

Double-Duty Shed Plans

BY DAN CARY



In the summer of 2009 I built this combination structure that houses a shed for me and a playhouse for my kids. The project was featured in the June/July 2010 issue of *HANDY* ("Double-Duty Shed," p. 34), but the magazine only had enough space for a general overview. This Web feature supplements the printed article with more specific information, including construc-

SHED STATS:

Footprint –

Overall (base) = 9 ft. deep x 9 ft. 6 in. wide

Shed = 6 ft. 6 in. deep x 9 ft. 7 in. wide

Deck = 3 ft. deep x 9 ft. 7 in. wide

Note: The size of the base (and shed) was dictated by the limited space available. You can build a larger version of this shed, but you'll have to modify the framing design and calculate the additional materials necessary.

Height (measured from deck) —

Tall side wall = approximately 8 ft. 10 in.

Short side wall = approximately 6 ft. 7 in.

Materials cost — approximately \$2,200 (shed and base)

Roof slope — 3:12 or 14 degrees



PHOTOS BY MARK MACEMON AND DAN CARY



tion steps, detailed framing diagrams, a shopping list and additional construction photos. However, this is not an exhaustive set of step-by-step instructions like those that come with a kit; instead, it's a summary of my approach that's meant to serve as a starting point for you to create your own shed and to help you avoid or solve any problems that may arise in the process. There are simply too many variables when building a project of this scale to provide an exact shopping list. The shopping list is a close estimate. For example, the framing lumber quantities are based on the materials that I actually used plus a few extra pieces to account for cutting differences that may occur. You may end up with a little extra material to return or you may have to purchase a little more of some of the materials.

Building the base

If you are building on level ground, you could construct a low deck, pour a concrete slab or simply build a timber frame for the perimeter and fill the interior area with pavers or compacted gravel. I think a low deck is the easiest approach to a sloped site, so that's what I built (photo 1).



No footings were required for this structure. The deck is supported by a row of solid concrete blocks under the front and back rim joists. Each block rests on a 6-in.-deep bed of compacted gravel. The ground slopes down roughly 8 in. from the back of the shed, so I dug the holes for the back blocks roughly 8 in. deeper than the holes for the front blocks. Then I adjusted the depth of the gravel



until all of the blocks were level.

Once the blocks were in place, I framed a 9-1/2-ft.-wide x 8-ft. deck with 2x8s. Full-length 8-ft. 2x8s serve as the rafters, which are spaced 24 in. OC. I added framing to the front to extend the landing to a total depth of 3 ft. and supported the landing with a couple of additional

concrete blocks.

I framed my landing to fit around an existing boulder (photos 2 and 3) and to feature an angled ramp (photos 4 and 5). Both features enhance the appearance of the shed, but neither is necessary. You can simplify the design by framing a straight front rim joist.

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The shed floor is 3/4-in.-thick pressure-treated plywood, which is easy to clean and will keep most unwelcome intruders, such as insects and small animals, out of the playhouse. The landing is clad with cedar deck boards.

Framing the walls and roof

You can cut a lot of corners when you're framing a building that is considered a temporary structure. But I'd rather stick with standard framing practices, especially for a structure that my kids will be playing in.

It's often easiest to frame the walls on the deck and then raise them into place. But I was building around a lot of established plants, so rather than risk destroying the landscaping, I built the walls on sawhorses set up in another part of the yard. I framed the sides and back wall with 2x4 studs spaced 16 in. OC. Both side walls also feature a top plate that extends 18 in. beyond the front wall. This extra length supports the fly rafter and roof overhang on the front of the shed. See framing individual wall illustrations for framing dimensions and layouts.

The front wall is the trickiest to build because it contains the rough openings for three windows and two

doors (photo 6). First attach the top and bottom plates to the outside studs; then install the full-height interior studs, the horizontal framing and finally the cripple studs (the short vertical framing members that will be located directly under the siding seams and fill in above and below window and door openings).

To avoid having to fight gravity, I attached the siding with a utility nail gun (photo 7) before I raised the walls. Louisiana Pacific SmartSide panels (see SOURCES ONLINE) serve as both the sheathing and siding. Drill 3/8-in.-dia. saw-starter holes in the corners of all window and door openings; then use a jigsaw to cut out the openings (photo 8). Do not cut through the bottom plate at this time. Use a handsaw or reciprocating saw to cut out the bottom plate after the wall has been installed.

