf Manufacturer: Kohler Item #: K-3948-0 Dimensions: 17-3/8"W x 27-13/16"D x 28-5/8"H Finish: .01 White Flush location: **TBD**	GC		

CRESCENTE
PLUMBING SCHEDULE
12.19.2024

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P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
PF-07	Bathrooms Throughout	Shower Head	Item: Icon Shower Head 2.5 GPM Manufacturer: Speakman Item #: S-2252 Dimensions: 2-3/4"DIA x 3-15/16"D; 3-3/4"OAW Finish: Polished Chrome	GC		*GC to provide shower arm to match plumbing fixtures*
PF-08	Bathrooms Throughout	Shower Mixer	Item: AXOR UNO Thermostat for concealed installation with shut-off/ deiverter valve Manufacturer: Hansgrohe Item #: 38720000 Dimensions: 6-11/16"DIA x 3-31/32"D Finish: Chrome	GC		
PF-09	Bathrooms Throughout	Hand Showerhead	Item: AXOR UNO Hand Shower 75 1jet EcoSmart Manufacturer: Hansgrohe Item #: 48651000 Dimensions: 2.87"DIA head, 7" Projection Finish: Chrome	GC		
PF-10	Bathrooms Throughout	Hand Shower Wall Mount	Item: AXOR Shower Solutions Porter Unit Round Manufacturer: Hansgrohe Item #: 36733000 Dimensions: 3.7"DIA base x 3.18" Projection Finish: Chrome	GC		
PF-11	Bathrooms Throughout	Sink	Item: D-Code Vanity basin Manufacturer: Duravit Item #: 0338560000 Dimensions: 22"W x 17-7/8"D x 7-1/2"H Finish: 00 White	GC		
PF-12	Bathrooms Throughout	Faucet	Item: Deck-mounted manual faucet, single-hole mounting Manufacturer: Chicago Faucets Item #: 50-E35-317XKABCP Dimensions: 10"W x 5-1/4"D x 13-3/8"H Finish: Chrome	GC		

CRESCENTE
PLUMBING SCHEDULE
12.19.2024

FOR PRICING ONLY

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P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
PF-13	Laundry Room	Faucet	Item: Two Handle 8" wallmount service sink Manufacturer: Delta Item #: 28P4902LF Dimensions: Adjustable centers from 6.86"-9.25"W, 9.24"H, 8.06"D Finish: Polished Chrome	GC		
PF-14	Laundry Room	Sink	Item: Kitchen Sink Manufacturer: Franke Item #: CUX11019 /122.0627.661 Dimensions: 19-9/16"W x 17-3/4"D x 9"H Finish: Stainless Steel	GC		
PF-15	Outdoor Shower	Body	Item: Exposed two-handle service fitting Manufacturer: Chicago Faucets Item #: 752-RCF Dimensions: 6"W spread x 5-5/8"D x 25-1/2"H Finish: Chrome	GC		
PF-16	Outdoor Shower	Cross Handles	Item: 3" Cross handle (pair) Manufacturer: Chicago Faucets Item #: 633-PRJKCP Dimensions: 3"DIA x 5/8"D Finish: Polished Chrome	GC		
PF-17	Outdoor Shower	Showerhead	Item: Vintage showerhead, 1/2" NPT Manufacturer: Standard Item #: N/A Dimensions: Finish: Chrome plated steel	CDL		
PF-18	Outdoor Shower	Cartridge	Item: Slow compression operating cartridge, left and right hand Manufacturer: Chicago Faucets Item #: 217-XTEIJKABNF & 217-XTRIJKABNF Dimensions: 2-5/8"H Finish: Stainless Steel	GC		*Separate products for left and right hand*

CRESCENTE
PLUMBING SCHEDULE
12.19.2024

FOR PRICING ONLY

The Office of Charles de Liste
60 Gate 5 Road, Unit D
Sausalito CA 94965
P 415 565-6767

Item #	Location	Item	Specification	Source	Image	Notes
PF-19	Outdoor Shower	Gooseneck Riser	Item: Galvanized Gooseneck Riser for Finale Exposed Shower Fixture, 1/2" Manufacturer: Wolverine Brass Item #: 23512 Dimensions: **TBD** Finish: Galvinized Steel	GC		
PF-20	Exterior	Stone Sink	Item: **TBD** Manufacturer: Item #: Dimensions: Finish:	GC		**Custom stone sink to be design by CDL and fabricated by others*
PF-21	Exterior	Outdoor Faucet	Item: Two Handle 8" wallmount service sink Manufacturer: Delta Item #: 28P4902LF Dimensions: Adjustable centers from 6.86"-9.25"W, 9.24"H, 8.06"D Finish: Polished Chrome	GC		
NOTES:						

1. Prior to procurement all specifications and installation requirements to be confirmed by contractor.
2. G.C. to coordinate required rough-in components per manufacturer specifications.
3. Due to their prior and existing knowledge of the project, GC to purchase from designer specified vendor unless otherwise noted.

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

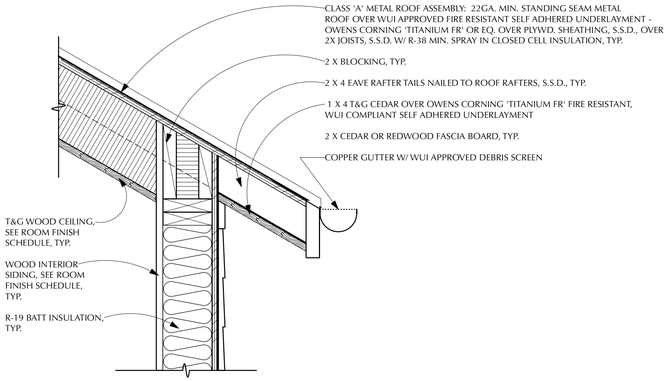
Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
SCHEDULES

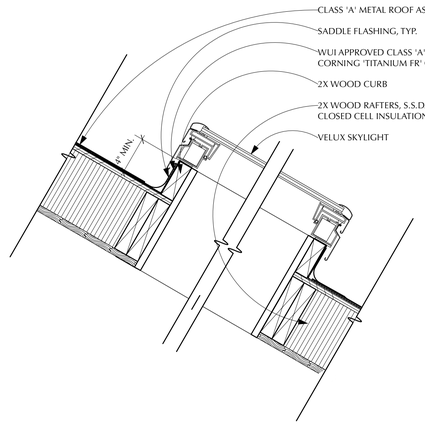
COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

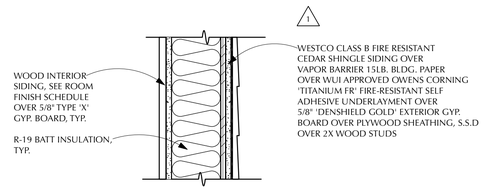
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Project ID	
Scale	N.T.S.
Date	7/7/25
Sheet No.	A11 of 38
CAD File Name	Keene - Bldg. Permit.vwx



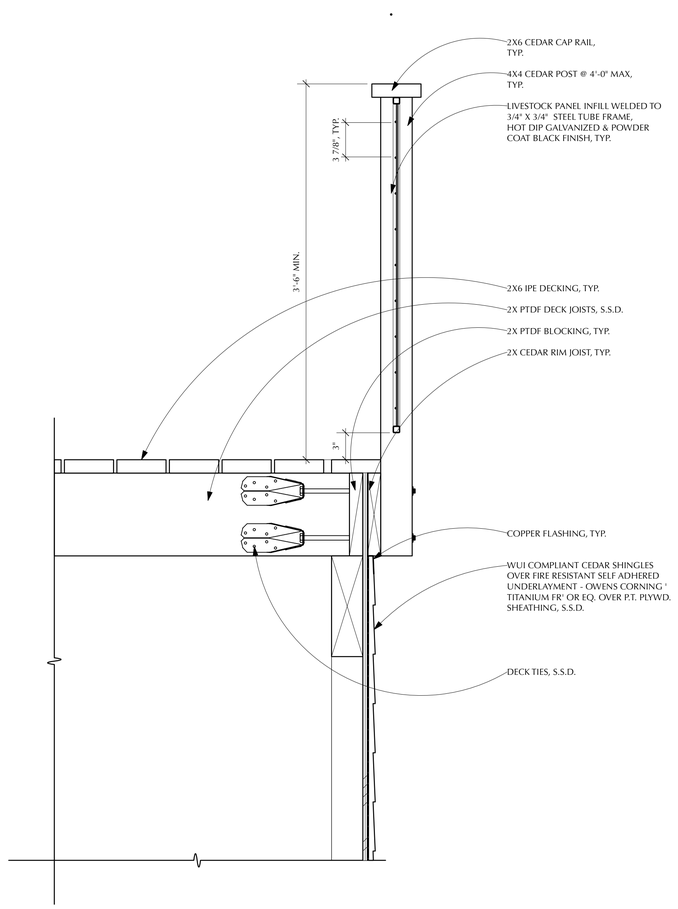
1 A12 ROOF EAVE DETAIL
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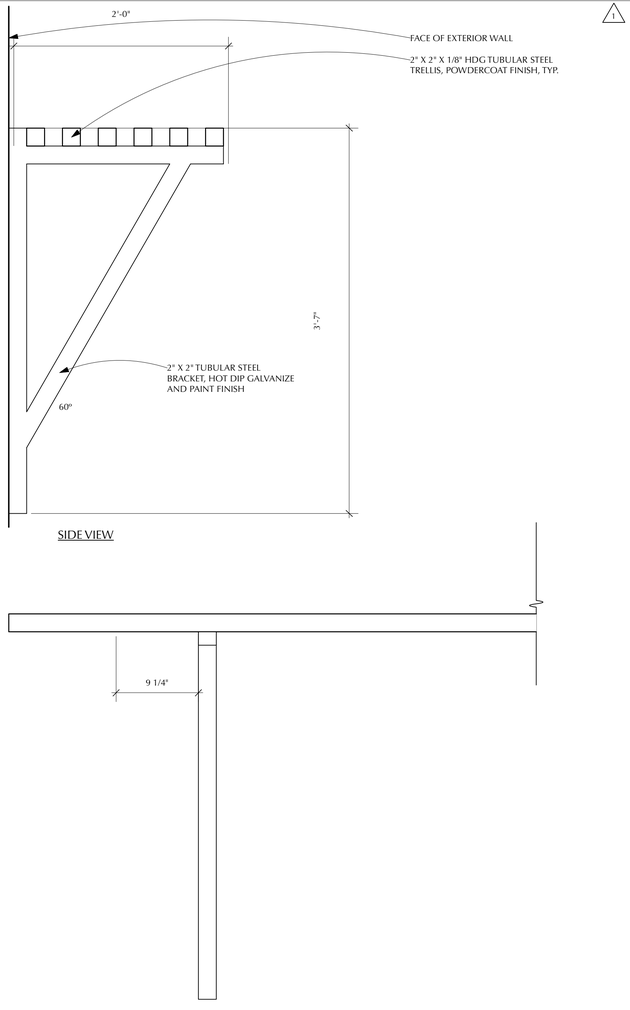
2 A12 SKYLIGHT DETAIL
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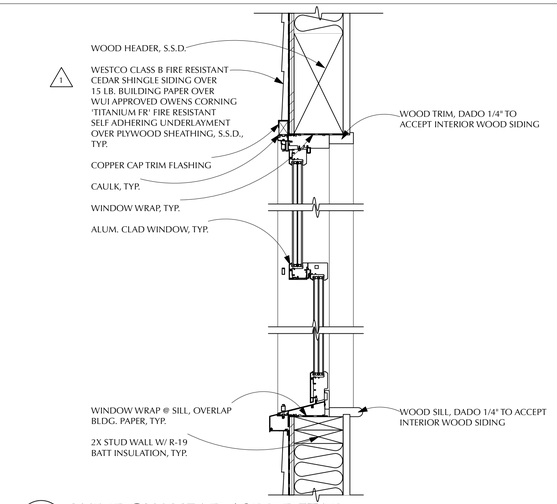
3 A12 1 HOUR FIRE WALL DETAIL
Scale: 1 1/2" = 1'-0"



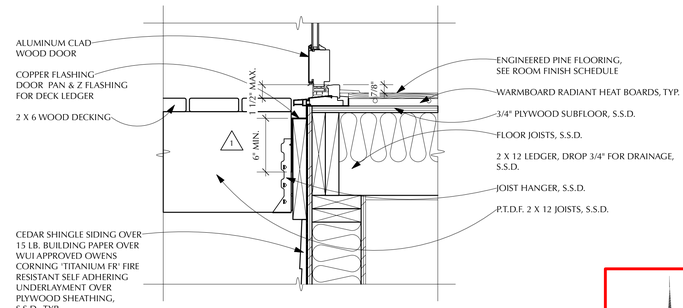
4 A12 GUARDRAIL DETAIL
Scale: 1 1/2" = 1'-0"



5 A12 TRELLIS BRACKET DETAIL
Scale: 1 1/2" = 1'-0"



6 A12 WINDOW HEAD / SILL DETAIL
Scale: 1 1/2" = 1'-0"



NOTE: AT LOCATIONS OTHER THAN DOORWAYS, COPPER FLASHING IS TO EXTEND UP WALL 6" MIN. AT ALL DECK TO WALL CONNECTIONS AS PER R337.9.1.1

7 A12 OUTSWING DOOR THRESHOLD DETAIL
Scale: 1 1/2" = 1'-0"

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP

Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

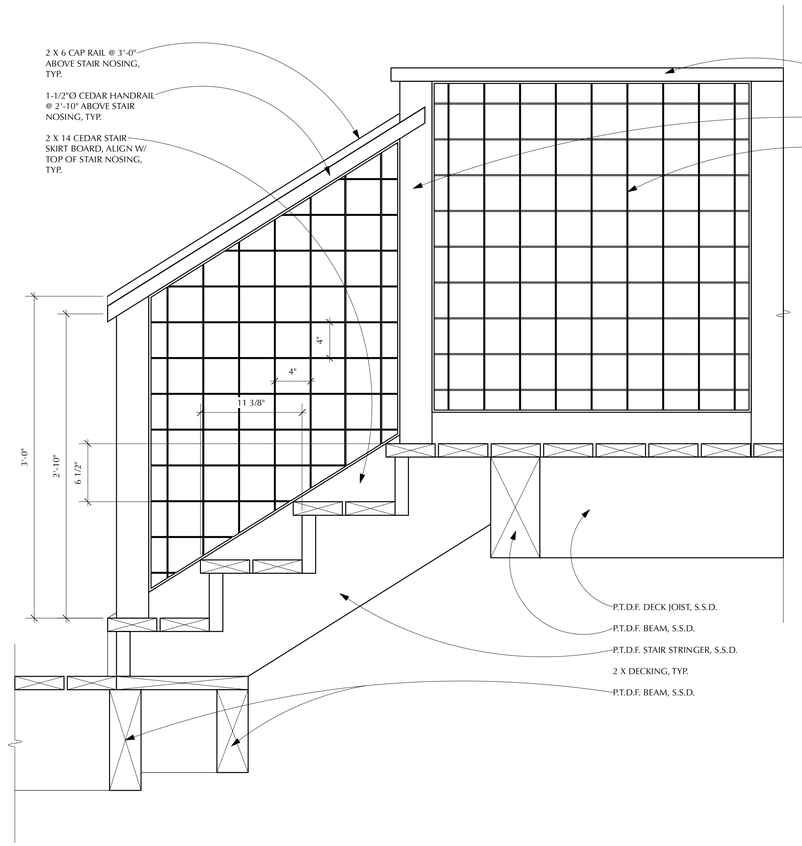
Consultant

Project Title: KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

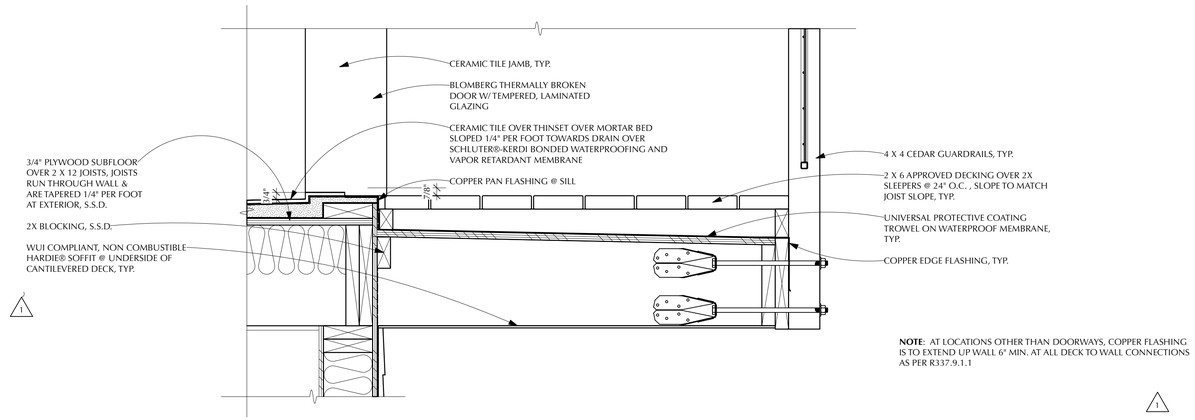
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Project Manager: afp
Project ID:
Scale: N.T.S.
Sheet No.: A12 of 38
Date: 7/7/25
CAD File Name: Keene - Bldg. Permit.vwx

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822 (1/30/26)
Date: 8/12/2025



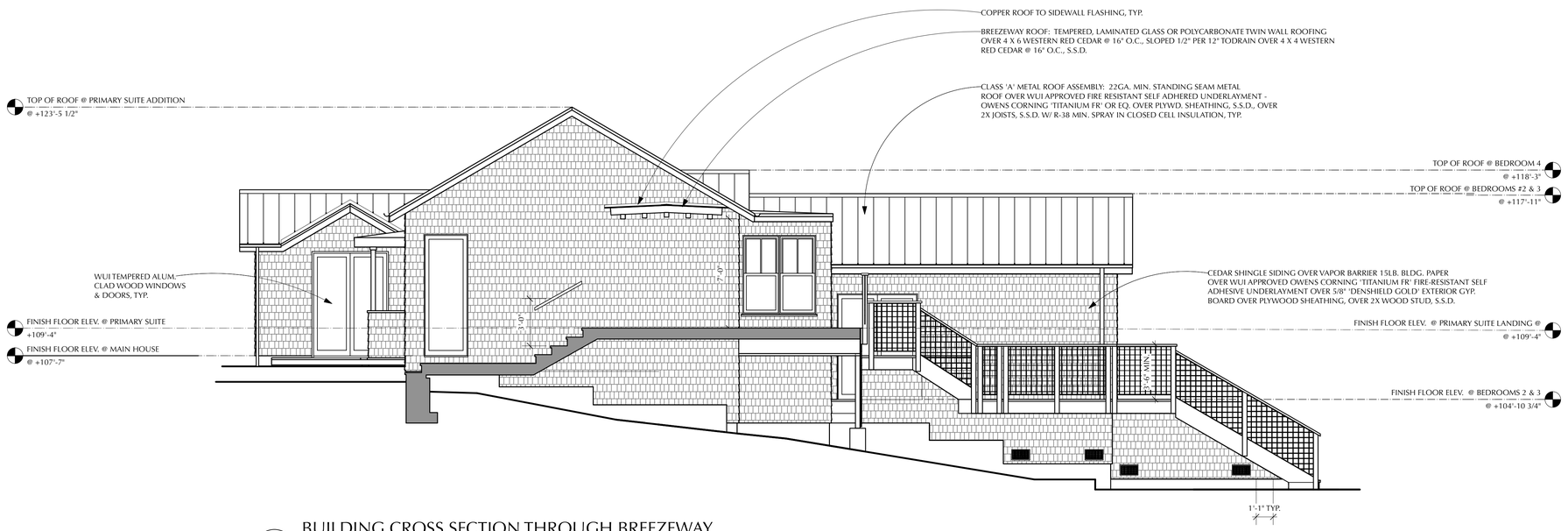
1 A13 TYPICAL DECK STAIR DETAIL
Scale: 1 1/2" = 1'-0"



NOTE: AT LOCATIONS OTHER THAN DOORWAYS, COPPER FLASHING IS TO EXTEND UP WALL 6" MIN. AT ALL DECK TO WALL CONNECTIONS AS PER R337.9.1.1

2 A13 CANTILEVERED BALCONY DETAIL
Scale: 1 1/2" = 1'-0"

1



3 A13 BUILDING CROSS SECTION THROUGH BREEZEWAY
Scale: 1/4" = 1'-0"

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
DETAILS

COUNTY OF MARIN
Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

Project Manager: ajp
Project ID:
Scale: 1" = 10'-0"
Date: 7/7/25
Sheet No.: A13 of 38
CAD File Name: Keene - Bldg. Permit.vwx

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 1 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

GENERAL INFORMATION

01	**Project Name**	Keene E+A 2-HPWH Ducted Clg			
02	**Run Title**	Title 24 Analysis			
03	**Project Location**	6 Cresente Avenue			
04	**City**	Bolinas	05	**Standards Version**	2022
06	**Zip code**	94924	07	**Software Version**	EnergyPro 9.4
08	**Climate Zone**	3	09	**Front Orientation (deg/ Cardinal)**	180
10	**Building Type**	Single family	11	**Number of Dwelling Units**	1
12	**Project Scope**	Addition and/or Alteration	13	**Number of Bedrooms**	4
14	**Addition Cond. Floor Area (ft²)**	704.4	15	**Number of Stories**	1
16	**Existing Cond. Floor Area (ft²)**	1436.6	17	**Fenestration Average U-factor**	0.35
18	**Total Cond. Floor Area (ft²)**	2141	19	**Glazing Percentage (%)**	33.83%
20	**ADU Bedroom Count**	n/a	21	**ADU Conditioned Floor Area**	n/a
22	**Fuel Type**	Propane	23	**No Dwelling Unit:**	No

COMPLIANCE RESULTS

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

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 2 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Margin (EDR1)	Margin (EDR2)
Space Heating	0	16.47	0	22.94	0	-6.47
Space Cooling	0	11.81	0	8.96	0	2.85
IAQ Ventilation	0	0	0	0	0	0
Water Heating	0	18.58	0	13.76	0	4.82
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	**0**	**46.86**	**0**	**45.66**	**0**	**1.2**
Photovoltaics	0		0			
Battery				0		
Flexibility						
Indoor Lighting	0	7.17	0	7.17		
Appl. & Cooking	0	24.5	0	24.38		
Plug Loads	0	31.63	0	31.63		
Outdoor Lighting	0	1.78	0	1.78		
TOTAL COMPLIANCE	**0**	**111.94**	**0**	**110.62**		

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 3 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	12.74	13.06	-0.32	-2.51
Net EUI[2]	12.74	13.06	-0.32	-2.51

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.

- Ducts with high level of insulation
- Ducts in crawl space
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed
- One or more heat pump water heaters have been modeled as demand response compatible

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
- Minimum Airflow
- Verified Refrigerant Charge
- Fan Efficacy Watts/CFM
- Verified heat pump rated heating capacity
- Duct leakage testing

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	**Conditioned Floor Area (ft²)**	**Number of Dwelling Units**	**Number of Bedrooms**	**Number of Zones**	**Number of Ventilation Cooling Systems**	**Number of Water Heating Systems**
Keene E+A 2-HPWH Ducted Clg	2141	1	4	3	0	1

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 4 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	**Zone Type**	**HVAC System Name**	**Zone Floor Area (ft²)**	**Avg. Ceiling Height**	**Water Heating System 1**	**Status**
(e) Main Floor	Conditioned	System 1: A2WHP1	1436.6	8	DHW Sys 1	Existing Unchanged
Add-1: Lvg/Din	Conditioned	System 1: A2WHP1	118.4	8	DHW Sys 1	New
Add-2: Bdrm-1	Conditioned	System 1: A2WHP1	586	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 (ft²)**	**Window and Door Area (ft2)**	**Tilt (deg)**	**Wall Exceptions**	**Status**	**Verified Existing Condition**
F1 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	180	Front	260.3	53.88	90	none	Existing	No
L1 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	270	Left	19.3	0	90	none	Existing	No
F2 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	180	Front	34.8	0	90	none	Existing	No
R1 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	90	Right	18	5.67	90	none	Existing	No
F3 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	180	Front	48.2	14.07	90	none	Existing	No
L2 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	270	Left	18	5.67	90	none	Existing	No
F4 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	180	Front	35	0	90	none	Existing	No
R2 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	90	Right	111.5	32.22	90	none	Existing	No
F5 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	180	Front	85.3	0	90	none	Existing	No
L3 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	270	Left	431.7	60.02	90	none	Existing	No

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 5 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

OPAQUE SURFACES

01	02	03	04	05	06	07	08	09	10	11
Name	**Zone**	**Construction**	**Azimuth**	**Orientation**	**Gross Area (ft²)**	**Window and Door Area (ft2)**	**Tilt (deg)**	**Wall Exceptions**	**Status**	**Verified Existing Condition**
B1 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	0	Back	167	41.7	90	none	Existing	No
R3 ex	(e) Main Floor	Vint Wall R11 NoVerif 202	90	Right	154.4	33.33	90	none	Existing	No
B2 rebuilt	(e) Main Floor	R-21 Wall	0	Back	98.9	36.39	90	none	Altered	No
R5.2	(e) Main Floor	R-21 Wall	90	Right	74.4	0	90	none	New	n/a
R5.3 alt	(e) Main Floor	R-21 Wall	90	Right	139	20.44	90	none	Altered	No
B2 new	Add-1: Lvg/Din	R-21 Wall	0	Back	64.8	24.26	90	none	New	n/a
R4	Add-1: Lvg/Din	R-21 Wall	90	Right	74.4	24.26	90	none	New	n/a
B3 new	Add-1: Lvg/Din	R-21 Wall	0	Back	185.6	104.77	90	none	New	n/a
R5.1	Add-1: Lvg/Din	R-21 Wall	90	Right	58.1	0	90	none	New	n/a
F6	Add-2: Bdrm-1	R-21 Wall	180	Front	222.4	11.42	90	none	New	n/a
L4	Add-2: Bdrm-1	R-21 Wall	270	Left	283	59.08	90	none	New	n/a
B5	Add-2: Bdrm-1	R-21 Wall	0	Back	222.4	104.57	90	none	New	n/a
R6	Add-2: Bdrm-1	R-21 Wall	90	Right	283	82.11	90	none	New	n/a
Int_Surf:	(e) Main Floor>>Add-1: Lvg/Din	IntSurf: R-0 Wall	n/a	n/a	150	0	n/a		New	n/a
Main-3.Exist 2	(e) Main Floor	+ccSPF R19 R5.8/in 2x4x24	n/a	n/a	567.5	n/a	n/a		Altered	No
(e)Floor o/Crawl	(e) Main Floor	Vint Floor R19 NoVerif 20	n/a	n/a	1436.6	n/a	n/a		Existing	No
Bay Window Bottom	(e) Main Floor	Vint Flr o/OS R19 NoVerif	n/a	n/a	8.5	n/a	n/a		Existing	No
Raised Floor	Add-1: Lvg/Din	R-19 Floor Crawlspace	n/a	n/a	118.4	n/a	n/a		New	n/a
Raised Floor 2	Add-2: Bdrm-1	R-19 Floor Crawlspace	n/a	n/a	586	n/a	n/a		New	n/a

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 6 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	**Zone**	**Construction**	**Azimuth**	**Orientation**	**Area (ft²)**	**Skylight Area (ft²)**	**Roof Rise (x in 12)**	**Roof Reflectance**	**Roof Emittance**	**Cool Roof**	**Status**	**Verified Existing Condition**	**Existing Construction**
Main-1.Front	(e) Main Floor	+ccSPF R38 R5.8/in 2x8x24	180	Front	332.9	0	7	0.1	0.85	No	New	n/a	
Main-2.Back	(e) Main Floor	+ccSPF R38 R5.8/in 2x8x24	0	Back	332.9	0	7	0.1	0.85	No	New	n/a	
Main-3.Exist	(e) Main Floor	+ccSPF R19 R5.8/in 2x4x241	180	Front	12.1	12	7	0.1	0.85	No	Altered	No	
Main-4.Left	(e) Main Floor	+ccSPF R38 R5.8/in 2x8x24	270	Left	190.2	0	7	0.1	0.85	No	Altered	No	
Main-5.Right	(e) Main Floor	+ccSPF R38 R5.8/in 2x8x24	90	Right	190.2	0	7	0.1	0.85	No	Altered	No	
Add-1.Back	Add-1: Lvg/Din	+ccSPF R38 R5.8/in 2x8x24	0	Back	97.5	0	0	0.1	0.85	No	New	n/a	
Addit-2.Left	Add-2: Bdrm-1	+ccSPF R38 R5.8/in 2x8x24	270	Left	331.8	13.38	7	0.1	0.85	No	New	n/a	
Addit-2.Right	Add-2: Bdrm-1	+ccSPF R38 R5.8/in 2x8x24	90	Right	331.8	6.11	7	0.1	0.85	No	New	n/a	

ATTIC

01	02	03	04	05	06	07	08	09	10
Name	**Construction**	**Type**	**Roof Rise (x in 12)**	**Roof Reflectance**	**Roof Emittance**	**Radiant Barrier**	**Cool Roof**	**Status**	**Verified Existing Condition**
Attic (e) Main Floor	Attic Roof(e) Main Floor	Ventilated	7	0.1	0.85	No	No	Existing	No

