

If you dig in Orange County long enough, you hear the same story: someone rented a small excavator for a weekend, skipped the 811 call, hit a gas line, and spent the rest of the day standing in the street with the fire department and the gas company, wondering what their insurance would say.

Most of that mess is avoidable. A big part of the confusion comes from not understanding what is free, what is not, and where the line sits between public and private utility locating in California.

This guide walks through how utility locating actually works here, who pays for what, and how to make sure your project in Orange County is covered.

What utility locating really is

Utility locating is the process of finding and marking buried lines before you dig. In practice, that can include:

- power
- gas
- communications and fiber optic cable
- water
- sewer
- reclaimed water and irrigation
- private site utilities, like electrical feeds to a detached garage or pool equipment

A utility locator is the person or firm that does this work. Some work directly for the public utility providers. Others are private utility locating contractors hired by property owners, contractors, or engineers.

On a typical job, the locator will review records if they exist, then use electronic locating equipment and often ground penetrating radar to identify where lines actually run in the field. The visible result is paint and flags on the ground, each color signaling a different type of utility.

The accuracy you see on a good locate, especially in an older neighborhood with multiple rebuilds, comes from a mix of equipment, experience, and judgment. Utility maps are often incomplete or wrong, particularly for older private work.

Public vs private locating: the core distinction

Almost every question about cost and responsibility comes down to one thing: the difference between public and private utility locating.

Public utility locating covers facilities that the utility companies own and maintain, typically up to the meter, service point, or easement line. These are the lines that power, gas, phone, and water companies are legally responsible for protecting when you call 811.

Private utility locating covers lines on your side of that handoff point. That might be:

- the electric feed from your house panel to a detached garage
- gas service from the meter to a pool heater or outdoor kitchen
- water and sewer laterals that were extended, relocated, or added after the original build
- site utilities in commercial and industrial facilities

- irrigation, landscape lighting, and low-voltage systems

Public utilities generally do not mark these private lines. They are your responsibility, and if you want them located, you hire a private utility locator and pay for that service.

Is utility locating free in California?

Partly. In California, calling 811 for public utility locating is free for the excavator. The program is funded by the participating utility operators and overseen under state law.

Here is where people get tripped up: 811 coordination is free, and the marks the public utilities place are free. Everything beyond that is not.

The free component generally includes:

1. Coordination through your regional 811 center (in Orange County, that is Underground Service Alert of Southern California, often called DigAlert).
2. Notification to member utilities in your dig area.
3. On-site marking by those member utilities of the lines they own and maintain.

If your project only affects public utilities and you are not dealing with anything on the private side of meters, backflow preventers, or panels, you may not need to pay for locating at all.

The moment you want private lines located, or you need capabilities beyond what the utilities provide, you step into paid territory.

When utility locating is free vs when you pay in Orange County

For practical purposes in Orange County, you can separate your situation into two groups.

Free through 811 / DigAlert when:

1. You are disturbing soil, concrete, or asphalt with power tools or machinery.
2. The work area is in a place served by public utilities (not completely off-grid or entirely private infrastructure).
3. You only need to know where utility-owned lines are, up to their point of responsibility.

Paid, using a private utility locator, when:

1. You need private lines identified, such as service from the meter to a guest house, detached garage, or pool equipment.
2. You are working on a commercial, industrial, or institutional site with complex internal utilities.
3. You need higher accuracy or deeper information than standard color marks, such as depths, 3D mapping, or subsurface utility engineering.

The free part and the paid part often happen on the same project. For example, on a residential tear-down and rebuild in Costa Mesa, I have:

- submitted a DigAlert ticket to get public electric, gas, communications, and water marked at no charge
- then walked the site with a private locating crew to find old private electric feeds to a shed, an abandoned gas stub, and the septic tank that was abandoned when the property tied into sewer

The builder did not pay for the public markings but did pay the private locator for the additional work. Both sets of marks were critical to avoid surprises.

Is calling 811 the law in California?

Yes. Under California Government Code Section 4216, you are legally required to notify the 811 center before excavation. The law defines excavation very broadly. If you are using power equipment to disturb the ground, not just gardening with a hand trowel, you are expected to call.

