

If you live or work in Orange County, you have probably heard the phrase: "Call before you dig." For most people, that means dialing 811. It is a simple step that prevents gas leaks, power outages, and some very expensive repair bills.

But here is the part that trips up homeowners, contractors, and even some property managers: 811 does not locate everything buried on your property. In fact, for many projects on private land, 811 only gives you part of the picture.

I have walked too many sites where someone thought, "I called 811, I am covered," then clipped a private electrical feed to a pool house, cracked a PVC water line, or, in one memorable case, cut through a fiber optic backbone feeding three office suites. The common theme: they assumed 811 included private utility locating. It does not.

Let us walk through what utility locating actually is, what 811 covers in California, where the gaps are on private property in Orange County, and when it makes sense to bring in a private utility locator before you break ground.

What is utility locating, in practical terms?

Utility locating is the process of finding and marking buried pipes, cables, and structures before you dig, drill, or trench. On a real job, that means a locator walks the site with specialized equipment, interprets what they see, and marks the ground so you can work around what is buried.

What does a utility locator do all day? At the most basic level, they:



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- Review site information (tickets from 811, plans, as-builts, surveys, Google Earth imagery)
- Use locating equipment to detect metal lines, energized power, and conductive tracer wires

- Use ground penetrating radar (GPR) or acoustic methods to find non-metallic utilities such as plastic pipes or concrete storm lines
- Paint or flag the ground following color codes and document findings

A good locator is part technician, part detective. The tools tell part of the story. The rest comes from experience: knowing how plumbers routed lines in 1970s tract homes in Anaheim Hills, or how a particular cable company liked to run drops along retaining walls in Irvine in the early 2000s.

What 811 actually is in California

811 is the national call-before-you-dig number, but in California it connects you to regional “one call” centers such as DigAlert. When you submit a ticket, the center notifies member utility companies that you plan to excavate.

Those utility owners are then required by California Government Code 4216 to either:

- Mark the approximate location of their underground facilities, or
- Notify you that they have no facilities in your work area

For you, the excavator or homeowner, the big questions are: Is calling 811 the law in California, is utility locating free, and how far in advance do you need to call?

In California, if you are doing any excavation that could disturb the ground, state law expects you to notify 811. That includes trenching, augering, fence posts, pool installations, tree planting, grading, and saw cutting. The only exceptions are very shallow activities that do not pose a risk to utilities, and even then, calling is strongly recommended.

The service from 811 for public utilities is free. You do not pay the locators who show up from SoCalGas, Southern California Edison, AT&T, Spectrum, or the local water district. The utilities fund those visits because it is cheaper to mark their lines than to repair them after the fact.

Timing matters. In most of Orange County, the window is at least two working days before digging, and not more than 14 calendar days before work starts. If you call too late, you dig blind. If you call too far in advance and then delay work, your marks expire and you must start over.

What does 811 locate - and what does 811 NOT locate?

Once you have a ticket in the system, each member utility checks whether it owns any lines in your proposed dig area. If it does, that company sends a locator to identify and mark those lines, typically up to the meter or demarcation point.

Here is the key: 811 locators mark facilities owned and maintained by the utility, not every pipe or cable on your property.

Common examples of what 811 does not locate include:

- Power from your house to a detached garage, ADU, pool equipment, or gate motor
- Water lines after the meter, including irrigation, hose bib feeds, and pool lines
- Gas lines that run from the meter to a barbecue, fire pit, pool heater, or guest house
- Private sewer laterals beyond the utility’s responsibility, septic tanks, and leach fields
- Private communication lines, low-voltage landscape lighting, security cables, and fiber on private campuses

So when people ask, “Does 811 locate private lines?” the honest, practical answer is: generally no. They locate public utilities up to the point where ownership transfers to you or your HOA. Everything after that is your responsibility.

If a repair would be on your dime, not the utility’s, do not assume 811 will mark it.

Public vs private utility locating: where the line is drawn

Understanding the difference between public and private utility locating clears up most of the confusion.