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 7 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	**Type**	**Surface**	**Orientation**	**Azimuth**	**Width (ft)**	**Height (ft)**	**Mult.**	**Area (ft²)**	**U-factor**	**U-factor Source**	**SHGC**	**SHGC Source**	**Exterior Shading**	**Status**	**Verified Existing Condition**
01 L DH LoE272.arg SDL	Window	F1 ex	Front	180			1	16.44	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
02 L DH LoE272.arg SDL	Window	F1 ex	Front	180			1	16.44	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
4 D Fixed Custom StainGla	Window	R1 ex	Right	90			1	5.67	1.04	Table 110.6-A	0.76	Table 110.6-B	Bug Screen	Altered	No
5 E Fixed Custom StainGla	Window	F3 ex	Front	180			1	14.07	1.04	Table 110.6-A	0.76	Table 110.6-B	Bug Screen	Altered	No
6 D Fixed Custom StainGla	Window	L2 ex	Left	270			1	5.67	1.04	Table 110.6-A	0.76	Table 110.6-B	Bug Screen	Altered	No
7 D7 osTerDr LoE272.arg	Window	R2 ex	Right	90			1	32.22	0.3	NFRC	0.25	NFRC	Bug Screen	New	NA
8 F Fix.Cas LoE272.arg	Window	L3 ex	Left	270			1	14	0.27	NFRC	0.39	NFRC	Bug Screen	Altered	No
9 G Fix.Cas LoE272.arg	Window	L3 ex	Left	270			1	8.43	0.27	NFRC	0.39	NFRC	Bug Screen	Altered	No
10 H Cas LoE272.arg	Window	L3 ex	Left	270			1	4.6	0.28	NFRC	0.33	NFRC	Bug Screen	Altered	No
11 I Fix.Awn LoE272.arg	Window	L3 ex	Left	270			1	3.77	0.28	NFRC	0.33	NFRC	Bug Screen	Altered	No

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 8 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	**Type**	**Surface**	**Orientation**	**Azimuth**	**Width (ft)**	**Height (ft)**	**Mult.**	**Area (ft²)**	**U-factor**	**U-factor Source**	**SHGC**	**SHGC Source**	**Exterior Shading**	**Status**	**Verified Existing Condition**
12 J Cas LoE272.arg	Window	L3 ex	Left	270			1	12.84	0.28	NFRC	0.33	NFRC	Bug Screen	Altered	No
13 K Fix.Cas LoE272.arg	Window	L3 ex	Left	270			1	16.38	0.27	NFRC	0.39	NFRC	Bug Screen	Altered	No
14 B DH LoE272.arg SDL	Window	B1 ex	Back	0			1	20.85	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
15 B DH LoE272.arg SDL	Window	B1 ex	Back	0			1	20.85	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
16 D8 osTerDr LoE272.arg	Window	R3 ex	Right	90			1	33.33	0.3	NFRC	0.25	NFRC	Bug Screen	New	NA
17 C DH LoE272.arg SDL	Window	B2 rebuilt	Back	0			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
18 C DH LoE272.arg SDL	Window	B2 rebuilt	Back	0			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
19 C DH LoE272.arg SDL	Window	B2 rebuilt	Back	0			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
26 D5 isTerDr LoE272.arg	Window	R5.3 alt	Right	90			1	20.44	0.31	NFRC	0.24	NFRC	Bug Screen	New	NA

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

Project Name: Keene E+A 2-HPWH Ducted Clg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 9 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	**Type**	**Surface**	**Orientation**	**Azimuth**	**Width (ft)**	**Height (ft)**	**Mult.**	**Area (ft²)**	**U-factor**	**U-factor Source**	**SHGC**	**SHGC Source**	**Exterior Shading**	**Status**	**Verified Existing Condition**
20 C DH LoE272.arg SDL	Window	B2 new	Back	0			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
21 C DH LoE272.arg SDL	Window	B2 new	Back	0			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
22 C DH LoE272.arg SDL	Window	R4	Right	90			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
23 C DH LoE272.arg SDL	Window	R4	Right	90			1	12.13	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
24 D9 osDutchOr Ag>25%	Window	B3 new	Back	0			1	20.44	0.53	Table 110.6-A	0.65	Table 110.6-B	Bug Screen	New	NA
25 D10 MultiSlide LoE272.	Window	B3 new	Back	0			1	84.33	0.34	NFRC	0.32	NFRC	Bug Screen	New	NA
27 P Cas LoE272.arg	Window	F6	Front	180			1	7.11	0.28	NFRC	0.33	NFRC	Bug Screen	New	NA
28 R Fix.Cas LoE272.arg	Window	F6	Front	180			1	4.31	0.27	NFRC	0.39	NFRC	Bug Screen	New	NA
29 Q Awn LoE272.arg	Window	L4	Left	270			1	5.16	0.28	NFRC	0.33	NFRC	Bug Screen	New	NA

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KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	7/7/25	AFP

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
TITLE 24 REPORT

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

Project Manager	Project ID
Drawn By	Scale 1" = 10'-0"
Date 7/7/25	Sheet No. A14 of 38
CAD File Name Keene - Bldg. Permit.vwx	

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
30 D4 isTerDr LoE272.arg	Window	L4	Left	270			1	20.5	0.31	NFRC	0.24	NFRC	Bug Screen	New	NA
31 L DH LoE272.arg SDL	Window	L4	Left	270			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
32 L DH LoE272.arg SDL	Window	L4	Left	270			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
33 M DH LoE272.arg SDL	Window	B5	Back	0			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
34 M DH LoE272.arg SDL	Window	B5	Back	0			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
35 M DH LoE272.arg SDL	Window	B5	Back	0			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
36 M DH LoE272.arg SDL	Window	B5	Back	0			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
37 M DH LoE272.arg SDL	Window	B5	Back	0			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
38 M DH LoE272.arg SDL	Window	B5	Back	0			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA

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
39 R Fix.Cas LoE272.arg	Window	B5	Back	0			1	4.31	0.27	NFRC	0.39	NFRC	Bug Screen	New	NA
40 L DH LoE272.arg SDL	Window	R6	Right	90			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
41 L DH LoE272.arg SDL	Window	R6	Right	90			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
42 N DH LoE272.arg SDL	Window	R6	Right	90			1	16.71	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
43 O DH LoE272.arg SDL	Window	R6	Right	90			1	11.48	0.31	NFRC	0.31	NFRC	Bug Screen	New	NA
44 D3 osTerDr LoE272.arg	Window	R6	Right	90			1	20.5	0.3	NFRC	0.25	NFRC	Bug Screen	New	NA
45 U (e)Skylight	Skylight	Main-3.Exist	Front	180			1	5	0.4	NFRC	0.35	NFRC		Existing	No
46 V (e)Skylight	Skylight	Main-3.Exist	Front	180			1	7	0.4	NFRC	0.35	NFRC		Existing	No
47 Velux VCE2234	Skylight	Addit-2.Left	Left	270			1	6.11	0.53	NFRC	0.24	NFRC		New	NA
48 Velux VCE2246	Skylight	Addit-2.Left	Left	270			1	7.27	0.53	NFRC	0.24	NFRC		New	NA

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
49 Velux VCE2234	Skylight	Addit-2.Right	Right	90			1	6.11	0.53	NFRC	0.24	NFRC		New	NA

OPAQUE DOORS

01	02	03	04	05	06
Name	Side of Building	Area (ft^2)	U-factor	Status	Verified Existing Condition
3 D6 Entry Door Ag<25%	F1 ex	21	0.5	Altered	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Vint Wall R11 NoVerif 202	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-11	None / None	0.103	Inside Finish: Gypsum Board Cavity / Frame: R-11 / 2x4 Exterior Finish: Wood Siding/sheathing/decking
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.066	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: Wood Siding/sheathing/decking
+ccSPF R38 R5.8/in 2x8x24	Cathedral Ceilings	Wood Framed Ceiling	2x8 @ 24 in. O. C.	R-38	None / None	0.031	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-38 / 2x8 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
+ccSPF R19 R5.8/in 2x4x241	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / None	0.059	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x4 Inside Finish: Gypsum Board
IntSurf: R-0 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roof(e) Main Floor	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
Vint Floor R19 NoVerif 20	Floors Over Crawlspace	Wood Framed Floor	2x8 @ 16 in. O. C.	R-19	None / None	0.049	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x8
Vint Flr o/OS R19 NoVerif	Floors Over Crawlspace	Wood Framed Floor	2x8 @ 16 in. O. C.	R-19	None / None	0.047	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x8
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O. C.	R-19	None / None	0.05	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6

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
+ccSPF R19 R5.8/in 2x4x24	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / None	0.051	Over Ceiling Joists: R-8.9 insul. Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 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 DHW Heater 1-2	1 1	n/a	None	n/a	DHW Heater 1 (1)DHW Heater 1-2 (1)	Altered	No	

WATER HEATERS - NEEA HEAT PUMP

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	80	Rheem	PROPH80 T2 RH37515 (80 gal, iA13)	TankZone	Crawl Space	Crawl Space

WATER HEATERS - NEEA HEAT PUMP

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1-2	1	80	Rheem	PROPH80 T2 RH37515 (80 gal, iA13)	TankZone	Crawl Space	Crawl Space

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
DHW Sys 1 - 2/1	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
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Status	Verified Existing Condition	Existing HVAC System
System 1: A2WHP1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Air Distribution System 1	New	No	

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
				Heating			Cooling					
Name	System Type	Number of Units	Heating Efficiency Type	HSPF/HSPF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER2/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Air to water HP	1	n/a	n/a	56983	n/a	n/a	n/a	n/a	Not Zonal	Multi-speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Not Required	Not Required	Yes	No	Yes	No

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
			Duct Ins. R-value		Duct Location		Surface Area								
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification	Status	Verified Existing Condition	Existing Distribution system	New Ducts >= 25 ft
Air Distribution System 1	Unconditioned crawl space	Non-Verified	R-8	R-8	Crawl Space	Crawl Space	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist	New	n/a		n/a

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58

HERS RATER VERIFICATION OF EXISTING CONDITIONS

OVERHANGS AND FINS - VERIFIED AND ALTERED

This section does not apply to this project.

PROJECT NOTES

1. Heat Load Data provided per T24, Part 6, Sec. 150(h); HVAC contractor solely responsible for HVAC sizing, selection, and installation.
2. New or replacement Kitchen Range Hood Airflow Rates and Capture Efficiency Ratings (per Table 150.0-G):
1500 sf> contiguous Dwelling Unit floor area >1000 sf: a) if electric range, 110 cfm, b) if gas range, 250 cfm.
Requires HERS verification of airflow and sound rating (3 sones or less per Section 7.2 of ASHRAE 62.2).
Range hoods to be HVI or AHAM-certified to provide at least one speed setting of at least 100 CFM at a noise level of 3 sones or less.
3. The efficiency of all existing building components, absent HERS Verification of Existing Conditions, is as required by Table 8-1 of the 2022 SF Residential Compliance Manual. These values may not match observed values of existing components in the house but are the defaults for Performance analysis using the E+A/A method.
4. This project uses a Chiltrix CX50 Air -to-Water Heat Pump for heating & cooling. Heating by radiant floor; cooling is ducted forced air. CEC certified efficiencies of 4.6 COP and 10.27 EER are from the MAEDBS Appliance Database 09/30/2022.

2

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
2	7/7/25	AFP

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
TITLE 24 REPORT

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

Project Manager	AFP
Project ID	
Scale	1" = 10'-0"
Sheet No.	A15 of 38
Date	7/7/25
CAD File Name	Keene - Bldg. Permit.vwx

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

Project Name: Keene E+A 2-HPWH Ducted Cg **Calculation Date/Time:** 2025-07-08T14:53:20-04:00 **(Page 19 of 19)**

Calculation Description: Title 24 Analysis **Input File Name:** 2025-16.ea-3a.2.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: John Britton	Documentation Author Signature:
Company: BEC Associates	Signature Date: 07/08/2025
Address: 61 Pemberton Street Apt 2	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Cambridge, MA 02140	Phone: 510.290.6777

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: Alethea Patton	Responsible Designer Signature: Alethea Patton
Company: Alethea Patton Design	Date Signed: 07/08/2025
Address: 311 Lake Street	License:
City/State/Zip: Point Arena, CA 95468	Phone: +14152268900

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

Registration Number: 425-P01029217A-000-000-0000000-0000 Registration Date/Time: 07/08/2025 20:01 HERS Provider: CHEERS

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CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2025-07-08 11:55:11

Schema Version: rev 20220901

2022 Single-Family Residential Mandatory Requirements Summary

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

Building Envelope:

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

Fireplaces, Decorative Gas Appliances, and Gas Log:

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

Space Conditioning, Water Heating, and Plumbing System:

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

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2022 Single-Family Residential Mandatory Requirements Summary

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

Ducts and Fans:

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

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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 hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

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

Pool and Spa Systems and Equipment:

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

Lighting:

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

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2022 Single-Family Residential Mandatory Requirements Summary

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

Solar Readiness:

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

Electric and Energy Storage Ready:

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2022 Single-Family Residential Mandatory Requirements Summary

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

*Exceptions may apply.

5/6/22

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	7/7/25	AFP

Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

TITLE 24 REPORT

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822 (2025)
Date: 8/12/2025

Project Manager: JP
Scale: 1" = 10'-0"
Date: 7/7/25
CAD File Name: Keene - Bldg. Permit.vwx
Sheet No.: A16 of 38

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. The four-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 2022 Green Building Checklist (*page 2-3*)
- ☑ Completed Marin County 2022 CALGreen Tier 1 Checklist (*pages 4-15*), with plan sheet references where applicable.
- ☑ Completed Marin County 2022 Energy Checklist (*unless exempt, pages* 16-22)
- ☑ Energy Code compliance documents as required under State Energy Code

4 FINAL INSPECTION
When the project is completed, submit the following to have the green building hold lifted:
- ☐ Re-submit the final Green Building, CALGreen, and Energy checklists in step 3 above
- ☐ Submit a Certificate of Compliance from Home Energy Rating System (HERS) provider
- ☐ Submit other necessary supporting permit material (*if applicable)*

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 2022 GREEN BUILDING CHECKLIST
STANDARDS FOR SINGLE-FAMILY RENOVATIONS 750 SQUARE FEET OR MORE

PROJECT ADDRESS: 6 Cresente Avenue, Bolinas

APN: 193-081-37 APPLICANT NAME: _____

1. GREEN BUILDING AND EV READINESS
- ☑ Complete this Marin County 2022 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 2022 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 Jon Mitguard (name) of Aurora Building Performance (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.

Jonathan Mitguard — Signature — 3/5/2025 — Date

Jon Mitguard — Name (Please Print)

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

☑ Total Conditioned Floor Area within the Project Scope 1159 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 2022 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 2022 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

6 Cresente Avenue, Bolinas — Project Address
193-081-37 — APN

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.

Jon Mitguard — Signature — 3/5/2025 — Date

Jon Mitguard — 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):* A18

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):* A18

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):* A18

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):* _____

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):* _____

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):* _____

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): _____

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): _____

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):* _____

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

Plan sheet reference (if applicable): _____

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):* _____

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): _____

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
GREEN BUILDING CHECKLIST

Project Manager: ajp
Project ID:
Scale: 1" = 10'-0"
Date: 7/7/25
Sheet No.: A17 of 38
CAD File Name: Keene - Bldg. Permit.vwx

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

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):* _____

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):* _____

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):* _____

A4.306.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE)

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

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 2022 Marin County Energy Checklist below (pg. 15) 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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

A4.303.4 Indoor Water Use (ELECTIVE) – Nonwater urinals and waterless toilets are installed.

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

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):* _____

A4.304.1 Outdoor Water Use (ELECTIVE) – A rainwater capture system is designed and installed.

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

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):* _____

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):* _____

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):* _____

A4.305.2 Water Reuse Systems (ELECTIVE) – Recycled water piping is installed.

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

A4.305.3 Water Reuse Systems (ELECTIVE) – Recycled water is used for landscape irrigation.

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

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):* _____

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): _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

A4.403.1 Foundation Systems (ELECTIVE) - Frost protected foundation systems is designed and constructed.

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

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):* _____

A4.404.2 Efficient Framing Techniques (ELECTIVE) – Dimensions and layouts are designed to minimize waste.

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

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):* _____

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):* _____

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):* _____

A4.405.4 Material Sources (ELECTIVE) – Renewable source building products are used.

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

A4.407.1 Water Resistance and Moisture Management (ELECTIVE) – Install foundation and landscape drains.

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

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):* _____

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):* _____

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):* _____

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No.	Date	Issue Notes

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
GREEN BUILDING CHECKLIST

COUNTY OF MARIN

Reviewed for Code Compliance
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Permit Number: 179822, 179823

Date: 8/12/2025

Project Manager	alp
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CAD File Name	Keene - Bldg. Permit.vwx

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):* _____

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):* _____

A4.411.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE)

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

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

4.504.3 Pollutant Control (MANDATORY) – Carpet and carpet systems shall be compliant with VOC limits.

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

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

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):* _____

A4.509.1 Innovative Concepts and Local Environmental Conditions (ELECTIVE)

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

MARIN COUNTY 2022 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 2022 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

6 Cresente Avenue, Bolinas	193-081-37
Project Address	APN
Alethea Patton Design	
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.

Jon Mitgard	3/5/2025
Signature	Date
Jon Mitguard	
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.
☑	Electric Readiness Measures *Mandatory* when remodeling kitchen, laundry, or upgrading panel	ER2	(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*).

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 Energy (CARE) program
- ☐ PG&E Family Electric Rate Assistance (FERA) program

MANDATORY: 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)**

NOTE: 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

Check All That Apply	Measures: Specification	Measures: ID (*Table 4*)	Climate Zone (CZ): 2 ☐	Climate Zone (CZ): 3 ☑	Steps
			Target Score: 8	Target Score: 6	(1) Choose your Climate Zone (CZ) based on zip codes listed in Table 5, pg. 22, then continue to Step 2
					(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.
☐	Air Sealing	E3	1	1	
☐	R-49 Attic Insulation	E4	1	1	
☑	Duct Sealing	E5	1	--	
☐	New Ducts + Duct Sealing	E6	2	2	(4) Measures installed or to be installed MUST be marked with a corresponding Check (☒) in this table's far left column.
☐	PV + Electric Ready Pre-Wire	ER1	12	12	
☑	Heat Pump Water Heater (HPWH)	FS1	12	12	
☐	High Eff HPWH	FS2	13	13	(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.
☑	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			26	(6) Sum points then complete Summary of Results a., b., c. in Table 3, Section 4 on the following page 19.

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
GREEN BUILDING CHECKLIST

COUNTY OF MARIN
Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

Project Manager	alp	Project ID	
Scale			
Date	7/7/2	Sheet No.	A19 of 38
CAD File Name	Keene - Bldg. Permit.vwx		

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. 26 Target Score (*from Table 2, Step 2 where CZ 2 = 8 points and CZ 3 = 6 points*)

b. 6 Total Points Claimed (*from Table 2, Step 6*)

c. 20 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 ¾ 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(s). 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.

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Consultant

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COUNTY OF MARIN
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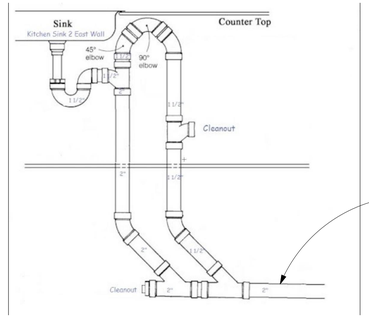
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ELECTRICAL / MECHANICAL SYMBOLS KEY

SYMBOL	DESCRIPTION
$	SWITCH
$3	3-WAY SWITCH
$4	4-WAY SWITCH
$D	DIMMER SWITCH
A	DOOR CONTROLLED SWITCH
	SURFACE CEILING MOUNTED FIXTURE
	SURFACE WALL MOUNTED FIXTURE
	RECESSED CEILING MOUNTED FIXTURE
	RECESSED WALL MOUNTED FIXTURE
	CEILING MOUNTED LOW VOLTAGE MONOPOINT
	UNDERCABINET LIGHT FIXTURE
	DUPLEX OUTLET
	SWITCHED DUPLEX OUTLET
	4-PLEX OUTLET
	220 V OUTLET
	FLOOR RECESSED DUPLEX OUTLET
G.F.I.	OUTLET W/ GROUND FAULT INTERCEPTOR
W.P.	WEATHER PROTECTED OUTLET
	SPECIAL PURPOSE OUTLET
TV	TELEVISION
	TELEPHONE / DATA
	SMOKE DETECTOR
	RECESSED VENTILATOR
T	THERMOSTAT
D	AUTOMATIC DOOR OPENER
	AUDIO SPEAKER
	DOOR BELL / CHIME
	HEAT REGISTER IN FLOOR
	HEAT REGISTER IN TOE-KICK
	SPRINKLER HEAD
H.B.	HOSE BIB
GAS	GAS
	CARBON MONOXIDE DETECTOR

GENERAL ELECTRICAL / MECHANICAL / PLUMBING NOTES

1. All work shall be in compliance with all applicable codes and regulations.
2. Electrical contractor shall be responsible for site verification of existing conditions and proper engineering of new / revised electrical installation.
3. Electrical service power to be evaluated for meeting lighting design and equipment requirements with 100 amp minimum service.
4. All new electrical items to be U.L. rated.
5. All new electrical equipment and appliances to be installed according to manufacturers' recommendations.
6. Notify designer 24 hours prior to setting boxes for recessed and surface mounted fixtures, switches, outlets & cable outlets.
7. Lighting in closets shall comply with N.E.C. Section 410-A.
8. Outlets in Kitchen and Bathrooms, in Garage and outdoors, shall have ground fault interceptors. Outdoor outlets to be weather protected. Outlets for bathrooms are to be 20AMP circuit G.F.C.I. Provide 2 20AMP GFCI outlets minimum at Kitchen.
9. All exterior light fixtures shall be suitable for wet locations.
10. Mount all switches vertically at +40" to centerline from finish floor unless adjacent to outlets above countertops where switches and outlets should be aligned or unless otherwise noted on plans.
11. Mount all outlets, phone jacks and television cable jacks vertically at +12" to centerline from finish floor unless otherwise noted on plan.
12. Mount all switches and outlets vertically at +44" to centerline above finish floor in Kitchens and Bathrooms, except for those designated for appliances or otherwise noted on plans.
13. Gang all switches with single cover plate where shown grouped on plan.
14. Vertically align switches and outlets where shown grouped on plan.
15. All outlets and switches to be white Lutron 'Decora' unless otherwise noted on plan. Cover plates are to match.
16. All dimmers on magnetic low-voltage fixtures to be Lutron S-600P or Lutron S-603P, unless otherwise noted.
17. All dimmers on solid state low voltage fixtures to be Lutron SELV-300P or SELV-303P, unless otherwise noted.
18. Information regarding sizing of electrical panels, location of sub-panels and grounding information will be submitted to the Building Inspector by the General Contractor prior to installation.
19. All smoke detectors & CO detectors shall receive their primary source of power from building wiring with battery back up.
20. Water heaters shall be secured to wall with metal straps.
21. All toilets shall be 1.28 gallon maximum capacity "ultra low flush" type toilets.
22. All shower heads shall be 1.8 gpm max. @ 80 psi and lavatory sink faucets to have a maximum flow rate of 1.2 gpm @ 60psi. Kitchen faucets to have a 1.8 gpm max. @ 60 psi.
23. Receptacle outlets installed in all dwellling unit rooms shall be protected by an arc-fault interrupter(s) (A.F.C.I) combination type installed to provide protection of the branch circuit.
24. **All lighting in the house must be high efficiency, low wattage fluorescent or LED fixtures or be operated by a manual-on occupancy censor.**
25. **All "JA8-2016 or JA8 2016E lamps must be controlled by either a dimmer control or manual-on occupancy censor.**
26. **See WS-5R Worksheet for Kitchen lighting requirements.**
27. **All water supply lines are to be type L soft copper pipe.**
28. All 125-volt, single phase, 15 and 20-amp receptacles shall be listed tamper-resistant receptacles.
29. Two outlets in the Kitchen/Living area and two in the Bedroom are to be Leviton T-5236-T-USB tamper proof outlets with integral usb ports.
30. 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.
31. All outdoor lighting attached to building must be high efficiency, and controlled by both a motion sensor and photocontrol.
32. vacancy sensor: at least one luminaire in each of these spaces listed below shall be controlled by a vacancy sensor: Bathrooms, Laundry Rooms, Utility Rooms.
33. Electrical conduit shall be installed as per the 2019 California Electrical Code.



ISLAND SINK PLUMBING VENT DETAIL

1 / EMP1

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

1

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No.	Date	Issue Notes
1	6/23/25	AFP

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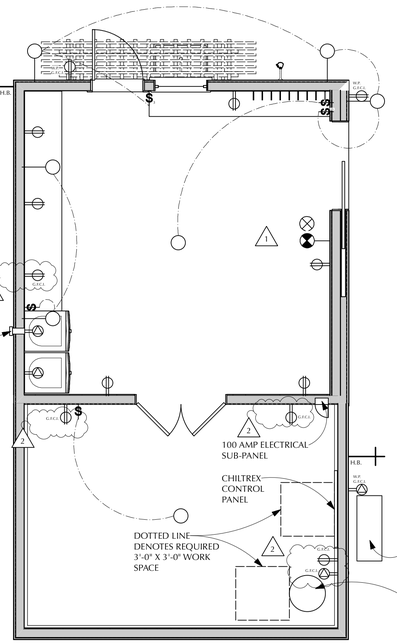
Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
ELECTRICAL NOTES

COUNTY OF MARIN
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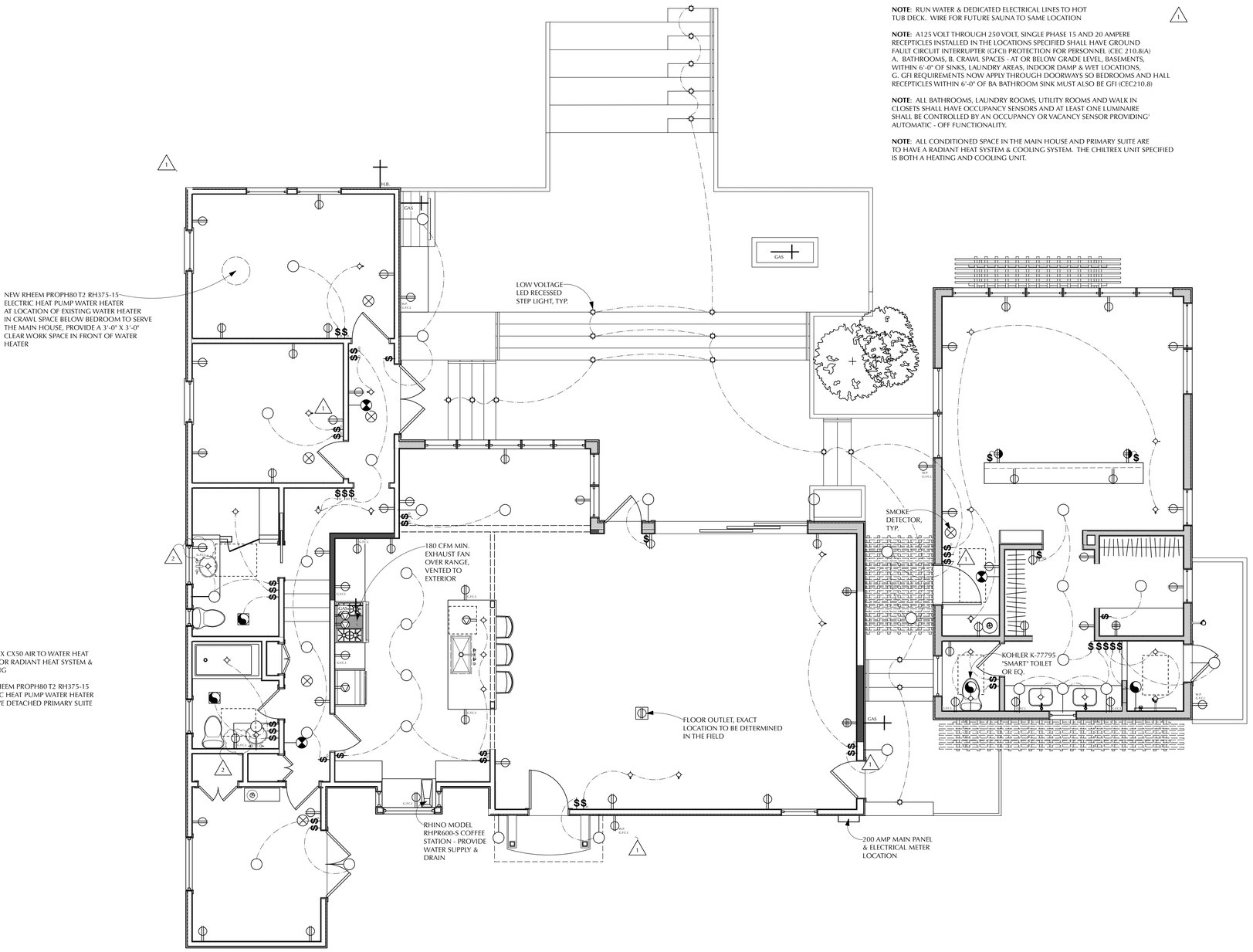
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Project ID:
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Date: 7/7/2
Sheet No.: EMP1 of 38
CAD File Name: Keene - Bldg. Permit.vwx



LOWER LEVEL ELECTRICAL PLAN

2 / EMP2

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



MAIN LEVEL ELECTRICAL PLAN

1 / EMP2

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

NOTE: RUN WATER & DEDICATED ELECTRICAL LINES TO HOT TUB DECK. WIRE FOR FUTURE SAUNA TO SAME LOCATION

NOTE: A125 VOLT THROUGH 250 VOLT, SINGLE PHASE 15 AND 20 AMPERE RECEPTICLES INSTALLED IN THE LOCATIONS SPECIFIED SHALL HAVE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION FOR PERSONNEL (CEC 210.8(A) A. BATHROOMS, B. CRAWL SPACES - AT OR BELOW GRADE LEVEL, BASEMENTS, WITHIN 6'-0" OF SINKS, LAUNDRY AREAS, INDOOR DAMP & WET LOCATIONS, G. GFI REQUIREMENTS NOW APPLY THROUGH DOORWAYS SO BEDROOMS AND HALL RECEPTICLES WITHIN 6'-0" OF BA BATHROOM SINK MUST ALSO BE GFI (CEC210.8)

NOTE: ALL BATHROOMS, LAUNDRY ROOMS, UTILITY ROOMS AND WALK IN CLOSETS SHALL HAVE OCCUPANCY SENSORS AND AT LEAST ONE LUMINAIRE SHALL BE CONTROLLED BY AN OCCUPANCY OR VACANCY SENSOR PROVIDING' AUTOMATIC - OFF FUNCTIONALITY.