Timeline requirements matter. In most of Orange County, you must call at least two working days before digging, but not more than 14 calendar days in advance. If the work goes beyond the life of the ticket, you need to renew it.

It is illegal to dig without calling 811 in California when the activity meets the definition of excavation. If you hit a line after skipping that step, you can be held liable for the damage and potentially face civil penalties.

What 811 does not locate

The 811 center itself does not locate anything on the ground. It does two things: takes your information, then notifies member utilities that you plan to dig. Each utility then decides whether to mark in the field, provide maps, or clear the ticket as having no facilities in your area.

Critically, 811 coordination does not include:

- private utilities beyond the meter or service point
- non-member utilities, like some private fiber networks or campus systems
- small private systems on private property, such as irrigation, landscape lighting, or private propane tanks

So when you ask, "Does 811 locate private lines?" the honest answer is no. The utilities might mark facilities up to the meter or demarcation, but anything beyond that is usually your responsibility.

If you are trenching across a yard with a pool, spa, and outdoor kitchen, and you only rely on the free 811 marks, you are at real risk of cutting private electric, gas, or communications even though you followed the law regarding public utilities.

Do you need a private utility locator?

You need a private utility locator when the risk of hitting a line you own is higher than the cost of finding it.

From experience in Orange County, I recommend hiring a private utility locator in at least these situations:

- residential properties with additions, guest houses, large pools, or major remodel histories
- older homes that converted from septic to sewer, where tanks and old laterals may still be present
- commercial and industrial properties where most of the complexity is on private land, not in the street
- projects with deep excavations, shoring, or piles, where the cost of a mistake is significant
- design projects where engineers need accurate as-built subsurface information, not just rough marks

Homeowners sometimes ask if they can locate their own underground utilities. For simple cases, they can try: following visible clues along fences and walls, checking old plans, or using consumer-grade detectors. That can work for finding a shallow lawn sprinkler line, but it rarely gives you the confidence you want before putting in a trench for a new ADU or doing grading for a retaining wall.

Professional locators use better equipment, but just as importantly, they have pattern recognition developed over many sites. They know how utilities tend to be routed, and they know the tricks that older contractors used when

they were trying to save time or money.

How much does utility locating cost in Orange County?

There are two separate cost questions.

First, how much does public utility locating cost through 811? For you as the excavator, it is free. The utility operators pay for their locating crews and for their share of the 811 center.

Second, how much does private utility locating cost? In Orange County, typical private locating fees fall into these ranges:

- small residential locate, limited area: often a flat rate, roughly a few hundred dollars
- larger properties or multiple structures: often in the 400 to 800 dollar range
- complex commercial sites or industrial facilities: hourly or day rates, which can easily exceed a thousand dollars for detailed work

The exact price depends on how much area needs to be covered, the number and type of utilities expected, the access conditions, and the technology required. Ground penetrating radar surveys, for example, usually cost more than simple cable and pipe locates because they are more time consuming and require specialized interpretation.

For most homeowner projects in Orange County, the cost of a basic private locate is small compared to the cost of repairing a damaged line or a project delay.

How long does utility locating take?

On the 811 side, utilities have a legally defined window to respond to your ticket, usually the same two working days before you are allowed to start excavation. In high-volume periods, they often use that full time.

On site, an average residential DigAlert locate might take 30 to 90 minutes for each utility, but multiple utilities often show up at different times.

For private locators, a simple residential job can often be completed in one to two hours. A full commercial property scan, especially with ground penetrating radar, can stretch to a full day or multiple visits.

If you have a tight schedule, build utility locating into your calendar at the front, not as an afterthought. It is far easier to reschedule a concrete pour than to repair a severed fiber optic cable that serves multiple tenants.

How utility locating works in the field

Most locating work starts with electromagnetic locating equipment. The locator connects a transmitter directly to a conductive line or uses an inductive clamp or transmitter to energize it. A handheld receiver then detects the signal in the ground and allows the operator to trace the path.

