## ORCHARD, VINEYARD, NURSERY, & Garden DESIGNS

## COLORADO PARKS AND WILDLIFE

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# WILDLIFE GAME DAMAGE 8'FENCE DESIGN

This fence type is used for our Commercial Vineyard, Orchard, Nursery, and Garden fence design projects

## **BIG GAME FENCE MATERIALS**

## Materials list

- 12' Treated Wood Posts (used for H-Brace posts and every 40ft. after H-Brace)
- 10' Treated Wood Posts (used to space between H-Brace)
- 10' Steel T-Posts (Start at 20ft. passed every H-Brace then 40ft. from every other T-post)
- 47" Woven Wire rolls (Over lapped to reach 78" in height)
- 78" Woven Wire rolls
- Barbed Wire rolls
- #9 Smooth Brace Wire OR BARBLESS WIRE
- T-Clips (10/T-post)
- Hog Rings
- Staples (10/post)
- Spikes (2 spikes per 10ft. wood post)
- Wire Stays

Or

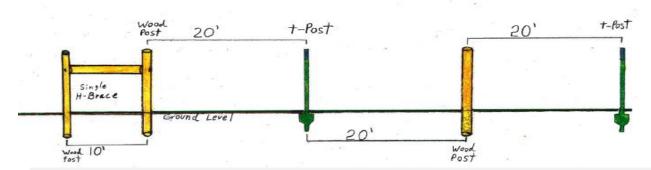
- Wood Stays
- Gates 7'x14'
- Gate Hinges

#### **NEEDED TOOLS TO INSTALL FENCE:**

(These tools are recommended for use on building your fence)
NOT ALL ARE NEEDED: THESE ARE THE TYPES OF EQUIPMENT THAT ARE USED SOME ARE USED RATHER THAN THE OTHER

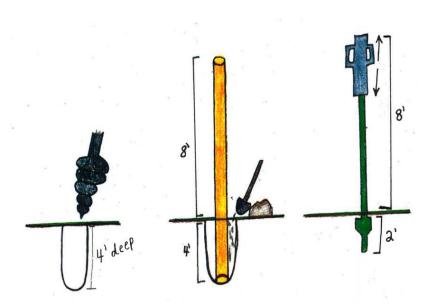
Skid Steer + Attachments: Auger and/or Post Pounder, T-Post Pounder, Hand Tools: Shovel, post hole digger, Fence Pliers, Hog ring pliers, Hammer, 5/16" Drill Bit, ½" Drill Bit, Cordless power drill or powerless hand drilling tools, Chainsaw (to cut out slot for 10' H-Brace), Metal rod to hold Barb wire while unrolling it, etc.

#### WOOD/STEEL POST LAYOUT



# Step 1 PLAN YOUR FENCE DESIGN

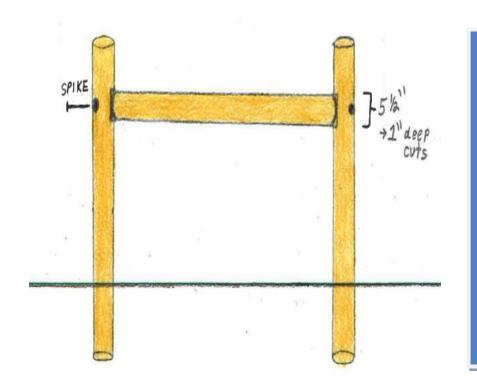
After the last step in this manual it shows an example image of a fence design. Highly RECOMMEND that you draw out your design of your fence using the same method use measured distance by walking your fence line and measure out either as you go, and mark off where you plan to set your posts to be the most accurate with your spacing. Most Important is the spacing of your H-Braces since you have to fit a 10' wood post between them, as for the line posts we recommend the distance given but you can base that more actually off the number material and the exact measurements you have for your design meaning you may be able to shorten the space from 20' to 18' for example. Then from each H-Brace start with one 10' T-Post and space them 20' away from the H-Brace – then another 20' past your T-Post put a 12' wood post. Do the same thing after every H-Brace, Corner brace and Gate Braces until you reach another Brace depending on your distance you may end with a wood post rather than a T-Post which is fine. RECOMMENDED: Measure the width from the stretch between each H-Brace, and calculate the material you received and drive your posts at an equal distance it could be for example 18' between your T-post and Wood Posts depends on your measurements. You have been given material for 20' but it may end with a 5' or 10' space on the end so you could take those feet and space it between the other posts instead. This option is up to the builder either way will work. Also look at Step 3 you can cut a 1" deep notch in the 12' posts for your H-Brace to better spike your 10' post to make vour braces.



