



*Sensible, Engineered Solutions*

# Foundation Distress & Repair

## An Information Guide to Foundation Repair

Foundation repairs can be very complicated, expensive and confusing. Multiple contractors may provide differing opinions after assessing your home's needed repairs. This guide is intended to help educate homeowners who are experiencing foundation problems with their home.

### **SOME SIGNS OF FOUNDATION FAILURE**

Cracks in exterior brick, floors out of level, cracks in interior walls, doors not operating properly, windows not fitting properly, cracked basement walls, leaning or bowing basement walls, chimney moving away from the wall, are all indications of foundation settlement.

### **PERMITS**

Foundation repair is considered a structural modification and most municipalities require that a building permit be issued before any work begins. The issuing of a building permit helps to ensure that the contractor completes the repairs in accordance with current building codes. If the contractor fails to complete their responsibility, the property owner may have recourse through the Building Department and the State of Michigan that will affect the contractor's builder's license.

## **BUILDING DEPARTMENT**

The local building department will most likely require that a foundation repair plan be prepared by a Licensed Professional Engineer. It is not the responsibility of the building department to diagnose foundation problems or to determine if a contractor's proposed repair is appropriate. The building department's responsibility is to verify that structural repairs are designed by a competent Licensed Professional and that the repairs are made in accordance with the repair plan. Occasionally, when a building department does not fully understand the materials and methods used for a repair, the local building official will require a Special Inspection by a Licensed Professional familiar with the techniques used for the repair.

## **CONTRACTOR**

When a contractor or salesperson provides an estimate for foundation repair they must share their time investigating the foundation problem, determining what products may best repair the problem, establish what other work will be included, review site conditions and access for their equipment, and promoting their company products, policies, procedures and warranties. Often, estimators will use a standard spacing for their products when preparing their estimate. A contractor's or salesperson's estimate should not be confused with a detailed foundation repair plan, prepared by a competent Licensed Professional Engineer.

## **ENGINEER**

A competent engineer will perform a thorough visual investigation of the structure making notes of structure movement. By using a surveyor's level the engineer will determine if and where foundation settlement may have occurred and will further establish if basement walls are moving laterally or failing. The engineer must also inspect and consider the construction of the structure to determine exact placement and required capacities of foundation repair elements. The engineer should also discuss with the property owner optional repair methods and the owner's expectation after a repair is completed. After fully understanding the structure and its distress, the engineer will be able to prepare a detailed foundation repair plan. It would not be unusual for the engineer's plan to be different than the estimator's. This plan may then be used to finalize pricing, obtaining necessary permits and construction.

Occasionally, portions of the foundation may not be visible to the engineer during the engineer's investigation, and after excavation it may become evident that additional distress exists. In these instances, the repairing contractor should immediately contact the engineer for additional guidance to ensure an appropriate repair.

## **STEPHEN TERNULLO & ASSOCIATES, INC.**