



# The

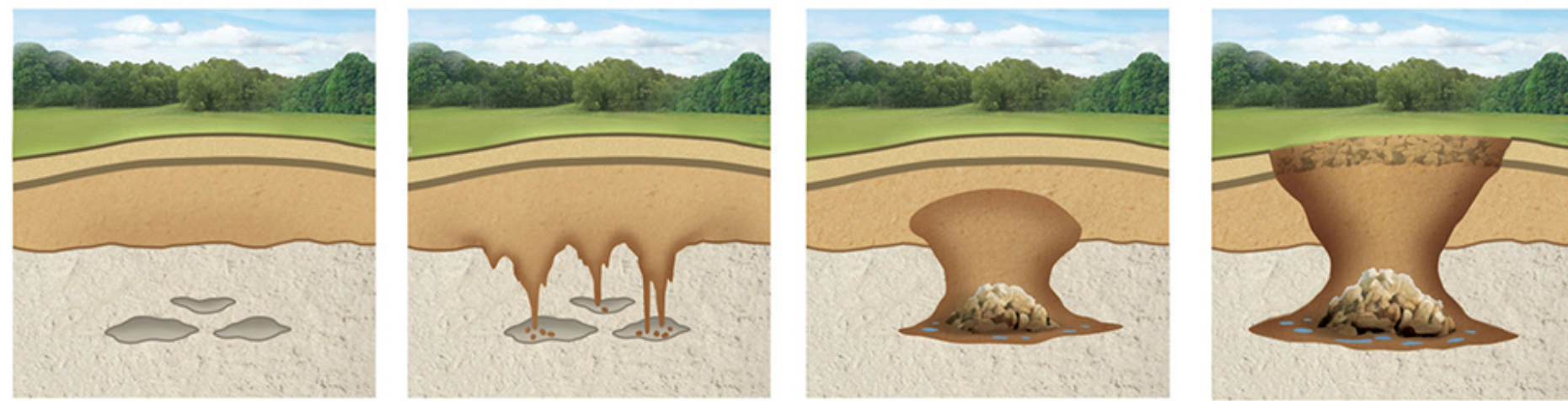
# SUSPICIOUS SINKHOLE



Often times, and for good reason, people will panic when they see a sinkhole, particularly in a parking lot on a roadway. There is a reason a sinkhole has formed and identifying the reason and correcting the issue is of utmost importance to the safety of everyone.

## What causes a sinkhole?

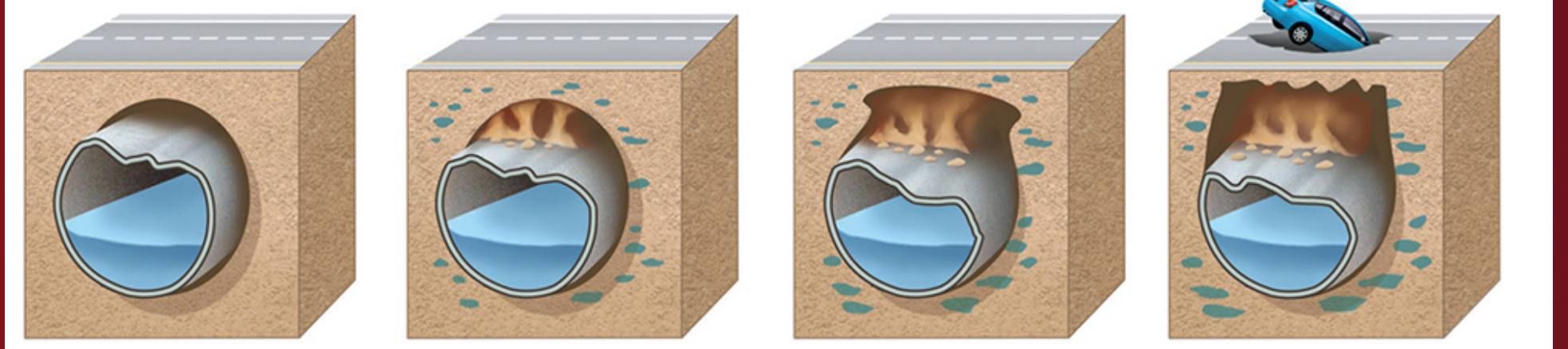
### NATURAL



- Infrastructure like sewer pipes or water mains can collapse due to erosion or age.
- Then the loose earth around the infrastructure will fill the space that was created by collapsed pipes can no longer take on the water it was intended to - causing that water to weaken the surrounding soil.
- A cavity remains above the collapse and expands upward toward the surface.
- As loose sediments are impacted by surface weight it becomes too much to bear and the surface collapses causing a sinkhole.

- Water precolates into the bedrock and slowly erodes any soluble rock (limestone), creating a small cavity/cavities.
- The soil that is on top of the bedrock (sand, silt or clay) starts to fall into the cavities of the bedrock.
- When the soil fills the cavities in the bedrock below, a new cavity fills above it - expanding toward the surface.
- Over time, as the weight of surface materials/traffic place a burden on the upper cavity it collapses and creates a sinkhole.

### HUMAN-MADE



## What other things factor into sinkholes forming?

While water is usually the main culprit, there are other things that can lead to sinkholes forming. We have seen cases where large tree roots bust through a catch basin, causing it to break and water to seep - and slowly over time forming a sinkhole. We have also seen where heavy surface traffic can cause ruts in the pavement and compromise the base and sub-base leading to the formation of a sinkhole. Excess mining, usage of heavy equipment in weak areas and leaving voids in fill holes can also cause sinkholes to form.

## How are sinkholes fixed and/or repaired?

The first thing that must happen is the ground must be stabilized. To do this you must excavate the area of the sinkhole, find the cause (water, roots, collapsed basin etc) and eliminate that cause. Then you can begin to rebuild the area, often times with limestone (compacted in lifts), install or repair basins, and then install asphalt or concrete.

When repairing a sinkhole it is important to find the root cause, or it will happen again!

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