Step 2 – Using machinery of your choice drive Treated Wood post 4' feet deep in the ground or dig 4' foot holes to bury 12' treated posts.

Fill holes to make posts level and of equal height.

Drive 10' T-Posts down 2' deep. Using a Post Pounder or Machinery. Mark or flag off your measurements for where you plan to put your posts.

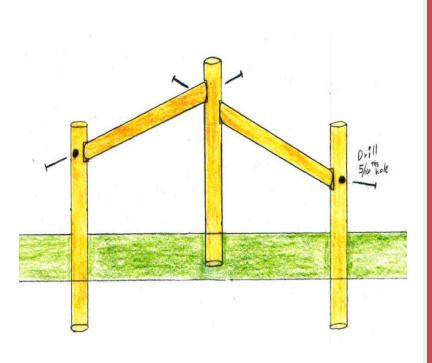


#### Single H-Brace Step 3

Before or after placing your 12' posts it may help to cut a 1" deep cut into the posts where the ends of the 10'post will be spiked onto your 12' posts.

– With 12' posts in ground 10' apart for Single and Corner H – Braces.

Drill a 5/16<sup>th</sup> hole in the center on the end of the 10' post and a hole though the sides of the 12' post 2' or 3' down from the top of the posts.

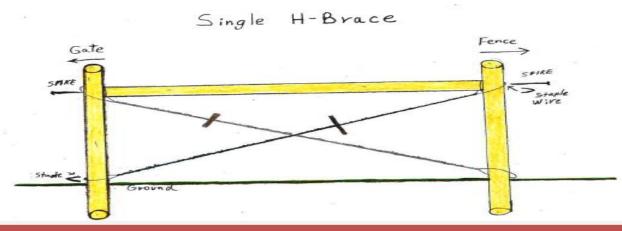


#### -CORNER BRACE DESIGN-

#### Step 4

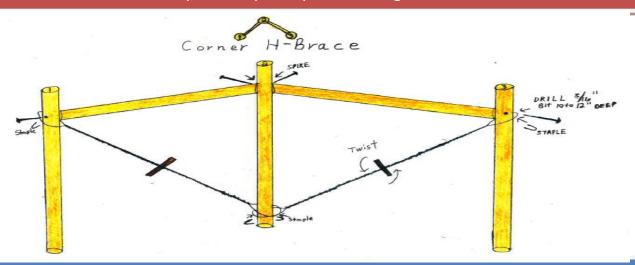
Place three posts in the ground one on the corner and the others place 10' in the directions of your fence. Corners don't have to be 90 degrees you can make them as needed to fit your fence area. If you decided to cut a 1" deep 5 ½" long for the 10' wood post to fit on then Spike it in. You will need to offset the posts like in the drawing. Set one of your 10' posts 18" down from top of 12' post and the other side of the Corner brace down 24".

Drill a 5/16<sup>th</sup> hole in the center on the end of the 10' post and a hole though the sides of the 12' post align the hole with the notch that was cut.



