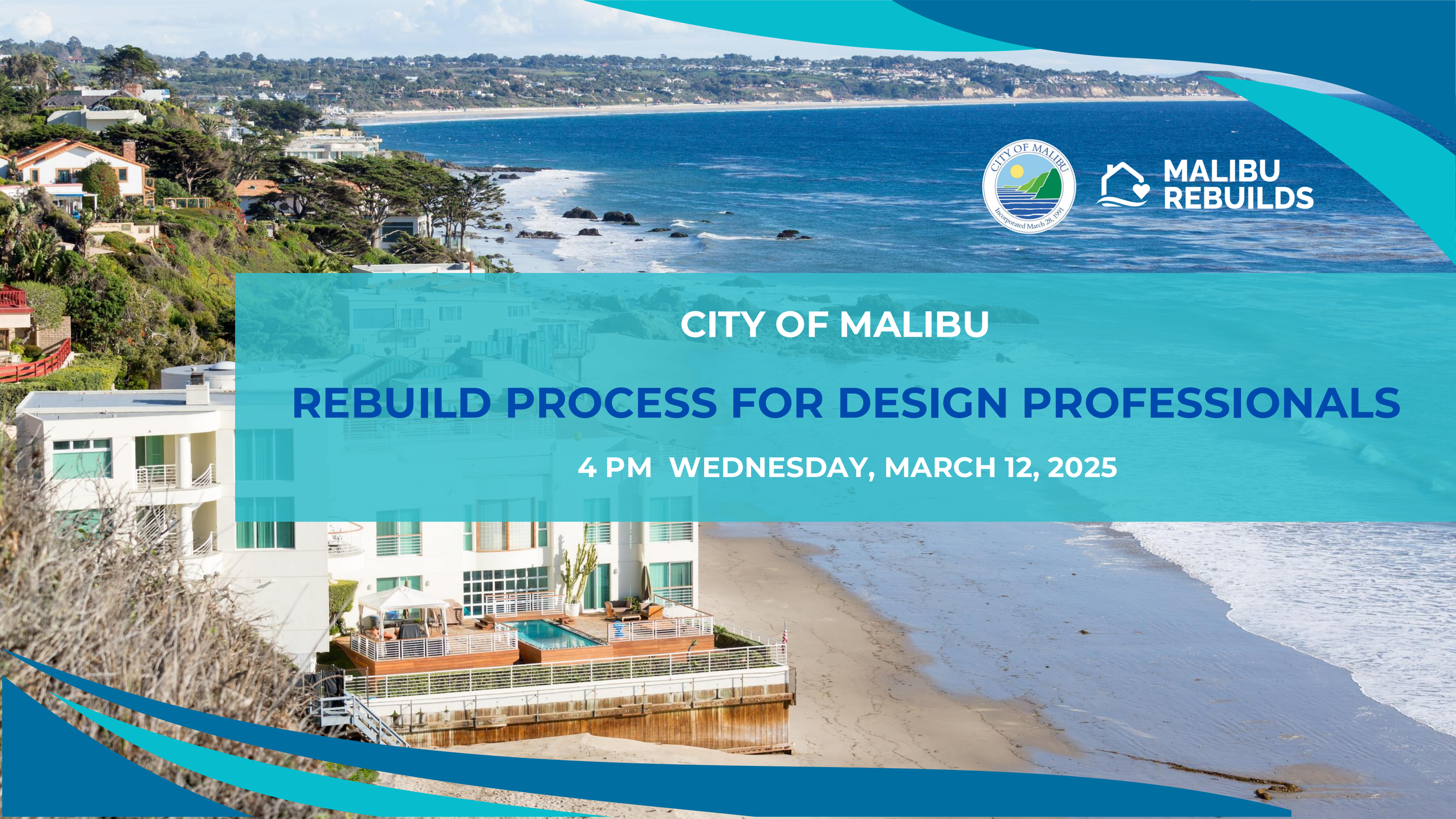


MALIBU REBUILDS

CITY OF MALIBU

REBUILD PROCESS FOR DESIGN PROFESSIONALS

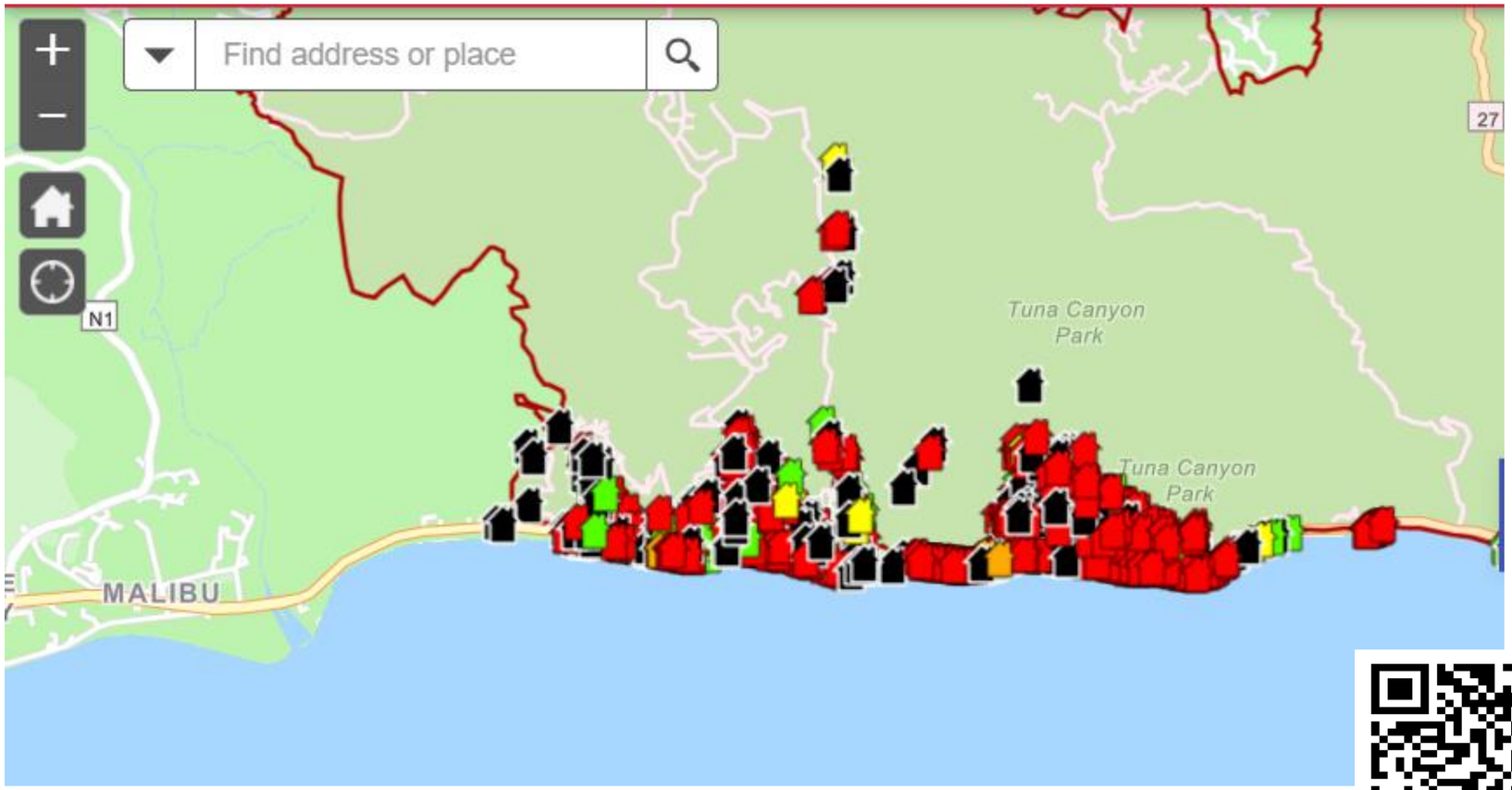
4 PM WEDNESDAY, MARCH 12, 2025

BROAD AND FRANKLIN FIRE DAMAGE MAPS

BROAD FIRE DAMAGE MAP

FRANKLIN FIRE DAMAGE MAP

PALISADES FIRE DAMAGE MAP



recovery.lacounty.gov/palisades-fire

MALIBU REBUILDS

GOVERNOR NEWSOM: EXECUTIVE ORDER

- Governor Newsom issued an executive order to streamline the rebuilding of homes and businesses destroyed — suspending permitting and review requirements under the California Environmental Quality Act (CEQA) and the California Coastal Act.

- The executive order also mentions:
  - Providing tax relief to those impacted by the fires
  - Mobilizing debris removal and cleanup
  - Protecting victims from real estate speculators
  - Safeguarding survivors from price gouging

MALIBU REBUILDS

DEBRIS REMOVAL UPDATE

MALIBU REBUILDS

DEBRIS REMOVAL PROCESS

There are 2 main phases of the debris removal process, each managed by different agencies.

Phase 1: Hazardous Waste Removal

Managed by
U.S. Environmental Protection Agency (EPA)

Information
- Property owners do **NOT** need to sign up for Phase 1.
  - Phase 1 began on January 27, 2025.

- Property owners **must pass** a Phase 1 hazardous debris inspection and clearance by the EPA **before** being eligible for moving onto Phase 2.

Current Status
- Currently underway and almost complete.

Phase 2: General Debris Removal

Managed by
U.S. Army Corps of Engineers

Information
- Property owners need to decide whether to ***opt in*** for free cleanup by the Army Corps **OR** ***opt out*** and pay a specialized, approved contractor to remove the remaining fire debris.

- **A Right-Of-Entry (ROE) form is required for Phase 2 only.**

Current Status
- Currently underway and in progress.

MALIBU REBUILDS

U.S. Army Corps of Engineers CA Wildfire Debris Mission

Filter by Fire
None

Est. Eligible Parcels	ROEs Accepted from County	In Progress with Contractor
13,579	3,770	3,770

Final Sign Off
248

2%

MALIBU REBUILDS

OPT-OUT PROCESS (6 STEPS)

Complete and submit an opt-out form to manage cleanup independently.

Step 1: Fill out an opt-out form

- Complete the opt-out form online: **https://forms.office.com/g/EXa8axWLvU**
- Download and complete an opt-out form: **https://file.lacounty.gov/SDSInter/lac/1176419_Opt-OutForm.pdf**

Step 2: Apply for a County permit

- Apply for a Permit from the County in EPIC-LA to handle debris removal on your own after you receive EPA certification of phase 1 completion for your property.
- The County will review your application and your contractor's work plan to ensure compliance with safety and environmental standards.
- **You will be required** to meet all the same requirements as the U.S. Army Corps.

Step 3: City Permit

- The City of Malibu will **automatically** issue a permit once the County issues the Fire Debris Removal Approval.
- The applicant will schedule a pre-construction site visit with a City inspector to ensure the safety of residents and to safeguard properties prior to starting debris removal.

MALIBU REBUILDS

OPT-OUT PROCESS (6 STEPS) CONT...

Step 4: Post Debris Removal Documentation

- Upload the following documentation to EPIC-LA:
  - Weight tickets or Disposal Documents from a certified landfill
  - Hazardous Waste Manifest(s) (if applicable)
  - Site photos of the completed site
  - Photos must be taken of the frontage (from the street towards the property).
  - Provide photos of the building footprint, foundations (as applicable), property lines, any remaining structures.

- If foundations remain in place, an approval from the City Building Official will be required prior to reusing the foundation as part of the building permit process for new structures.

Step 5: City Sign Off

- Once the County has reviewed debris removal documentation, the City inspector will verify debris cleanup and that erosion control is in place in prior to sign off.

Step 6: Final County Sign Off

- Final Debris Removal Permit Closure will be provided.

MALIBU REBUILDS

MALIBU REBUILDS

REUSE OF FOUNDATIONS REQUIREMENTS

FIRE AFFECTS CONCRETE FOUNDATIONS

Concrete when exposed to extremely high temperatures, its structural integrity can be significantly compromised. Here are the key ways fire affects concrete:

Loss of Strength

- At temperatures above 300°F (150°C), concrete begins to lose its strength.
- By the time temperatures reach 1,100°F (600°C), concrete can lost 50% or more of its original strength, making it structurally unreliable.

Spalling

- When exposed to intense heat, moisture trapped within the concrete expands, causing the surface to crack and break off in chunks. This process, known as spalling, weakens the overall structure and increases the likelihood of further damage.

MALIBU REBUILDS

FIRE AFFECTS REINFORCING STEEL (REBAR)

Reinforcing steel embedded within the concrete is also vulnerable to extreme heat, which can significantly weaken the foundation's overall stability. If you think of the rebar as the skeletal structure of the foundation, the potential instability brings the usability of the entire foundation system into question.

Loss of Strength & Elasticity

- Rebar begins to lose strength at around 1,100°F (600°C) and can melt at approximately 2,500°F (1,370°C).
- This loss of strength compromises the foundation's ability to bear loads and withstand external forces, including future seismic events.

Thermal Expansion

- As steel heats up, it expands. This expansion can create internal stresses within the concrete, leading to cracks or separation between the concrete and rebar.

Loss of Bond Strength

- Extreme heat can weaken the bond between the rebar and the surrounding concrete, reducing the foundation's stability. Without a strong bond, the foundation may not be able to support the structure effectively.

MALIBU REBUILDS

REUSE OF FOUNDATION REQUIREMENTS

Timber Piles **may not be reused** as a foundation system as per current County of Los Angeles Building Code, Section 1810.3.2.4.

There are **two mandatory steps** before potentially reusing the foundation.

- **Step 1:** The Feasibility Study
- **Step 2:** Plan Review Process
  - The foundation shall meet minimum code requirements (current Los Angeles County Code, current California Building Code, and all other referenced codes and standards) during the plan review stage.
  - The California licensed design professional of record ***must*** **provide details, calculations, and a narrative of repairs necessary for proof that the foundation meets minimum current code requirements for the plan review process.**

The foundation shall also meet minimum requirements and recommendations by a California licensed geotechnical engineer provided in a soils report or an update letter.

The submittal of the feasibility report or the City's acceptance of the report ***does not guarantee*** that the foundation may be reused for the construction of a new building or structure. The acceptance of the report allows for building plans to be submitted for plan review. During the plan review process, the foundation may be deemed unacceptable for reuse. The owner(s) shall be aware of all the risks in the form of additional costs or the failure to reuse the existing foundation.

FEASIBILITY REPORT

This guideline presents the minimum required information to be provided on the feasibility report prepared by a California licensed civil engineer, or structural engineer. **All testing shall follow specific codes and standards. Failure to do so will result in corrections needed before approval.**

A. Visual Inspection – All locations of surface crazing, concrete cracking, surface erosion, spalling and discoloration of concrete shall be identified, photographed, and included in the report. Provide a description regarding the damage of the concrete observed including steel reinforcement and anchor bolts.

B. Non-Destructive Testing – Schmidt Hammer test (ASTM C805-18) shall be performed on the foundation to assess the in-place uniformity of concrete, to delineate variations in concrete quality throughout a structure, and to estimate in-place strength. The testing shall be performed at various locations of the foundation including areas with little to no fire damage and areas with damage. Provide a sketch of the foundation or retaining wall showing the locations where tests have been taken from. The corresponding test results shall be clearly stated for each test. Based on the Schmidt Hammer testing results, destructive concrete testing per section C noted below shall be conducted to confirm concrete compressive strength. Note: Foundation elements with compressive strengths less than 2,500 psi are not allowed to be reused.

FEASIBILITY REPORT

C. Destructive Testing – Core sample testing is required to confirm the concrete compressive strength for all fire damaged foundation systems Concrete core testing shall be in conformance with ASTM C42-20, ACI 214.4R-10, and other referenced codes and standards. (Note: Shotcrete testing method shall be per ASTM C1604/C1604M-05). The destructive testing shall be conducted by a certified testing laboratory and the testing results shall be documented in a formal report confirming the concrete strength results.

D. Tensile Testing – Any existing tension devices to be reused including holdowns, anchor bolts, and mudsill anchors shall have pull out tests performed in accordance with **ASTM C900-23**. All holdown anchors to be reused shall be load tested for a minimum load that matches the holdown manufacturer's listed tension design capacity. The *minimum* testing force for anchor bolts and mudsill anchors shall be 1,000 lbs tension force. The frequency of the testing shall be 25% of anchor bolts / mudsill anchors and shall be selected at random to be tested and certified. Failing bolts shall be identified and not used.

E. Soil Contamination – A soils contamination report **must be provided** confirming the site is free of contamination and hazardous materials and shall be submitted and approved by all authorities having jurisdiction. The testing and certification(s) of the soils shall meet all requirements of all authorities having jurisdiction. All soil sampling and testing shall be conducted by certified testing laboratories

CITY OF MALIBU
RECEIVED
APR 23 2019
ENVIRONMENTAL
SUSTAINABILITY DEPT

19-1985

CCWF 19-0033

April 16, 2019

13059.01

Woolsey Fire
Foundation Feasability accepted.
Building Plan Review required.

Dume Drive
Malibu, CA 90265

RE: Evaluation of Existing Foundation Concrete, Residence, Dume Drive, Malibu, California

This letter presents the results of an evaluation of the existing foundation concrete that B Associat ned for the Residence. This evaluation is limited to strength of accessible existing concrete. Other foundation performance requirements should be evaluated by the appropriate discipline. The residence structure was burned in the November 2018 Woolsey fire. The project site is located at Dume Drive, Malibu, California.

BAI completed rebound hammer tests on March 20, 2019 on areas exposed by the debris cleanup; the results are present in Table 1. The locati of the rebound hammer test are presented on Plate 1. Also on March 19 and 20, 2019 BAI cored the slab and stem wall portions of the main residence at the 23 locations shown on Plate 1. Concrete cores recovered at these locations were 2.5-inches in diameter. Cores one through five and 10 through 18 were c vertically, while the remaining cores were cored horizontally. On March 20, 2019 BAI completed anchor bolt pull test on the foundation. The eleven anchor bolts were 5/8-inch

MALIBU REBUILDS

Project:
Project Number:
Date: 4/16/2019

Rebound Hammer

Table 1

Test Location, see Plate 1

	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8
Rebound #	V	V	V	V	V	H	H	V
1	34	40	28	42	30	31	30	41
2	34	40	29	44	30	29	30	40
3	32	42	27	43	32	29	30	40
4	33	41	28	42	30	30	29	40
5	30	42	30	42	32	28	29	37
6	35	44	28	42	31	30	28	40
7	32	42	28	42	33	28	27	41
8	34	42	31	43	31	29	30	39
9	36	43	31	40	31	27	30	42
10	34	42	30	42	31	31	30	40
Average	33	42	29	42	31	29	29	40
psi*	4115	5919	3380	5919	3742	2823	2823	5500

	test 9	test 10	test 11	test 12	test 13	test 14	test 15	test 16
Rebound #	V	V	V	V	V	V	V	H
1	31	35	32	32	38	42	27	34
2	36	41	29	32	40	47	28	36
3	34	36	34	30	41	44	29	32
4	32	36	34	30	44	45	30	34
5	27	32	30	31	40	43	27	32
6	31	37	30	30	42	46	32	33
7	29	37	29	34	42	40	31	35
8	32	36	29	33	41	45	30	34
9	33	40	31	30	43	44	31	34
10	30	38	30	32	41	44	30	32
Average	32	37	31	31	41	44	30	34
psi*	3928	4892	3742	3742	5708	6348	3560	3734

*Estimated concrete compression strength based on hammer chart.

PULL TEST / TORQUE TEST

DATE: March 20, 2019		PROJECT NAME:	
TIME: 8:45am		PROJECT NO.:	
ORDERED BY:	PHONE NUMBER:	ADDRESS:	, Malibu
OSA/ASHPD/CONTRACT NUMBER:		■ PULL TEST	☐ TORQUE TEST

INSTRUCTIONS: Load anhors to 2000 psi and hold for 1 minute

TEST NO.	SIZE & TYPE	LOCATION	■ LOAD LBS. ☐ LOAD FT. LBS.	SPEC.	PASS/FAIL
1	5/8" Anchor Bolt	See plate 1	7840		Pass
2	5/8" Anchor Bolt	See plate 1	7840		Pass
3	5/8" Anchor Bolt	See plate 1	7840		Pass
4	5/8" Anchor Bolt	See plate 1	7840		Pass
5	5/8" Anchor Bolt	See plate 1	7840		Fail
6	5/8" Anchor Bolt	See plate 1	7840		Pass
7	5/8" Anchor Bolt	See plate 1	7840		Fail
8	5/8" Anchor Bolt	See plate 1	7840		Pass
9	5/8" Anchor Bolt	See plate 1	7840		Pass
10	5/8" Anchor Bolt	See plate 1	7840		Pass
11	5/8" Anchor Bolt	See plate 1	7840		Pass

WAS WORK DESCRIBED ABOVE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS? ☐ YES ☐ NO ☐ N/A

SEE FIELD REPORT NO.: _____ DATED: _____

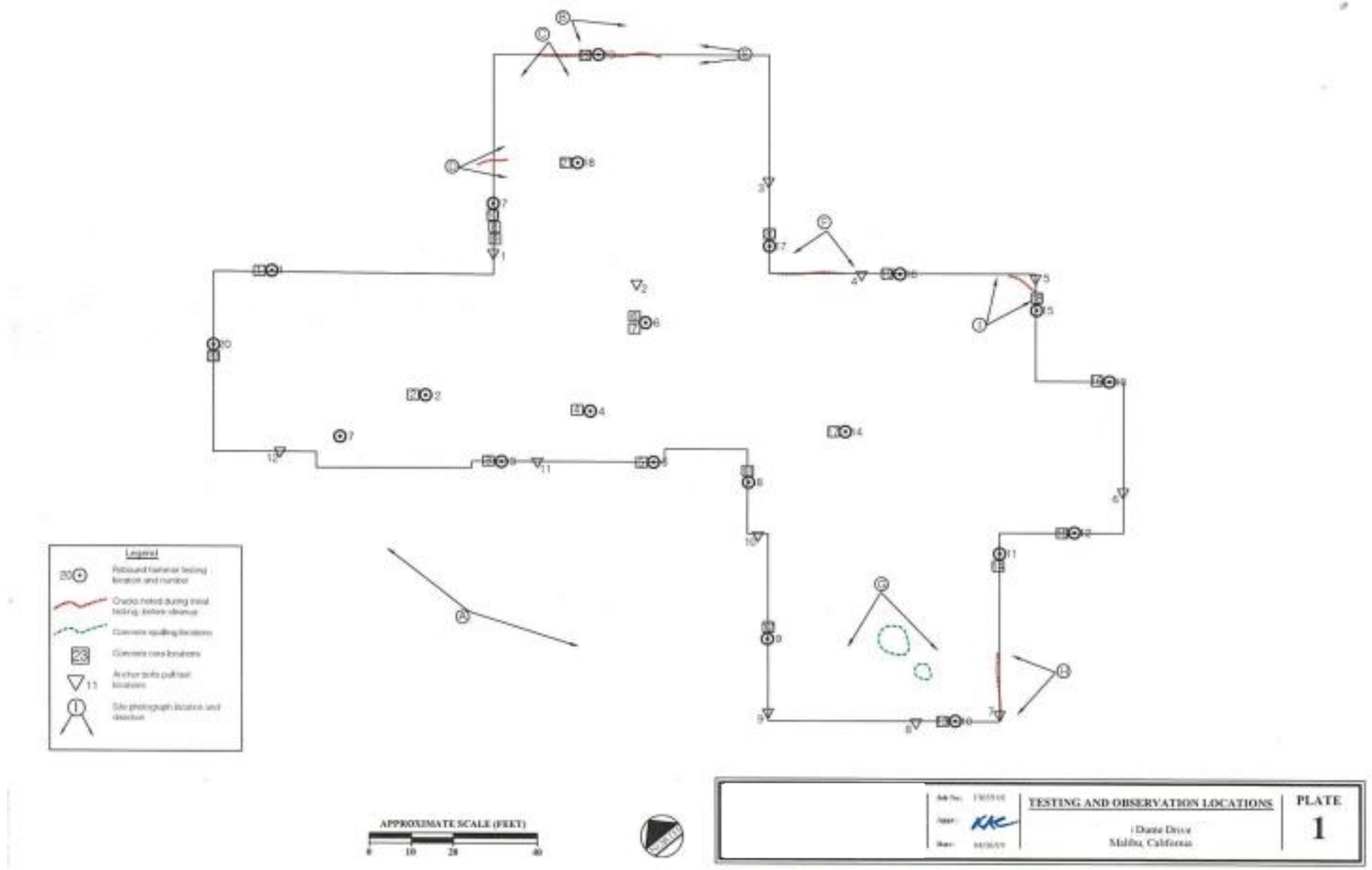
INSPECTOR/TECHNICIAN: JAT/MS	INSPECTOR NUMBER:	CLIENT REPRESENTATIVE

HOURS

START	JOB START	JOB STOP	TOTAL HOURS	REGULAR	OVERTIME	REWORK

THIS REPORT DOES NOT RELEIVE THE CONTRACTOR OF HIS RESPONSIBILITY TO BUILD PER THE PLANS, SPECIFICATIONS AND ALL APPLICABLE CODES

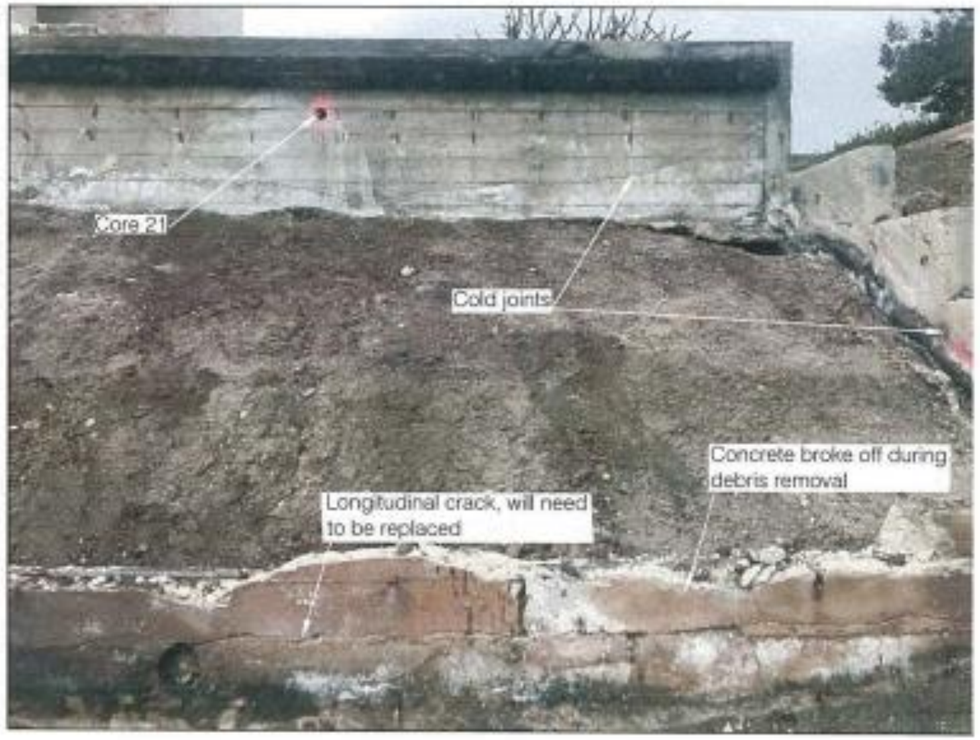
MALIBU REBUILDS


Legend
Rebound hammer testing location and number
Cracks noted during initial testing, before cleanup
Concrete repairing locations
Concrete core locations
Anchor bolts pull-test locations
Site photograph location and direction
APPROXIMATE SCALE (FEET)
0
10
20
40
TESTING AND OBSERVATION LOCATIONS
Duane Drive
Malibu, California
PLATE
1

Site Photograph A

Job No.: [illegible] App.: KAC Date: [illegible]	**SITE PHOTOGRAPH A** RESIDENCE Dume Drive Malibu, California	PLATE **2**

Site Photograph B



Site Photograph C

Job No.: [illegible] Appr: KAC Date: [illegible]	SITE PHOTOGRAPHS B and C RESIDENCE Dume Drive Malibu, California	PLATE 3

Site Photograph D

Site Photograph E

Job No.: [illegible] Appr.: KAC Date: [illegible]	**SITE PHOTOGRAPHS D and E** RESIDENCE Dume Drive Malibu, California	PLATE **4**

Site Photograph F

Site Photograph G

Job No.: [illegible] App.: KAC Date: [illegible]	**SITE PHOTOGRAPHS F and G** RESIDENCE Dume Drive Malibu, California	PLATE **5**

CONCRETE COMPRESSION TEST REPORT

Test Data (ASTM C39)

Sample Number	Date Cored	Date Tested	Dimensions (in)	Area (in^2)	Load (lbf)	Corr. Factor	Cure Type	Fract. Type	Comp. Str. (psi)
CORE 1	3/20/19	3/21/19	2.5 X 5	4.91	23843	1.00	F	5	4860
CORE 10	3/20/19	3/21/19	2.5 X 5	4.91	22900	1.00	F	2	4670
CORE 11	3/20/19	3/21/19	2.5 X 5	4.91	23381	1.00	F	5	4760
CORE 12	3/20/19	3/21/19	2.5 X 4.75	4.91	30897	1.00	F	2	6290
CORE 13	3/20/19	3/21/19	2.5 X 5	4.91	23862	1.00	F	1	4860
CORE 14	3/20/19	3/21/19	2.5 X 5	4.91	30416	1.00	F	5	6200
CORE 15	3/20/19	3/21/19	2.5 X 4.75	4.91	30276	1.00	F	1	6170
CORE 16	3/20/19	3/21/19	2.5 X 5.125	4.91	32731	1.00	F	2	6670
CORE 17	3/20/19	3/21/19	2.5 X 5	4.91	21767	1.00	F	5	4430
CORE 18	3/20/19	3/21/19	2.5 X 5.125	4.91	23391	1.00	F	5	4770

Cure Type: L-Laboratory; F-Field
Fracture Type: 1-Cone; 2-Cone/Vertical Cracks; 3-Columnar; 4-Diagonal; 5-Side Fractures/Top or Bottom; 6-Side Fractures/Top or Bottom

- Defects not apparent unless otherwise noted.

Job No. 13059 01	CONCRETE DATA SHEET	PLATE
Appr.: KAC	RESIDENCE	7
Date: 04/17/19	Dume Drive Malibu, California	SHEET 1 of 2

Site Photograph H

Site Photograph I

Job No.: 130511 Appr.: KAC Date: 6/15/13	**SITE PHOTOGRAPHS H and I** RESIDENCE Dume Drive Malibu, California	**PLATE** **6**

TEMPORARY HOUSING REQUIREMENTS

TEMPORARY HOUSING

Temporary housing structures are defined as mobile homes, trailers, recreational vehicles or other structures which are self-contained units which include sanitary facilities, and facilities for normal daily routines including cooking and sleeping.

• Temporary housing structures **DO NOT include any structure placed upon a permanent foundation, nor do they include tents, yurts, or similar fabric or textile installations.**

• Conditions of approval in the Planning Application attached includes the following:

1. No more than two (2) temporary housing structures which together total no more than 1,000 square feet will be permitted.
2. No additional grading will be allowed, beyond that permitted as part of the development plan.
3. The temporary housing must be placed within the existing development area.
4. The temporary housing structure must include skirting.
5. Permit is good for 4 years from date of approval.

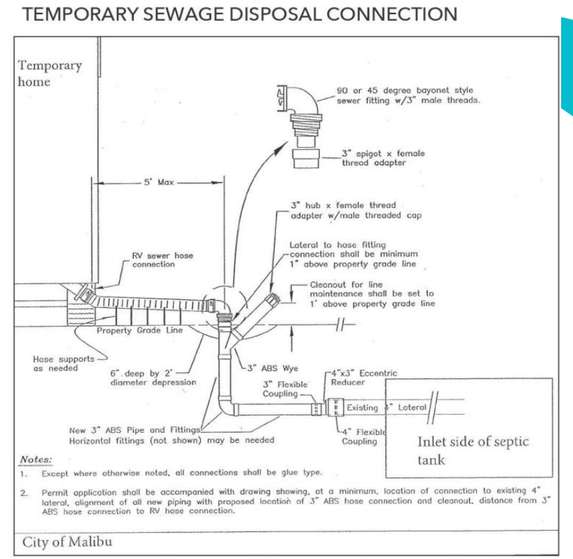
MALIBU REBUILDS

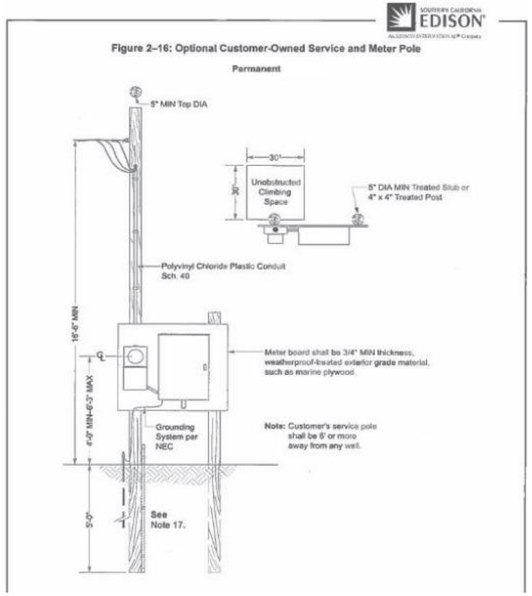
TEMPORARY HOUSING

- Electrical Service Requirements: On the temporary housing site plan, show
  1. Distance from meter service to temporary housing
  2. Size and heigh of electrical meter
  3. All requirements of the Malibu Electrical Code apply to the installation from the junction box to the meter location
  4. No temporary power poles will be allowed

- Natural Gas and Water Service Requirements: On the temporary housing site plan, show
  1. Distance from service meter to temporary housing
  2. Type and size of materials that will be used
  3. Location and depth of line trench

- Onsite Wastewater Treatment System (OWTS) Requirements:
  1. Obtain an inspection of the OWTS by a City-Registered OWTS Inspector
  2. Submit the inspection form and site plan showing the temporary housing and OWTS to Environmental Health
  3. Any repairs to the OWTS must be made prior to utilization of the OWTS





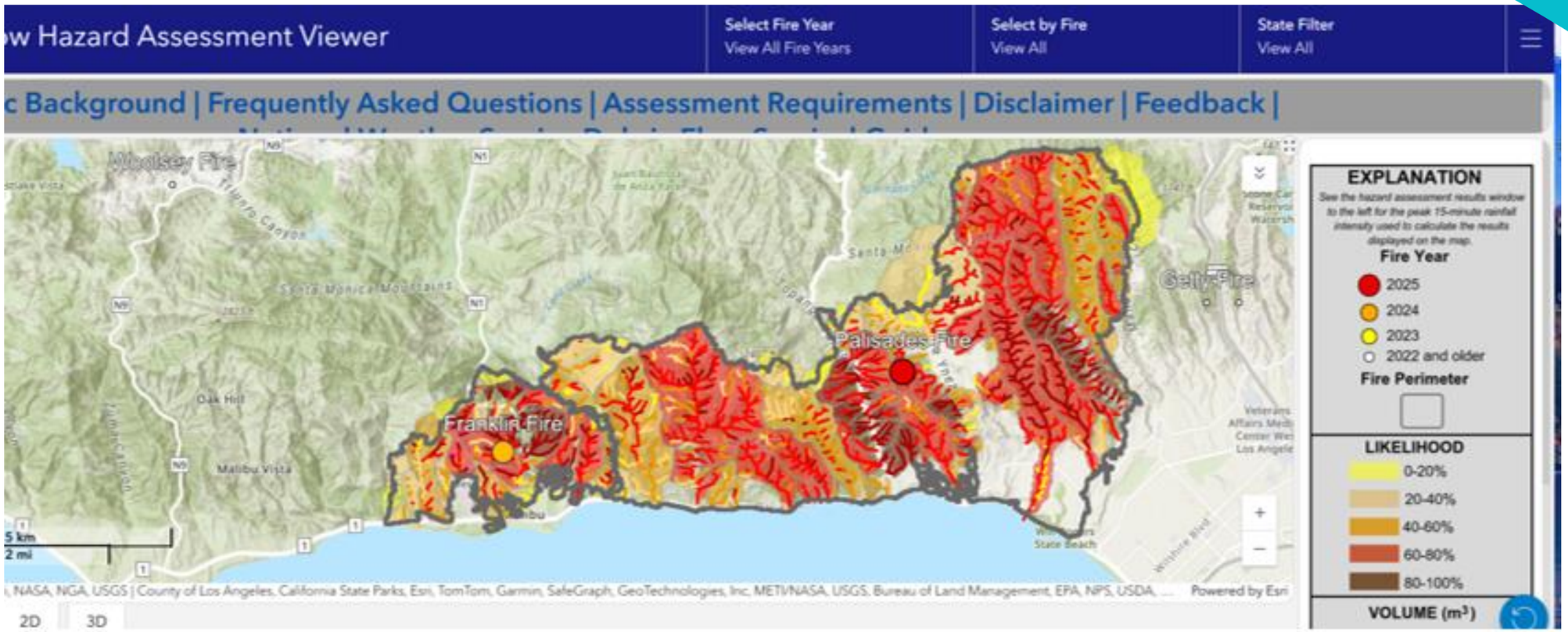
MALIBU REBUILDS

TEMPORARY HOUSING ADDITIONAL REQUIREMENTS

- The siting of temporary housing shall be supported by a limited geotechnical report prepared by appropriately licensed professionals which evaluates the location of the proposed temporary housing with respect to geologic and flood hazards that the specific location(s) may be exposed to during the proposed four (4) year use of the location.
  - Specifically, the threat of **post-fire debris flows and floods** for the Franklin Fire and the Palisades Fire as described by the **USGS (**https://www.arcgis.com/apps/dashboards/c09fa874362e48a9afe79432f2efe6fe**) and identified by the Watershed Emergency Response Team Assessments (**https://www.conservation.ca.gov/cgs/bwg/recent**)**.
  - A finding is required that the specific location of the temporary housing is safe for its intended use for the duration of use. The report must be submitted to the City for review and accepted by the Building Official.

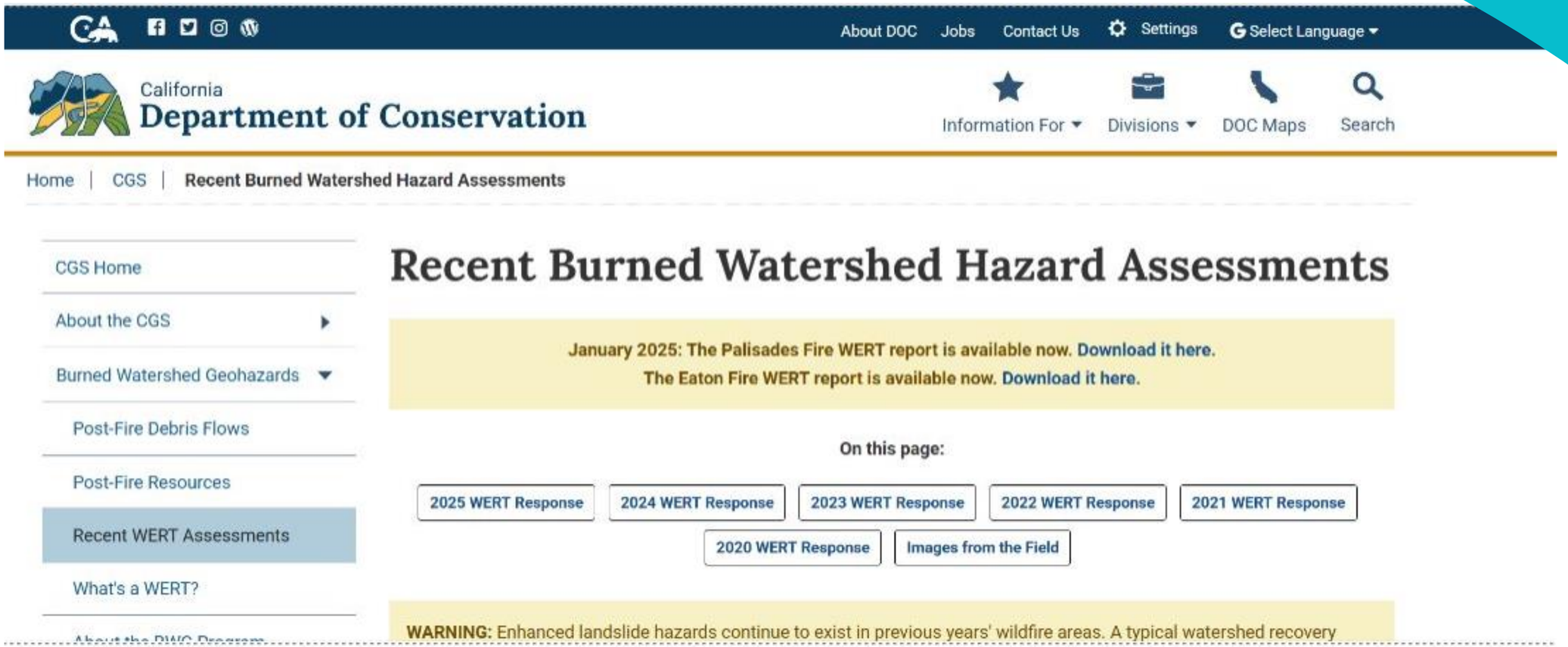
- If the temporary housing is supported on anything **OTHER** than wheels or a trailer which can be readily moved (i.e. a **manufactured home)**, it shall comply with requirements for foundations as noted in Chapter 16, 18 and Appendix G – Flood proof Construction of the current California Building Code and requires a building permit.

MALIBU REBUILDS



Post Fire Debris Flow Hazard Assessment Map USGS

MALIBU REBUILDS



Watershed Hazard Assessment (DOC)

MALIBU REBUILDS

Palisades Fire

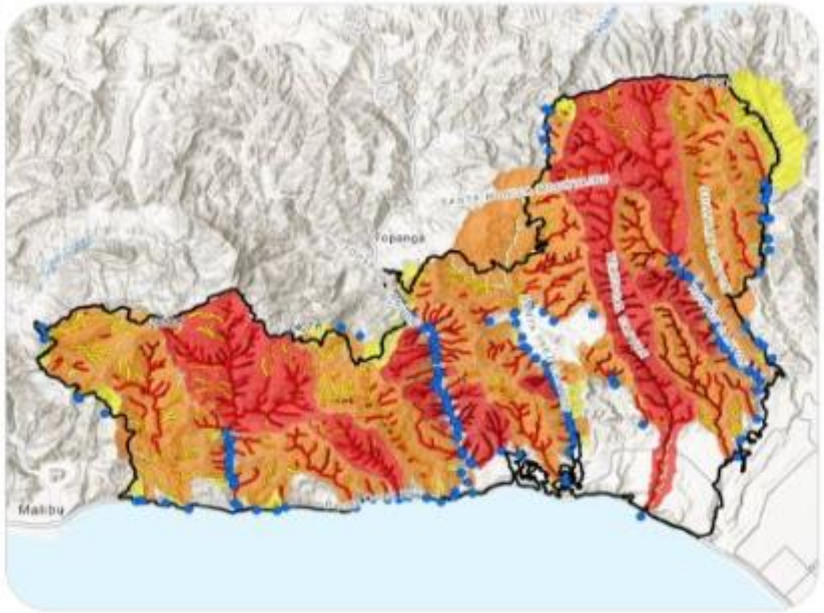
County Affected: Los Angeles

CGS/CAL FIRE WERT Report:

- Palisades Fire WERT Evaluation

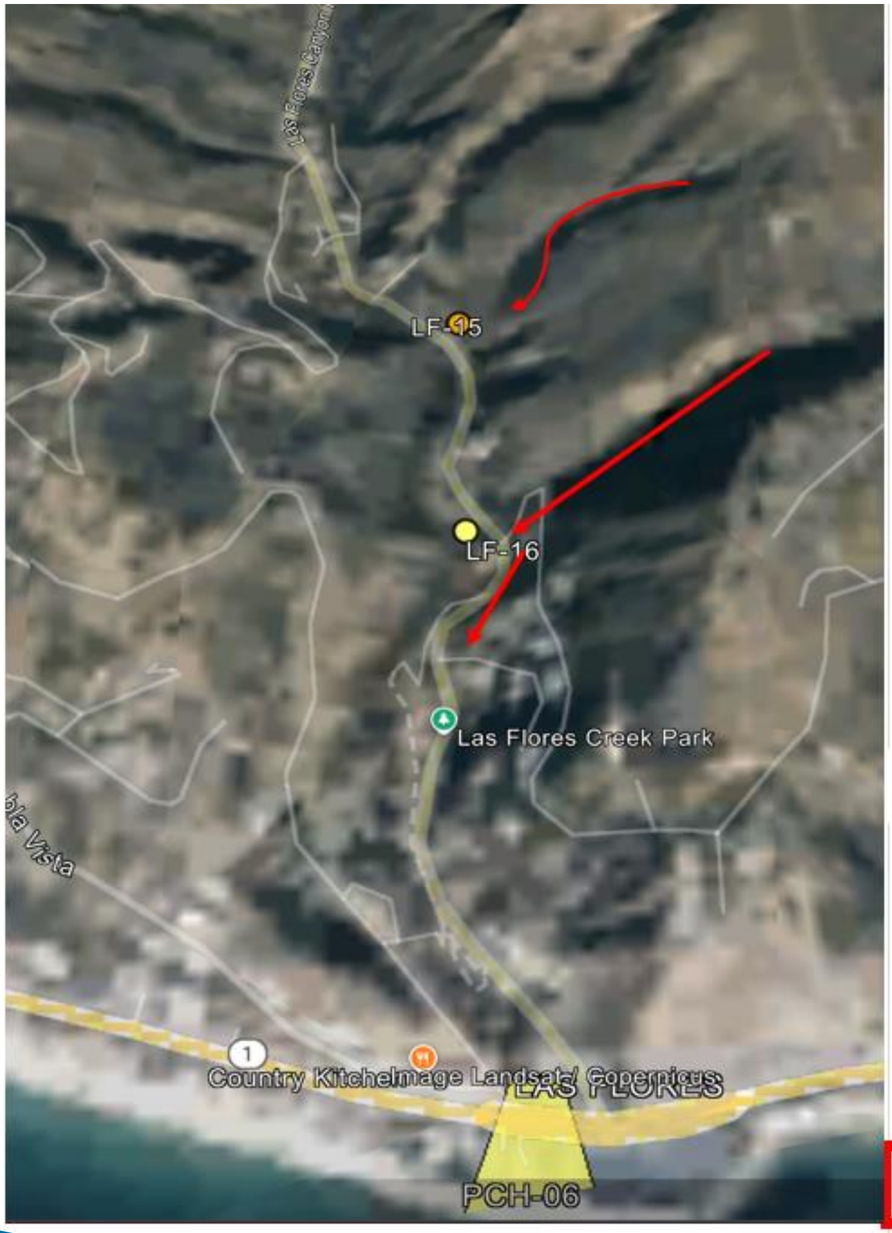
Additional Information:

- **CAL FIRE Palisades Fire Incident Archive**
- InciWeb Information: Not available.
- **USGS Post-Fire Debris Flow Hazard Assessment Viewer**
- USFS Palisades Post-Fire BAER: Not available (not USFS jurisdiction).



