



## **Ground Penetrating Radar Advisory for Slab on Grade Concrete**

GPR or Ground-penetrating radar is a tool that uses radar pulses to image a subsurface. It is important to have a basic understanding of ground penetrating radar as the limitations are in direct correlation to the science and technology. To learn more about this technology, go to [www.metroconcretescanning.com/](http://www.metroconcretescanning.com/)

Slab on grade pours can contain electrical conduits, wire mesh, rebar and post tension cables. These decks are difficult due to a layer of wire mesh above the conduits masking or helping to hide targets below. These types of metals can make it difficult to see below them and distinguish what type of metal is located underneath. Most conduits are not in the slab, but below it. Conduits in particular can be in plastic versus steel pipes making them much harder to detect. Finding targets in the concrete is easier than finding what is below or what may be buried in the gravel or soil. GPR technology **DOES NOT** distinguish between rebar, post tension cables or steel conduits. All metal targets under 2 inches wide provide the same GPR signature. Locating PVC pipes in a deck can be extremely difficult to detect. Air voids between the grade and concrete pour can make it very difficult to see any electric conduits or pipes laid on top of rocks/grade.

Radar, EM sensors and SeekTech utility location are the options to examine slab on grade decks. Metro offers at no additional charge electromagnetic sensors (EM) when scanning slab on grade concrete decks. EM sensors help to identify 50/60 Hz frequency which single and triple phase high voltage electric emanates when drawing current. X-raying slab on grade is not possible since film cannot be placed below the deck.

### **Suggestions to Minimize Risk:**

- Examine electrical rooms to identify (if possible) conduits turning into the slab.
- Ask building engineer what pipes or hazards may be in the deck.
- Review structural drawings if available.

**ADVISORY:** All findings and interpretations are based on the technician's best judgment using the latest and most up to date survey equipment available to private industry. This technology industry-wide does not have guarantees on our findings or marks left behind. The more we know about the deck before we image, the better job we can do.