NOTE: ALL CONDITIONED SPACE IN THE MAIN HOUSE AND PRIMARY SUITE ARE TO HAVE A RADIANT HEAT SYSTEM & COOLING SYSTEM. THE CHILTREX UNIT SPECIFIED IS BOTH A HEATING AND COOLING UNIT.

WALL LEGEND

- EXISTING WALL TO REMAIN
- NEW WALL
- EXISTING WALL TO BE REMOVED

KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924
193-081-37

No.	Date	Issue Notes
1	6/23/25	AFP
2	7/7/25	AFP

Design Firm
Alethea Patton Design
P.O. Box 98
Philo, CA 95466
415-226-8900

Consultant

Project Title
KEENE RESIDENCE
6 CRESCENTE AVENUE
BOLINAS, CA. 94924

Sheet Title
ELECTRICAL / MECHANICAL / PLUMBING

COUNTY OF MARIN

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025

Project Manager	alp
Project ID	
Scale	1" = 10'-0"
Date	7/7/25
Sheet No.	EMP2 of 38
CAD File Name	Keene - Bldg. Permit.vwx

STRUCTURAL NOTES

GENERAL CONDITIONS

1. ALL DETAILS OF CONSTRUCTION SHALL CONFORM TO THE CALIFORNIA BUILDING CODE 2022 EDITION.

2. FRAMING SHOWN IS SCHEMATIC AND SHOULD BE USED AS A GUIDE FOR CONSTRUCTION LAYOUT ONLY. IT IS THE BUILDER'S RESPONSIBILITY TO COORDINATE FRAMING LAYOUT AND BUILDING HEIGHT RESTRICTIONS / LIMITATIONS WITH ARCHITECTURAL, MECHANICAL, ETC. DRAWINGS. DRAWING PLANS OR DETAILS SHALL NOT BE SCALED, IF A CLARIFICATION IS REQUIRED NOTIFY THE ENGINEER SO THAT THE REQUESTED INFORMATION MAY BE FURNISHED.

3. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. SIMILAR CONDITIONS SHALL BE BUILT IN ACCORDANCE WITH THE INFORMATION SHOWN, SUBJECT TO THE ENGINEER'S APPROVAL. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL CONFLICTING OR MISSING INFORMATION PRIOR TO COMMENCING WORK.

4. SUBSTITUTION OF "APPROVED EQUAL" ITEMS REQUIRES THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL INSURE THAT "EQUIVALENT" ITEMS USED ARE EQUIVALENT TO THOSE SPECIFIED.

5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LOCATION OF EMBEDDED ITEMS, ETC. PRIOR TO COMMENCING WORK. SHOULD ANY CONDITIONS EXIST OR RESULT DURING CONSTRUCTION WHICH DIFFER FROM THOSE DETAILED ON THE STRUCTURAL DRAWINGS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DETERMINATION AND EXECUTION OF THE METHODS OF CONSTRUCTION, INCLUDING ALL TEMPORARY CONDITIONS AND SUPPORTS. SITE VISITS BY THE ENGINEER WILL NOT INCLUDE INSPECTION OF THE METHODS OF CONSTRUCTION.

7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES, STRUCTURES, STREETS, AND UTILITIES.

8. DURING CONSTRUCTION, SITE VISITS BY THE ENGINEER WILL NOT INCLUDE INSPECTION OF SAFETY MEASURES.

9. SHOP DRAWING REVIEW AND "STRUCTURAL OBSERVATIONS" OF CONCRETE, FRAMING AND STEEL ELEMENTS WILL BE FOR STRUCTURAL CONFORMANCE ONLY AND WILL NOT INCLUDE REVIEW OF HEIGHTS, DEPTH AND LENGTH OF MEMBERS AS THEY RELATE TO THE "ARCHITECTURAL" SHAPE, HEIGHT RESTRICTIONS / LIMITATIONS OF THE STRUCTURE. ALL SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY THE ARCHITECT OF RECORD.

10. SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:

    A. SIZE AND LOCATION OF DOOR AND WINDOW OPENINGS.
    B. SIZE AND LOCATION OF FLOOR AND ROOF OPENINGS.
    C. BUILDING HEIGHT RESTRICTIONS AND LIMITATIONS.
    D. STAIR DETAILS.
    E. WATERPROOFING DETAILS.
    F. FIREPROOFING DETAILS.
    G. CONCRETE CURBS, FLOOR DRAINS, SLOPES, AND DEPRESSIONS.
    H. NON-BEARING PARTITIONS.

11. THE CONTRACTOR SHALL GIVE THE ENGINEER SUFFICIENT NOTICE (48 HRS., MIN.) SO THAT THE ENGINEER CAN CONDUCT ON-SITE "STRUCTURAL OBSERVATION" FOR CONFORMANCE WITH THE APPROVED PLANS (PER SECTIONS 1707 & 1709 OF THE 2022 C.B.C.). OBSERVATION OF AT LEAST THE FOLLOWING:

    A. FOUNDATION AND FOOTING EXCAVATION
    B. REINFORCING STEEL AND HOLDOWN ANCHORS PRIOR TO PLACEMENT OF CONCRETE
    C. STRUCTURAL FRAMING AND CONNECTIONS. (A FIELD REVIEW IS REQUIRED AT EACH FLOOR RAISED PRIOR TO FLOOR SHEATHING BEING INSTALLED).
    D. SHEAR WALL NAILING AND CONNECTIONS

DESIGN CRITERIA

1.	SEISMIC		3.	DESIGN DEAD LOADS		5.	SOILS CRITERIA	
	IMPORTANCE FACTOR	1.0		ROOF	16 PSF		ACTIVE EFP (CUT, FLAT)	45 PCF
	SS	2.46		INTERIOR WALLS	8 PSF		ACTIVE EFP (CUT, SLOPE)	65 PCF
	S1	1.032		EXTERIOR WALLS	12 PSF		SHALLOW FTG BEARING	2000 PSF
	SDS	1.97		FLOOR	17 PSF		SHALLOW FTG BEARING (+SEISMIC)	3000 PSF
	SITE SOIL CLASSIFICATION	D		DECK	12 PSF		FRICTION FACTOR	0.4
	SEISMIC DESIGN CATEGORY	E					PIER SKIN FRICTION	600 PSF
	R, LIGHT FRAMED WALLS	6.5	2.	WIND			PIER SKIN FRICTION (+WIND/SEISMIC)	800 PSF
	DESIGN BASE SHEAR	0.3031		BASIC WIND SPEED	92 MPH		PASSIVE EFP	250 PCF
				WIND IMPORTANCE FACTOR	1.0		PASSIVE EFF (+SEISMIC)	+20%
2.	DESIGN LIVE LOADS			SITE EXPOSURE FACTOR	C			
	ROOF	20 PSF		WIND PRESSURE	12 PSF			
	FLOOR	40 PSF						
	DECK	60 PSF						

FOUNDATION

1. ALL SITE GRADING, FOOTING EXCAVATION, BACKFILL, PIER DRILLING, ETC. SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SOILS REPORT PREPARED BY "AC ENGINEERING INC: CIVIL AND GEOTECHNICAL CONSULTANTS" ON JULY 31ST, 2024. THE CONTRACTOR SHALL COORDINATE ALL SUCH WORK WITH THE SOILS ENGINEER SO THAT THE NECESSARY TESTS AND ON-SITE CONSTRUCTION REVIEWS CAN BE MADE.

2. THE SITE GRADING, FOOTING EXCAVATION, BACKFILL, PIER DRILLING, ETC. SHALL BE DONE UNDER THE DIRECTION OF A QUALIFIED SOILS ENGINEER. THE CONTRACTOR SHALL COORDINATE ALL SUCH WORK WITH THE SOILS ENGINEER SO THAT THE NECESSARY TESTS AND ON-SITE CONSTRUCTION REVIEWS CAN BE MADE.

3. FOOTINGS SHALL EXTEND TO SUCH DEPTH AS TO BEAR ON FIRM, UNDISTURBED SOIL. IF FOOTING BEARING SOIL IS DISTURBED, IT SHALL BE RECOMPACTED COMPACTED TO 95% RELATIVE COMPACTION, WITH MECHANICAL EQUIPMENT. FOOTING DEPTHS SHOWN ON DRAWINGS ARE MINIMUM DEPTHS. FOOTINGS MAY BE POURED IN NEAT, EXCAVATED TRENCHES.

4. PERFORATED DRAIN PIPE SHALL BE 4 IN. DIA. SCHEDULE 40 PVC, SDR 35, U.O.S. UPSLOPE END SHALL HAVE CLOSED PIPE RISER, CLEAN OUT AND CAP, DISCHARGE TO CLOSED THROUGH WEEP HOLE OR FREE DRAINING END. SLOPE DISCHARGE PIPE AT 2% (1/4" PER FOOT) MIN.

5. FILTER FABRIC SHALL BE MIRAFI 140N, UNLESS APPROVED OTHERWISE.

6. PERMEABLE MATERIAL SHALL BE CALTRANS CLASS 1A OR 1B ("3/4" ROCK") COMPACTED TO 70% RELATIVE DENSITY.

7. VAPOR RETARDER OR BARRIER SHALL BE: FORTIFIBER "MOISTOP ULTRA 15", STEGO WRAP (15-MIL) OR 15 MIL HUSKY YELLOW GAURD. INSTALLED PER MANUFACTURERS SPECIFICATIONS (ALL SEAMS SHALL BE TAPED), OR APPROVED EQUAL.

8. DRAINAGE DETAILS MAY BE SCHEMATIC, REFER TO THE DRAWINGS AND SPECIFICATIONS IN THE GEOTECHNICAL REPORT FOR ACTUAL MATERIALS AND INSTALLATION.

CONCRETE

1. CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE 318-19.

2. STRUCTURAL CONCRETE SHALL HAVE A SLUMP OF 4" +/- 1" AND SHALL ATTAIN A COMPRESSIVE STRENGTH (F'C) OF 3000 PSI BY 28 DAYS. CONCRETE SHALL BE INTERNALLY VIBRATED AND SHALL BE CURED IN ACCORDANCE WITH ACI 301. PROVIDE SPECIAL INSPECTION ON CONCRETE.

3. AGGREGATE SHALL CONFORM TO ASTM C33 AND C88. MAXIMUM SIZE IN ALL CONCRETE SHALL BE 3/4".

4. ALL ADMIXTURES REQUIRE APPROVAL OF THE ENGINEER PRIOR TO USE.

5. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60 (#5 AND LARGER) OR GRADE 40 (#3 AND #4). BARS SHALL HAVE A MINIMUM SPACING = (2) TWO BAR DIAMETERS AND HAVE A MINIMUM CONCRETE COVER = (1) ONE BAR DIAMETER. MINIMUM SPLICE LENGTHS SHALL BE AS FOLLOWS (CLASS "B" SPLICE):

    #3 - 19" #4 - 25" #5 - 48" #6 - 56" #7 - 81" #8 - 93" (FOR 3000 PSI CONCRETE)

6. ALL REINFORCING BAR BENDS TO BE MADE COLD.

7. COVER FROM FACE OF REINFORCEMENT TO FACE OF CONCRETE SHALL BE AS FOLLOWS:

CONCRETE DEPOSITED DIRECTLY AGAINST GROUND	3"
FORMED CONCRETE EXPOSED TO GROUND OR TO WEATHER	2"
COLUMNS OR BEAMS NOT EXPOSED TO WEATHER	1-1/2"
SLABS OR WALLS NOT EXPOSED TO WEATHER	3/4"

8. INSERTS AND ANCHORS FOR SUSPENDED ARCHITECTURAL, MECHANICAL, AND ELECTRICAL WORK SHALL BE CAST IN PLACE WHERE FEASIBLE.

9. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 SPECIFICATIONS. BOLTS AND SQUARE PLATE WASHERS SHALL BE HOT DIP GALVANIZED PER ASTM A153.

10. EPOXY SHALL BE SIMPSON "SET-3G" (ESR-4057) OR "DEWALT 110+" (ESR-3298). INSTALL PER MANUFACTURER'S RECOMMENDATIONS. HOLES TO BE THOROUGHLY CLEANED WITH COMPRESSED AIR AND BRUSH PRIOR TO INSTALLATION OF ANCHOR (REFER TO MANUFACTURES INSTALLATION PROCEDURE). ALL EPOXIED HOLDOWN RODS REQUIRE SPECIAL INSPECTION.

11. NEW CONCRETE SHALL BE KEYED INTO EXISTING CONCRETE WITH THE EQUIVALENT OF A 2X4 BEVELED KEYWAY. EXISTING CONCRETE SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/4" AT ALL INTERFACES WITH NEW CONCRETE. SURFACE SHALL BE THOROUGHLY CLEANED BEFORE POURING NEW CONCRETE.

12. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DETERMINATION AND EXECUTION OF FORMWORK AND SHORING REQUIREMENTS. FORMS AND SHORING SHALL NOT BE REMOVED UNTIL THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO WITHSTAND ALL IMPOSED LOADS WITHOUT EXCESSIVE STRESS, CREEP, OR DEFLECTION.

13. CONCRETE PLACED IN PIERS SHALL BE POURED IN A RAPID CONTINUOUS OPERATION THROUGH A FUNNEL HOPPER CENTERED AT THE TOP OF THE PILE. CONCRETE SHALL NOT BE PLACED THROUGH WATER EXCEPT WHERE A TREMIE OR OTHER APPROVED METHOD IS USED.

WOOD FRAMING

1. ALL LUMBER TO BE GRADED BY WWPA OR WCLIB AS LISTED IN SECTION 2303.1 STANDARD OF QUALITY OF THE CBC 2022.

2. ALL FRAMING LUMBER SHALL BE DOUGLAS FIR, WITH GRADES LISTED BELOW (OR BETTER), EXCEPT AS NOTED ON DRAWINGS:

STUDS	STANDARD
OTHER 2" FRAMING	NO. 2
4X4 POSTS	CONSTRUCTION
6" AND LARGER POSTS	NO. 1
4" AND LARGER BEAMS	NO. 1
TRUSS JOISTS (TJI®)	"TRUSS JOIST WEYERHAUSER" TJI'S (AS SPECIFIED) U.N.O. (ICC ESR-1153)
MICROLLAMS (LVL OR ML)	"TRUSS JOIST WEYERHAUSER", 2.0E WS MICROLLAM LVL, U.N.O. (ICC ESR-1387) OR "ROSBORO RIGIDLAM LVL, 2.1E (ICC ESR-1210)
PARALLAMS (PSL)	"TRUSS JOIST WEYERHAUSER", 2.2E WS PARALLAM PSL, U.N.O. (ICC ESR-1387) OR "ROSBORO RIGIDLAM LVL, 2.3E (ICC ESR-1210)
TIMBERSTRAND (LSL)	"TRUSS JOIST WEYERHAUSER", 1.55E, U.N.O. (ICC ESR-1387)

IT IS THE CONTRACTOR'S RESPONSIBILITY TO TEST LUMBER MOISTURE CONTENT PRIOR TO CONSTRUCTION COMMENCING. ALL LUMBER SHALL HAVE A MOISTURE CONTENT NOT EXCEEDING 19% AT TIME OF FABRICATION AND INSTALLATION. IF FRAMING LUMBER IS TO BE USED AS PART OF AN ADDITION OR REPAIR REQUIRING COMPATIBILITY WITH EXISTING LUMBER WITH A MOISTURE CONTENT OF 15% OR LESS, KILN DRIED (KD), SUN DRIED ("S" DRY) OR MANUFACTURED LUMBER SHALL BE USED HAVING AN EQUIVALENT OR LESSER MOISTURE CONTENT.

3. ALL WOOD, USED FOR NON-WATERPROOF DECKS, EXPOSED STRUCTURES, IN CONTACT WITH EARTH, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR (PTDF) CCA (PCF) 0.60 (ACQ, CBA-A & CA-B OR AC2A). PRESSURE TREATMENT AND PRESERVATIVES SHALL BE IN ACCORDANCE WITH SECTION 2301.1 & CBC 2022, AWPA STANDARD U1 AND M4. LUMBER SHALL HAVE A MAX. MOISTURE CONTENT OF 19%. GRADE STAMP SHALL BE MADE VISIBLE FOR INSPECTION. ALL EXPOSED ENDS OF CUT PRESSURE TREATED LUMBER SHALL BE TREATED WITH WOOD PRESERVATIVE. ALL HARDWARE USED WITH PRESSURE TREATED LUMBER, EXCEPT ACZA, SHALL BE SIMPSON "ZMAX", HOT DIPPED GALVANIZED OR STAINLESS. ACZA PRESSURE TREATED LUMBER SHALL USE STAINLESS STEEL HARDWARE. FASTENERS NAILED OR SCREWED INTO PTDF SHALL BE HOT DIP GALVANIZED FOR GALVANIZED HARDWARE AND STAINLESS FOR STAINLESS HARDWARE. ZINC-COATED FASTENERS SHALL BE COATED IN ACCORDANCE WITH ASTM B 695, CLASS 55 MIN. CBC 2304.9.5. ALL GALVANIZED HARDWARE SHALL MEET ASTM A153 STANDARD.

4. ROOF SHEATHING SHALL BE 1/2" APA RATED STRUCTURAL SHEATHING WITH EXTERIOR GLUE AND A SPAN RATING OF 32/16, OR EQUIVALENT. SHEATHING SHALL BE BLOCKED OR CLIPPED AT ALL PANEL EDGES PERPENDICULAR TO FRAMING. MINIMUM NAILING AT PANEL EDGES, OVER SHEAR WALLS, DRAG STRUTS AND BOUNDARY NAILING (PERIMETER ROOF BLOCKING OR RIM RAFTER) SHALL BE 10D (0.148 X 2-1/4") AT 6" O.C., AND AT ALL INTERMEDIATE FRAMING MEMBERS SHALL BE 10D AT 12" O.C. SEE PLANS FOR SPECIAL BLOCKING AND NAILING REQUIREMENTS. GRADE STAMP SHALL BE MADE VISIBLE FOR INSPECTION.

5. FLOOR SHEATHING SHALL BE 3/4" APA RATED STRUCTURAL SHEATHING WITH EXTERIOR GLUE AND A SPAN RATING OF 48/24, OR EQUIVALENT. SHEATHING SHALL BE TONGUE AND GROOVE OR BE BLOCKED AT ALL PANEL EDGES. MINIMUM NAILING OVER SHEAR WALLS, DRAG STRUTS, AND AT PANEL EDGES SHALL BE 10D AT 6" O.C. MINIMUM NAILING AT INTERMEDIATE FRAMING MEMBERS SHALL BE 10D AT 10" O.C. SEE PLANS FOR SPECIAL BLOCKING AND NAILING REQUIREMENTS. GRADE STAMP SHALL BE MADE VISIBLE FOR INSPECTION.

6. FLOOR SHEATHING SHALL BE GLUED TO JOISTS IN ACCORDANCE WITH AMERICAN PLYWOOD ASSOCIATION RECOMMENDATIONS.

7. WALL SHEATHING/SHEARWALL SHEATHING SHALL BE APA RATED STRUCTURAL 1 RATED, EXPOSURE 1, 15/32 INCH SHEATHING WITH EXTERIOR GLUE AND A SPAN RATING OF 32/16. ALL PANEL EDGES SHALL BE BLOCKED AND NAILED. MINIMUM EDGE NAILING SHALL BE 10D'S @ (0.148 X 3") AT 6" O.C. NAILING AT INTERMEDIATE FRAMING MEMBERS SHALL BE 10D'S AT 12" O.C. SEE TYPICAL SHEAR WALL DETAIL FOR ADDITIONAL REQUIREMENTS AT SHEARWALLS. SHEARWALL NAILS TO PTDF MUDSILL SHALL BE HOT DIP GALVANIZED.

8. IT IS REQUIRED THAT THE ENTIRE EXTERIOR OF THE STRUCTURE BE SHEATHED WITH 'WALL SHEATHING', UNLESS NOTED OTHERWISE. WHERE CONDITIONS ALLOW, IT MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER AND ARCHITECT OF RECORD.

9. PREFABRICATED CONNECTORS SHALL BE BY SIMPSON OR EQUIVALENT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

10. CUSTOM FABRICATED CONNECTORS SHALL USE A36 STEEL AND E70XX WELDING ELECTRODES.

11. ALL NAILS SHALL BE TYPE "COMMON", INCLUDING NAIL "SHORTS" (EXCEPTION: FOR GENERAL FRAMING SINKER NAILS MAY BE USED, UNLESS NOTED OTHERWISE ON PLANS OR SPECIFIED BY HARDWARE MANUFACTURER). THEY SHALL HAVE THE FOLLOWING MINIMUM PENETRATION INTO FRAMING:

6D	1-1/4"
8D	1-1/2"
10D	1-5/8"
16D	1-3/4"

SEE SHEARWALL NOTE ABOVE FOR ADDITIONAL REQUIREMENTS

12. BOLTS SHALL CONFORM TO ASTM A307 SPECIFICATIONS.

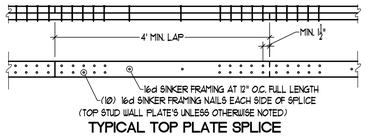
13. PREFABRICATED SHEARWALLS SHALL BE BY "SIMPSON" (STRONG WALLS) OR BY "HARDY FRAME INDUSTRIES" (HARDY FRAMES), AS INDICATED ON PLANS. STRONG WALLS AND HARDY FRAMES REQUIRE TEMPLATES FOR A.B. AND HD ROD PLACEMENT, TO BE SUPPLIED BY MANUFACTURER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

TESTING AND SPECIAL INSPECTION

1. STATEMENT OF SPECIAL INSPECTION:
   IN ACCORDANCE WITH CBC 2022 SECTION 1704, 1705 & 1707, THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR FOR THE FOLLOWING:
   A. CONTINUOUS INSPECTION - DRILLING OF PIERS
   B. PERIODIC INSPECTION - THE PLACEMENT OF REINFORCEMENT FOR ALL CONCRETE.
   C. PERIODIC SPECIAL INSPECTION - OF NAILING, BOLTING, ANCHORING AND FASTENERS OF COMPONENTS WITHIN THE SEISMIC-FORCE-RESISTING SYSTEM (WOOD SHEARWALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS)
   D. CONTINUOUS INSPECTION - INSTALLATION OF EPOXIED HOLDDOWNS AND DOWELS. SIMPSON SET-3G (ICC REPORT ESR-4057) OR DEWALT 110+ (ICC REPORT ESR-3298).

2. SPECIAL INSPECTION FOR STRUCTURAL WELDING IS NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION, CBC SECTION 1704.2.2.

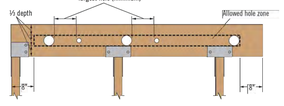
3. THE SPECIAL INSPECTOR SHALL NOTIFY THE CONTRACTOR IMMEDIATELY OF WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SUBMIT TIMELY REPORTS TO THE OWNER, ENGINEER, AND THE BUILDING OFFICIAL STATING WHETHER THE WORK CONFORMS WITH THE CONTRACT DOCUMENTS.



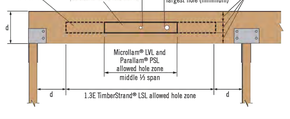
TYPICAL TOP PLATE SPLICE

MANUFACTURED LUMBER ALLOWABLE HOLES

1.55E TimberStrand® LSL Headers and Beams



Other Trus Joist® Headers and Beams



Larger holes in Trus Joist® structural composite lumber may be possible; refer to Forte® or Javelin® software.

WARNING: Drilling, sawing, sanding or machining wood products generates wood dust. The paint and/or coatings on this product may contain titanium dioxide. Wood dust and titanium dioxide are substances known to the State of California to cause cancer. For more information on Proposition 65, visit wy.com/form.

General Notes

- Allowed hole zone suitable for headers and beams with **uniform and/or concentrated loads** anywhere along the member.
- Round holes only.
- No holes in headers or beams in plank orientation.

1.55E TimberStrand® LSL

Header or Beam Depth	Maximum Round Hole Size
9¼"	3"
11¼"	3½"
14"–16"	4½"

- See illustration for allowed hole zone.

General Notes

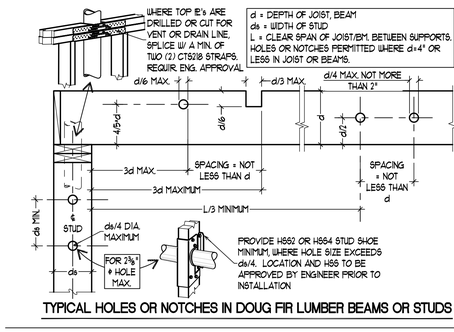
- Allowed hole zone suitable for headers and beams with **uniform loads only.**
- Round holes only.
- No holes in cantilevers.
- No holes in headers or beams in plank orientation.

Other Trus Joist® Beams

Header or Beam Depth	Maximum Round Hole Size
4½"	1"
5½"	1¾"
7¼"–20"	2"

- See illustration for allowed hole zone.

DO NOT cut, notch, or drill holes in headers or beams except as indicated in the illustrations and tables



TYPICAL HOLES OR NOTCHES IN DOUG FIR LUMBER BEAMS OR STUDS

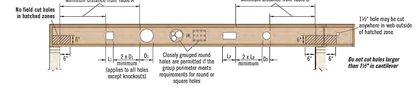


Table A, End Support: Minimum distance from edge of hole to inside face of nearest end support

Depth	TJI®	● Round Hole Size 2"	3"	4"	5"	6½"	■ Square or Rectangular Hole Size 2"	3"	4"	5"	6½"	7"	8⅛"	11"	13"
9½"	110	1'-0"	1'-0"	2'-0"	3'-0"	5'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	5'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"		
	230	1'-0"	1'-0"	2'-0"	3'-0"	5'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"		
11¼"	110	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	5'-6"		1'-0"	1'-6"	2'-6"	3'-6"	4'-6"	5'-6"	6'-6"
	210	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	5'-6"		1'-0"	1'-6"	2'-6"	3'-6"	4'-6"	5'-6"	6'-6"
	230	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	5'-6"		1'-0"	2'-0"	3'-0"	3'-6"	4'-6"	5'-6"	7'-0"
	360	1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-6"		1'-0"	2'-0"	3'-0"	4'-0"	4'-6"	5'-6"	7'-0"
	560	1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	6'-0"	8'-6"	2'-0"	2'-0"	3'-0"	4'-0"	4'-6"	6'-0"	8'-6"

Table B, Intermediate or Cantilever Support: Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

Depth	TJI®	● Round Hole Size 2"	3"	4"	5"	6½"	■ Square or Rectangular Hole Size 2"	3"	4"	5"	6½"	7"	8⅛"	11"	13"
9½"	110	2'-0"	2'-0"	3'-0"	4'-0"	7'-0"		1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"		
	210	2'-0"	2'-0"	3'-0"	4'-0"	6'-0"		1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"		
	230	2'-0"	3'-0"	4'-0"	5'-0"	8'-0"		2'-0"	3'-0"	4'-0"	5'-0"	7'-0"			
11¼"	110	2'-0"	2'-0"	3'-0"	4'-0"	6'-0"	8'-6"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	9'-6"	
	210	2'-0"	2'-0"	3'-0"	4'-0"	6'-0"	9'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	8'-0"	10'-0"	
	230	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	10'-0"	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	8'-0"	10'-0"	
	360	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	11'-0"	2'-0"	3'-0"	5'-0"	7'-0"	9'-0"	9'-6"	11'-0"	
	560	2'-0"	3'-0"	4'-0"	5'-0"	8'-0"	12'-6"	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	11'-0"	12'-6"	

* Rectangular holes based on measurement of longest side.

How to Use These Tables

1. Using **Table A, Table B,** or both if required, determine the hole shape/size and select the TJI® joist and depth.
2. Scan horizontally until you intersect the correct hole size column.
3. Measurement shown is minimum distance from edge of hole to support.
4. Maintain the required minimum distance from the end **and** the intermediate or cantilever support.

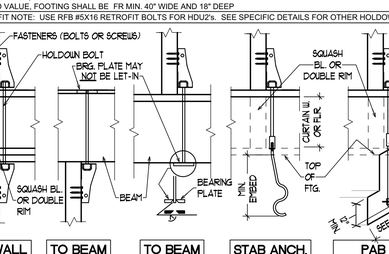
General Notes

- Holes may be located vertically anywhere within the web. Leave ¼" of web (minimum) at top and bottom of hole.
- Knockouts are located in web at approximately 12" on-center, they do not affect hole placement.
- For simple span (5" minimum) uniformly loaded joists meeting the requirements of this guide, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**
- Distances are based on the maximum uniform loads shown in this guide. For other load conditions or hole configurations, use Forte® software or contact your Weyerhaeuser representative.

DO NOT cut or notch flange.

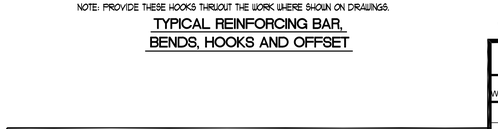
DO NOT cut holes in cantilever reinforcement.