Paint the exterior of the walls. When the paint is dry, recruit a helper and raise the walls onto the platform. Check that each wall is plumb and square before you screw it to the other walls and to the deck framing (photo 9).

The roof is framed with rafters that rest on the side walls. A bird's-mouth notch is cut in each rafter where it rests on the side walls. Position one of the rafters over the



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back wall. Mark the side-wall locations (photo 10) and measure the distance from the top of the back wall to the top of the tall wall to determine the height of the bird's-mouth notches (photo 11). Cut the notches in one rafter and then use it as a template for the others.

Toe nail the rafters to the top plates (photo 12), starting with the back rafter, which should be flush with the back siding, and spacing them 16 in. OC. Attach the blocking boards between each pair of rafters (photo 13). Then sheath the roof with 3/4-in.-thick AC plywood. I chose AC plywood for the sheathing because it will also be visible inside the shed as the ceiling material.

Installing the metal roof

Any roof material that is used on a house can be used on a shed. I chose metal panels because they have a commercial appearance that works with the shed's style. The materials for a metal roof cost about twice as much as the

materials for an asphalt roof.

The first step for attaching the metal roof is to prep the roof deck. Staple a layer of 30-pound building felt over the sheathing. Then attach 1x4 strips over the felt, spacing them 24 in. OC. (You can attach the metal roof panels directly over the felt, but in this case the sheathing also acts as the interior ceiling, and the 1x4 strips add the necessary thickness to prevent the screws from popping through the ceiling.)

Follow the manufacturer's instructions for installing the metal roof panels, flashing components and weather stripping (photo 14). The panels are fastened to the roof with 1-in. screws that feature rubber gaskets under the heads. The panel overlaps are secured with self-tapping metal stitch screws.

Windows and doors

I installed a prehung out-swing steel door in the large opening. Because the deck boards on the landing are 1/4 in. thicker than the plywood, I installed the door on top of a piece of the siding material, which raised it enough that it could swing freely over the deck boards (photo 15). I accounted for this during framing by making the rough opening 1/4 in. taller.

For the playhouse, I made a small custom hollow-core door using a piece of siding

DOUBLE-DUTY SHED

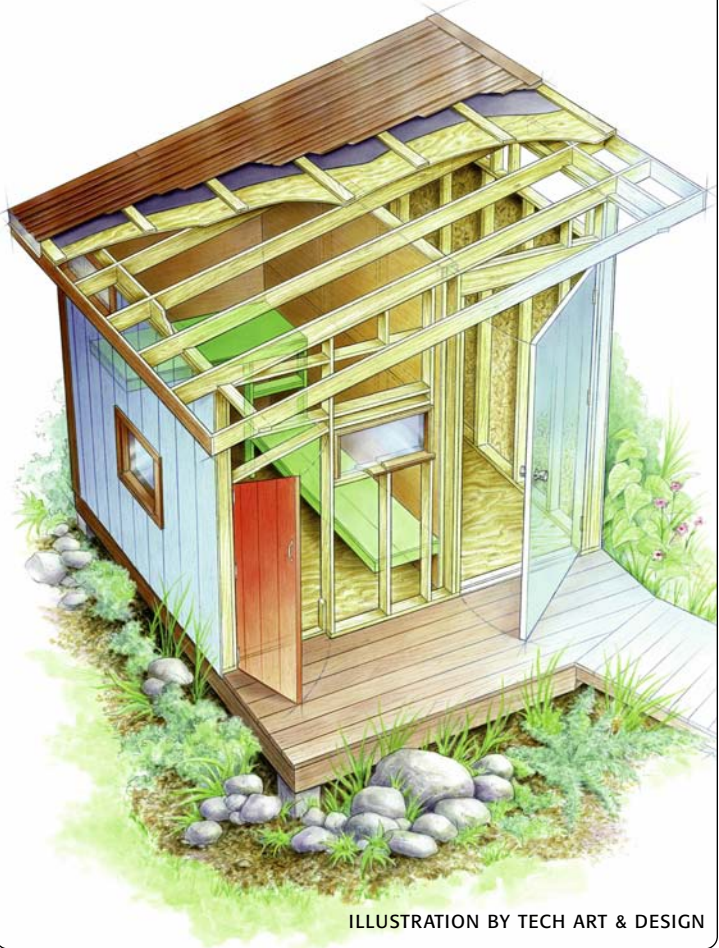
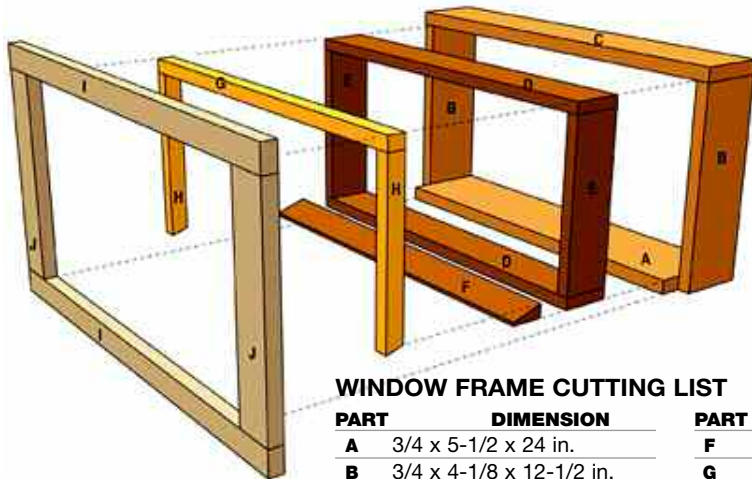