Watershed Hazard Assessment Evaluation Report

MALIBU REBUILDS



LF-15

LF-15	
SHAPE	Point
Site Number	LF-15
Community / Local area	Las Flores Canyon
Street address	Las Flores Canyon Rd.
Latitude	34.043963
Longitude	-118.637487
Potential hazard / Field observation	Small debris rack/drainage structure above destroyed home. Potential flood/debris flow hazard to home site.
Hazard (cont'd)	Possible probability of occurrence with moderate consequence = intermediate risk
Hazard Category	debris flow / flood
Specific at-risk feature	home site
Feature Category	home
Potential hazard to life?	moderate
Potential hazard to property?	moderate
Remarks	Home is destroyed, drainage structure with debris rack above and upstream of home. Small but steep drainage burned at moderate severity. High combined hazard class for stream segment in USGS model motivated inclusion as value at risk and concern for moderate hazard to property.
Emergency Protective Measures	Clear and maintain basin
Emergency Protective Measures (cont'd)	Early Warning
Emergency Protective Measures (cont'd 2)	Deflection structure
Emergency protective measures (cont'd 3)	<Null>
Emergency Protective Measures (text)	Do not site temporary housing in flow path.
Receiver Name	<Null>

MALIBU REBUILDS

TEMPORARY HOUSING

EXAMPLES OF PREVIOUSLY APPROVED FOUNDATION SYSTEMS

MALIBU REBUILDS

WANDERMERE ROAD

TEMPORARY HOUSING EXAMPLE

MALIBU REBUILDS

WANDERMERE ROAD (2018 Fire Rebuild)
MALIBU, CA 90265 (THWF 20-002)

TEMPORARY MOBILE HOME :	3 Bedrooms/27 Fixture Units (T)
SEPTIC TANK:	1,000 Gallon tank (E)
ACTIVE:	1 - 5' x 25' (E)
FUTURE:	None
PERC RATE:	Unknown

NOTES:

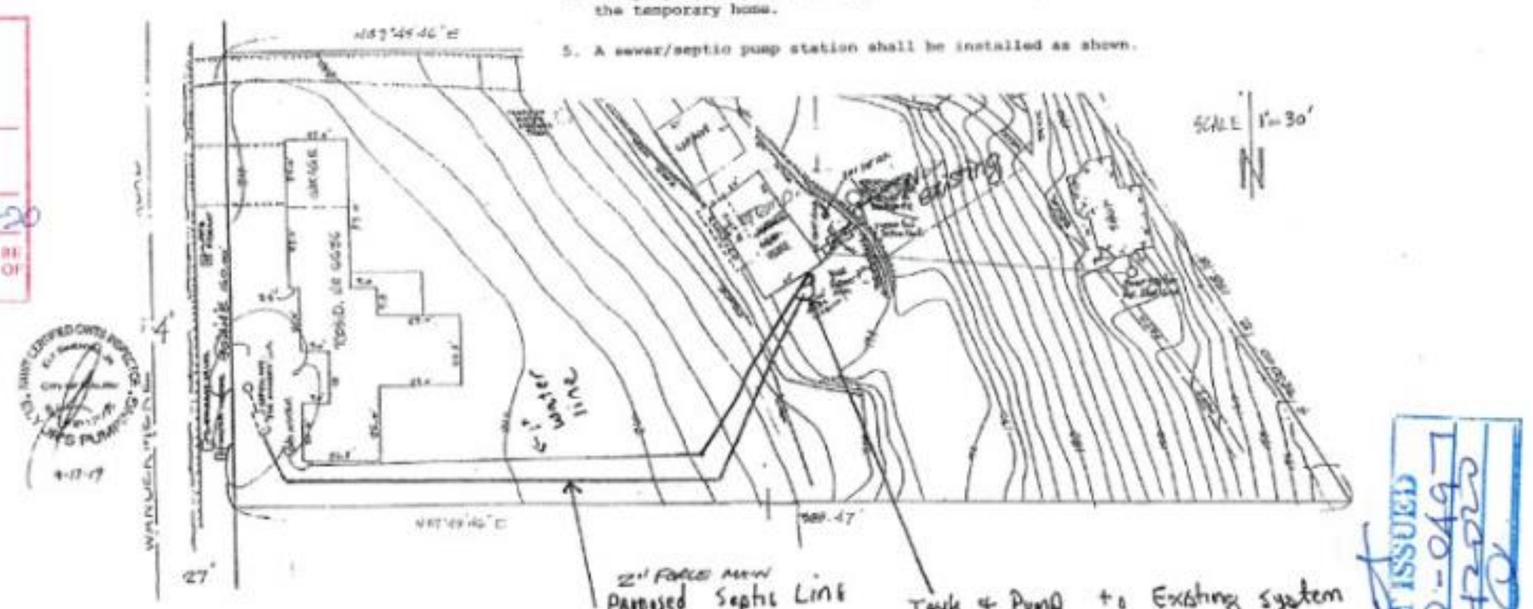
1. This approval is for the connection of a temporary home to the existing onsite wastewater treatment system (OWTS). The onsite wastewater treatment system (OWTS) conforms to the requirements of the Malibu Municipal Code (MMC) and the Local Coastal Program (LCP). The temporary home must be disconnected from the OWTS upon final inspection and occupancy of the replacement dwelling(s).
2. This approval relates only to the minimum requirements of the MMC, and the LCP, and does not include an evaluation of any geological or other potential problems, which may require an alternative method of wastewater treatment.
3. This approval is valid for one year, or until MMC, and/or LCP, and/or Administrative Policy changes render it noncomplying.
4. All pumping, repairs, and permits must be completed prior to the building inspectors sign-off on the temporary home.
5. A sewer/septic pump station shall be installed as shown.

CITY OF MALIBU
ENVIRONMENTAL SUSTAINABILITY DEPT.
ENVIRONMENTAL HEALTH

APPROVED

SIGNATURE Melinda Talent DATE 3-4-20

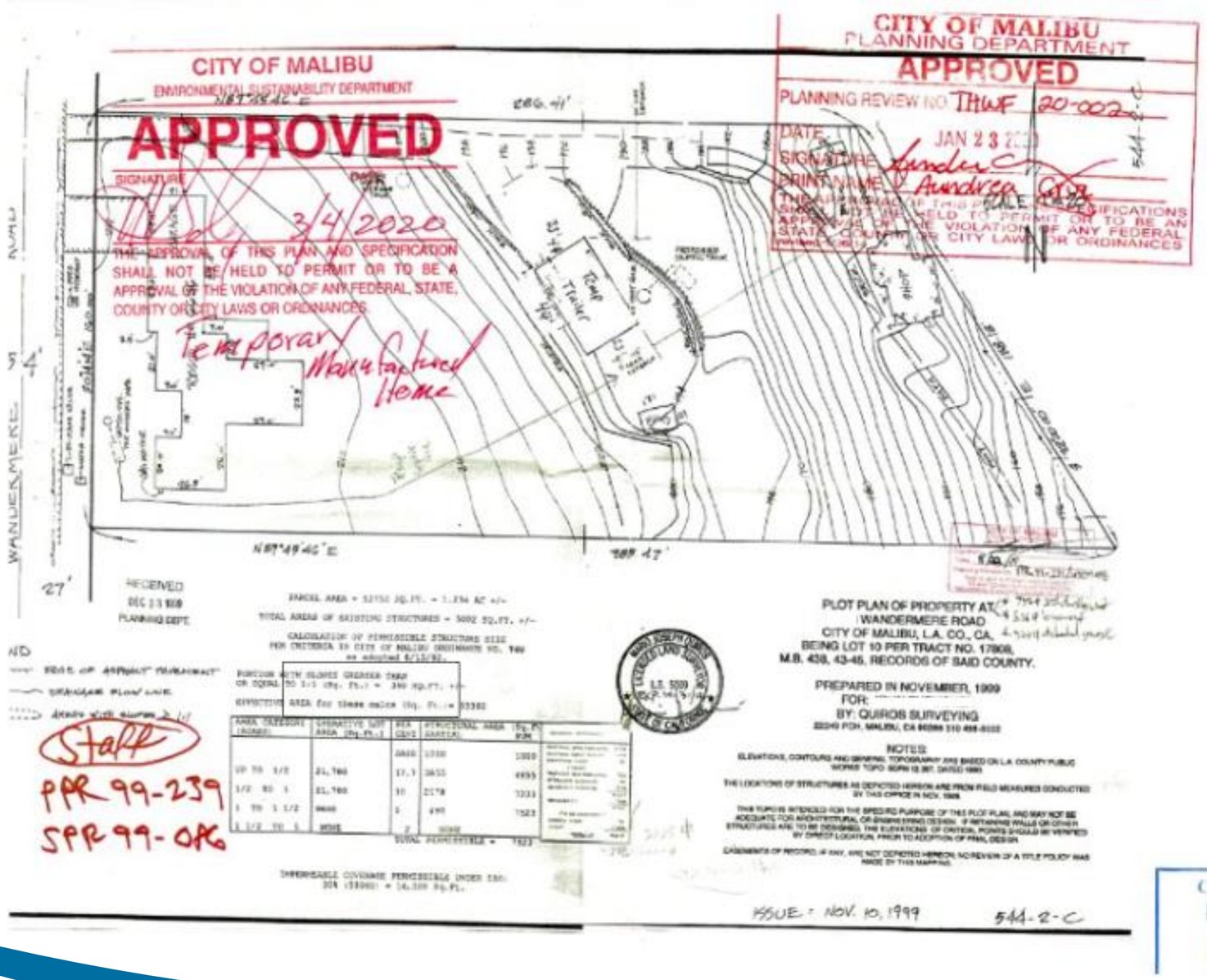
THE APPROVAL OF THIS PLAN & SPECIFICATION SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATION OF FEDERAL, STATE, COUNTY, OR CITY LAWS OR ORDINANCES



ENVIRONMENTAL SUSTAINABILITY DEPT

PERMIT ISSUED
PERMIT NO: 20-049
DATE: 3/4/2020
INITIAL:

MALIBU REBUILDS



MALIBU REBUILDS

ENGINEERED FOUNDATION PLAN
C.P. SEISMIC PIER™ 6
SPA 30-5F

FOR:

BY:

REGISTERED PROFESSIONAL ENGINEER
LYNETTE M. WILSON
No. 60245
CIVIL
STATE OF CALIFORNIA

Signed: 10/2/18

STATE APPROVAL

MANUFACTURED HOME/MOBILE HOME
FOUNDATION SYSTEM
HEALTH AND SAFETY CODE, SECTION 18551
APPROVED

APPROVAL DOES NOT AUTHORIZE OR APPROVE ANY
OMISSIONS OR DEVIATION FROM REQUIREMENTS OF
APPLICABLE STATE LAWS AND REGULATIONS
State of California
Department of Housing and Community Development
DIVISION OF CODES AND STANDARDS

BY _____ DATE 3-8-19
(Signature)
SPA NO 30-5F
This Plan Approved Expires 12

REV.	DATE	BY	COMMENTS
3	10/02/18	YW	UPDATE TO 2016 CBC/CRC
2	09/13/16	YW	MINOR TEXT EDITS
1	06/17/14	YW	ADD 130 MPH WIND LOAD
0	02/14/14	YW	UPDATE TO 2013 CBC/CRC

ENGINEERED FOUNDATION PLAN
CENTRAL PIERS – SPA 30-5F

SHEET
F1 OF 6

CITY OF MALIBU
Incorporated March 28, 1991

MALIBU REBUILDS

GENERAL NOTES:

REFERENCE: CALIFORNIA CODE OF REGULATIONS, TITLE 25 AND 2016 C.R.C./C.B.C. THESE PLANS MEET THE INTENT OF 2016 C.R.C. 301.1.3.

1. DESIGN LOADS SHALL BE CONSISTENT WITH LOCAL REQUIREMENTS WHERE INSTALLED. THE FOLLOWING DESIGN LOADS ARE INCORPORATED HEREIN:
   FLOOR LIVE LOAD: 40 PSF ROOF LIVE LOAD: 30PSF – 100 PSF
   BASIC WIND SPEED & EXPOSURE: 110-130 MPH AS LISTED IN TABLE
   SEISMIC DESIGN CATEGORY: E
   SITE CLASS D Ss=1.5 Sds=1.4 Fa=1.4 V=0.215W (SIMPLIFIED METHOD, ASCE 7-10 SECTION 12.14)
   THIS DESIGN IS NOT INTENDED FOR USE IN FLOOD HAZARD AREAS UNLESS A SEPARATE DESIGN ADDRESSING THE FLOOD HAZARD IS SUBMITTED FOR APPROVAL BY THE LOCAL JURISDICTION.
2. FOOTINGS ARE TO BE SUPPORTED BY EITHER FIRM, UNSATURATED, UNDISTURBED SOIL OR COMPACTED FILL, ASPHALT OR CONCRETE. FOOTINGS ARE DESIGNED FOR 1500 PSF BEARING CAPACITY AND SHALL BE COMPATIBLE WITH LOCAL SOIL CONDITIONS. ALL FOOTINGS SHALL BE FOUNDED IN ACCORDANCE WITH H.C.D. GUIDLINES AND TITLE 25 OR PREPARE SUBGRADE PER SOIL REPORT, WHEN AVAILABLE.
3. STRUCTURAL STEEL:
   a. SHALL CONFORM TO ASTM A36 Fy – 36 KSI MINIMUM.
   b. SHALL BE FABRICATED ACCORDING TO AISC SPECIFICATIONS.
   c. SHALL BE WELDED ACCORDING TO AWS SPECIFICATIONS:
      i. ELECTRODES: E70
      ii. PLATES: ASTM A36
      iii. BOLTS: STANDARD ASTM A307
      iv. THREADED ROD: COLD DRAWN LOW CARBON WELDABLE
   d. ALL METAL COMPONENTS INCLUDING NAILS & SCREWS ETC. ARE TO BE PROTECTIVE COATED.
4. THE C.P. SEISMIC PIER SHALL BE LISTED & LABELED BY BSK ASSOCIATES FOR THESE ULTIMATE LOADS:
   7" THRU 18 INCH PIERS: 3203 LBS. (STRONG DIR), 2273 (WEAK DIR), 16,000 VERTICAL
5. THIS FOUNDATION SYSTEM IS FOR PLACING MANUFACTURED HOMES CONSTRUCTED WITH LONGITUDINAL OR CROSS JOISTS.
6. THIS FOUNDATION SYSTEM IS DESIGNED TO BE CONSTRUCTED ON A FAIRLY LEVEL SITE WITH NO EXISTING SOIL PROBLEMS. SEE NOTE 2 AND TITLE 25, SECTION 1334(b).
7. THE SIZE, TYPE & LOCATION OF STANDARD VERTICAL SUPPORT PIERS & FOOTINGS MUST BE INSTALLED PER THE HOME MANUFACTURER'S INSTALLATION MANUAL. WITHOUT MANUAL, SPACING OF STANDARD PIERS TO BE DETERMINED BY TITLE 25, SECTION 1335.5.

FOUNDATION PAD NOTES:

1. TWO FOUNDATION PADS ARE AVAILABLE FOR USE WITH THIS SYSTEM. THE CUSTOMER MAY CHOOSE ONE OF THE PADS FOR THEIR HOME. SEE SHEET F6, FOUNDATION PADS.
2. FOUNDATION PADS SHALL BE PLACED ON FIRM, LEVEL UNDISTURBED SOIL (SEE GEN. NOTE 2)
3. THE FOUNDATION PADS SHALL BE ORIENTED AS SHOWN ON THE PLAN VIEW DRAWING WITH THE BOLT HOLES PERPENDICULAR TO THE CHASSIS BEAM. SEE PLAN VIEWS, SHEETS F3 AND F4.
4. CONCRETE FOUNDATION PADS
   2500 PSI AT 28 DAYS AS TESTED AND MANUFACTURED BY STARLITE WEIGHT CONCRETE.
5. PRESSURE TREATED FOUNDATION PAD
   3/4 INCH A.P.A. 48/24 EXTERIOR P.S.I.-83 CC. PLUGGED, NER-QA397,PRP-108.
6. ATTACHMENT TO EXISTING CONCRETE SLAB
   THE C.P. SEISMIC PIER MAY BE ATTACHED TO AN EXISTING COMPETENT CONCRETE SLAB OR CONCRETE FOOTING ACCORDING TO THE FOLLOWING CRITERIA:
   1. ATTACH WITH TWO 5/8" DIAM. REDHEAD WEDGE ANCHORS
   2. MINIMUM EMBEDMENT = 2.5"
   3. MINIMUM CONCRETE THICKNESS = 3¾"
   4. MINIMUM EDGE DISTANCE = 2"

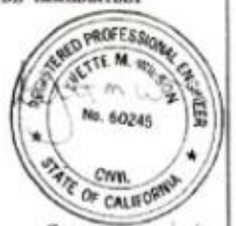
COACH SIZE NOTES:

1. UNLESS APPROVED BY ROCK SOLID ENGINEERING, INC., THE ROOF PITCH SHOULD NOT EXCEED:
   A. SINGLE WIDES: 4:12
   B. DOUBLE AND TRIPLE WIDES: 3:12 or 4:12 AS LISTED IN TABLE

2. FOR ANY HOME SIZE OTHER THAN AS SHOWN ON THIS PLAN OR REFERENCED IN THE TABLE, THE LAYOUT SHALL BE REVIEWED & APPROVED BY ROCK SOLID ENGINEERING, INC.

INSPECTION REQUIREMENTS:

1. THE DESIGN OF THIS SYSTEM IS BASED ON STANDARD MANUFACTURED HOMES AS BUILT BY THE MANUFACTURER. SITE BUILT ADDITIONS SUCH AS GARAGES AND SECONDARY ROOFS HAVE NOT BEEN INCLUDED IN THIS DESIGN.
2. ALL DIMENSIONS INCLUDED ON THIS PLAN, INCLUDING COACH SIZE, ROOF HEIGHT AND PIER HEIGHT, SHOULD BE FIELD VERIFIED BY THE LOCAL BUILDING OFFICIAL. ANY DISCREPENCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S ATTENTION.
3. THE BUILDING PAD SHOULD BE INSPECTED TO ENSURE THAT PROPER SOIL CONDITIONS AND DRAINAGE PATTERNS HAVE BEEN ESTABLISHED IN ACCORDANCE WITH TITLE 25 & THE HOME INSTALLATION MANUAL.

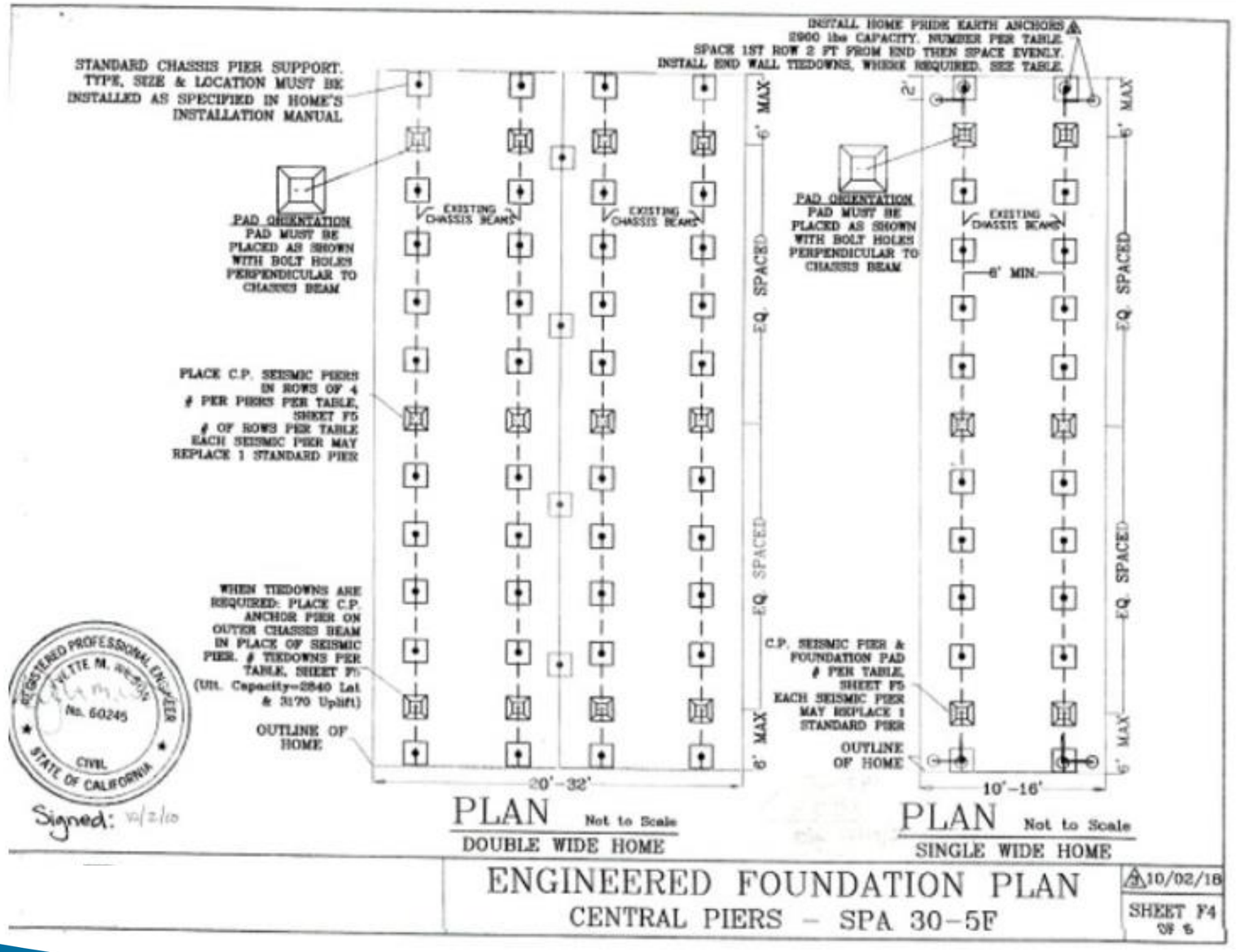


Signed: 10/2/18

ENGINEERED FOUNDATION PLAN
CENTRAL PIERS – SPA 30-5F

10/02/18

SHEET F2 OF 8


STANDARD CHASSIS PIER SUPPORT. TYPE, SIZE & LOCATION MUST BE INSTALLED AS SPECIFIED IN HOME'S INSTALLATION MANUAL
PAD ORIENTATION PAD MUST BE PLACED AS SHOWN WITH BOLT HOLES PERPENDICULAR TO CHASSIS BEAM
PLACE C.P. SEISMIC PIERS IN ROWS OF 4 # PIER PIERS PER TABLE, SHEET F5 # OF ROWS PER TABLE EACH SEISMIC PIER MAY REPLACE 1 STANDARD PIER
WHEN TIEDOWNS ARE REQUIRED: PLACE C.P. ANCHOR PIER ON OUTER CHASSIS BEAM IN PLACE OF SEISMIC PIER. # TIEDOWNS PER TABLE, SHEET F5 (Ult. Capacity=2840 Lat & 3170 Uplift)
OUTLINE OF HOME
EXISTING CHASSIS BEAMS
6' MAX
EQ. SPACED
20'-32'
PLAN Not to Scale
DOUBLE WIDE HOME
INSTALL HOME PRIDE EARTH ANCHORS 2900 lbs CAPACITY. NUMBER PER TABLE. SPACE 1ST ROW 2 FT FROM END THEN SPACE EVENLY. INSTALL END WALL TIEDOWNS, WHERE REQUIRED. SEE TABLE.
PAD ORIENTATION PAD MUST BE PLACED AS SHOWN WITH BOLT HOLES PERPENDICULAR TO CHASSIS BEAM
6' MIN.
C.P. SEISMIC PIER & FOUNDATION PAD # PER TABLE, SHEET F5 EACH SEISMIC PIER MAY REPLACE 1 STANDARD PIER
OUTLINE OF HOME
10'-16'
PLAN Not to Scale
SINGLE WIDE HOME
REGISTERED PROFESSIONAL ENGINEER
No. 60245
CIVIL
STATE OF CALIFORNIA
Signed: 10/2/18
ENGINEERED FOUNDATION PLAN
CENTRAL PIERS – SPA 30-5F
10/02/18
SHEET F4 OF 5

			MAX. ROOF LIVE LOAD (PSF)	30 PSF			40 PSF			40 PSF			100 PSF			100 PSF		
			MAX. WIND LOAD(MPH,EXP)	110B & 110C			110C			120B			120C			130C /1		
HOME SIZE				# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS
ROOF PITCH	WIDTH	LENGTH																
SINGLES	4:12	16'–16'	UP TO 48'	4	2 ROWS	4	4	2 ROWS	4/4*	4	2 ROWS	4/4*	4	2 ROWS	4/4*	4	2 ROWS	4/4*
			48.5'–60'	6	3 ROWS	4	6	3 ROWS	4	6	3 ROWS	4	6	3 ROWS	6/4*	6	3 ROWS	6/4*
			60.5'–76'	8	4 ROWS	4	8	4 ROWS	4	8	4 ROWS	4	8	4 ROWS	8/4*	8	4 ROWS	8/4*
DOUBLE WIDES	3:12	20'–28'	UP TO 56'	8	2 ROWS	0	4	2 ROWS	4	4	2 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			56.5'–66'	8	2 ROWS	0	4	2 ROWS	4	6	3 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			66.5'–76'	12	3 ROWS	0	6	3 ROWS	4	6	3 ROWS	4	12	4 ROWS	4	6	4 ROWS	6
		28.5'–32'	UP TO 56'	8	2 ROWS	0	4	2 ROWS	4	4	2 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			56.5'–66'	8	2 ROWS	0	12	3 ROWS	0	12	3 ROWS	0	12	4 ROWS	4	6	4 ROWS	8
			66.5'–76'	12	3 ROWS	0	12	3 ROWS	0	12	3 ROWS	0	12	4 ROWS	4	6	4 ROWS	8
	4:12	20'–30'	UP TO 60'	8	2 ROWS	0	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			60.5'–66'	8	2 ROWS	0	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			66.5'–76'	12	3 ROWS	0	12	3 ROWS	0	8	3 ROWS	4	12	4 ROWS	4	8	4 ROWS	8
		30.5'–32'	UP TO 56'	8	2 ROWS	0	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			56.5'–66'	8	2 ROWS	0	12	3 ROWS	0	8	3 ROWS	4	12	4 ROWS	4	6	4 ROWS	8
			66.5'–76'	12	3 ROWS	0	12	3 ROWS	0	8	3 ROWS	4	12	4 ROWS	4	8	4 ROWS	8
TRIPLE WIDES	4:12	30'–43'	UP TO 48'	8	2 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
			48.5'–60'	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	12	4 ROWS	4	8	4 ROWS	8
			60.5'–66'	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	16	5 ROWS	4	8	5 ROWS	8
			66.5'–76'	16	4 ROWS	0	12	4 ROWS	4	12	4 ROWS	4	14	5 ROWS	6	10	5 ROWS	10
		43.5'–48'	UP TO 48'	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	12	4 ROWS	4	8	4 ROWS	8
			48.5'–56'	12	3 ROWS	0	8	4 ROWS	4	8	3 ROWS	4	12	4 ROWS	4	8	4 ROWS	8
			56.5'–66'	12	3 ROWS	0	8	5 ROWS	4	12	4 ROWS	4	14	5 ROWS	6	10	5 ROWS	10
			66.5'–76'	16	4 ROWS	0	12	4 ROWS	4	12	4 ROWS	4	14	5 ROWS	6	10	5 ROWS	10

TABLE NOTES

TO USE TABLE, FIND HOME SIZE (SINGLE, DOUBLE OR TRIPLE), THEN FIND ROOF PITCH, WIDTH AND LENGTH. FOLLOW ROW ACROSS TO DESIGN ROOF LOAD THEN DESIGN WIND LOAD. READ TOTAL NUMBER OF C.P. SEISMIC PIERS, # OF ROWS & TIDOWNS REQUIRED. SEE PLAN, SHEETS F3 & F4, FOR PLACEMENT OF C.P. SEISMIC PIERS AND TIEDOWN SPECIFICATIONS.

FOR EXAMPLE, FOR A 24'x70' HOME WITH A 3:12 ROOF PITCH, DESIGN SNOW LOAD OF 30 PSF & 110 MPH, EXPOSURE C WIND LOAD, READ 12 C.P. SEISMIC PIERS, PLACED IN 3 ROWS, WITH 0 C.P. ANCHOR PIER TIEDOWNS. LAYOUT SHOWN IN DOUBLE WIDE PLAN VIEW, SHEET F4

*FOR SINGLE WIDES, WHERE TIEDOWN COLUMN IS SPLIT AS SHOWN, INSTALL 2 EARTH ANCHOR TIEDOWNS AT EACH ENDWALL . TOTAL # OF ENDWALL TIEDOWS PER HOME IS INDICATED IN TABLE BY *.

4/4* — TOTAL # OF SIDEWALL TIEDOWNS
——— TOTAL # OF ENDWALL TIEDOWNS

HOME SIZES REFER TO NOMINAL SIZES THAT ARE COMMONLY MANUFACTURED. IF THE EXACT SIZE OF THE HOME IS NOT LISTED, CHECK THE NEXT HIGHER OR LOWER SIZE AND USE THE ONE THAT REQUIRED MORE PIERS.

THE TIEDOWNS SHALL BE LISTED & INSTALLATION INSTRUCTIONS SHALL BE ON SITE AT TIME OF INSPECTION.

THIS PLAN MAY BE USED WITH C.P. SEISMIC PIERS UP TO THE 18 INCH PIER SIZE. THE MAXIMUM HEIGHT OF THE C.P. SEISMIC AND C.P. ANCHOR PIERS IS 25" MEASURED FROM THE BASE PLATE TO THE TOP PLATE.

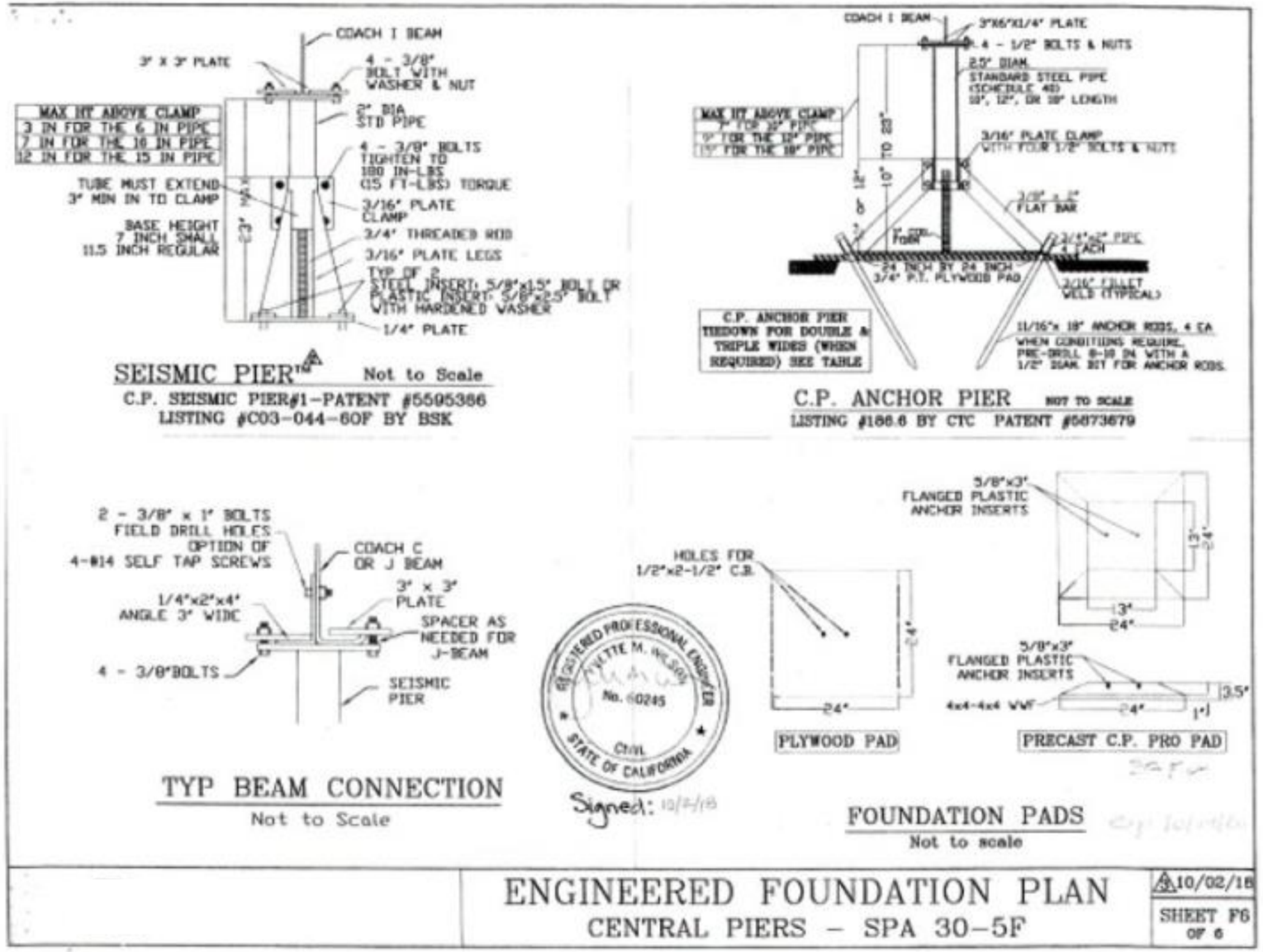
REGISTERED PROFESSIONAL ENGINEER — KYLITE M. [illegible] — No. 60245 — CIVIL — STATE OF CALIFORNIA

ENGINEERED FOUNDATION PLAN

CENTRAL PIERS – SPA 30–5F

10/02/18

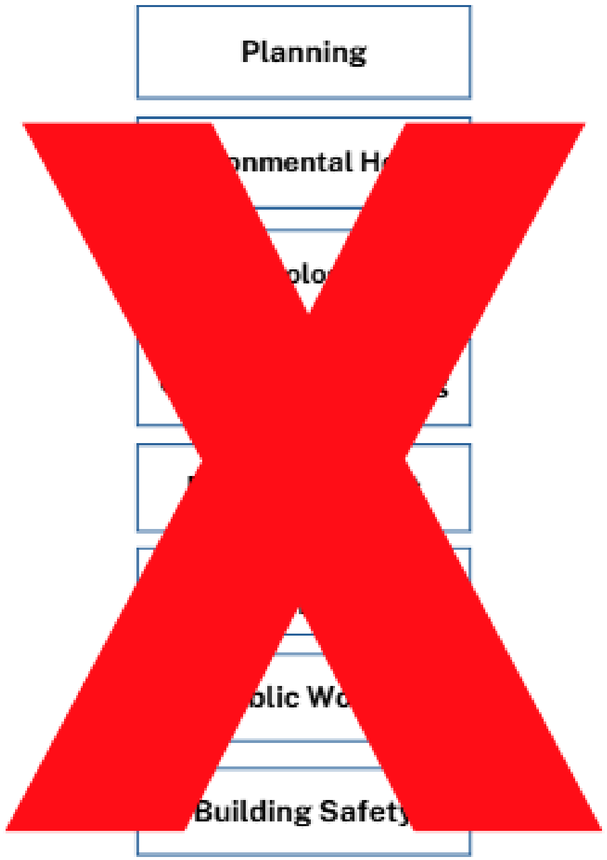
SHEET F5 OF 6


COACH I BEAM
3" X 3" PLATE
4 - 3/8" BOLT WITH WASHER & NUT
2" DIA STD PIPE
MAX HT ABOVE CLAMP
3 IN FOR THE 6 IN PIPE
7 IN FOR THE 10 IN PIPE
12 IN FOR THE 15 IN PIPE
4 - 3/8" BOLTS TIGHTEN TO 180 IN-LBS (15 FT-LBS) TORQUE
TUBE MUST EXTEND 3" MIN IN TO CLAMP
3/16" PLATE CLAMP
BASE HEIGHT 7 INCH SMALL 11.5 INCH REGULAR
3/4" THREADED ROD
3/16" PLATE LEGS
TYP OF 2
STEEL INSERT: 5/8"x1.5" BOLT OR PLASTIC INSERT: 5/8"x2.5" BOLT WITH HARDENED WASHER
1/4" PLATE
SEISMIC PIER
Not to Scale
C.P. SEISMIC PIER#1-PATENT #5595366
LISTING #C03-044-60F BY BSK
COACH I BEAM
3"X6"X1/4" PLATE
4 - 1/2" BOLTS & NUTS
2.5" DIAM. STANDARD STEEL PIPE (SCHEDULE 40) 10", 12", OR 18" LENGTH
MAX HT ABOVE CLAMP
7" FOR 10" PIPE
9" FOR THE 12" PIPE
15" FOR THE 18" PIPE
3/16" PLATE CLAMP WITH FOUR 1/2" BOLTS & NUTS
FLAT BAR
2-1/2" SCH. 40 PIPE 4 EACH
24 INCH BY 24 INCH 3/4" P.T. PLYWOOD PAD
3/16" FILLET WELD (TYPICAL)
C.P. ANCHOR PIER TIEDOWN FOR DOUBLE & TRIPLE WIDES (WHEN REQUIRED) SEE TABLE
11/16"x 18" ANCHOR RODS, 4 EA WHEN CONDITIONS REQUIRE, PRE-DRILL 8-10 IN. WITH A 1/2" DIAM. BIT FOR ANCHOR RODS.
C.P. ANCHOR PIER
NOT TO SCALE
LISTING #186.6 BY CTC PATENT #6873679
2 - 3/8" x 1" BOLTS FIELD DRILL HOLES OPTION OF 4-#14 SELF TAP SCREWS
COACH C OR J BEAM
3" x 3" PLATE
1/4"x2"x4" ANGLE 3" WIDE
SPACER AS NEEDED FOR J-BEAM
4 - 3/8"BOLTS
SEISMIC PIER
TYP BEAM CONNECTION
Not to Scale
REGISTERED PROFESSIONAL ENGINEER
YVETTE M. WILSON
No. 60245
CIVIL
STATE OF CALIFORNIA
Signed: 10/2/18
HOLES FOR 1/2"x2-1/2" C.B.
24"
24"
PLYWOOD PAD
5/8"x3" FLANGED PLASTIC ANCHOR INSERTS
3"
24"
5/8"x3" FLANGED PLASTIC ANCHOR INSERTS
3.5"
4x4-4x4 WWF
24"
1"
PRECAST C.P. PRO PAD
FOUNDATION PADS
Not to scale
ENGINEERED FOUNDATION PLAN
CENTRAL PIERS - SPA 30-5F
10/02/18
SHEET F6 OF 6

REVIEW PROCESS, PV, AND PV +10%

PALISADES FIRE

Plan Check Process



Building Plan Check

- Planning
- Environmental Health
- Geology
- Coastal Engineering
- Fire Department
- Waterworks District 29
- Public Works
- Building Safety

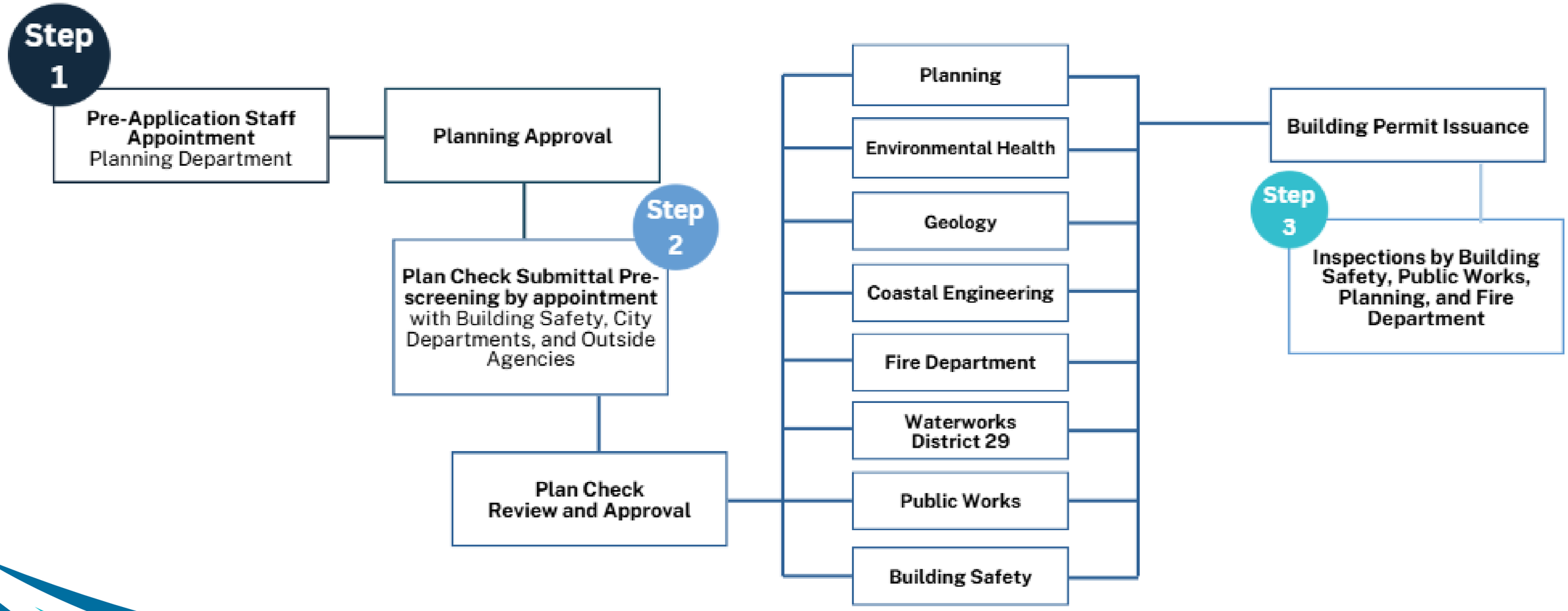
*Geographically sensitive areas may require minor review from other departments in the planning phase

MALIBU REBUILDS

HOW TO GET READY TO SUBMIT

1. Have Debris Removal Completed
2. Find Your Records
3. Work with Your Design Professional
4. Prepare your Planning and Building Safety Plans to Obtain your Permits
5. Construction and Inspections
6. Move In

The following is the **3 step process** your project will go through for **approval and permitting.**



MALIBU REBUILDS

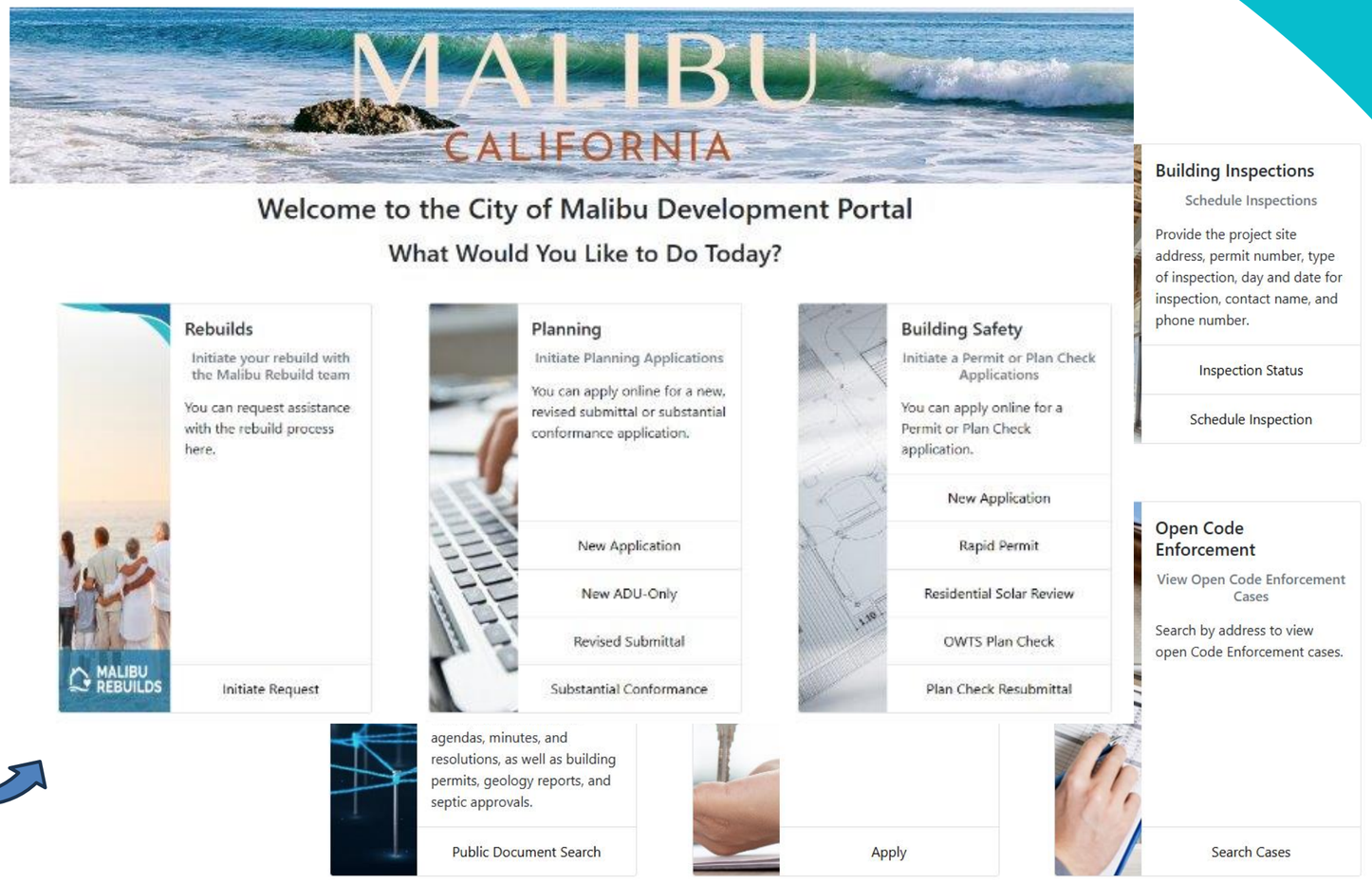
STEP 1: PLANNING

PLANNING

The What and Where:

- Rebuild Center
  - 23805 Stuart Ranch Road, Suite 240

- Development Portal
  - **malibucity.org/858/Development-Portal**



STEP 2: PLANNING APPROVAL

MALIBU REBUILDS

STEP 2: PLANNING APPROVAL

- **What key information is Planning looking for?**
  - **PV* and PV + 10%**
    - Documentation verifying existing structure
    - Sets of plans: site plan, floor plans, elevations, survey*
    - Highlight on the plans where the 10% addition is located

- **PLEASE NOTE:**
  - Addition must comply with all current city codes and standards
  - Conformance review within 7-10 days; missing info could require revisions

***PV = Planning Verification**

MALIBU REBUILDS

STEP 2: PLANNING APPROVAL

- **APR* + SPR*** may be needed for new height above 18 feet (Non-beachfront)

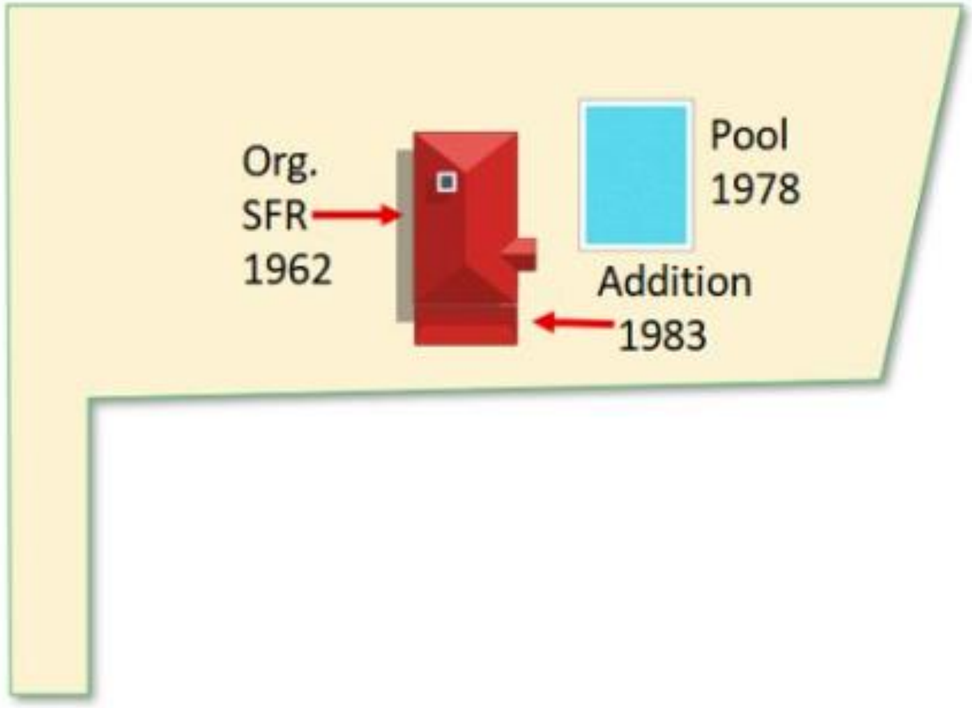
- Completely new house/re-design: **CDP***

***APR= Administrative Plan Review**
***SPR= Site Plan Review**
***CDP= Coastal Development Permit**

MALIBU REBUILDS

EXAMPLES OF INFO FOR PLANNING

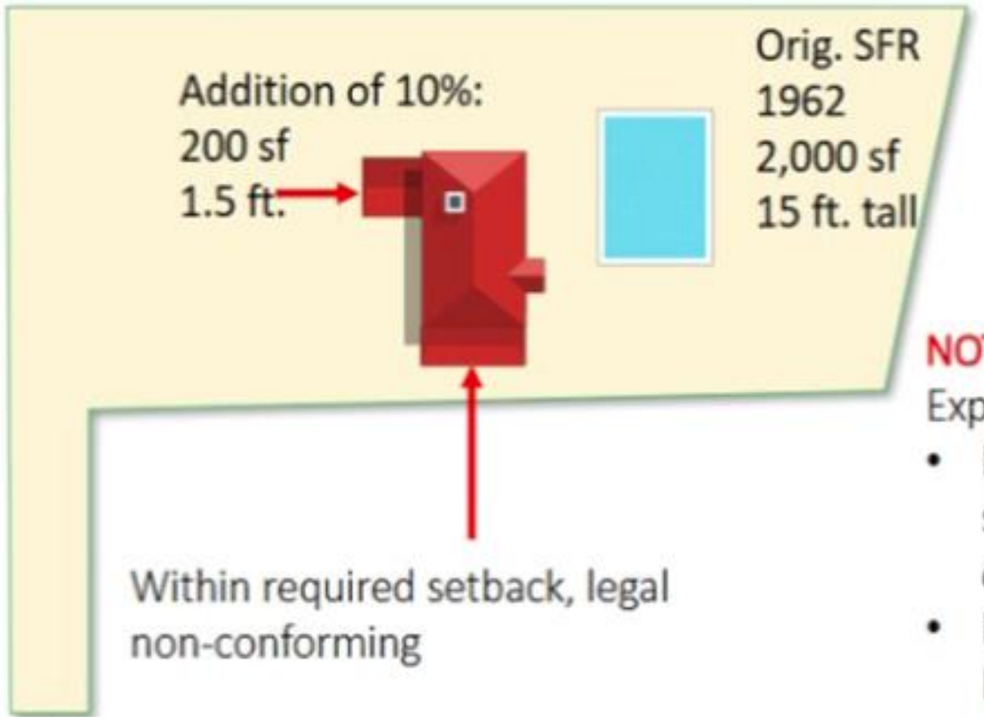
Previous stamped and approved plans



Previous finaled permits

WHAT DOES +10% MEAN?