ALLOWABLE HOLES IN TJI JOIST

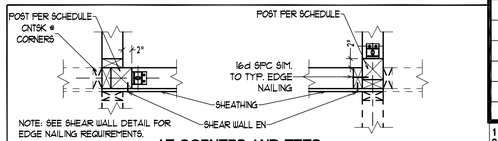


NOTE: PROVIDE THESE HOOKS THRUOUT THE WORK WHERE SHOWN ON DRAWINGS.

TYPICAL REINFORCING BAR, BENDS, HOOKS AND OFFSET



AT CORNERS AND TEES



TYPICAL CONDITION AT WINDOWS AND DOORS

ARRANGEMENT

HOLDOWN MODEL	HOLDOWN CAPACITY	POST SIZE	WOOD FASTENERS	HOLDOWN BOLT Ø	ANCHOR BOLT	CONC.*** CAPACITY	BEARING PLATE SIZE	PAB LENGTH AS REQUIRED TO REACH 3" FROM GRADE, SEE BELOW
HDU2-SDS2.5	3075 lbs	4x4	(6)¼"x2½"SDS	Ø 5/8"	SSTB24	3325 lbs	3½"x3½"x½"	
HDU5-SDS2.5	5645 lbs	4x4	(14)¼"x2½"SDS	Ø 5/8"	SBS/8x24	5730 lbs	3½"x6"x½"	
HDU8-SDS2.5	6970 lbs	4x4	(20)¼"x2½"SDS	Ø 7/8"	SSTB28	7315 lbs	3½"x6"x½"	
HDU11-SDS2.5	9535 lbs	4x6	(30)¼"x2½"SDS	Ø 1"	PAB8	23198 lbs*		
HDU14-SDS2.5	14375 lbs	6x6	(36)¼"x2½"SDS	Ø 1"	PAB8	23198 lbs*		
HD19	19070 lbs	6x6	(5) Ø1" M.B.'s	Ø 1-1/4"	PAB10	37000 lbs**		

* LRFD VALUE, FOOTING SHALL BE FR MIN. 32" WIDE AND 14" DEEP
** LRFD VALUE, FOOTING SHALL BE FR MIN. 40" WIDE AND 18" DEEP
RETROFIT NOTE: USE RFB #5X16 RETROFIT BOLTS FOR HDU2's. SEE SPECIFIC DETAILS FOR OTHER HOLDOWNS.

FASTENERS (BOLTS OR SCREWS)
HOLDOWN BOLT
BRG. PLATE MAY NOT BE LET-IN
SQUASH BL. OR DOUBLE RIM
BEAM
BEARING PLATE
MIN. EMBED
SQUASH BL. OR DOUBLE RIM
CURTAIN W. OR FILM
TOP OF FTG.
M

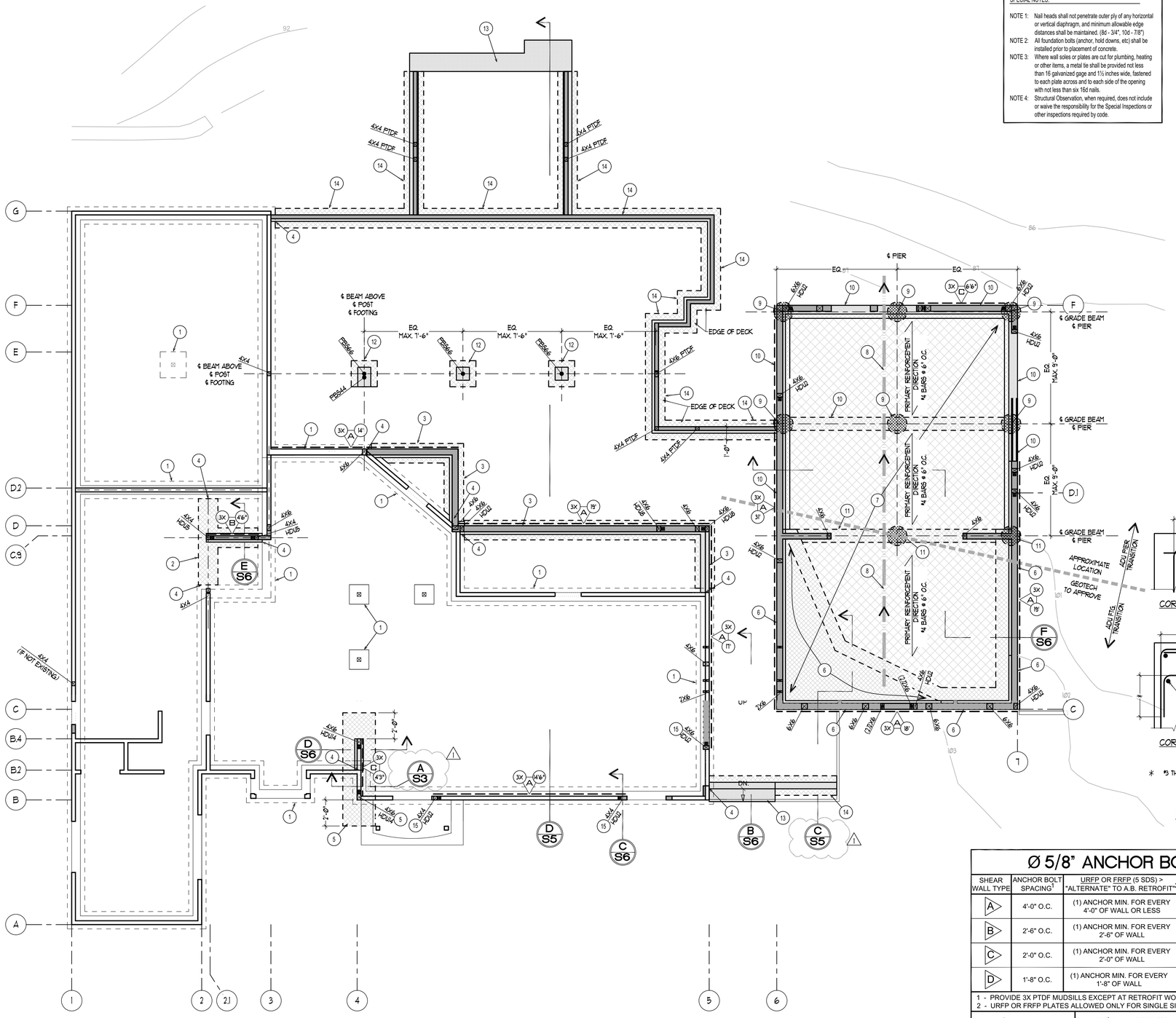
KEYED NOTES, FOUNDATION PLAN:

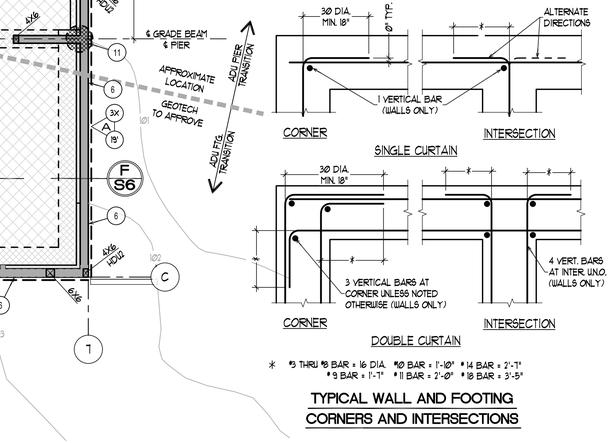
1. (E) FOOTING TO REMAIN.
2. INTERIOR SPREAD FOOTING. DEPTH/BEARING TO BE APPROVED BY PROJECT GEOTECHNICAL ENGINEER. SEE DETAIL E/S6
3. TYPICAL EXTERIOR SPREAD FOOTING, DEPTH/BEARING TO BE APPROVED BY PROJECT GEOTECHNICAL ENGINEER. SEE DETAIL D/S6
4. FOOTING HORIZONTAL BARS DOWELED MIN. 6" W/ EPOXY "SET 3G" INTO (E) FOOTING. BARS SHALL EXTEND MIN. 25" INTO THE NEW FOOTING.
5. DRILL (E) FOOTING ALL THE WAY DOWN AND INSTALL NEW HD BOLT INTO NEW UNDERPINNING CONCRETE FOOTING. SEE SECTION A/S3
6. TYPICAL RETAINING WALL, SEE SECTION C/S5
7. STRUCTURAL 6" SLAB, OVER VAPOR BARRIER (SEE STRUCTURAL NOTES) AND 6" OF DRAIN ROCK. MAIN REINFORCEMENT SIZE AND ORIENTATION SHOWN ON PLAN. PROVIDE #4 BARS @ 12" O.C. IN THE PERPENDICULAR DIRECTION.
8. 4" DIA. PERFORATED DRAIN LINE, PLACE IN GRAVEL BED, SLOPE TO DRAIN, ROUTE TO SITE DRAINAGE SYSTEM BY OTHERS. SEE SECTION F/S6
9. TYPICAL PIER, SEE TYPICAL DETAILS ON SHEET S4.
10. TYPICAL GRADE BEAM, SEE TYPICAL DETAILS ON SHEET S4.
11. PIER AND GRADE BEAM SYSTEM, IT MAY BE POSSIBLE TO USE SPREAD FOOTINGS PENDING SITE CONDITIONS FOUND. REQUIRES GEOTECHNICAL ENGINEERS APPROVAL.
12. SQUARE CONCRETE PAD CENTERED ON DECK POSTS OR DECK BEAM. SEE SECTION D/S6
13. STAIR FOOTING, SEE SECTIONS F/S6 B/S6
14. DECK SPREAD FOOTING, DEPTH/BEARING TO BE APPROVED BY PROJECT GEOTECHNICAL ENGINEER. SEE DETAIL C/S5
15. EPOXY HOLDOWN, SEE SECTION C/S5

FOUNDATION, FRAMING AND SHEARWALL NOTE:

1. ALL A.B.'s SHALL HAVE HOT DIP GALVANIZED PER ASTM A153 3"X3"X1/4" THICK PLATE WASHERS.
2. SHEARWALL NAILS SHALL BE 10d COMMON NAILS WITH A SHANK DIAMETER OF 0.148. THE NAIL SHALL IMBED A MINIMUM OF 1-5/8" TO STUD. NO SUBSTITUTIONS WILL BE ALLOWED. SHEARWALL NAILS TO PTDF MUDSILL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
3. ALL SHEARWALL NAILS SPACED AT 3" OR LESS SHALL BE STAGGERED. ALL STUDS AT VERTICAL OR HORIZONTAL ABUTTING PANEL JOINTS SHALL BE 3X MIN MATERIAL. PROVIDE TWO (2) ROWS OF NAILS WHEN BUTTING SHEETS ON LSL RIM OR RIM BLOCKING.
4. DOUBLE JOISTS UNDER ALL WALLS PARALLEL TO JOIST DIRECTION. BLOCK BETWEEN JOISTS UNDER LOAD BEARING WALL PERPENDICULAR TO JOISTS.
5. PROVIDE 3-1/2" OR 5-1/4" x 9-1/2" (AS REQUIRED) PSL HEADERS UNLESS OTHERWISE NOTED.

SEE TYPICAL DETAILS AND STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.





TYPICAL WALL AND FOOTING CORNERS AND INTERSECTIONS

SPECIAL NOTES:

NOTE 1: Nail heads shall not penetrate outer ply of any horizontal or vertical diaphragm, and minimum allowable edge distances shall be maintained. (8d - 3/4", 10d - 7/8")

NOTE 2: All foundation bolts (anchor, hold downs, etc) shall be installed prior to placement of concrete.

NOTE 3: Where wall soles or plates are cut for plumbing, heating or other items, a metal tie shall be provided not less than 16 galvanized gage and 1½ inches wide, fastened to each plate across and to each side of the opening with not less than six 16d nails.

NOTE 4: Structural Observation, when required, does not include or waive the responsibility for the Special Inspections or other inspections required by code.

FRAMING LEGEND

	WALL BELOW
	WALL THIS LEVEL
	(E) WALL BELOW
	(E) WALL THIS LEVEL
	(E) WALL REMOVED
3X A 1#6	EN. STUD SIZE REQ. 4X4 MIN. HD POST. "L" in FT. TYPE AND LAYOUT
HDUB, 6X	HOLDOWN, AND HD POST SIZE (4X4 MIN. IF NOT NOTED, EX. SHOWS 6X)
DRAG TRUSS, RAFTER OR JOIST	MEMBER SHALL BE EDGE NAILED (EN.) FULL LENGTH.

SEE TYPICAL SHEARWALLS AND HOLDOWNS DETAILS SHEET S5, FOR ADDITIONAL INFORMATION.

NOTE:
THERE SHALL BE NOT LESS THAN A 20% REDUCTION IN CEMENT USE BY IMPLEMENTATION OF FLY ASH.

NOTE:
ALL STUMPS AND ROOTS SHALL BE REMOVED FROM THE SOIL TO A DEPTH OF AT LEAST 12 INCHES BELOW THE SURFACE OF THE GROUND IN THE AREA TO BE OCCUPIED BY THE BUILDING.

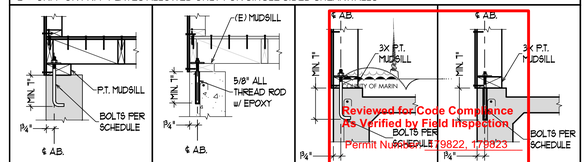
NOTE:
THE CONTRACTOR SHALL GIVE THE ENGINEER SUFFICIENT NOTICE (48 HRS., MIN.) SO THAT THE ENGINEER CAN CONDUCT ON-SITE "STRUCTURAL OBSERVATION" FOR CONFORMANCE WITH ITEMS STIPULATED IN THE GENERAL NOTES ON SHEET S1

Ø 5/8" ANCHOR BOLT SPACING (A.B.)

SHEAR WALL TYPE	ANCHOR BOLT SPACING[1]	URFP OR FRFP (5 SDS) > "ALTERNATE" TO A.B. RETROFIT[-2]
A	4'-0" O.C.	(1) ANCHOR MIN. FOR EVERY 4'-0" OF WALL OR LESS
B	2'-6" O.C.	(1) ANCHOR MIN. FOR EVERY 2'-6" OF WALL
C	2'-0" O.C.	(1) ANCHOR MIN. FOR EVERY 2'-0" OF WALL
D	1'-8" O.C.	(1) ANCHOR MIN. FOR EVERY 1'-8" OF WALL

NOTES
1. ALL ANCHOR BOLTS REQUIRE 7" MIN. EMBEDMENT INTO CONCRETE AND SHALL BE HOT DIP GALVANIZED PER ASTM A153.
2. ALL OTHER SILL PLATE A.B. SPACING 4'-0" O.C. THERE SHALL BE A MINIMUM OF TWO BOLTS PER 2X-3X PTDF SILL PIECE WITH ONE LOCATED WITHIN 12" OF EACH END 5" MIN. FROM END.
3. WHERE SHEARWALL SHEATHING IS INDICATED ON BOTH SIDES DECREASE A.B. SPACING BY ONE-HALF.
4. ALL A.B.'s SHALL HAVE SQ. WASHERS 3"x3"x0.229" THICK HOT DIP GALVANIZED PER ASTM A153. RETROFIT A.B.'S SHALL BE HDG Ø5/8" ALL THREAD EPOXIED 7" MIN. INTO (E) FTG. OR "TITEN HD" Ø5/8" SCREWS EMBEDDED. MIN. 5".

1 - PROVIDE 3X PTDF MUDSILLS EXCEPT AT RETROFIT WORK.
2 - URFP OR FRFP PLATES ALLOWED ONLY FOR SINGLE SIDED SHEARWALLS



(N) CONDITION | (E) CONDITION | (N) CONDITION | (E) CONDITION

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number 179822, 179823
Date: 8/12/2025

REVISION

1 05-27-2025

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REGISTERED PROFESSIONAL ENGINEER PETER T. NISSEN No. C046035 12/31/2026 EXPIRES CIVIL STATE OF CALIFORNIA

KEENE RESIDENCE REMODEL & ADDITION
6 CRESENTE AVE.,
BOLINAS, CA 94924

FOUNDATION PLAN

DATE: 03-13-2025
JOB #: 24-57
SHEET 2 OF 7

S2

KEYED NOTES, FLOOR FRAMING PLAN:

1. (E) FLOOR FRAMING
2. 3/4" FLOOR SHEATH. OVER TJI 230 x 11-7/8" JOISTS @ 16" O.C.
3. WATERPROOF MEMBRANE (S.A.D.) AND 3/4" SUBFLOOR INSTALLED W/ SIMPSON WSNTL 2-1/2" PLYWOOD SCREWS (OR APPROVED EQUAL) @ 6" O.C. AT ALL PANEL EDGES AND @ 12" O.C. IN THE FIELD OVER 1-3/4 " x 11-7/8" LVL JOISTS @ 16" O.C. RIPPED FOR SLOPE (1/4" PER FOOT) TO MIN. 9", SEE SECTION F/S6
4. 3/4" FLOOR SHEATHING OVER 2X DEPTH MATCHING (E) FLOOR JOISTS @ 16" O.C.
5. DECKING S.A.D OVER 2X12 PTDF DECK JOISTS @ 16" O.C.
6. DECKING S.A.D OVER 2X14 PTDF STAIR STINGERS @ 12" O.C.
7. 3/4" FLOOR SHEATHING OVER 1-3/4 " x 11-7/8" LVL JOISTS @ 16" O.C.
8. DECKING S.A.D OVER 2X8 PTDF DECK JOISTS @ 16" O.C.
9. DECKING S.A.D OVER 2X12 PTDF STAIR STINGERS @ 12" O.C.
10. DTT2Z TIE ATTACHED TO THE FACE OF DECK AND FLOOR JOISTS @ 48" O.C., CONNECTED W/ 1/2" DIA. HDG ALL-THREAD ROD, SEE SECTION F/S6

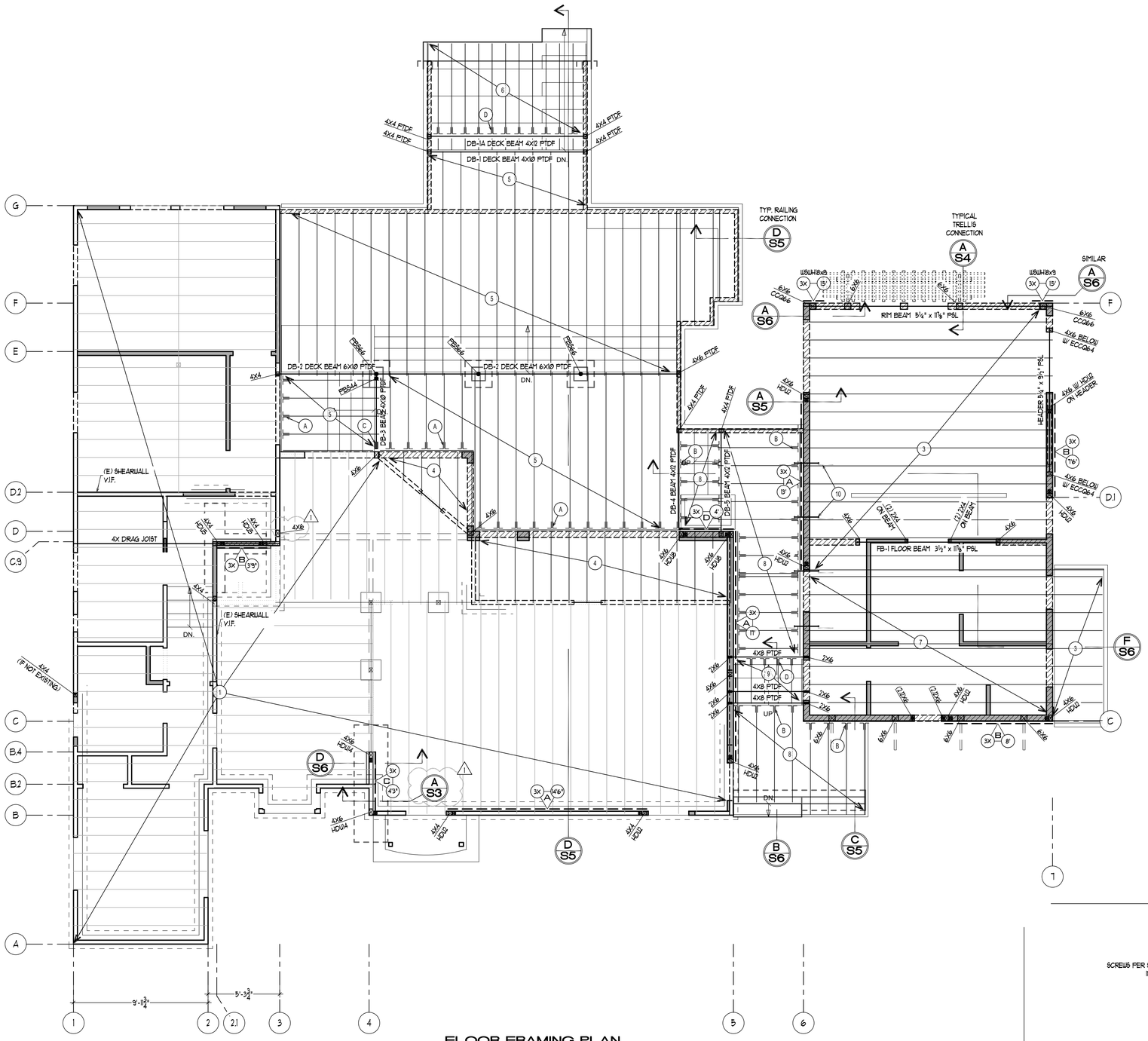
HANGER SCHEDULE, FLOOR FRAMING PLAN:

- (A) LUS210 ZMAX SIMPSON FACE HANGER
- (B) LUS28 ZMAX SIMPSON HANGER
- (C) HUCQ410 SIMPSON CONCEALED FLANGE HANGER
- (D) LSCZ ZMAX SIMPSON STAIR STRINGER CONNECTOR

FRAMING LEGEND

	WALL BELOW
	WALL THIS LEVEL
	(E) WALL BELOW
	(E) WALL THIS LEVEL
	(E) WALL REMOVED
3X A U6	EN. STUD SIZE REQ. 4X4 MIN. HD POST "L" in FT. TYPE AND LAYOUT
HDU5-SDS2.5	HOLDOWN, AND HD POST SIZE (4X4 MIN. IF NOT NOTED, EX. SHOUS 6X)
DRAG TRUSS RAFTER OR JOIST	MEMBER SHALL BE EDGE NAILED (EN.) FULL LENGTH.

SEE TYPICAL SHEARWALLS AND HOLDOWNS DETAILS SHEET S1 FOR ADDITIONAL INFORMATION.



FLOOR FRAMING PLAN

1/4" = 1'-0"

NOTE:
THE CONTRACTOR SHALL GIVE THE ENGINEER SUFFICIENT NOTICE (48 HRS., MIN.) SO THAT THE ENGINEER CAN CONDUCT ON-SITE "STRUCTURAL OBSERVATION" FOR CONFORMANCE WITH ITEMS STIPULATED IN THE GENERAL NOTES ON SHEET S1

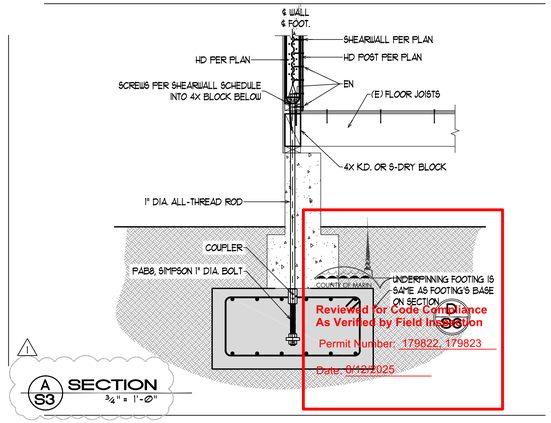
SPECIAL NOTES:

NOTE 1: Nail heads shall not penetrate outer ply of any horizontal or vertical diaphragm, and minimum allowable edge distances shall be maintained. (8d - 3/4", 10d - 7/8")
NOTE 2: All foundation bolts (anchor, hold downs, etc) shall be installed prior to placement of concrete.
NOTE 3: Where wall soles or plates are cut for plumbing, heating or other items, a metal tie shall be provided not less than 16 galvanized gage and 1½ inches wide, fastened to each plate across and to each side of the opening with not less than six 16d nails.
NOTE 4: Structural Observation, when required, does not include or waive the responsibility for the Special Inspections or other inspections required by code.

FRAMING NOTE:

1. SHEARWALL NAILS SHALL BE 10d COMMON NAILS WITH A SHANK DIAMETER OF 0.148. THE NAIL SHALL IMBED A MINIMUM OF 1-5/8" TO STUD. NO SUBSTITUTIONS WILL BE ALLOWED. SHEARWALL NAILS TO PTDF MUDSILL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
2. ALL SHEARWALL NAILS SPACED AT 3" OR LESS SHALL BE STAGGERED. ALL STUDS AT VERTICAL OR HORIZONTAL ABUTTING PANEL JOINTS SHALL BE 3X MIN. MATERIAL. PROVIDE TWO (2) ROWS OF NAILS WHEN BUTTING SHEETS ON LSL RIM OR RIM BLOCKING.
3. DOUBLE JOISTS UNDER ALL WALLS PARALLEL TO JOIST DIRECTION. BLOCK BETWEEN JOISTS UNDER LOAD BEARING WALL PERPENDICULAR TO JOISTS.
4. PROVIDE 3-1/2" OR 5-1/4" x 9-1/2" (AS REQUIRED) PSL HEADERS UNLESS OTHERWISE NOTED.

SEE TYPICAL DETAILS AND STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.



A/S3 SECTION
3/4" = 1'-0"

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 07/17/2025

REVISION

1 05-27-2025

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KEENE RESIDENCE REMODEL & ADDITION
6 CRESENTE AVE.,
BOLINAS, CA 94924

FLOOR FRAMING PLAN

DATE: 03-13-2025
JOB #: 24-57
SHEET 3 OF 7

S3

KEYED NOTES, ROOF FRAMING PLAN:

1. (E) ROOF FRAMING
2. 1/2" ROOF SHEATHING OVER 2X8 RAFTERS @ 24" O.C.
3. MSTA49 STRAP OVER ROOF SHEATHING NAILED EQUAL LENGTHS TO EACH DRAG RAFTER.
4. 1/2" ROOF SHEATHING OVER 1-3/4" X 14" LVL RAFTERS @ 24" O.C. RIPPED TO SLOPE AT 1/4" PER FOOT TO MIN. 9". SEE SECTION B/S6
5. CALIFORNIA FRAMING, SEE SHADED AREA ON PLAN, REFER TO TYPICAL DETAIL ON SHEET S4.
6. MSTA24 STRAP NAILED OVER THE RIDGE SHEATHING EQUAL LENGTH TO EACH DRAG RAFTER W/ 16d SINKERS IN EVERY HOLE.
7. CS14 COILED STRAP NAILED MIN. 24" TO THE DOUBLE TOP PLATE AND EXTENDED ON THE BOTTOM OF 1-3/4" X FULL DEPTH LVL BLOCKS BETWEEN RAFTERS AS SHOWN PER PLAN.
8. MSTC40 STRAP NAILED EQUAL LENGTHS TO THE FACE OF DOUBLE TOP PLATE AND TO THE FACE OF THE BEAM.
9. CLEAR ROOFING (S.A.D.) OVER 4X6 DF BEAMS AT 16" O.C. OVER 4X4 BEAMS AT 16" O.C.

