

If you move dirt in Orange County, you are working above a web of buried utilities: electric, gas, communications, water, sewer, reclaimed water, and often private lines nobody has drawings for anymore. I have seen a simple fence project hit an undocumented irrigation main and flood a cul-de-sac in under ten minutes. I have also watched a crew shut a job down for a full day because a fiber line sat twelve inches from their trench, not three feet as the old plans suggested.

The difference between those two days started with a phone call.

This guide walks through who to call before you dig in Orange County, how early you need to contact them, what utility locating really covers, and when you should go beyond the free 811 system and bring in a private utility locator.

The first call in Orange County: 811 / DigAlert

In Southern California, including all of Orange County, the starting point is 811. The regional center is known as DigAlert, and it handles “one call” notifications for most of the major public utilities.

When you call 811 or submit a ticket online through DigAlert, they notify member utilities that serve your dig area. Each utility either sends a locator to mark their facilities or responds that they have no facilities there.

That call is not a courtesy. For most digging activity, it is the law in California.

Is calling 811 the law in California?

Yes. California Government Code section 4216 requires excavators to notify the regional notification center before any excavation. The law uses a broad definition of “excavation.” It includes trenching, grading, drilling, augering, pool installation, and even some landscaping if it involves deeper digging.

There are limited exceptions for emergencies and some hand tools in very shallow soil, but as a practical rule, if you need a machine or you are going deeper than a few inches, you should treat 811 as mandatory. Regulators and utilities will absolutely look at whether you called 811 if anything goes wrong.

Skipping that call can lead to:

- Civil penalties from enforcement agencies.
- Full liability for damage to utilities, including loss-of-service costs.
- Claims from injured workers or neighbors if a hit causes injury or property damage.

The fine can be painful, but the indirect cost of a shut-down project, emergency repairs, and legal wrangling is what really hurts.

How far in advance do you need to call before digging?

In Orange County, the timing follows statewide California rules, which mirror most of the U.S. “call before you dig” standards.

The general rule: notify 811 at least two working days before you start digging, but not more than 14 calendar days before.

“Working days” here exclude weekends and legal holidays. If you call on a Friday, you cannot assume you can safely start Monday morning. The safe habit is to allow a full two business days, then verify on-site that all

expected markings are present before you touch a shovel.

Once utilities have been marked, your ticket has a limited life. In California, markings and tickets typically remain valid for 28 calendar days, assuming they are still visible and the site conditions have not changed. If you are still excavating after that window, you need to refresh your ticket and get a new round of markings.

On real projects I have managed, delays are common. New subs show up, the excavation boundary shifts, or extra work is added. Any time the dig area grows outside the white-painted premark zone or beyond what you described in your ticket, you should update your 811 notification.

What is utility locating and why it matters before you dig

Utility locating is the process of identifying and marking the approximate position of buried infrastructure, so you can plan and perform excavation without damaging it.

From a practical standpoint, utility locating answers very specific questions:

- Where are the electric, gas, communications, water, and sewer lines in or near my dig area?
- How deep are they, roughly?
- How accurate are these marks, and how close can I safely dig?

That information guides how you excavate. It affects whether you can use a backhoe freely, whether you need vacuum excavation near certain marks, or whether you should redesign the layout to avoid a congested zone of utilities.

What does a utility locator do?

Utility locators are specialists who interpret maps, use electronic locating equipment, and mark the ground with paint and flags. Their job is both technical and judgment-heavy.

In a typical day on a residential or light commercial site in Orange County, a locator will:

- Review the 811 ticket or private work order and any existing maps.
- Walk the site looking for surface clues, such as utility boxes, meters, valve lids, and manholes.
- Use electromagnetic (EM) locators, transmitters, and sometimes sondes or cameras to energize and trace conductive lines.
- Use ground penetrating radar (GPR) where EM methods struggle, particularly for non-metallic pipes, unknown utilities, or congested areas.
- Mark the approximate locations and paths of lines on the surface using industry color codes and provide sketches or reports if requested.

A good locator also flags limitations. For example, a line may disappear under a reinforced slab, or the signal might split at a tee. Knowing where the data is weak matters as much as knowing where it is strong.

Public vs private utility locating: what 811 covers and what it does not

This is the part that catches a lot of homeowners and even some contractors by surprise.

What does 811 locate?

The 811 / DigAlert system arranges for member utilities to locate and mark their facilities up to the point where ownership transitions to the property owner. These are typically public or utility-owned lines in the public right-of-way and, in some cases, utility-owned facilities on private property.

