



An Extended Guide · No. 1548

Driven-Post vs Ballasted Ground Mounts

Anchored into the earth, or
weighed down on top of it

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! Read this first — two honest truths about ground-mount solar

Two honest truths before we start, because they surprise a lot of good folks. First, a ground-mounted solar array is a professional job. It takes a licensed installer, real foundation work in your yard, building and electrical permits, and your utility's approval to connect (that approval is called interconnection). This guide is here to help you understand, plan for, and evaluate a ground mount; it is not a do-it-yourself project, and I never want you digging footings, wiring an array, or opening an electrical panel. Second, a plain grid-tied solar system — roof or ground, without a battery — shuts itself off during a power outage, even in bright sunshine. That is a required safety feature, so the system cannot put electricity onto the lines while the crews are repairing them. If keeping the lights on during an outage matters to you, you will need a battery, and we will talk about that plainly. This guide sets the two most common ways of anchoring an array — driven posts versus ballast — side by side, so you can see when each one is the honest right answer.

Anchored in, or weighed down on top?

When it comes to keeping a ground array planted, there are two broad philosophies. You can drive steel posts down into the earth, or you can weigh the frame down on top of the ground with heavy ballast. Let's put them head to head, plainly and with nothing to sell you.

I'm Bill, and I run Bill's Home Tech here in Portage County. I've spent 30-plus years helping folks make sense of choices exactly like this one. The good news is that this isn't really a matter of taste — in most cases your own ground quietly makes the decision for you.

If you'd like the wider view of every foundation type first, our foundations guide walks through all four families. This guide zooms in on the two you'll hear about most, and the honest question underneath them: does your foundation go into the earth, or rest on top of it?

★ Torn between two quotes?

If one installer proposes driven posts and another ballast, that difference usually comes down to your ground. Bring me both and I'll help you see why. Call or text me at (330) 200-8042.

Driven versus ballasted, on one page

If you read nothing else, read this. Here's the whole matchup in a handful of plain points.

- ❑ Driven posts are steel posts pushed straight into the soil by a machine.
- ❑ They're fast, use little concrete, and are very common on drivable ground.
- ❑ But they need soil you can actually drive into — not shallow rock.
- ❑ Ballast sits the frame on top and weighs it down — no digging at all.
- ❑ Ballast is the answer where you can't or shouldn't penetrate the ground.
- ❑ The trade for ballast is a bigger footprint and a lot more material.
- ❑ Your ground — not a preference — usually decides which one you get.

✓ Not a taste test

Folks sometimes ask which one they should 'want.' Honestly, neither — you want whichever fits your ground. Let your soil, not a sales pitch, lead the way.

Two ways to stay put

Everything in this guide comes back to one simple picture, so let's start there before we get into the particulars.

Imagine you want to keep a picnic table from blowing away. You could sink its legs into the ground, or you could pile something heavy on it. Anchoring an array is much the same. Driven posts sink the array into the earth; ballast piles on enough weight to hold it down where it stands.

Both work. Both, done right, will keep your array safe through storms and winters for decades. They just suit different ground, and they ask for different things in return. The rest of this guide is about telling which is which for your place.

✓ Same goal, different route

Anchored in or weighed down, the goal is identical: an array that doesn't budge. Keep that in mind and the choice stops feeling mysterious — it's just two roads to the same steady result.

Driven posts, up close

The most common anchor in ground-mount solar, and about as straightforward as it sounds.

A machine drives steel posts straight down into the soil, to the depth the engineer specifies, much like setting a run of very sturdy fence posts. The racking that holds your panels then bolts right onto those posts. In the right ground it's quick, clean work.

Because there's often little or no concrete to pour and wait on, a driven-post install tends to move along briskly and leaves less mess behind. On open, cooperative ground, this is frequently the simplest path there is — which is exactly why you see it so often.

✓ The everyday choice

On typical open Ohio ground, driven posts are the bread and butter of ground-mount solar. If your soil suits them, don't be surprised when an installer reaches for this approach first.

Why folks like driven posts

When the ground cooperates, driven posts bring a nice list of plain advantages.

- Speed — posts go in quickly, with no concrete to sit and cure.
- Less material — often little or no concrete, so a lighter touch overall.
- Smaller footprint — the anchoring is mostly below ground, out of the way.
- A tidy result — less disturbance and less mess left in the yard.
- Well proven — it's the common method precisely because it works.

None of that means driven posts are automatically the winner. It means that where they fit, they fit very well. The whole question is whether your ground lets them in — which is what the next page is about.