HANGER SCHEDULE, ROOF FRAMING PLAN:

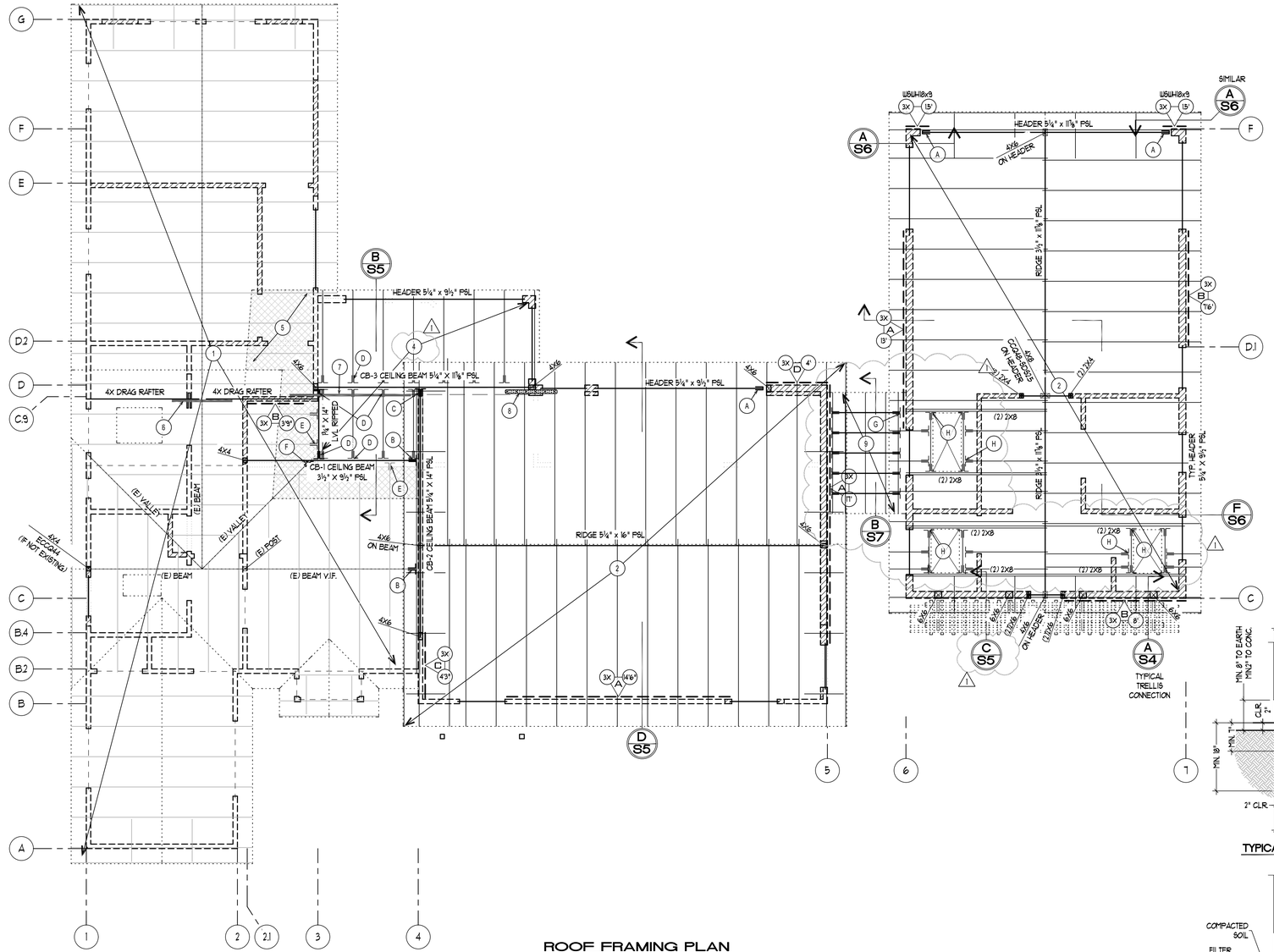
- (A) HUCQ610 SIMPSON CONCEALED FLANGE HANGER.
- (B) U410 SIMPSON FACE HANGER
- (C) HHUS5.50/10 SIMPSON FACE HANGER
- (D) HU7 SIMPSON FACE HANGER
- (E) LUS24 OR LUS26 SIMPSON FACE HANGERS

FRAMING LEGEND

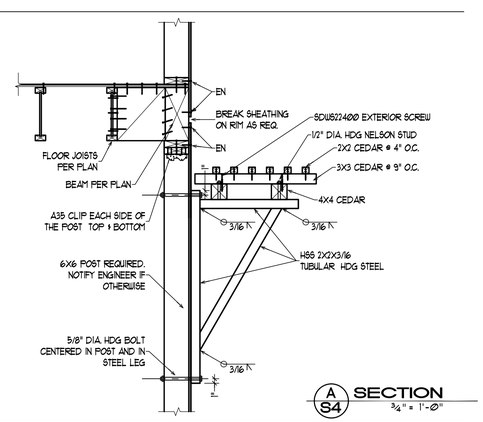
	WALL BELOW
	WALL THIS LEVEL
	(E) WALL BELOW
	(E) WALL THIS LEVEL
	(E) WALL REMOVED
3X A U6	EN. STUD SIZE REQ. 4X4 MIN. HD POST — 1'-½" H.T. — TYPE AND LAYOUT
HD B/S6	HOLDOWN AND HD POST SIZE (4X4 MIN. IF NOT NOTED, EX. SHOWS 6X)
DRAG TRUSS, RAFTER OR JOIST	MEMBER SHALL BE EDGE NAILED (ENJ) FULL LENGTH.

SEE TYPICAL SHEARWALLS AND HOLDOWNS DETAILS SHEET S1 FOR ADDITIONAL INFORMATION.

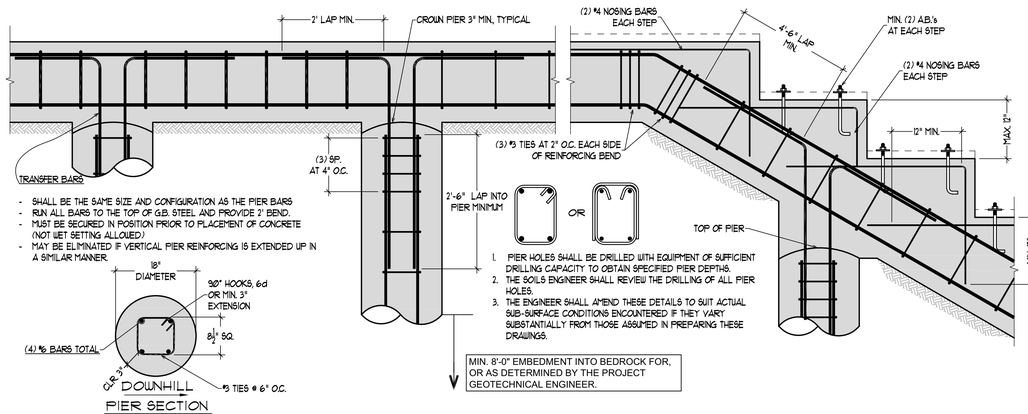
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ROOF FRAMING PLAN
1/4" = 1'-0"



A/S4 SECTION
3/4" = 1'-0"



TYPICAL PIER AND GRADE BEAM DETAIL

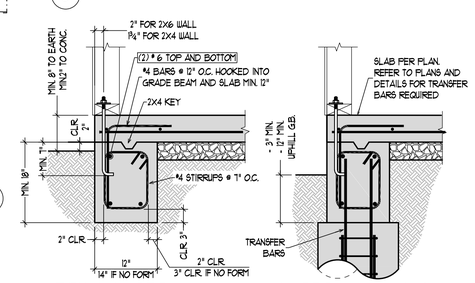
SPECIAL NOTES:

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NOTE 2: All foundation bolts (anchor, hold downs, etc) shall be installed prior to placement of concrete.
NOTE 3: Where wall soles or plates are cut for plumbing, heating or other items, a metal tie shall be provided not less than 16 galvanized gage and 1½ inches wide, fastened to each plate across and to each side of the opening with not less than six 16d nails.
NOTE 4: Structural Observation, when required, does not include or waive the responsibility for the Special Inspections or other inspections required by code.

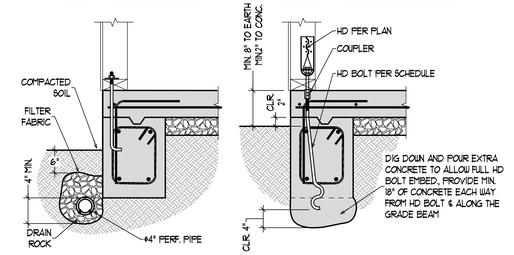
FRAMING NOTE:

1. SHEARWALL NAILS SHALL BE 10d COMMON NAILS WITH A SHANK DIAMETER OF 0.148. THE NAIL SHALL IMBED A MINIMUM OF 1-5/8" TO STUD. NO SUBSTITUTIONS WILL BE ALLOWED. SHEARWALL NAILS TO PTDF MUDSILL SHALL BE HOT-DIP GALVANIZED PER ASTM A153.
2. ALL SHEARWALL NAILS SPACED AT 3" OR LESS SHALL BE STAGGERED. ALL STUDS AT VERTICAL OR HORIZONTAL ABUTTING PANEL JOINTS SHALL BE 3X MIN MATERIAL. PROVIDE TWO (2) ROWS OF NAILS WHEN BUTTING SHEETS ON LSL RIM OR RIM BLOCKING.
3. PROVIDE 3-1/2" OR 5-1/4" x 9-1/2" (AS REQUIRED) PSL HEADERS UNLESS OTHERWISE NOTED.

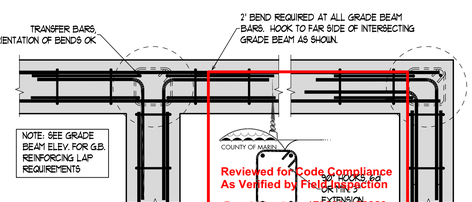
SEE TYPICAL DETAILS AND STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.



TYPICAL GRADE BEAM — GRADE BEAM AT LAP ZONE



SUBDRAIN UPHILL SIDE — HOLDOWN EMBEDMENT
GRADE BEAM SECTIONS



PLAN VIEW — BEAM TIE DETAIL
GRADE BEAM INTERSECTION DETAILS

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179221, 179823
Date: 6/12/2025

REVISION

1 05-27-2025

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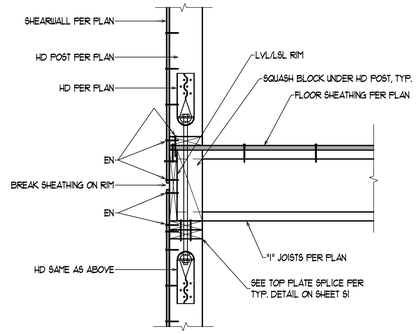
PETER NISSEN PE.
CONSULTING ENGINEER
530 C Alameda Del Prado #333
Novato, CA 94949
(415) 382-7790
WWW.NISSENENGINEERING.COM

REGISTERED PROFESSIONAL ENGINEER PETER T. NISSEN No. C046035 12/31/2026 EXPIRES CIVIL STATE OF CALIFORNIA

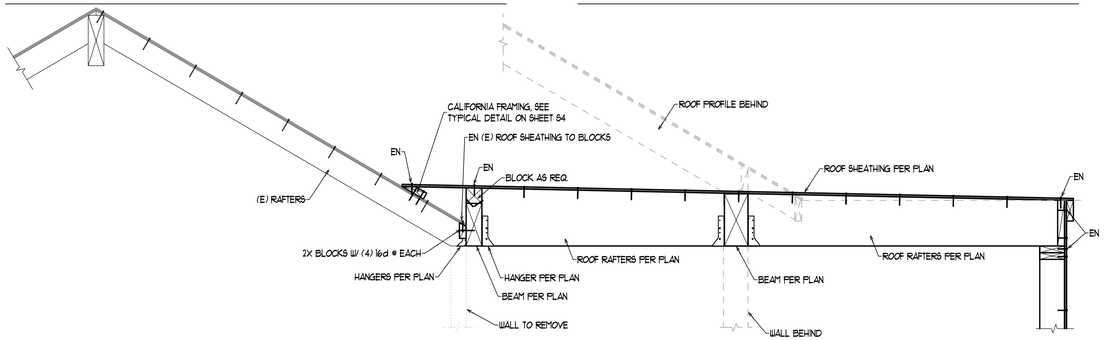
KEENE RESIDENCE REMODEL & ADDITION
6 CRESENTE AVE.,
BOLINAS, CA 94924

ROOF FRAMING PLAN,
PIER & GRADE BEAM TYPICAL DETAILS

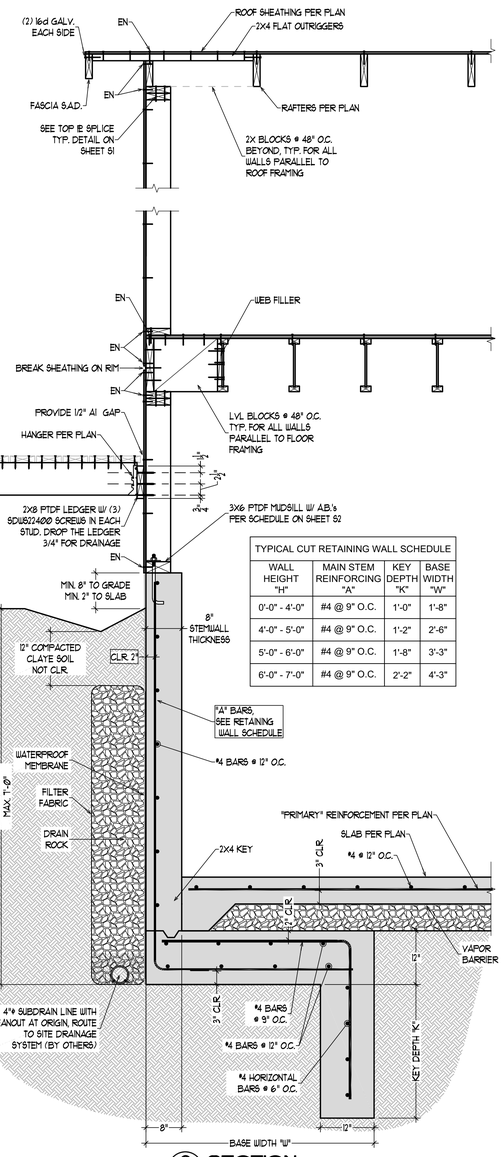
DATE 03-13-2025
JOB #: 24-57
SHEET 4 OF 7
S4



A S5 SECTION
1" = 1'-0"

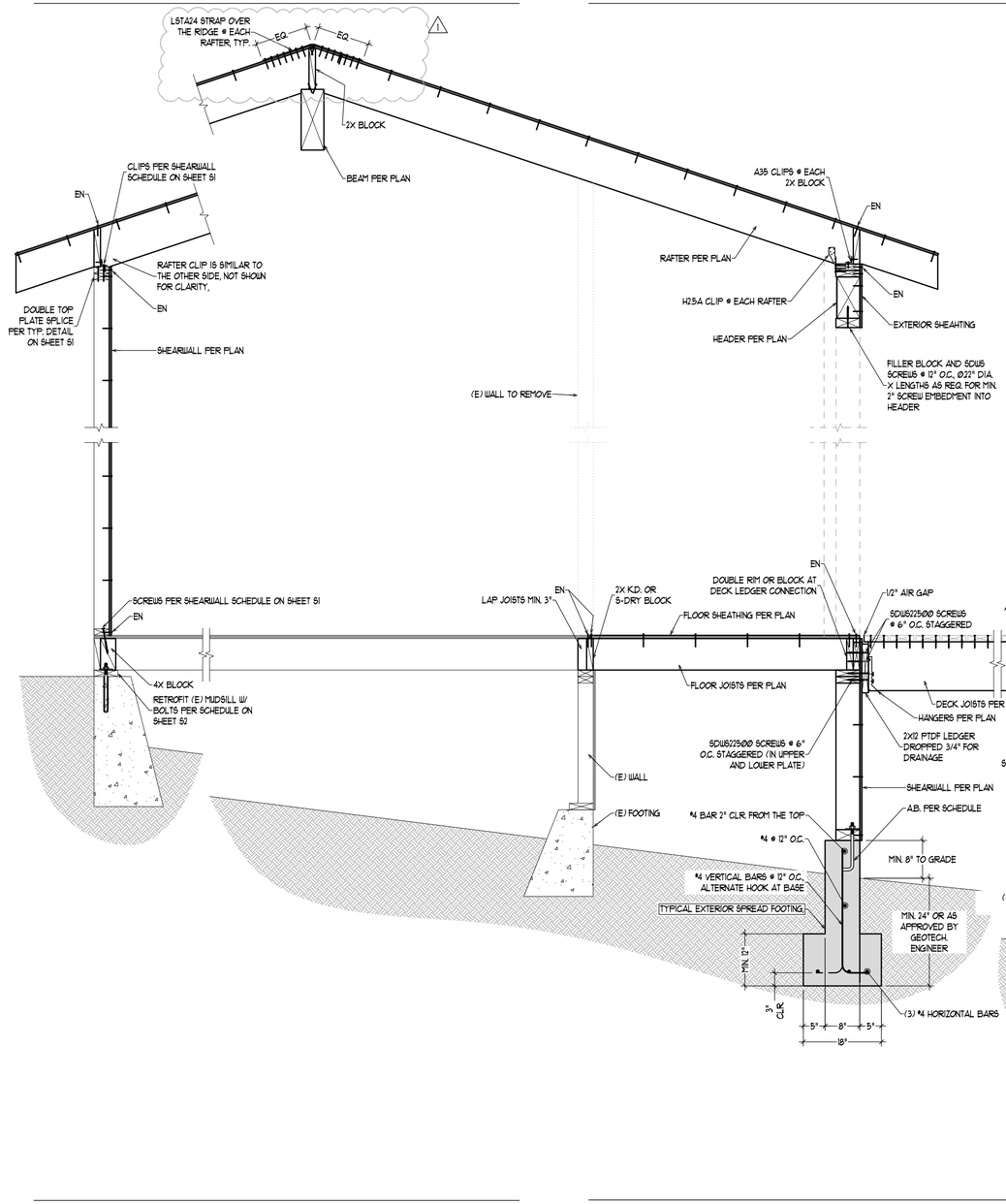


B S5 SECTION
3/4" = 1'-0"



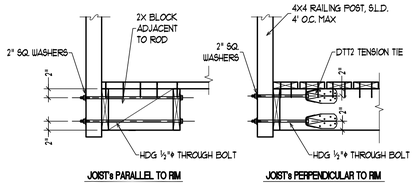
C S5 SECTION
3/4" = 1'-0"

TYPICAL CUT RETAINING WALL SCHEDULE			
WALL HEIGHT "H"	MAIN STEM REINFORCING "A"	KEY DEPTH "K"	BASE WIDTH "W"
0'-0" - 4'-0"	#4 @ 9" O.C.	1'-0"	1'-8"
4'-0" - 5'-0"	#4 @ 9" O.C.	1'-2"	2'-6"
5'-0" - 6'-0"	#4 @ 9" O.C.	1'-8"	3'-3"
6'-0" - 7'-0"	#4 @ 9" O.C.	2'-2"	4'-3"



D S5 SECTION
3/4" = 1'-0"

NOTE: S.A.D. FOR ALL FLASHING AND WATERPROOFING DETAILS.



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WWW.NISSENENGINEERING.COM

REGISTERED PROFESSIONAL ENGINEER PETER T. NISSEN No. C046035 CIVIL STATE OF CALIFORNIA 12/31/2026 EXPIRES

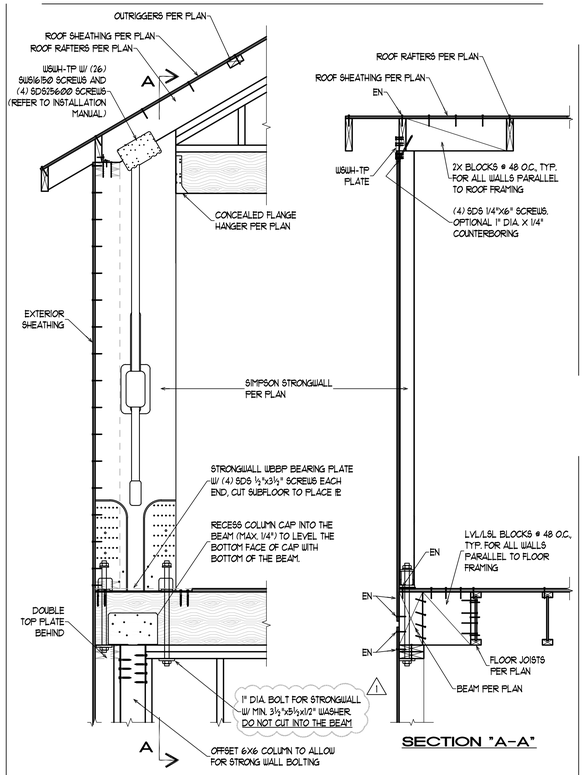
REVISION
1 05-27-2025

KEENE RESIDENCE REMODEL & ADDITION
6 CRESENTE AVE.,
BOLINAS, CA 94924

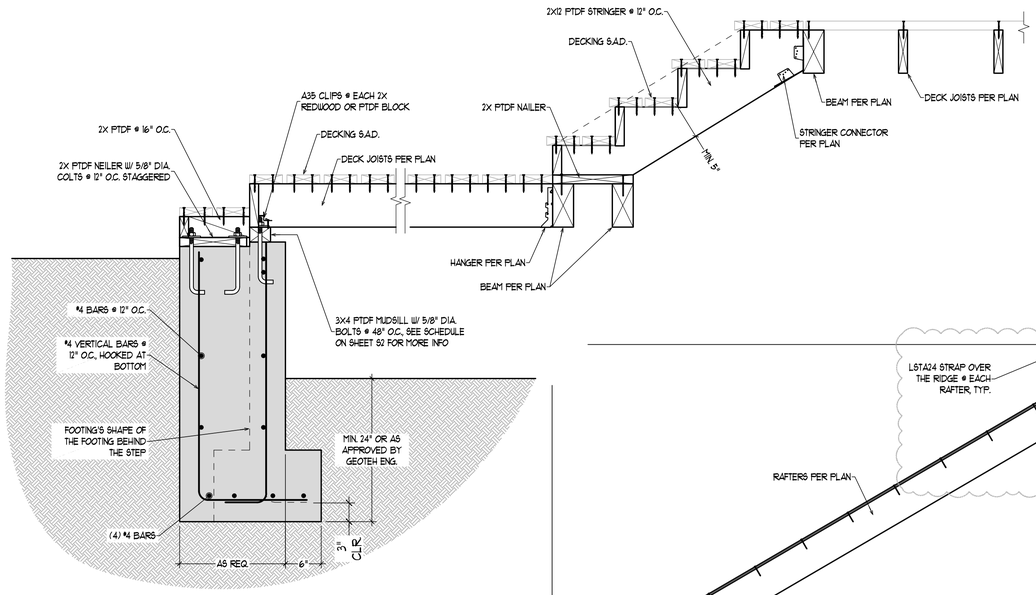
SECTIONS & DETAILS

DATE: 03-13-2025
JOB #: 24-57
SHEET 5 OF 7
S5

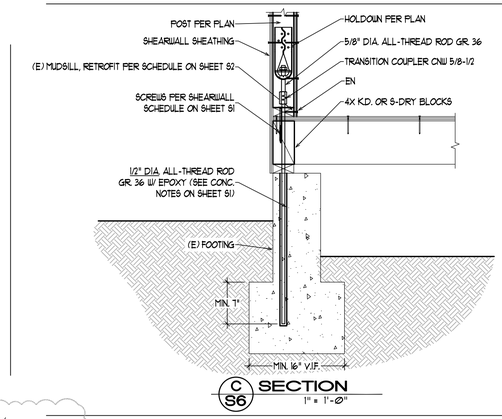
Reviewed for Code Compliance
Approved Verified By Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025



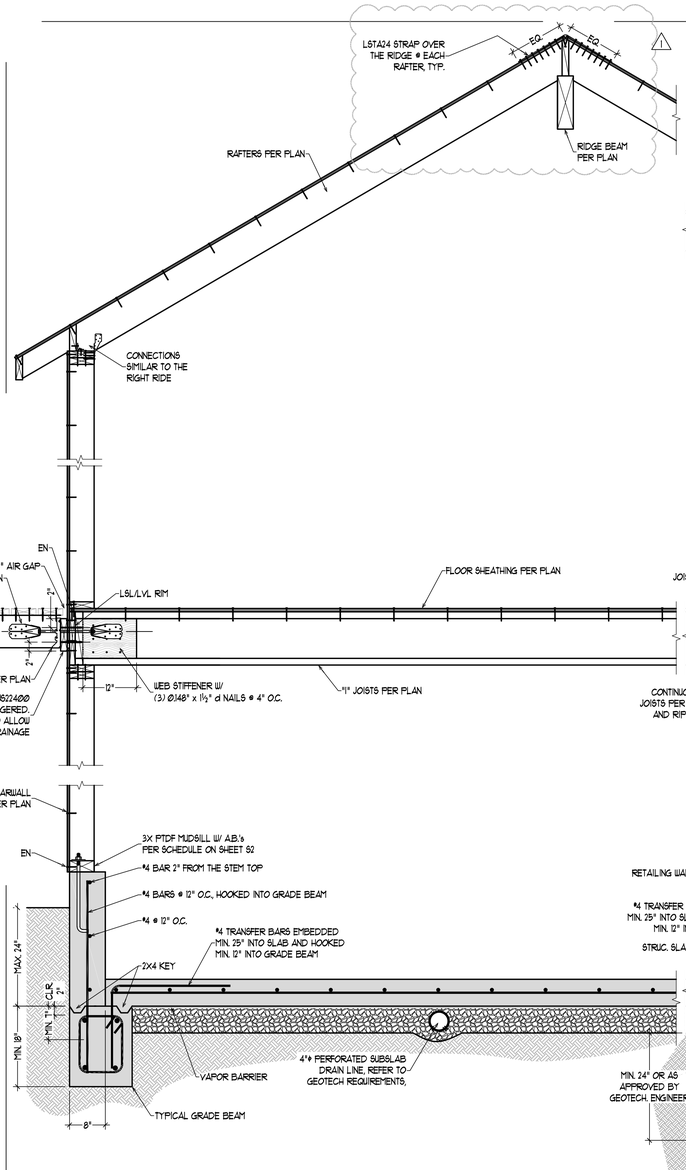
A S6 SECTION
¾" = 1'-0"

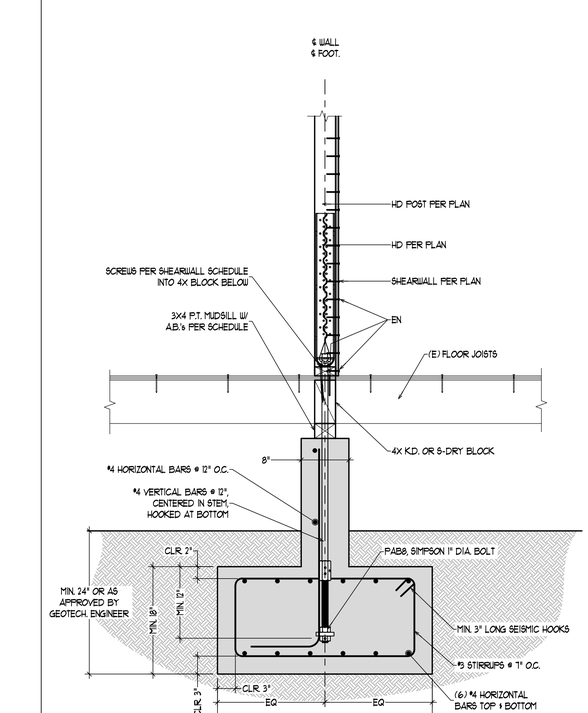


B S6 SECTION
¾" = 1'-0"



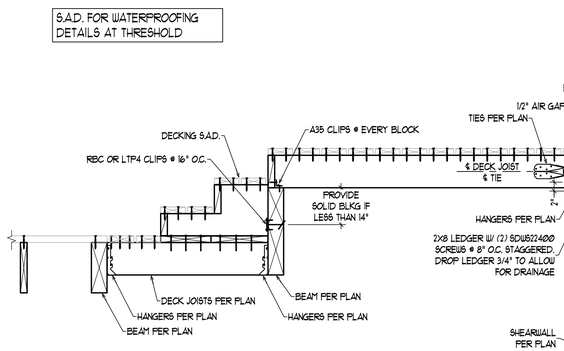
C S6 SECTION
1" = 1'-0"

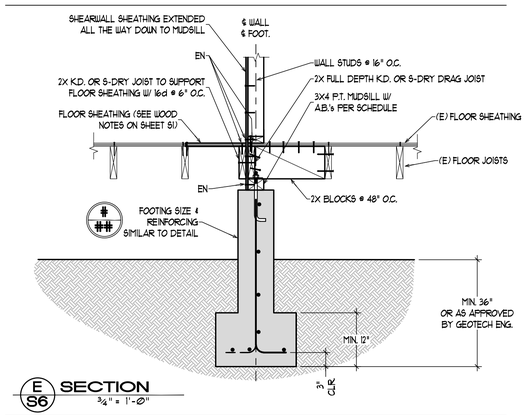




D S6 SECTION
1" = 1'-0"

S.A.D. FOR WATERPROOFING DETAILS AT THRESHOLD





E S6 SECTION
¾" = 1'-0"

F S6 SECTION
¾" = 1'-0"

Reviewed for Code Compliance
As Verified by Field Inspection
Permit No. 2025-179823
Date: 8/12/2025

REVISION
1 05-27-2025

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REGISTERED PROFESSIONAL ENGINEER PETER T. NISSEN No. C046035 12/31/2026 EXPIRES CIVIL STATE OF CALIFORNIA

KEENE RESIDENCE REMODEL & ADDITION
6 CRESENTE AVE.,
BOLINAS, CA 94924

SECTIONS & DETAILS

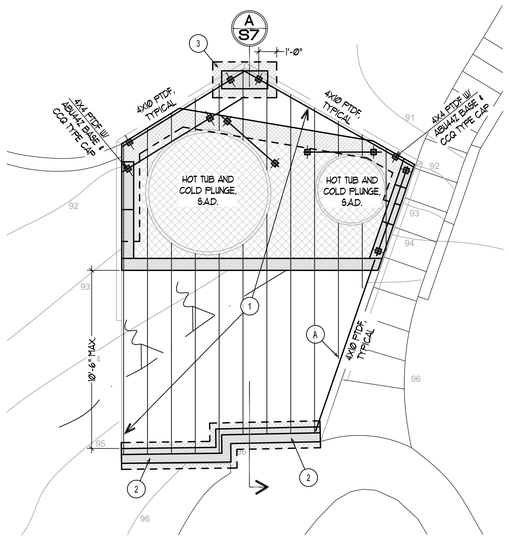
DATE 03-13-2025
JOB #: 24-57
SHEET 6 OF 7
S6

KEYED NOTES, HOT TUB PLAN:

1. 2X DECKING OVER 2X10 PTDF DECK JOISTS AT 16" O.C.
2. DECK SPREAD FOOTING, DEPTH/BEARING TO BE APPROVED BY PROJECT GEOTECHNICAL ENGINEER. SEE DETAIL A/S7
3. ISOLATED DECK SPREAD FOOTING REFER TO SECTION A/S7
4. 8" MATSLAB HOT TUB SLAB WITH TURNED DOWN EDGES AND RETAINING AT THE REAR, REFER TO SECTION A/S7

HANGER SCHEDULE, HOT TUB PLAN:

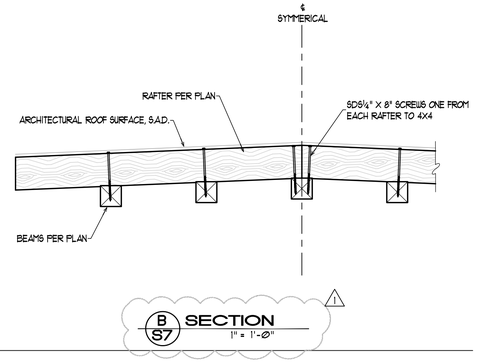
A (3) SDS 1/4" X 3-1/2" SCREWS



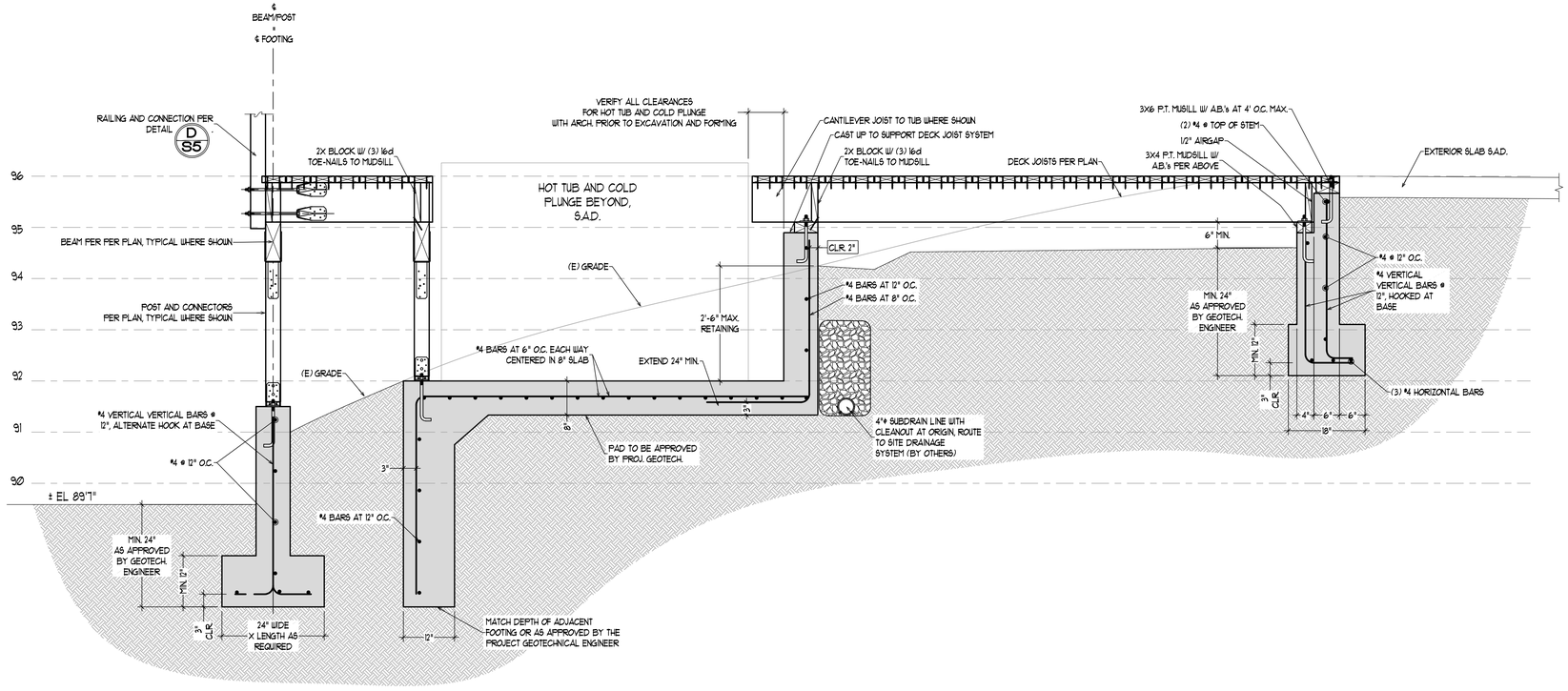
HOT TUB DECK PLAN
1/4" = 1'-Ø"

NOTE:
THERE SHALL BE NOT LESS THAN A 20% REDUCTION IN CEMENT USE BY IMPLEMENTATION OF FLY ASH.

