

Maintenance-Free Metal Board Fence

Installation Instructions

Although it may seem like a large under-taking or complex project; by following these simple steps and instructions you can easily install this unique fence product on your own and have it look as though it was installed by a seasoned professional.

Maintenance-free metal board fences are made up of steel boards secured to a steel post/rail framework by screws. The fence can be assembled in various configurations that are well within the skill range of the do-it-yourselfers.

We recommend you read this complete set of instructions all the way through before you begin to plan how your fence will be installed as there are important sections further on that will have an impact on the early stages of the installation.

STEP 1:

Tools & Materials Checklist

Take a look at the Tools & Materials Checklist. All of these tools and materials can be purchased from your local home building centre or hardware store. Alternately you may want to rent items like a hand or gas powered auger. A drill with the appropriate hex driver bit will work fine, however a cordless impact driver is much handier and also free from cords to trip on.

STEP 2:

Planning & Materials

Before you begin to plan your new fence you will need to call your local utility companies and have them come out and mark all underground lines that run across your property in order to be sure you will not damage them or cause injury to your self or neighbors when digging holes for your posts.

Next you will need to check your local building codes to make sure your plans fall within code guidelines and to see if you need a building permit before you begin. Now is also a good time to get in touch with your neighbors and let them know of your building plans since your fence could indirectly infringe on their property or view. It is also worth mentioning that when constructing a fence between two neighbors the cost of the fence can be shared.

Tools & Materials Checklist

- Boards, Stringers, Post Sleeves, Posts, Top Cap, Post Clips & Screws
- Fab on Site Gate Frames
- Post Hole Digger (6" gas powered post hole auger is preferred)
- Carpenter's Level & Line Level
- String or Chalkline
- Wood stakes (for marking off fence layout in yard)
- Cement mix if you plan to fill the post holes with concrete (can be mixed in the hole)
- Cordless screw gun / drill
- 5/16" Driver with magnet
- Quick clamps with rubber pads
- Scrap lumber for making spacer jigs

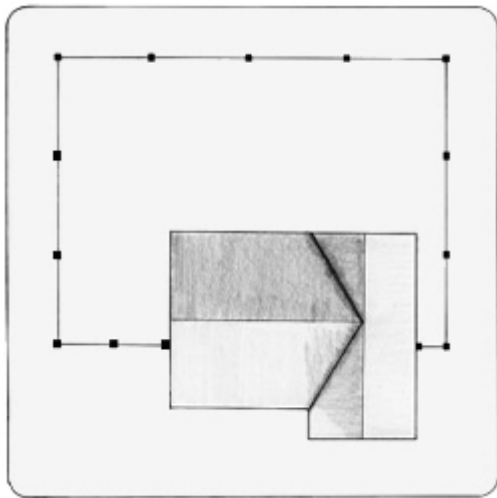


Figure 1

Now you will want to layout your yard and fence layout to scale on a piece of graph paper in which you will locate the approximate location of all posts and gates (**See Figure 1**). Careful attention to detail at this stage makes it easier when you need to order materials and it ensures that you order the correct amount and save time and money in the long-run.

Use our planning charts so that you know how far the posts should be out of the ground and plan your gate openings so that the boards will fit the gate frames with approximate board spacing.

Fence Materials

A metal board fence consists of the following parts:

- **Posts** – Posts can be 2" x 2" x .100" square structural tubing for your standard fence or you can use 3" x 3" x .125" or 4" x 4" x .125" tube as well for a different look and more strength. Posts are spaced either 94"(inches) or 118"(inches) on centre – that is 94" or 118" from the center of one post to the center of the next post. Posts should be approximately 32" to 36" in the ground and surrounded by concrete.
- **Post Sleeves** – With maintenance free metal fence there is no need to paint the metal posts of the fence. All that is needed is a post sleeve which is a pre-painted galvanized steel product that slides over the post. They are available in 2 x 2, 3 x 3 or 4 x 4 sizes to match the posts.
- **Rails/Stringers** – Stringers span the posts horizontally and you always need at least 2 stringers to support the boards. In some cases like extreme high wind load conditions or very tall fence applications a third stringer is recommended to add extra support and ensure that your metal fence will always look its best. Stringers are attached to the posts via the Post Clip which is made from 16 gauge galvanized material to make sure the stringers are adequately secured to the posts.
- **Boards** – The boards are all metal as well and come in a ribbed design to give them extreme strength in windy conditions and general day to day stress. Boards span the stringers and are usually left 2 inches above the ground.
- **Top Cap** – To finish the fence you install the top cap which is a small u-shaped channel that covers the top edges of the boards so as to prevent injury and it gives your fence a trim and professional look by hiding any slight variances in board height.
- **Gates** – The maximum width of any gate section should not exceed 48" for a 2 x 2 post. Gate posts may need to be larger or thicker walled to be able to support a large gate. If you want to have more than a 96" opening it is recommended that you install a removable post with cleats that allow the fence to rest on it and take up the extra weight of the gate which will cause sagging if left unsupported. Also a good quality heavy duty gate hinge is suggested to provide years of trouble free use. ***Gates come in different heights and widths, plan ahead using charts.***