Public utility locating covers facilities owned by regulated utility companies and public agencies. On a typical Orange County home or commercial site, public locators will mark gas, electric distribution, phone, fiber backbones, and municipal water and sewer mains. Their responsibility usually stops at:

- The meter on a building
- The property line or easement boundary
- A service connection point defined in their rules

Private utility locating focuses on anything beyond those limits. This might be a 240-volt feed to a pool subpanel in Mission Viejo, a gas line to a commercial kitchen in Tustin, or a network of irrigation and reclaimed water pipes on a campus in Irvine. These lines serve only that property, are owned by the property owner or HOA, and are not mapped or maintained by the public utilities.

What is the difference between public and private utility locating in day-to-day work? With public locates, the locator typically knows what facilities should exist based on company records. With private utility locating, you often start with little more than a rough site plan and some verbal history from the owner, then build a picture using equipment, logic, and experience.

If you are asking yourself, “Do I need a private utility locator,” the quick rule of thumb is this: if your work crosses between structures, across parking, through landscaped areas, or near any feature that might have a buried feed, you probably do.

How does utility locating work?

Most people see the colored paint and flags and assume it is all done with one magic wand. In reality, locators combine several methods and pieces of equipment, each with its strengths and weaknesses.

On metallic or conductive lines, locators often use an electromagnetic (EM) transmitter and receiver. The transmitter sends a signal onto the line, and the receiver picks up that signal along the route. This is the classic “hook up to a tracer wire or exposed pipe and trace it across the site” approach.

When there is no direct access point, an experienced locator might use inductive methods, where the transmitter is placed on the surface and energizes any conductive lines beneath it. That method is less precise and more prone to “ghost” hits, so it requires careful interpretation.

Non-metallic lines are where ground penetrating radar comes in. GPR sends high-frequency radio waves into the ground and records the reflections from changes in material. A plastic water line, a concrete storm drain, or a buried duct bank all create distinct signatures.

What is ground penetrating radar used for beyond simple locating? In Orange County, we often use GPR to map unknown utilities on older properties in Santa Ana or Costa Mesa, verify depths before directional drilling, identify abandoned tanks, and support subsurface utility engineering (SUE) surveys for road and infrastructure projects.

Utility locators also rely on acoustic and tracing methods for certain targets. For example, to locate a buried water line or a sewer line, we might use a sonde, which is a small transmitter pushed through the pipe by water, air, or a snake. The surface receiver then tracks the sonde's signal, giving a line and depth.

There is an art to choosing which technique matters most on a given site. A shallow backyard dig in Orange might only need GPR and EM scanning around known service routes. A downtown Fullerton streetscape project might involve coordinated SUE, test holes, record drawings, and multiple passes with GPR and EM.

How accurate is utility locating and GPR?

No locating method is perfect, and anyone who promises 100 percent accuracy in all conditions is overselling.

For EM locates on conductive utilities, accuracy in horizontal position is often within a few inches when the line is shallow and isolated. As depth increases or multiple lines run close together, signal distortion can widen the margin of error. A smart excavator always treats marks as an approximate location, not a razor-thin line.

How deep can utility locators detect? With EM, locators can sometimes pick up a strong signal at depths of 10 to 15 feet or more, but reliability drops with depth, soil conditions, and interference.

With GPR, depth depends heavily on soil type and antenna frequency. In sandy or dry soils, GPR can see 8 to 10 feet with decent clarity. In clay soils or areas with high moisture or salt content, penetration might be only 3 to 5 feet. Orange County [Orange County Utility Locating](#) tends to be mixed: coastal areas around Newport Beach or Huntington Beach often have challenging conditions for GPR, while inland zones can be more forgiving.

How accurate is ground penetrating radar in practice? For locating the presence and approximate alignment of utilities, it is very useful. For precise depth and identification, it is a strong indicator but not a guarantee. That is why on critical work, GPR results are often verified with potholing or vacuum excavation before major construction proceeds.

Overall, how accurate is utility locating as a whole? If you combine EM, GPR, site knowledge, and cautious digging, you can dramatically reduce the chance of striking a utility. The remaining risk usually comes not from the equipment, but from the assumptions people make about what was, or was not, located.

Can utility locators find plastic pipes and septic systems?

One of the most common questions from Orange County homeowners is whether we can find plastic irrigation pipes, PVC water lines, or septic systems.

Can utility locators find plastic pipes? Often yes, but not always easily. Plastic by itself is invisible to EM locators and only shows up in GPR when there is enough contrast with the surrounding soil. If the pipe carries water, that usually helps. If it is dry and small, the signature is faint.

