

FOUNDATION FEASIBILITY REPORT FOR FIRE DAMAGED STRUCTURES

General Information

Existing foundations in fire damaged buildings and structures require a feasibility review by the City Environmental Sustainability Department. This review only considers the durability and soundness of concrete foundations including slabs, footings, piles, and retaining walls based on the testing data described below.

The **feasibility review is the first of two mandatory steps** before the foundation is permitted to be reused. The second step is the plan review process after the feasibility review is found acceptable. The foundation shall meet minimum code requirements (2023 Los Angeles County Code, 2022 California Building Code, and all other referenced codes and standards) during the plan review stage. The licensed design professional of record must provide details, calculations, and a narrative of repairs necessary for proof that the foundation meets minimum code requirements for the plan review process. The foundation shall also meet minimum requirements or 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. For further information regarding possible costs associated with keeping the existing foundation, refer to the City's handout for [Foundation Reuse After the Woolsey Fire](https://malibucity.org/DocumentCenter/View/23509/Foundation-reuse-after-Woolsey-Fire) available online at <https://malibucity.org/DocumentCenter/View/23509/Foundation-reuse-after-Woolsey-Fire>.

Feasibility Report

This guideline presents the minimum required information to be provided on the feasibility report prepared by a California licensed civil engineer, structural engineer, geotechnical engineer, or architect. 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) or penetration test (ASTM C803) shall be performed on the foundation to determine concrete hardness and compressive strength. The testing shall be performed at various locations of the foundation including areas with little to no fire damage and areas with the most damage. Provide a sketch of the foundation or retaining wall showing the locations where tests have been taken from. The corresponding compressive strength of the concrete (in psi) shall be clearly stated for each test. Foundation elements with compressive strengths less than 2,500 psi are not allowed to be reused.

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- C. **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.

- D. **Destructive Testing** – Core sample testing is required unless the licensed professional of record provides justification in writing that destructive testing is not required based on the results from visual and non-destructive tests. The final decision shall be made by the Malibu Building Official. Typically, destructive testing is required where non-destructive tests yield compressive strengths close to 2,500 psi or where substantial damage is observed on a foundation element. Concrete core testing shall be in conformance with ASTM C42, ACI 214.4R-10, and other referenced codes and standards. The locations of all core tests shall be shown on a sketched foundation layout. The tests shall provide results for concrete strength, density, depth of carbonation, chemical composition, and water/gas permeability.

In addition to the testing data and findings, the report shall include an assessment from the licensed professional of record regarding the durability of the concrete. The reasons for keeping the foundation shall be clearly stated including any remedial work that will be required to address the observed defects and to provide the structural integrity of the foundation. Building plans may be submitted for plan review after the feasibility report is found acceptable by the Environmental Sustainability Department.

Contacts for Questions

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