SoCalGas will mark its gas main and service up to the meter. Southern California Edison or other electric utilities will mark their primary and service lines up to the meter base or service point. Phone and cable companies mark their cables to their network interface points. Water agencies mark their mains and sometimes the service up to the meter.

That service is free to the excavator. Utilities recover the cost through their rates, not through a charge on your DigAlert ticket. So when people ask, "Is utility locating free in California?" the answer is: the 811 portion for public utilities is free.

What does 811 not locate?

811 does not send anyone to locate private facilities that are owned by the property owner or by non-member entities. Common examples include:

- Electric from the meter to a detached garage, guest house, or outbuilding.
- Gas lines from your meter to backyard fire pits, pool heaters, or outdoor kitchens.
- Water lines from the meter to your house, irrigation systems, or private fire service loops.
- Sewer laterals on private property, septic system components, and private lift stations.
- Communications and fiber optic cables installed by an owner, HOA, or campus network.
- Private lighting circuits, parking lot power, and sign power.

If a landscaper hits a private irrigation main that feeds only your property, 811 will not be on the hook. That is your infrastructure.

What is the difference between public and private utility locating?

Public locating, through 811, is limited to utility-owned infrastructure and handled by the utility or their contractors. It is coordinated for you, follows regulatory deadlines, and has very clear legal backing.

Private utility locating is a separate service you arrange directly with a locating company. The scope is defined by your property and needs, not just the utility membership list. A private utility locator will look for any buried facility in scope, regardless of who owns it, as long as there is a reasonable way to detect it.

On complex properties like schools, business parks, industrial sites, hospitals, or older estates in Orange County, private locating often reveals entire networks of lines that never appear on city records.

Do I need a private utility locator for my project?

For simple work, public locating may be enough. For example, if you are planting a small tree in a front yard far from the street and away from visible meters and utility boxes, the likelihood of hitting a line is low, though calling 811 is still smart.

From experience, a private utility locator is worth considering when:

- You are doing any deep excavation on private property beyond the street side of meters, especially pools, retaining walls, large footings, or major hardscape.

- The property has outbuildings, older additions, or past remodels, and you do not fully trust the “as built” drawings.
- You see a mix of gas meters, electrical panels, irrigation valves, and telecom boxes, and the routing is not obvious.
- The site has had previous issues, such as prior line hits, unexplained outages, or chronic drainage problems.
- You are working inside a commercial or industrial site where private utilities are dense and valuable, like private fiber or process lines.

For many Orange County homeowners, private utility locating before a new pool, major landscape overhaul, or ADU foundation is cheap insurance compared to the cost of hitting a gas line or cutting power to a neighbor’s unit.

How much does utility locating cost in Orange County?

For public utilities through 811, there is no direct charge to you. That is one of the most common misconceptions. The DigAlert ticket and resulting utility markings are free.

Private utility locating is a paid service, and pricing varies with complexity. Typical ranges in Orange County, based on real jobs, look like this:

For a small residential locate focused on a backyard or a single side yard, expect something in the ballpark of a few hundred dollars, often between 300 and 600 dollars. This covers one locator for a couple of hours using EM tools and perhaps spot use of GPR.

For a larger residential estate or light commercial parcel with complex utilities, prices can move into the 600 to 1,200 dollar range. Time onsite grows, GPR is used more extensively, and you may receive a simple sketch or CAD overlay afterward.

For formal subsurface utility engineering (SUE) work on bigger capital projects, costs are higher and are usually scoped as part of a design budget rather than a simple time and materials number. SUE can involve records research, surveying, test holes, and deliverables in CAD or BIM format.

Compared to the cost to repair a damaged utility line, private utility locating is modest. Repairing a small residential gas service can easily run into thousands of dollars when you factor in emergency response, inspection, and restoration. Damaging a fiber optic cable that serves multiple businesses can reach tens of thousands of dollars, especially if the outage is extended.

How does utility locating work in the field?

Most locating relies on a combination of electromagnetic locating and ground penetrating radar, supported by maps and visual clues.

Electromagnetic locating uses a transmitter to place a signal on a conductive line, such as a copper communication cable, steel pipe, or tracer wire buried alongside a plastic pipe. A handheld receiver detects that signal at the surface and helps trace the path. This is often the first line of attack because it is fast and accurate for conductive lines.

Ground penetrating radar sends radio waves into the ground and measures reflections from changes in material, like the boundary between soil and a buried pipe. GPR does not care whether the line is metal or plastic, which is why it is good for non-metallic utilities or where tracer wire is missing. It also helps when many utilities are stacked, and EM signals overlap.