✓ Fast and light, when it works

Speed and low disturbance are real perks. Just remember they only pay off if your soil is the kind you can actually drive a post into.

What driven posts need from your ground

Here's the honest catch: driving a post only works if the ground will take one. That rules a few sites right out.

You need soil that's firm enough to hold a post but drivable enough to accept one. Where there's shallow bedrock, a machine simply can't push through. Where the ground is very loose, or the water table sits high, a driven post may not get the firm grip it needs. And a very rocky lot can stop the method cold.

This is precisely why a look at the soil comes first. It's not that driven posts are fragile — it's that they ask for the right ground, and not every yard has it. When the ground says no, that's ballast's cue to step in.

! Rock and high water can rule it out

If an installer waves off your rocky or wet ground and insists on driving posts anyway, be cautious. The soil has the final say here, and a good pro respects that.

Ballast, up close

The other philosophy: don't fight the ground at all — just sit on top of it and stay put with weight.

A ballasted mount rests the frame on the surface and holds it down with heavy ballast, typically concrete blocks or trays built into the base. Nothing is driven or poured below the surface. The array is kept safe by sheer, engineered weight rather than by being anchored into the earth.

That single fact — nothing goes into the ground — is the whole reason ballast exists. It lets you place an array in spots where digging or driving is impossible, unwise, or simply not allowed. It's a specialized tool, and a very handy one when you need it.

✓ Weight instead of digging

The mental picture for ballast is simple: instead of reaching down into the ground for a grip, it stays put by being too heavy to move. That's the trade at the heart of it.

Where ballast earns its keep

Ballast isn't a fallback — it's the right answer for specific grounds where anchoring in just won't do.

Sometimes the ground can't be penetrated: shallow rock stops any post. Sometimes it shouldn't be: a high water table, a utility easement crossing the yard, or capped ground that must not be disturbed. In every one of those cases, ballast lets you have an array where a driven post never could.

There are gentler reasons too. Some folks simply prefer to leave the earth as undisturbed as possible, and ballast obliges. The point is that ballast opens up sites that would otherwise be off the table entirely — and that's a genuinely valuable thing.

✓ The 'can't dig here' solution

Whenever you hear 'we can't really dig there,' ballast is usually the reason there's still a path to solar. It turns a no-go site into a yes.

Two kinds of homes, two sets of needs

Whether you lean driven or ballasted often tracks with the kind of ground you've got — and town lots and country acreage tend to bring different ground to the table.

If you live in town or the suburbs

In town or the suburbs, a ground array is smaller and often boxed in by buried utilities, easements, and tidy hardscape. Those constraints can nudge you toward ballast even on a modest array.

- A utility easement or buried lines can make no-dig ballast the safe pick.
- Where the soil allows and there's room, driven posts still work well.
- Ballast's larger footprint has to fit a smaller yard, so measure early.
- Your township sets where and whether you can dig — always defer to it.

If you are out in the country on a well

Out in the country you usually have open, drivable ground, which is driven posts' natural home. But wet low spots, rocky patches, and old capped ground can still call for ballast here and there.

- Open, firm pasture is a classic fit for fast driven posts.
- A rocky rise or a wet, low corner may need ballast instead.
- On a big property you might even mix the two across different patches.
- Longer wiring runs from a far array tie into our trenching guide.

★ Wondering which your ground calls for?

You don't have to know — that's what the soil check is for. Tell me about your property and I'll help you understand what to expect. Call (330) 200-8042.

What ballast asks in return

Every tool has a price, and ballast's is paid in room and material. It's worth knowing so nothing surprises you.

Holding an array down by weight alone takes a lot of weight — and that weight has to go somewhere. So a ballasted array generally needs a bigger, flatter footprint and considerably more material than a driven-post array of the same size. On a tight lot, that extra room can matter.

It also usually wants fairly level ground to sit on evenly. None of this makes ballast a poor choice — it's simply the cost of not digging. When your site rules out anchoring, that cost is well worth paying to have solar at all.

✓ Room and weight are the price

If ballast is on the table for you, picture a somewhat larger, flatter footprint. That's the honest trade for a foundation that never touches the soil beneath it.

Where each one shines

The matchup on one page, to keep or photograph. These are general leanings, and your installer confirms them for your site.

Your site	Driven posts	Ballast
Firm farmland	Great fit	Not needed
Shallow rock	Poor fit	Great fit
High water table	Poor fit	Great fit
Easement or capped	Not allowed	Great fit
Tight, level lot	Fine if drivable	Needs the room

See the pattern? Driven posts win on open, drivable ground; ballast wins wherever you can't or shouldn't dig. It's less a contest than a matter of matching the tool to the site.