For utilities that are not easily connected, or are non-conductive, ground penetrating radar is used. GPR sends radar pulses into the ground and measures reflections from buried objects or changes in soil. The operator reads those reflections on a screen as hyperbolas and patterns that indicate pipes, ducts, or voids.

Experienced locators do not rely on one tool alone. They cross-check with visible clues, record drawings, property history, and sometimes very low-tech methods like probing or exploratory potholes. In urban Orange County, soil conditions can vary, and fill material from older construction complicates readings. Field judgment is crucial.

What equipment do utility locators use?

A well-equipped utility locator typically carries:

- electromagnetic locators (transmitter and receiver sets) for conductive utilities
- ground penetrating radar units for non-conductive pipes and to verify congestion
- sondes and traceable rods to push through conduits or sewer lines for precise tracking
- radio frequency markers and probes for specific networks
- paint, flags, and measuring tapes to mark and document findings

The combination used on a specific job depends on what needs to be found. For example, to locate a buried sewer line or septic tank, a locator might insert a sonde into a cleanout, then track it with a receiver, and use GPR to verify the tank location and extent.

How deep can utility locators detect?

For electromagnetic methods, depth depends on signal strength, cable type, and ground conditions. In typical Orange County soils, reliable depths of several feet are common. Some systems can detect deeper, but accuracy drops as depth increases.

Ground penetrating radar can often see utilities to depths of 6 to 10 feet in favorable soil, sometimes more. In clay-rich or very wet soils, penetration is shallower. Parking lots and roadways often give better radar results than highly landscaped soils due to more uniform materials.

Depth indications from locating equipment are estimates, not guarantees. That is why safe excavation practices, including potholing by hand or vacuum excavation, are still required even after a good locate.

Can utility locators find plastic pipes and non-metallic lines?

They can, but it is a more nuanced process.

Plastic water lines, sewer pipes, and certain types of gas lines do not conduct electricity well on their own, so standard electromagnetic methods do not always work unless a tracer wire was installed alongside them. In modern subdivisions, it is common for plastic utilities to have tracer wires, but older installations may not.

Ground penetrating radar is often the tool of choice for non-metallic pipes, but its success depends on pipe size, depth, and soil conditions. In my experience, larger diameter plastic sewer or water mains are usually detectable, while small, shallow irrigation laterals are hit-or-miss with GPR, especially in highly disturbed yard soils.

A good locator will explain where they have high confidence in a mark and where conditions limit certainty.

How accurate is utility locating and ground penetrating radar?

Utility locating is very good at reducing risk but should never be treated as absolute truth.

Accuracies of a few inches to a foot horizontally are often achievable for clear, conductive lines in good conditions. Depth readings are usually less precise, often within about 10 to 20 percent of the depth, depending on the equipment and conditions.

Ground penetrating radar is not x-ray vision. It requires interpretation. Accuracy is best when the operator can cross-check radar reflections with known utilities and physical evidence. In congested corridors where multiple

utilities overlap, GPR can show that many things are present, but unraveling which is which requires skill, experience, and sometimes exploratory digging.

The right mindset is this: locating gives you informed expectations of what is under the ground, so you know where to be cautious and where to verify by potholing. It is a risk management tool, not a magic guarantee.

Utility marking colors and what they mean

When a locating crew finishes, the ground will usually be a patchwork of colored paint and flags. Those colors follow a national standard.

Here are the typical marking colors you will see in Orange County:

1. Red: electric power lines, cables, conduit, and lighting
2. Yellow: gas, oil, steam, petroleum, and other gaseous materials
3. Orange: communications, alarm or signal lines, cable TV, fiber optics
4. Blue: potable water
5. Green: sewer and drain lines
6. Purple: reclaimed water, irrigation, and slurry lines
7. White: proposed excavation limits or survey marks

When you see red paint on the ground, you are looking at electric. When you see orange utility flags, those are typically communications or fiber optic cable. White paint is not a utility at all; it is your or your contractor's way of showing where you plan to dig so locators know where to focus.

How to locate specific types of lines

Most property owners care about a few key utilities: water, gas, sewer, electric, and communications.