You can also expand any destroyed accessory structures by 10% each



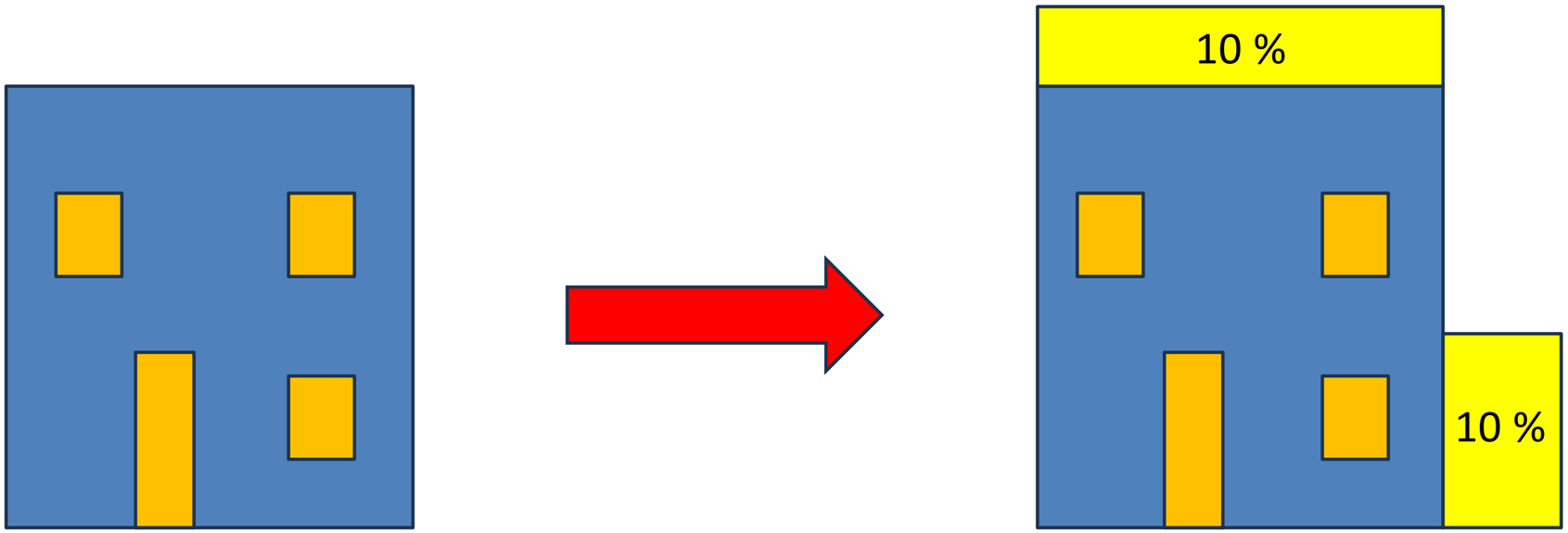
NOTE:

Expansion of 10% is only allowed if:

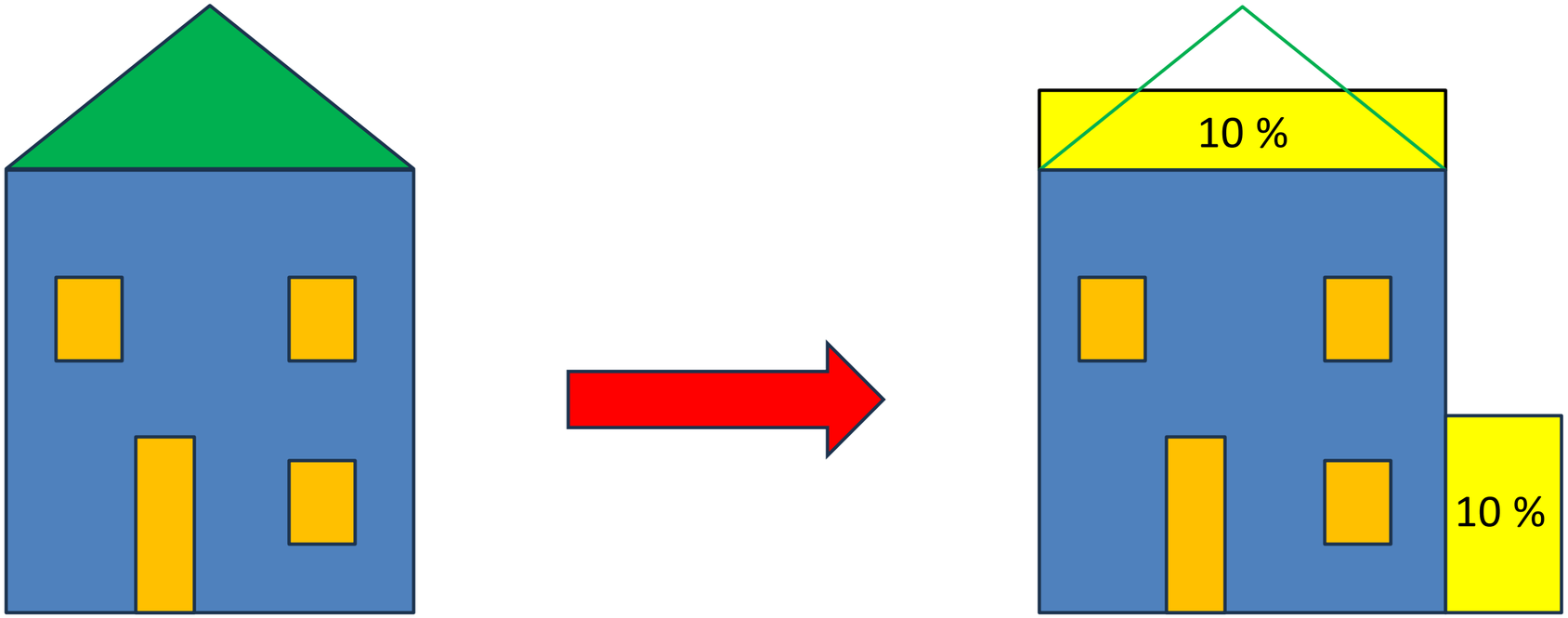
- New area meets development standards*(cannot expand any non-conformities)*
- Property is under max TDSF and Impermeable

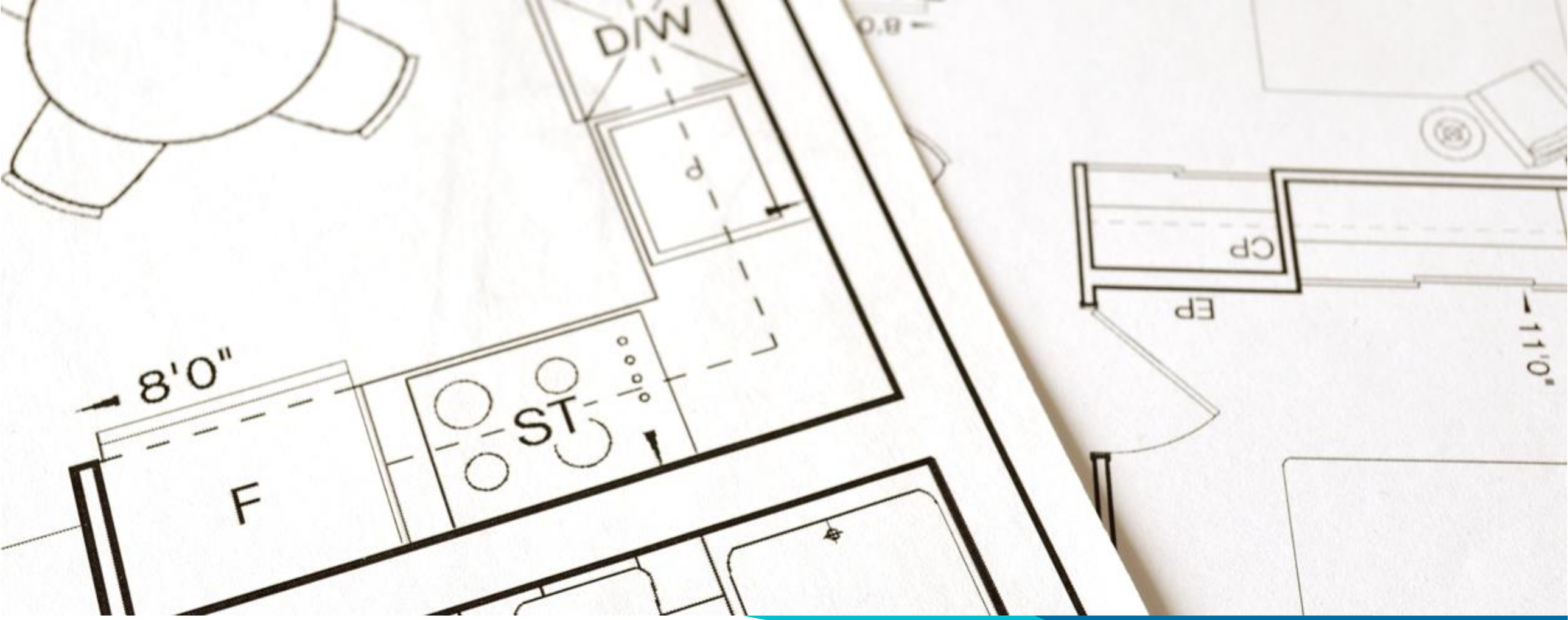
MALIBU REBUILDS

WHAT DOES +10% MEAN?



WHAT DOES +10% MEAN?





STEP 2: BUILDING PLAN CHECK

MALIBU REBUILDS

BUILDING SAFETY SUBMITTAL

BUILDING PLAN CHECK

Building Plans Review:

- Architectural and Energy
- Structural
- MEP
- Environmental Health
- Retaining Wall/Structural
- Grading/Drainage
- Fire Department Review

HISTORY OF THE BUILDING CODES

California Building Code Part 2 of Title 24	Effective Date	Model Code
1981	See history note appendix	UBC 1979
1985	See history note appendix	UBC 1979, 1982, 1985
1989	July 1, 1989	UBC 1988
1992	July 1, 1992	UBC 1991
1995	January 1, 1996	UBC 1994
1998	July 1, 1999	UBC 1997
2001	November 1, 2002	UBC 1997
2004	2001 CBC remains in effect	
2007	January 1, 2008	IBC 2006
2010	January 1, 2011	IBC 2009
2013	January 1, 2014	IBC 2012
2016	January 1, 2017	IBC 2015
2019	January 1, 2020	IBC 2018
2022	January 1, 2023	IBC 2021

MALIBU REBUILDS

CALIFORNIA CODE OF REGULATIONS

Title 1. General Provisions

Title 2. Administration

Title 3. Food and Agriculture

Title 4. Business Regulations

Title 5. Education

Title 7. Harbors and Navigation

Title 8. Industrial Relations

Title 9. Rehabilitative and Developmental Services

Title 10 Investment

Title 11. Law

Title 12. Military and Veterans Affairs

Title 13. Motor Vehicles

Title 14 Natural Resources

Title 15. Crime Prevention and Corrections

Title 16. Professional and Vocational Regulations

Title 17. Public Health

Title 18 Public Revenues

Title 19 Public Safety

Title 20 Public Utilities and Energy

Title 21 Public Works

Title 22 Social Security

Title 23 Waters

Title 24. Building Standards Code

Title 25. Housing and Community Development

Title 26. Toxics

Title 27. Environmental Protection

Title 28 Managed Health Care

MALIBU REBUILDS

TITLE 24 - BUILDING STANDARDS CODE*

- Part 1 - California Administrative Code
- Part 2 - California Building Code
- Part 2.5 – California Residential Code
- Part 3 – California Electrical Code
- Part 4 – California Mechanical Code
- Part 5 – California Plumbing Code
- Part 6 – California Energy Code
- Part 7 – International Wildland-Urban Interface Code (IWUIC) adopted on 2/26/2025. (Previously vacant)
- Part 8 – California Historical Building Code
- Part 9 – California Fire Code
- Part 10 – California Existing Building Code
- Part 11 – California Green Building Standards Code
- Part 12 – California Referenced Standards Code

***CODE UPDATE: JANUARY 1, 2026**

MALIBU REBUILDS

STRUCTURAL CODE STANDARDS

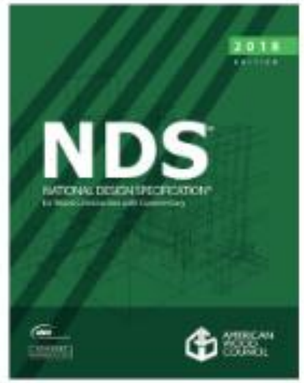
- ASCE 7-16 - Minimum Design Loads for Building and Other Structures

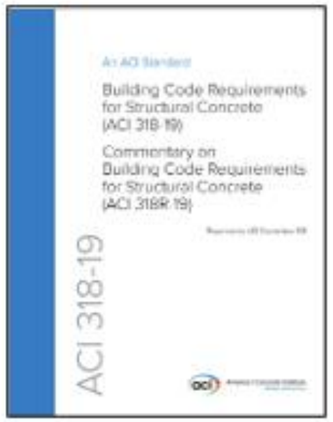
- AWC (American Wood Council)
  - 2018 NDS - National Design Specifications for Wood Construction
  - 2021 SDPWS - Special Design Provisions for Wind and Seismic

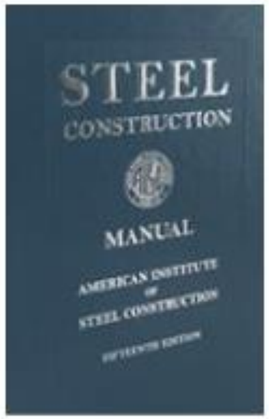
- ACI 318-319 - Building Code Requirements for Structural Concrete

- AISC - Steel Construction Manual

- TMS 402 - Building Code for Masonry Structures







MALIBU REBUILDS

DOCUMENTS REQUIRED FOR SUBMITTAL

Plans:

- Architectural Plans (Cover Sheet, Site Plan, Floor Plans, Roof Plan, Elevations, Sections, Window and Door Schedules, Assembly Detail Sheets)
- Site Survey
- Energy Calculations (CF1R)
- Mechanical, Electrical, and Plumbing Plans
- Structural Plans (Notes and Specification Sheets, Foundation Plan, Framing Plans, Detail Sheets)
- Civil Plans (Grading and Drainage)
- Site Retaining Wall Sheets
- 2023 Type V Standard Sheets (optional)
- 2023 LA County Green Building Standard Sheets (Optional)
- Landscape Irrigation Plan
- Outdoor Lighting Plan/Dark Sky Ordinance
- LA County Fire Department approved plans (Occupancy, Grading and Access, and Fuel Modification)
- Certified Fixture Unit Worksheet
- OWTS Plot Plan

Supporting Documentation:

- Structural Calculations
- Foundation Feasibility Report
- Geotechnical and/or Geology Reports
- Coastal Engineering Report
- Approval Listings
- OWTS Fire Damage Assessment Form

ARCHITECTURAL PLAN - COVER SHEET

PROJECT

SAMPLE PROJECT

PROJECT ADDRESS

OWNER
Owner's Name
Owner's Street Address

SYMBOL LEGEND

PROJECT TEAM

NAME OF ARCHITECT

CONTACT: NAME OF CONTACT

CONTACT: NAME OF CONTACT

CONTACT: NAME OF CONTACT

CONTACT: NAME OF CONTACT

VICINITY MAP

SITE

ZONING & BUILDING SUMMARY

PROJECTION SCOPE

UNDER SEPARATE PERMIT

APPLICABLE CODES

GENERAL NOTES

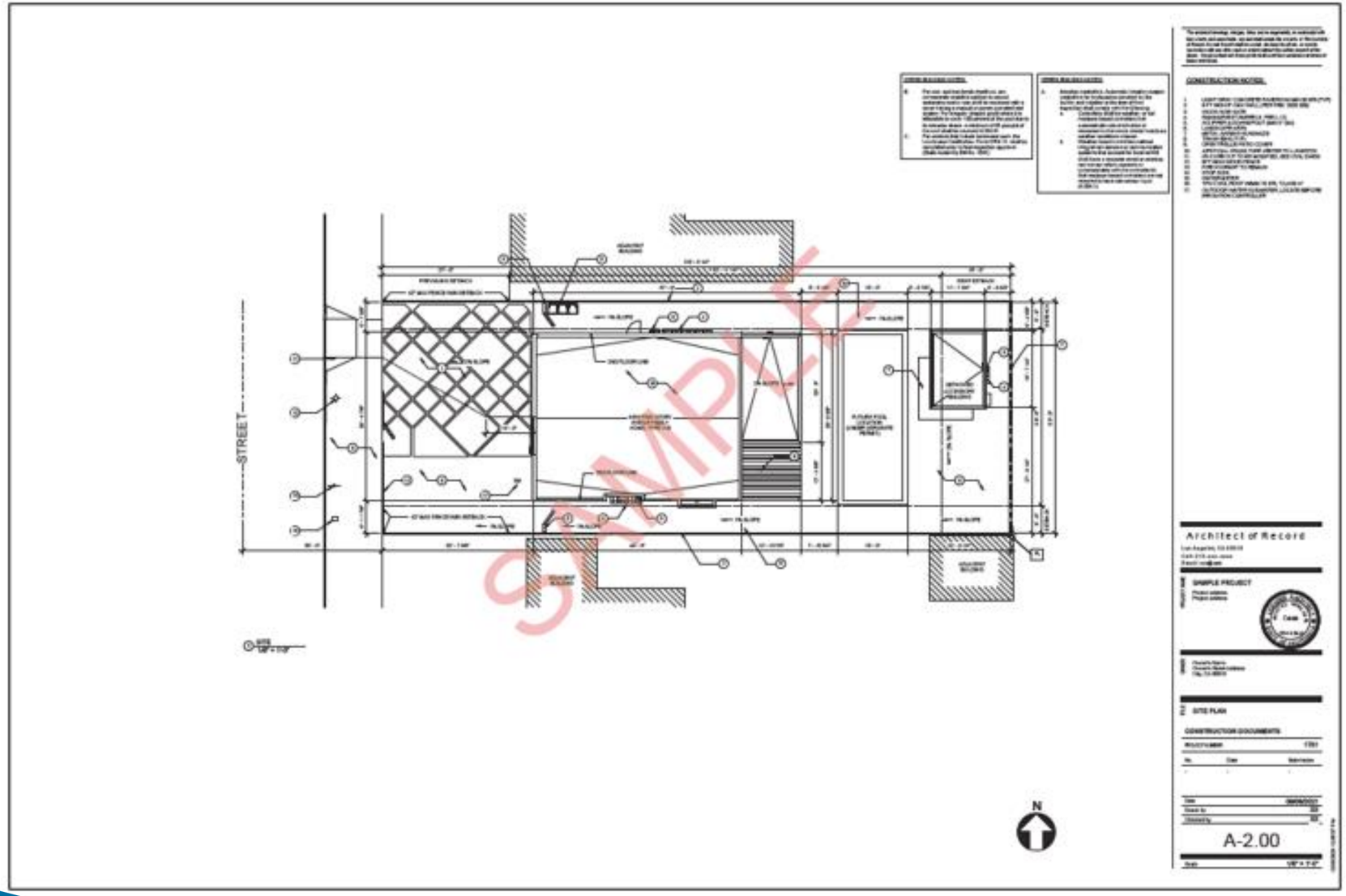
DRAWING INDEX

SAMPLE

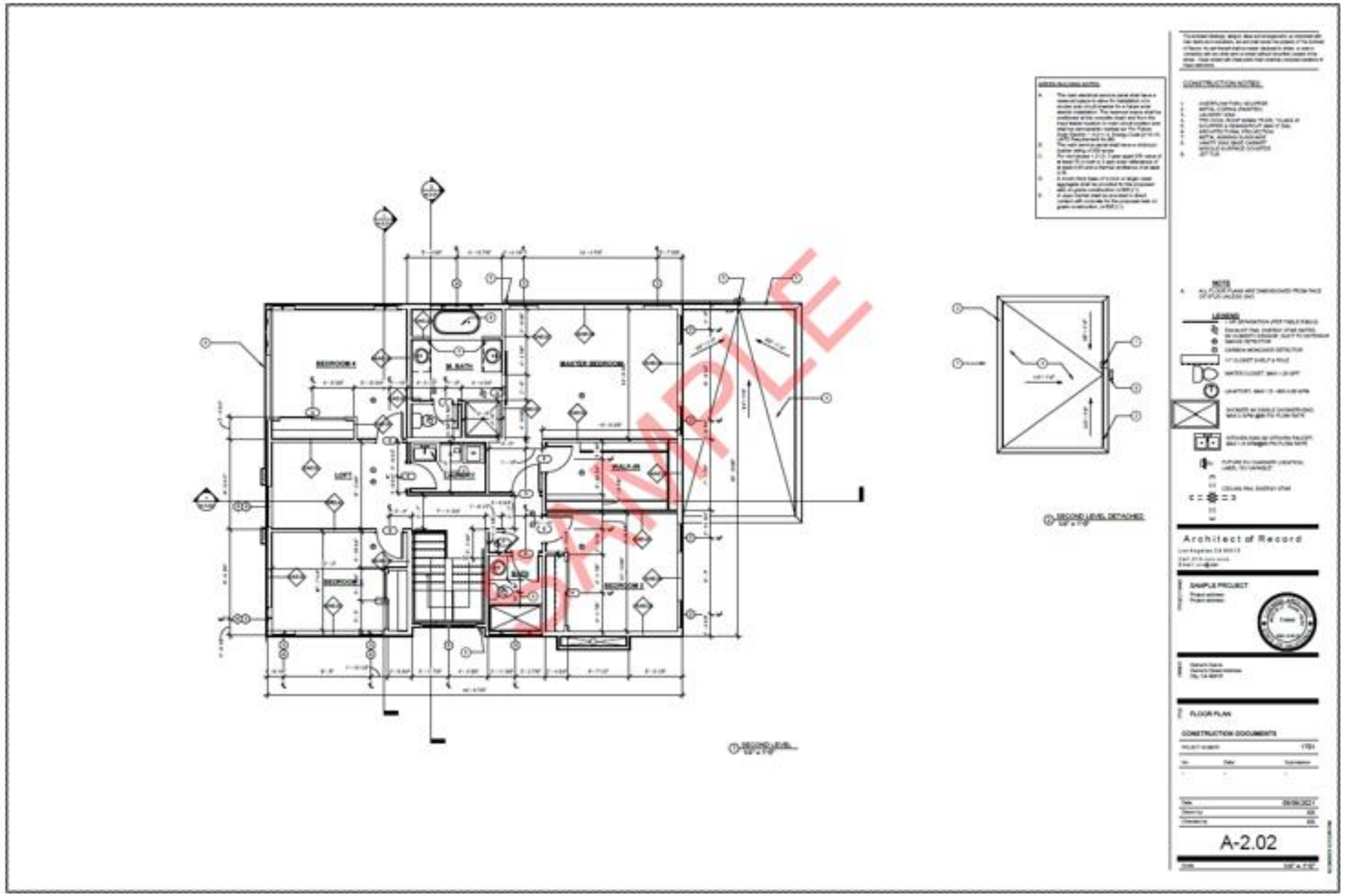
Architect of Record

A-1.00

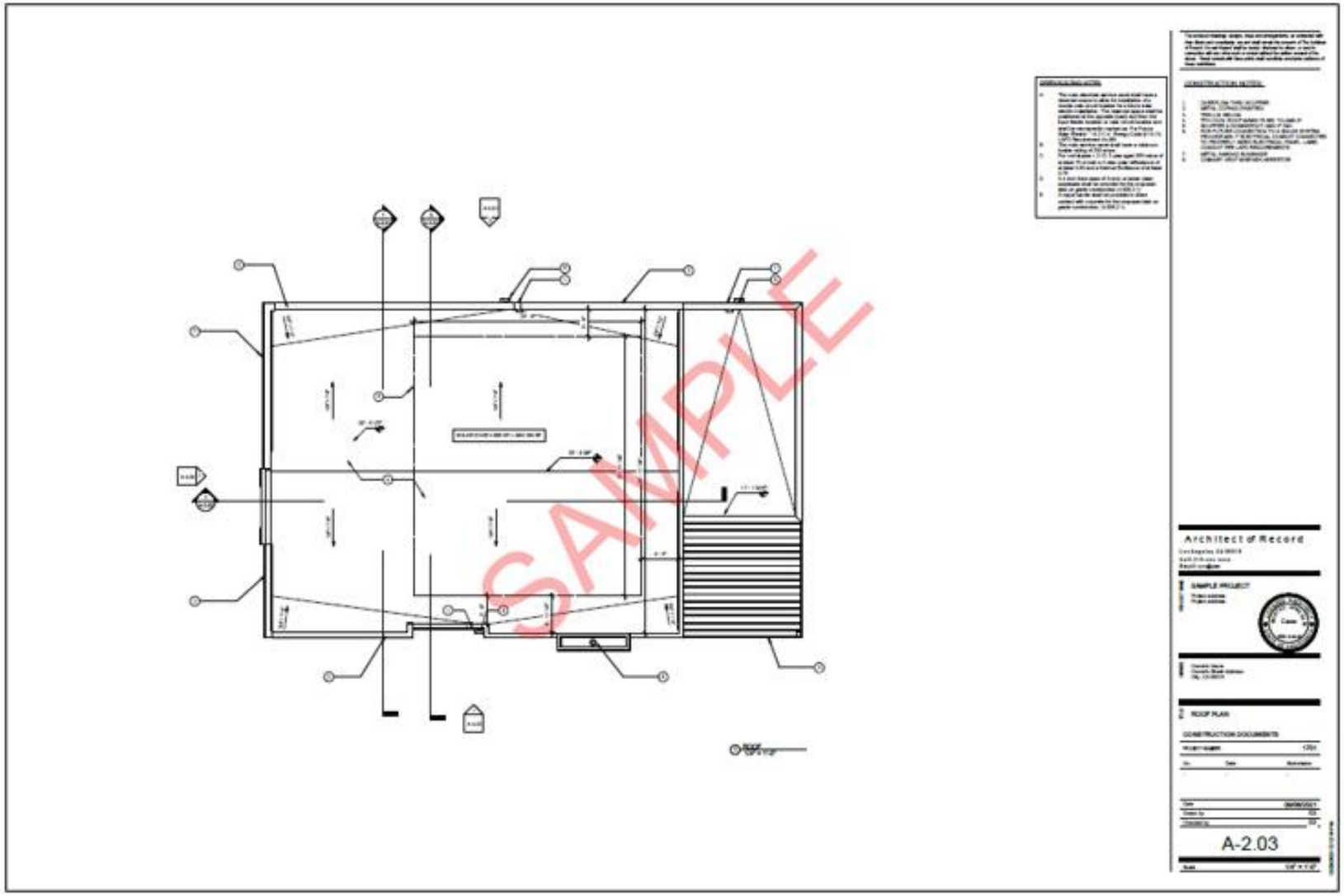
ARCHITECTURAL PLAN - SITE PLAN



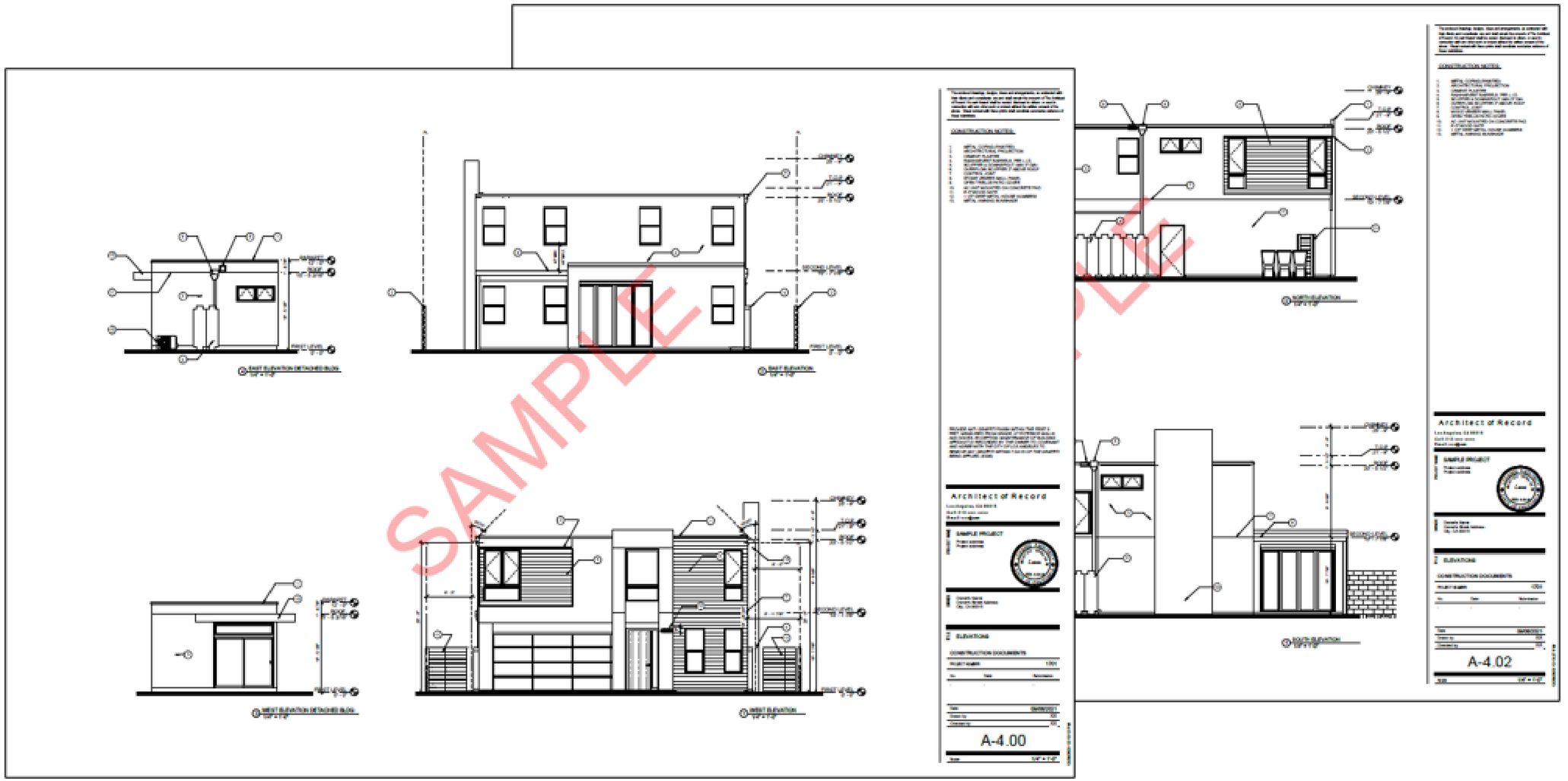
ARCHITECTURAL PLAN - FLOOR PLANS



ARCHITECTURAL PLAN - ROOF PLAN



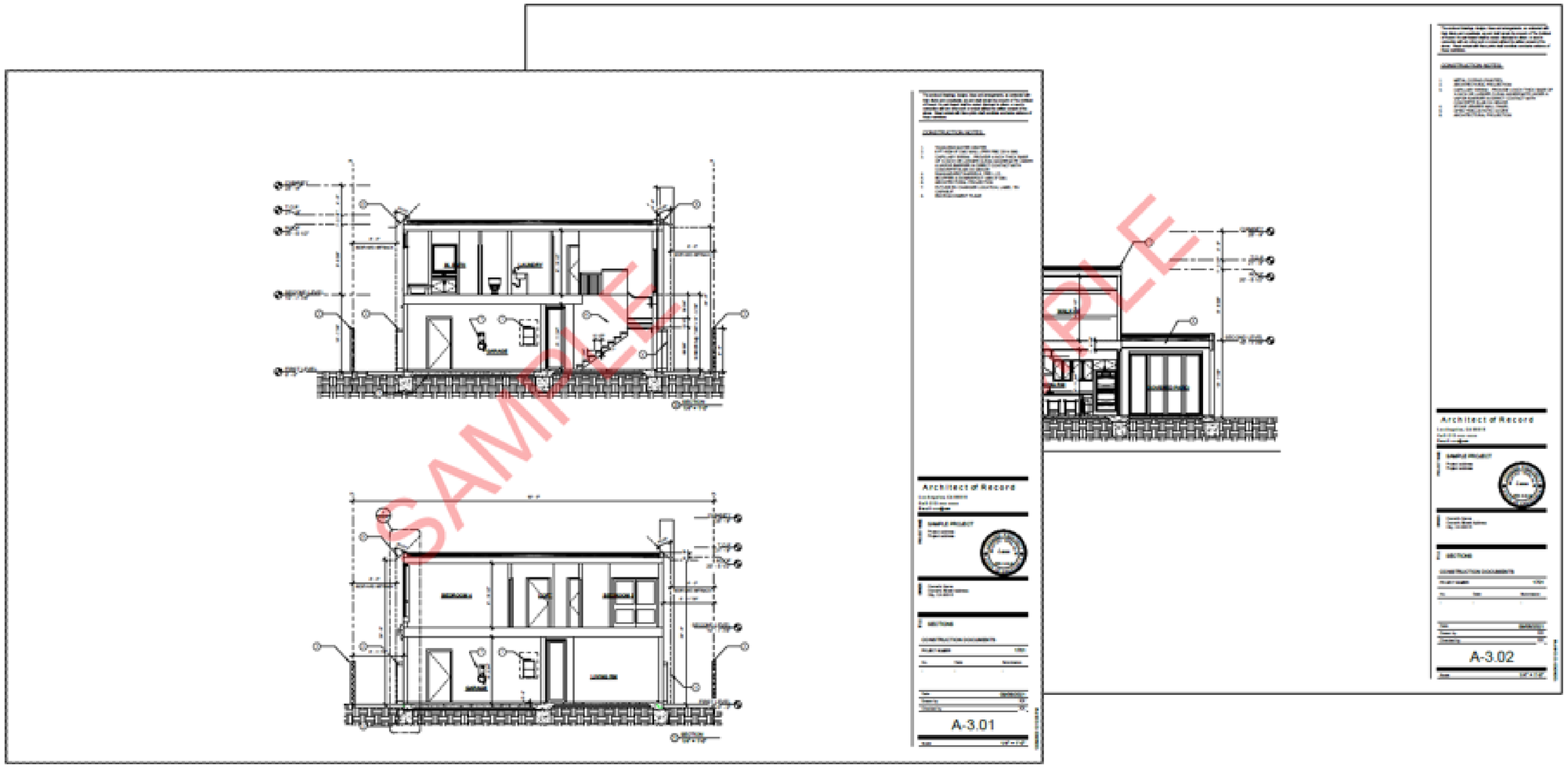
ARCHITECTURAL PLAN - ELEVATIONS



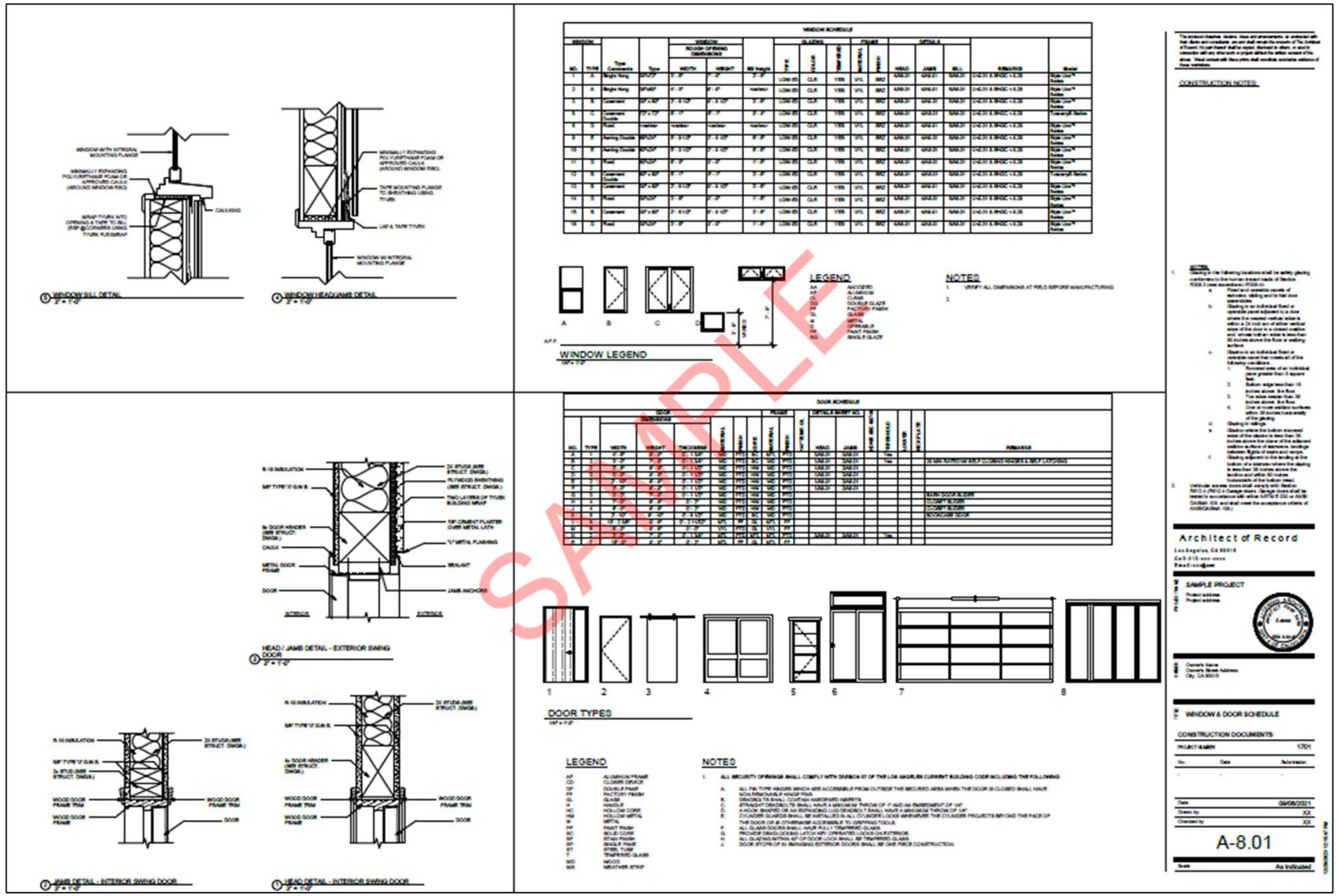
CHAPTER 7A WILDFIRE EXPOSURE REQUIREMENTS TO BE NOTED ON ELEVATIONS.