Your ground makes the call

By now the theme is clear, but let's name plainly what an installer is weighing when they choose between these two.

- Can the ground be driven — is it firm but not full of rock?
- How high does the water table sit, especially on low, wet ground?
- Is there an easement or buried utility that forbids penetrating the soil?
- Is the ground capped or protected in a way that must not be disturbed?
- How level and roomy is the spot, which matters most for ballast?

You won't be judging these yourself, and you shouldn't have to. But now when an installer explains their choice, you'll recognize the reasons — and you'll know a thoughtful answer when you hear one.

✓ Frost and soil go deeper

How deep the ground freezes and how your particular soil behaves both feed into this too. Our frost-and-soil guide covers that side of the story without guessing a single depth.

When you simply can't dig

Let's linger on ballast's home turf, because it's the clearest case of all — the sites where anchoring in is off the table.

Shallow bedrock will stop any post. A high water table can leave the ground too soft to grip. A utility easement crossing your yard, or ground that's been capped or protected, may legally or wisely forbid any digging at all. In each case, driving a post isn't a poor choice — it's a non-starter.

That's where ballast quietly saves the day. By sitting on top and holding down with weight, it lets you put an array on ground that would otherwise be a dead end. If your site has any of these features, don't be discouraged — ballast may be your path forward.

! Never dig where it's not allowed

If any part of your yard carries an easement or a cap, never let anyone dig there to save a little money. Those rules exist for real safety and legal reasons. Ballast is the proper way around them.

How the ground gets prepared

The steps look a little different for each approach, but they start and end the same way. Here's the calm version.

Either way, it begins with calling 811 to get buried utilities located and marked, and clearing and readying the spot. From there the paths diverge: for driven posts, the machine drives the steel down into the soil; for ballast, the crew places the frame and sets the heavy ballast on top.

Then both come back together — the racking is mounted, squared, and leveled, and the wiring is run back to the house, usually underground through a trench. Our trenching guide covers that run in full. Start to finish, it's orderly, permitted work by a licensed crew.

! 811 comes first, every time

Whichever anchoring is used, if anything goes into the ground, calling 811 before digging isn't optional — it's the law and plain sense. No colored utility marks in the yard means no digging yet.

The honest cost and material picture

I won't put dollar figures on this — only a real quote can — but I can tell you plainly how the two tend to differ.

Driven posts usually mean less material and quicker labor when the ground suits them, which often makes them the more economical route on cooperative soil. Ballast, with all its weight and its larger footprint, generally uses more material and more room, which tends to add up.

But cheaper on paper means nothing if the method won't work on your ground. The truly economical choice is the one that fits your site and stands for decades. Where you can't dig, ballast isn't the expensive option — it's the only one that gets you solar at all. Our cost-versus-roof guide frames the bigger money picture without guessing figures.

✓ Fit beats sticker price

Don't chase the method that looks cheaper in a vacuum. On the wrong ground it isn't cheaper — it's impossible. Let the site pick, then compare real quotes.

Footprint, looks, and the yard

The two approaches take up your yard a little differently, which is worth a thought if space or appearance matters to you.

A driven-post array keeps most of its anchoring hidden below ground, so what you see is mainly the panels on their posts — fairly compact. A ballasted array carries its weight on the surface and spreads over a bigger, flatter footprint, so it occupies more of the yard and sits a touch more visibly on the ground.

Neither is unsightly, and a tidy install of either looks intentional and cared-for. But if you're tight on room or picky about sightlines, the smaller footprint of driven posts — where your ground allows them — may appeal.

✓ Picture the footprint

When you weigh the two, imagine the space each takes. On a roomy rural lot it rarely matters; on a snug town yard, the larger ballast footprint is worth picturing in advance.

Either way, it's a permitted pro job

Driven or ballasted, this is engineered, permitted work — never something to take on yourself.

Both approaches are sized by an engineer for our local wind and snow, built by a licensed crew, and signed off by an inspector. Driving posts means heavy machinery and buried-utility hazards; ballast means handling serious weight and getting the engineering right so it truly can't shift. Neither is a do-it-yourself afternoon.

Your role is the one that actually protects you: understanding the choice well enough to pick a careful installer and follow their reasoning. That's worth far more than any money you'd risk trying to shortcut the work.

! Leave the anchoring to the licensed crew

Between engineered loads, heavy equipment, and buried lines, this is no place to save a dollar with your own labor. Let the pros anchor it, and keep yourself safe.

Living with each over the years

Once it's standing, either approach asks very little of you. Here's the small amount worth a passing glance.