ILLUSTRATION BY TECH ART & DESIGN

WINDOW FRAME DETAIL



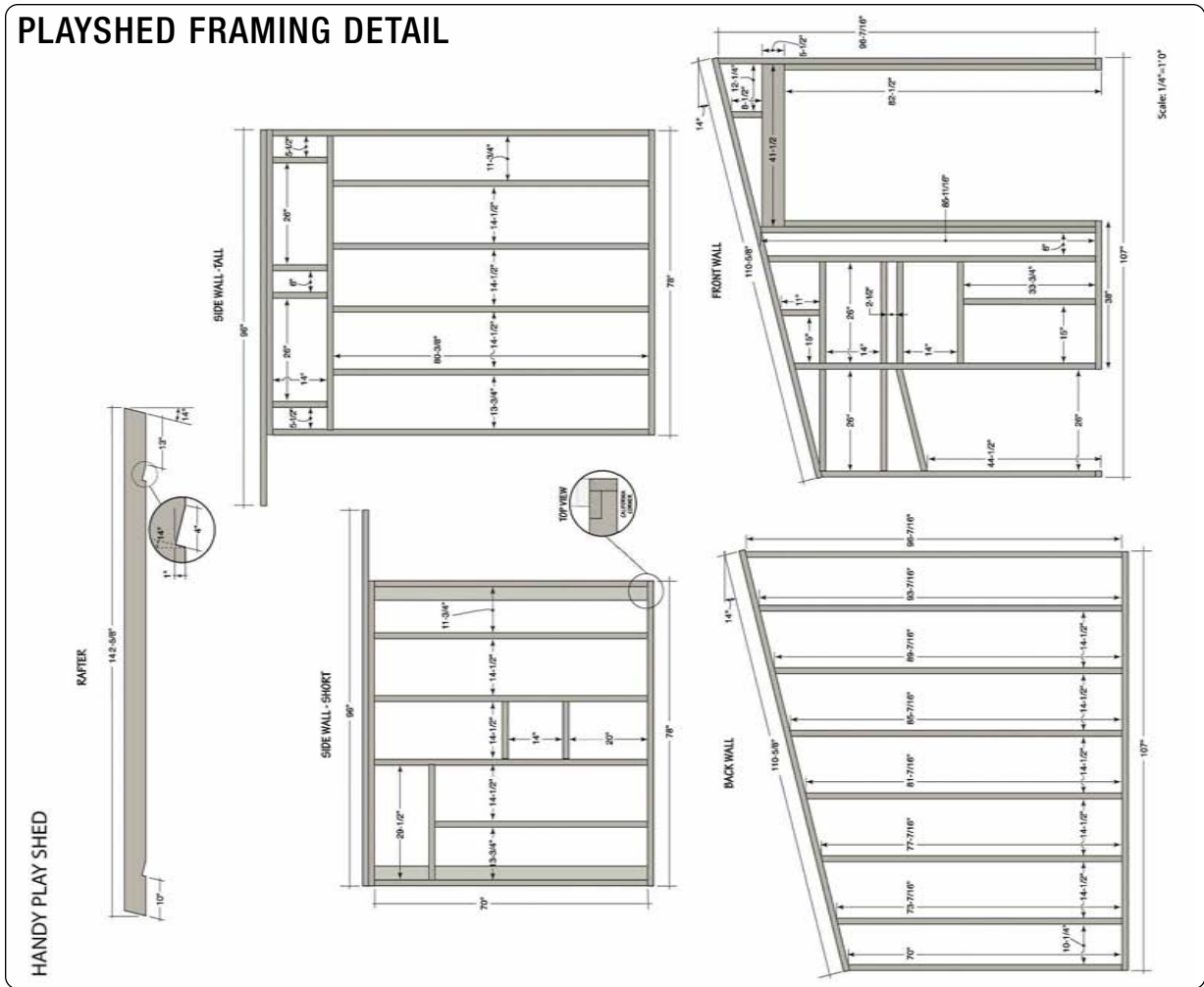
WINDOW FRAME CUTTING LIST

PART	DIMENSION	PART	DIMENSION
A	3/4 x 5-1/2 x 24 in.	F	3/4 x 2 x 24 in.
B	3/4 x 4-1/8 x 12-1/2 in.	G	3/4 x 1 x 22-1/2 in.
C	3/4 x 4-1/8 x 25-1/2 in.	H	3/4 x 1 x 11-3/16 in.
D	3/4 x 3 x 24 in.	I	3/4 x 1-1/2 x 29 in.
E	3/4 x 3 x 10-1/8 in.	J	3/4 x 2-1/2 x 12-1/2 in.



ILLUSTRATION BY MIKE ANDERSON

PLAYSHED FRAMING DETAIL



MATERIALS/SHOPPING LIST:

Construction Pine	2x6 x 8-ft. (2)
2x4 x 8-ft. (33)	2x6 x 12-ft. (7)
2x4 x 10-ft. (8)	5/4x6 x 10-ft. deck boards (8)
Pressure-treated Pine	Floor: 23/32 x 4x8 CDX plywood (2)
2x4 x 8-ft. (6)	Siding: 3/8 4x8 SmartSide panels (8)
2x4 x 10-ft. (2)	Roof Sheathing: 19/32 x 4x8 AC plywood (3)
2x6 x 8-ft. (9)	Window screen and/or 1/8-in.-thick acrylic panels to fill window openings
2x6 x 10-ft. (4)	Concrete piers (12)
Cedar	Roofing material to cover an 8 x 12-ft. area
1x2 x 8 (4)	36-in. out-swing utility door
1x3 x 8 (2)	

panel for the exterior face, 1x4s for the core frame and a piece of interior paneling for the interior face (photo 16 and 17). I was careful to position the exterior face so that the grooves aligned with the grooves on the shed siding.

Next, I built the seven window frames (see Window Cutting List below and window illustrations 1 and 2) out of 1x cedar and pine. To speed up construction, I designed the shed so that seven of the windows were the same size. I stained all of the window frames before installation. I installed screens (photo 18) in the windows that are most protected by the roof overhangs and acrylic panels in the other frames. The window frames are fas-

tened in the rough openings with deck screws (photo 19).

The window, door and corner trim is made from 1x3 and 1x2 cedar. All of the trim pieces intersect with simple butt joints. To make finishing easier, stain all of the trim before attaching it to the shed with 2-in. galvanized finish nails (photo 20).

Finishing touches

The divider wall inside the shed isn't structural; it simply separates the two spaces. I framed it with 2x4s and attached 1/4-in. paneling to the playhouse side. I used the same paneling on the rest of the playhouse walls. I also built a couple of 2 x 4-ft. platforms for the kids to sit on and under. On the shed side, I left the studs exposed and simply installed a few hangers for garden tools.

Obviously, I designed this shed and playhouse to serve my family's wants and needs. I encourage you to modify the plans or create an entirely new design that's perfect for your situation — and exercise your creativity to add a few custom features that will make the structure a unique reflection of your talents and desires. ♦