MALIBU REBUILDS

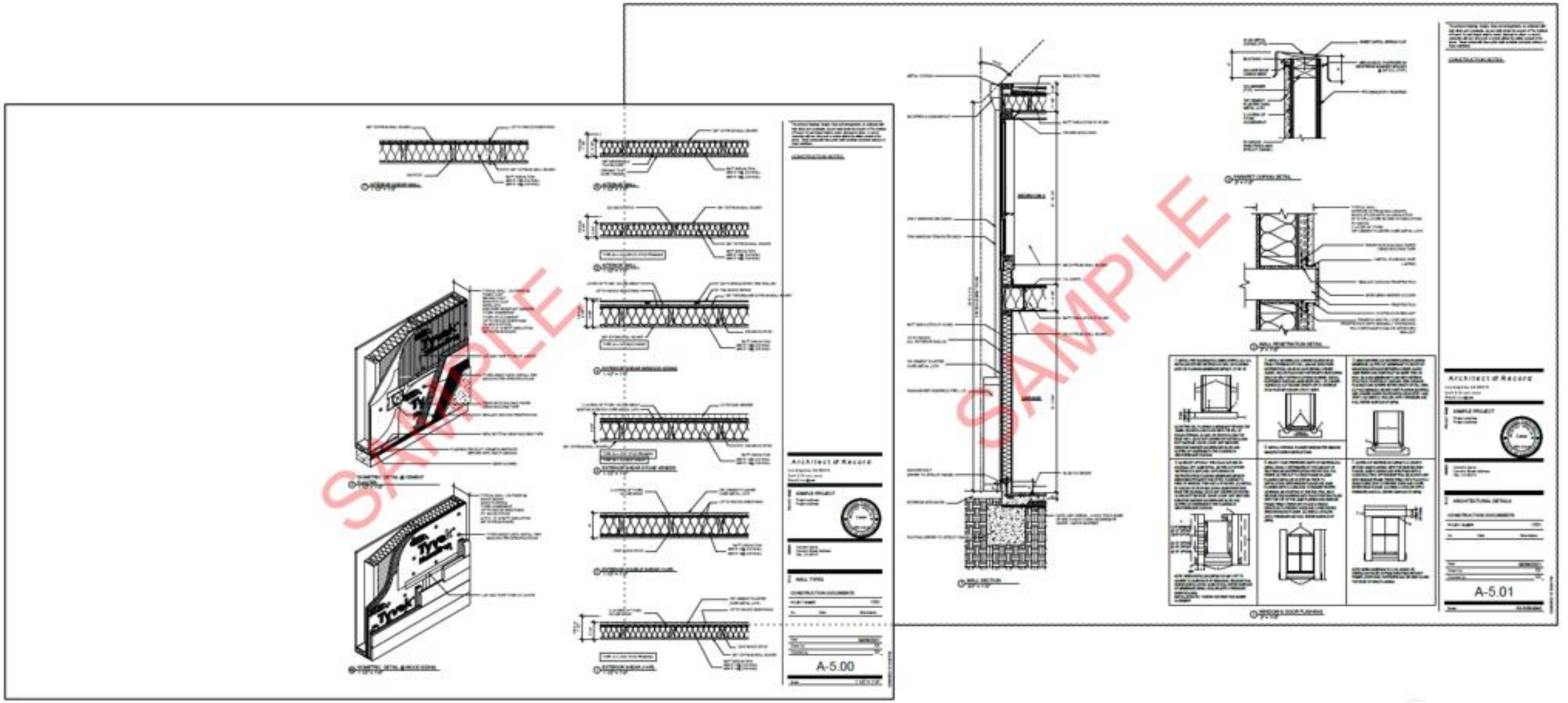
ARCHITECTURAL PLAN - SECTIONS



ARCHITECTURAL PLAN - WINDOW AND DOOR SCHEDULES

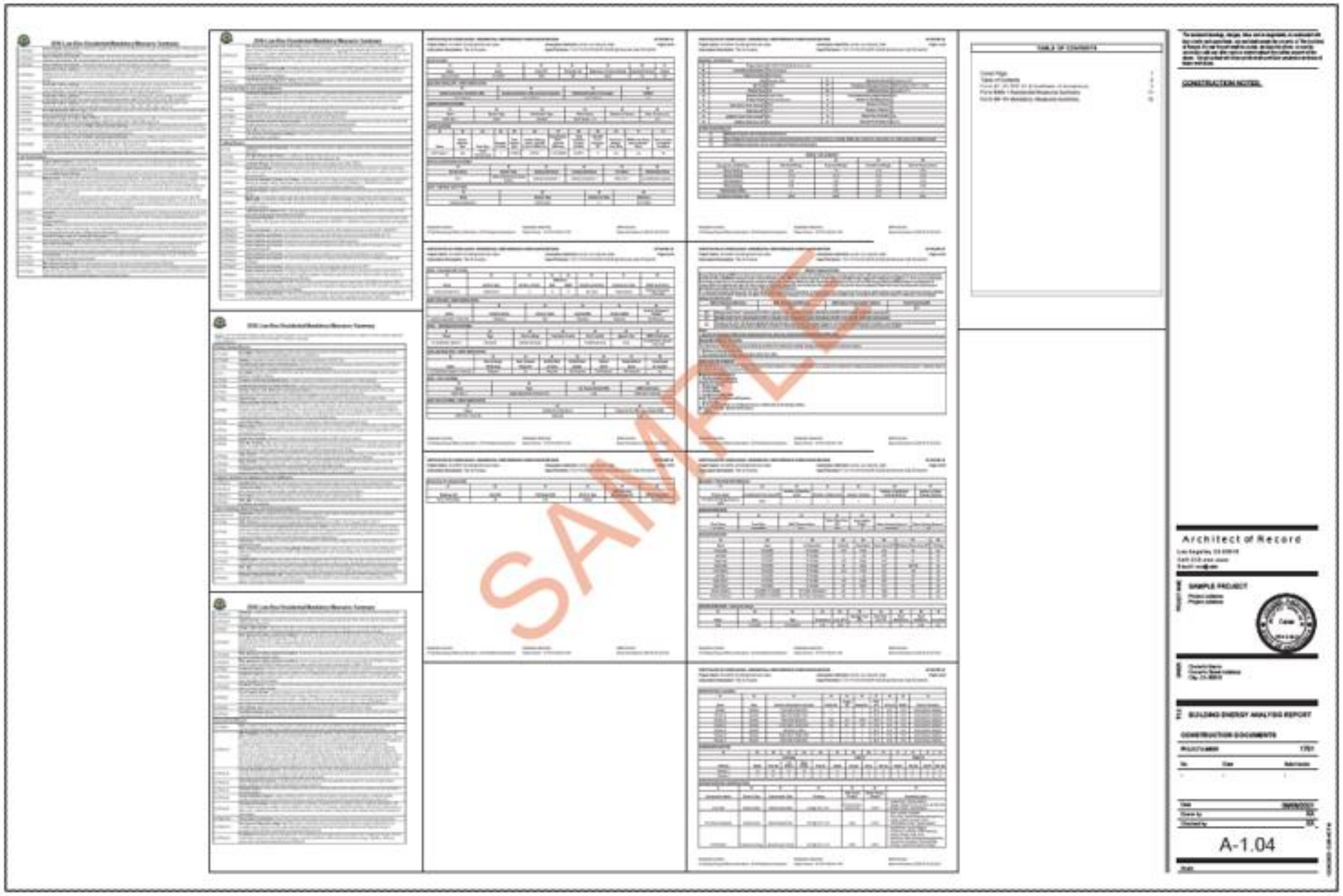


ARCHITECTURAL PLAN - ASSEMBLY DETAILS



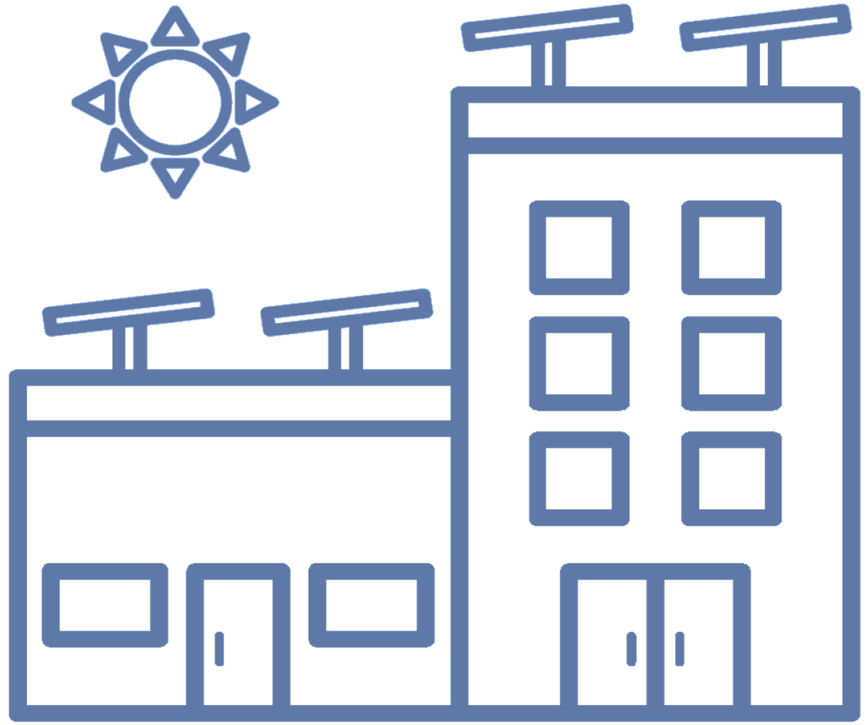
SITE SURVEY

ENERGY CALCULATIONS (CF1R)

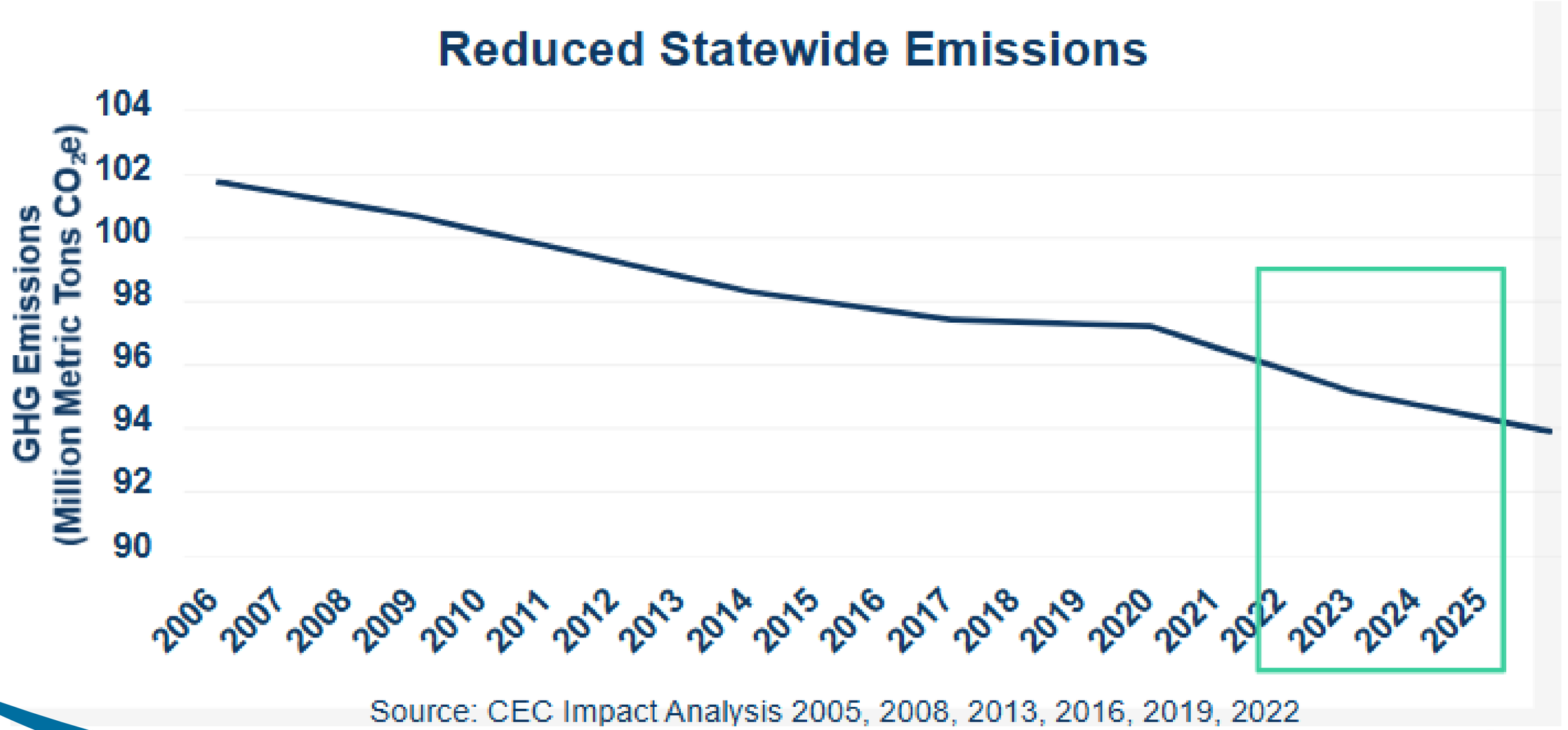


ENERGY CODE GOALS

- Increase building energy efficiency cost-effectively
- Contribute to California's greenhouse gas (GHG) reduction goals
- Enable pathways for all-electric buildings
- Reduce residential building impacts on the electricity grid
- Promote demand flexibility and self-utilization of photovoltaic (PV)



ENERGY CODE ENVIRONMENTAL BENEFIT



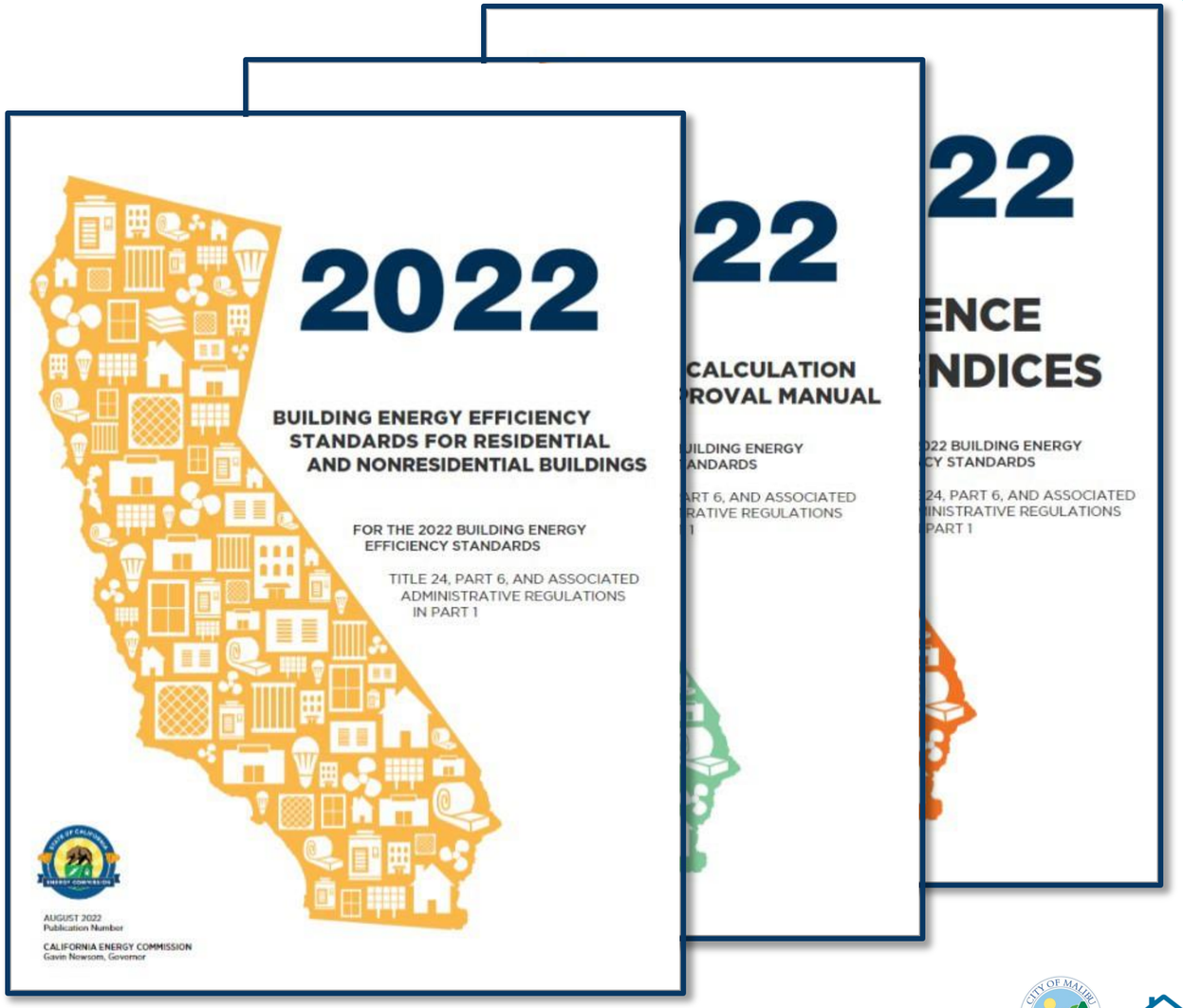
Source: CEC Impact Analysis 2005, 2008, 2013, 2016, 2019, 2022

2022 ENERGY CODE

Effective January 1, 2023

- Building permit applications submitted on or after effective date

- Must use 2022 software and forms



DEMONSTRATING COMPLIANCE

Compliance forms confirm Energy Code is met

Updated for 2022

- Completed by designers, consultants, builders, contractors, technicians, HERS raters, etc.
- Submitted to enforcement agencies for verification

Type of form	Single-family	Multifamily 3 or less habitable stories	Nonresidential Multifamily 4 or more habitable stories
Certificate of compliance	CF1R	LMCC	NRCC
Certificate of installation	CF2R	LMCI	NRCI
Certificate of verification	CF3R	LMCV	NRCV
Certificate of acceptance	-		NRCA

VENTILATION AND IAQ MANDATORY REQUIREMENTS

SINGLE-FAMILY § 150.0(o)1Gi-iii

Local mechanical exhaust: Updates to incorporate ASHRAE 62.2

Updated for 2022

- **Nonenclosed kitchen**
  - Demand-controlled exhaust system meeting §150.0(o)1Giii
- **Enclosed kitchen and all bathroom**
  - Demand-controlled exhaust system meeting §150.0(o)1Giii or continuous exhaust system meeting §150.0(o)1Giv
- **Demand-controlled mechanical exhaust**
  - Control and operation
    - System must have occupant-controlled ON-OFF control or automatic control that not impedes occupant ON control
  - Ventilation rate and capture efficiency
    - Adds Table 150.0-G for ventilation rates and capture efficiency

VENTILATION AND IAQ MANDATORY REQUIREMENTS

SINGLE-FAMILY § 150.0(o)2A-C

HERS Verifications

Updated for 2022

- **Whole-dwelling unit ventilation**
  - Airflow measurement includes ASHRAE 62.2 specification for balanced airflow rate determination and measurement of systems with multiple operating modes

- **Kitchen local exhaust**
  - Vented range hoods installed to meet IAQ
  - Adds use of capture efficiency ratings for compliance

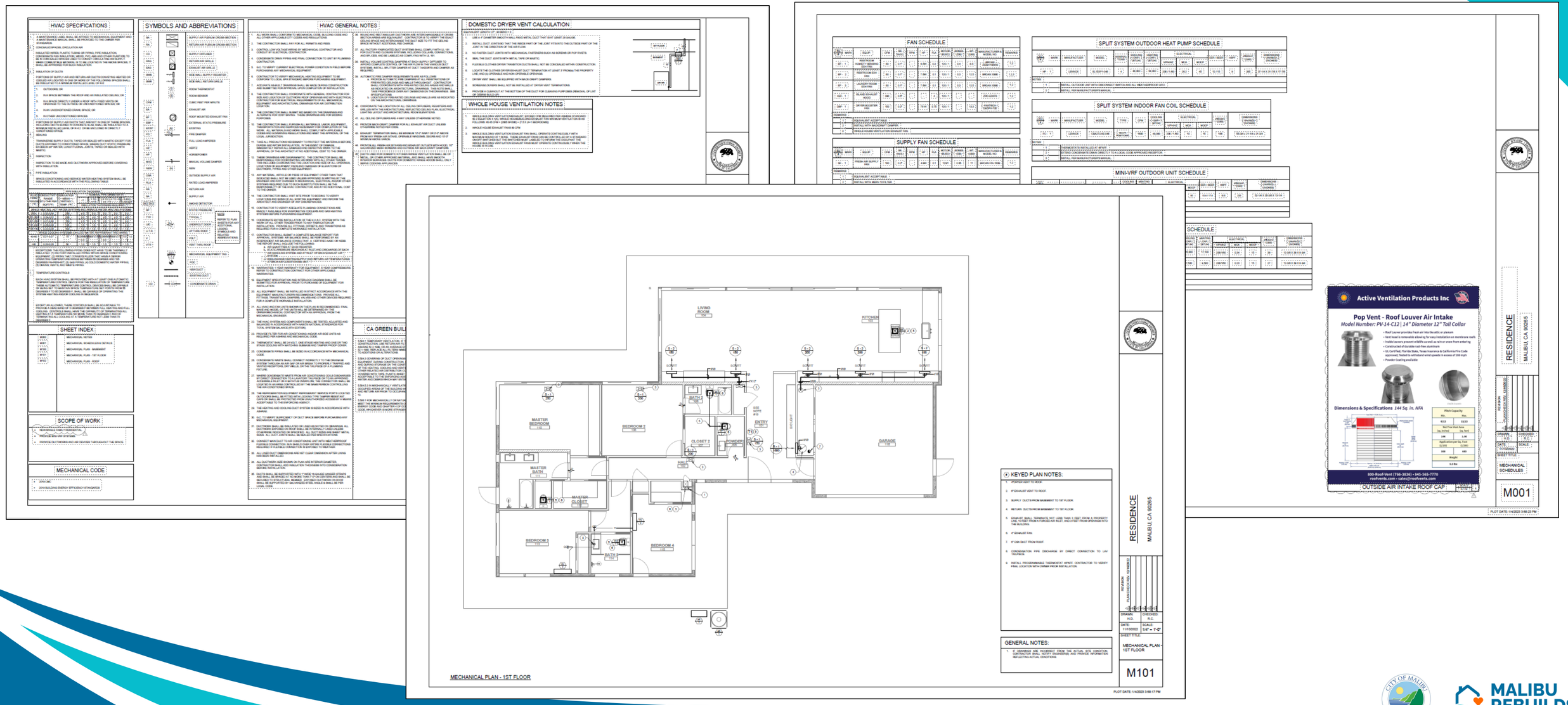
- **Heat recovery ventilation and energy recovery ventilation**
  - Requires verification of HRV or ERV fan efficacy ≤1.0 W per cfm

TABLE: SUMMARY OF MEP REQUIREMENTS

System	Requirement	Details
Electrical	Compliance with California Electrical code, fire-resistant wiring recommended	Includes AFCIs, GFCIs; consider backup power for fire resilience
Mechanical (HVAC)	Compliance with California Mechanical Code, fire-resistant ductwork	Design to prevent fire and smoke spread, per Section 602 of California Fire Code
Plumbing	Compliance with California Plumbing Code, fire-rated pipes recommended	Ensure fire safety, potential integration with sprinkler systems
Fire Sprinklers	Mandatory automatic sprinkler system	Required under California Fire Code and Residential Code for high hazard zones

MALIBU REBUILDS

MECHANICAL PLANS



ELECTRIC READY MANDATORY REQUIREMENTS

SINGLE-FAMILY § 150.0(t, u, v)

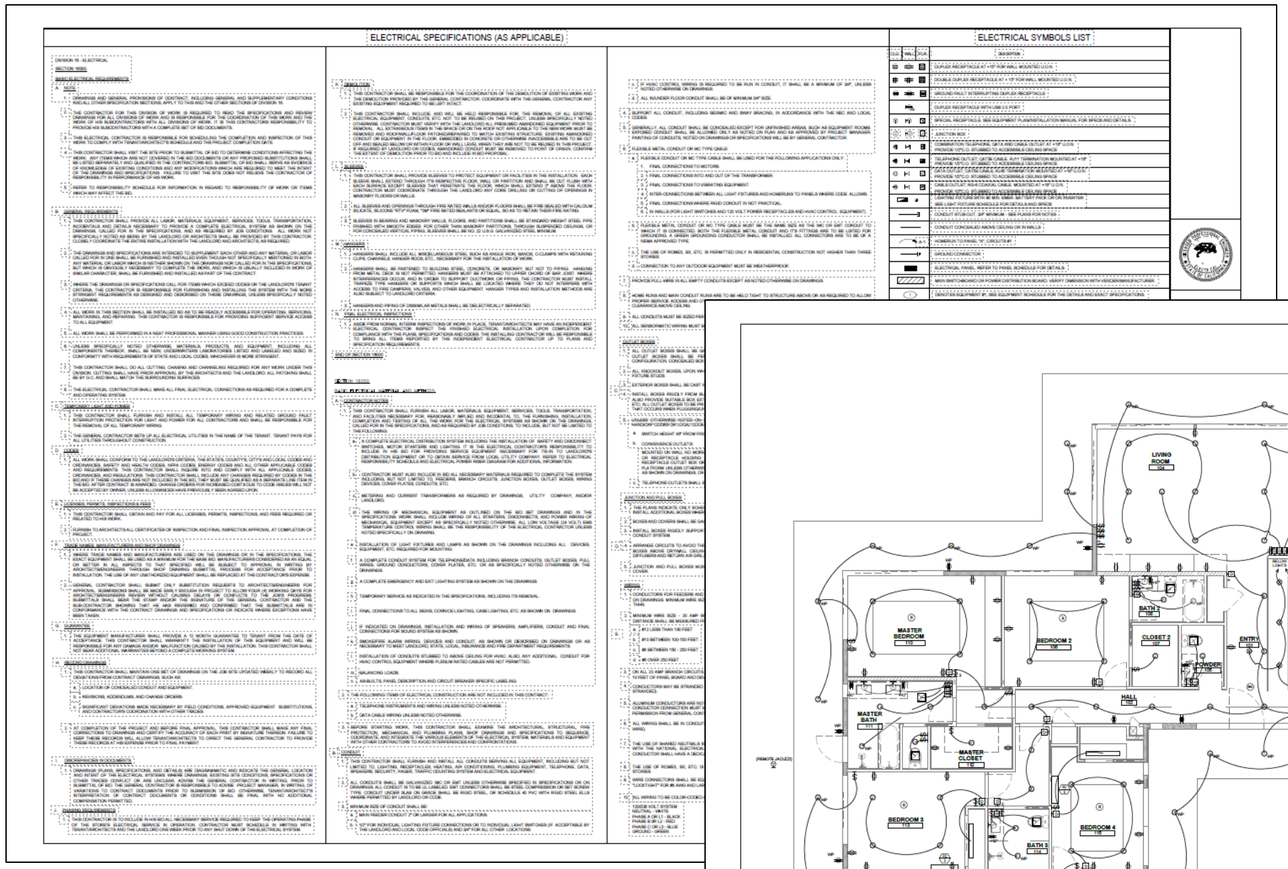
New for 2022

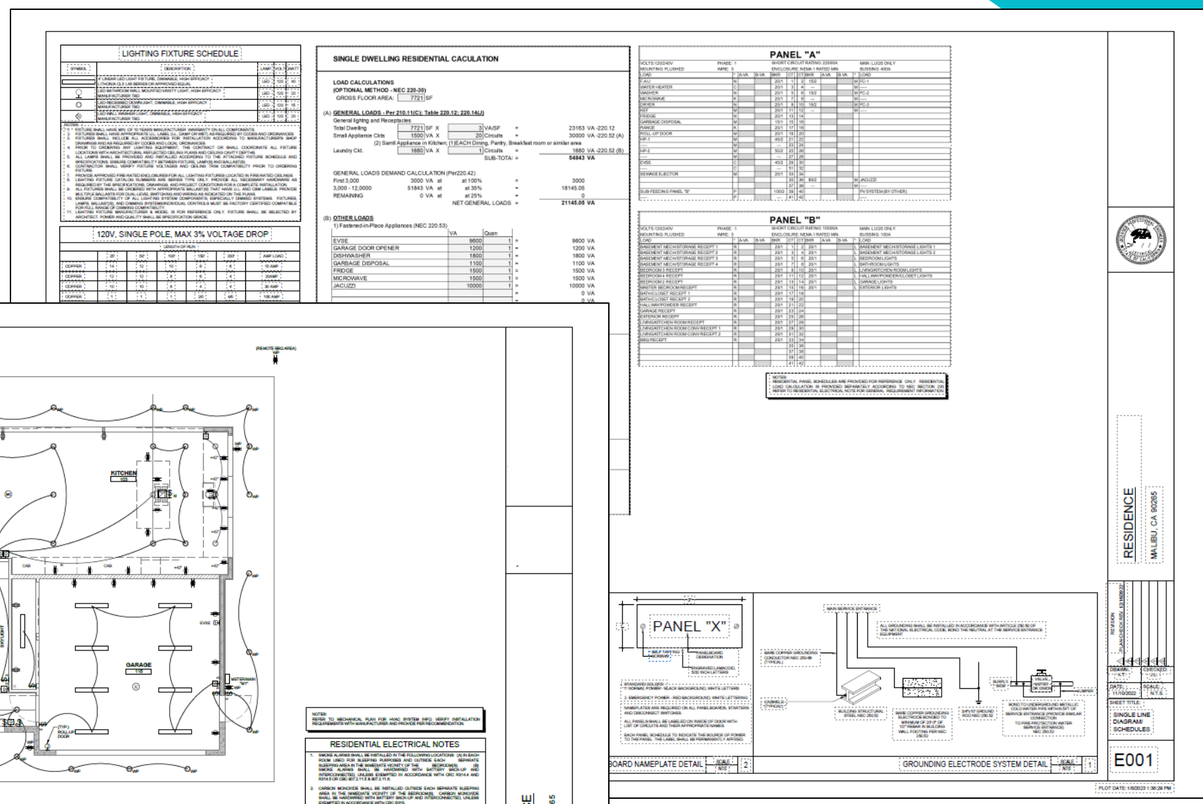
- **Adds Heat Pump Spaced Heater Ready**
  - 240V, 30A circuit with termination 3 feet from furnace
  - Reserve and label double pole breaker in main panel

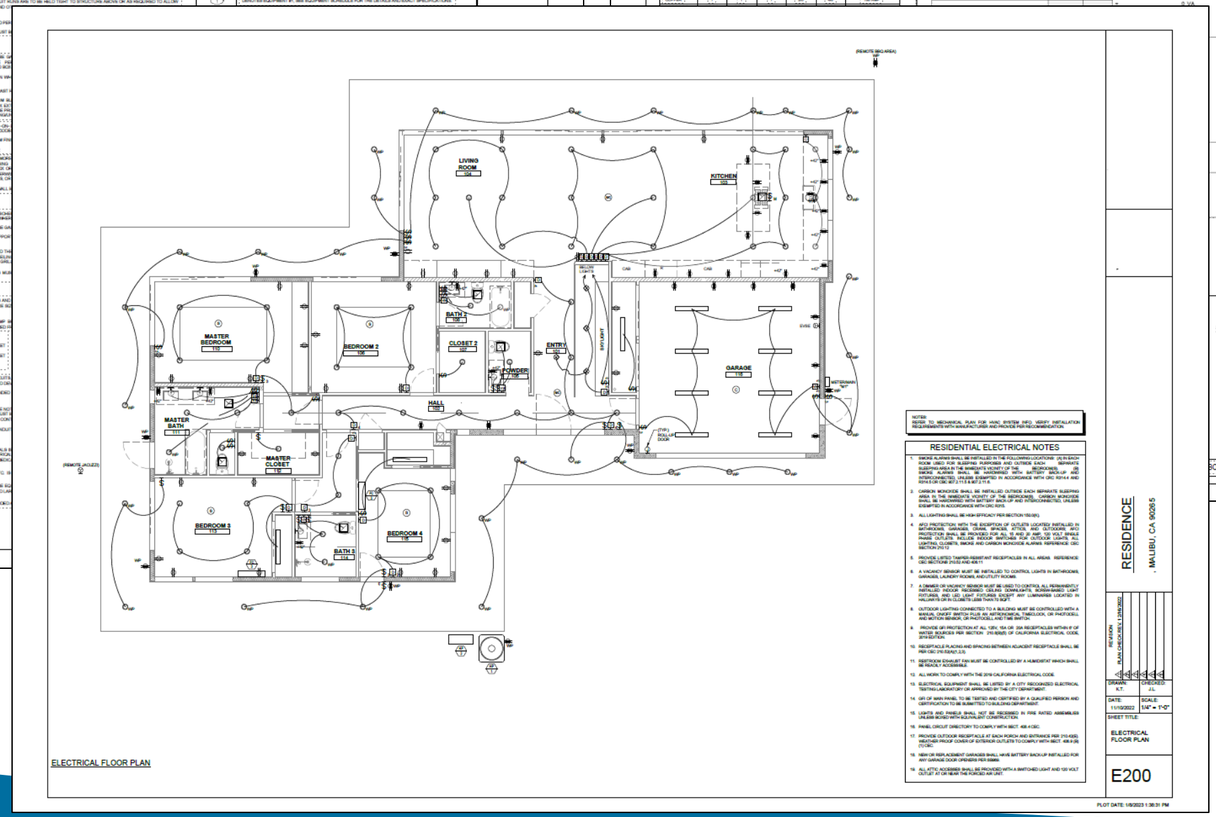
- **Adds Electric Cooktop Ready**
  - 240V, 50A circuit with termination 3 feet from cooktop
  - Reserve and label double pole breaker in main panel

- **Adds electric clothes dryer ready**
  - 240V, 30A circuit with termination 3 feet from clothes dryer location
  - Reserve and label double pole breaker in main panel

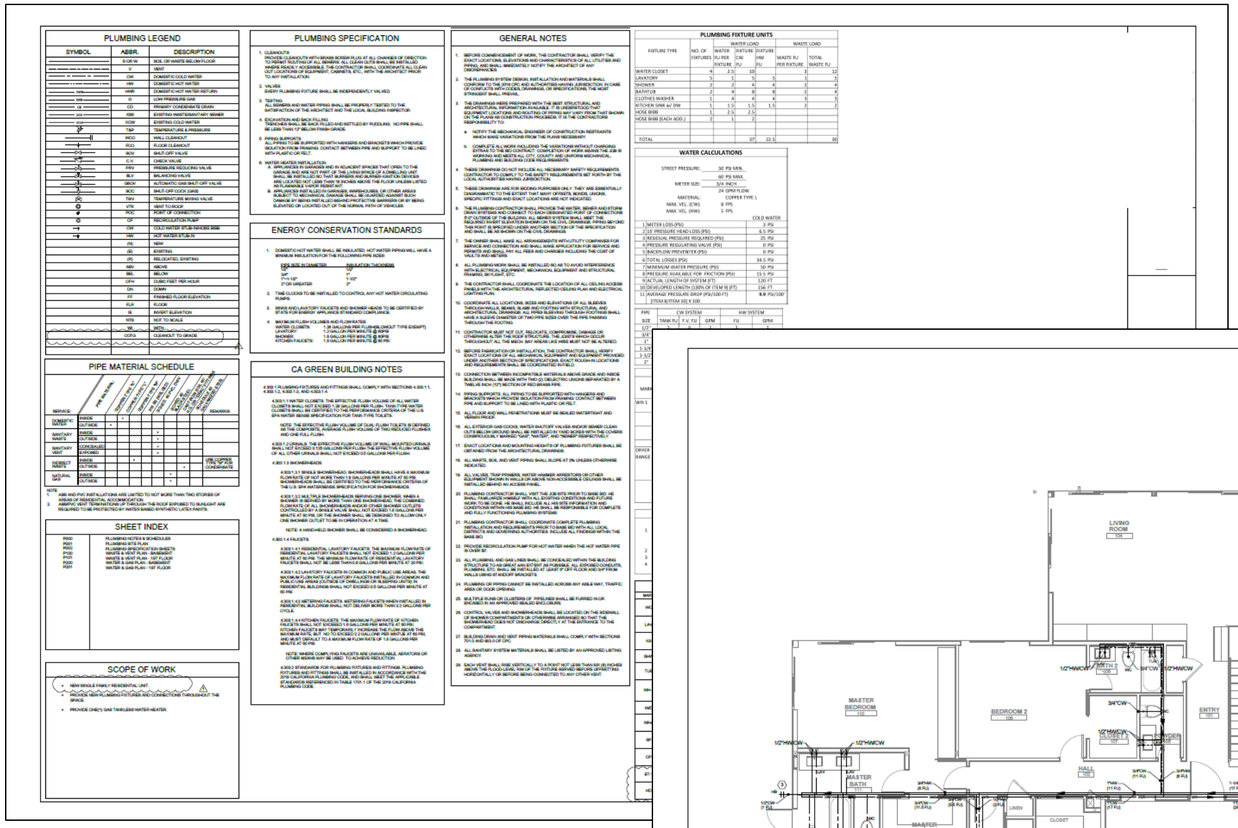
ELECTRICAL PLANS

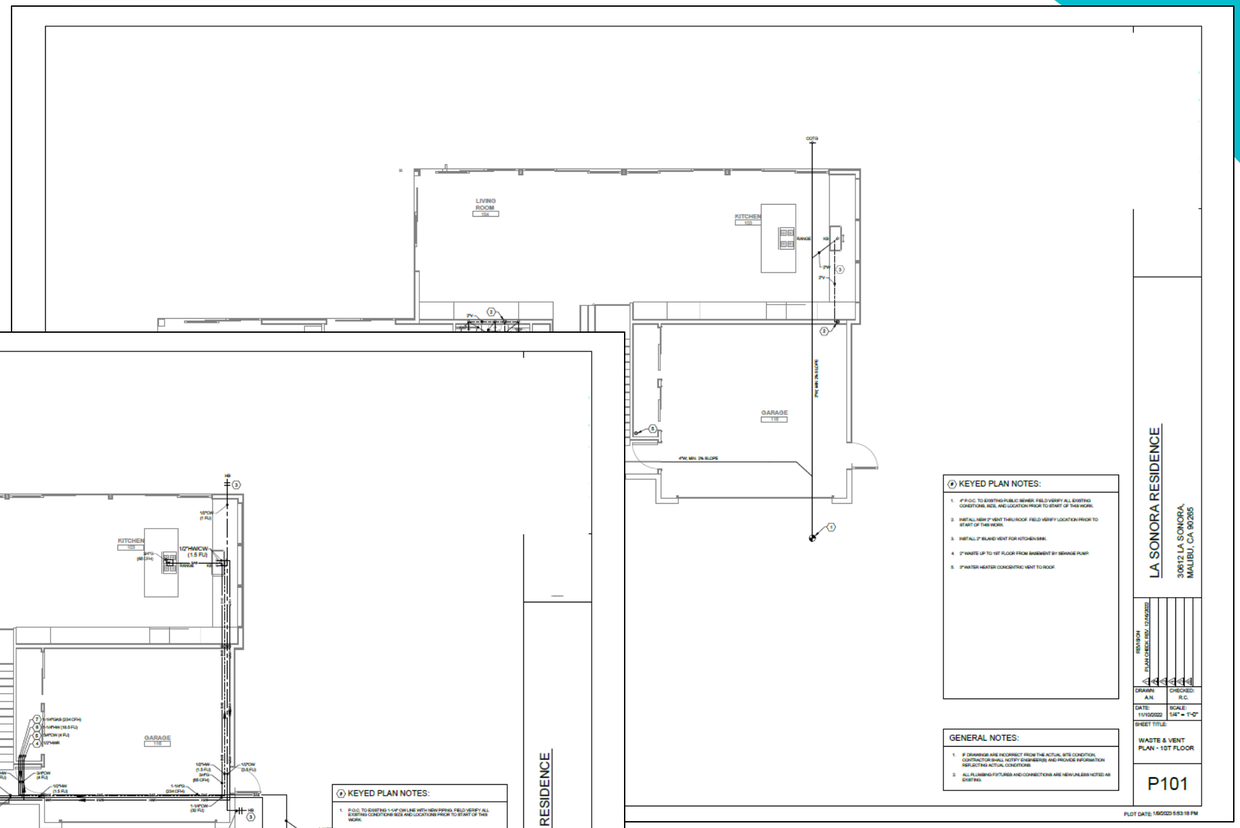


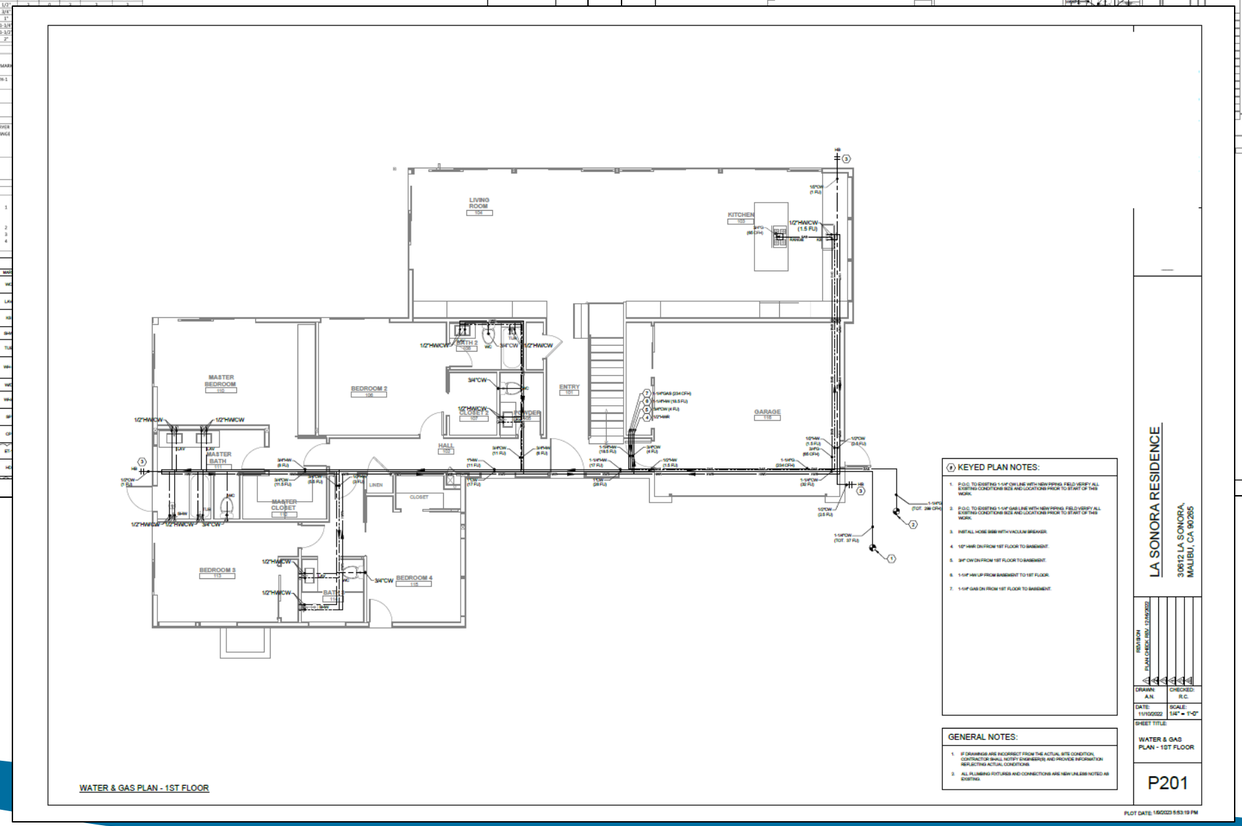




PLUMBING PLANS





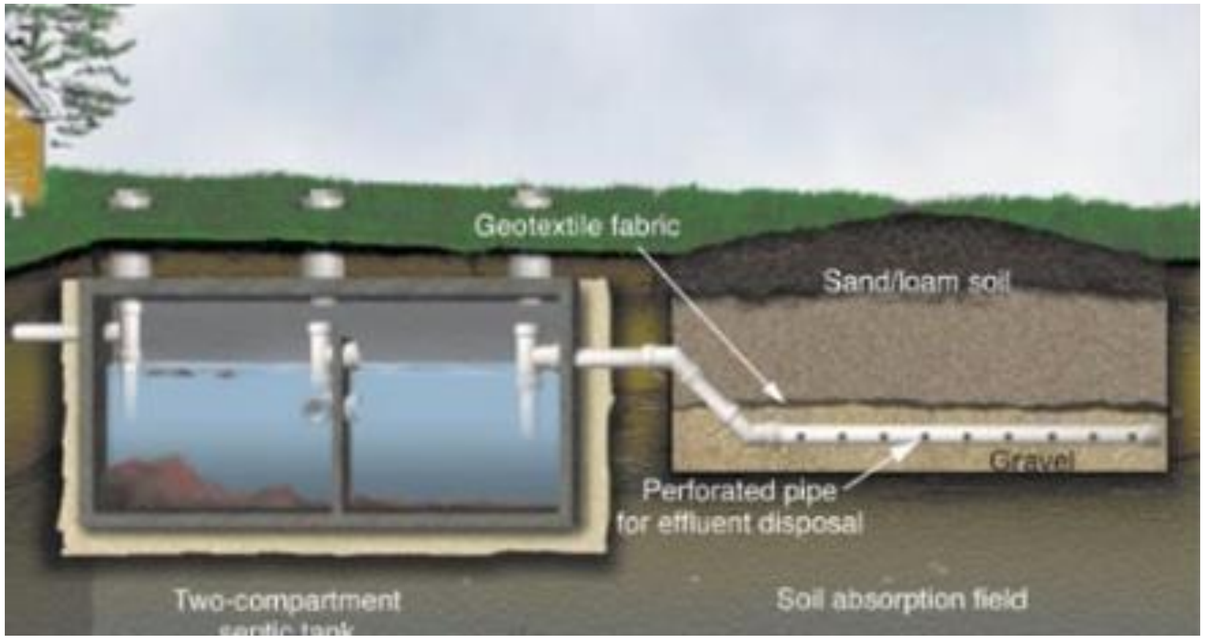


ENVIRONMENTAL HEALTH

ENVIRONMENTAL HEALTH

- Reviews functionality and capacity of wastewater system to serve your building(s)

- Onsite Wastewater Treatment Systems (OWTS)