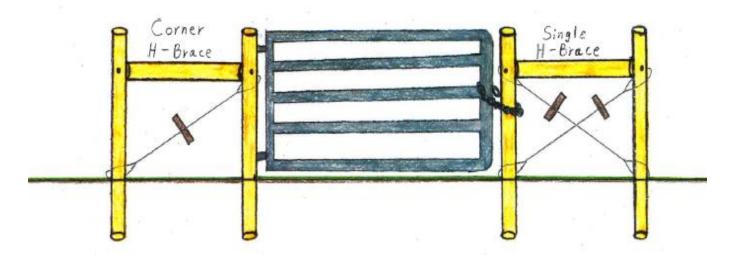
#### -SINGLE H-BRACE-

With your posts in the ground start by securing your H-Braces with the <u>9# gauge</u> wire or <u>Barbless</u> wire that was supplied. Start your tension wire by putting in a staple partially to hold the wire in place but can still tighten the wire. Place two staples one on the bottom about 2" to 4" off the ground the second staple placed on the opposite post just below the 10' post. Don't hammer the staple in all the way until the tension wire is finished tightening. Put the 9 ga. wire through each staple around each post like in the picture above. Cut the wire and tie it together or buy splicers to splice the wire. Then use a stick or piece of wood to tighten the tension wire by twisting it in one direction until the wire is tight. This makes the H-Braces strong enough to hold the fence or gate. Also you can re-tighten your brace anytime needed every year or so you may want to re-tighten.



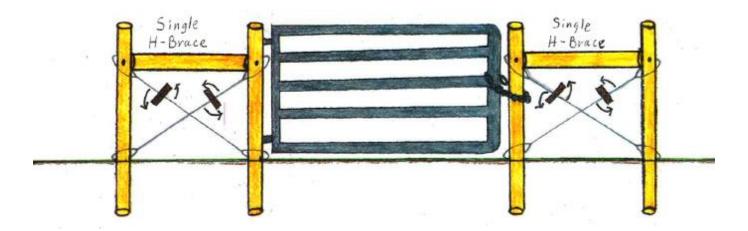
#### -CORNER H-BRACE-

Don't overlap the wires or they will have fiction and break. With your posts in the ground start by securing your H-Braces with the <u>9# gauge</u> wire or <u>Barbless</u> wire that was supplied. Start your tension wire by putting in a staple partially to hold the wire in place but can still tighten the wire. Place two staples one on the bottom about 2" to 4" off the ground the second staple placed on the opposite post just below the 10' post. Don't hammer the staple in all the way until the tension wire is finished tightening. Put the 9 ga. wire through each staple around each post like in the picture above. Cut the wire and tie it together or buy slicers to splice the wire. Then use a stick or piece of wood to tighten the tension wire by twisting it in one direction until the wire is tight. This makes the H-Braces strong enough to hold the fence or gate.



#### -Gate Installation-

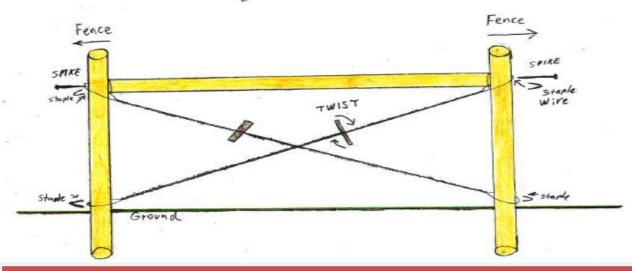
Drill ½" bit Holes for the Gate Hinges on the side you want your gate to swing on, this is up to you it can go on either side. The Brace that your gate hangs on will need a tension wire just like the one in the picture. Then the single h-Brace on the other side is double tensioned because the fence will continue so tension is needed in both directions unless it's a corner h-brace. You can twist or hammer in the Pins for your hinges.



#### -Gate and H-Brace installation-

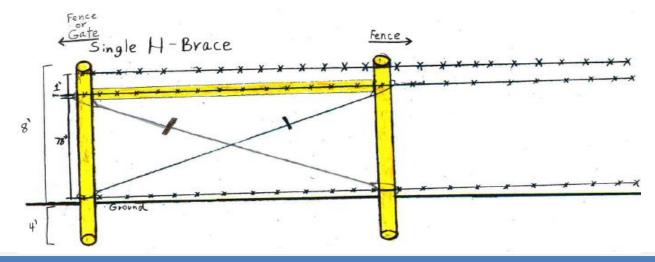
This gate was placed in the middle of the fence between the corners. To do this you need Single H-Braces on each side of the gate with double tension wires on each because the fence will run in both directions from the gate.

