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Ground Penetrating Radar Advisory for Slab on Grade Concrete

Ground-penetrating radar (GPR) utilizes radar pulses to image subsurfaces, offering crucial insights for various applications. Understanding the basics of GPR is essential, as its limitations are directly correlated to advancements in science and technology.

Slab-on-grade pours often contain electrical conduits, wire mesh, rebar, and post-tension cables, presenting challenges due to a layer of wire mesh above the conduits, which can obscure or mask targets below. These metals make it difficult to discern what lies underneath, especially considering that most conduits are situated below the slab. Detection becomes even more challenging when dealing with plastic conduits. GPR technology does not differentiate between rebar, post-tension cables, or steel conduits, as all metal targets under 2 inches wide provide similar GPR signatures. Locating PVC pipes within a deck can be exceedingly difficult. Air voids between the grade and concrete pour further complicate detection. Radar, EM sensors, and SeekTech utility locations are viable options for examining slab-on-grade decks. Metro offers electromagnetic sensors (EM) at no extra charge when scanning such concrete decks, aiding in the identification of high-voltage electric frequencies emitted during current flow. X-raying slab-on-grade is not feasible due to the inability to place film beneath the deck.

Suggestions to Minimize Risk:

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

ADVISORY: All findings and interpretations are based on our technicians' best judgment, utilizing the latest survey equipment available to the private industry. The technology does not guarantee findings or leave marks behind. Providing comprehensive information about the deck beforehand enhances our ability to deliver accurate results.