MALIBU REBUILDS

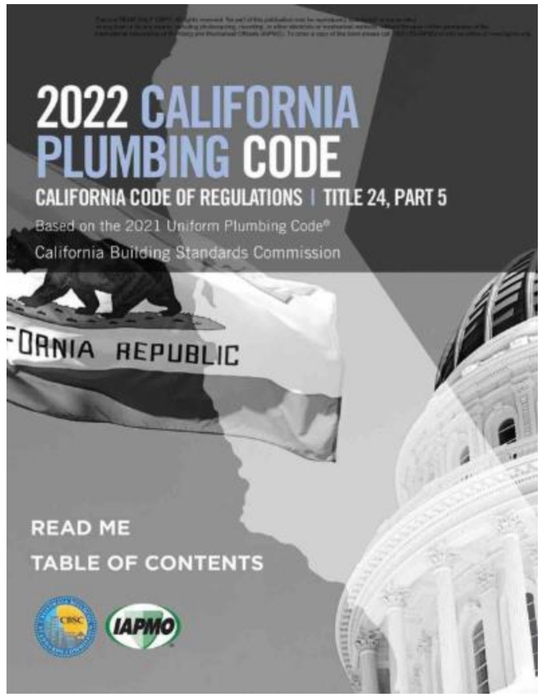
PLUMBING STANDARDS CODE

- Malibu Municipal Code (MMC) 15.40, 15.42, 15.44
- Local Agency Management Plan (LAMP)
- OWTS Manual
- LA County Title 28 Plumbing Code
- California Plumbing Code

Onsite Wastewater Treatment System Manual

Siting, Design, Installation, and Operation Guidelines

July 23, 2018



MALIBU REBUILDS

ENVIRONMENTAL HEALTH

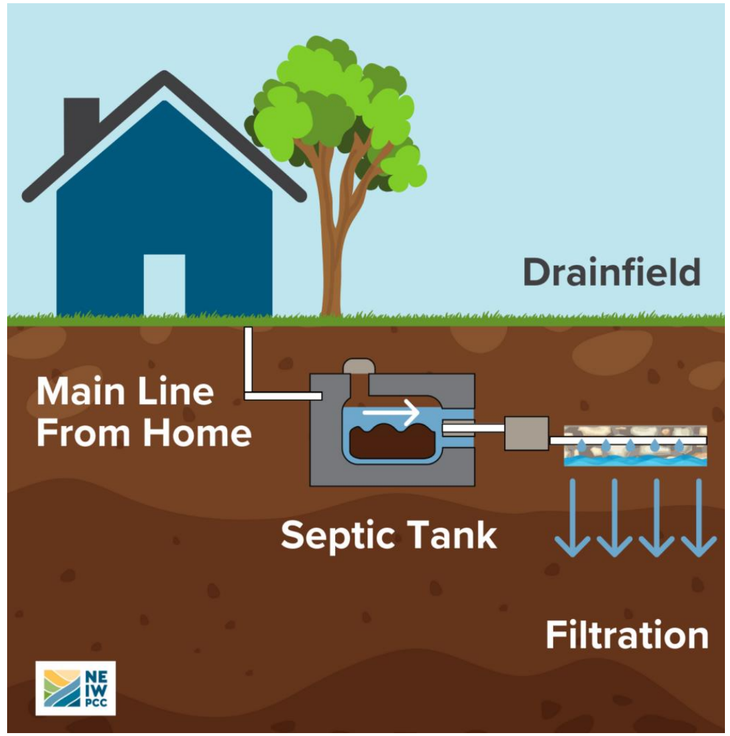
Reuse of Existing OWTS

- OWTS Fire Damage Assessment Form
- Repairs completed before COO
- Site plan with location of OWTS and all structures
- Floor plans and fixture unit worksheet

ENVIRONMENTAL HEALTH

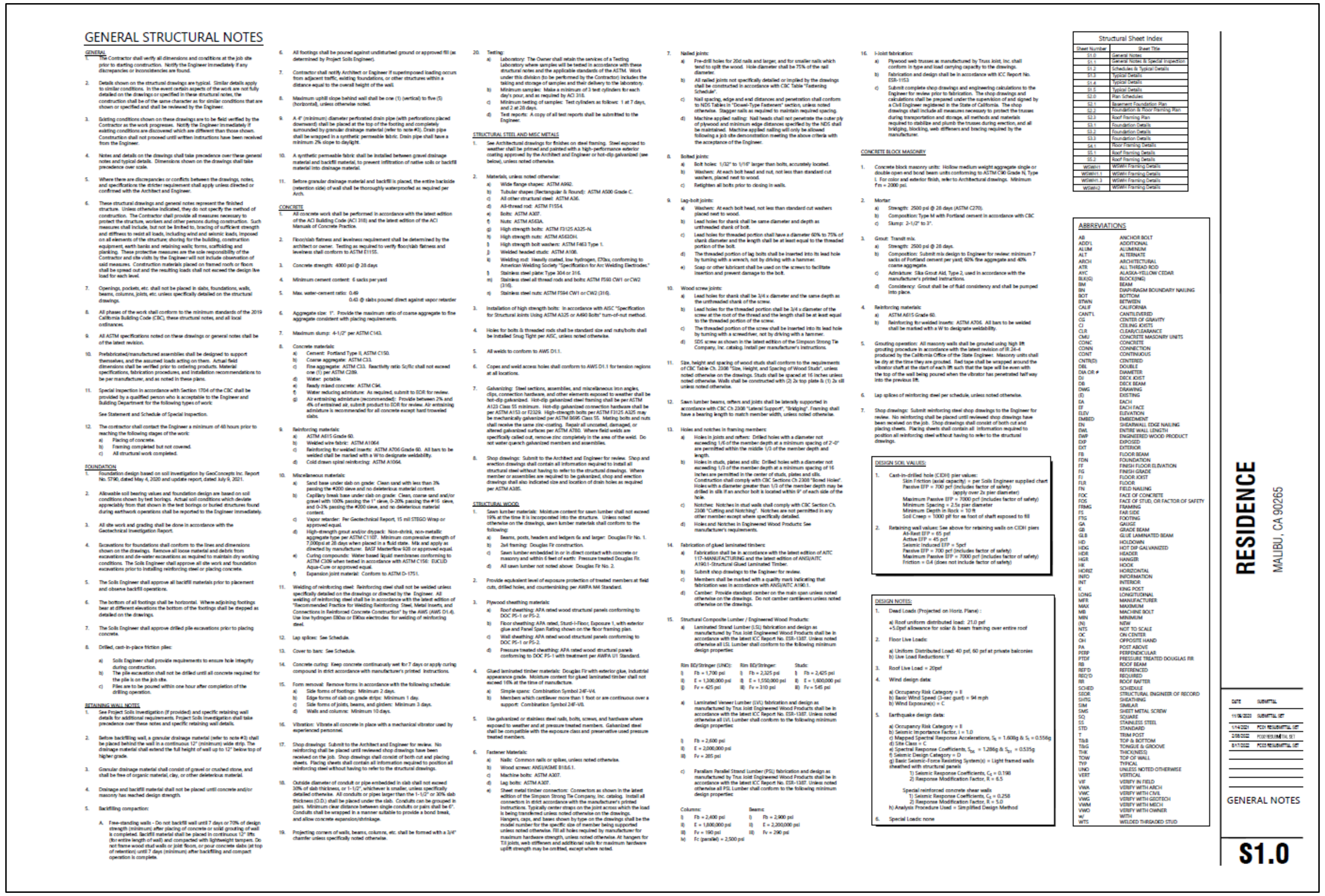
New OWTS

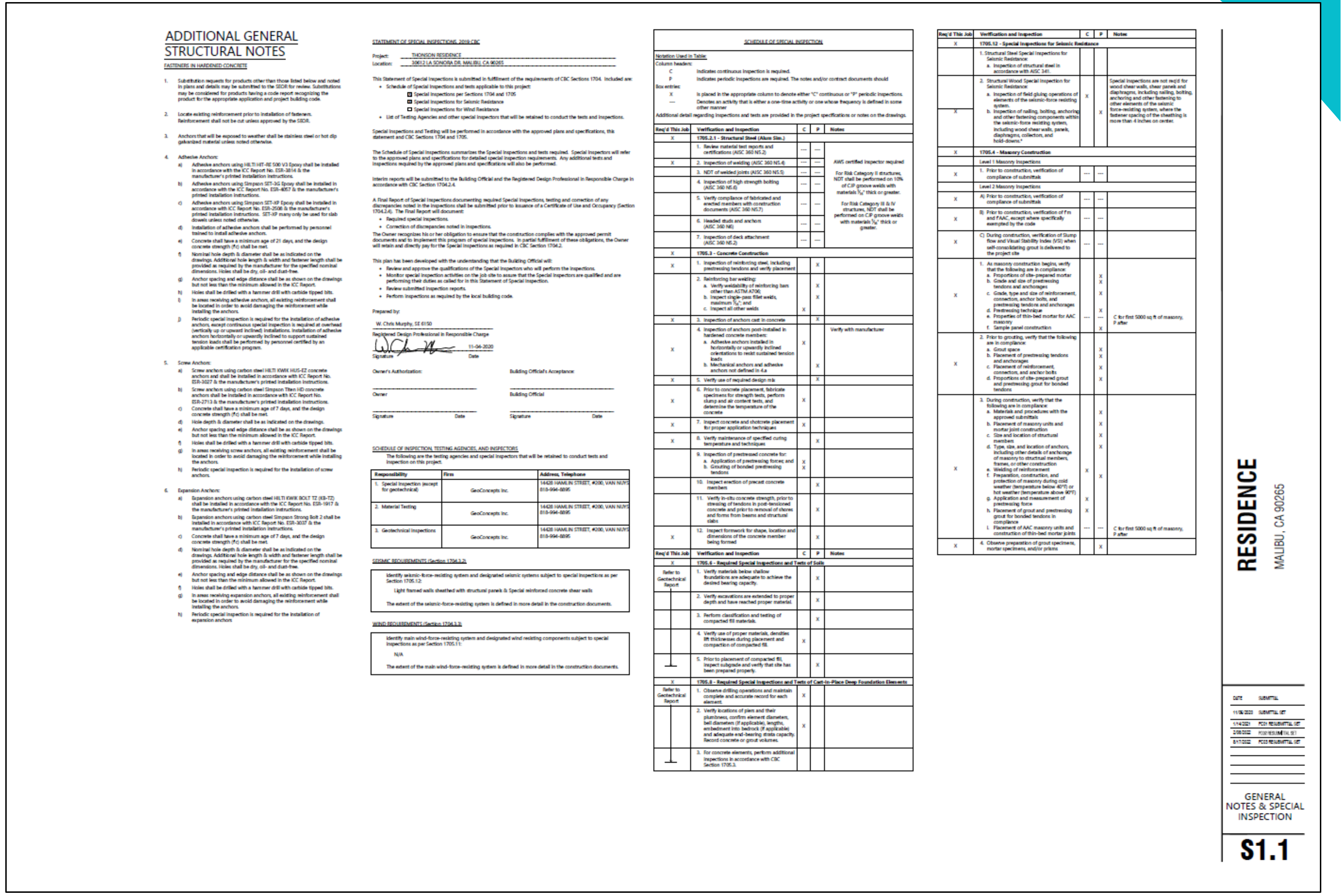
- Standard OWTS submittal
- Advanced OWTS with supplemental treatment is required for residential beachfront, commercial, and multifamily properties (MMC 15.40.090)



MALIBU REBUILDS

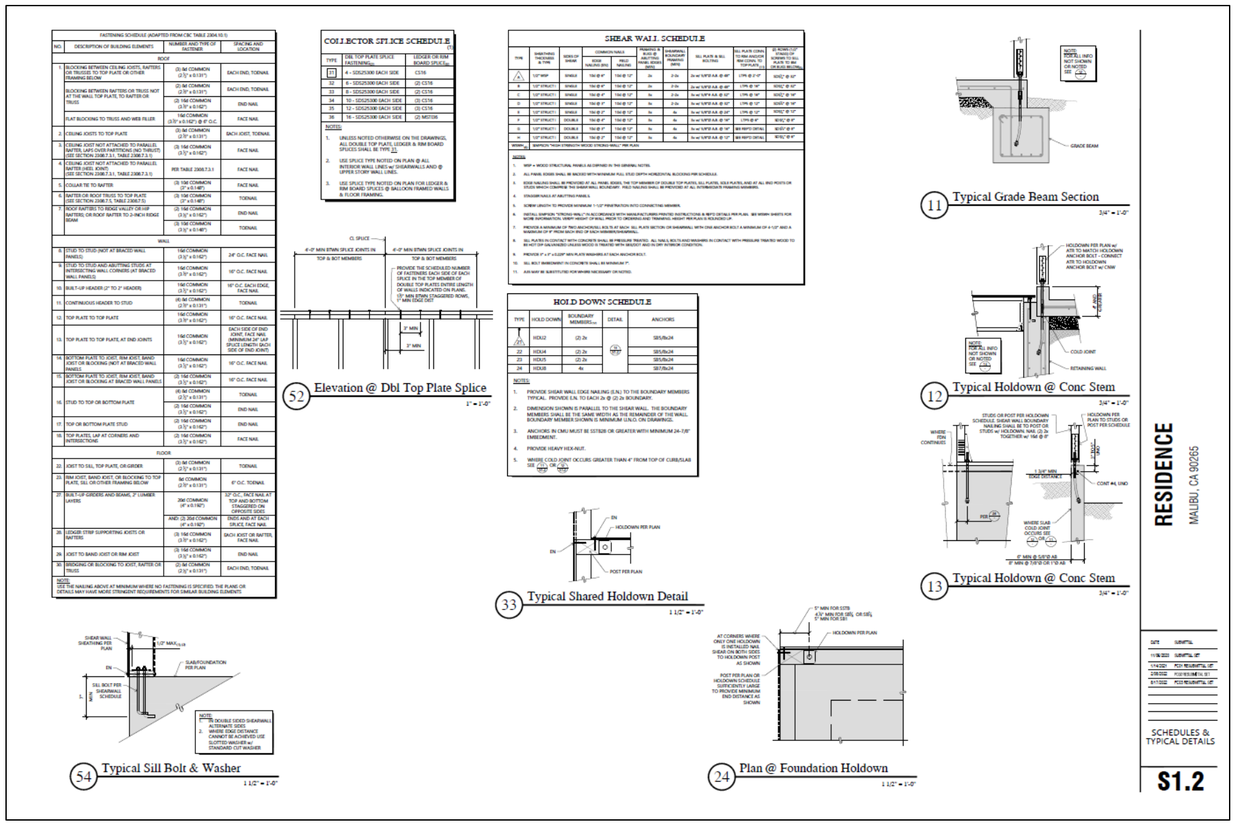
STRUCTURAL PLANS





MALIBU REBUILDS

STRUCTURAL PLANS



FASTENING SCHEDULE (ADAPTED FROM CBC TABLE 2304.10.1)

NO.	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
	ROOF		
1	BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	(3) 8d COMMON (2½" x 0.131")	EACH END, TOENAIL
	BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	(2) 8d COMMON (2½" x 0.131")	EACH END, TOENAIL
		(2) 16d COMMON (3½" x 0.162")	END NAIL
	FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON (3½" x 0.162") @ 6" O.C.	FACE NAIL
2	CEILING JOISTS TO TOP PLATE	(3) 8d COMMON (2½" x 0.131")	EACH JOIST, TOENAIL
3	CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO TIMBUTS) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	(3) 16d COMMON (3½" x 0.162")	FACE NAIL
4	CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	PER TABLE 2308.7.3.1	FACE NAIL
5	COLLAR TIE TO RAFTER	(3) 10d COMMON (3" x 0.148")	FACE NAIL
6	RAFTER OR ROOF TRUSS TO TOP PLATE (SEE SECTION 2308.7.5, TABLE 2308.7.5)	(3) 16d COMMON (3½" x 0.148")	TOENAIL
7	ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS, OR ROOF RAFTER TO 2-INCH RIDGE BEAM	(2) 16d COMMON (3½" x 0.162")	END NAIL
		(3) 16d COMMON (3½" x 0.148")	TOENAIL
	WALL		
8	STUD TO STUD (NOT AT BRACED WALL PANELS)	16d COMMON (3½" x 0.162")	24" O.C. FACE NAIL
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d COMMON (3½" x 0.162")	16" O.C. FACE NAIL
10	BUILT-UP HEADER (2" TO 2" HEADER)	16d COMMON (3½" x 0.162")	16" O.C. EACH EDGE, FACE NAIL
11	CONTINUOUS HEADER TO STUD	(4) 8d COMMON (2½" x 0.131")	TOENAIL
12	TOP PLATE TO TOP PLATE	16d COMMON (3½" x 0.162")	16" O.C. FACE NAIL
13	TOP PLATE TO TOP PLATE, AT END JOINTS	16d COMMON (3½" x 0.162")	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
14	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON (3½" x 0.162")	16" O.C. FACE NAIL
15	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS	(3) 16d COMMON (3½" x 0.162")	16" O.C. FACE NAIL
16	STUD TO TOP OR BOTTOM PLATE	(4) 8d COMMON (2½" x 0.131")	TOENAIL
		(2) 16d COMMON (3½" x 0.162")	END NAIL
17	TOP OR BOTTOM PLATE STUD	(2) 16d COMMON (3½" x 0.162")	END NAIL
18	TOP PLATES, LAP AT CORNERS AND INTERSECTIONS	(2) 16d COMMON (3½" x 0.162")	FACE NAIL
	FLOOR		
22	JOIST TO SILL, TOP PLATE, OR GIRDER	(3) 8d COMMON (2½" x 0.131")	TOENAIL
23	RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW	8d COMMON (2½" x 0.131")	6" O.C. TOENAIL
27	BUILT-UP GIRDER AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4" x 0.192")	32" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED EACH SIDE
		AND (2) 20d COMMON (4" x 0.192")	ENDS AND AT EACH SPLICE, FACE NAIL
28	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	(3) 16d COMMON (3½" x 0.162")	EACH JOIST OR RAFTER, FACE NAIL
29	JOIST TO BAND JOIST OR RIM JOIST	(3) 16d COMMON (3½" x 0.162")	END NAIL
30	BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS	(2) 8d COMMON (2½" x 0.131")	EACH END, TOENAIL

NOTE:
USE THE NAILING ABOVE AT MINIMUM WHERE NO FASTENING IS SPECIFIED. THE PLANS OR DETAILS MAY HAVE MORE STRINGENT REQUIREMENTS FOR SIMILAR BUILDING ELEMENTS

COLLECTOR SPLICE SCHEDULE

TYPE	DBL TOP PLATE SPLICE FASTENING[1,2,3]	LEDGER OR RIM BOARD SPLICE
F1	4 - SDS25300 EACH SIDE	(3) CS16
S2	6 - SDS25300 EACH SIDE	(2) CS16
S3	9 - SDS25300 EACH SIDE	(3) CS16
S4	16 - SDS25300 EACH SIDE	(5) CS16
S5	12 - SDS25300 EACH SIDE	(3) CS16
S6	16 - SDS25300 EACH SIDE	(3) MST37

NOTES:
1. UNLESS NOTED OTHERWISE ON THE DRAWING(S), ALL DOUBLE TOP PLATE, LEDGER & RIM BOARD SPLICES SHALL BE TYPE F1.
2. USE SPLICE TYPE NOTED ON PLAN @ ALL INTERIOR WALL LINES w/ SHEARWALLS AND @ UPPER STORY WALL LINES.
3. USE SPLICE TYPE NOTED ON PLAN FOR LEDGER & RIM BOARD SPLICES @ SKILLION FRAMED WALLS & FLOOR FRAMING.

52 Elevation @ Dbl Top Plate Splice
1" = 1'-0"

SHEAR WALL SCHEDULE

TYPE	SHEATHING MATERIAL & TYPE	WIDTH OF SHEAR	COMMON NAILS: EDGE NAILING (EN)	COMMON NAILS: FIELD NAILING	MINIMUM SIZE OF FRAMING MEMBERS AT PANEL EDGES (NOMINAL)	MINIMUM FRAMING MEMBER AT PANEL JOINTS (NOMINAL)	SILL PLATE & SILL BOLTING	SILL PLATE CONN. TO FOUNDATION OR TOP PLATE[1,2,3]	(E) WOOD CUT TO MATCH (N) WOOD PLATE TO BE ON SAME MATERIAL
A	1/2" WSP	SHEAR	10d @ 4"	10d @ 12"	2x	2-2x	2x w/ SLIP'R AB @ 48"	10"Ø @ 6'-0"	W/EC @ 48"
B	1/2" STRUCT I	SHEAR	10d @ 4"	10d @ 12"	2x	2-2x	2x w/ SLIP'R AB @ 48"	10"Ø @ 6'-0"	W/EC @ 48"
C	1/2" STRUCT I	SHEAR	10d @ 4"	10d @ 12"	4x	2-2x	2x w/ SLIP'R AB @ 32"	10"Ø @ 6'-0"	W/EC @ 48"
D	1/2" STRUCT I	SHEAR	10d @ 4"	10d @ 12"	4x	2-2x	2x w/ SLIP'R AB @ 32"	10"Ø @ 6'-0"	W/EC @ 48"
E	1/2" STRUCT I	SHEAR	10d @ 3"	10d @ 12"	4x	4x	2x w/ SLIP'R AB @ 32"	10"Ø @ 6'-0"	W/EC @ 48"
F	1/2" STRUCT I	SHEAR	10d @ 3"	10d @ 12"	4x	4x	2x w/ SLIP'R AB @ 32"	10"Ø @ 6'-0"	W/EC @ 48"
G	1/2" STRUCT I	DOUBLE	10d @ 3"	10d @ 12"	4x	4x	2x w/ SLIP'R AB @ 32"	PER REPO DETAIL	W/EC @ 48"
H	1/2" STRUCT I	DOUBLE	10d @ 2"	10d @ 12"	4x	4x	2x w/ SLIP'R AB @ 32"	PER REPO DETAIL	W/EC @ 48"

NOTES:
1. WSP = WOOD STRUCTURAL PANELS AS DEFINED IN THIS GENERAL NOTES.
2. ALL PANEL EDGES SHALL BE BACKED WITH MINIMUM NOM. FULL STUD DEPTH HORIZONTAL BLOCKING PER SCHEDULE.
3. EDGE NAILING SHALL BE PROVIDED AT ALL PANEL EDGES, THE TOP MEMBER OF DOUBLE TOP PLATES, SILL PLATES, AND AT ALL END POSTS OR STUDS WHICH COMPRISE THE SHEAR WALL BOUNDARY. FIELD NAILING SHALL BE PROVIDED AT ALL INTERMEDIATE FRAMING MEMBERS.
4. STAGGER NAILS AT ABUTTING PANELS.
5. SCREW LENGTH TO PROVIDE MINIMUM 1 1/2" PENETRATION INTO CONNECTING MEMBER.
6. INSTALL SIMPSON TITENGL WALL™ IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS & REPO DETAILS PER PLANS. SEE MFGRS SHEETS FOR MORE INFORMATION. VERIFY HEIGHT OF WALL PRIOR TO ORDERING AND TRAINING. HEIGHT PER PLAN IS ROUNDED UP.
7. PROVIDE A MINIMUM OF TWO ANCHORS ALL 4(S) TO AT EACH ALL PLATE SECTION OR SHEARWALL WITH ONE ANCHOR MOUNTED A MINIMUM OF 4-1/2" AND A MAXIMUM OF 12" FROM EACH END OF THE PLATE SECTION.
8. SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED. ALL NAILS & BOLTS USED MEMBERS IN CONTACT WITH PRESSURE TREATED WOOD TO BE NOT OR GALVANIZED UNLESS WOOD IS TREATED WITH ACQUIST AND IS DRY INTERIOR CONDITION.
9. PROVIDE 3" x 3" x 0.229" MIN PLATE WASHERS AT EACH ANCHOR BOLT.
10. SILL BOLT EMBEDMENT IN CONCRETE SHALL BE MINIMUM 7".
11. AXIS MAY BE SUBSTITUTED FOR MORE NECESSARY OR NOTED.

HOLD DOWN SCHEDULE

TYPE	HOLD DOWN	BOUNDARY MEMBERS[1,2,3,4]	DETAIL	ANCHORS
1	HDU2	(2) 2x		SB5/8x24
22	HDU4	(2) 2x		SB5/8x24
23	HDU5	(2) 2x		SB5/8x24
24	HDU8	4x		SB7/8x24

NOTES:
1. PROVIDE SHEAR WALL EDGE NAILING (S.N.) TO THE BOUNDARY MEMBERS TYPICAL. PROVIDE S.N. TO EACH 2x @ (2) 2x BOUNDARY.
2. DIMENSION SHOWN IS PARALLEL TO THE SHEAR WALL. THE BOUNDARY MEMBERS SHALL BE THE SAME WIDTH AS THE REMAINDER OF THE WALL. BOUNDARY MEMBER SHOWN IS MINIMUM U.N.O. ON DRAWINGS.
3. ANCHORS IN CMU MUST BE SST828 OR GREATER WITH MINIMUM 24-7/8" EMBEDMENT.
4. PROVIDE HEAVY HEX-NUT.
5. WHERE COLD JOINT OCCURS GREATER THAN 4" FROM TOP OF CURB/SLAB SEE [illegible] OR [illegible]

54 Typical Sill Bolt & Washer
1 1/2" = 1'-0"

33 Typical Shared Holdown Detail
1 1/2" = 1'-0"

24 Plan @ Foundation Holdown
1 1/2" = 1'-0"

11 Typical Grade Beam Section
3/4" = 1'-0"

12 Typical Holdown @ Conc Stem
3/4" = 1'-0"

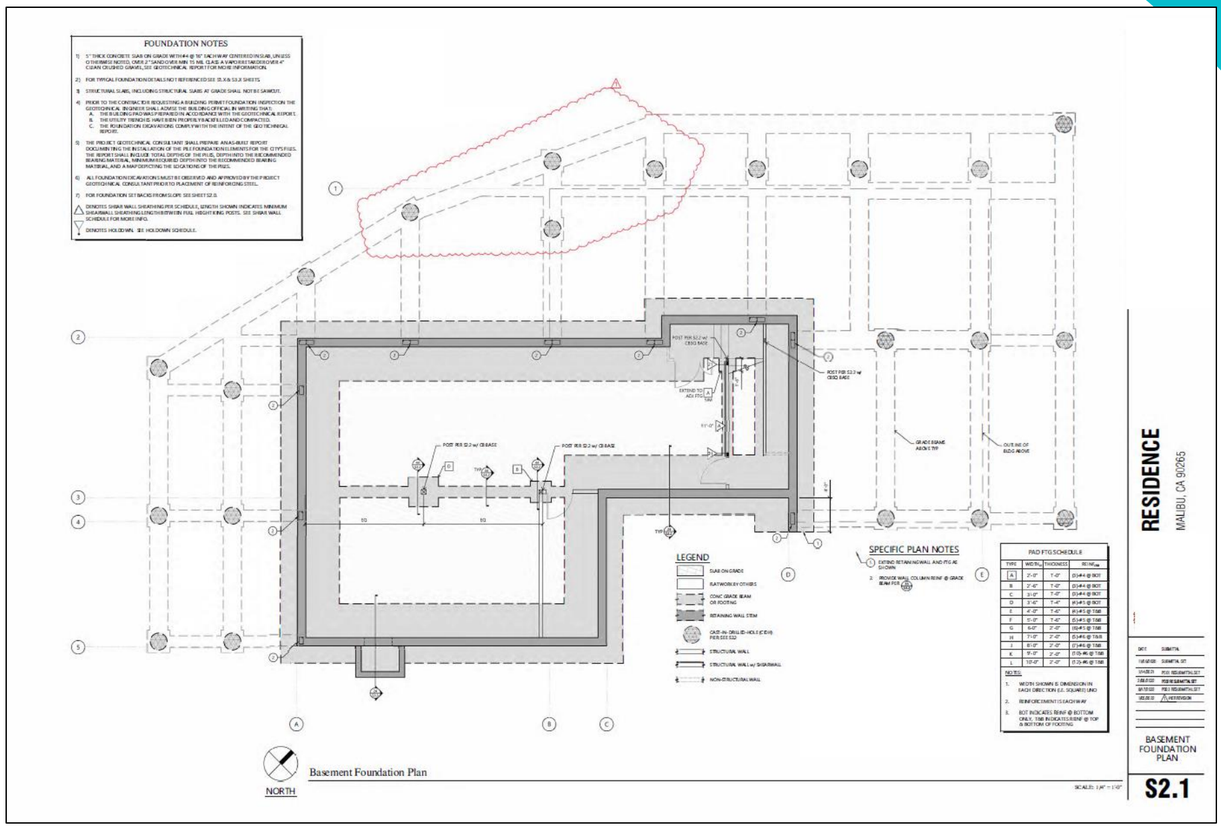
13 Typical Holdown @ Conc Stem
3/4" = 1'-0"

DATE	SUBMITTAL
11/18/2020	SUBMITTAL SET
1/14/2021	PCO RESUBMITTAL SET
2/9/2021	PCO RESUBMITTAL SET
5/17/2021	PCO RESUBMITTAL SET

RESIDENCE
MALIBU, CA 90265

SCHEDULES & TYPICAL DETAILS

S1.2



FOUNDATION NOTES

1. 5" THICK CONCRETE SLAB ON GRADE WITH #4 @ 18" EACH WAY CENTERED IN SLAB, UNLESS OTHERWISE NOTED, OVER 2" SAND OVER MIN 15 MIL CLASS A VAPOR RETARDER OVER 4" CLEAN CRUSHED GRAVEL. SEE GEOTECHNICAL REPORT FOR MORE INFORMATION.
2. FOR TYPICAL FOUNDATION DETAILS NOT REFERENCED SEE S5.X & S5.X SHEETS.
3. STRUCTURAL SLABS, INCLUDING STRUCTURAL SLABS AT GRADE SHALL NOT BE GAMSOT.
4. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING PERMIT FOUNDATION INSPECTION THE GEOTECHNICAL ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE GEOTECHNICAL REPORT.
5. THE PROJECT GEOTECHNICAL CONSULTANT SHALL PREPARE AN AS-BUILT REPORT DOCUMENTING THE INSTALLATION OF THE PILE FOUNDATIONS ELEMENTS FOR THE CITY'S FILES. THE REPORT SHALL INCLUDE TOTAL DEPTH OF THE PILES, DEPTH INTO THE RECOMMENDED BEARING MATERIAL, MINIMUM EMBEDMENT REQUIRED DEPTH INTO THE RECOMMENDED BEARING MATERIAL, AND A MAP DEPICTING THE LOCATIONS OF THE PILES.
6. ALL FOUNDATION EXCAVATIONS MUST BE OBSERVED AND APPROVED BY THE PROJECT GEOTECHNICAL CONSULTANT PRIOR TO PLACEMENT OF REINFORCING STEEL.
7. FOR FOUNDATION SETBACKS FROM SLOPE SEE SHEET S2.0.

△ DENOTES SHEAR WALL SHEARWALL PER SCHEDULE, SCHEDULE SHOWN INDICATES MINIMUM SHEARWALL SHEATHING LENGTH BETWEEN FULL HEIGHT KING POSTS. SEE SHEAR WALL SCHEDULE FOR MORE INFO.

HD DENOTES HOLDOWN. SEE HOLDOWN SCHEDULE.

LEGEND

- SLAB ON GRADE
- RAT-RUN BY OTHERS
- CONC GRADE BEAM OR FOOTING
- RETAINING WALL STEM
- CAST-IN-DRILLED-HOLE (C.I.D.H.) PER DETAIL
- STRUCTURAL WALL
- STRUCTURAL WALL w/ SHEARWALL
- NON-STRUCTURAL WALL

SPECIFIC PLAN NOTES

1. EXTEND RETAIN NG WALL AND FTG AS SHOWN
2. PROVIDE WALL COLUMN REINF @ GRADE BEAM PER [illegible]

PAD FTG SCHEDULE

TYPE	WIDTH	THICKNESS	REINF
A	2'-0"	1'-0"	(5) #4 @ 360°
B	2'-6"	1'-0"	(5) #4 @ 360°
C	3'-0"	1'-0"	(5) #4 @ 360°
D	3'-6"	1'-6"	(6) #5 @ 360°
E	4'-0"	1'-6"	(6) #5 @ 360°
F	5'-0"	1'-6"	(6) #5 @ 360°
G	6'-0"	2'-0"	(8) #5 @ 360°
H	7'-0"	2'-0"	(8) #5 @ 360°
J	8'-0"	2'-0"	(9) #5 @ 360°
K	9'-0"	2'-0"	(10) #5 @ 360°
L	10'-0"	2'-0"	(12) #5 @ 360°

NOTES:
1. WIDTH SHOWN IS DIMENSION IN EACH DIRECTION U.N.O. SQUARED UNO
2. REINFORCEMENT IS EACH WAY
3. BOT INDICATES REINF @ BOTTOM ONLY. TOP INDICATES REINF @ TOP & BOTTOM OF FOOTING

NORTH

Basement Foundation Plan

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

RESIDENCE
MALIBU, CA 90265

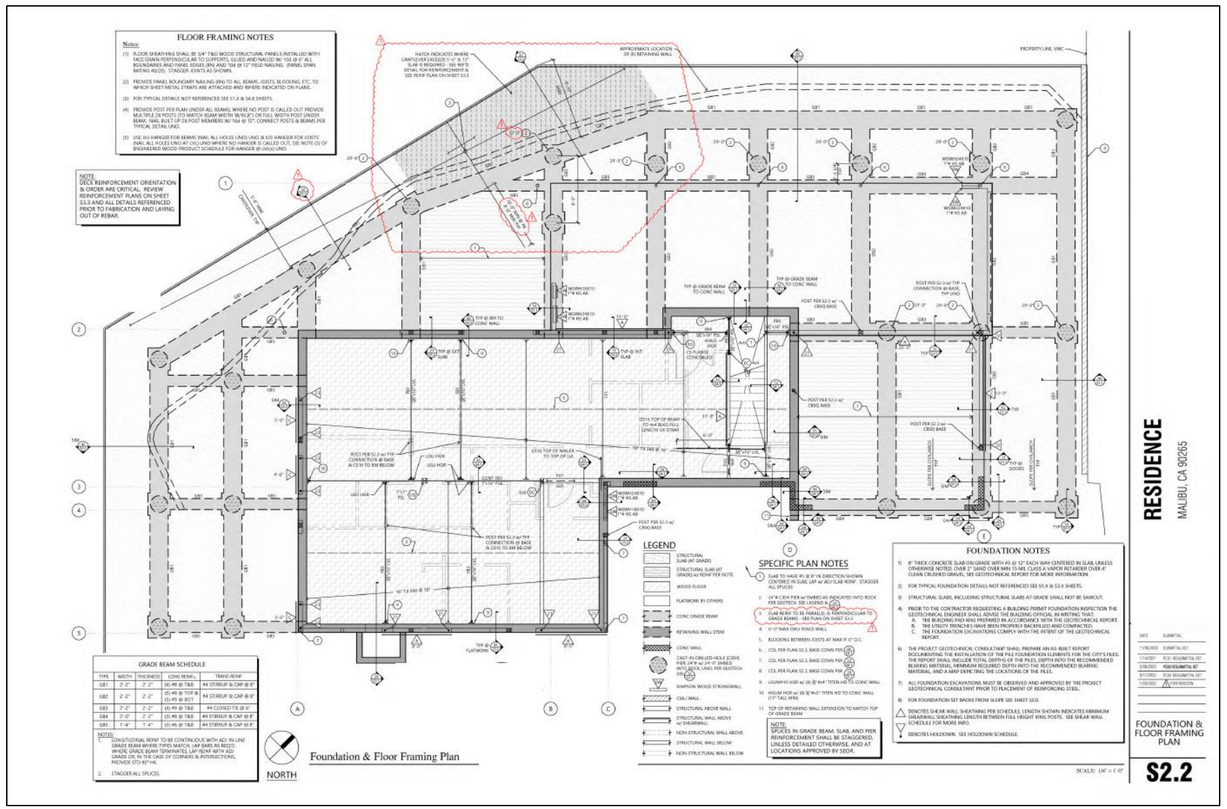
DATE	SUBMITTAL
11/18/2020	SUBMITTAL SET
1/14/2021	PCO RESUBMITTAL SET
2/9/2021	PCO RESUBMITTAL SET
5/17/2021	PCO RESUBMITTAL SET
6/8/2021	1 REVISION

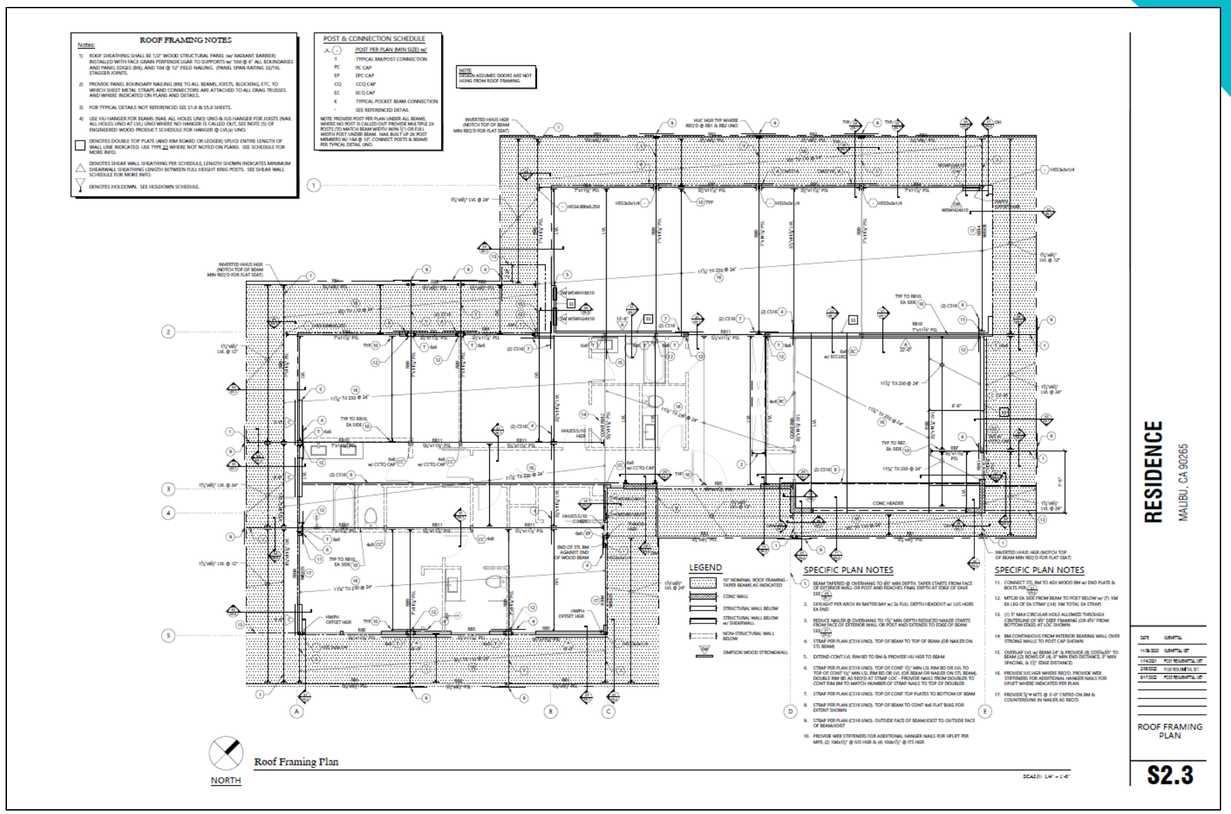
BASEMENT FOUNDATION PLAN

S2.1

MALIBU REBUILDS

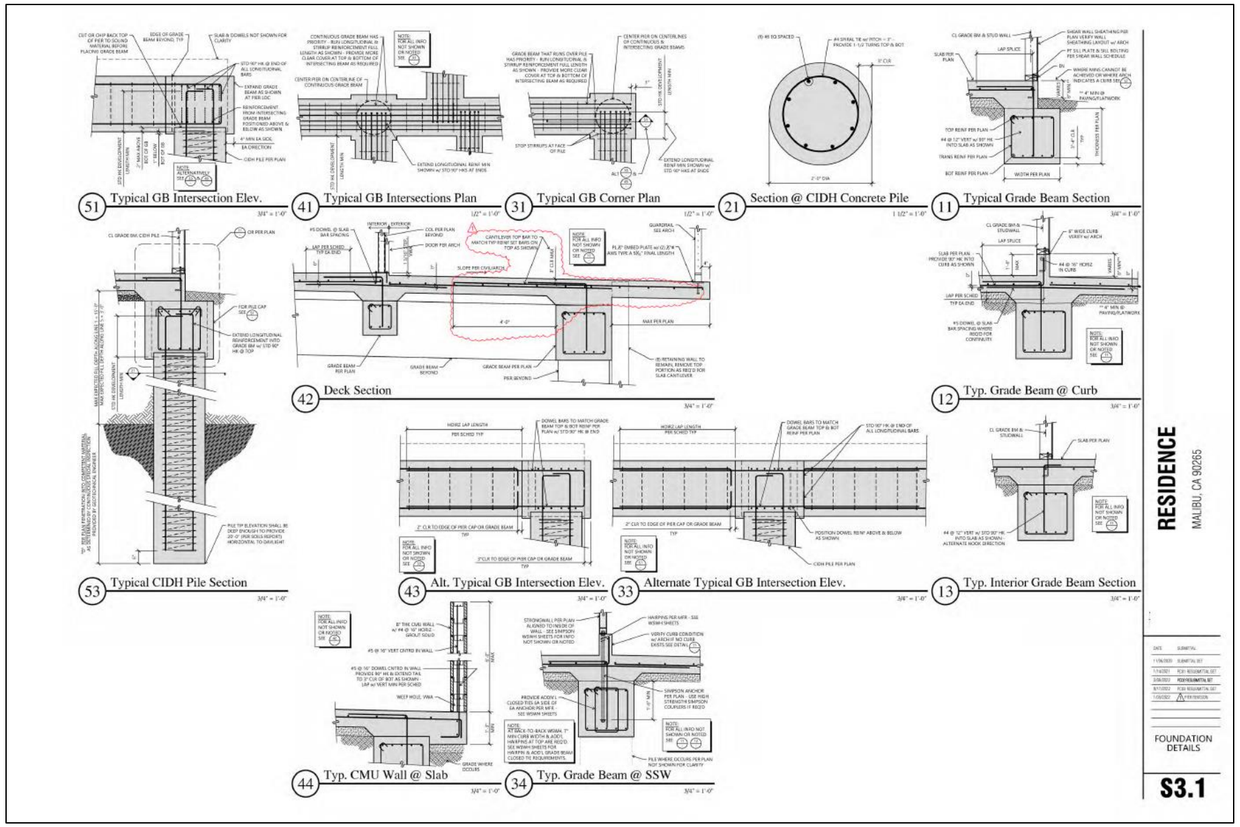
STRUCTURAL PLANS

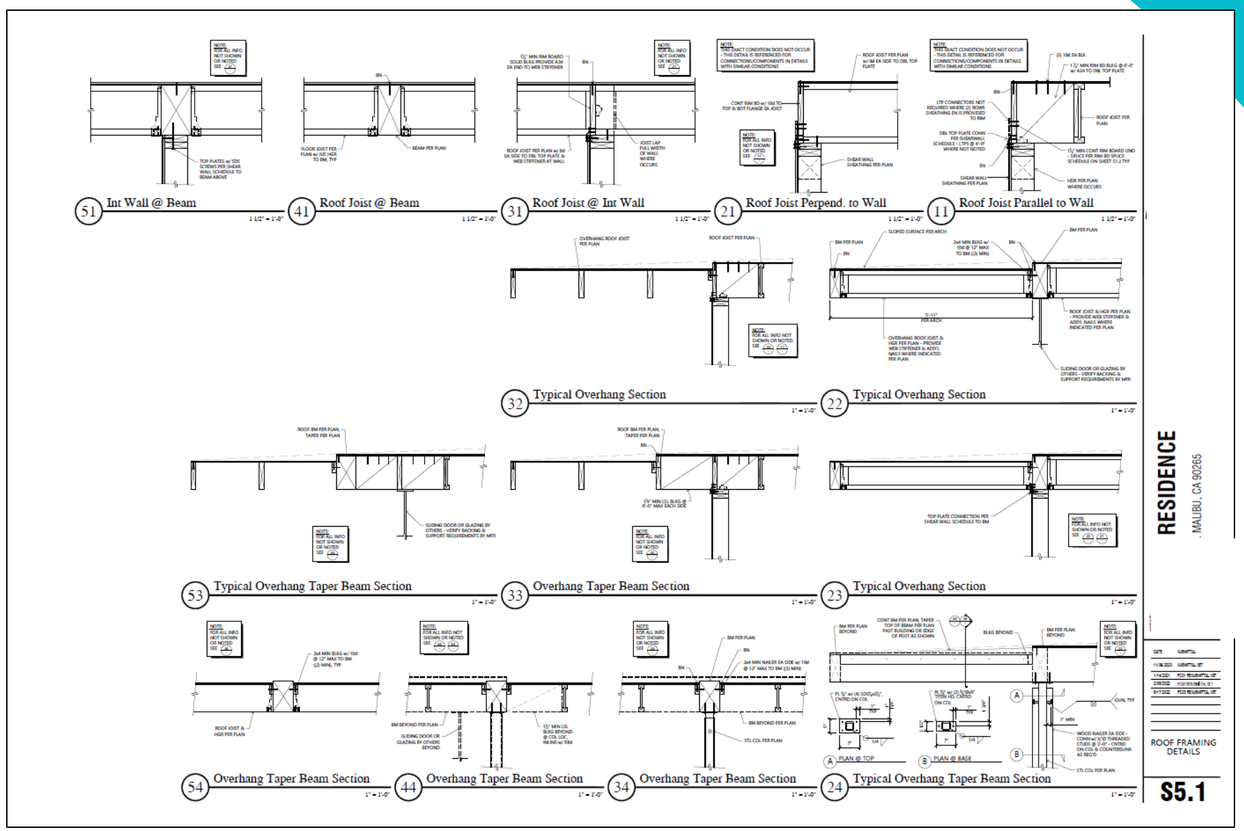




MALIBU REBUILDS

STRUCTURAL PLANS





STRUCTURAL PLANS

STANDARD QUALITY ASSURANCE PLAN

I. PURPOSE

The Standard Quality Assurance Plan (hereinafter referred to as "Standard QA Plan") for steel moment frames provides specifications, procedures, and illustrative details to comply with the requirements of the 2017 Los Angeles Building Code. The quality assurance requirements described in this

3. Welding Processes
Structural welding shall be limited to the Shielded Metal Arc Welding or Flux Cored Arc Welding processes.