## Single H-Brace



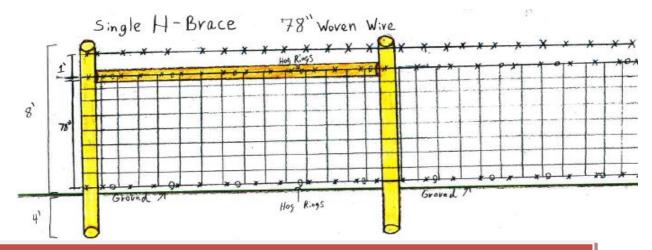
#### -Single H-Brace -

Single H-Braces are used in two different ways one is with a gate. The other is when a fence line reaches 300 feet. It's needed to make the fence more secure and because the woven wire is only 330ft. that's why it is necessary to overlap the woven wire at this point to strengthen your fence. Overlap your wires on each side. The Woven wire from the left should end at the post on the right or go slightly passed it. The new roll of wire going past the Single H-Brace should start at the post on the left and run to the next H-Brace or past it depending on the dimensions of your fence.



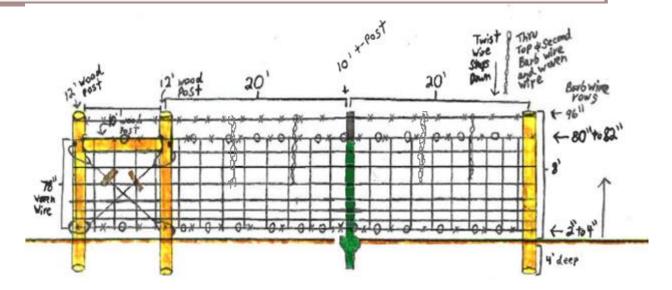
#### -Barbed Wire-

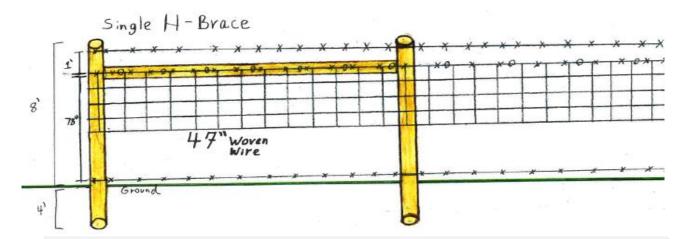
There will be 3 strands of Barbed wire on this fence. First wire is at the top 2" down, the second wire is placed 1' down from the top and the last wire is placed 78" below the second wire which will leave about 2" to 4" from the ground. Start at the corner post or at the single h-brace post by wrapping the wire around the post once or twice and staple it. Do the same for all three stands of barbed wire. After stapling the wire to the first post don't staple the wire fully until you fully stretch and tighten the wire then or pull the wire tight and hammer each staple as you go after you tighten the wire and t-clip the wire after to each T-Post once that section is tightened.



-78" Woven Wire installation-

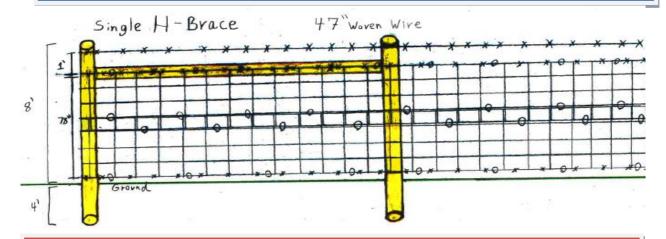
With the Barb wire in place now you can Staple, T-clip, and Hog Ring your 78" woven wire from second wire to the bottom wire. The woven wire squares are smaller and get slightly larger. Put the smaller side down and the larger slots up to keep smaller animals from getting through. Start by wrapping the wire around the first post at the corner or Single H-Brace depending on your starting points and staple it when its overlapped cut the wire as needed to wrap it around the post on the H-Brace. Hog ring the 78"wire to the second and third barb wire. Separate each set of hog rings by 3' across. Also Use 7 of the 10 staples per post and 7 of the t-clips per T-Post to anchor the woven wire to the posts. With woven wire in place twist in wire stays. Put 2 stay between every T-Post and Wood Post, roughly every 20' after the first stay it's placed as shown in the <u>figure</u> below on top of page 9.





