

CASE STUDY



Problem

A homeowner was cleaning up his yard in late November of 2019 when the back tire of his lawn tractor got stuck. Puzzled, the homeowner freed his lawn tractor and discovered that he had a large sinkhole in his yard. The hole had an opening that was roughly three feet in diameter and expanded to about a six foot diameter at the bottom of the hole and was about five feet deep. The homeowner was confused as to how a sinkhole would have developed in his yard since he lived right in the city. He contacted the city's public works department who came out to his house and determined that the hole was not caused by ruptured water lines, which could have caused a washout, or by an abandoned culvert.



Summary

Unsure of what to do with the hole and concerns about its potential impact on his home's foundation, the customer contacted ECO FillFoam on a Friday afternoon. A representative from ECO FillFoam was at his home the very next Monday to inspect the area to see if the sinkhole could be addressed. Sinkholes in the area are often caused by limestone or dolomite in the ground. Limestone and dolomite are rocks that are easily fractured and can dissolve in water. Water seeping down beneath the soil can cause erosion in the limestone or dolomite, which can lead to underground cavities developing. Water will flow into these underground cavities taking the surface soil with it, which in turn will cause a sinkhole. The summer and fall of 2019 had a large amount of rain in the area, which is believed to have aided in the development of this particular sinkhole.



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FillFoam Solution

After observing the sinkhole and researching sinkholes in the area, the customer was contacted and a plan to address the sinkhole was proposed to the customer on Tuesday, the very next day. Because the sinkhole was smaller and far enough away from the customer's home, the plan was to fill the sinkhole with FillRite Technologies FillFoam and monitor the area. FillFoam is a flowable fill foam engineered for large cavity and void filling. After the hole was filled, the area was observed over the upcoming winter and following spring to see if further action was required. At that point, if continued settling of the area occurred, Deep Foamjection™ process would have been required to stabilize the soil. Deep Foamjection™ is the process of injecting high density foam deep into soils to bind the soil and give soft soils stability.

The low-cost of the FillFoam option made it an easy choice for the customer and the sinkhole was filled by pumping 278 lbs. of FillFoam into. Once the hole was filled, topsoil was placed over the top of the FillFoam. Total time of project from arrival to clean-up was just under one hour.



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