4. Base Metal Repairs or Restorations
Any repair or restoration of base metal shall comply with all of the following:

a. Engineer of Record shall review and approve the WPS for repair procedures prior to welding.

b. Ensure that repair procedures meet the requirements outlined in AWS

k. Verify type and size of bolts and washers, check mill certificates, and verify faying surfaces are free of burrs, scale, rust, grease or anything that may inhibit full contact.

l. Verify connections involving high strength bolts and welds are fabricated per Part III Item 2(b) and 2(c) and erected in a sequence per Part V Item 2, unless specified otherwise by the Engineer of Record.

m. Verify high strength bolts are not welded or damaged by preheating.

n. Verify washers are always installed with all bolts, except A-490 bolts

tural Observation Report

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Sheet 2).
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-LA-48UiLD
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be permitted within the

Engineer of Record
LADBS Logo.bmp
Date: 12/30/2017
Scale: Not to Scale
Sheet1
Sheet 3 of 3

g. Any penetrations or damage from temporary welded attachments within the plastic hinging zones shall be repaired as required by the Engineer of Record and comply with Part III Item 4.

h. Initially, the plastic hinging zone "Warning Sign", as illustrated in Detail15 on Sheet 3, may be temporary. However, the temporary "Warning Sign" shall be replaced by a permanent "Warning Sign" before project completion. This sign and identification of the plastic hinging zone shall be maintained during construction; and may require repair after operations such as fireproofing.

i. Signs shall be affixed to the beam and located within the plastic hinging zone. The City Building Inspector may accept alternate methods of attaching the "Warning Sign" to the plastic hinging zones.

7. Additional Charpy V-Notch Toughness

a. Demand Critial Welds
For steel frame with service temperature at 50°F or higher welds at the locations indicated below shall be made with filler metal having a CVN toughness of 20 ft-lbf at -20°F AND 40 ft-lbf at 70°F as determined by test procedure prescribed in the AISC Seismic Sec.3.1.5- "Weld Metal / Welding Procedure Specification Toughness Verification Test."
For steel with service temperature below 50°F , the qualification temperature for AISC Seismic Provision Appendix X shall be 20°F above the lowest anticipated service temperature or at a lower temperature.
- i. Beam flanges to columns.
- ii. Single plate shear connections to columns.
- iii. Beam webs to columns, and
- iv. Column splices.
- v. Column bases

b. Heavy Section CVN Requirements
For structural steel in the SLRS, in addition to the requirements of AISC Specification Section A.3.1.c, hot rolled shapes with flanges 1½ in. thick and thicker shall have a min. CVN toughness of 20 ft-lb at 70°F, tested in the alternate core location as described in ASTM A6 Supplemental Requirement S30, Plates 2 in. thick and thicker shall have min. CVN toughness of 20 ft-lb at 70°F, measured at any location permitted by ASTM A673, where the plate is used in the following:
- i. Member built-up from plate
- ii. Connection plates where inelastic strain under seismic loading is expected,

8. Non-Destructive Testing (NDT) Requirements
The following NDT requirements, which shall be considered as a minimum, are to be included in the Quality Assurance Agency Document(s)see part 1, IV 9 below)

a. The minimum non-destructive testing at each weld joints or parts shall be conducted at the locations and frequencies as specified in Table 2 and Table 3 on Sheet 2 respectively.

b. A copy of each NDT report shall be provided to the Contractor, Engineer of Record, Deputy Inspector, and City Building Inspector with the following information:
- i. Document the accepted and rejected welds, parts, or joints.
- ii. Identify the tested weld by piece mark and location in the piece.
- iii. Identify the tested weld location in the structure.

c. NDT Technician shall perform the following tasks:
- i. Coordinate the NDT scope and schedule with the Deputy Inspector.
- ii. Perform NDT in a timely manner (so as not to hinder construction work) and to detect welding problems soon after occurrence so that corrective measures can be taken by the Contractor.
- iii. Mark the inspected and accepted welds, parts, and joints with a distinguishing mark or die stamp.

d. Reduction Rate for NDT
- i. The rate of UT testing on CJP groove welds may be reduced if approved by the Engineer of Record and the Department, except no reduction is permitted for demand critical welds. Where the initial rate for UT is 100%, the NDT rate for an individual welder or welding operator is permitted to be reduced to 25%, provided the reject rate, the number of welds containing unacceptable defects divided by the number of welds completed, is demonstrated to be 5% or less of the welds tested for the welder or welding operator. A sampling of at least 40 completed welds for a job shall be made for such reduction evaluation. For evaluating the reject rate of continuous welds over 3 ft in length where the effective throat is 1 in. or less, each 12 in. increment or fraction thereof shall be considered as one weld. For evaluating the reject rate on continuous welds over 3 ft in length where the effective throat is greater than 1 in., each 6 in. of length or fraction thereof shall be considered one weld.
- ii. The rate of MT testing on CJP groove welds may be reduced if approved by the Engineer of Record and the Department. The MT rate for an individual welder or welding operator may be reduced to 10%, provided the reject rate is demonstrated to be 5% or less of the welds tested for the welder or welding operator. A sampling of at least 20 completed welds for a job shall be made for such a reduction evaluation. This reduction is not permitted on welds in the k-area, at repair sites, weld tab and backing removal sites and access holes.
- iii. Reject rate shall mean the number of welds containing rejectable defects divided by the number of welds completed.

9. Quality Assurance Agency Documentations
- i. Submit Fabricator and Erector Document for review by EOR prior to fabrication erection per AISC 341-10 Sec J2.
- ii. Submit Quality Assurance Agency Document to EOR, owner, and City Building Inspector per AISC 341-10 Sec J3.
- iii. The reports listed in Table 1 on Sheet 2 shall be submitted to the City Building Inspector in a timely manner.
- iv. The requirements stated in Section 8 are to be included in the Quality Assurance Agency Document(s)

V. WELDING PROCEDURES

1. Bottom Beam Flange Moment Connection Welding
Where welding of the bottom beam flange to the column flange is in the flat welding position, welding shall be completed with the following sequence:
- a. Start welding from Side A (one side of the beam) with a maximum 1/4 inch thick root pass beyond the center of the joint on Side B (other side of the beam), reaching past the beam web through the weld access hole.
- b. After the arc is initiated, electrode travel shall progress toward the edge of the Side A weld tab.
- c. The SideA root pass, and root pass deposit on SideB, shall be thoroughly cleaned to allow Deputy Inspector to verify the resulting bead profile is suitable for obtaining good fusion by the subsequent root pass to be initiated from SideB. If the profile is not conducive to good fusion, the start of the first root pass shall be gounded,gouged,chipped,orotherwise prepared to ensure adequate profile to achieve fusion.
- d. Complete the root pass on Side B before any other weld passes are performed.
- e. The arc shall be initiated at the start of the first Side A root pass, and electrode travel shall progress toward the edge of the Side B beam flange, terminating on the Side B weld tab.
- f. The above sequence shall be repeated for subsequent weld layers, and each weld layer shall be completed on both sides of the joint before a new layer is deposited,For each layer, the weld starts and stops shall be on opposite side of beam web,as compare to previous layer. The order of operations (Side A, then Side B, or vice versa) is not restricted and may vary for each weld layer. Weld passes shall be placed in horizontal layers. Each pass shall be thoroughly cleaned of slag and wire brushed. Each pass shall be visually inspected by the Deputy Inspector, as described above in Step (c). An alternate welding sequence may be made provided Contractor submits in writing anaiternate sequence that is approved by the Engineer of Record and complies with the requirements of Part III Item 5 of the Standard QA Plan.

2. Sequence for Welding at Multiple Locations
When welding occur at multiple locations of welded steel moment frame connections, the following sequence shall be followed:
- a. Weld both top and bottom beam flanges prior to any supplemental welding to the beam web or shear tab,
- b. Engineer of Record shall review and approve all field welding sequences prior to the start of work.
- c. Field welding of web shear plates with bolts shall occur after field welding of beam flanges to column flange.
- d. High strength bolts shall be in the snug tight condition prior to welding.
- e. Notwithstanding AISC Steel Construction Manual Specification Section J1,10 to the contrary, high strength bolts shall be fully tensioned upon completion of all welding activities.

An alternate sequence of welding may be made provided the Contractor submits in writing, the alternate sequence minimizes residual stresses and is approved by the Engineer of Record.

3. Welding Technique
- a. Stringer beads shall be used during all welding operations. Maximum bead width, bead thickness, and layer thickness shall be considered. Weaving is not permitted, except when the WPS approved by the Engineer of Record limits electrode oscillation transverse to the weld axis to a maximum of:
  - i. 3d for 1G/1F, 2G/2F, and 4G/4F weld positions, or
  - ii. 5d for the 3G/3F position, where d = electrode diameter.
- b. Welding layers should progress from the face of the column flange outward toward the groove face of the beam flange as illustrated in Detail 13 on Sheet 3.

4. Preheat and Interpass Temperature
- a. The minimum preheat and interpass temperature requirements in Table 4 of Sheet 2 shall be observed. Special attention shall be given to AWS Section 3,5.1 and Section 5,6 for the thickness of the base metal to be welded.
- b. Preheat and all subsequent interpass temperatures shall be maintained during the welding operation for a distance at least equal to the thickness of the thicker welded part, but not less than 3", in all directions from the point of welding.
- c. Where base metals are of different thickness, the higher minimum preheat and interpass temperature requirements of the thicker plate shall govern.
- d. Maximum preheat and interpass temperature shall not exceed the lesser of:
  - i. 550°F, or
  - ii. The maximum temperature recommended by the manufacturer.

5. Post Weld Heat Treatment
Unless specified otherwise in an approved WPS, the minimum post weld heat treatment shall be provided as follows:
- a. Apply temperature in the 400°F to 600°F range immediately after completion of welding to prevent the weld metal from cooling below the minimum preheat and interpass temperature,
- b. Maintain temperature for approximately 1 hour per inch of thickness of weld metal or 2 hours, whichever is less.
- c. Conditions specified in AWS Section 3,14 and Section 5,8 should carefully be considered when applying post weld heat treatment.

Alternatively, the use of insulating blankets after the completion of welding in lieu of post weld heat treatment may be permitted to control the cooling of the welded connection to ambient temperature if recommended by the Engineer of Record and approved by the City Building Inspector; unless required otherwise by an approved WPS.

VI. WELDING AND FABRICATION DETAILS

1. Base Metal Joint Preparation
- a. Base metal preparation shall be in comply with AWS Section 5.15,
- b. All beam flange to column flange welds are to be made with an AWS prequalified CJP groove welded joint detail.
- c. Bevel, flush and detail tolerances shall be as required by the selected prequalified welded joint detail.
- d. Whenever possible, use the AWS prequalified CJP groove welded joint detail as illustrated in Detail 14 on Sheet 3 and the following:
  - i. Use single bevel CJP groove welds made with a 30° groove angle or double bevel CJP groove welds when flange thickness exceed 1-1/2 inch,
  - ii. "As Fit-Up" and "As Detailed" shall be the maximum tolerances.
  - iii. Meet all prequalified WPS variables in Table 5 on Sheet 2.

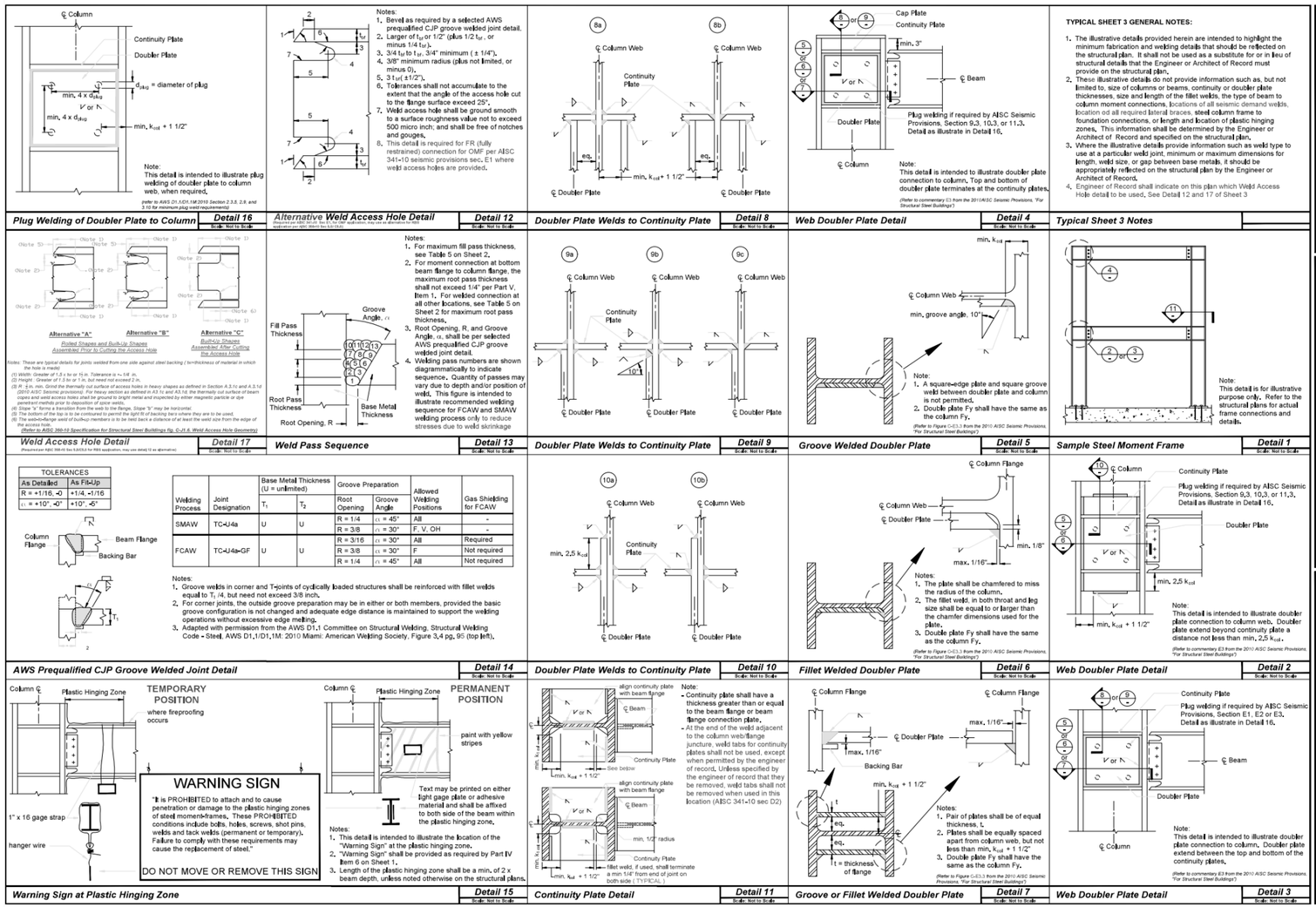
2. Weld Access Hole
- a. Where weld access holes are provided, they shall be detailed as illustrated in Detail 12 on Sheet 3.
- b. Notches and gouges shall be repaired following a WPS approved by her Engineer of Record.
- c. Weld access holes shall be prepared by grinding to a suitable finish in accordance with AISC Specification Section J1.6 and provided with a minimum radius of 3/8 inch as illustrated in Detail 12 on Sheet 3.

3. Backing Bar
- a. Backing bar used in connections with a CJP groove weld of beam flange to column flange shall be removed except that top flange backing bar attached to the column by a continuous fillet weld on the edge below thee CJP groove weld need not be removed.
- b. Following removal of backing bar, the root pass shall be backgouged to sound weld metal, and back welded. A reinforcing fillet weld with a minimum leg size of 5/16 inch or the root opening plus 1/16 inch, whichever is larger, shall be provided. The reinforcing fillet weld need not be grounded.

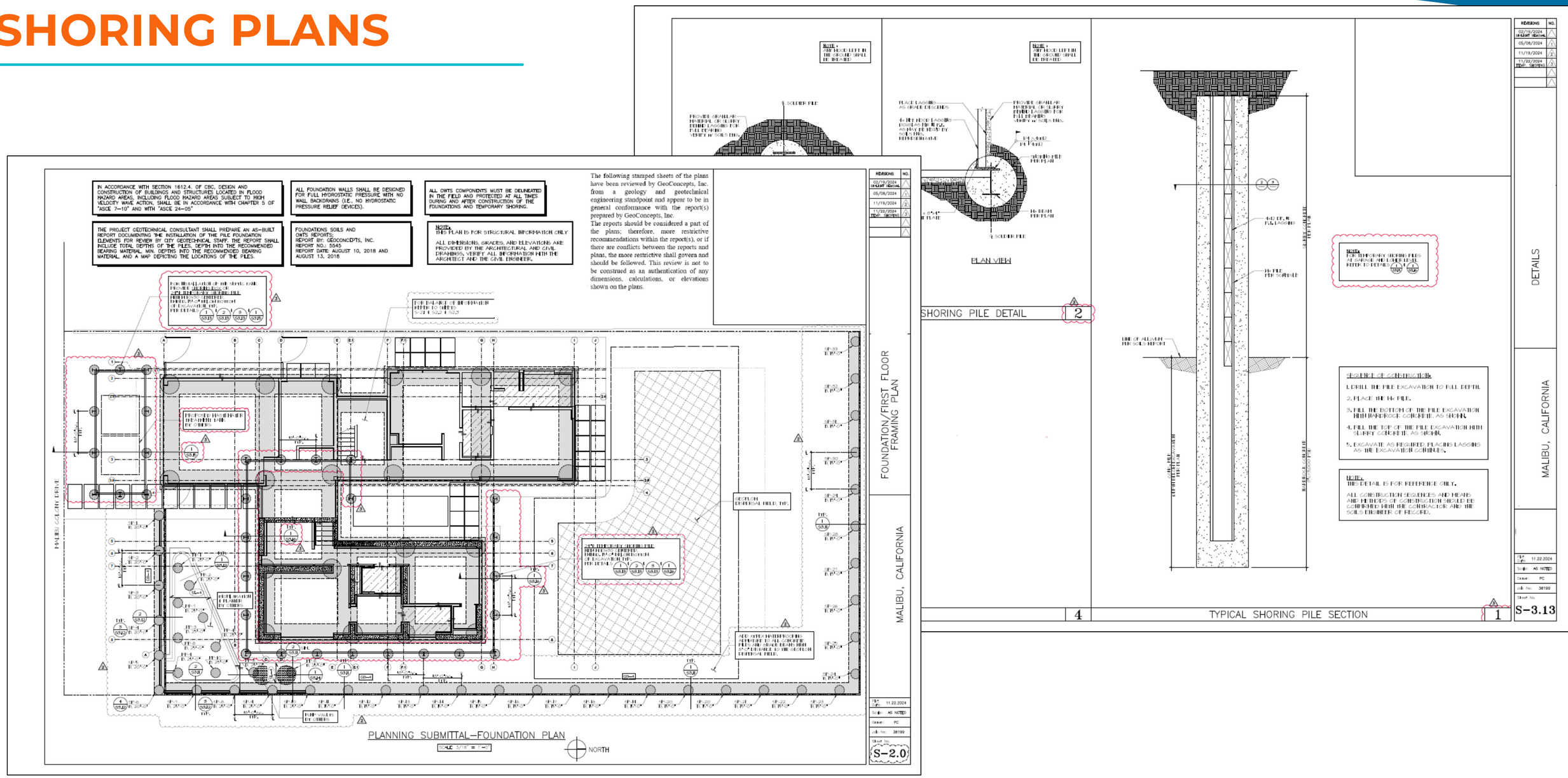
SITE ADDRESS:
OWNER:

STANDARD QUALITY ASSURANCE PLAN
For Steel Moment Frames

Engineer of Record
LADBS Logo.bmp
Date: 12/30/2017
Scale: Not to Scale
Sheet1
Sheet 1 of 3



SHORING PLANS



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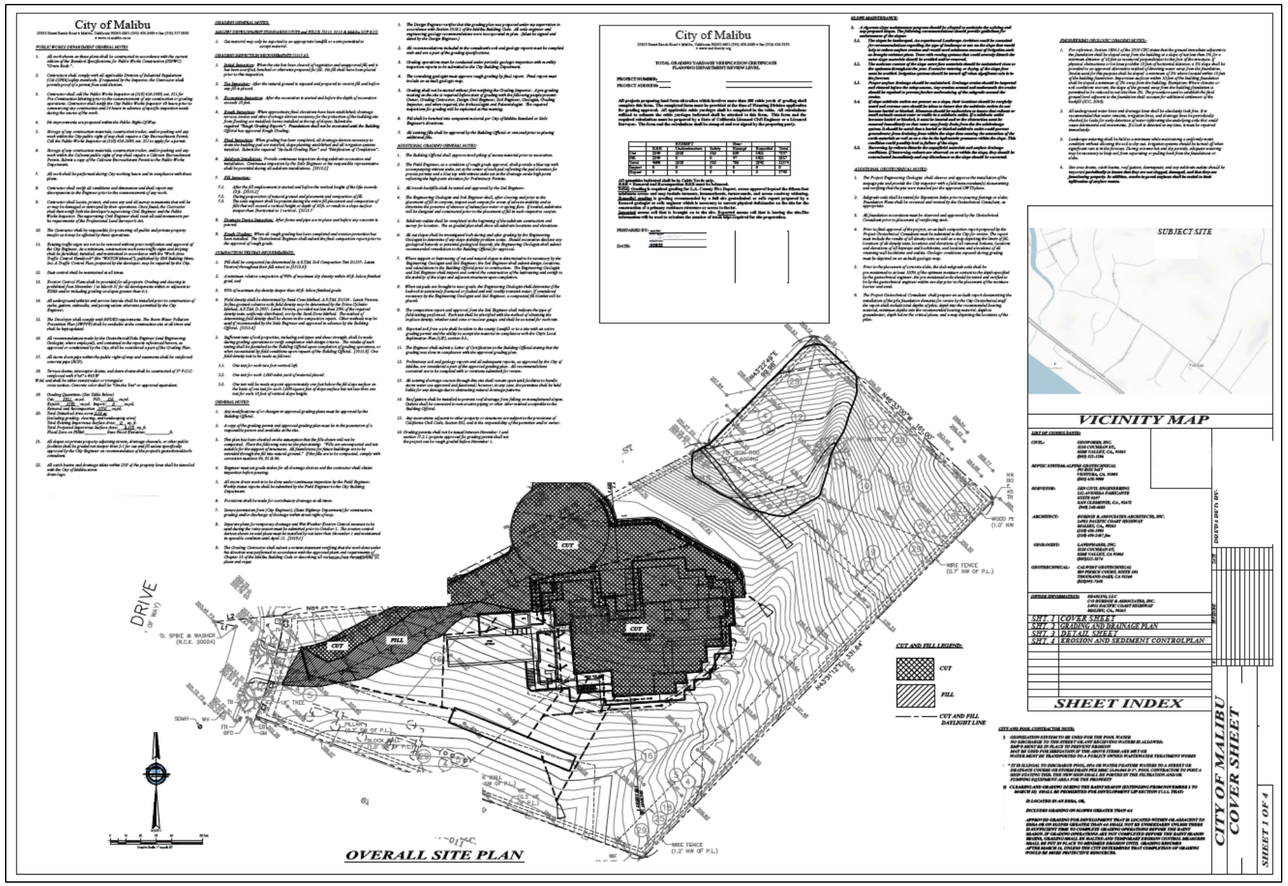
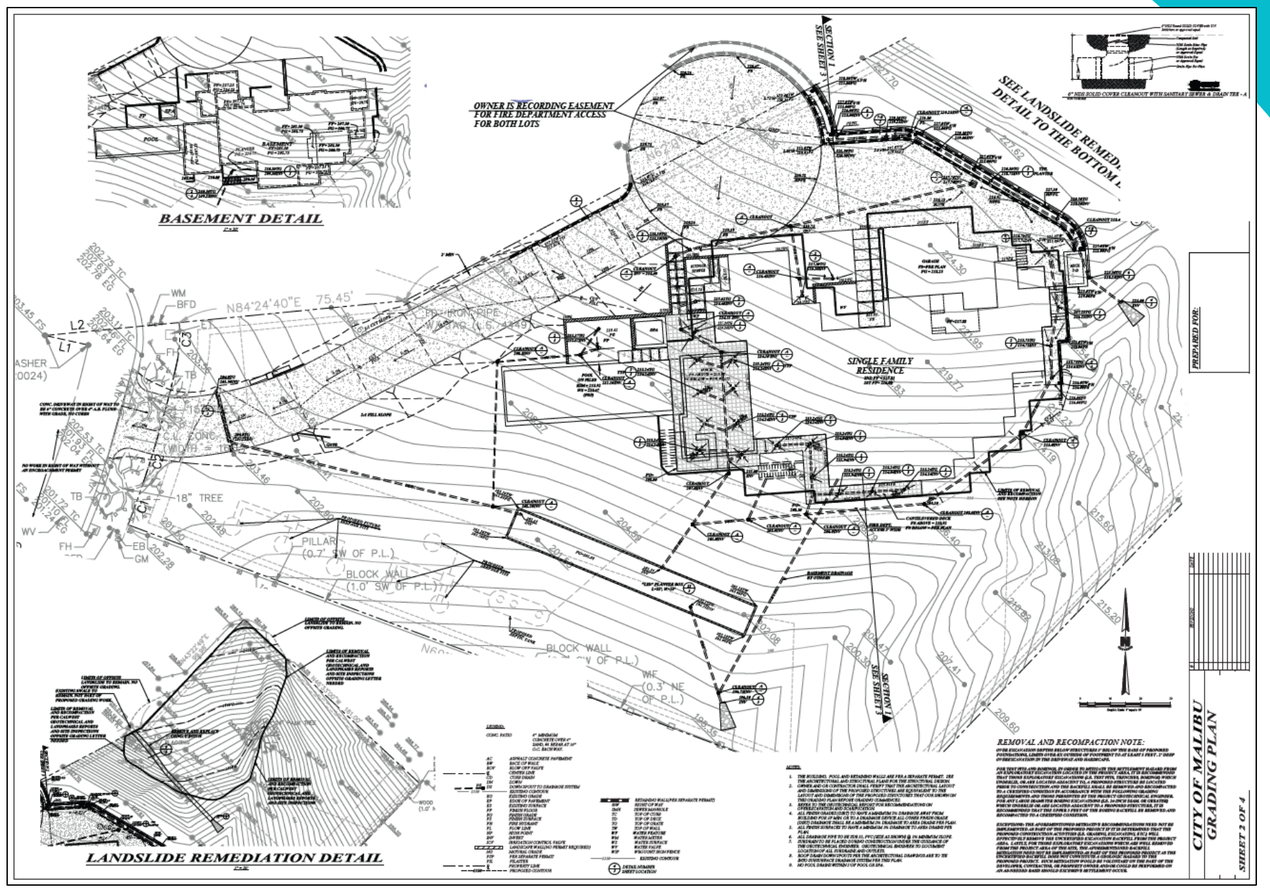
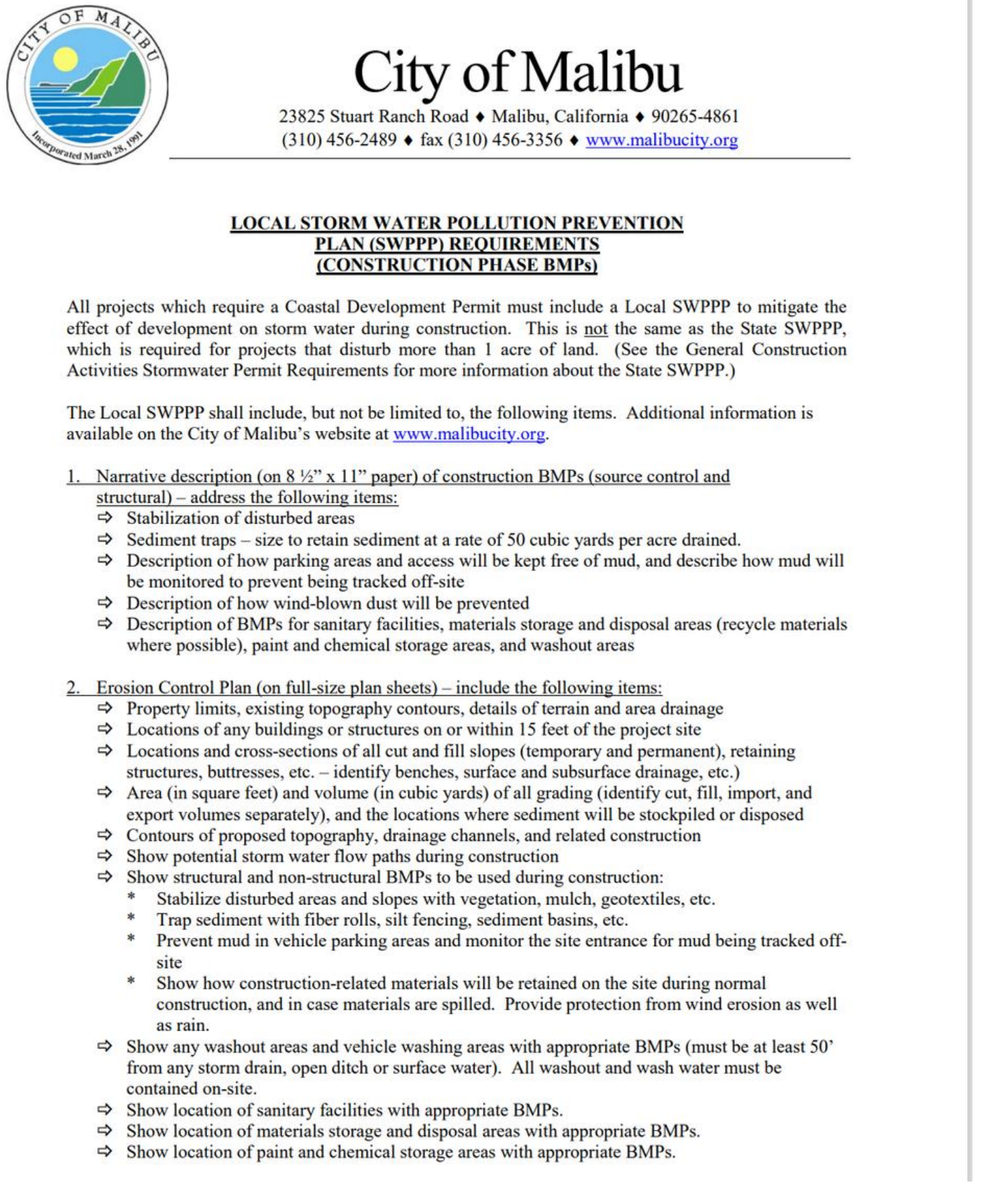




PUBLIC WORKS

PUBLIC WORKS

- Reviews drainage, grading, erosion control plans, FEMA flood zone regulations



City of Malibu
23825 Stuart Ranch Road ♦ Malibu, California ♦ 90265-4861
(310) 456-2489 ♦ fax (310) 456-3356 ♦ www.malibucity.org

LOCAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS (CONSTRUCTION PHASE BMPs)

All projects which require a Coastal Development Permit must include a Local SWPPP to mitigate the effect of development on storm water during construction. This is not the same as the State SWPPP, which is required for projects that disturb more than 1 acre of land. (See the General Construction Activities Stormwater Permit Requirements for more information about the State SWPPP.)

The Local SWPPP shall include, but not be limited to, the following items. Additional information is available on the City of Malibu's website at www.malibucity.org.

1. Narrative description (on 8 ½" x 11" paper) of construction BMPs (source control and structural) – address the following items:
   - ⇨ Stabilization of disturbed areas
   - ⇨ Sediment traps – size to retain sediment at a rate of 50 cubic yards per acre drained.
   - ⇨ Description of how parking areas and access will be kept free of mud, and describe how mud will be monitored to prevent being tracked off-site
   - ⇨ Description of how wind-blown dust will be prevented
   - ⇨ Description of BMPs for sanitary facilities, materials storage and disposal areas (recycle materials where possible), paint and chemical storage areas, and washout areas

2. Erosion Control Plan (on full-size plan sheets) – include the following items:
   - ⇨ Property limits, existing topography contours, details of terrain and area drainage
   - ⇨ Locations of any buildings or structures on or within 15 feet of the project site
   - ⇨ Locations and cross-sections of all cut and fill slopes (temporary and permanent), retaining structures, buttresses, etc. – identify benches, surface and subsurface drainage, etc.)
   - ⇨ Area (in square feet) and volume (in cubic yards) of all grading (identify cut, fill, import, and export volumes separately), and the locations where sediment will be stockpiled or disposed
   - ⇨ Contours of proposed topography, drainage channels, and related construction
   - ⇨ Show potential storm water flow paths during construction
   - ⇨ Show structural and non-structural BMPs to be used during construction:
     - * Stabilize disturbed areas and slopes with vegetation, mulch, geotextiles, etc.
     - * Trap sediment with fiber rolls, silt fencing, sediment basins, etc.
     - * Prevent mud in vehicle parking areas and monitor the site entrance for mud being tracked off-site
     - * Show how construction-related materials will be retained on the site during normal construction, and in case materials are spilled. Provide protection from wind erosion as well as rain.
   - ⇨ Show any washout areas and vehicle washing areas with appropriate BMPs (must be at least 50' from any storm drain, open ditch or surface water). All washout and wash water must be contained on-site.
   - ⇨ Show location of sanitary facilities with appropriate BMPs.
   - ⇨ Show location of materials storage and disposal areas with appropriate BMPs.
   - ⇨ Show location of paint and chemical storage areas with appropriate BMPs.

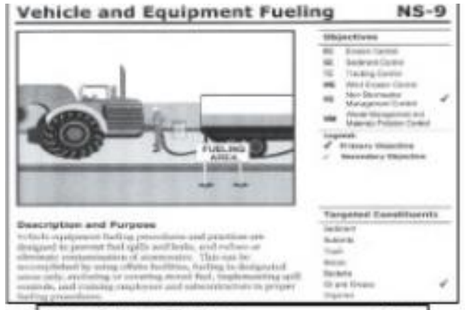
MALIBU REBUILDS

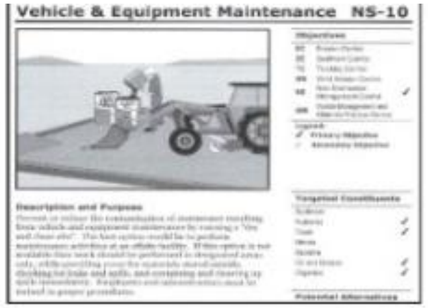
PUBLIC WORKS PLAN CHECK

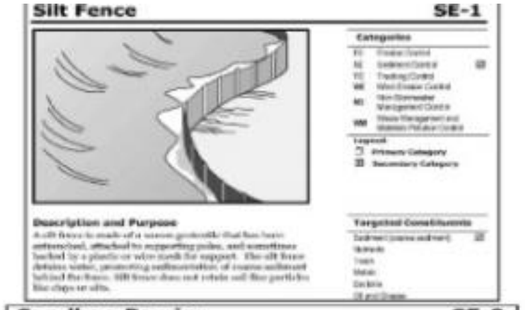
Reviews plans for:

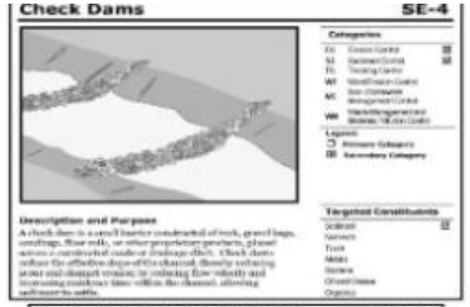
- Drainage
- Grading
- Local Stormwater Pollution Prevention Plans (LSWPPP)
- Stormwater and water quality compliance
- FEMA flood zone regulations
- Improvements within the public right-of-way

MALIBU REBUILDS







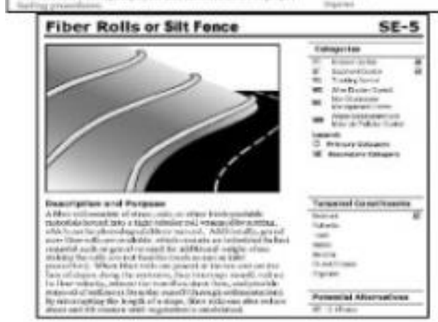


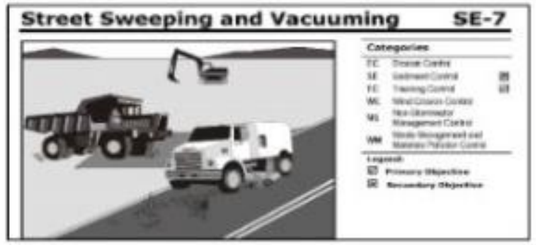
PLAN CHECK # :
PERMIT # :
ADDRESS:

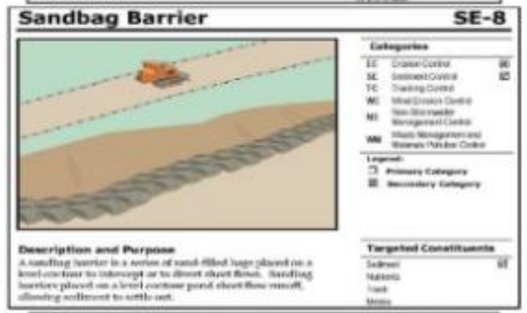
2016 CA RESIDENTIAL CODE
EROSION AND SEDIMENT CONTROL PLAN (ESCP)
"THESE CODE REQUIREMENTS GOVERN, ANY ERRORS SHOWN ON OTHER PLANS."

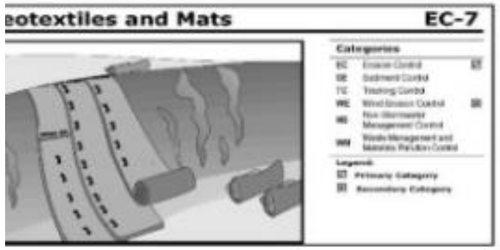
WORK DESCRIPTION:

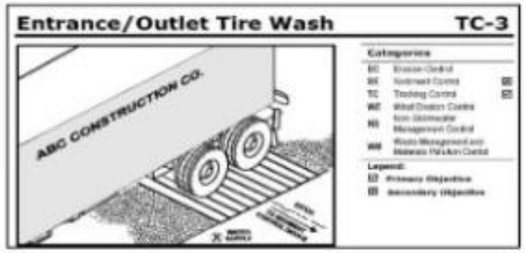
CITY OF:
MALIBU
23825 STUART RANCH ROAD
MALIBU, CA 90265
310-456-3356

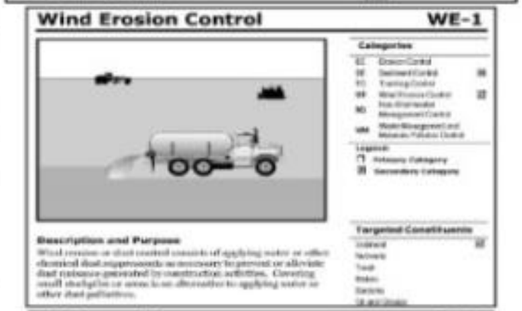


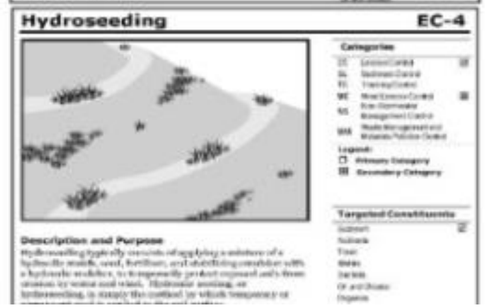




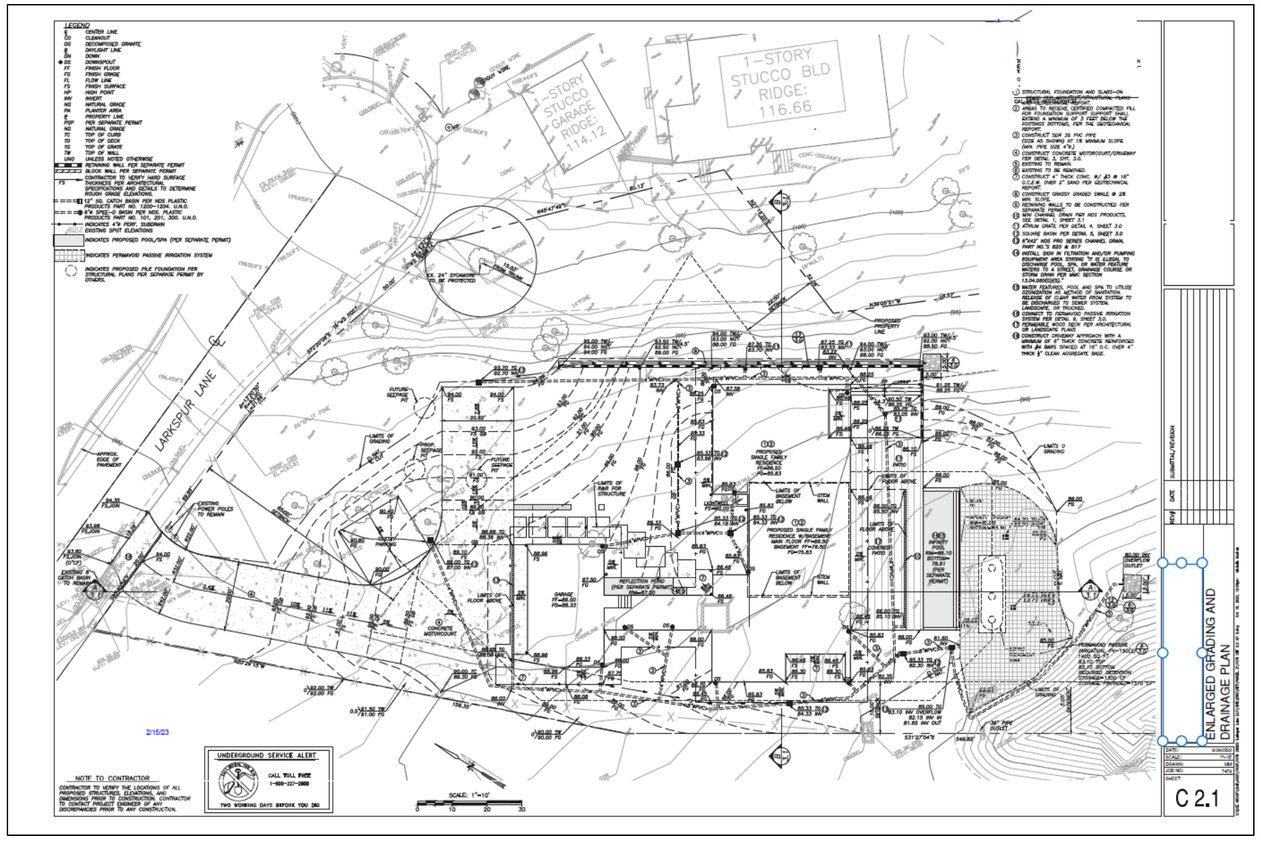


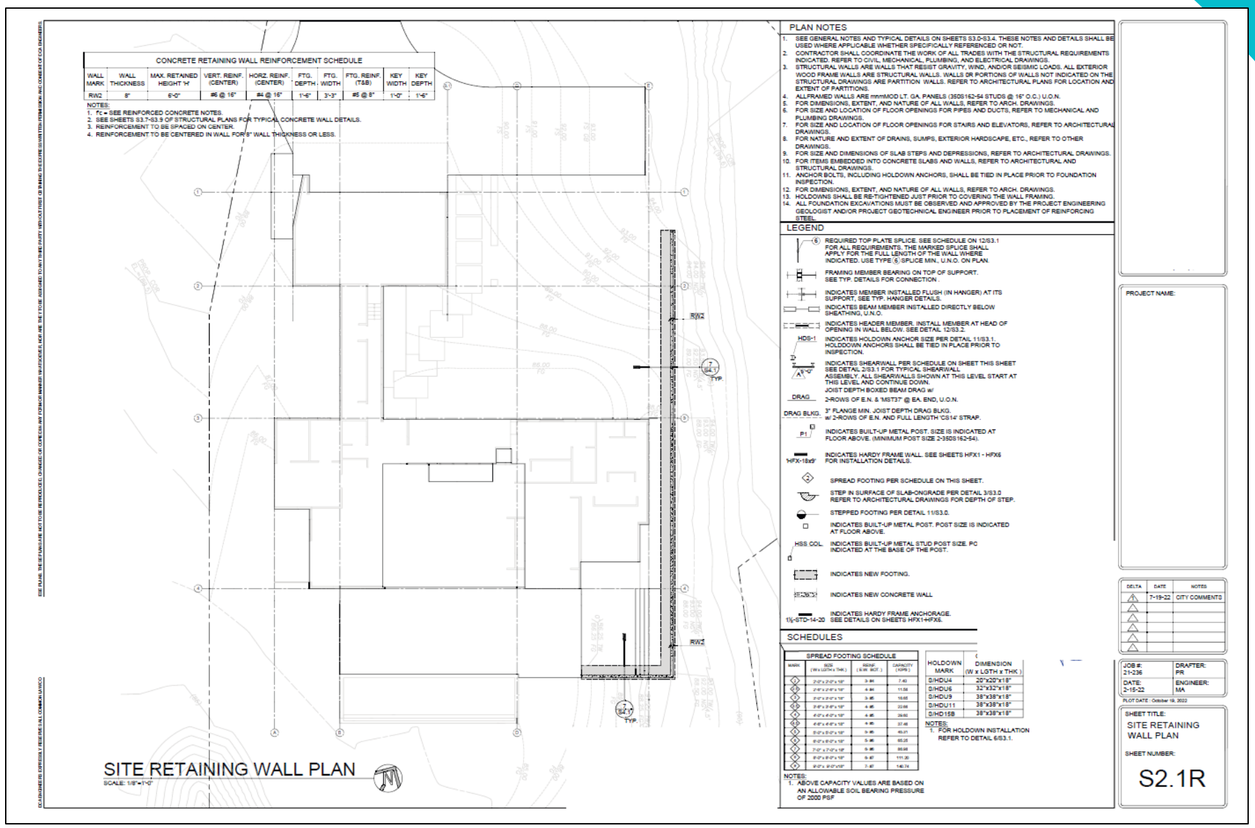






SITE RETAINING WALL PLANS





LIGHTING MANDATORY REQUIREMENTS

SINGLE-FAMILY § 150.0(k) 1-2

Updated for 2022

- **Luminaire Requirements**
  - Ceiling recessed downlight luminaires meet CA Electrical Code Section 410.116

- **Indoor Lighting Controls**
  - Adds auto-off controls for lighting in drawers and cabinets
  - Undershelf, display cabinets, switched outlets controlled separate from ceiling lighting
  - Adds exception for dimming controls

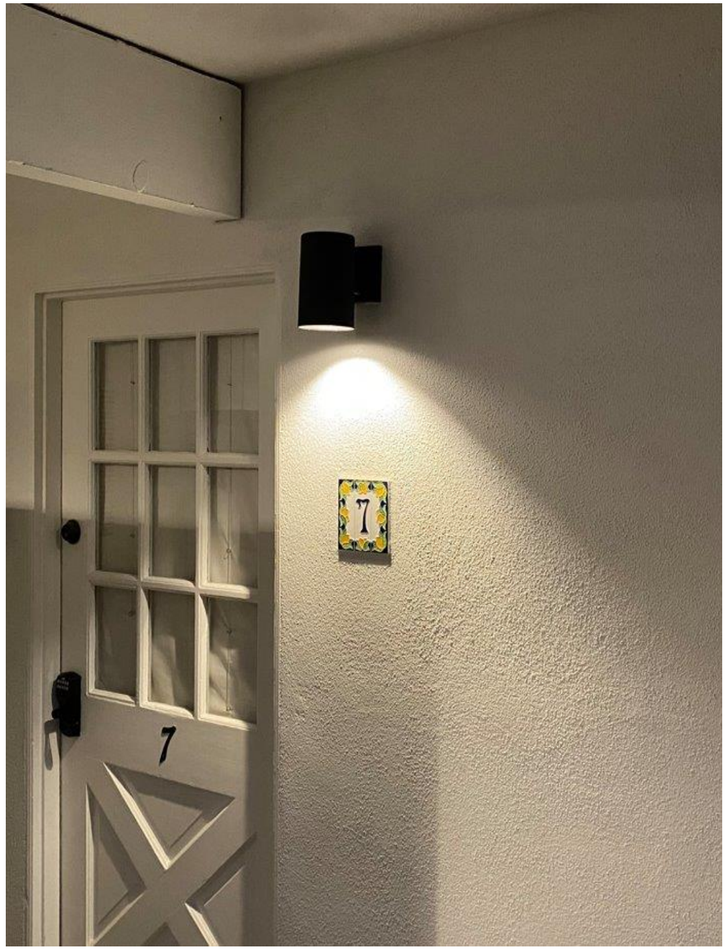
DARK SKY ORDINANCE REQUIREMENTS

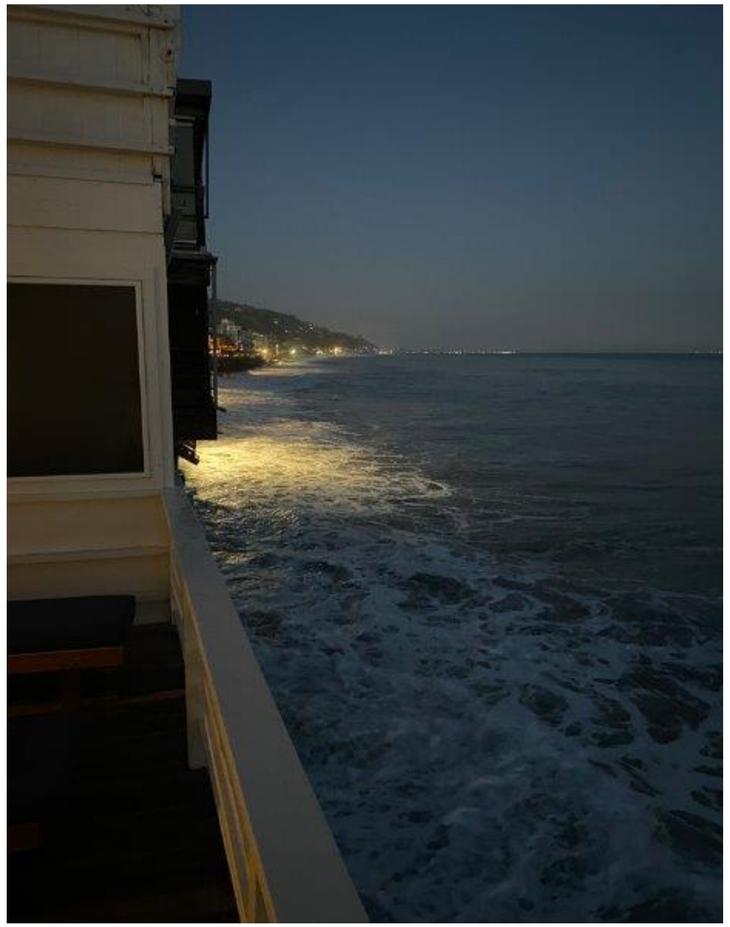
- All lighting is to be **Fully Shielded a**nd directed downward
- **Lighting Temperature** is to be 3,000 Kelvins or less
- **Luminaire Brightness** must not exceed 850 lumens in residential, scenic and ESHA areas

- **Light Trespass** must not exceed the following maximum values:
  - 0.1 foot-candles from own property onto residential, ESHA, ESHA buffer, Pacific Ocean, beaches and public viewing properties
  - 0.25 foot-candles from own property onto any other non-residential property
  - Specific light trespass amendments for gas stations

- **Curfew:** All lights must be extinguished by 11pm (or at close of business). Exemptions include:
  - Lighting activated by motion sensors (must extinguish after 10 minutes)
  - Specific lighting at building entrances, parking areas, and driveways
  - ATM and exterior hotel/motel room accessway lighting

PACIFIC COAST HIGHWAY





R327 AGING-IN-PLACE DESIGN AND FALL PREVENTION

R327.1.1Reinforcement for grab bars.