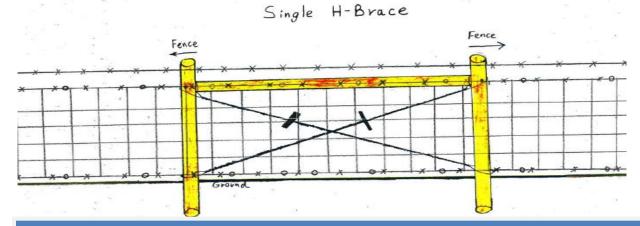
#### -47" woven wire 1st installation portion-

With the Barb wire in place now you can Staple, T-clip, and Hog Ring your 47" woven wire. From top to bottom the woven wire squares are smaller and get slightly larger. Put the smaller side on this one up so that when you overlap the bottom it will match with the large squares in the middle. Start by wrapping the wire around the first post and staple it when its overlapped cut the wire as needed to wrap it around the post on the H-Brace. Hog ring the 47"wire to the second stand of barb wire. Separate each set of hog rings 3' across from the start. Also use 3 of the 10 staples per post and 3 of the t-clips per T-Post to finish your top piece of woven wire when using the 47".



#### -47" woven wire 2nd installation portion-

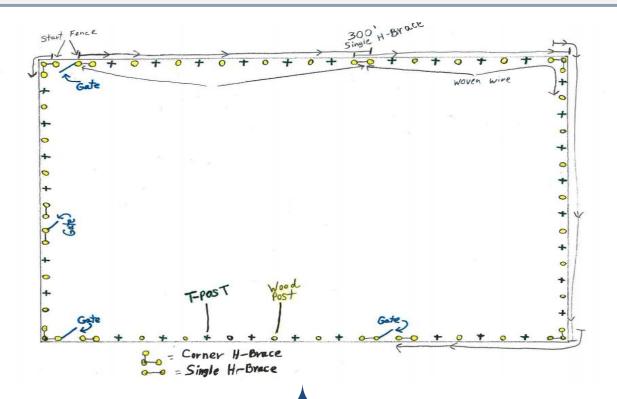
With the Barb wire in place now you can overlap Staple, T-clip, and Hog Ring your 2<sup>nd</sup> portion of 47" woven wire. From top to bottom the 2<sup>nd</sup> portion of woven wire squares are larger and get slightly smaller. Put the smaller side on this one DOWN so that when you overlap it with the top it will match up with the large squares. Start by wrapping the wire around the first post and staple it when its overlapped cut the wire as needed to wrap it around the post on the H-Brace. Hog ring the 47"wire to the bottom piece of barbed wire and hog ring it to the bottom of the upper portion of 47" woven wire. The wire should overlap about 16" so hog ring bottom portion first then do the same ever 3' across. Connect the overlapping section of the 47" wire to each other by using hog rings like in the figure above use each hog ring to close the top of the 47" wire to the overlapping portion then the next hog ring to close the bottom 47"wire to the top overlapping portion; do this every 1 and a half feet (1'6"). Use 4 of the 10 staples per post and 4 of the 10 t-clips per T-Post. Use the 4<sup>th</sup> staple and t-clip to overlap the top and bottom together. Use the picture above as a reference; the small circles represent hog rings. With woven wire in place twist in wire stays. Put 2 stay between every T-Post and Wood Post.



#### **FIGURE ABOVE:**

This picture shows a Single H-Brace design which is placed every 300ft. This is how your fence should look when finished. With 78" woven wire same goes for the 47" wire.

These Single H-Braces are place on long stretches of fence that reach over 300. Look at the figure on the next page to get an idea of where and how these are placed on your fence.



#### Example Design:

Planning out your fence ahead will make your fence much stronger and easier. Where you start your wires is very important don't think that you can just place it anywhere to make it work out. Measurements need to be taken not rough estimates don't sweat on millimeters but being right about the length in feet is very important for your design.