Irrigation systems are particularly tricky. Lateral lines might be only a few inches below the surface with countless turns. In many cases, we can map main irrigation feeds and critical crossings, but not every branch. For fence post projects or shallow landscaping in places like Yorba Linda or Rancho Santa Margarita, knowing where the mains and key valves run is usually enough.

Septic tanks and leach fields can often be found using a mix of GPR, probing, and sometimes dye tests or camera work. On older rural properties along the eastern edge of the county or in canyons, as-builts are often non-existent. A careful locator can usually find the tank, the main sewer line from the structure, and get a reasonable idea of the leach field extent, but it can take time and methodical work.

The color codes: what those marks on the ground mean

The rainbow of paint and flags that shows up after you call 811 or hire a private locator is not random. The American Public Works Association (APWA) color code standard is used through Orange County and almost everywhere in the United States.

Here is a quick reference many field crews memorize:

- Red: electric power lines, cables, conduit, and lighting
- Orange: communication, alarm or signal lines, cable TV, fiber optic
- Yellow: gas, oil, steam, petroleum, or other gaseous materials
- Blue: potable (drinking) water
- Green: sewer and drain lines

You may also see purple for reclaimed water or irrigation, pink for temporary survey markings, and white for proposed excavation.

So what do orange utility flags mean in your yard? Most often, they indicate communication cables or fiber optic lines, possibly from Spectrum, AT&T, or another data provider. Cutting one can knock out service for multiple homes or offices and trigger expensive repair claims.

What does red paint mean on the ground? That is high stakes: energized electrical. Hitting a buried electrical line is one of the most dangerous things that can happen on a dig. It can cause serious injury or death, as well as outages and equipment damage.

What is the white paint on the ground for? That is usually applied by the excavator, not the utilities, and it outlines where you intend to dig. In California, white pre-marking is often required for non-emergency excavations. It helps utility locators focus their efforts and prevents confusion.

Who is liable if you hit a utility line?

This is where the legal and financial stakes become clear.

If you damage a line that was properly marked by 811 responders and you did not use reasonable care, you are generally liable for the repair. Reasonable care includes hand digging or vacuuming within the tolerance zone around marks, not blindly plowing through them with a backhoe or auger.

If you hit a line that was not marked and you had an active 811 ticket, liability can depend on whether the utility was notified, whether it is a member utility, and whether the damage was to a public or private line. Public utilities that fail to mark properly can share or carry responsibility, but it often takes a formal investigation to sort out.

For private utilities that 811 does not locate, the burden usually falls on the property owner or contractor. What happens if you cut a private utility line on your own lot in Laguna Niguel? The utility company may not care, because the line belongs to you. You will pay a plumber, electrician, or data cabling specialist to fix it, sometimes on an emergency basis at premium rates.

How much does it cost to repair a damaged utility line? It ranges wildly. Simple residential irrigation or low-voltage repairs might cost a few hundred dollars. A severed gas service could run into the thousands once you account for emergency response, shutdown, repair, and relighting. Cutting a major fiber optic cable serving commercial clients can easily reach into five figures or more, especially if crews must work around the clock and coordinate traffic control.

What happens if you dig without calling 811 in California? Beyond the safety risk, you open yourself up to penalties and increased liability. If something goes wrong, investigators will look for an 811 ticket. If there is none, it becomes very hard to argue that you took reasonable steps to avoid damage.

Is it illegal to dig without calling 811 in California? The state's dig law effectively requires notification before excavation. Regulatory agencies can levy fines, and utilities may pursue recovery for damages. In practice, enforcement focuses on serious or repeated violations, but relying on that is a gamble with high downside.

When should homeowners and contractors hire a private utility locator?

There is a common belief that only large commercial or public works projects need private utility locating. In Orange County, that is no longer true. The density of buried services even in residential areas means many homeowners would be wise to bring in a private locator for moderate projects.

Should homeowners hire a utility locator every time they plant a rose bush? Of course not. But here are scenarios where it usually pays off to go beyond 811:

- You are installing a pool, spa, or ADU in cities like Irvine, Anaheim, or Orange
- You plan new retaining walls, deep footings, or a major landscape overhaul
- You are trenching across your yard to add power or water to another structure
- You manage a commercial or multi-family property with complex private infrastructure

Private utility locating on a home site might reveal that your gas line to the pool heater crosses exactly where the contractor planned to trench for new electrical, or that your sewer lateral is much shallower at the property line than anyone expected.