So when people ask, “Can utility locators find plastic pipes?” the answer is yes, with caveats. If the plastic pipe has tracer wire, EM works well. If not, GPR or other methods are needed, and results depend on soil type, moisture, pipe size, and depth.

Other tools include sondes (small transmitters pushed through non-metallic lines), CCTV cameras inside sewers, and acoustic methods for some water lines. A skilled locator mixes tools based on what the site presents, not a fixed script.

“How deep can utility locators detect?” is another question that depends on conditions. EM locating can trace lines several feet deep with good accuracy, often 4 to 8 feet or more, assuming a clean signal. GPR depth is controlled by soil conditions; in much of Orange County’s mixed soils, practical depth for utility work often falls in the 3 to 10 foot range. Deeper targets are sometimes visible, but confidence drops.

“How accurate is utility locating?” is also nuanced. Standard practice is to treat marks as “approximate” within a tolerance zone, typically 24 inches horizontally on either side of the mark in California, though specific utility policies can vary. Depth readings are estimates. That is why hand digging or vacuum excavation is required when you dig near marked lines.

Utility marking colors: what all that paint and those flags mean

Once locators mark your site, the ground may look like a box of crayons exploded. Every color and symbol has a meaning. Learning the basics helps you interpret what is underfoot.

Here is a compact reference that reflects the standard utility color code used throughout Orange County and the United States:

Color Typical meaning	-----	Red Electric power lines, cables, conduit
Yellow Gas, oil, steam, petroleum, gaseous lines	Orange Communications, alarm, signal, fiber	Blue Potable (drinkable) water
Green Sewer and drain lines	Purple Reclaimed water, irrigation, slurry	Pink Temporary survey markings
White Proposed excavation (premarking)		

When you see red paint on the ground, you are looking at electric. Treat it as energized and dangerous until proven otherwise. Orange utility flags usually indicate communication or fiber. Cutting an orange line may not shock anyone, but it can take out phone, internet, and security systems, and that bill is painful.

“What is the white paint on the ground for?” is a common question from neighbors. White paint is applied by the excavator, not the utilities, to show where digging is proposed. Premarking with white helps locators focus their effort and is required in many situations.

If markings look confusing, do not be shy about asking the locator while they are onsite. A short conversation then is worth hours of guesswork later.

How long does utility locating take?

For a standard residential DigAlert ticket, member utilities usually meet the two working day requirement. Locators from different utilities may show up at different times. Most individual visits are short, often 15 to 45 minutes, unless the site is complex.

Private utility locating time onsite depends heavily on site size and complexity. On homes in Orange County, I routinely see:

- Simple single-area locates completed in 1 to 2 hours.

- Full-property residential surveys closer to a half day.
- Commercial or institutional work stretching over multiple days, especially with GPR grids or SUE data collection.

The important point is that you should not schedule your excavator or concrete crew for the same morning as your private locate. Give yourself at least a day or two buffer to interpret markings, clarify any questions, and adjust excavation plans if needed.



**ORANGE COUNTY
UTILITY LOCATING**



Bess Testlab Inc.
 2463 Tripaldi Way, Hayward, CA 94545
 408 988-0101
<https://www.bessutilitysolutions.com/underground-locating-detection/>



Finding specific buried lines: water, gas, sewer, septic, electric, and fiber

Different utilities present different challenges.

For buried water lines, locators look at valve boxes, meters, and backflow preventers, then trace the line with EM if there is metal piping or tracer wire. Non-metallic services without tracer wire often require GPR or acoustic leak or pulse methods, which are more specialized.

For buried gas lines, from street main to meter, SoCalGas handles locating through 811. **Orange County Utility Locating** Private gas lines from meter to appliances or backyard features require private locating. These lines are often PE (plastic) with tracer wire. Where tracer is broken or absent, GPR and sometimes induced signals through connected metal parts come into play.

For sewer lines, main sewers in the street are usually well documented. Private sewer laterals, septic system lines, and cleanouts are more varied. Locators often push a sonde or camera from a cleanout down the line, then track it with a receiver at the surface. Yes, a septic tank can be located this way in many cases, even when its exact position is forgotten.

For buried electrical lines on private property, such as feeders to detached garages, pools, or site lighting, EM tools are usually effective. The key is tying the transmitter into the right conductor safely, often at a panel, transformer, or junction box. Taking shortcuts here can be dangerous, so this work should be left to people who are trained and equipped for it.

Fiber optic cables can often be located if they include a metallic strength member or have tracer wire. Private campus fiber networks are valuable and fragile, so this is a common focus for private locating around office parks in Irvine, Tustin, and similar areas.