- At least one bathroom on the entry level shall be provided with reinforcement installed in accordance with this section.

- Where there is no bathroom on the entry level, at least one bathroom on the second or third floor of the dwelling shall comply with this section.

R327.1.3 AGING IN PLACE DESIGN

R327.1.3 Interior Doors

- Effective July 1, 2024, at least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches (812.8 mm), measured with the door positioned at an angle of 90 degrees from the closed position; or, in the case of a two- or three-story single family dwelling, on the second or third floor of the dwelling if a bathroom or bedroom is not located on the entry level.

GEOLOGY

GEOLOGY AND COASTAL REVIEW

PURPOSE: Safety and conformance with Codes & consistent, integrated review

WHO: Senior Malibu Reviewers Dedicated to Rebuilds

- **Lauren Doyel** (GE), **Mike Phipps** (CEG), **Christina Clark** (CEG)
- Review team pairs for beachfront and non-beachfront review
- Support staff providing GIS and parcel information
- Developers of original Malibu Geotechnical and Fire Rebuild Guidelines

HOW: Lessons learned, updated guidelines, pre-screening process
Innovations in information, GIS platform, and new resources

GOAL: Provide best information and guidance for informed design decisions and to minimize corrections.

MALIBU REBUILDS

GEOLOGY PROCESS

1. **Review information regarding parcel – telecon, meeting at Fire Rebuild Center**
   - Beachfront – Non-beachfront
   - Hazards, Slopes, As-built, Public infrastructure (drainage, etc.)
   - Parcel Geotechnical and Coastal Worksheet – summary & links

2. **Identify scope of project and applicable code sections (potential constraints)**

3. **Planning pre-screen (known hazard areas)** - e.g. Assessment Districts, Las Flores Mesa

4. **Meeting with your project team to review Guidelines and information pre-design**

5. **Building Plan Check Review**

GOAL: Invite you into our process, provide information and guidance to obtain approvable project by second review.

MALIBU REBUILDS

GEOLOGY GUIDELINES

- Classify by Parcel Type and Characteristics relevant to code.
  - Beachfront – Non-beachfront, Hazards: presence and type

- Encourage prudent use of existing information (desktop study) to inform investigation scope

- Encourage and allow joint baseline reports where feasible

- Three Report types – All require CEG and PE/GE
  - Limited Hazard Report (for temporary housing)
  - Limited Report (when there is rich existing info)
  - Comprehensive Report (when there is sparse existing information)

- Guidance Matrix based on Code requirements, parcel type, and hazards

- Ready by March 31, 2025 – parcel-specific guidance available now

MALIBU REBUILDS

GEOLOGY GUIDELINES

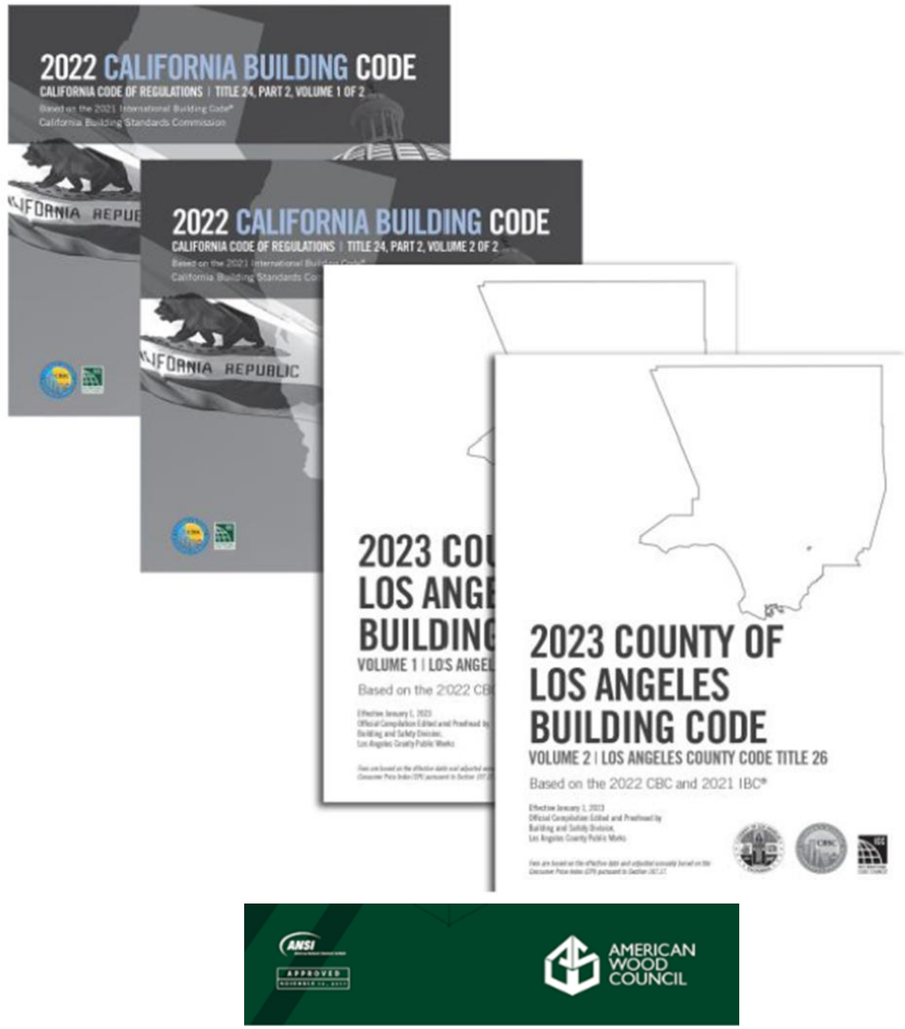
DECISION MATRIX FOR LIMITED GEOTECHNICAL REPORT ELIGIBILITY

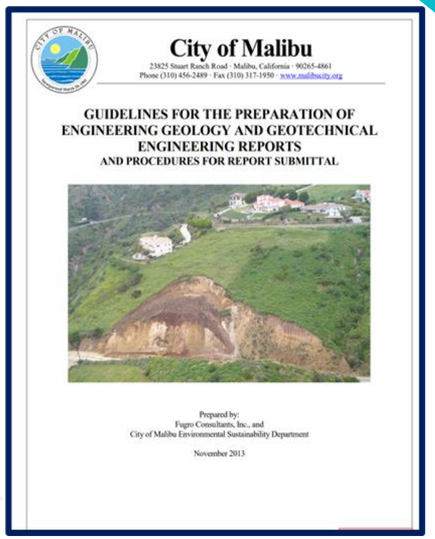
PROPERTY TYPE	GEOLOGIC OR GEOTECHNICAL HAZARD* IMPACTING THE PROPERTY?		HAZARD HAS BEEN PREVIOUSLY ELIMINATED, MITIGATED, OR AVOIDED		ELIGIBLE FOR LIMITED REPORT**
Sites in Liquefaction Hazard Zone on SHMA Map	Yes	AND	No	THEN	**NO** - a Comprehensive Report is required to evaluate and mitigate liquefaction hazards per Building Code Section
Sites in Earthquake-Induced Landslide Hazard Zone on SHMA Map	Yes	AND	No	THEN	**NO** - a Comprehensive Report is required, including complete Section 111 findings, to evaluate and mitigate earthquake-induced landslide hazards per Building Code Section
Sites within 500 feet of Mapped MCFZ fault trace (FER-229)	Yes	AND	No	THEN	**NO** - a Comprehensive Report is required to evaluate fault surface rupture hazards per Building Code Section 113. Applies
Flat Sites: Properties without slopes steeper than 3:1 (H:V, 18°) onsite or that may otherwise impact the property	No known hazards	AND	N/A	THEN	**YES** - Complete Section 111 findings will be required
	Yes	AND	Eliminated or Avoided	THEN	**YES** - Complete Section 111 findings will be required
Sloping Sites: Properties with slopes steeper than 3:1 (H:V, 18°) onsite or that may otherwise impact the property (not bluff sites)	No known hazards	AND	N/A	THEN	**YES** - Ensure Limited Report addresses ascending (building clearance) and descending (foundation setback) slope setbacks, slope stability, etc.; complete Section 111 findings will be required
Bluff Sites: Properties located along the bluff edge, as described in a "Bluff Edge Determination" by the Planning Department	No known hazards	AND	Foundation setback from bluff conforms to CBC 1808.7	THEN	**YES** - Ensure the structure and any proposed additions conform to the Planning Department's requirement for bluff-edge setback; complete Section 111 findings will be required
	Yes	AND	No	THEN	**NO** - a Comprehensive Report is required; ensure the structure

* Geologic and geotechnical hazards include building sites subject to landslide, settlement or slippage as identified in Building Code sections 110 and 111. This includes areas of slope instability (i.e., shallow and deep landslides, mud/debris flows, rockfalls, etc.), seismic hazard zone areas subject to liquefaction or earthquake-induced landsliding (pursuant to Public Resources Code 2690 et seq.), and fault surface-rupture hazards

GEOLOGY AND GEOTECHNICAL ENGINEERING STANDARDS

- CBC 2022, Chapters 16 Seismic, 18 Foundation and Soils, and Appendix J Grading
- Los Angeles County Code Sections 110 and 111 regarding disaster rebuilds
- Malibu Municipal Code – all sections pertaining to slopes, grading, site development and OWTS
- City Guidelines for Geotechnical Reports (current version, update coming Fall 2025)
- **NEW** Fire Rebuild Guidelines (end of March)
- All other standards applicable to professional practice (e.g. LADBS Information Bulletins)

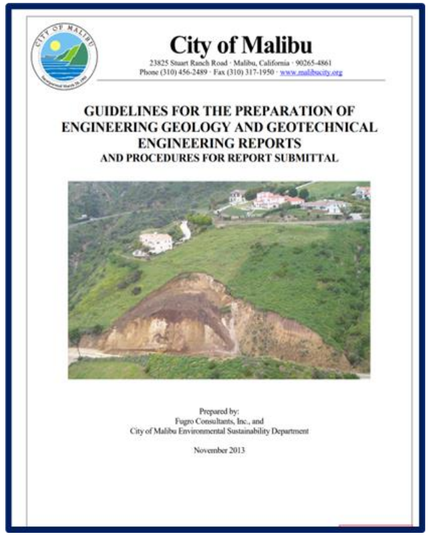



City of Malibu
23825 Stuart Ranch Road · Malibu, California · 90265-4861
Phone (310) 456-2489 · Fax (310) 317-1950 · www.malibucity.org

GUIDELINES FOR THE PREPARATION OF ENGINEERING GEOLOGY AND GEOTECHNICAL ENGINEERING REPORTS
AND PROCEDURES FOR REPORT SUBMITTAL

Prepared by:
Fugro Consultants, Inc., and
City of Malibu Environmental Sustainability Department

November 2013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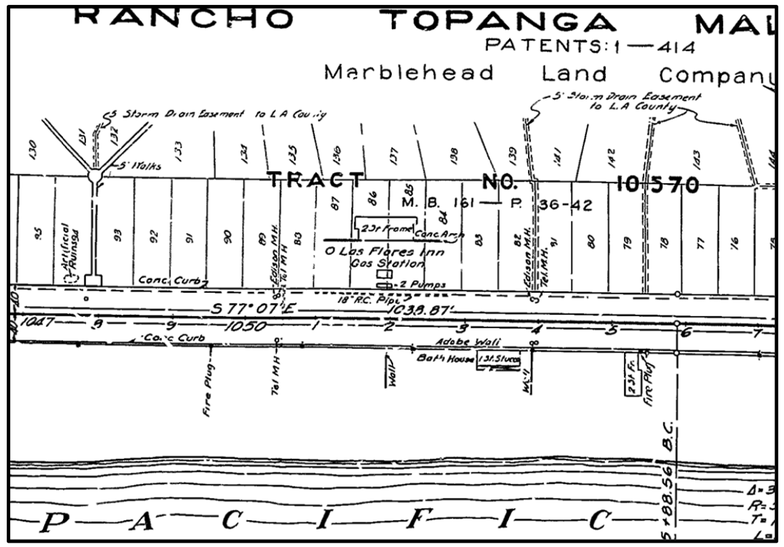
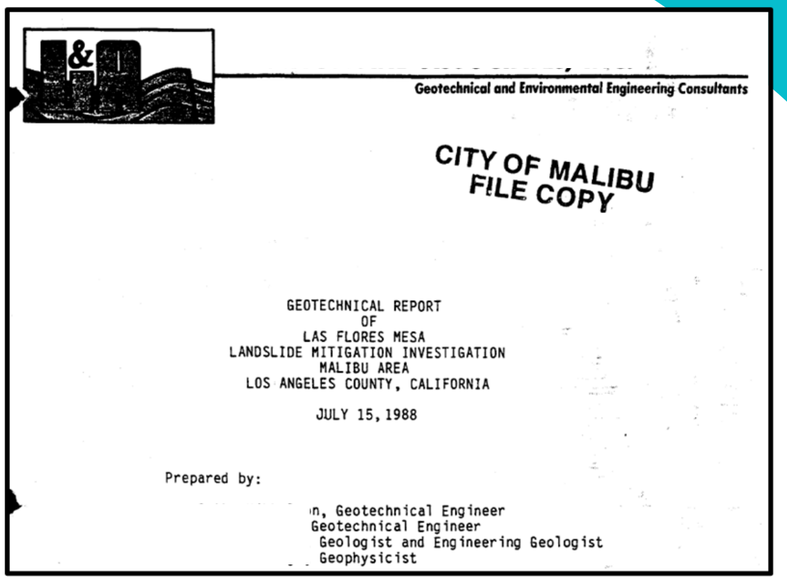
November 2013

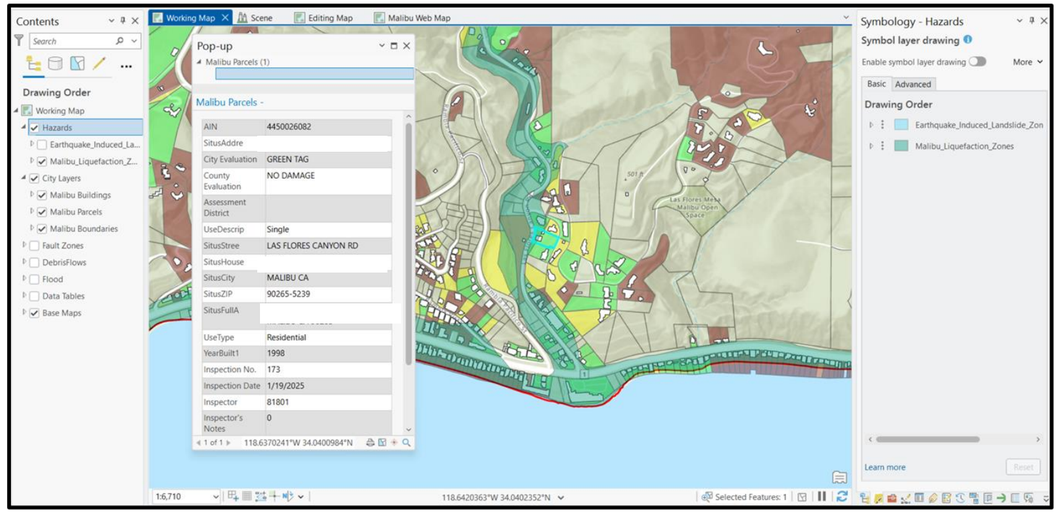
MALIBU REBUILDS

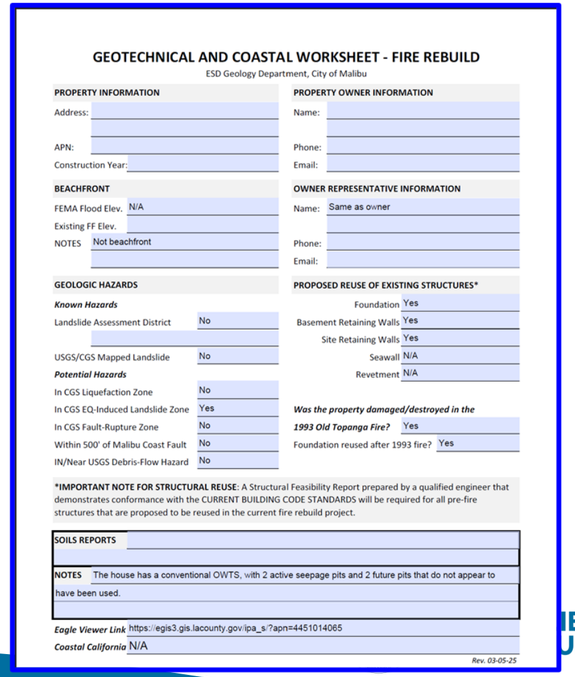
INFORMATION INNOVATION

- Parcel Geo and Coastal Information Sheets
- New GIS Mapping Tools
- Captured Lost Public Agency Information for City Database and Use
- One-Stop General Geology Resource Webpage for public reports & links
- NEW photo resources summary









GEOTECHNICAL AND COASTAL WORKSHEET - FIRE REBUILD

ESD Geology Department, City of Malibu

PROPERTY INFORMATION

Address:

APN:

Construction Year:

PROPERTY OWNER INFORMATION

Name:

Phone:

Email:

BEACHFRONT

FEMA Flood Elev. N/A

Existing FF Elev.

NOTES Not beachfront

OWNER REPRESENTATIVE INFORMATION

Name: Same as owner

Phone:

Email:

GEOLOGIC HAZARDS

Known Hazards

Landslide Assessment District: No

USGS/CGS Mapped Landslide: No

Potential Hazards

In CGS Liquefaction Zone: No

In CGS EQ-Induced Landslide Zone: Yes

In CGS Fault-Rupture Zone: No

Within 500' of Malibu Coast Fault: No

IN/Near USGS Debris-Flow Hazard: No

PROPOSED REUSE OF EXISTING STRUCTURES*

Foundation: Yes

Basement Retaining Walls: Yes

Site Retaining Walls: Yes

Seawall: N/A

Revetment: N/A

Was the property damaged/destroyed in the 1993 Old Topanga Fire? Yes

Foundation reused after 1993 fire? Yes

***IMPORTANT NOTE FOR STRUCTURAL REUSE:** A Structural Feasibility Report prepared by a qualified engineer that demonstrates conformance with the CURRENT BUILDING CODE STANDARDS will be required for all pre-fire structures that are proposed to be reused in the current fire rebuild project.

SOILS REPORTS

NOTES The house has a conventional OWTS, with 2 active seepage pits and 2 future pits that do not appear to have been used.

Eagle Viewer Link https://egis3.gis.lacounty.gov/lpa_s/?apn=4451014065

Coastal California N/A

Rev. 03-05-25

INFORMATION INNOVATION

Advances in Hazard Data for Temporary Housing Limited Reports

- Woolsey Fire WERT lagged USGS debris flow hazard assessment.
- Debris flows observed within 1 month after Fire.

Franklin & Palisades Fire assessments complete within 1-3 weeks! GET READY NOW!

- WERT and USGS flood & debris flow assessment completed quickly.
- LA County warned residents of Feb 13-14 2025 predicted debris flows.

Franklin Fire

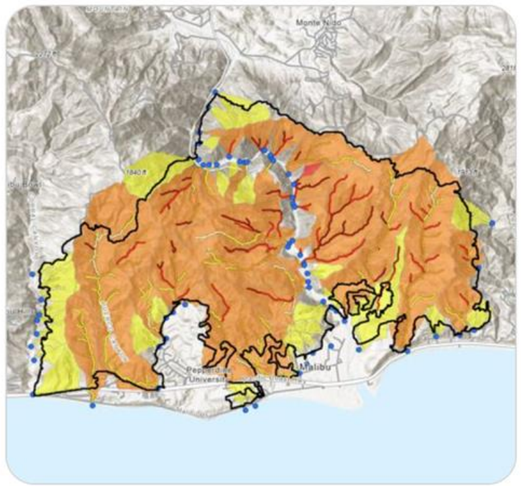
County Affected: Los Angeles

CGS/CAL FIRE WERT Report:

- **Franklin Fire WERT Evaluation**

Additional Information:

- **CAL FIRE Franklin Fire Incident Archive**
- InciWeb Information: Not available.
- **USGS Post-Fire Debris Flow Hazard Assessment Viewer**
- USFS Franklin Post-Fire BAER: Not available (not USFS jurisdiction).



Palisades Fire

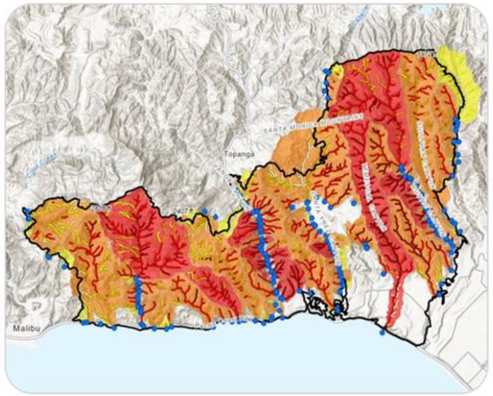
County Affected: Los Angeles

CGS/CAL FIRE WERT Report:

- **Palisades Fire WERT Evaluation**

Additional Information:

- **CAL FIRE Palisades Fire Incident Archive**
- InciWeb Information: Not available.
- **USGS Post-Fire Debris Flow Hazard Assessment Viewer**
- USFS Palisades Post-Fire BAER: Not available (not USFS jurisdiction).



MALIBU REBUILDS

COASTAL ENGINEERING

SITE CONDITIONS

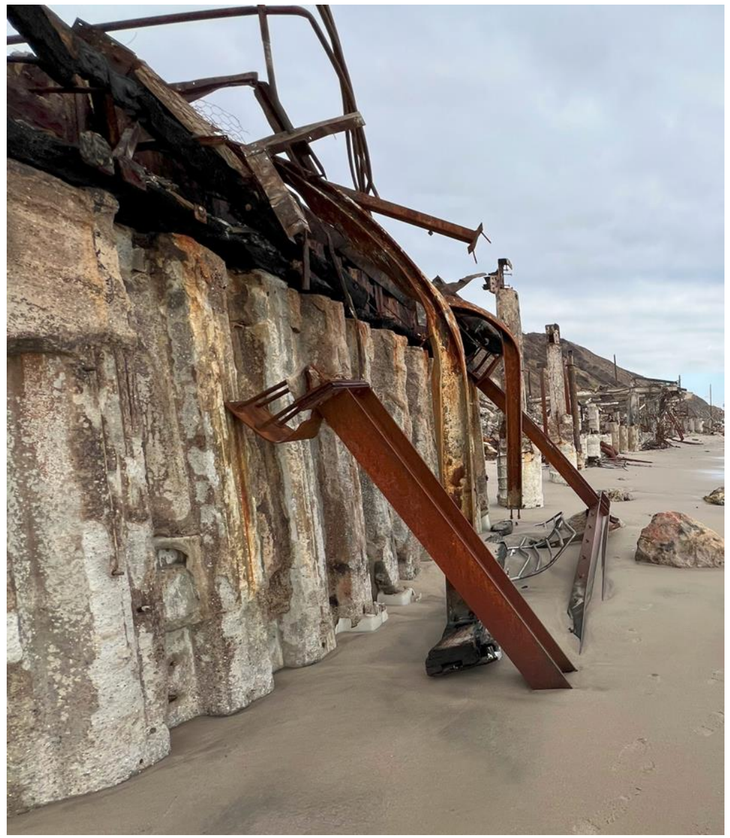
MALIBU REBUILDS

SITE CONDITIONS

SITE CONDITIONS

MALIBU REBUILDS

DRAINAGE AND SEAWALLS



COASTAL REVIEW PROCESS

1. Review information regarding parcel – telecon, meeting at Fire Rebuild Center

   - KEY: ELEVATIONS and EXISTING SITE CONDITIONS

     - FEMA Base Flood Elevation, PCH, Top of wall existing or common seawall

2. Parcel Geotechnical and Coastal Worksheet – information summary & photo links

3. Planning pre-screen – Coastal and EH for all beachfront

4. Pre-design meeting with your team to review Coastal Engineering standards and guidelines

5. Building Plan Check Review – Coastal and geotechnical review of beachfront parcel will occur simultaneously in joint review letter.

GOAL: Provide guidance to resolve challenges with site and design conditions.

KEY COASTAL DESIGN CONSIDERATIONS

1. PROPERTY OWNER COOPERATION and DESIGN OPTIMIZATION.

2. FEMA Base Flood Elevation vs. Wave Uprush Elevation

3. Sea Level Rise – California Coastal Commission (CCC) 2024 Adopted Guidance

- Intermediate to High vs. Intermediate

4. Existing Seawalls

- Structural evaluation, may need modifications
- Most existing seawalls are too low, elevation issues

5. New Seawalls

- Community Seawalls – standards need to be developed

6. Address Existing Conditions

- Remnant structures e.g. revetments, storm drains on PCH
- Structural support of PCH road embankment

COASTAL GUIDELINES

1.Governor's Orders vs. Code

2. Sea Level Rise – CCC 2024 Adopted Guidance

- Recommends using Intermediate to High, "where feasible"
- Evaluate Intermediate to High (6.6 ft) and Intermediate (4.7 ft)
- SLR evaluation timeframe must allow for construction time
- Adaptive and remedial measures are only acceptable near end of project life

3. Coastal Engineering Report

- Wave uprush will likely govern shoreline protection
- FEMA Base Flood Elevation will likely govern Finished FE
- There are always exceptions

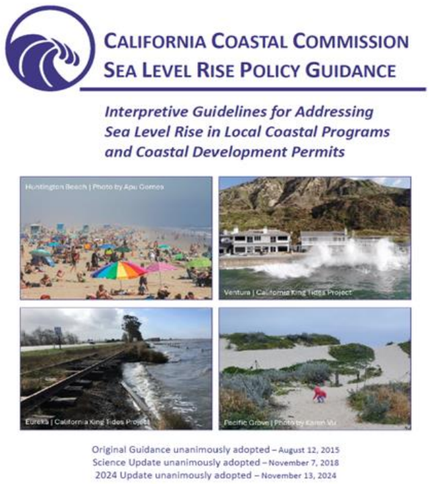
4. Joint Baseline Reports Allowed Where Feasible

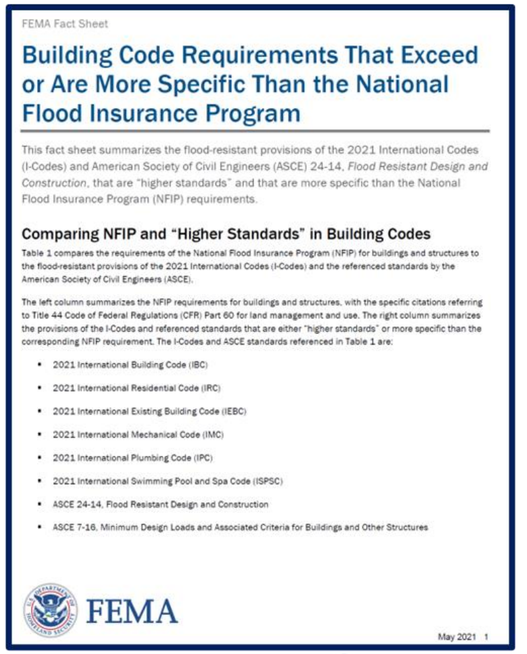
- Still required site & project specific recommendations based on common report

Ready by March 31, 2025: Parcel-specific guidance available now.

COASTAL ENGINEERING STANDARDS

- FEMA construction standards
- CBC 2022, Los Angeles County Code 2023
- Appendix G Flood Proof Construction
- Malibu Municipal Code – all sections site development and OWTS
- City Guidelines for Coastal Engineering Reports (current version, update coming Fall 2025)
- **NEW** Fire Rebuild Guidelines (end of March)
- All other standards applicable to professional practice (e.g. Business and Professions Code)




FEMA Fact Sheet

Building Code Requirements That Exceed or Are More Specific Than the National Flood Insurance Program

This fact sheet summarizes the flood-resistant provisions of the 2021 International Codes (I-Codes) and American Society of Civil Engineers (ASCE) 24-14, *Flood Resistant Design and Construction*, that are "higher standards" and that are more specific than the National Flood Insurance Program (NFIP) requirements.

Comparing NFIP and "Higher Standards" in Building Codes

Table 1 compares the requirements of the National Flood Insurance Program (NFIP) for buildings and structures to the flood-resistant provisions of the 2021 International Codes (I-Codes) and the referenced standards by the American Society of Civil Engineers (ASCE).

The left column summarizes the NFIP requirements for buildings and structures, with the specific citations referring to Title 44 Code of Federal Regulations (CFR) Part 60 for land management and use. The right column summarizes the provisions of the I-Codes and referenced standards that are either "higher standards" or more specific than the corresponding NFIP requirement. The I-Codes and ASCE standards referenced in Table 1 are:

- 2021 International Building Code (IBC)
- 2021 International Residential Code (IRC)
- 2021 International Existing Building Code (IEBC)
- 2021 International Mechanical Code (IMC)
- 2021 International Plumbing Code (IPC)
- 2021 International Swimming Pool and Spa Code (ISPSC)
- ASCE 24-14, Flood Resistant Design and Construction
- ASCE 7-16, Minimum Design Loads and Associated Criteria for Buildings and Other Structures

FEMA

May 2021 1

MALIBU REBUILDS

INFORMATION INNOVATION

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- **New GIS Mapping Tools**
  - Geo hazards, parcel information

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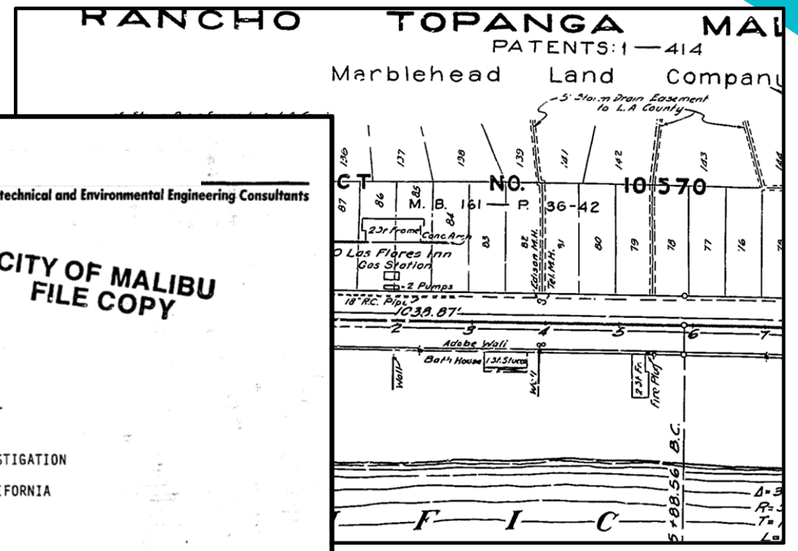
  - Shoreline Protection Device Summary Information for City Database and Use

- **One-Stop General Coastal Resource Webpage**

- **NEW Photo Resources Summary**
  - LA County Visualization Tool – **Eagleview**
  - California Coastline.org (Oct 2024, Feb 2025)


RANCHO TOPANGA MAL
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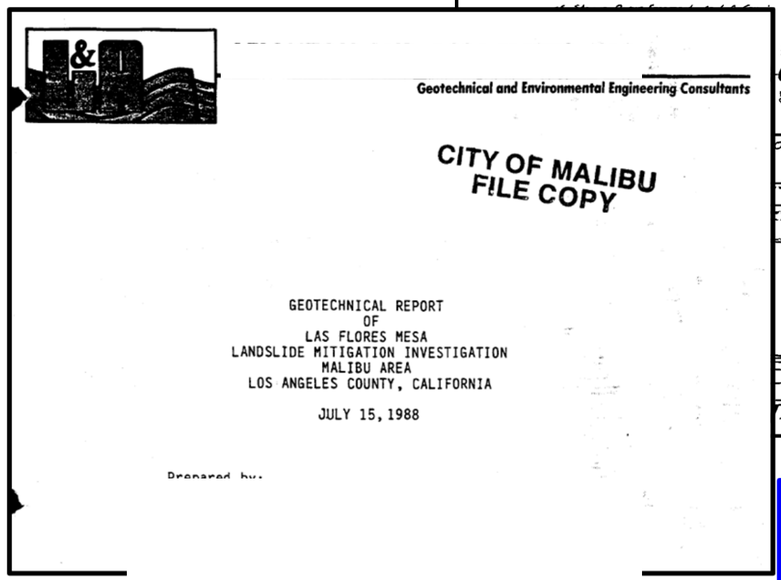
Geotechnical and Environmental Engineering Consultants

CITY OF MALIBU
FILE COPY

GEOTECHNICAL REPORT
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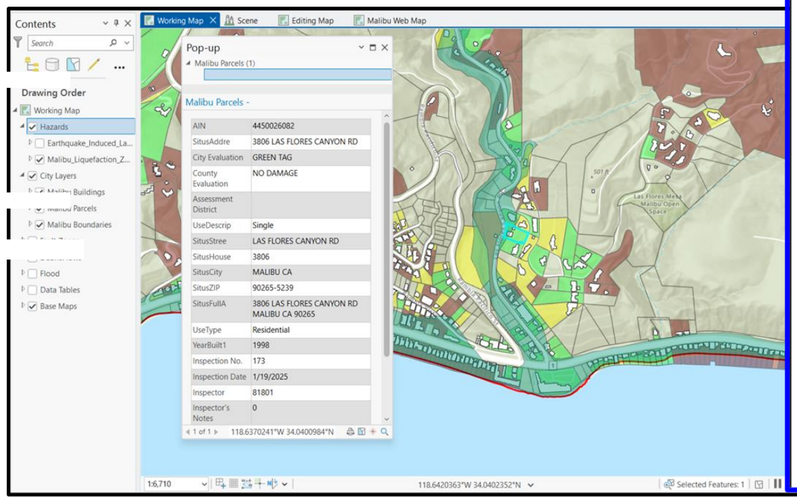
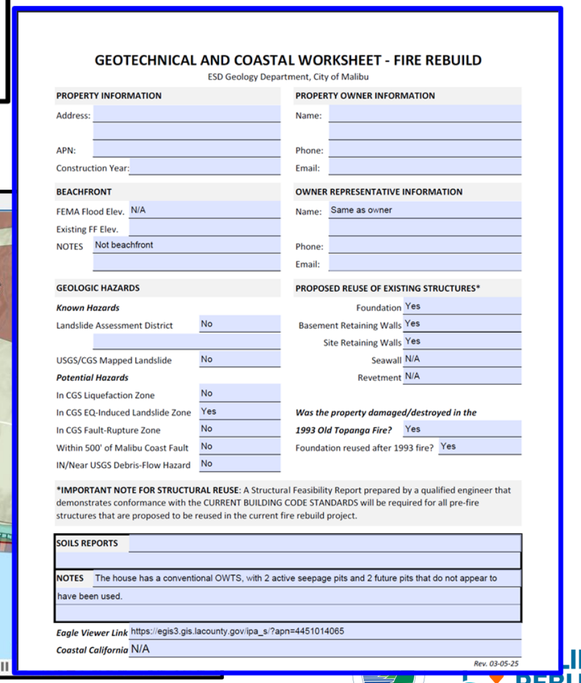
LAS FLORES MESA
LANDSLIDE MITIGATION INVESTIGATION
MALIBU AREA
LOS ANGELES COUNTY, CALIFORNIA

JULY 15, 1988

Prepared by:




GEOTECHNICAL AND COASTAL WORKSHEET - FIRE REBUILD
ESD Geology Department, City of Malibu

PROPERTY INFORMATION
Address:
APN:
Construction Year:

PROPERTY OWNER INFORMATION
Name:
Phone:
Email:

BEACHFRONT
FEMA Flood Elev. N/A
Existing FF Elev.
NOTES Not beachfront

OWNER REPRESENTATIVE INFORMATION
Name: Same as owner
Phone:
Email:

GEOLOGIC HAZARDS
Known Hazards
Landslide Assessment District No
USGS/CGS Mapped Landslide No
Potential Hazards
In CGS Liquefaction Zone No
In CGS EQ-Induced Landslide Zone Yes
In CGS Fault-Rupture Zone No
Within 500' of Malibu Coast Fault No
IN/Near USGS Debris-Flow Hazard No

PROPOSED REUSE OF EXISTING STRUCTURES*
Foundation Yes
Basement Retaining Walls Yes
Site Retaining Walls Yes
Seawall N/A
Revetment N/A

Was the property damaged/destroyed in the 1993 Old Topanga Fire? Yes
Foundation reused after 1993 fire? Yes

*IMPORTANT NOTE FOR STRUCTURAL REUSE: A Structural Feasibility Report prepared by a qualified engineer that demonstrates conformance with the CURRENT BUILDING CODE STANDARDS will be required for all pre-fire structures that are proposed to be reused in the current fire rebuild project.

SOILS REPORTS
NOTES The house has a conventional OWTS, with 2 active seepage pits and 2 future pits that do not appear to have been used.

Eagle Viewer Link https://egis3.gis.lacounty.gov/ipa_s/?apn=4451014065
Coastal California N/A

Rev. 03-05-25

INFORMATION INNOVATION

MALIBU REBUILDS

FIRE DEPARTMENT

LOS ANGELES COUNTY FIRE DEPARTMENT

- Reviews for compliance with fire code and fuel modification requirements.
- Fire Department plan review and approval is required for the rebuilding of all destroyed structures.