All these parts are secured together using #10 and #12 TEK Screws which need to be ordered with your other fencing materials.

STEP 3:

Excavation

Building your maintenance free metal board fence will go a lot smoother if you take the time to carefully plan and layout your entire fence before you begin digging.

- Stretch string tightly between wooden stakes to layout the perimeter of all your post locations. Position the lines as level as possible and about 1 foot above the ground.
- Clear a path at least 1 foot to either side of the line you have staked out and either clear shrubs, bushes, trees, stones or other items that may be in the way or design the fence to avoid them. Make sure that any buried utility services will not interfere with your post locations.
- Lay out the post locations. Measure along your layout line and establish post locations by dropping a plumb bob from the line to the ground. From there, measure in half the thickness of the post to locate the centre point.
- Drive a short stake to mark each point. Make your measurements from the centre of each post to the centre of the next post. While you can choose to use a custom centre distance between posts; 94" (inches) and 118" (inches) are the standards and 118" (inches) on centre being the maximum centre distance possible.
- Dig the post holes. A 6 or 8 inch diameter hole is recommended. A hand operated clamshell type post hole digger is a general purpose all-around good option for digging holes and you can buy or rent one from your local hardware store or rental place. If you have many holes to drill you may wish to rent or borrow a power auger which can greatly speed up this part of the job.

WARNING: Not all power augers come with a standard safety shut off lever; if this is the case you will need a helper.

Make sure to dig your holes plumb vertical. This is important when you set the posts. Remember that postholes should be dug approximately 36" (inches) deep.

STEP 4:

Setting the Posts

Posts are set into the bottom of the hole and tapped into the dirt approximately 6" (inches), this helps with keeping them plumb, level and the right distance out of the ground when pouring concrete. **(See Figure 2)**

- If you are installing your fence on un-even or sloped ground you will have to decide how your fence will be installed. With gentle long slopes you can choose to have your fence follow the lay of the land **(See Figure 3)**. However, with steep slopes you will have to step your fence sections which generally looks better as well **(See Figure 4)**. So make sure you plan your fence accordingly.
- Make sure post holes are clear of all loose soil. Set post into hole and tap it down so that it is stuck into the ground about 6" (inches) and can stand on its own. From here you will want to refer to the **Fence Specification Chart** (found at the end of this document) to determine the height that your posts should stick out of the ground.

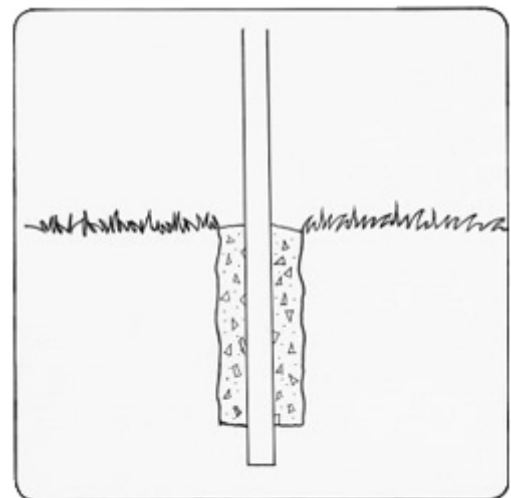


Figure 2

- Position and plumb the post, using the layout line as a guide. Double check your spacing with a tape measure.
- *NOTE: When following the lay of the land, first you would set and secure your corner posts with concrete then you would tie a chalk line over the top of the outside posts and set all the interior posts up to the height of the chalk line.*
- At this stage you must fill in the hole around the post with either earth or concrete. Our recommended method is to use the pre-packaged concrete where you just add water for maximum strength. Place a small amount of dry concrete powder in the hole and tamp it to compact the powder checking the posts for plumb and level then add a bit more and repeat until the concrete mix is approximately 1" – 1-1/2" from the top of the hole. This will ensure that your fence posts are plum and level, held firmly in place while you erect the fence and provide the ability to shift a post in the event the need should arrive. Regardless of whether you choose to use concrete mix or earth to hold the posts in place, be sure to go slow and add a little at a time and tamp each layer and check the post for plumb, level and height.
- Once the fence is completely constructed you will return and wet in each post hole to set the concrete. We will remind you to do so at the appropriate time.

