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TECHNICAL BULLETIN

BENEFITS OF USING FORMED/TAPERED HOLES IN PRECAST CONCRETE DRAINAGE STRUCTURES

With each passing year we hear more customers comment that specifiers are requesting tighter annular spaces between holes in precast drainage structures and the installed pipe's OD. And in some extreme cases, disallowing tapered holes for grouted pipe connections in precast concrete drainage structures.

It's easy to understand a Civil Engineer's viewpoint in regards to this as it pertains to structural considerations and minimum cover.

How this affects the water tightness of the joint is obviously of little consideration or is evidence of some Civil Engineers lack of experience as to what really goes on in the trenches.

As owners, managers and supervisors, we understand "process/ procedural controls" must be in place to insure a successful result. In the case of a grouted pipe to precast drainage structure connection, we know the procedure/work instruction might read, "Shim bottom of pipe up/off lowest point of hole to insure annular space is equal around circumference of the installed pipe. But as owners, managers and supervisors, we also understand the installation crew will likely take the quickest and easiest route and simply allow the installed pipe to rest on the bottom of the formed or cored hole prior to grouting it. The worst possible scenario of this would be a formed or cored hole where absolutely no taper exists on the hole's bore. This is where no sufficient "control" existed allowing an unsatisfactory seal to be made.

This is a good argument for using formed tapered holes in precast concrete drainage structures intended for non-shrink grout pipe connections. The hole's tapered bore actually "controls" with no oversight or inspection preventing a poorly installed/sealed grouted hole.

We have created this technical bulletin to provide our customers some basis of argument if and when the topic arises.