NOTE:
THE CONTRACTOR SHALL GIVE THE ENGINEER SUFFICIENT NOTICE (48 HRS., MIN.) SO THAT THE ENGINEER CAN CONDUCT ON-SITE "STRUCTURAL OBSERVATION" FOR CONFORMANCE WITH ITEMS STIPULATED IN THE GENERAL NOTES ON SHEET S1



B S7 SECTION
1" = 1'-Ø"



A S7 SECTION
3/4" = 1'-Ø"

COUNTY OF MARIN

Reviewed for Code Compliance As Verified by Field Inspection

Permit Number: 179822, 179823

Date: 8/12/2025

REVISION

1 05-27-2025

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REGISTERED PROFESSIONAL ENGINEER PETER T. NISSEN No. C046035 12/31/2026 EXPIRES CIVIL STATE OF CALIFORNIA

KEENE RESIDENCE REMODEL & ADDITION

6 CRESENTE AVE.,
BOLINAS, CA 94924

HOT TUB DECK PLAN & DETAILS

DATE 03-13-2025

JOB #: 24-57

SHEET 7 OF 7

S7

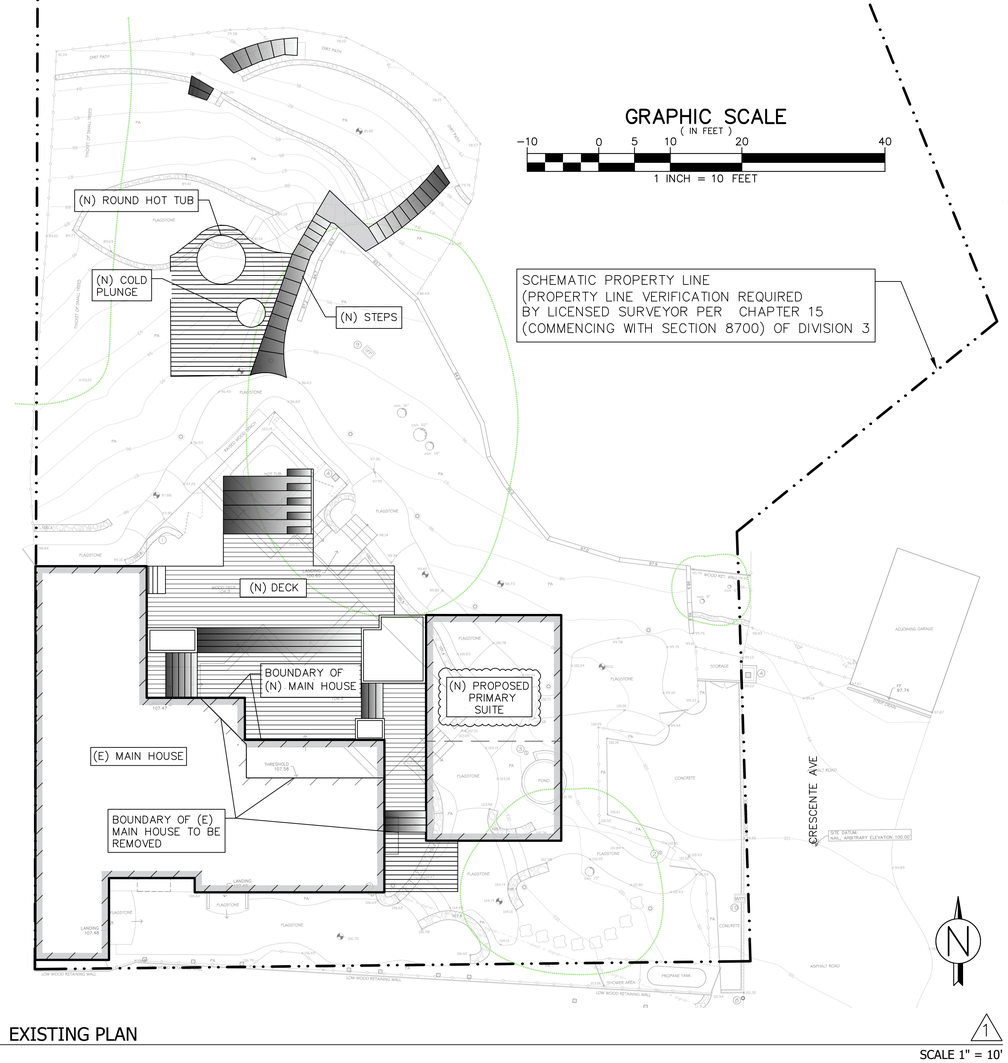
DRAINAGE & IMPROVEMENT PLAN

6 CRESCENTE AVE., BOLINAS CA 94924

SHEET SIZE: "Arch D" (36"x24")

THE DESIGN ENGINEER SHALL INSPECT AND CERTIFY IN WRITING TO DPW THAT THE GRADING AND DRAINAGE WERE CONSTRUCTED PER APPROVED PLAN AND FIELD DIRECTION. CERTIFICATION LETTERS SHALL REFERENCE BUILDING PERMIT NUMBER OR NUMBERS FOR SPECIFIC WORK BEING CERTIFIED, THE ADDRESS AND THE ASSESSOR'S PARCEL NUMBER (APN) FOR THE PROJECT, AND SHALL BE SIGNED AND STAMPED BY THE CERTIFYING PROFESSIONAL.

TOPOGRAPHY SURVEY DID NOT EXTEND TO THIS AREA



GRAPHIC SCALE (IN FEET)

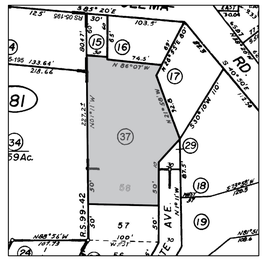
−10 0 5 10 20 40

1 INCH = 10 FEET

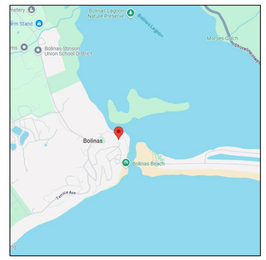
SCHEMATIC PROPERTY LINE
(PROPERTY LINE VERIFICATION REQUIRED BY LICENSED SURVEYOR PER CHAPTER 15 (COMMENCING WITH SECTION 8700) OF DIVISION 3

1 EXISTING PLAN

SCALE 1" = 10'



PARCEL LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

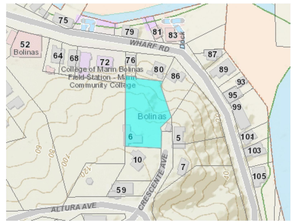
MarinMap Site Parcel Report

Property ID: 193-081-37

Report generated 2/19/2025 9:19:09 AM

Parcel Information

Property ID:	193-081-37
Address:	6 CRESCENTE AVE , BOLINAS
Land Use:	Single-Resid. - Improved
Units:	1
Tax Rate Area:	056-014
Average Slope:	49.56



Parcel highlighted in blue

Census:	132100	**Local Coastal Plan:**	1
District:	4 Dennis Rodoni	**Dam Failure Area:**	
Wildland Interface:	Y	**Alquist Priolo Zone:**	2
Community Plan:	West Marin	**Stream Conserv. Area/Buffer:**	0
Community:	Bolinas	**CWP Area:**	West Marin
ClubList:	BOLINAS	**CWP Corridor:**	COASTAL
Traffic Zone:	96	**Fire Service:**	Bolinas Fire Protection District
Zoning:	C-RA-B2	**Fire Authority:**	Bolinas Fire Protection District
	Residential Agriculture		
Flood Zone:	X	**Insurance Required:**	N

Zones B, C, and X are the flood insurance rate zones that correspond to areas outside the 1-percent annual chance floodplain, areas of 1-percent annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1-percent annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1-percent annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

MARIN MAPS PARCEL DETAIL
N.T.S.

STRUCTURAL OBSERVATION IS REQUIRED BY CHAPTER 17 OF THE CALIFORNIA BUILDING CODE. TYPES OF WORK LISTED BELOW SHALL BE OBSERVED DURING PERIODIC SITE VISITS BY AC ENGINEERING INC. OR THEIR DESIGNATED REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING AC ENGINEERING INC. 48 HOURS BEFORE THE WORK IS READY FOR OBSERVATION. STRUCTURAL INSPECTION DOES NOT CONSTITUTE SPECIAL INSPECTIONS.

OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR, AND BUILDING OFFICIAL. STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES THAT TO THE BEST OF THE CIVIL/GEOTECHNICAL STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED

GEOTECHNICAL	CIVIL	ONSITE WASTE WATER TREATMENT
☒ SUBGRADE PREPERATION	☒ DRAINAGE – OPEN TRENCH	
☒ FOOTING COMPACTION & DEPTH	☒ DRIVEWAY GRADING	
☒ COMPACTION	☒ ROUGH GRADING	
☐ CUT/FILL OPERATIONS		
☒ BACKFILL		
☒ PIER DRILLING & DEPTHS		
☐ SOIL NAILS & DEPTHS		
☐ TIE BACK DRILLING & DEPTHS		
☐ TIE BACK TESTING		
☐ REINF. STEEL SIZE/PLACEMENT		
☒ FINAL GEOTECHNICAL	☒ FINAL CIVIL	☐ FINAL OWTS

SHEET INDEX	
C–1.0	SITE OVERVIEW PLAN
C–1.1	PROJECT NOTES
C–1.2	MCSTOPPP DETAILS
C–1.3	CONSTRUCTION BEST MANAGEMENT PRACTICES
C–2.0	GRADING PLAN
C–2.1	DRAINAGE PLAN
C–3.0	DETAILS
C–4.0	IMPERVIOUS DATA

DEVELOPER / APPLICANT

MARK & SAMANTHA KEENE
6 CRESCENTE AVE.
BOLINAS, CA 94924

SITE INFO

6 CRESCENTE AVE.
BOLINAS, CA 94924
APN: 193–081–37
LOT SQ/FT: 21,014
37.90957623151676, –122.68332179013632

SCOPE OF WORK

NEW ADDITION TO EXISTING SFR. NEW BEDROOM SUITE. NEW DECK AT MAIN HOUSE. NEW DECK AT LOWER AREA ON PARCEL.

1

DESIGN

DRAINAGE PLAN UTILIZING STANDARD DESIGN PRACTICES FOR THE MANAGEMENT AND DISPERSAL OF STORM WATER INTO NEW DRAINAGE DISSIPATION PROVISIONS.

REFERENCES

ARCH. PLANS :"KEENE RESIDENCE" BY: Alethea Patton Design, DATED: 12/30/2024

TOPOGRAPHY & BOUNDARY : "TOPOGRAPHIC SURVEY NOVEMBER 2023," BY: PAUL KROHN, DATED: 11/14/2023

SOILS REPORT: "GEOTECHNICAL INVESTIGATION" BY: ACE ENGINEERING, INC. DATED: 07/31/24

BENCHMARK

ASSUMED DATUM

BASIS OF BEARINGS

NA:

ESTIMATED EARTHWORK QUANTITIES

CUT	12
FILL	4
EXPORT	8

GRADING QUANTITIES REPRESENT BANK YARDAGE. IT DOES NOT INCLUDE ANY SWELLING OR SHRINKAGE FACTORS AND IS INTENDED TO REPRESENT IN–SITU CONDITIONS. QUANTITIES DO NOT INCLUDE OVER–EXCAVATION, TRENCHING, STRUCTURAL FOUNDATIONS OR PIERS, OR POOL EXCAVATION (IF ANY). NOTE ADDITIONAL EARTHWORKS, SUCH AS KEYWAYS OR BENCHING, MAY BE REQUIRED BY THE GEOTECHNICAL ENGINEER IN THE FIELD AT TIME OF CONSTRUCTION. CONTRACTOR TO VERIFY QUANTITIES.

IMPERVIOUS SURFACE DATA

EXISTING	2,198
PROPOSED	1,221
POST PROJECT	3,077

AREA OF DISTURBANCE

PROPOSED	4,519

REVISISON TABLE

DATE	DELTA	COMMENTS
20250317	1	NOTE CHANGE
20250610	2	LINEAR DISSIPATER ADDED

COUNTY OF MARIN

Reviewed for Code Compliance As Verified by Field Inspection

Permit Number: 179822, 179823

Date: 8/12/2025

ISSUES

ISSUE	DATE	DESCRIPTION
2	6/10/25	COMMENTS
1	5/23/25	NOTE CHANGE
0	3/17/25	PERMIT

AC ENGINEERING, INC.
CIVIL & GEOTECHNICAL CONSULTANTS
454 LAS GALLINAS AVE., SUITE 1047
SAN RAFAEL, CA 94903
P: 415–295–2152
admin@agnewcivil.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
ORION W. AGNEW
C 87262
CIVIL
STATE OF CALIFORNIA

SITE OVERVIEW PLAN

KEENE RESIDENCE / MARK & SAMANTHA KEENE
6 CRESCENTE AVE., BOLINAS CA 94924
APN: 193–081–37

JOB #

351–1

C–1.0

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SHEET SIZE: "Arch D" (36"x24")

GENERAL NOTES

ALL GENERAL NOTES, SHEET NOTES, AND LEGEND NOTES FOUND IN THESE DOCUMENTS SHALL APPLY TYPICALLY THROUGHOUT. IF INCONSISTENCIES ARE FOUND IN THE VARIOUS NOTATIONS, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING REQUESTING CLARIFICATION.

THESE DRAWINGS AND THEIR CONTENT ARE AND SHALL REMAIN THE PROPERTY OF AGNEW CIVIL ENGINEERING WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANY PERSONS ON OTHER PROJECTS OR EXTENSIONS OF THE PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ENGINEER.

ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND TRADE STANDARDS WHICH GOVERN EACH PHASE OF WORK INCLUDING, BUT NOT LIMITED TO, CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA ELECTRICAL CODE, CALIFORNIA FIRE CODE, CALTRANS STANDARDS AND SPECIFICATIONS, AND ALL APPLICABLE STATE AND/OR LOCAL CODES AND/OR LEGISLATION.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL SUBCONTRACTORS TO CHECK AND VERIFY ALL CONDITIONS, DIMENSIONS, LINES AND LEVELS INDICATED. PROPER AT AND ATTACHMENT OF ALL PARTS IS REQUIRED. SHOULD THERE BE ANY DISCREPANCIES, IMMEDIATELY NOTIFY THE ENGINEER FOR CORRECTION OR ADJUSTMENT THE EVENT OF FAILURE TO DO SO, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTION OF ANY ERROR.

ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED ON THE JOB BY EACH SUBCONTRACTOR BEFORE HE/SHE BEGINS HIS/HER WORK. ANY ERRORS, OMISSION, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/CONTRACTOR BEFORE CONSTRUCTION BEGINS. COMMENCEMENT OF WORK BY THE CONTRACTOR AND/OR ANY SUBCONTRACTOR SHALL INDICATE KNOWLEDGE AND ACCEPTANCE OF ALL CONDITIONS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS, OR EXISTING ON SITE, WHICH COULD AFFECT THEIR WORK.

1. WORK SEQUENCE

IN THE EVENT ANY SPECIAL SEQUENCING OF THE WORK IS REQUIRED BY THE OWNER OR THE CONTRACTOR, THE CONTRACTOR SHALL ARRANGE A CONFERENCE BEFORE ANY SUCH WORK IS BEGUN.

SITE EXAMINATION: THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL THOROUGHLY EXAMINE THE SITE AND FAMILIARIZE HIM/HERSELF WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY AT THE SITE ALL MEASUREMENTS AFFECTING HIS/HER WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTIONS OF THE SAME. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS/HER NEGLECT TO EXAMINE, OR FAILURE TO DISCOVER, CONDITIONS WHICH AFFECT HIS/HER WORK.

AGNEW CIVIL ENGINEERING EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION AND CONSENT OF AGNEW CIVIL ENGINEERING IN THE EVENT OF UNAUTHORIZED REUSE OF THESE PLANS BY A THIRD PARTY, THE THIRD PARTY SHALL HOLD HARMLESS AGNEW CIVIL ENGINEERING

CONSTRUCTION IS ALWAYS LESS THAN PERFECT SINCE PROJECTS REQUIRE THE COORDINATION AND INSTALLATION OF MANY INDIVIDUAL COMPONENTS BY VARIOUS CONSTRUCTION INDUSTRY TRADES. THESE DOCUMENTS CANNOT PORTRAY ALL COMPONENTS OR ASSEMBLIES EXACTLY. IT IS THE INTENTION OF THESE ENGINEERING DOCUMENTS THAT THEY REPRESENT A REASONABLE STANDARD OF CARE IN THEIR CONTENT. IT IS ALSO PRESUMED BY THESE DOCUMENTS THAT CONSTRUCTION REVIEW SERVICES WILL BE PROVIDED BY THE ENGINEER. SHOULD THE OWNER NOT RETAIN THE ENGINEER TO PROVIDE SUCH SERVICES, OR SHOULD HE/SHE RETAIN THE ENGINEER TO PROVIDE ONLY PARTIAL OR LIMITED SERVICES, THEN IT SHALL BE THE OWNER'S AND CONTRACTOR'S RESPONSIBILITY TO FULLY RECOGNIZE AND PROVIDE THAT STANDARD OF CARE.

IF THE OWNER OR CONTRACTOR OBSERVES OR OTHERWISE BECOMES AWARE OF ANY FAULT OR DEFECT IN THE PROJECT OR NONCONFORMANCE WITH THE CONTRACT DOCUMENTS, PROMPT WRITTEN NOTICE THEREOF SHALL BE GIVEN BY THE OWNER AND/OR CONTRACTOR TO THE ENGINEER.

THE ENGINEER SHALL NOT HAVE CONTROL OF OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

2. SITE PROTECTION

PROTECT ALL LANDSCAPING THAT IS TO REMAIN. ANY DAMAGE OR LOSS RESULTING FROM EXCAVATION, GRADING, OR CONSTRUCTION WORK SHALL BE CORRECTED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING SITE UTILITIES AND SHALL COORDINATE THEIR REMOVAL OR MODIFICATIONS (IF ANY) TO AVOID ANY INTERRUPTION OF SERVICE TO ADJACENT AREAS. THE GENERAL CONTRACTOR SHALL INFORM HIM/HERSELF OF MUNICIPAL REGULATIONS AND CARRY OUT HIS/HER WORK IN COMPLIANCE WITH ALL FEDERAL AND STATE REQUIREMENTS TO REDUCE FIRE HAZARDS AND INJURIES TO THE PUBLIC.

GENERAL GRADING NOTES

CONTRACTOR SHALL OBTAIN THE PROPER PERMITS PRIOR TO ANY GRADING.

A SEPARATE PERMIT IS REQUIRED FOR ANY AND ALL WORK WITHIN THE CITY RIGHT-OF-WAY. THE CONTRACTOR(S) SHALL OBTAIN AN APPROVED STREET WORK (ENCROACHMENT PERMIT) PERMIT FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO THE COMMENCEMENT OF THIS WORK WITHIN THE CITY RIGHT-OF-WAY.

CONTRACTOR SHALL PROVIDE AND MAINTAIN APPROVED EROSION AND SEDIMENTATION CONTROL MEASURES DURING RAINY SEASON PER CITY AND CALIFORNIA REGIONAL STANDARDS – REFER TO EROSION AND SEDIMENTATION CONTROL PLAN.

ALL GRADED SLOPES SHALL BE PLANTED WITH FAST GROWING, DEEP ROOTED GROUND COVER TO REDUCE THE EROSION DURING HEAVY RAINS.

SLOPE FINISHED GRADES A MINIMUM OF 5%, FOR AT LEAST THE 5 FEET TO 10 FEET FROM BUILDING PERIMETER WHERE EVER IT IS PHYSICALLY POSSIBLE. DIRECT SURFACE DRAINAGE RUNOFF TO DISPERSE ON-SITE.

PROVIDE 2% SLOPE ACROSS FLATWORK AND/OR PAVING AND SLOPE TO DAYLIGHT. REFER TO ARCHITECTS PLANS FOR PAVEMENT TYPE, LAYOUT, AND FINISH -TYP.

CONSTRUCT EARTHEN SWALES AT 2% - TYP. (1% MIN.) & BERMS AS REQUIRED TO DIRECT FLOWS TO DAYLIGHT. SLOPE FINISHED GRADES TO DAYLIGHT, TO ACCOMMODATE POSITIVE DRAINAGE AND AVOID PONDING. FOR FLOWLINES GREATER THAN 5%, PROVIDE LINED DITCH -TYP.

REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION, INCLUDING BUT NOT LIMITED TO: ADDITIONAL UTILITY SERVICES, DIMENSION CONTROL DEMOLITION, DETAILS, TREE PROTECTION MEASURES, AND LANDSCAPING.

PROVIDE TREE PROTECTION AS REQUIRED FOR TREES TO REMAIN.

THE CONTRACTOR SHALL OBTAIN THE PROPER TREE REMOVAL PERMIT AS REQUIRED.

CONTRACTOR SHALL NOTIFY THE OWNER AND/OR MAINTENANCE STAFF IN WRITING OF THE NEED OF PERIODIC MAINTENANCE OF THE DRAINAGE SYSTEM AND STRUCTURES.

DEMOLISH (E) STRUCTURE(S) AS REQUIRED. NO DEMOLITION SHALL COMMENCE WITHOUT REQUIRED CITY DEMOLITION PERMIT.

FINISHED GRADE ELEVATIONS NOTED AS [FG (MAX.)] ARE THE MAXIMUM ALLOWABLE GRADE AT THE BUILDING PERIMETER PER C.B.C. SECTION 2304.11.2.2 TO PROVIDE 8" MIN. CLEARANCE. THESE GRADES MAY BE LOWER PROVIDED THAT PROPER FLOW AWAY FROM THE FOUNDATION IS ACHIEVED. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPECIAL DETAILS AS REQUIRED.

DIRECT ROOF DOWNSPOUT (DS) LEADERS TO SPLASH BLOCKS, PROVIDE 2' LONG SPLASH BLOCKS TO BE USED BELOW RAIN WATER LEADERS IN PERVIOUS AREAS.

STORMWATER POLLUTION PREVENTION NOTES

1. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.

2. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING SOLID WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENT, AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATER COURSES.

3. USE SEDIMENT CONTROL OR FILTRATION TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

4. AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON SITE, EXCEPT IN A DESIGNATED AREA IN WHICH RUNOFF IS CONTAINED AND TREATED.

5. DELINEATE CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES AND DISCHARGE COURSE WITH FIELD MARKERS.

6. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OF FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.

7. PERFORM CLEARING AND EARTH MOVING ACTIVITIES DURING DRY WEATHER TO THE MAXIMUM EXTENT PRACTICAL

8. LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.

9. LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.

10. AVOID TRACKING DIRT OR MATERIALS OFF-SITE; CLEAN OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS TO THE MAXIMUM EXTENT PRACTICAL.

SUPPLEMENTAL MEASURES

A. THE PHRASE 'NO DUMPING - DRAINS TO BAY' OR EQUALLY EFFECTIVE PHRASE MUST BE LABELED ON STORM DRAIN INLETS (BY STENCILING, BRANDING, OR PLAQUES) TO ALERT THE PUBLIC TO THE DESTINATION OF STORM WATER AND TO PREVENT DIRECT DISCHARGE OF POLLUTANTS INTO THE STORM DRAIN.

B. USING FILTRATION MATERIALS ON STORM DRAIN COVERS TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

C. STABILIZING ALL DEMUDED AREAS AND MAINTAINING EROSION CONTROL MEASURES CONTINUOUSLY FROM OCTOBER 1 TO APRIL 30.

D. REMOVING SPOILS PROMPTLY, AND AVOID STOCKPILING OF ALL MATERIALS, WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH A TARP OR OTHER WATERPROOF MATERIAL

E. STORING, HANDLING, AND DISPOSING OF CONSTRUCTION MATERIALS AND WASTES SO AS TO AVOID THEIR ENTRY TO THE STORM DRAIN SYSTEMS OR WATER BODY.

GRADING AND DRAINAGE NOTES

1. SCOPE OF WORK

A. THESE SPECIFICATIONS AND APPLICABLE PLANS PERTAIN TO AND INCLUDE ALL SITE GRADING AND EARTHWORK ASSOCIATED WITH THE PROJECT INCLUDING, BUT NOT LIMITED TO THE FURNISHING OF ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR SITE CLEARING AND GRUBBING, SITE PREPARATION, DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL STRIPPING, KEYING, EXCAVATION, OVER EXCAVATION, RECOMPACTION PREPARATION FOR SOIL RECEIVING FILL, PAVEMENT, FOUNDATION OF SLABS, EXCAVATION, IMPORTATION OF ANY REQUIRED FILL MATERIAL PROCESSING, PLACEMENT AND COMPACTION OF FILL AND SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADING AND SLOPE SHOWN ON THE PROJECT GRADING PLANS.

2. GENERAL

A. ALL SITE GRADING AND EARTHWORK SHALL CONFORM TO THE RECOMMENDATIONS OF THESE SPECIFICATIONS AND SOILS REPORT AND THE MARIN COUNTY GRADING ORDINANCE.

B. ALL FILL MATERIALS SHALL BE DENSIFIED SO AS TO PRODUCE A DENSITY NOT LESS THAN 90% RELATIVE COMPACTION BASED UPON ASTM)A TEST DESIGNATION D1557. FIELD DENSITY TEST WILL BE PERFORMED IN ACCORDANCE WITH ASTM TEST DESIGNATION 2922 AND 3017. THE LOCATION AND FREQUENCY OF THE FIELD DENSITY TEST WILL BE AS DETERMINED BY THE SOIL ENGINEER. THE RESULTS OF THESE TEST AND COMPLIANCE WITH THE SPECIFICATIONS WILL BE THE BASIS UPON WHICH SATISFACTORY COMPLETION OF THE WORK WILL BE JUDGED BY THE SOIL ENGINEER. ALL CUT AND ALL SLOPES SHALL BE CONSTRUCTED AS SHOWN ON PLANS, BUT NO STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. NO DEVIATION FROM THESE SPECIFICATIONS SHALL BE MADE EXCEPT UPON WRITTEN APPROVAL BY THE SOILS ENGINEER. BOTH CUT AND ALL AREAS SHALL BE SURFACE COMPLETED TO THE SATISFACTION OF THE SOILS ENGINEER AT THE CONCLUSION OF ALL GRADING OPERATIONS AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOTIFY THE SOILS ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO DOING ANY SITE GRADING AND EARTHWORK INCLUDING CLEARING.

