

TO: Department of Building Safety Customers

SUBJECT: INFORMATIONAL BULLETIN 15-02

This bulletin outlines technical information relating to testing of Drain, Waste, Vent (DWV).
Particularly hydrostatic building drain testing on existing structures.

DATE: May 4, 2015

The Department of Building Safety has developed this Informational Bulletin to describe and clarify some of the concerns of *hydrostatic testing* of building sewer systems.

For several years there has been some controversy surrounding *hydrostatic testing* of building drains and sewer systems. For many years it has been a requirement for new home construction, however, it is not required for existing buildings. *Hydrostatic testing* in new construction (5-foot *head*) prior to completion makes it simpler to repair any deficiencies which may be identified during the test.

There are no requirements for *hydrostatic testing* for existing housing. Typically such *hydrostatic testing* may be performed during the time of sale inspection process. The Texas Real Estate Commission (TREC) regulates Real Estate Inspectors; TREC rules do not require testing of the building drains. TREC does require a visual inspection of fixture drains for leaks (those portions of the drainage system which are commonly seen under cabinets).

Hydrostatic testing performed as part of a pre-purchase home inspection is an option. This would typically be considered when purchasing a property at a higher risk for underslab leaks. High-risk properties include homes constructed using cast-iron sanitary piping (built prior to the early 1970's) and homes which have had prior foundation repair (foundation repair can damage the underslab drain piping).

The consequences resulting from the underslab sanitary piping failing a *hydrostatic test* are both complex and controversial. In addition to the fact that leaks on the underslab sanitary piping are very costly to repair, they are also the number one blamed cause of foundation damage by representatives of the foundation repair industry. Many of the leaks discovered during *hydrostatic testing* do not allow drainage to escape the piping under normal use conditions, have no potential to cause foundation damage, and therefore their repair could be considered unnecessary. However, once leaks are discovered and documented, buyers and sellers will have to reach an agreement in dealing with the consequences.

The average depth of a sewer line exiting the foundation of a home in Amarillo is 2-4 feet. This equates to a *static* pressure of around 1-2.5psi. This low test pressure will not cause leaks, only reveal if any are present.

Definitions:

Hydrostatic Test: A *hydrostatic test* is performed on a home or building's sanitary sewer system to determine if there are leaks present in the plumbing system. An inflatable test ball is inserted into building or home main line sewer cleanout and is then inflated in order to block or plug the main sewer line. The sewer system is then filled with water up to slab level, where the water level is observed for up to 15 minutes. If the system does not fill to slab level, or if the water level begins to drop, leaks could be present in the sanitary sewer system. The next phase of testing to identify these leaking sewer lines involves a combination of *video sewer inspection* and static leak isolation testing of the drainage system.

Video Sewer Inspection: State of the art in-line sewer or drain video camera equipment is used to perform pipe or drain inspections of a sanitary sewer system. The infrared camera is inserted into system through existing cleanouts, roof vents, or toilet drains to observe and analyze the condition of a sub-slab drain system. Exact locations of obstructions, breaks, stoppages or deteriorated pipes can be determined with sewer camera inspection along with approximate depth of the pipe.

Head (Static): The height of water above any plane or point of references (the energy possessed by each unit of weight of a liquid, expressed as the vertical height through which a unit of weight would have to fall to release the average energy posed). The standard inch-pound unit of measure is feet of water. The relation between pressure in psi and feet of head at 68°F is 1 psi = 2.310 ft of head. (In other words water standing in a 2-foot vertical pipe equals less than 1 P.S.I.)