Subsurface utility engineering: when locating becomes part of design

Subsurface utility engineering, or SUE, goes beyond simple mark-and-go locating. It is a structured process of identifying, mapping, and managing underground utilities through the design and construction phases of a project.

On larger Orange County projects, especially public works and major private developments, SUE can involve:

- Comprehensive records research and utility coordination.
- Field utility locating using EM and GPR, assigned to quality levels (for example, QL-B for surveyed surface marks).
- Targeted test holes (potholing) to expose utilities, measure depth, and verify size and material (QL-A).
- Deliverables in CAD or BIM, so designers can accurately route new utilities and structures.

The up-front cost of SUE can look significant. The savings usually show up later, when you avoid redesigns, delays, or emergency relocations triggered by surprise underground conflicts.

Can I locate my own underground utilities?

Homeowners often ask if they can buy or rent a small locator and do the work themselves. Technically, you can rent locating equipment and use it. In practice, success varies.

Consumer-grade locators struggle in noisy environments and near multiple utilities. Even professional gear is only as good as the operator's understanding of signal paths, interference, and construction practices. [Orange County Utility Locating](#) Misinterpreting a false peak as a real line, or missing a secondary service, can have serious consequences.

You also cannot substitute do-it-yourself locating for the legal requirement to call 811. Even if you own a locator and feel confident, utilities expect an 811 ticket in place for covered work.

If you want to understand your property better, walking the site after utilities have marked it and taking photos and sketches is a great habit. Leave the actual pre-dig locating to the people who do it daily.

Liability, damage, and what happens if you hit a utility line

If you hit a utility line, first step is always safety. Stop work, keep people away, and contact emergency services if there is any sign of gas leak, sparking, flooding, or other immediate hazard. Then notify the affected utility.

From a liability standpoint in California, investigators will look at:

- Did you contact 811 and allow proper time?
- Did you respect tolerance zones and use appropriate excavation methods near marks?

- Did you respond reasonably to any site-specific directions or markings?

If you called 811, the utilities marked correctly, and you still caused damage by digging carelessly, you are generally responsible for repair costs and related damages.

If you did not call 811 and a public utility is hit, expect to be held liable. That can include the direct cost to repair a damaged utility line, emergency response, loss-of-service claims from affected customers, and sometimes regulatory penalties.

On private property, hitting your own private lines can be costly but usually stays within your project's orbit. Hitting another party's private fiber or shared infrastructure can expand the circle. I have seen one mislocated private fiber cause days of disruption for several tenants and generate a repair invoice that dwarfed the entire original excavation budget.

Do I need a permit to dig in Orange County?

Permitting depends on where and what you are digging.

If you are working in the public right-of-way, such as sidewalks, streets, or parkways, you almost always need an encroachment or excavation permit from the city or county agency that maintains that road. Utility companies pulling new services handle this routinely, but private contractors and homeowners need to check with the relevant jurisdiction.

On private property, building permits may be required for work that includes footings, retaining walls, pools, major grading, and other structural or drainage improvements. Each Orange County city has its own thresholds and exemptions.

Small gardening projects, shallow fence posts entirely on your property, and similar minor work may not need a permit, but that does not change the 811 requirement. Permit or not, if you are doing significant excavation, agencies expect that you called 811.

Quick checklist: who to call and when before you dig

Here is a compact sequence that works well for most Orange County projects:

1. Contact 811 / DigAlert at least two working days before your planned excavation, but not more than 14 days early, and clearly describe the work area.
2. Premark your dig area with white paint or flags so locators know exactly where to focus their efforts.
3. Once markings are complete, walk the site, photograph the markings, and compare them with your work plan.
4. If your project involves deep or complex excavation on private property, hire a private utility locator to identify private lines that 811 will not cover.
5. Verify whether any city, county, or building permits are required, especially for work in the public right-of-way or structural excavation.

Why careful utility locating is worth the effort

Utility locating is sometimes treated as a hurdle to clear before the "real work" of excavation. Anyone who has been on a job that struck an unmarked or misjudged utility usually does not see it that way again.

The cost of doing it right is modest: a free call to 811, a bit of calendar discipline, and, where appropriate, a straightforward private locating scope. In return, you reduce the risk of injuries, schedule-breaking surprises, legal

exposure, and very expensive repairs.

If you are planning work in Orange County and are unsure whether your project needs only 811 or also a private utility locator, lean conservative. When in doubt, ask questions. A ten-minute call with a locator or your contractor before you dig is almost always cheaper than a ten-hour shutdown after something goes wrong.