3. CLEARING AND GRUBBING

A. THE CONTRACTOR SHALL ACCEPT THE SITE IN ITS PRESENT CONDITION. ALL EXISTING PUBLIC IMPROVEMENTS SHALL BE PROTECTED. ANY IMPROVEMENTS DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE COUNTY OF MARIN WITH NO EXTRA COMPENSATION.

B. ALL ABANDONED BUILDINGS AND FOUNDATIONS, TREE (EXCEPT THOSE SPECIFIED TO REMAIN FOR LANDSCAPING PURPOSES), FENCES, VEGETATION AND ANY SURFACE DEBRIS SHALL BE REMOVED AND DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

C. ALL ABANDONED SEPTIC TANKS AND ANY OTHER SUBSURFACE STRUCTURES EXISTING IN PROPOSED DEVELOPMENT AREAS SHALL BE REMOVED PRIOR TO ANY GRADING OR FILL OPERATION. ALL APPURTENANT DRAIN FIELDS AND OTHER CONNECTING LINES MUST ALSO BE TOTALLY REMOVED.

D. ALL ABANDONED UNDERGROUND IRRIGATION OR UTILITY LINES SHALL BE REMOVED OR DEMOLISHED. THE APPROPRIATE FINAL DISPOSITION OF SUCH LINES DEPEND UPON THEIR DEPTH AND LOCATION AND THE METHOD OF REMOVAL OR DEMOLITION SHALL BE DETERMINED BY THE SOILS ENGINEER. ONE OF THE FOLLOWING METHODS WILL BE USED:

(1) EXCAVATE AND TOTALLY REMOVE THE UTILITY LINE FROM THE TRENCH.
(2) EXCAVATE AND CRUSH THE UTILITY LINE IN THE TRENCH.
(3) CAP THE ENDS OF THE UTILITY LINE WITH CONCRETE TO PREVENT THE ENTRANCE OF WATER. THE LOCATIONS AT WHICH THE UTILITY LINE WILL BE CAPPED WILL BE DETERMINED BY THE COUNTY OF MARIN ENGINEER. THE LENGTH OF THE CAP SHALL NOT BE LESS THAN FIVE FEET, AND THE CONCRETED MIX EMPLOYED SHALL HAVE MINIMUM SHRINKAGE.

4. SITE PREPARATION AND STRIPPING

A. ALL SURFACE ORGANICS SHALL BE STRIPPED AND REMOVED FROM BUILDING PADS, AREAS TO RECEIVE COMPACTED FILL AND PAVEMENT AREAS.

B. UPON THE COMPLETION OF THE ORGANIC STRIPPING OPERATION, THE GROUND SURFACE (NATIVE SOIL SUBGRADE) OVER THE ENTIRE AREA OF ALL BUILDING PADS, STREET AND PAVEMENT AREAS AND ALL AREAS TO RECEIVE COMPACTED FILL SHALL BE PLOWED OR SCARIFIED UNTIL THE SURFACE IS FREE OF RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH MAY INHIBIT UNIFORM SOIL COMPACTION. THE GROUND SURFACE SHALL THEN BE DISCED OR BLADED TO A DEPTH OF AT LEAST 6 INCHES. UPON ENGINEER'S SATISFACTION, THE NEW SURFACE SHALL BE WATER CONDITIONED AND RECOMPACTED PER REQUIREMENTS FOR COMPACTING FILL MATERIAL

5. EXCAVATION

A. UPON COMPLETION OF THE CLEARING AND GRUBBING, SITE PREPARATION AND STRIPPING, THE CONTRACTOR SHALL MAKE EXCAVATIONS TO LINES AND GRADES NOTED ON THE PLANS WHERE REQUIRED BY THE SOILS ENGINEER. UNACCEPTABLE NATIVE SOILS OR UNENGINEERED FILL SHALL BE OVER EXCAVATED BELOW THE DESIGN GRADE. CONTACT CITY ENGINEER FOR DISCUSSION OF OVER EXCAVATION OF THE UNACCEPTABLE MATERIAL RESULTING GROUND LINE SHALL BE SCARIFIED, MOISTURE-CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE.

B. EXCAVATED MATERIALS SUITABLE FOR COMPACTED FILL MATERIAL SHALL BE UTILIZED IN MAKING THE REQUIRED COMPACTED FILLS. THOSE NATIVE MATERIALS CONSIDERED UNSUITABLE BY THE SOILS ENGINEER SHALL BE DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

6. PLACING, SPREADING AND COMPACTING FILL MATERIAL

A. FILL MATERIALS
THE MATERIALS PROPOSED FOR USE AS COMPACTED FILL SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. THE NATIVE MATERIAL IS CONSIDERED SUITABLE FOR FILL; HOWEVER, ANY NATIVE MATERIAL DESIGNATED UNSUITABLE BY THE SOILS ENGINEER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. ANY IMPORTED MATERIAL SHALL BE APPROVED FOR USE BY THE SOILS ENGINEER, IN WRITING, BEFORE BEING IMPORTED TO THE SITE AND SHALL POSSESS SUFFICIENT FINES TO PROVIDE A COMPETENT SOIL MATRIX AND SHALL BE FREE OF VEGETATIVE AND ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS. ALL FILL VOIDS SHALL BE RUED AND PROPERLY COMPACTED. NO ROCKS LARGER THAN THREE INCHES IN DIAMETER SHALL BE PERMITTED.

B. FILL CONSTRUCTION
THE SOILS ENGINEER SHALL APPROVE THE NATIVE SOIL SUBGRADE BEFORE PLACEMENT OF ANY COMPACTED ALL MATERIAL. UNACCEPTABLE NATIVE SOIL SHALL BE REMOVED AS DIRECTED BY THE SOILS ENGINEER. THE RESULTING GROUND LINE SHALL BE SCARIFIED MOISTURE CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE. GROUND PREPARATION SHALL BE FOLLOWED CLOSELY BY FILL PLACEMENT TO PREVENT DRYING OUT OF THE SUBSOIL BEFORE PLACEMENT OF THE ALL.

THE APPROVED FILL MATERIALS SHALL BE PLACED IN UNIFORM HORIZONTAL LAYERS NO THICKER THAN 8" IN LOOSE THICKNESS. LAYERS SHALL BE SPREAD EVENLY AND SHALL BE THOROUGHLY BLADE MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. THE SCARIFIED SUBGRADE AND FILL MATERIAL SHALL BE MOISTURE CONDITIONED TO AT LEAST OPTIMUM MOISTURE. WHEN THE MOISTURE CONTENT OF THE FILL IS BELOW THAT SPECIFIED, WATER SHALL BE ADDED UNTIL THE MOISTURE DURING THE COMPACTION PROCESS. WHEN THE MOISTURE CONTENT OF THE FILL IS ABOVE THAT SPECIFIED, THE ALL MATERIAL SHALL BE AERATED BY BLADING OR OTHER SATISFACTORY METHODS UNTIL THE MOISTURE CONTENT IS AS SPECIFIED.

AFTER EACH LAYER HAS BEEN PLACED, MIXED, SPREAD EVENLY AND MOISTURE CONDITIONED, IT SHALL BE COMPACTED TO AT LEAST THE SPECIFIED DENSITY.

THE FILL OPERATION SHALL BE CONTINUED IN COMPACTED LAYERS AS SPECIFIED ABOVE UNTIL THE FILL HAS BEEN BROUGHT TO THE FINISHED SLOPES AND GRADES AS SHOWN ON THE PLANS. NO LAYER SHALL BE ALLOWED TO DRY OUT BEFORE SUBSEQUENT LAYERS ARE PLACED.

COMPACTION EQUIPMENT SHALL BE OF SUCH DESIGN THAT IT WILL BE ABLE TO COMPACT THE FILL TO THE SPECIFIED MINIMUM COMPACTION WITHIN THE SPECIFIED MOISTURE CONTENT RANGE. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER ITS ENTIRE AREA UNTIL THE REQUIRED MINIMUM DENSITY HAS BEEN OBTAINED.

7. CUT OR FILL SLOPES

ALL CONSTRUCTED SLOPES, BOTH CUT AND FILL, SHALL BE NO STEEPER THAN 2 TO 1 (HORIZONTAL TO VERTICAL). DURING THE GRADING OPERATION, COMPACTED ALL SLOPES SHALL BE OVERFILLED BY AT LEAST ONE FOOT HORIZONTALLY AT THE COMPLETION OF THE GRADING OPERATIONS, THE EXCESS ALL DOMING ON THE SLOPES SHALL BE BLADED OFF TO CREATE THE FINISHED SLOPE EMBANKMENT. ALL CUT AND FILL SLOPES SHALL BE TRACK WALKED AFTER BEING BROUGHT TO FINISH GRADE AND THEN BE PLANTED WITH EROSION CONTROL SLOPE PLANTING. THE SOILS ENGINEER SHALL REVIEW ALL CUT SLOPES TO DETERMINE IF ANY ADVERSE GEOLOGIC CONDITIONS ARE EXPOSED. IF SUCH CONDITIONS DO OCCUR, THE SOILS ENGINEER SHALL RECOMMEND THE APPROPRIATE MITIGATION MEASURES AT THE TIME OF THEIR DETECTION.

8. SEASONAL LIMITS AND DRAINAGE CONTROL
FILL MATERIALS SHALL NOT BE PLACED, SPREAD OR COMPACTED WHILE IT IS AT AN UNSUITABLY HIGH MOISTURE CONTENT OR DURING OTHERWISE UNFAVORABLE CONDITIONS. WHEN THE WORK IS INTERRUPTED FOR ANY REASON THE ALL OPERATIONS SHALL NOT BE RESUMED UNTIL FIELD TEST PERFORMED BY THE SOILS ENGINEER INDICATE THAT THE MOISTURE CONDITIONS IN AREAS TO BE FILLED ARE AS PREVIOUSLY SPECIFIED. ALL EARTH MOVING AND WORKING OPERATIONS SHALL BE CONTROLLED TO PREVENT WATER FROM RUNNING INTO EXCAVATED AREAS. ALL EXCESS WATER SHALL BE PROMPTLY REMOVED AND THE SITE KEPT DRY.

9. DUST CONTROL
THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY FOR THE ALLEVIATION OR PREVENTION OF ANY DUST NUISANCE ON OR ABOUT THE SITE CAUSED BY THE CONTRACTOR'S OPERATION EITHER DURING THE PERFORMANCE OF THE GRADING OR RESULTING FROM THE CONDITION IN WHICH THE CONTRACTOR LEAVES THE SITE. THE CONTRACTOR SHALL ASSUME ALL LIABILITY INCLUDING COURT COST OF CO-DEFENDANTS FOR ALL CLAIMS RELATED TO DUST OR WIND-BLOWN MATERIALS ATTRIBUTABLE TO HIS WORK. COST FOR THIS ITEM OF WORK IS TO BE INCLUDED IN THE EXCAVATION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

10. INDEMNITY
THE CONTRACTOR WILL HOLD HARMLESS, INDEMNIFY AND DEFEND THE ENGINEER, THE OWNER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS, FROM ANY AND ALL LIABILITY CLAIMS, LOSSES OR DAMAGE ARISING OR ALLEGED TO HEREIN, BUT NOT INCLUDING THE SOLE NEGLIGENCE OF THE OWNER, THE ARCHITECT, THE ENGINEER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS.

11. SAFETY
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
THE DUTY OF THE ENGINEERS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE

12. GUARANTEE
NEITHER THE FINAL PAYMENT, NOR THE PROVISIONS IN THE CONTRACT, NOR PARTIAL, NOR ENTIRE USE OR OCCUPANCY OF THE PREMISES BY THE OWNER SHALL CONSTITUTE AN ACCEPTANCE OF THE WORK NOT DONE IN ACCORDANCE WITH THE CONTRACT OR RELIEVES THE CONTRACTOR OF LIABILITY IN RESPECT TO ANY EXPRESS WARRANTIES OR RESPONSIBILITY FOR FAULTY MATERIAL OR WORKMANSHIP.
THE CONTRACTOR SHALL REMEDY ANY DEFECTS IN WORK AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THERE FROM WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) CALENDAR YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.

13. TRENCH BACKFILL
EITHER THE ON-SITE INORGANIC SOIL OR APPROVED IMPORTED SOIL MAY BE USED AS TRENCH BACKFILL THE BACKFILL MATERIAL SHALL BE MOISTURE CONDITIONED PER THESE SPECIFICATIONS AND SHALL BE PLACED IN LIFTS OF NOT MORE THAN SIX INCHES IN HORIZONTAL UNCOMPACTED LAYERS AND BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 90% RELATIVE COMPACTION. IMPORTED SAND MAY BE USED FOR TRENCH BACKFILL MATERIAL PROVIDED IT IS COMPACTED TO AT LEAST 90% RELATIVE COMPACTION. WATER JETTING ASSOCIATED WITH COMPACTION USING VIBRATORY EQUIPMENT WILL BE PERMITTED ONLY WITH IMPORTED SAND BACKFILL WITH THE APPROVAL OF THE SOILS ENGINEER. ALL PIPES SHALL BE BEDDED WITH SAND EXTENDING FROM THE TRENCH BOTTOM TO TWELVE INCHES ABOVE THE PIPE. SAND BEDDING IS TO BE COMPACTED AS SPECIFIED ABOVE FOR SAND BACKFILL

14. EROSION CONTROL
A. ALL GRADING, EROSION AND SEDIMENT CONTROL AND RELATED WORK UNDERTAKEN ON THIS SITE IS SUBJECT TO ALL TERMS AND CONDITIONS OF THE COUNTY GRADING ORDINANCE AND MADE A PART HEREOF BY REFERENCE.

B. THE CONTRACTOR WILL BE LIABLE FOR ANY AND ALL DAMAGES TO ANY PUBLICLY OWNED AND MAINTAINED ROAD CAUSED BY THE AFORESAID CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON MC HAUL ROUTE.
C. THE EROSION CONTROL MEASURES ARE TO BE OPERABLE DURING THE RAINY SEASON, OCTOBER FIRST TO APRIL THIRTIETH. EROSION CONTROL PLANTING IS TO BE COMPLETED BY OCTOBER FIRST. NO GRADING OR UTILITY TRENCHING SHALL OCCUR BETWEEN OCTOBER FIRST AND APRIL FIRST UNLESS AUTHORIZED BY THE COUNTY ENGINEER.

D. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED AND CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE SOILS ENGINEER.

E. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT-LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM.

F. ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY DURING THE RAINY SEASON.

G. WHEN NO LONGER NECESSARY AND PRIOR TO ANY ACCEPTANCE OF DEVELOPMENT, SEDIMENT BASINS SHALL BE REMOVED OR OTHERWISE DEACTIVATED AS REQUIRED BY THE COUNTY.

H. A CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ANY POINT OF EGRESS FROM THE SITE TO ROADWAY. A CONSTRUCTION ENTRANCE SHOULD BE COMPOSED OF COARSE DRAIN ROCK (2" TO 3") MINIMUM DIAMETER) AT LEAST EIGHT INCHES THICK BY FIFTY (50) FEET LONG BY TWENTY (20) FEET WIDE UNLESS SHOWN OTHERWISE ON PLAN AND SHALL BE MAINTAINED UNTIL THE SITE IS PAVED.

L. ALL AREAS SPECIFIED FOR HYDROSEEDING SHALL BE NOZZLE PLANTED WITH STABILIZATION MATERIAL CONSISTING OF FIBER, SEED, FERTILIZER AND WATER, MIXED AND APPLIED IN THE FOLLOWING PROPORTIONS:
FIBER, 2000 LBS/ACRE SEED, 200 LBS/ACRE (SEE NOTE J, BELOW) FERTILIZER (11-8-4), 500 LBS/ACRE WATER, AS REQUIRED FOR APPLICATION

J. SEED MIX SHALL BE PER CALTRANS STANDARDS.

K. WATER UTILIZED IN THE STABILIZATION MATERIAL SHALL BE OF SUCH QUALITY THAT IT WILL PROMOTE GERMINATION AND STIMULATE GROWTH OF PLANTS. IT SHALL BE FREE OF POLLUTANT MATERIALS AND WEED SEED.

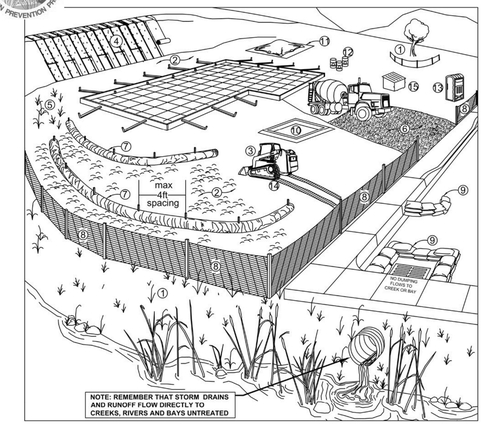
L HYDROSEEDING SHALL CONFORM TO THE PROVISIONS OF SECTION 20, EROSION CONTROL AND HIGHWAY PLANTING', OF THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED.

M. A DISPERSING AGENT MAY BE ADDED TO THE HYDROSEEDING MATERIAL, PROVIDED THAT THE CONTRACTOR FURNISHES SUITABLE EV

SHEET SIZE: "Arch D" (36"x24")

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.

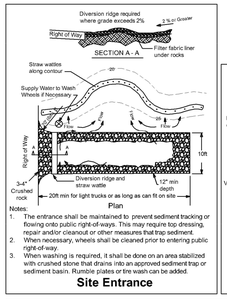
If you require materials in alternative formats, please contact:
415-473-4381 voice/TTY or disabilityaccess@co.marin.ca.us

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/SWReqMCSTOPPPFinal/8_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.*

Erosion Blanket
Note: Actual layout determined in the field.

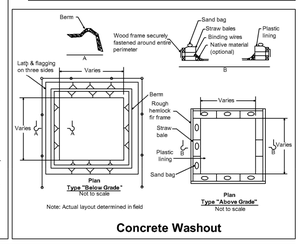
Notes:
1. Silt fence shall be placed level along slope contours to maximize ponding efficiency with the ends curved uphill to improve ability to retain water.
2. Inspect and repair fence after each storm event and remove sediment when accumulation reaches 1/3 of the barrier height.
3. Removed sediment 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



Protect Creeks and the Bay: Keep Sediments and Contaminated Water out of the Storm Drain System

MARIN COUNTY STORMWATER POLLUTION PREVENTION PROGRAM
Best Management Practices for TRENCH DEWATERING

Requirements for Dewatering Discharges from Minor Street Excavations

- The Federal Clean Water Act, the California Water Code, and local ordinances **prohibit** non-stormwater discharges to the storm drain system.
- Non-stormwater discharges include water that is actually or potentially contaminated with any pollutant, including, but not limited to, sewage, grease, drilling mud and oil.
- Uncontaminated pumped groundwater or accumulated rainwater may be discharged to the storm drain system but must be managed to minimize sediment reaching storm drains and ensure downstream creeks, wetlands, and the Bay are not polluted.
- The storm drain system includes streets, gutters, storm drain inlets, ditches, creeks, and wetlands.

IF YOUR SITE OR PROJECT REQUIRES DEWATERING, CONTACT YOUR LOCAL STORMWATER COORDINATOR BEFORE DISCHARGING WATER TO THE STORM DRAIN SYSTEM. *CONTACT INFORMATION ON THE REVERSE PAGE.*

As necessary, local municipal staff will determine whether flows from dewatering a particular excavation may be discharged to the storm drain system and what measures must be taken to reduce sediment in the discharge.

Depending on circumstances, holders of encroachment or building permits may be directed to use one or more of the following measures:

- Avoid the discharge. Disperse pumped water to a level dirt or landscaped area to allow infiltration or use for dust control. Be sure to prevent damage to landscaping.
- Build a sediment trap (temporary basin formed by excavation or earthen embankment across a low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging).
- Use a mobile weir tank, dewatering tank, or sand filter (follow vendor instructions).
- At minimum, use a gravity bag filter (dewatering bag) or similar filtration device (follow vendor instructions).

Odors, discoloration, or an oily sheen can indicate contaminants in the water. Dewatering discharges containing contaminants may need to be captured and treated or hauled to a suitable disposal site.

Some dewatering discharges require a National Pollutant Discharge Elimination System (NPDES) permit from the San Francisco Bay Regional Water Quality Control Board (RWQCB). For more information, call the RWQCB or visit their website:
Phone: 510-622-2300
Web: http://www.waterboards.ca.gov/sanfranciscobay/index.shtml

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
Date: 8/12/2025
COUNTY of MARIN

1 MCSTOPPP DETAILS

NTS

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ISSUES

ISSUE	DATE	DESCRIPTION
2	6/10/25	COMMENTS
1	5/23/25	NOTE CHANGE
0	3/17/25	PERMIT

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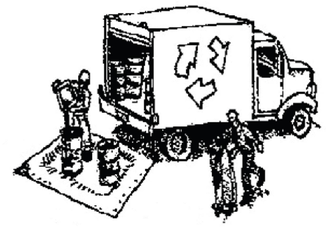
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C-1.2

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



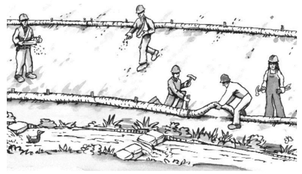
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

Paving/Asphalt Work

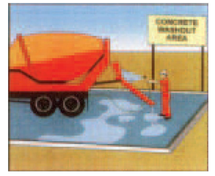


- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

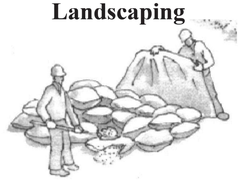
- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



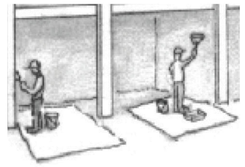
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

Painting & Paint Removal



Painting Cleanup and Removal

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ❑ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

Dewatering



- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to $10,000 per day!

COUNTY OF MARIN

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Permit Number: 179822, 179823

Date: 8/12/2025

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ISSUES

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BMPS

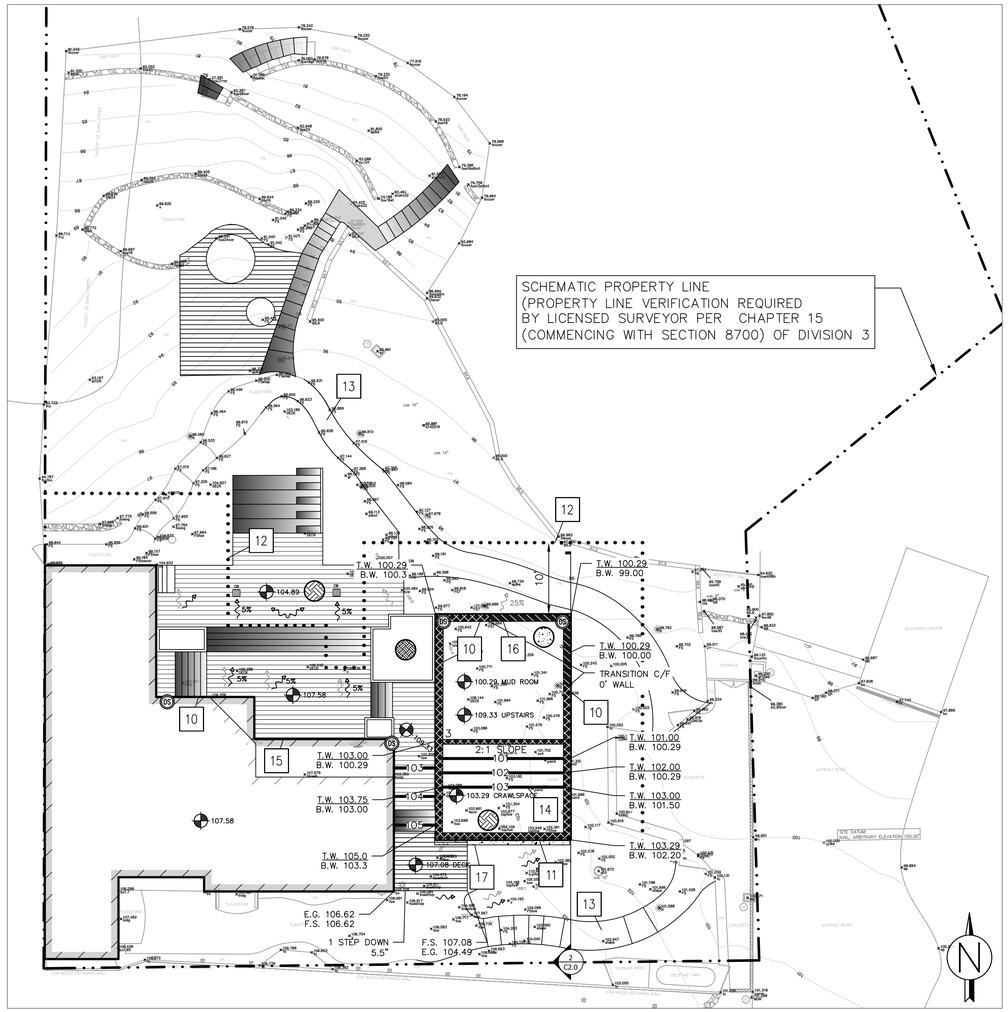
KEENE RESIDENCE / MARK & SAMANTHA KEENE
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APN: 193-081-37

JOB #

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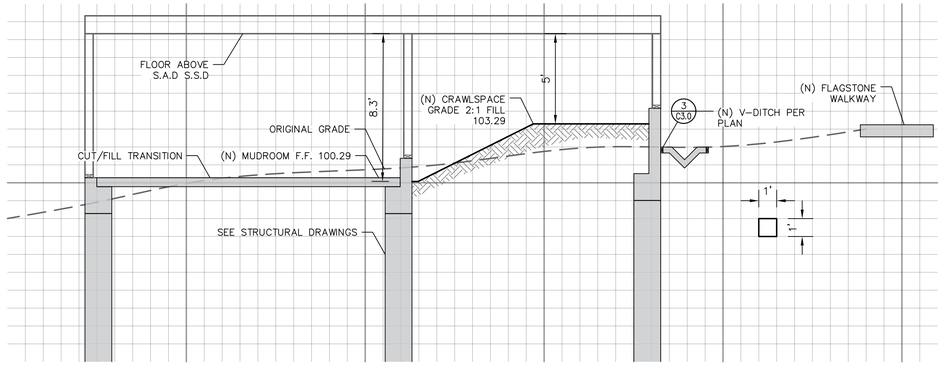
C-1.3

SHEET SIZE: "Arch D" (36"x24")



1 PROPOSED GRADING PLAN

SCALE 1" = 4'



2 BUILDING SECTION

SCALE 1" = 4'

CUT/FILL		
	VOLUME CU/YD	NOTES
CUT		
ADU	12	
FILL		
ADU CRAWL SPACE	4	
CUT TOTAL	12	
FILL TOTAL	4	ADU CRAWL SPACE
EXPORT	8	
IMPORT	0	
ALL OFF-HAUL TO BE TAKEN TO LEGAL DUMP SITE		

LEGEND

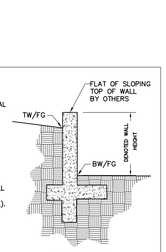
EXISTING	PROPOSED	
		PROPERTY LINE
		SUBDRAIN LINE
100	100	CONTOURS
		STORM DRAIN LINE 4"
		RETAINING WALL (CUT)
		RETAINING WALL (FILL)
		DIRECTION OF FLOW
		BACKWATER VALVE
		CLEANOUT
		CONNECTION POINT
		CATCH BASIN
DS	DS	DOWNSPOUTS
~2%	~2%	SURFACE FLOW & SLOPE
	XX'	ELEVATION INDICATOR
	1 / C-2	DETAIL NUMBER / SHEET NUMBER
	1	DELTA w/COMMENT #
	NAME XXX	SPOT ELEVATION
	XX XX XX	NOTE CALLOUT
	1 / 101	SECTION CALLOUT

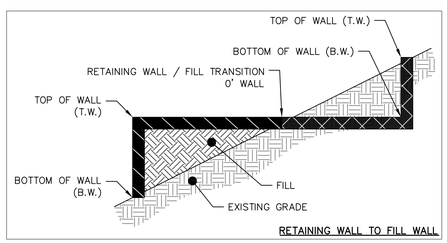
GRADING AND DRAINAGE NOTES

2 / C3.0	10	MAINTAIN 8" CLEARANCE BETWEEN FINISH EARTHEN GRADE AND BOTTOM OF MUD SILL AT ALL TIMES
6 / C3.0	11	MAINTAIN 2" CLEARANCE BETWEEN CONCRETE AND BOTTOM OF MUD SILL AT ALL TIMES
5 / C3.0	12	FINISHED GRADES AT BUILDING PERIMETER SHALL BE SLOPED AT A MIN. OF 5% FOR THE FIRST 10 FT. AWAY FROM THE BUILDING AND THEN SHALL CONTINUE TO SLOPE TO TOWARDS POSITIVE OUTFALL. 6" OVER 10'
6 / C3.0	13	SLOPE ALL FLATWORK 2% MINIMUM TO DRAIN/DAYLIGHT
2 / C2.0	14	MAX 2:1 FILL. SEE SOILS REPORT FOR MORE INFORMATION
	15	BUILDING ADDITION. S.A.D.
	16	(N) ADU STRUCTURE. TWO STORIES. ONLY LOWER LEVEL SHOWN
3 / C3.0	17	(N) CONCRETE V-DITCH. 12" X 3" MINIMUM. SLOPE 1% MIN. TO DAYLIGHT

RETAINING WALL NOTES

1. TW/FG REPRESENTS FINISHED EARTHEN GRADE OR PAVEMENT ELEVATION AT TOP OF WALL. NOT ACTUAL TOP OF WALL MATERIAL BW/FG REPRESENTS FINISH EARTHEN GRADE OR PAVEMENT ELEVATION AT BOTTOM OF WALL. NOT INCLUDING FILL FOUNDATION. GRADES INDICATED ON THESE PLANS REFER TO THE FINISHED GRADES ADJACENT TO THE RETAINING WALL. NOT INCLUDING FOOTING, FREEBOARD, ETC.
2. GRADES SHOWN ON PLAN AS TW X.XX & BW X.XX . REPRESENT DENOTED WALL HEIGHT ONLY. THE ACTUAL WALL HEIGHT AND DEPTH MAY DIFFER DUE TO CONSTRUCTION REQUIREMENTS.
3. REFER TO SPECIFIC WALL CONSTRUCTION DETAIL FOR STRUCTURAL ELEMENTS, FREEBOARD. AND EMBEDMENT.
4. REFER TO ARCHITECTURAL, LANDSCAPE ARCHITECTURE AND/OR STRUCTURAL PLANS FOR DETAILS. WALL ELEVATIONS, SUBDRAINAGE, WATERPROOFING. FINISHES, COLORS. STEEL REINFORCING, MATERIALS, ETC. PROVIDE CUPS OR OTHER MEANS OF SECURING FINISH MATERIALS AS NECESSARY (WET SET INTO THE WALL).
5. ALL RETAINING WALLS SHOULD HAVE A BACK OF WALL SUBSURFACE DRAINAGE SYSTEM INCLUDING WEEPHOLES TO PREVENT HYDROSTATIC PRESSURE.
6. SEE DETAIL SHEET FOR SPECIFIC INFORMATION.
7. PROVIDE GUARDRAILS (WERE APPLICABLE AND DESIGNED BY OTHERS) AS REQUIRED FOR GRADE SEPARATION OF 30 INCHES OR MORE MEASURED 5' HORIZONTALLY FROM FACE OF WALL PER CBC.





