

NPFR design team 5/8/10, updated 11/5/21



NOTES:

- 1) rock armor transitions on and off bridge
- 2) attach expanded metal stucco netting to bridge surface to enhance wet traction
- 3) vertical supports to be set in post holes 18" deep filled with concrete
- 4) base supports and stringers should be dug in so that top of decking meets grade
- 5) design may be modified to make bridge shorter OR 30"-48" wide
- 6) designed to support up to 1000 lbs
- 7) materials cost \$270-\$400 all materials and tools available at Lowes or Home Depot
- 8) run trail straight on and off bridge for 8-10 feet before/after any turns approach on/off should be straight

ORDER OF OPERATIONS:

- 1) cut all lumber to length at home then carry into field
- 2) dig in vertical supports with post hole digger and rock bar, drop vertical supports into holes
- 3) set base supports on vertical supports, then set stringers on horizontal supports
- 4) adjust depth of vertical and base supports so that top of decking will match grade of trail (plan to fill approach on and off bridge with big rocks and dirt rock armor adjacent to bridge ends)
- 5) when all is set to correct depth, attach horizontal supports to vertical supports
- 6) then attach stringers to horizontal supports
- 7) then put dry concrete around vertical supports and tamp down with round flat end of rock bar (no water needed)
- 8) lay out decking and space 3/8"-12" apart when evenly distributed attach decking to stringers
- 9) lay out cut attach expanded metal (use two 8 foot sections cut each to ½ length of bridge)

BILL OF MATERIALS FOR 12' BRIDGE

description	qty	est cost
1) 2x6 x 36" pressure treated lumber (cut up four 12 footers)	27	40.00
2) 4x6 x 12' pressure treated lumber	3	72.00
3) 4x6 x 36" pressure treated lumber (cut up half of a 12 footer)	2	12.00
4) 4x6 x 18" pressure treated lumber (cut up half of a 12 footer)	4	12.00
5) 3" T25 ceramic coated #10 deck screws	120	18.00
6) 3/8" x 10" galvanized landscape spike	20	20.00
7) concrete 80 lb bags	4	20.00
8) 30"x97" galvanized stucco netting	2	22.00
9) 3/16-in x 1-1/4-in zinc-plated standard (SAE) fender washers	90	21.00
10) 1 1/2" T25 ceramic coated #8 deck screws	90	10.00
11) 6'x1.625" slated steel slotted metal flat bar	2	14.00
12) 3/8" ship auger bit	1	18.00
	total	279.00

total



(Common: 27-in x 97-in; Actual: 27-in x 97-in) Galvanized Steel Stucco Netting





Flat Bar



Model #42590



Hillman 30-Count 3/16-in x 1-1/4-in Zinc-Plated Standard (SAE) Fender Washers



TOOLS NEEDED

1) post hole digger

2) digging bar

3) 5 lb sledge hammer

4) cordless drill

5) cordless driver with T20 and T25





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CONSTRUCTION NOTES:

1) vertical supports will be buried 18" and set in concrete.

2) to connect wood with landscape spikes: first set lumber in place and have friend stand on it, then drill hole with ship auger (run in reverse if needed to get out), then pound in spike flush with 5 lb sledge

3) connect 4x6 base supports to vertical support with four 3/8"x10" landscaping spikes (two at each end)

4) set one stringer in center of base support and offset the two outer stringers by 3" from end of base support

5) stringers connect to base supports with four 3/8"x10" landscaping spikes (two for each base support)

6) decking attached with 3" galvanized decking screws. may be 30" to 48" wide (36" suggested).

7) apply vertical decking to bridge ends (attach to end of decking and stringers with to support transitions on/off bridge).

8) apply metal lathe to decking surface to maximize wet traction. secure with evenly spaced 1 1/2" decking screws/fender washers. cover cut ends with metal strips (at ends and where lathing overlaps) secured with 1 1/2" decking screws/fender washers.