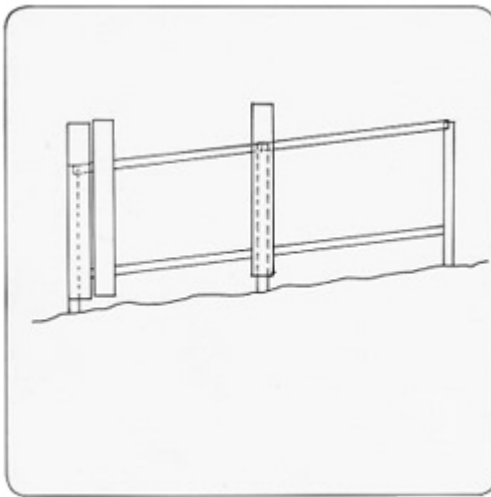


Figure 3

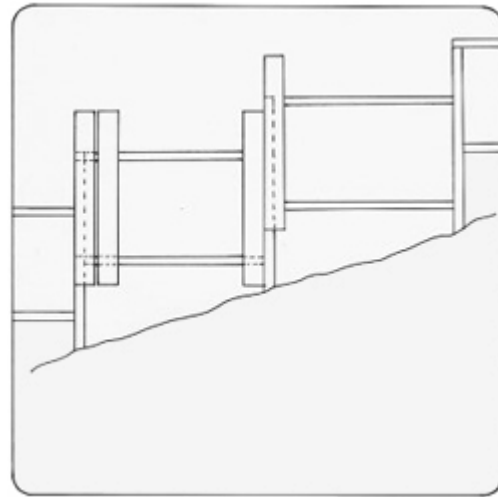


Figure 4

STEP 5:

Attaching Sleeves, Stringers & Boards

First thing needed is a sleeve on each post. Once the sleeves are on and flush to the top of the post, you can secure the post-clips to the posts and attach the stringers at the specified height for your style of fence (**Refer to Fence Specification Chart**).

Depending on the design of your fence you can choose to run the top stringer right over the post and join them in the center of the post, if this is the case the post clips are secured so that the top of the clip is flush with the top of the post (**See Figures 5 & 6**). If you choose to have the post stick out past the top stringer and finish the post with a cap you will have to mark each post and set the clips and the stringer accordingly. The bottom stringer should be positioned so that it measures 12" (inches) from the ground to the top of the stringer.

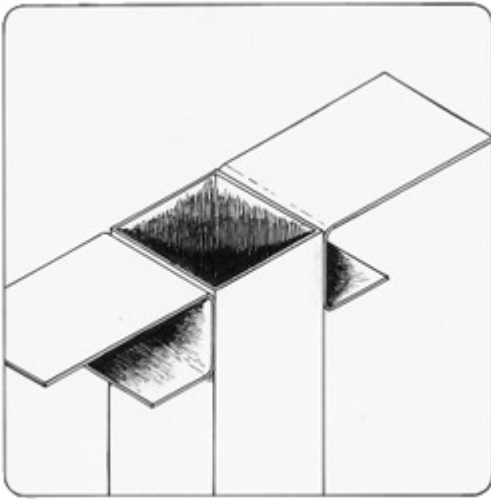


Figure 5

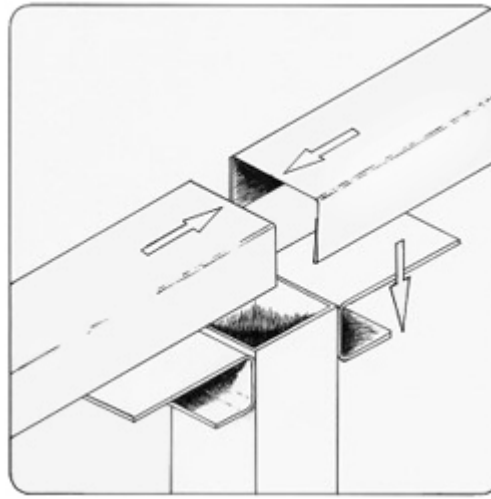


Figure 6

For installing the boards to the framing that you have already put in place you will want to measure and accurately layout and install a board on each end of the run of fence. Attach a string line over the tops of the installed boards and set each successive board up to the height of the string line to ensure a straight line.

