

U.S. Department of Housing and Urban Development
Pacific/Hawaii
Office of Inspector General for Audit
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September 24, 1996

AUDIT RELATED MEMORANDUM
96-SF-229-1809

MEMORANDUM FOR: Yvielle Edwards-Lee, Fresno Area Coordinator, 9BS

FROM: Gary E. Albright, District Inspector General for Audit, 9AGA

SUBJECT: Interim Report
Construction Deficiencies in FHA Single Family Homes
Merced, California

INTRODUCTION

We are issuing this interim report to alert you to significant concerns about construction deficiencies in FHA insured single family homes in the City of Merced, California.

Over the last few months, our office has reviewed many homeowner concerns involving the accelerated deterioration of insured (and uninsured) homes built in certain Merced subdivisions. Homeowners reported their homes had experienced settlement problems resulting in cracked foundations, walls separated from foundations and other construction deficiencies. These conditions create unsafe living conditions, increase the FHA's financial exposure for insured homes, and may indicate a pattern of substandard construction. More importantly, homeowner health problems may be directly related to the construction deficiencies.

Our review confirmed that homes in at least two Merced subdivisions are suffering from serious settlement problems. As a result of these conditions, the local assessor's office has already reduced the value of two homes to zero. Certain homes with construction deficiencies also contain mold and spores which have affected or may affect the health of the FHA homeowners.

The two subdivisions were inspected, processed and approved using the Veterans Affairs Master Certificate of Reasonable Value (VA-MCRV) process. The contractors, VA fee inspectors, and City of Merced inspectors certified all the homes complied with Minimum Property Standards and the Uniform Building Codes (UBC). During our review, we obtained engineering reports which refute these certifications and state that either the soils were not properly prepared prior to construction and/or foundations were not built to code. As a result, some FHA homes are deteriorating at an accelerated rate. This deterioration increases the risk of default and subsequent loss to the FHA insurance fund, and poses a threat to the health and safety of homebuyers. The conditions disclosed thus far indicate the need to address current risks and limit future exposure for both FHA and the homeowners.

BACKGROUND

Subdivisions processed using VA-MCRV procedures are inspected by Veteran Affairs fee inspectors and the City of Merced Planning Department personnel. These VA and local inspections, provided at sequential stages of construction, are to provide assurances to VA and HUD that newly constructed homes meet local building codes and Minimum Property Standards as required by 24 CFR 200.926. In addition, the contractor certifies to FHA compliance with HUD Minimum Property Standards and HUD Handbook 4145.1 REV-2, Architectural Processing & Inspections for Home Mortgage Insurance including Appendix 8, Site Grading & Drainage Guidelines, and local building codes.

The conditions cited in this report involve FHA, VA, and CalVet insured mortgages, as well as conventional mortgages. Within FHA insurance, there are provisions in 24 CFR 200.500 for assistance to eligible homeowners to correct structural defects within four years of issuance of the first mortgage certificate. Older homes do not qualify for this assistance.

REVIEW RESULTS

Our review shows that the contractor did not always comply with either the Uniform Building Codes or HUD Minimum Property Standards. We compared soils report recommendation requirements with conclusions reached by geotechnical engineers hired to determine the cause of settlement experienced by homes in the subdivisions. The reports concluded that settlement problems were caused by contractors either ignoring certain soils report recommendations or not complying with the UBC. Our review included the following two subdivisions:

1. **Campus North 1 and 2.** Of the approximately 109 homes in this subdivision, at least 55 are FHA insured. Twenty of the homeowners (including 12 FHA homeowners) have filed suit against the contractor because of faulty construction. Our inspection of two FHA insured homes showed cracking exteriors, a sagging roof and a large accumulation of mold inside the homes. These conditions are alarming considering the homes are three to four years old. A September 11, 1996 inspection report completed by soils and foundation engineers concluded:

"...there is widespread evidence of excessive moisture coming from the slab. Based on these two corings, it seems likely to us that there is an inadequate capillary break in drainage of the underslab area. This has resulted in the moisture barrier being subjected to actual water intrusion, which it is not designed to withstand". The report further stated the lack of adequate capillary break "... does answer the question of how water is able to get through and damage the slab." The engineers indicated more work should be required to evaluate the capillary break.

2. **Village Landing.** These 189 homes were built approximately 10 years ago in two phases. There are currently at least 18 FHA insured homes in this subdivision. Fourteen homeowners (3 FHA) have sued the contractor because of faulty construction. Homeowners have complained about serious wall and slab cracking, and accumulations of mold. Walls are separating from the slab floor, the linoleum is discolored, and the interiors are deteriorating. Residents have moved out of two homes because of the health related conditions discussed below. Because of their deteriorated condition, the County Assessor has appraised both homes at zero value. We obtained several engineering reports to determine the extent of problems with the homes. Following are synopses of two engineering reports:

An August 12, 1996 report from an environmental geology and engineering firm stated:

"The purpose of this investigation was to determine the general conformance of the construction of the residence to the specifications set forth in the soils report...dated November 21, 1984....The

footing...was found to be embedded 11-3/4 inches, or 6-1/4 inches less than what was recommended. Footings that were excavated by [another company] report embedments of 10 inches on the east, 12 inches on the west, 11 inches on the south and 10 inches on the north side of the residence."

