



concrete radar & location services

Case Study

For the mapping of tree root systems

The objective was to determine how much of a mature Poinciana tree's root system was to be affected by nearby excavations. Using ground penetrating radar CRLS technicians were able to conduct numerous line scans parallel to and between the proposed excavation site and the tree's trunk. This in turn allowed us to map half root system of the tree.

A search was conducted to a depth of approximately one and a half metres consisting of scans extending from one side of the canopy to the other and each being spaced 250mm apart. The search grid was originated from the tree's trunk and slowly progressed towards the proposed excavation site. As each root of any significance was discovered it was marked by stake on the ground and the chainage on each scan noted. The depth to each root was noted as the excavation would extend from a depth of three metres at one point to two metres at the opposite end. The diameter of each root could be measured without the need to manually expose a root.

The diagram generated from the scans shows us that only one major tree root was to be affected by the proposed excavation. Its size, depth and orientation can be seen on the sample image. In most cases CRLS technicians can even trace roots under concrete slabs, pavers or other hard surfaces. Roots can be traced without the need for intrusive trenches or potentially causing damage to the tree.

Our radar equipment is the same used for such applications as archaeology and forensic testing. CRLS technicians can use a variety of antennas ranging from the latest high definition antenna for depths of up to 50 centimetres to lower frequency antennas for greater depths of up to four metres.