Be sure not to bump the string line each time or you will end up slowly moving the line each time which results in a top line that is not straight. Boards should be located 2" (inches) above the ground level. In order to reduce the

change of moving a very long string line you can install a board on either end of your 8' or 10' section and make a handy leveling jig from scrap pieces of wood (**See Figure 7**) and secure it to the top of the boards with rubber padded quick-clamps. This step ensures that the top and bottom lines of the fence will be perfectly straight and also speeds up installation. Next you will want to calculate how much space will be between

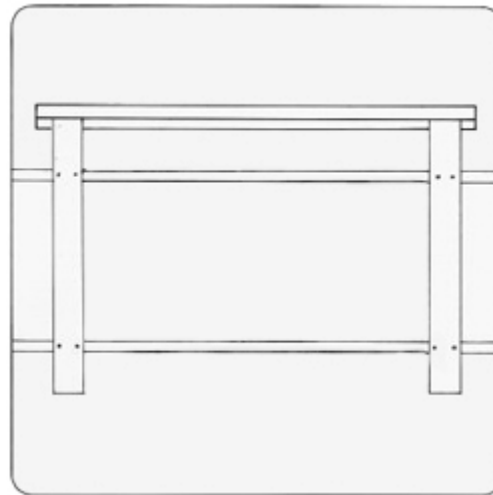


Figure 7

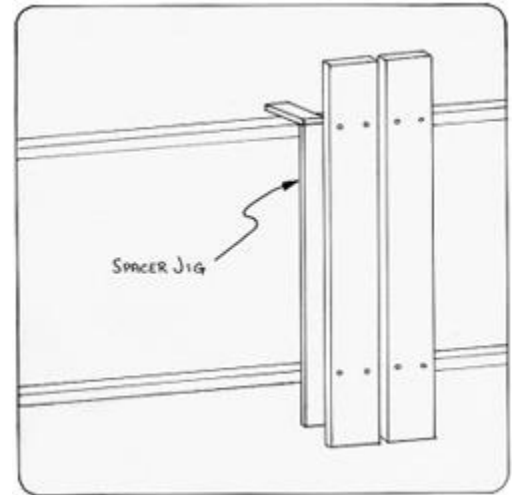


Figure 8

each board and make a spacer jig out of wood that will hook on the top stringer and hang down across the bottom stringer (**See Figure 8**). Note that there are usually 15 boards in an 8' (foot) section of fence. Calculate your spacings accordingly. This step allows you to accurately keep the board spacing's equal and uniform. Rather than coming to the end of the line and having to cut a board vertically to fill the remaining spot, it is easier and more aesthetically pleasing to use our board spacing chart to vary the board spacing so that you end up installing the final board without cutting.

The combination of these two handy jigs speeds up the install while leaving you with a professional looking job and allows you to work without an extra set of hands. The final step here is to install your top trim piece (board cap) that will cover the top edges of the boards and add to the beauty and look of the fence. You only need to fasten the cap to the top of the boards every 2 to 3 feet.

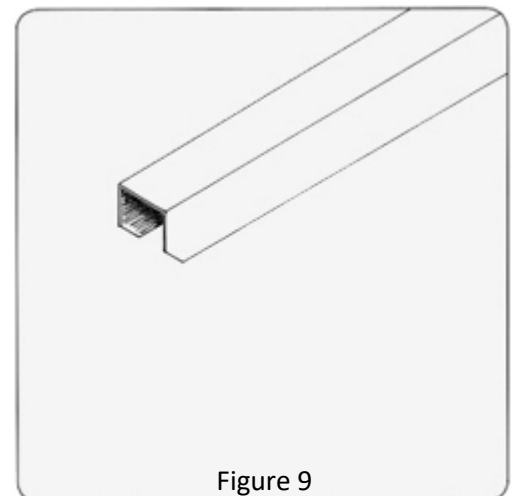


Figure 9

Once all of the cap is installed take a look at any places where the fence section comes to an end and people will be walking past, for example the opening for a gate. The top cap then needs to have the sharp corners clipped (**See Figure 9**).

STEP 6:

Gate Installation

Our Gate Calculation Charts will help you get the proper distance in between the posts.