On commercial sites, private campus fiber, security systems, chilled water loops, and fire lines often crisscross far from public rights of way. I have seen parking lot lighting circuits cut because someone assumed, "We are not near the building, we are safe." Those lights were fed from a vault across the lot.

As for "What is the best utility locating company in Orange County," the honest answer is that it depends on your needs. For large projects, look for firms with licensed professional engineers, SUE capability, and a track record on public works. For residential work, choose a company that regularly works with homeowners, can explain their methods clearly, and is properly insured.

How much does utility locating cost in Orange County?

From the 811 side, the question "Is utility locating free in California" is straightforward for public facilities: yes, public utility locating through 811 is free to the excavator.

Private utility locating is not free. How much private utility locating costs in Orange County depends on several factors: site size, complexity, number of structures, soil conditions, and whether you need formal deliverables like CAD files or a stamped SUE report.

For typical single-family residential work, a straightforward private locate around a home, driveway, and yard might range from roughly \$300 to \$800, depending on how much ground must be covered and whether GPR is required. Complex properties with multiple structures, steep terrain, or suspected septic systems can cost more, particularly if the locator spends several hours on site.

For commercial, industrial, or municipal projects, utility locating can range from a few thousand dollars for basic scanning to tens of thousands for full subsurface utility engineering. SUE adds tasks such as surveying, test holes, and detailed utility maps with quality levels defined by standards like ASCE 38.

Who pays for utility locating? For public utilities, the utility owners bear the cost. For private utilities, the property owner, developer, or general contractor usually pays. On design-build projects or public works, private locating and SUE are often built into the project budget because everyone understands the cost of surprises is much higher.

Permits, self-locating, and realistic timeframes

Two more practical questions that come up constantly in Orange County are: "Do I need a permit to dig?" and "Can I locate my own underground utilities?"

Permits depend on jurisdiction and scope. Simple hand digging for small plantings often requires no permit. Pools, retaining walls, major grading, and utility trenching almost always require permits from the city or county, and sometimes from special districts such as the Orange County Flood Control District or local water agencies. Before you assume, check with your city's building department or a licensed contractor.

As for locating your own utilities, you can do some limited recon. Homeowners sometimes use metal detectors, inexpensive "stud finder style" scanners, or follow visible clues from meters, risers, and landscape features. This can help you avoid obvious conflicts, but it is not a substitute for professional locating.

Consumer grade tools usually struggle with depth, discrimination between multiple targets, and non-metallic lines. They also do not come with the experience to interpret weak or conflicting signals. If you are asking, "How do I find underground utilities on my property" in a way that gives you real confidence before running a trencher, the answer is usually: call 811 for public lines, then hire a private locator for the rest.

How long does utility locating take on site? For a standard residential job in Orange County, public 811 locates are typically completed within 2 to 3 working days of your ticket, as required. The physical time on your property might be 30 minutes to an hour per utility. Private locates can take from an hour or two on a simple home to a full day or more on a complex commercial site. The more information you can provide up front (plans, old photos, any as-builts), the more efficient the process tends to be.

Why thorough utility locating matters before excavation

At this point the pattern is clear: 811 is essential, but it is not the whole story, especially on private property in Orange County.

Subsurface utility engineering grew out of the recognition that buried infrastructure is dense, valuable, and often poorly documented. SUE brings together record research, field locating, surveying, and engineering review to reduce surprises and [Bess Testlab Inc. \(Bess Utility Solutions\) Orange County Utility Locating](#) claims. Even when you do not need full SUE, the mindset is useful: assume there is more in the ground than you see on paper, and verify before you cut.

Why is utility locating important before excavation, beyond safety and compliance? It protects schedules, budgets, and relationships. A single hit on a major communication line in a busy corridor can shut down a project for days while emergency crews repair it and regulators review what happened. A severed private gas line to a pool heater can derail a backyard renovation right when contractors are most booked.

For Orange County homeowners and contractors, the practical roadmap looks like this: always call 811 before you dig, understand that 811 does not locate private lines, and bring in a private utility locator whenever your work crosses the gray zone between public responsibility and your own. The modest cost of proper locating is small compared to the price of a blind strike.