Questions about the plan review process for rebuilding:

- **Chief Nick Duvally**
  - Nick.Duvally@fire.lacounty.gov

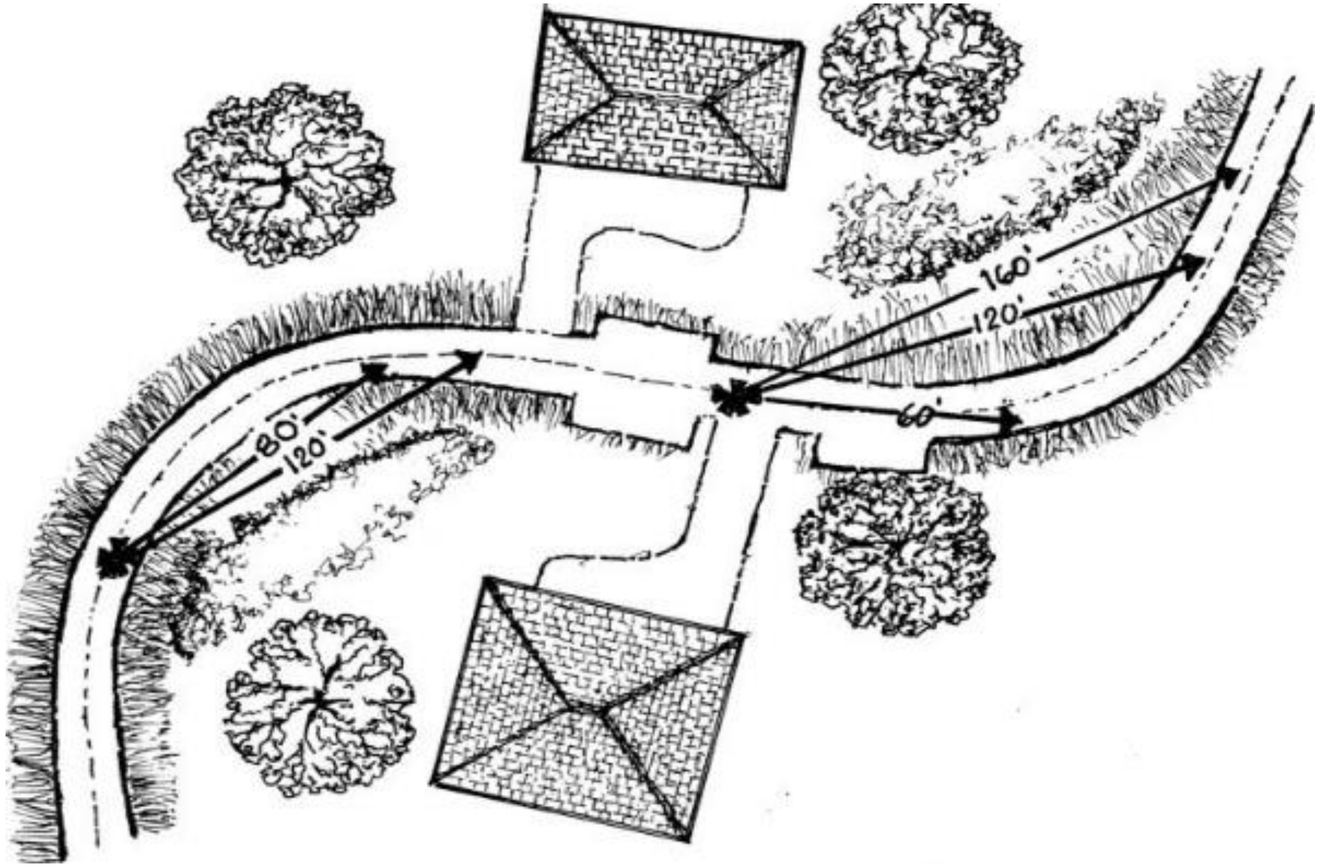
- **Patricia Zepeda**
  - Patricia.Zepeda@fire.lacounty.gov

- Calabasas/Malibu Field Office, 818-880-0341

MALIBU REBUILDS

FIRE REVIEWS

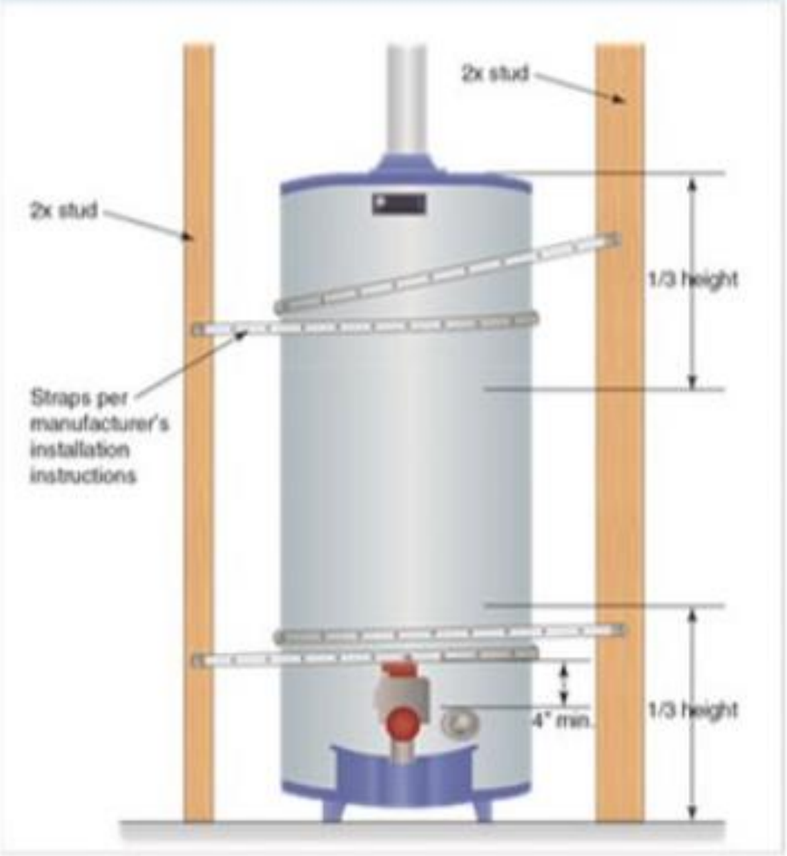
- Fire Access
- Occupancy approval
- Fire sprinklers



UPCOMING CODE UPDATES

R301.2.2.10 Seismic Restraint

Anchorage requirements are expanded to include seismic restraint for **all appliances** needing seismic restraint – not solely water heaters and thermal storage units



2024 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE® (IWUIC®)

Sacramento, California – On February 26, 2025, the State of California adopted the 2024 International Wildland-Urban Interface Code® (IWUIC®) as the basis for Title 24, Part 7, 2025 California Wildland-Urban Interface Code to address escalating wildfire risks, enhance fire resilience with science-based standards, and set the benchmark for safer, more sustainable communities in fire-prone areas.

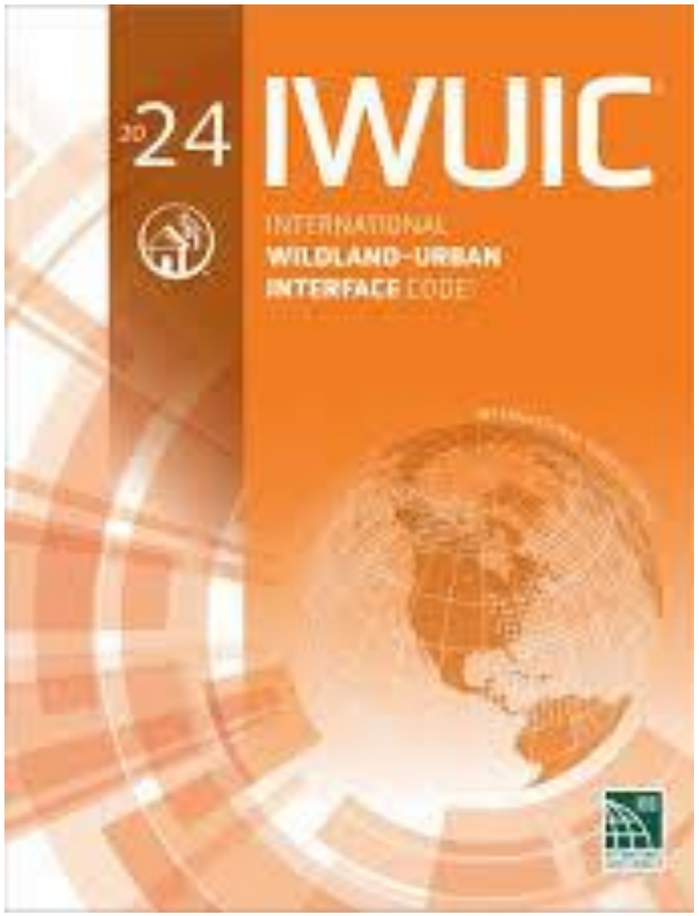
California's adoption of the 2024 IWUIC is the result of a multi-year collaboration between the CAL FIRE Office of the State Fire Marshal, the California Fire Prevention Officers (CAL FPOs), California Building Officials (CALBO), the International Code Council (ICC), the California Building Industry Association (CBIA), and wildfire stakeholders culminating with rulemaking by the California Building Standards Commission (CBSC).

MALIBU REBUILDS

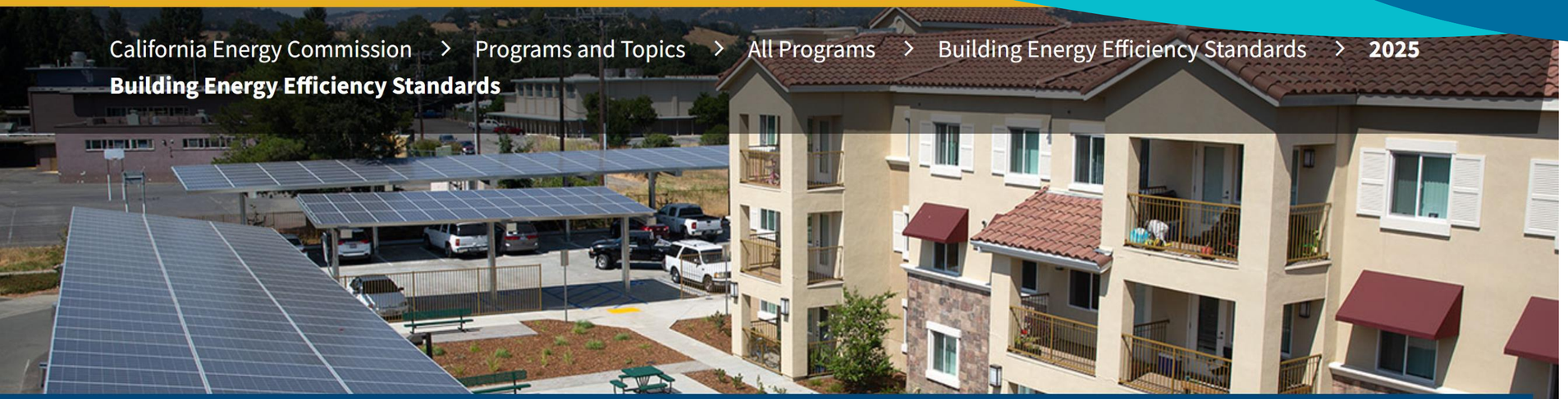
2024 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE® (IWUIC®)

The 2024 IWUIC:

- Establishes regulations to safeguard life and property from the intrusion of wildland fire and to prevent structure fires from spreading to wildland fuels.
- Regulates defensible space, and provides ignition-resistant construction requirements to protect against fire exposure and resist ignition by burning embers.
- Provides standards for emergency access, water supply and fire protection.
- Provides requirements for automatic fire suppression and safe storage practices.
- Is fully compatible with all of ICC's International Codes.
- Is founded on data collected from tests and fire incidents, technical reports and mitigation strategies from around the world.



MALIBU REBUILDS



2025 Building Energy Efficiency Standards

Energy Commission Adopts Updated Building Standards Expanding Requirements for Heat Pumps and Electric-Ready Buildings

For Immediate Release: September 11, 2024

ALTERNATE MATERIALS, DESIGNS, AND METHODS OF CONSTRUCTION

VOLUME 1, CBC SECTION 104.2.8

The Building Official may approve on a **case by case basis**, any such alternate, provided that he or she finds that the material, appliance, installation, device, arrangement, design, or method of construction or work offered is, for the purpose intended, at least the equivalent of that prescribed in this Code in quality, strength, effectiveness, fire resistance, and other life-safety factors, durability, planning and design, energy, material resource efficiency and conservation, environmental air quality, performance, water, and sanitation.

The Building Official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.

LEGISLATIVE UPDATE - CALBO

ONE-STOP SHOP REBUILD CENTER

MALIBU REBUILDS

MALIBU REBUILD CENTER – NOW OPEN!

Opened:
Monday, 3/10/25

- Since then, staff have assisted **33 applicants and homeowners in total**

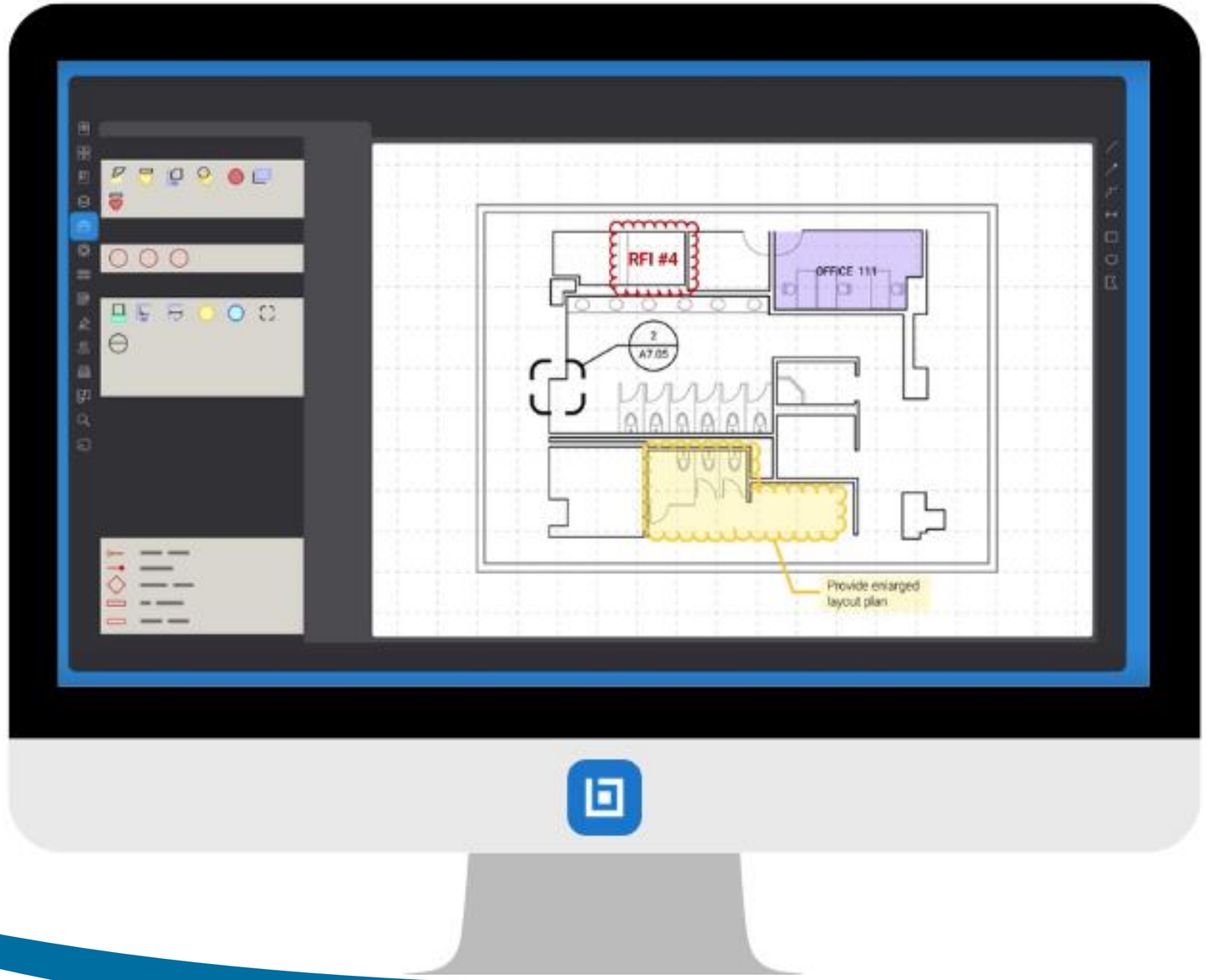
Address:
23805 Stuart Ranch Road, Suite 240

Schedule:
Monday-Friday, 8AM – 4PM

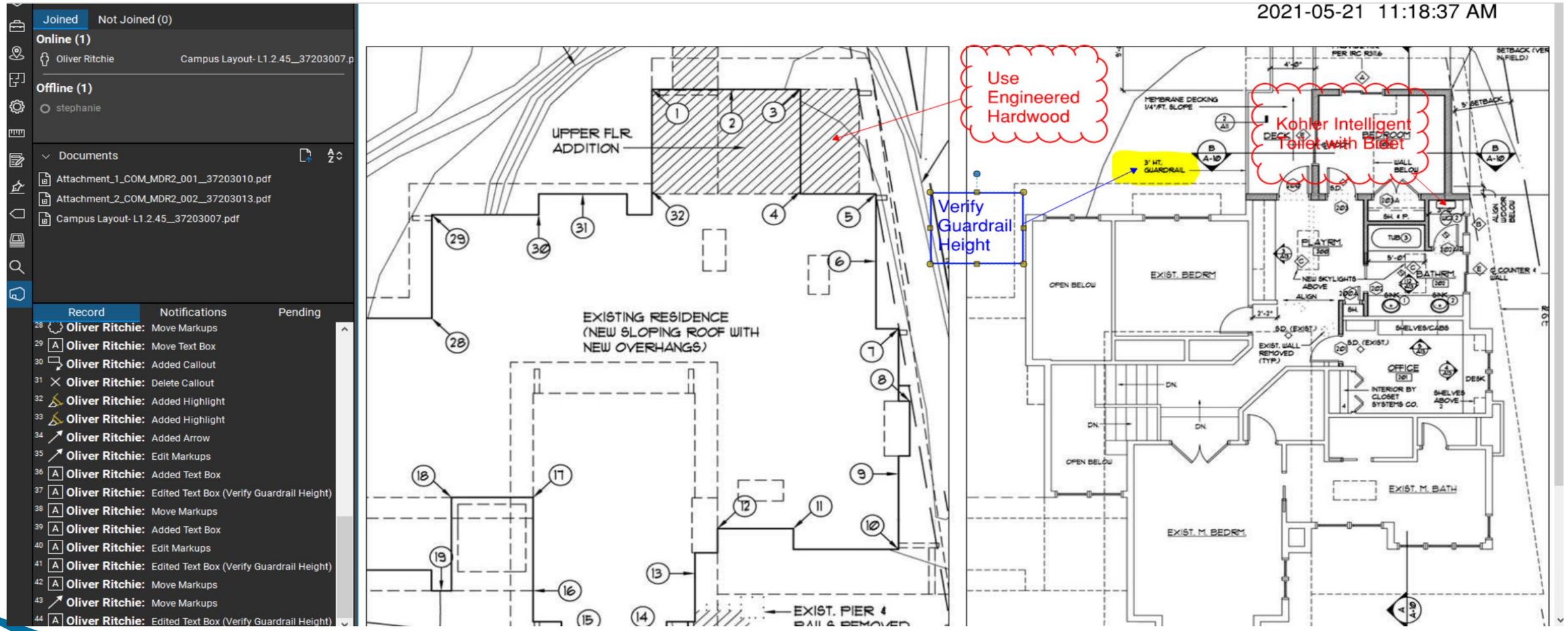
Contact:
(310) 456-2489, ext. 400

MALIBU REBUILD CENTER TEAM

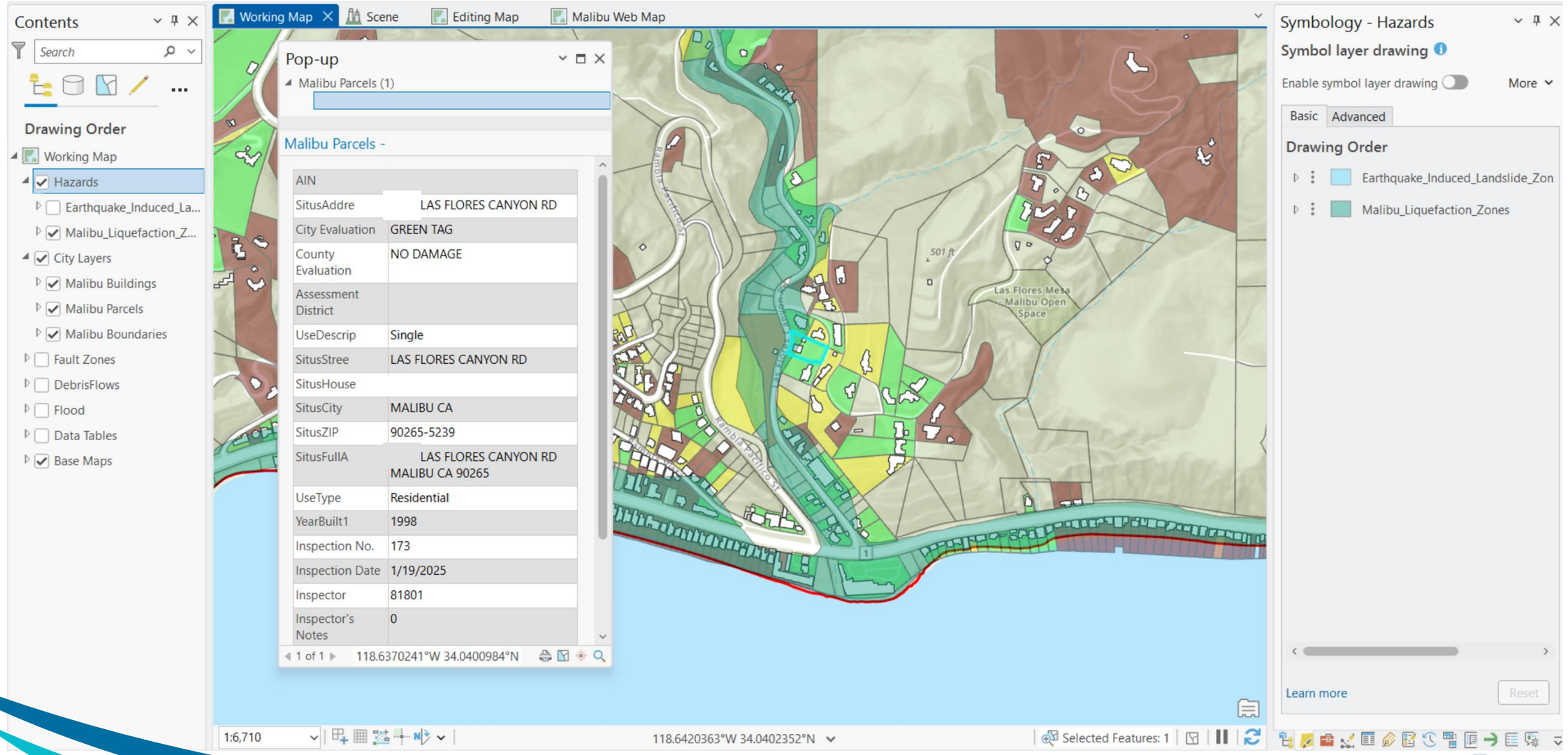
DIGITAL PLAN CHECK REVIEWS (BLUEBEAM)



BLUE BEAM STUDIO SESSION



INTERNAL GIS TOOLS



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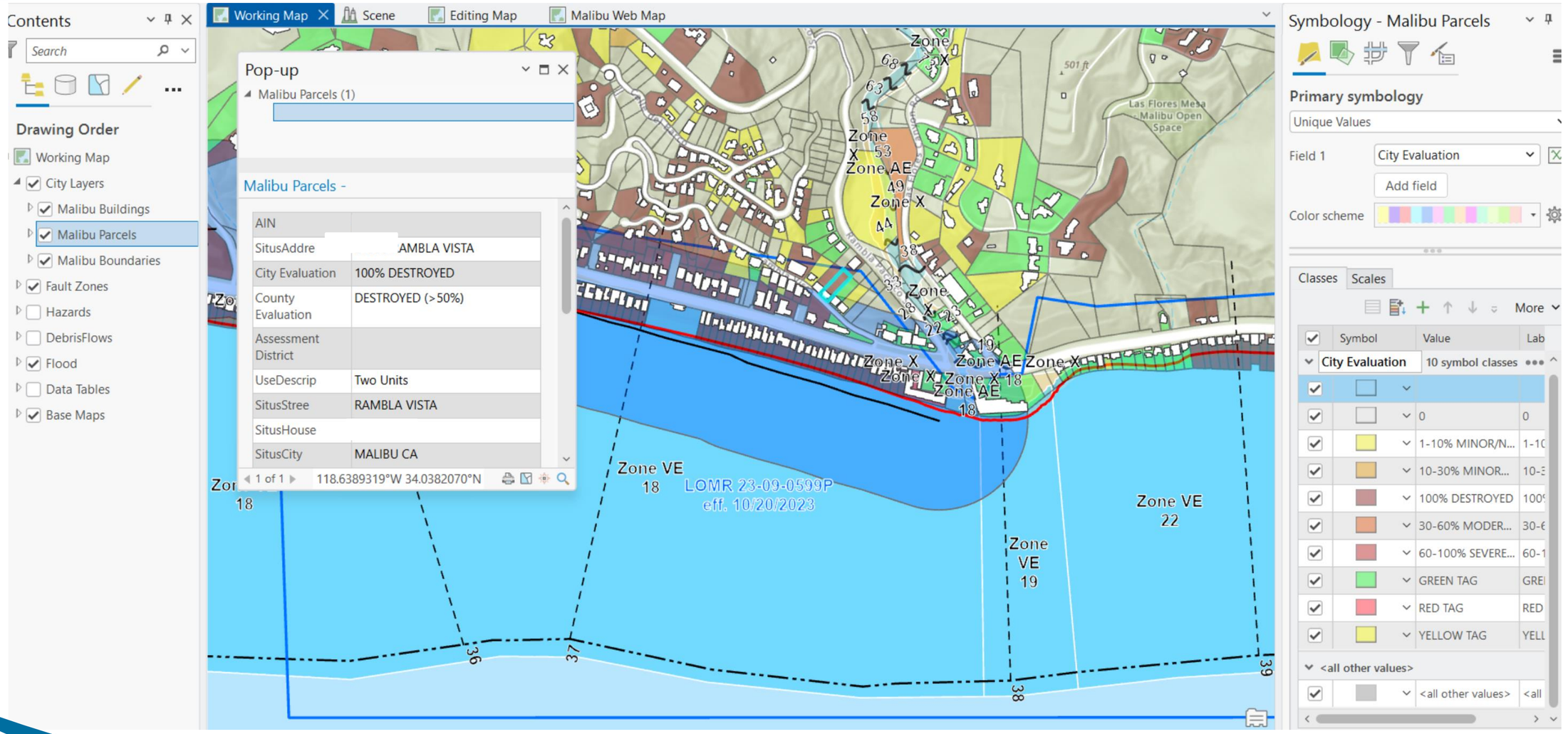

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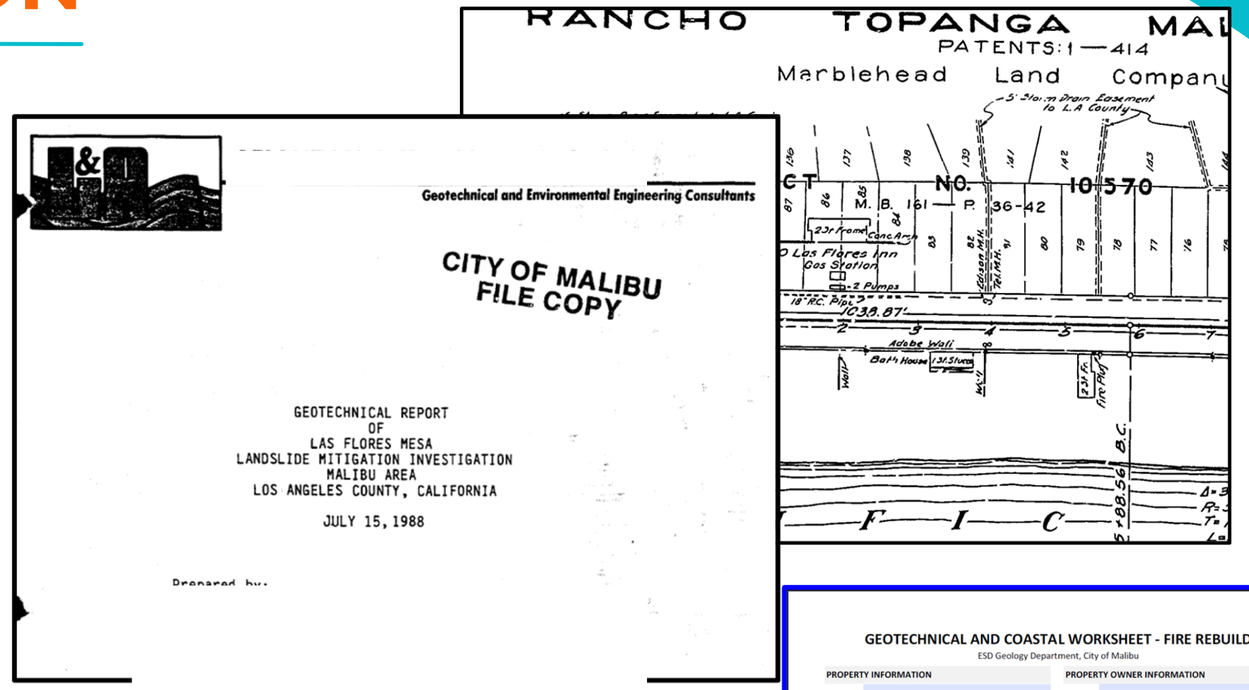
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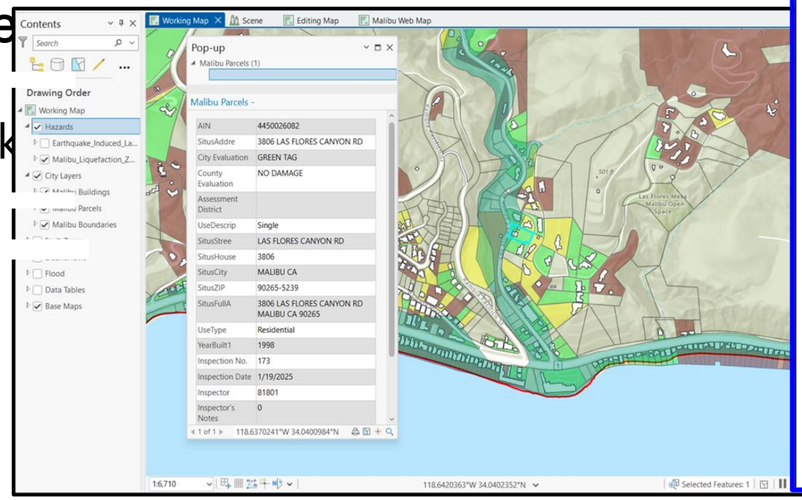

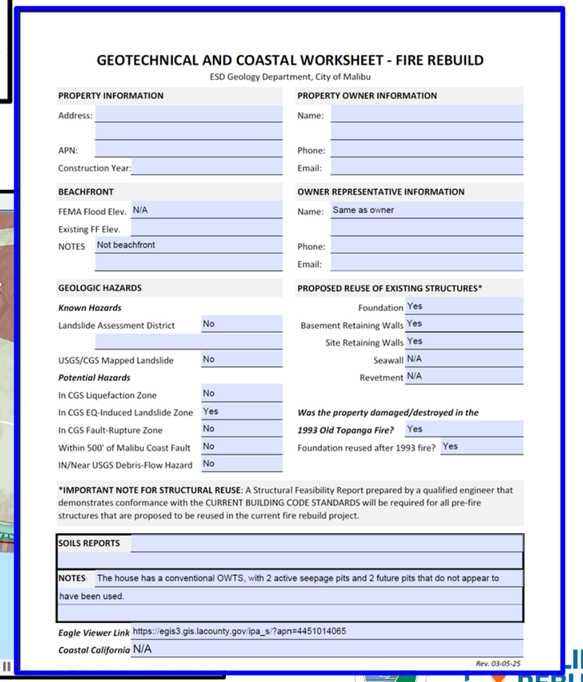
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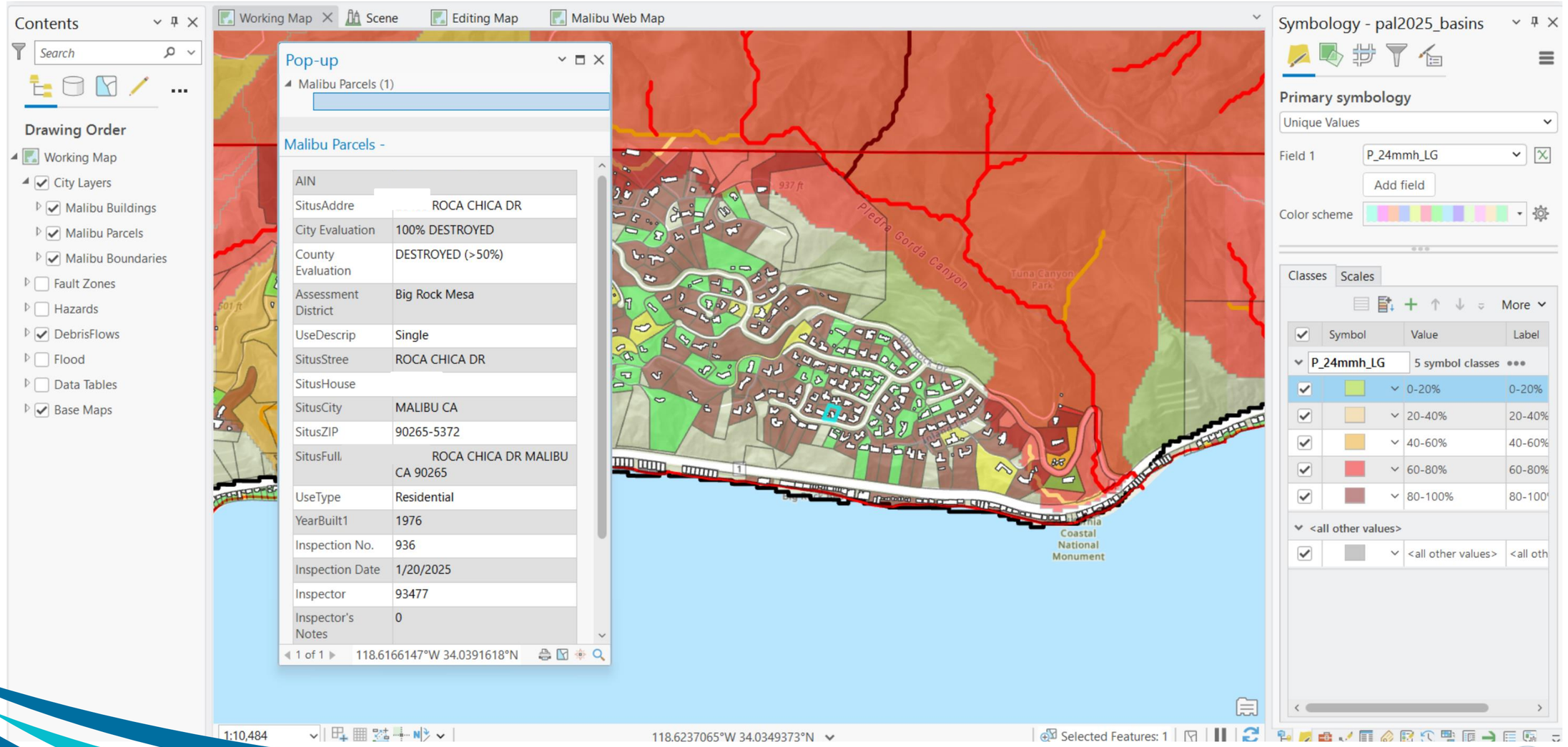
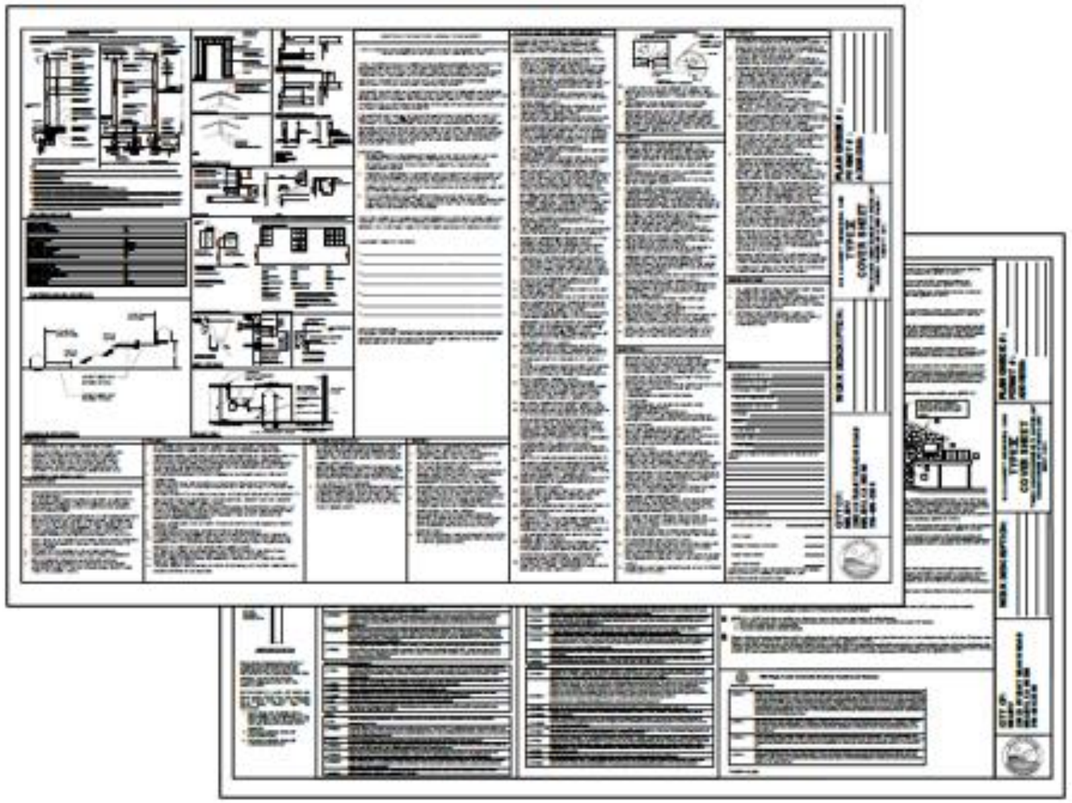


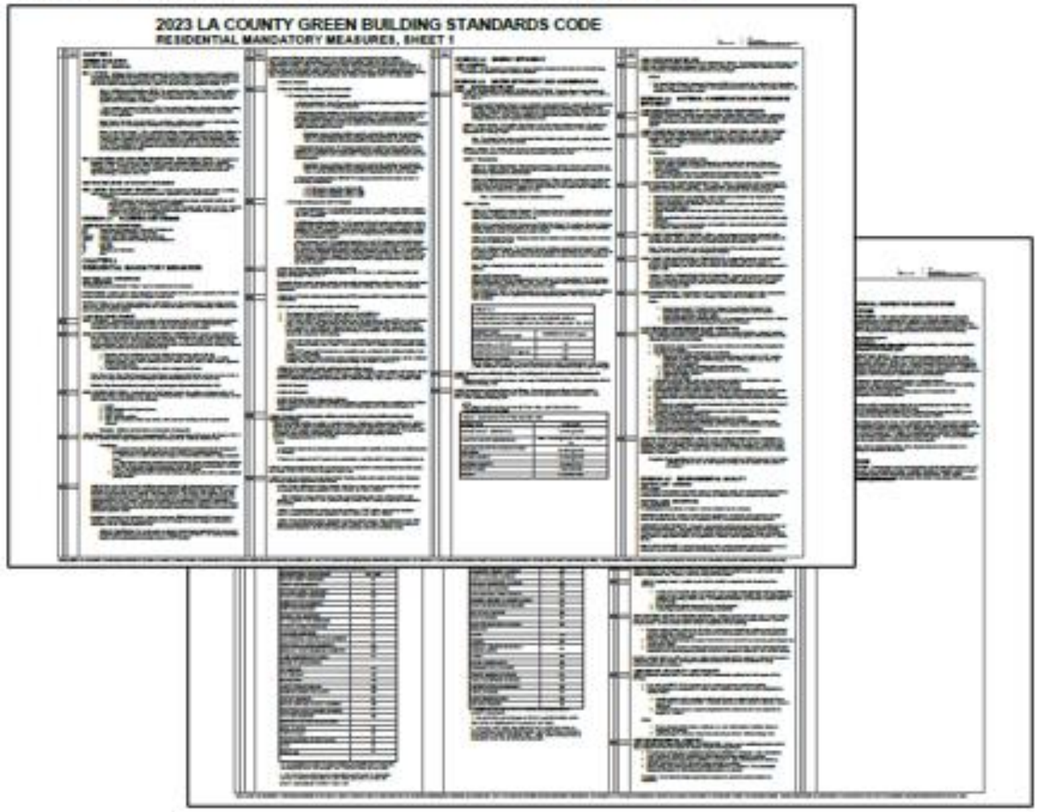
MALIBU REBUILDS

STANDARD SHEETS AVAILABLE TO THE PUBLIC

Type V Construction Note Sheets



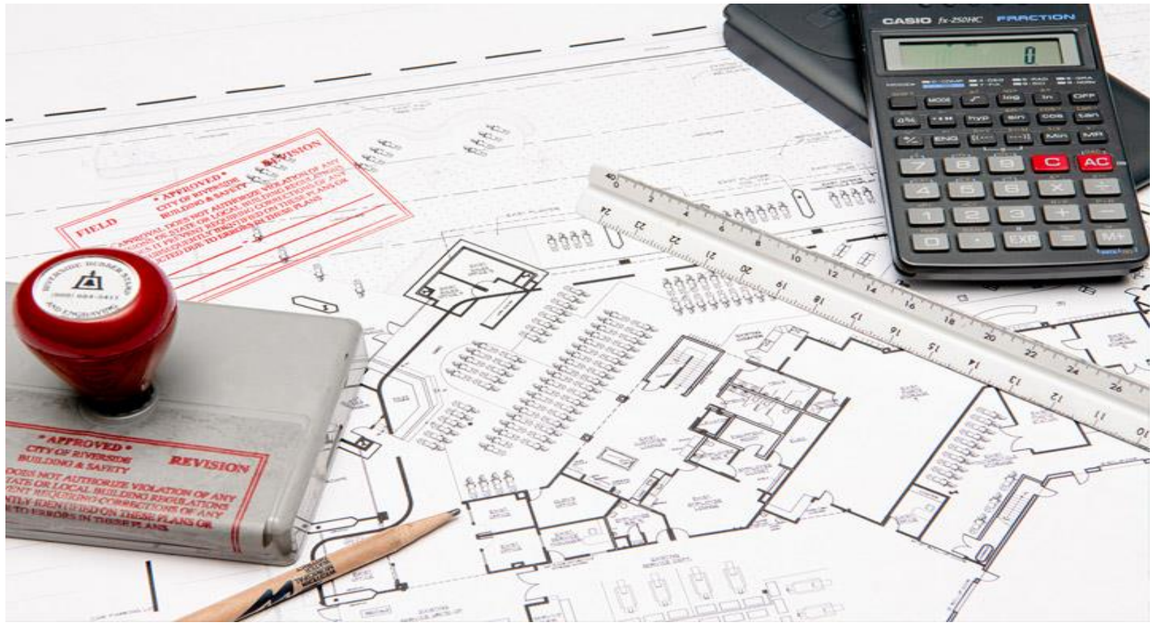
Green Building Standards Note Sheets



MALIBU REBUILDS

STREAMLINE PLAN CHECK INTAKE

- Plan check engineer preliminary plan check reviews
- Checklist for submittal requirements
- Initial plan review = 10 business days
- Recheck reviews = 5-7 business days



STREAMLINE PERMIT ISSUANCE

MALIBU REBUILDS

UPCOMING RECOVERY & REBUILD EVENTS

COMMUNITY MEETINGS FOR REBUILDING

MARCH 18	BEACHFRONT PROPERTIES	4 p.m. at City Hall and via Zoom
MARCH 25	BIG ROCK, CALLE DE BARCO, ASSESSMENT DISTRICTS	4 p.m. at City Hall and via Zoom
APRIL 1	RAMBLA PACIFICO, LA COSTA, LAS FLORES, PENA ROAD, 20717 TO 20759 PCH	4 p.m. at City Hall and via Zoom
APRIL 8	CARBON CANYON, CARBON MESA, CARBON BEACH TERRACE	4 p.m. at City Hall and via Zoom
APRIL 15	BEACHFRONT PROPERTIES	4 p.m. at City Hall and via Zoom
APRIL 22	BROAD AND FRANKLINE FIRE CODE AMENDMENTS	4 p.m. at City Hall and via Zoom

MALIBU REBUILDS

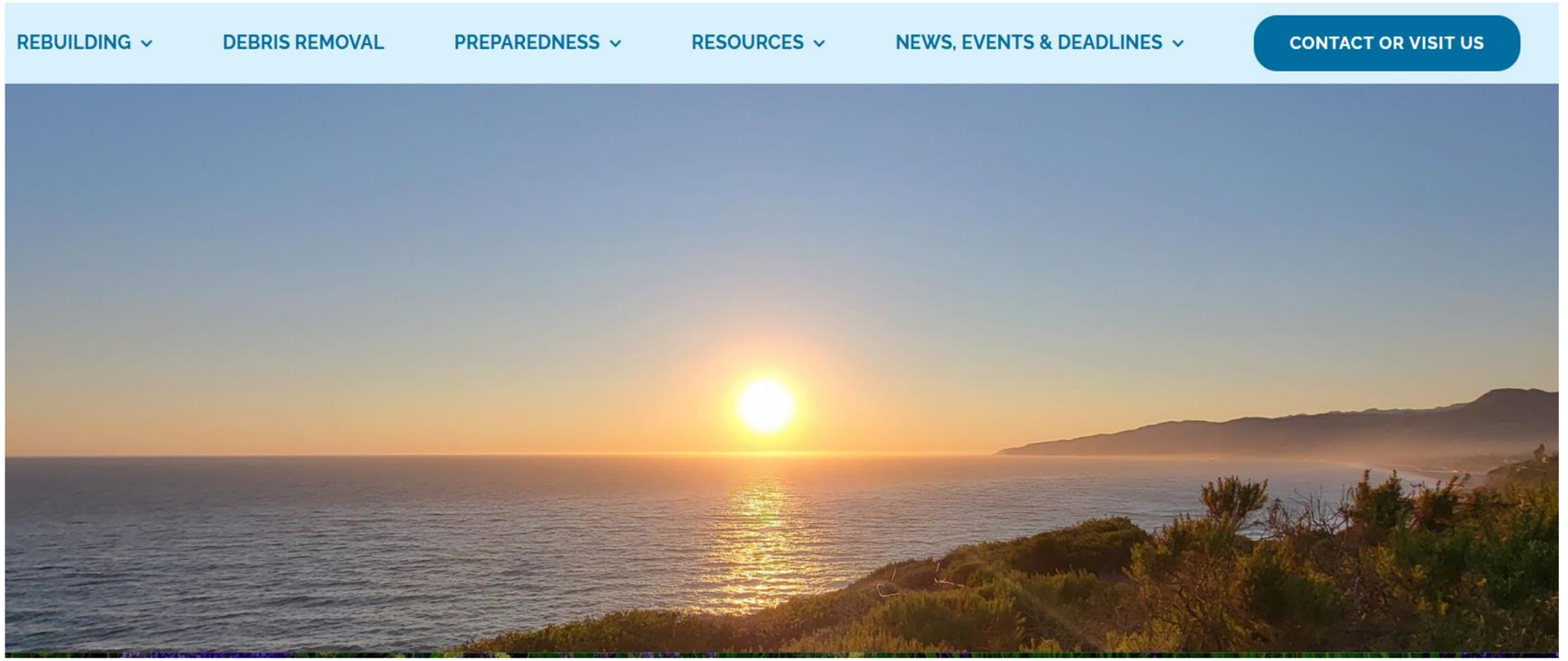
Q & A SESSION

STAY CONNECTED WITH THE CITY OF MALIBU

REBUILDING TOGETHER

MALIBU REBUILDS

maliburebuilds.org



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