A gate is simply a hinged, movable, section of fence supported by a frame (**See Figure 10**). When planning for your gate you will want to leave a $\frac{1}{2}$ " space on either side of the gate frame to make sure the gate swings freely and does not bind. For a walking gate the size is usually 3 or 4 feet wide. If you are looking to provide an opening for something larger like a vehicle or a recreational trailer or any item that would require a larger opening you should keep in mind that the largest recommended gate size would be 8 feet wide. If you need a larger opening then it is suggested that you use a receiver post that is cemented in the ground flush with the ground line (**See Figure 11**) and a removable post which allows for two larger gates that attach at a centre point. You will also want to add small gate supports on your removeable post to support the weight of the gate and prevent sag. These supports are simply a piece of 2" X 2" X 1/8" angle iron cut to 2" in length (**See Figure 12**).

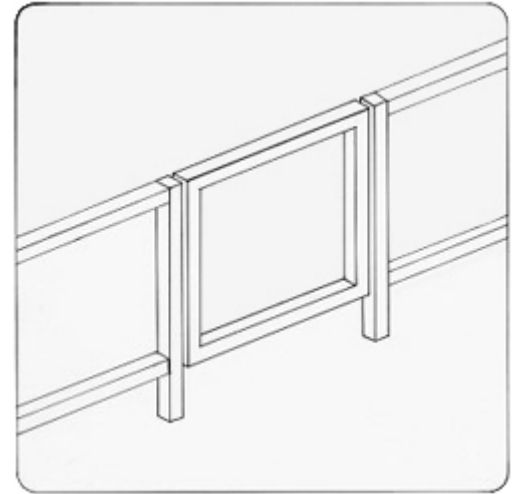


Figure 10

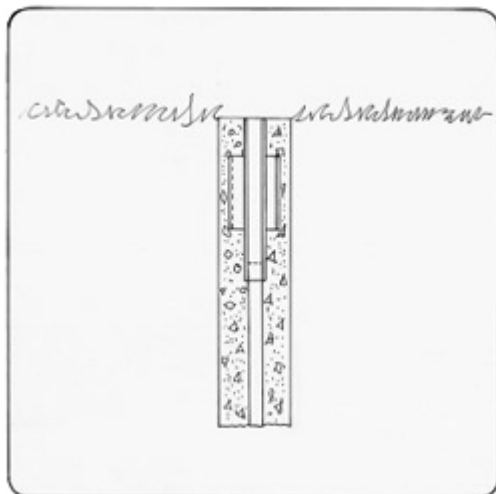


Figure 11

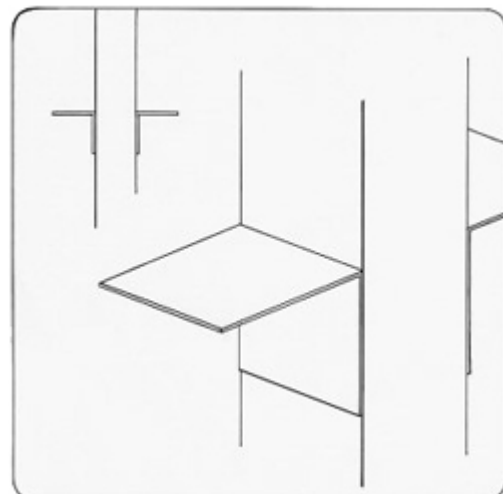


Figure 12

You will want to hang the gate with the top of the gate frame in line with the top of the stringers on the fence sections. *However, gate frames are always installed with their horizontal sections level and do not follow the lay of the land.*

Affix the gate frame using three heavy duty hinges, one near the top, one near the bottom and one centered between the upper and lower hinge. You can also now install the gate latch. *As a side note; it is recommended that you don't skimp on the hinge and latch hardware you choose because cheap hardware will only wear out sooner and leave your gate sagging and misaligning with the catch when you try to close your gate.*