The report further stated the contractor apparently used 10 gauge wire mesh in the slab versus the 6 gauge specified. The purpose of the wire mesh in concrete slabs is to minimize the potential for large slab cracks to develop and propagate completely all of the way through the slab, thereby preventing the intrusion of vermin and water. The report also states "The reason that this slab cracked all the way through to the sub-base is that the steel was placed at the bottom of the slab and provided no structural resistance to prevent the crack from forming. Structural steel placed at the bottom of a slab is a construction defect."

Another engineering report dated October 12, 1995 for another home in the subdivision stated the following:

"...all of the damage in your house was due to up and down movement as a result of seasonal moisture changes in the underlying expansive clay soil...the foundation of your house was improperly constructed. It does not meet the minimum depth levels required by the (UBC)... had the footings been built to the proper depth, the amount of movement suffered would have been much less." The contractor failed to use crushed rock under the foundation of the house, "... and the foundation only extended about 6 inches into grade, but the (UBC) required that footings penetrate at least twelve inches into grade."

We are awaiting the results of 13 engineering reports on other homes in this subdivision.

Health Concerns: In addition to the structural issues, there are potential health concerns. The presence of excessive moisture within some homes has allowed the growth of mold/fungi. Long thought to be solely a cosmetic problem, it is now known that mold/fungi exposure may cause allergies and asthma including potentially life threatening allergic responses such as hypersensitivity pneumonitis. A new and alarming concern is that toxicoses may be resulting from exposure to molds capable of producing toxic substances which suppress immunity and can affect other vital organ systems including the nervous system. Reports suggesting this possibility are arising all over the country, are being studied by the Center for Disease Control and are the subject of considerable discussion both nationally and internationally at professional conferences. As noted, adverse health conditions tend to be principally of a respiratory and/or allergenic nature and are especially serious for children. Other effects can range from minor to severe illness particularly after long exposure. Numerous exposed individuals have reported inability to work due to loss of mental capacity and extreme fatigue.

The incidences of mold/fungi have been detected under carpets and linoleum at several homes in the Merced subdivisions. The Director, Merced Division of Environmental Health has conducted over 30 inspections of homes for mold/fungi and identified three houses with the highest concentrations. Laboratory reports revealed levels of aspergillus, penicillium, stachybotrys and cladosporium species from samples taken from the three homes. In May, 1996 the Director alerted the builder of these homes in an attempt to speed repair work to correct the moisture intrusion. To date the builder has not undertaken any repairs. Family members of one home whose physician advised them to vacate a house "...so obviously full of mold", have since been tested and found to have evidence of stachybotrys exposure in their blood. The Merced Director of Environmental Health reported this to the California Environmental Protection Agency, Department of Toxic Substances Control, stating that he had told people with mold/fungi problems that "mold/fungi growth inside the

home can be a potential health hazard". Another physician has attributed a child's serious respiratory problems to living in a damp house "secondarily colonized by ...fungi or mold", and stated, "the house she lives in is a hazard to her health". A report by an environmental geology and engineering firm, analyzing one home's moisture problems, reported "The development of molds and mildews in residences is common in subdivisions where the slabs are not sealed properly. Often these molds and mildews will aggravate existing health problems of family members, or will create new ones."

SUMMARY

The cited conditions have serious implications, considering the accelerated home deterioration and the effect on the homeowners' health and safety. The certifications by builders and inspections by both the City of Merced and Veterans Affairs fee inspectors are questionable based on a comparison of building standards to subsequent engineering reports. While our immediate concern is with the existing homeowners, corrective action must also be applied to future construction. The City of Merced is currently processing a development called Bellevue Ranch which involves between 4,800 and 6,600 residential dwelling units.

Before we issue a final report, we need to complete additional research into the extent and sources of construction deficiencies, and gather additional data on the health risks for the homeowners. We expect to issue a final report by December 1996.

In the interim, we need to work closely with your staff, and consider an effective method to make existing and potential homeowners aware of construction deficiencies, potential health risks, and any available assistance to remedy construction deficiencies (such as the assistance available under 24 CFR 200.500 for homes less than four years old).

Within 30 days, we are requesting that you provide my office with a response to the conditions cited in this interim report - and any suggestions to improve existing home construction practices in the City of Merced. If you have any questions, or would like to discuss our ongoing review, please call me at (415) 436-8101.

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