With driven posts, the thing to watch for over many winters is any sign of a post heaving up out of line — though a properly set foundation resists exactly that. With ballast, you'd note any shifting or settling of the frame on its base. In both cases you're just watching, not fixing.

Happily, a ground array of either kind is right there at a reachable height, so a casual look-over now and then is easy. Anything that seems off — a lean, a tilt, water pooling at the base — is a call to the installer, not a job for you. Our common-problems guide lists the signs to watch.

✓ Watch, don't wrench

For either foundation, your job is a friendly eye, not a toolbox. Spot something odd and note it; let the pro decide what, if anything, it means.

Questions to ask your installer

These few questions will quickly show you whether an installer is matching the method to your ground, or just to their habits.

Q: Are you recommending driven posts or ballast for my site, and why?

You want the why tied to your actual ground — your soil, rock, water, or an easement. A reason rooted in your site is a very good sign; 'it's what we always use' is not.

Q: Have you confirmed my ground can be driven, if you're driving posts?

Driving only works in drivable soil. A careful installer checks, rather than assuming, before committing to posts on your particular lot.

Q: If ballast, how much extra footprint will it need in my yard?

Ballast spreads over more ground. Knowing roughly how much room it wants helps you picture it, especially on a smaller lot.

✓ Good answers name your ground

The best replies to all of these mention your specific site — the soil, the water, the rock, the easement. That's the sound of someone letting your ground lead the choice.

It's a fit, not a favorite

If there's one thing to carry away from this whole guide, it's that you don't have to root for either team.

Driven posts and ballast aren't rivals so much as two tools for two kinds of ground. The right one for you isn't the one that sounds better — it's the one your soil, water, and site quietly point to. A good installer reads that and tells you plainly.

So relax about the choice. Your part is simply to understand both well enough to recognize a sound recommendation and a trustworthy installer. Get that right, and whichever anchoring your ground calls for will serve you well for a very long time.

✓ Let the site choose

The most freeing thing about this decision is that it isn't really yours to agonize over — it's your ground's. Understand the two, then let your site have the final word.

Common Questions

The questions I hear most about driven posts versus ballast.

Q: Which one is better?

Neither, in the abstract. Driven posts are great on firm, drivable ground; ballast is great where you can't or shouldn't dig. The 'better' one is simply whichever fits your site — and your ground usually makes that clear.

Q: Is ballast more expensive than driven posts?

It often uses more material and room, which can cost more. But on ground you can't dig into, ballast isn't the pricey option — it's the only one that works. Fit matters more than sticker price; a real quote is the only honest number.

Q: Why would anyone choose not to dig?

Because sometimes you can't or shouldn't — shallow rock, a high water table, a utility easement, or capped ground that mustn't be disturbed. Ballast makes an array possible on sites where driving a post is a non-starter.

Q: Can I just pick whichever I like the look of?

I'd steer you away from that. The look is minor next to whether the method suits your ground. Let the soil and site lead; if both truly work for you, then by all means weigh appearance and footprint.

★ Comparing two proposals?

If your quotes disagree on driven versus ballast, that's usually a clue about your ground — and a great thing to talk through. Call or text me at (330) 200-8042 and we'll sort it out together.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made the choice between driven posts and ballast feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

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★ Bill's Home Tech — real help, close to home

