Utility Mapping

A utility map shows the positioning and identification of buried pipes and cables beneath the ground. The procedure involves detecting things like sewers, electric cables, telecoms cables, gas, and water mains. Underground utility mapping is a process of identifying the position and labelling public utility mains which are located underground. These mains may include lines for telecommunication, electricity distribution, natural gas, water mains and wastewater pipes. Underground utility mapping combines the use of detection and positioning technology to assist with constructability of the design. Because of the many different types of materials that go into manufacturing each of the different types of underground lines, different detection and location methods must be used. The two general methods are called passive locating and active locating. Active locating is more accurate and makes use of signals that the locators generate through a transmitter. Then, with the help of a receiver, locators can trace as well as identify what type of utility line lies underground. Tools include Geophysical Electromagnetic Instrumentation, and GPR (Ground Penetrating Radar),

When to Use: 30% CR

Whom: Core Constructability Team, Designers

References:

https://www.krcmar.ca/resource-articles/2004_Summer_An%20Introduction%20to%20Underground%20Utility%20Mapping_1.pdf

https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/16019/16019.pdf