RETAINING WALL TO FILL WALL

GRAPHIC SCALE
(IN FEET)
-10 0 5 10 20 40
1 INCH = 10 FEET

Reviewed for Code Compliance
As Verified by Field Inspection
Permit Number: 179822, 179823
APPROVING AGENCY

ALL CONTRACTORS WILL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATIONS OF ALL EXISTING UTILITIES IN THE FIELD. ALL CONTRACTORS SHALL CALL U.S.A AT (800-227-2600) 48 HOURS BEFORE DIGGING, AND OBTAIN AN IDENTIFICATION NUMBER (SECTION 4210.1 OF THE GOVERNMENT CODE).

NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE. THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE SOILS ENGINEER MAY MAKE ON-SITE RECOMMENDATIONS DURING GRADING OPERATIONS.

ISSUES

ISSUE	DATE	DESCRIPTION
2	6/10/25	COMMENTS
1	5/23/25	NOTE CHANGE
0	3/17/25	PERMIT

AC ENGINEERING, INC.
CIVIL & GEOTECHNICAL CONSULTANTS
454 LAS GALLINAS AVE., SUITE 1047
SAN RAFAEL, CA 94903
P: 415-295-2152
admin@agnewcivil.com

STAMP



GRADING PLAN

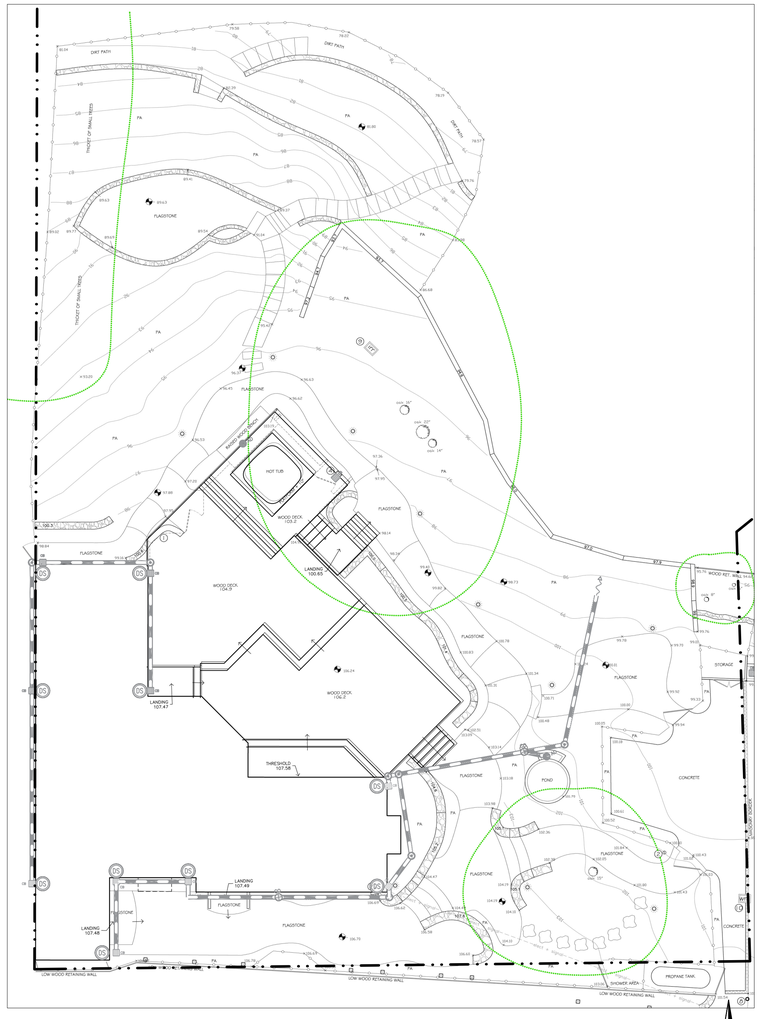
KEENE RESIDENCE / MARK & SAMANTHA KEENE
6 CRESCENTE AVE., BOLINAS CA 94924
APN: 193-081-37

JOB #
351-1

C-2.0

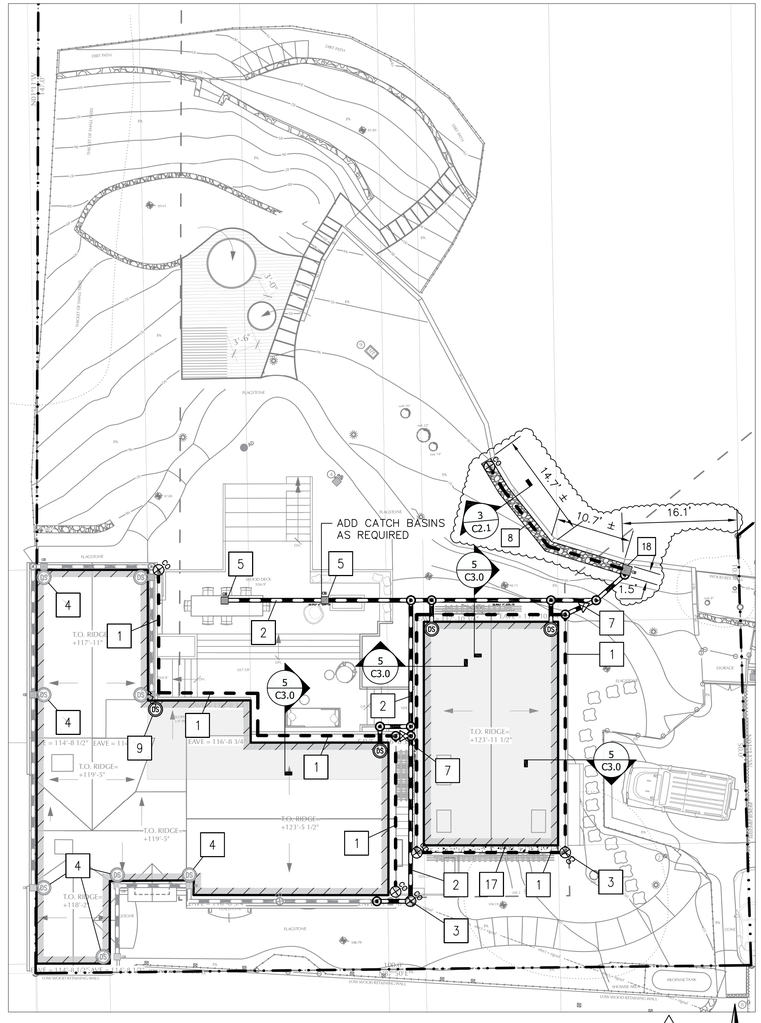
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SHEET SIZE: ARCH D (36"x24")



1 EXISTING DRAINAGE PLAN

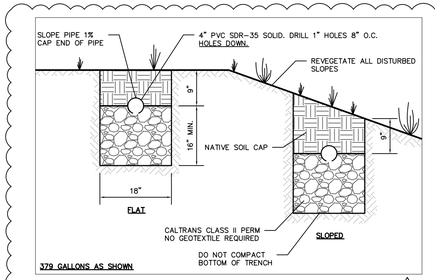
SCALE 1" = 10'



2 PROPOSED DRAINAGE PLAN

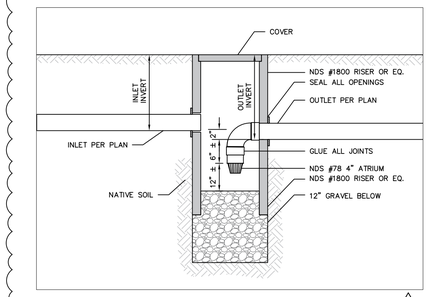
SCALE 1" = 10'

CONTRACTOR TO CONTACT AC ENGINEERING INC. AT LEAST 48 HOURS BEFORE THE START OF CONSTRUCTION // 415-295-2152 OR ADMIN@AGNEWCIVIL.COM



3 LINEAR DISSIPATER

SCALE 1" = 1.5'



4 SEDIMENT FILTER

SCALE 1" = 1.5'

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		SUBDRAIN LINE
100	100	CONTOURS
		STORM DRAIN LINE 4"
		RETAINING WALL (CUT)
		RETAINING WALL (FILL)
		DIRECTION OF FLOW
		BACKWATER VALVE
		CLEANOUT
		CONNECTION POINT
		CATCH BASIN
DS	DS	DOWNSPOUTS
2%	2%	SURFACE FLOW & SLOPE
	XX'	ELEVATION INDICATOR
	1 / C-2	DETAIL NUMBER / SHEET NUMBER
	1	DELTA w/COMMENT #
	NAME XXX	SPOT ELEVATION
	XX XX XX	NOTE CALLOUT
	1 / 101	SECTION CALLOUT

GRADING AND DRAINAGE NOTES

2

2 / C3.0	1	INSTALL NEW PERFORATED SUBDRAIN LINE. 4" PVC SDR-35 PERFORATED. HOLES DOWN. GLUE ALL JOINTS. SLOPE=1% (0.5% MIN)
1 / C3.0	2	INSTALL NEW SOLID DRAIN LINE. "TIGHTLINE" 4" PVC SDR-35 SOLID. GLUE ALL JOINTS SLOPE=1% (0.5% MIN)
3 / C3.0	3	INSTALL CLEANOUT ON HIGH SIDE, EVERY 75', AND BEFORE 270° OF TURNS ON ALL PIPING. BOTH SOLID AND PERFORATED DRAIN LINES
	4	(E) DOWNSPOUT TO STAY CONNECTED TO (E) DRAINAGE SYSTEM
	5	NEW 12"X12" CATCH BASIN. RIM 1" LOWER THAN SURROUNDING GRADE. SLOPE ALL SOIL 2% TO DRAIN.
1 / C3.0	6	CONNECT ROOF DOWNSPOUT (DS) LEADERS TO STORM DRAIN. CLEANOUTS TO BE PROVIDED AT EACH CONNECTION.
	7	BACKFLOW PREVENTION DEVICE REQUIRED WHEN CONNECTING SUBDRAINS TO TIGHTLINE. OATEY 869 WITH DEEP BURY ADAPTER
3 / C2.1	8	(N) UNDERGROUND LINEAR DISSIPATER
	9	(N) ROOF DOWNSPOUT TO DISSIPATE INTO (E) CATCH BASIN
3 / C3.0	17	(N) CONCRETE V-DITCH. 12" X 3" MINIMUM. SLOPE 1% MIN. TO DAYLIGHT
4 / C2.1	18	INSTALL (N) 18X18 SEDIMENT FILTER

GRAPHIC SCALE

(IN FEET)

-10 0 5 10 20 40

1 INCH = 10 FEET

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Permit Number: 179822, 179823

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REGISTERED PROFESSIONAL ENGINEER
ORION W. AGNEW
C 87262
CIVIL
STATE OF CALIFORNIA

KEENE RESIDENCE / MARK & SAMANTHA KEENE
6 CRESCENTE AVE., BOLINAS CA 94924
APN: 193-081-37

DRAINAGE PLAN

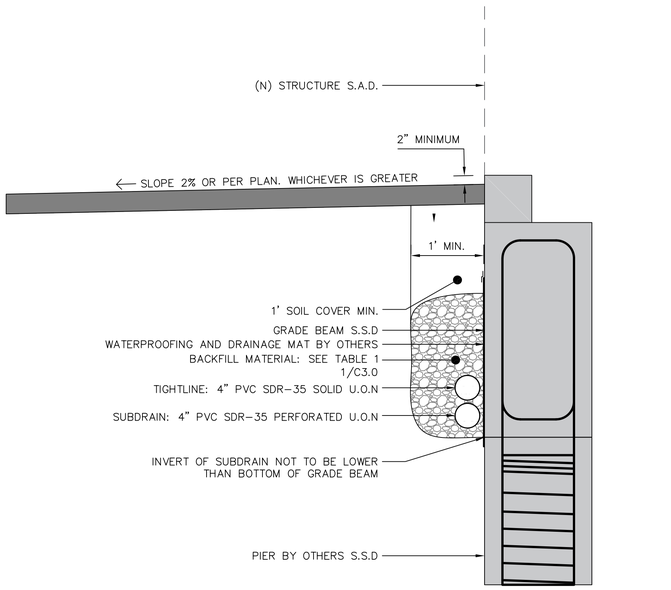
JOB #
351-1

C-2.1

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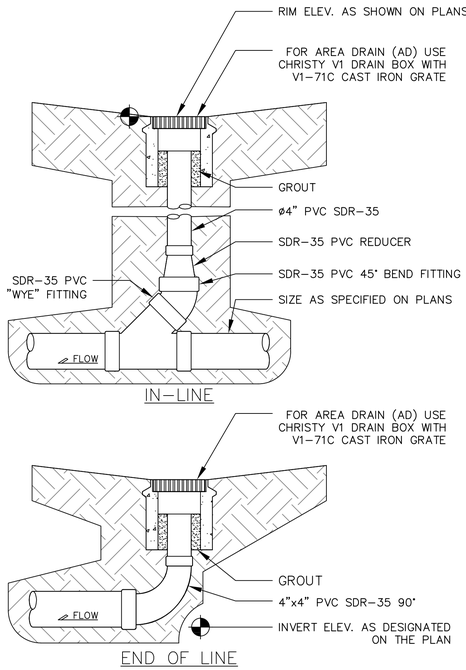
SHEET SIZE: "Arch D" (36"x24")

ALLOWABLE DRAIN MATERIALS PER TABLE 1 AT DETAIL 2/C4.0



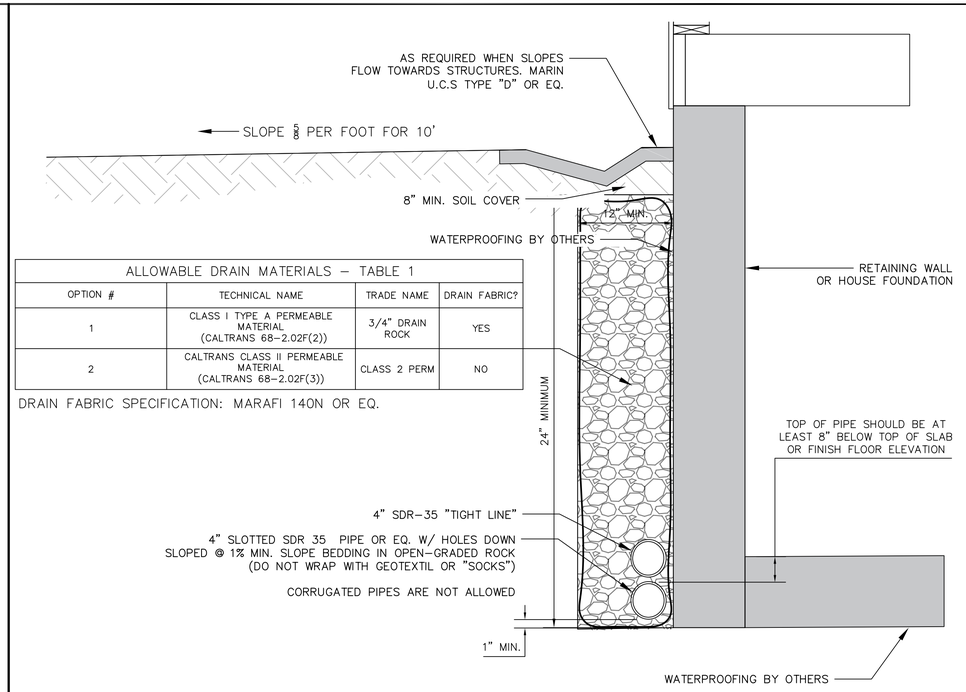
6 GRADE BEAMS AND DRAINS - IMPERVIOUS

NTS



4 AREA DRAINS OR CLEANOUTS

NTS



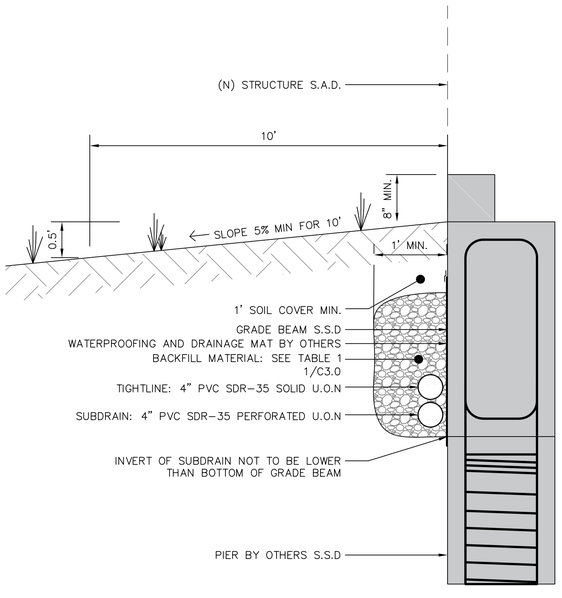
ALLOWABLE DRAIN MATERIALS – TABLE 1			
OPTION #	TECHNICAL NAME	TRADE NAME	DRAIN FABRIC?
1	CLASS I TYPE A PERMEABLE MATERIAL (CALTRANS 68-2.02F(2))	3/4" DRAIN ROCK	YES
2	CALTRANS CLASS II PERMEABLE MATERIAL (CALTRANS 68-2.02F(3))	CLASS 2 PERM	NO

DRAIN FABRIC SPECIFICATION: MARAFI 140N OR EQ.

2 STANDARD SUBDRAINS AND TIGHTLINES

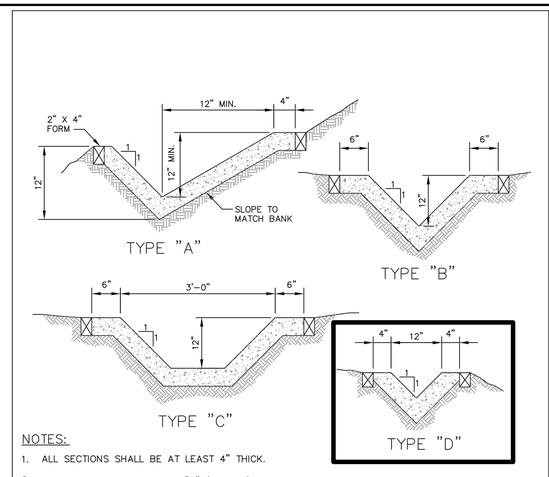
NTS

ALLOWABLE DRAIN MATERIALS PER TABLE 1 AT DETAIL 2/C4.0



5 GRADE BEAMS AND DRAINS - PERVIOUS

NTS



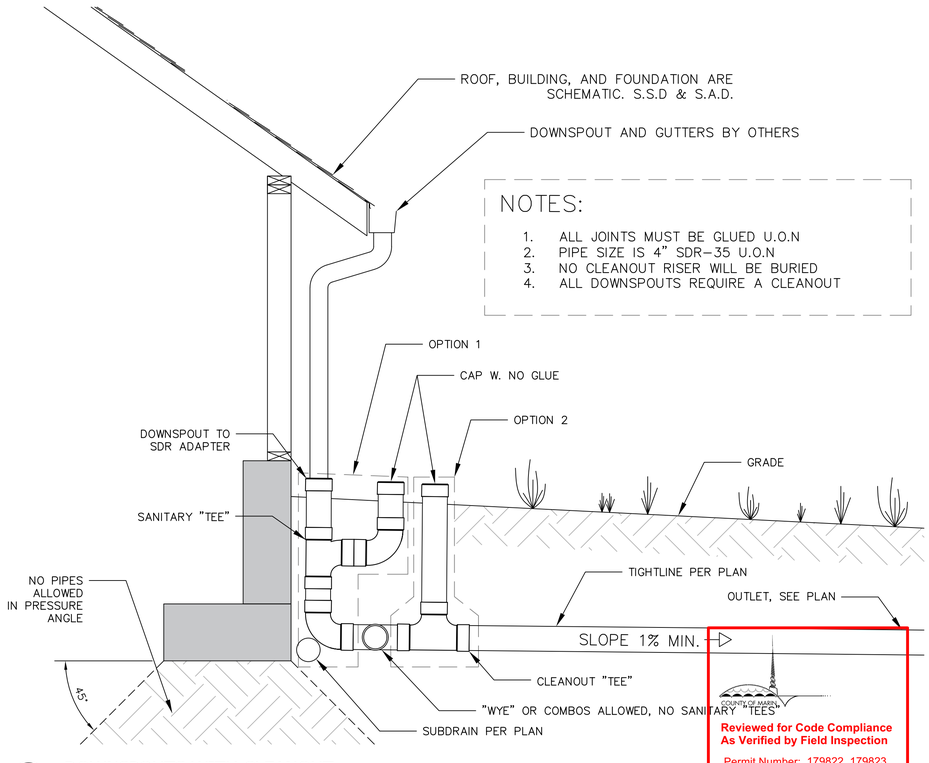
NOTES:

1. ALL SECTIONS SHALL BE AT LEAST 4" THICK.
2. CONCRETE SHALL BE CLASS "B" (5 SACK).
3. BOTH SIDES OF THE DITCH SHALL BE FORMED WITH 2" X 4" LUMBER, AS SHOWN UNLESS OMITTED BY THE AGENCY ENGINEER.
4. CONCRETE FINISH SHALL CONFORM TO ORDINARY SURFACE FIINISH PER SECTION 51 OF THE STATE STANDARD SPECIFICATIONS.
5. DITCH SIDES SHALL BE BACKFILLED AND COMPACTED IMMEDIATELY AFTER THE REMOVAL OF SIDE FORMS.
6. NO CONCRETE SHALL BE PLACED PRIOR TO FORM INSPECTION BY THE AGENCY ENGINEER.
7. ON FILLED GROUND, NO DITCH IS TO BE CONSTRUCTED UNTIL CERTIFICATION OF COMPACTION IS PROVIDED TO THE AGENCY BY THE GEOTECHNICAL ENGINEER.
8. NO EXPANSION JOINTS SHALL BE REQUIRED.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	CONCRETE LINED DITCHES	REV.	DATE	BY	MARCH 2018 DWG. NO. 290

3 MARIN U.C.S V-DITCH

NTS



1 DOWNSPOUTS WITH CLEANOUT

NTS

Reviewed for Code Compliance
As Verified by Field Inspection
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DETAILS

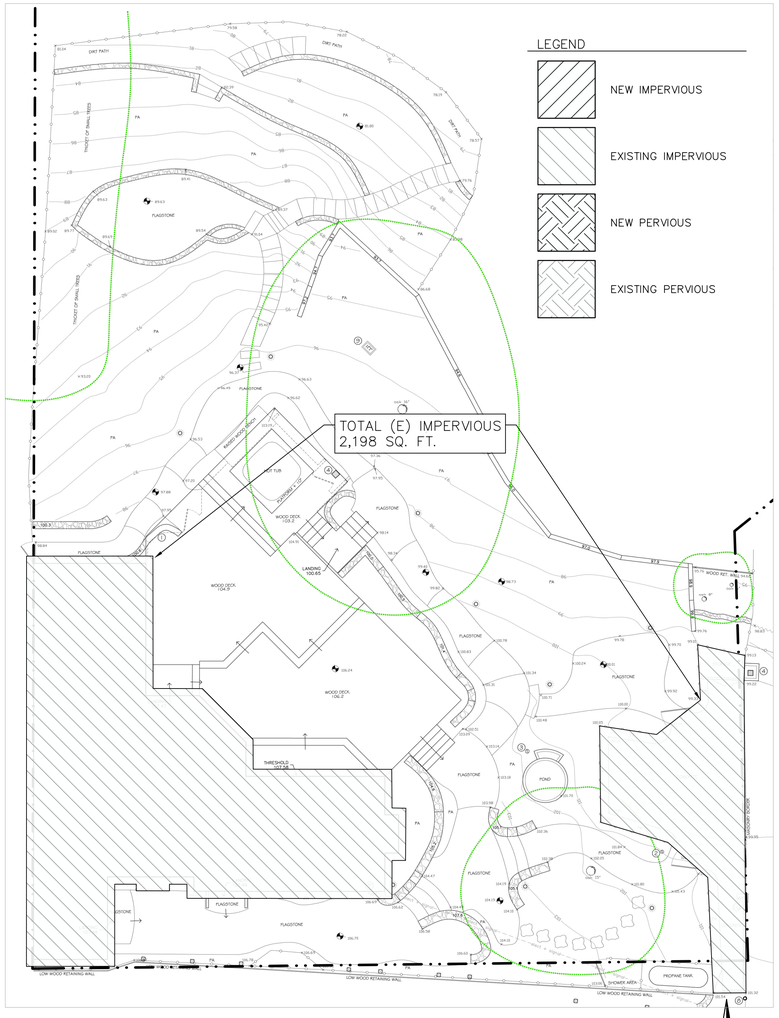
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C-3.0

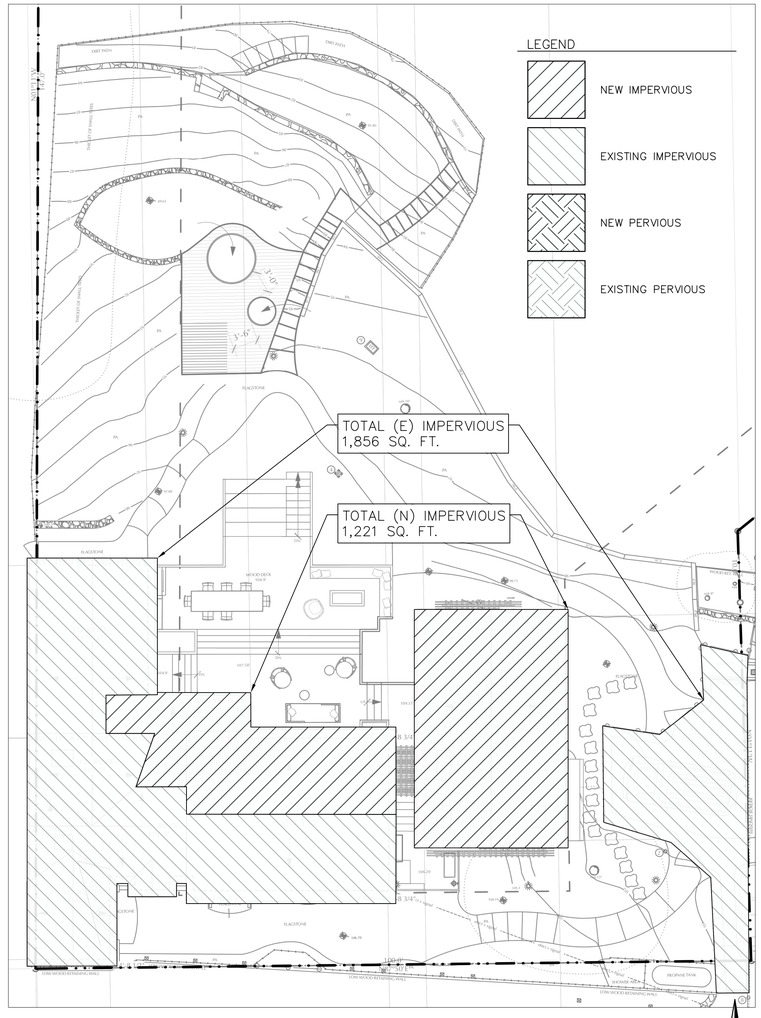
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SHEET SIZE: Arch D" (36"x24")



1 EXISTING IMPERVIOUS

SCALE 1" = 10'



2 PROPOSED IMPERVIOUS

SCALE 1" = 10'

NEW/REPLACED IMPERVIOUS 1,221 SQ. FT.
BASMAA COMPLIANCE NOT REQUIRED

GRAPHIC SCALE
(IN FEET)
−10 0 5 10 20 40
1 INCH = 10 FEET

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IMPERVIOUS DATA

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