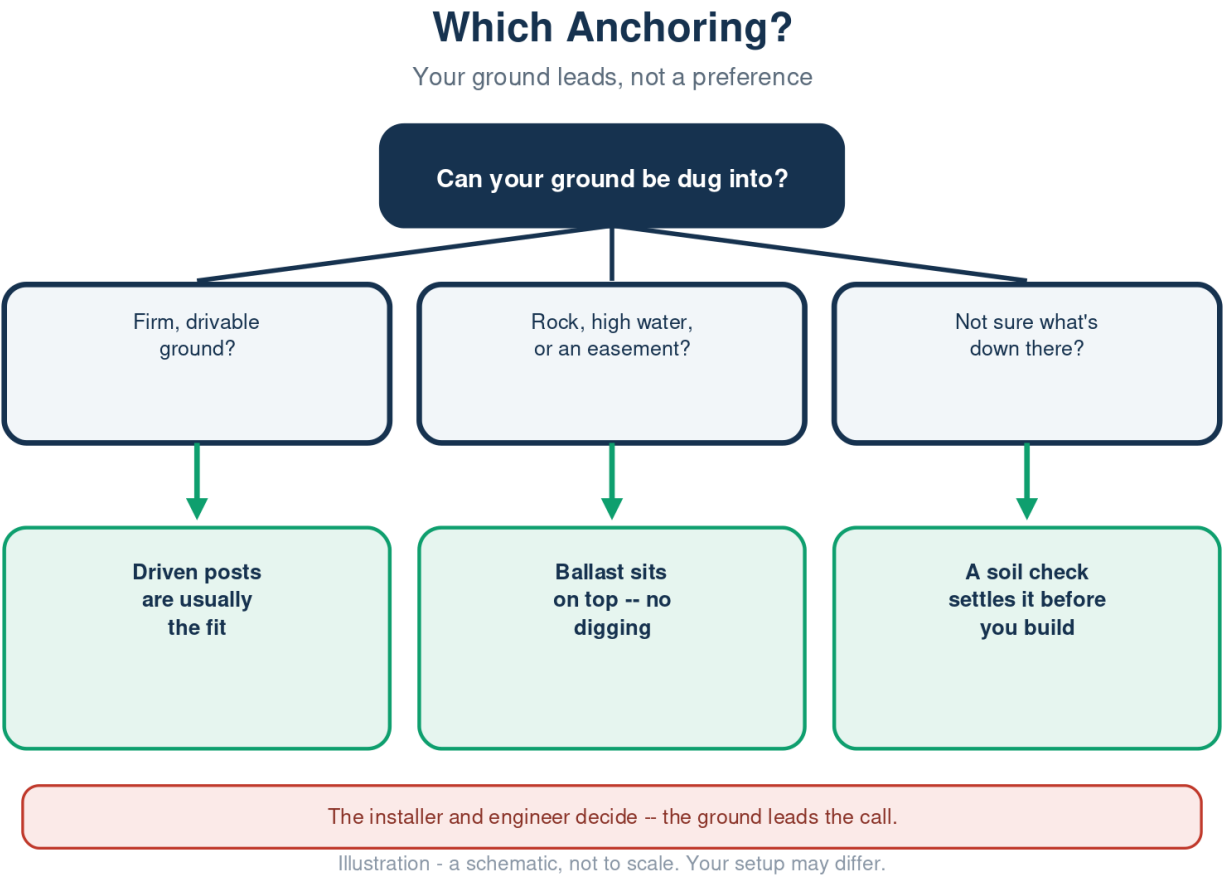
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Driven Posts vs Ballast

The two anchoring philosophies, weighed side by side

	Driven posts	Ballast
Anchoring	Into the soil	Weight on top
Digging	Yes	None
Ground needed	Drivable	Level surface
Footprint	Smaller	Larger
Material	Less concrete	More ballast

Neither wins in the abstract -- your ground points to the fit.



Where Each One Shines

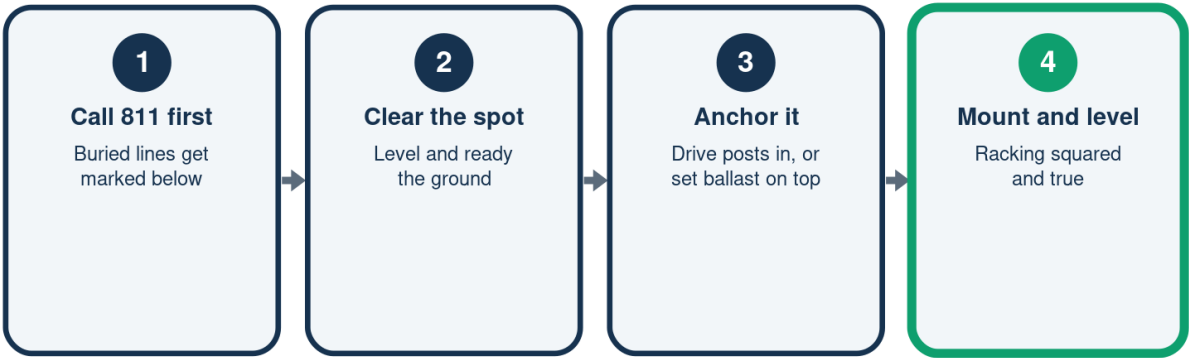
Matching the anchoring to the site

	Driven posts	Ballast
Firm farmland	Great fit	Not needed
Shallow rock	Poor fit	Great fit
High water	Poor fit	Great fit
Easement/capped	Not allowed	Great fit

Driven wins on drivable ground; ballast wins where you can't dig.

How the Ground Is Prepared

Same start and finish -- a different middle



Orderly, permitted work by a licensed crew from start to finish.



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A Note From Bill

A quick note from Bill.

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