To locate a buried water line, a locator may use an electromagnetic transmitter connected to a metal pipe or tracer wire. If it is plastic without tracer wire, they may rely on GPR or pressure correlation methods, sometimes even listening devices in municipal contexts. On private property, missing tracer wire complicates the work.

To locate a buried gas line, the utility provider often has the best direct connection points and records for their side of the system. On the private side, similar electromagnetic techniques work if there is metal pipe or tracer. For plastic gas, tracer wire is again the key. Modern gas installations almost always include tracer, but older private gas work sometimes does not.

For sewer lines, locators often send a sonde down a cleanout or use a traceable sewer rod, then track its path with an electromagnetic receiver. For larger mains or where cleanouts are inaccessible, GPR can show pipe runs and manholes, but interpretation is trickier.

Septic tanks can often be found using a combination of GPR, pipe tracing from the building drain, and visual logic about where a contractor would have reasonably placed a tank given grading and access. On older rural and canyon properties in south Orange County, finding septic systems before major grading is essential.

For buried electrical lines and fiber optic cables, electromagnetic locators work well when the lines are conductive or include a metallic component. Fiber optic cables themselves are non-conductive, so they rely on metallic sheathing or tracer wires for detection. Communications utilities are usually diligent about marking their systems because fiber damage is expensive and disruptive.

Who is liable if you hit a utility line?

Liability in California depends heavily on whether:

- you called 811 and waited the required time
- the utilities responded and marked correctly
- you excavated carefully within the tolerance zone around marks

If you dig without calling 811 and hit a public utility line, you can be liable for all repair costs and subject to penalties. Insurance may not be sympathetic if you skipped a legally mandated safety step.

If you did call 811, the utilities marked, and you still hit a line because you ignored the markings or used aggressive equipment directly over a mark without hand exposing first, you can also be held responsible.

If you hit an unmarked line on public infrastructure after a proper 811 ticket and careful work within the tolerance rules, liability questions become more complex. There are cases where utility operators share **Orange County Utility Locating** or assume responsibility for mis-marked or unmarked facilities, but every situation is fact-specific.

When you hit a private line that belongs to you, there may be no third party to hold responsible. You own the cost and the delay. The repair cost for a damaged utility line can range from a few hundred dollars for a simple residential repair to tens of thousands of dollars for complex commercial or fiber damage, not including business interruption.

Permits, timing, and who to call before digging in Orange County

Utility locating is one safety step. Permits are another.

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In Orange County, whether you need a permit to dig depends on what you are doing and where. Trenching in a public right of way, cutting a sidewalk or street, or installing utilities typically requires a permit from the city or the county. Even work entirely on private property often triggers building or grading permits if you are installing structures, retaining walls, pools, or major utilities.

For the dig itself, your first safety call is 811 / DigAlert. For rules about whether your scope needs a permit, your point of contact is usually the local city building department or the Orange County Public Works department for unincorporated areas.

Schedule 811 at least two working days before excavation, and preferably early in your process so that locating and any required private locating can inform your design and layout. Utility constraints discovered late are one of the fastest ways to lose time and money on a project.

Who pays for utility locating in practice?

Public utility locating through 811 is effectively paid for by the utility operators. You do not get a separate line item for it on your bill.

Private utility locating is usually paid by whoever has the most to lose if something goes wrong. In residential settings, that is often the homeowner or the general contractor. In commercial projects, the cost may be part of preconstruction services, survey work, or subsurface utility engineering under the design team.

Subsurface utility engineering, or SUE, is the more formal side of utility investigation. It uses utility locating, records research, surveying, and sometimes test pits to create accurate utility maps with defined quality levels. Engineers and agencies use SUE to design around existing utilities or plan relocations. This is always a paid service, separate from the free marking coordinated by 811.

The simple rule in Orange County is this: call 811 every time you qualify as an excavator, use the free public locating for what it covers, and budget for private locating whenever private lines or complex conditions are present. The cost of a competent utility locator is a fraction of the cost of a serious strike, a schedule slip, or **Orange County Utility Locating** an injury.