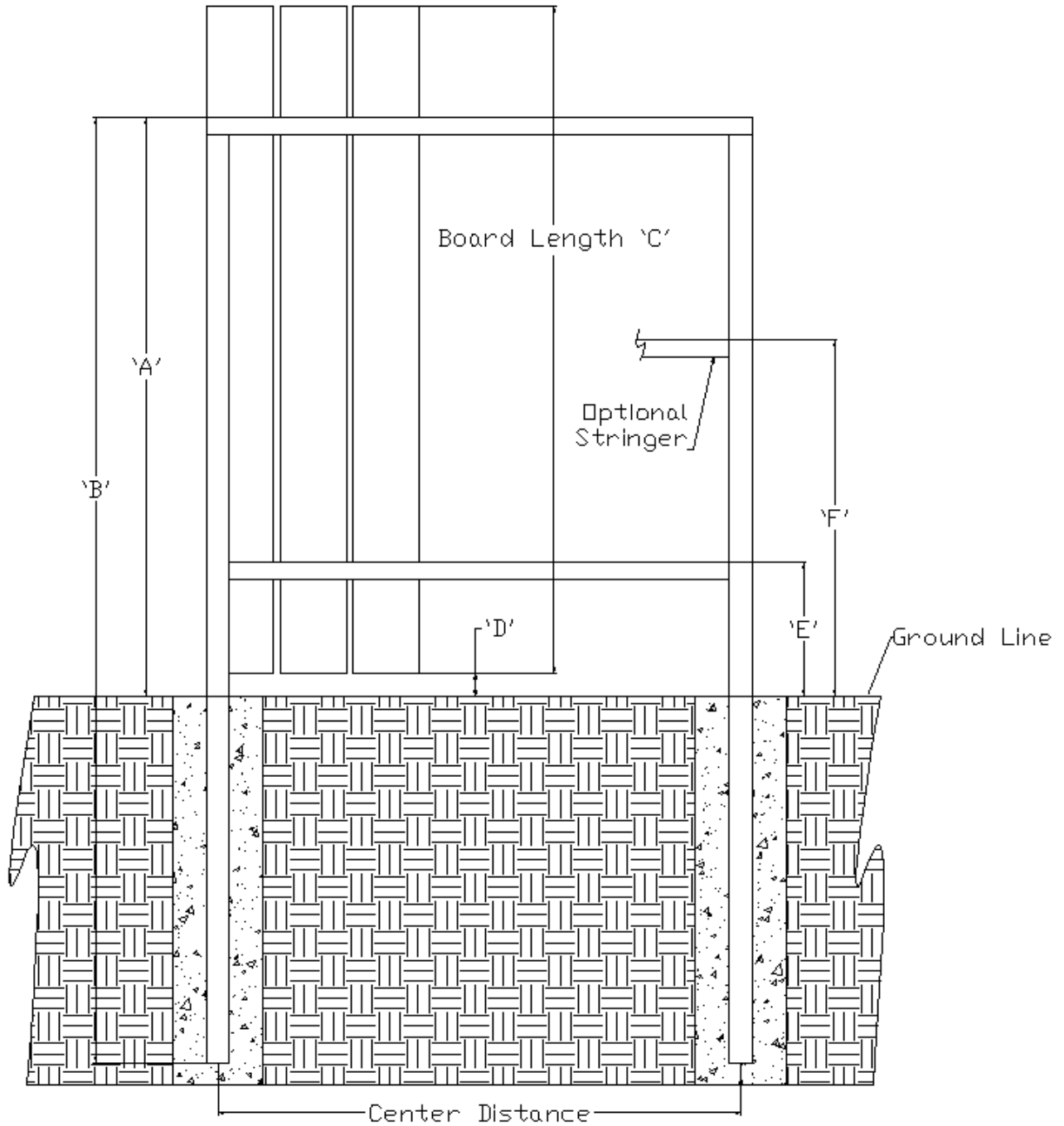
The next step is to attach your boards to the gate frame the same way they are attached to the fence. You can again use a string line to ensure that your boards on the gate section match the height of the boards on the fence or if you chose to make an alignment jig from plywood, you can use this instead.

You finish the gate by putting on the top cap trim piece, clipping the edges with a tin snips at approximately 45 degrees in order to remove and sharp corners.

Finally as mentioned earlier you will want to wet in your posts so that they concrete sets and makes the posts permanent.

We use a garden hose or a bucket with water and slowly fill each hole until it is saturated with water then move onto the next. The water will seep down and wet the concrete mix. Once you have made it all the way around your fence and done each post once, come back and do each post a second time. Once the concrete dries, it will be permanent.

Standard Fence Specifications



	4' High Fence	5' High Fence	6' High Fence
Sleeve Length 'A'	39"	52"	62"
Post Length 'B'	70"	85"	96"
Board Length 'C'	48"	60"	72"
Recommended 'D'	2"	2"	2"
Recommended 'E'	12"	12"	12"
Recommended 'F'	N/A	32"	37"