The Free Pantry

Scope

Included here: Bill of Materials (BOM)—what to purchase; Cutting List—how to get all the parts needed from what you've purchased; diagrams and pictures that show what it should/could look like.

Limitations

This is a guide only. It goes without saying that some experience is necessary (*at the very least, recommended*). This is not a step-by-step or follow-the-numbers assembly project. Your results may vary.

Goal

Our ultimate goal in building this pantry has always been to serve the community.
The goal here is to provide enough documentation for you to build your own pantry box. A weatherproof, standalone box that is accessible by a wide range of people that can be filled with foods, household items and such to serve the people in your community.

Introduction

Speaking of "results may vary…", hopefully yours will. These plans and the materials listed are based on what I had at hand. Please don't think this project is beyond your reach if you can't find exactly what I've listed.

Working at a lumber store I've seen my share of people come in with plans they have downloaded from some site on the Internet and they want *exactly* what's on the list. What they don't realize is that the plans they have may have been written by someone from another state using materials common and plentiful to that specific locale.

Here's the bottom line. If you can't find cedar and redwood is cheap and plentiful, use redwood. If spruce is not available but the store is loaded with pine, use pine. If a certain brand name material listed is not available, use what is available that does the same thing.

This document chronicles what we did–that works–and is a suggested plan. Change as necessary to fit your abilities and/or limitations and what is easily available to you.

Finally, we would say to you, consider who will most likely be using the pantry and how to accommodate the items you intend to stock. Build that. If these plans fit all your needs, build it. If it works and people use it, build more. If you find a better/easier/more effective way to build it, then do that.

Specific things we considered when building ours for use in the Pacific Northwest.

- Rain & snow—Will the contents stay dry?
- How hard/easy is it to open? For **everyone**. (*This led to our choice of handle.*)
- Height—Not too tall, but high enough off the ground.
- Permanence—Is it there forever, or can it be moved if necessary?
- Bugs & Critters—How effectively can we keep them out?

Building

The pantry consists of three components. The box, the roof and the base. Ours was built that way and transported to its current location that way. Once the base was 'planted', we set the box on the base, set the roof on the box and then secured each component to the other using weatherproof ceramic coated screws.

The Materials

The materials listed here were chosen for their durability, light weight and ease of use—cutting, sanding, staining and/or sealing. The part numbers listed are for Dunn Lumber (*specific to the Seattle and surrounding cities*). They are not as important as getting the size and type of wood. I have not listed any specific hardware (*nails, screws, etc.*) just because there is such a variety that will work and if you have some at home there's no need to go out and buy more. That being said, for the most part, you would want to use at a minimum, galvanized fasteners and for maximum protection and longevity, stainless steel would be the optimum. Ours was built using quality ceramic coated steel screws and galvanized 18 gauge brads.

The butyl rubber, self-adhesive flashing tape was chosen to waterproof the exterior of the box prior to attaching the cedar siding. This was quicker and easier than any kind of liquid sealer that would be painted on. However, if you have materials to seal it without buying flashing tape, use what you have.

One final word on materials. Use what you have and adapt the box to fit! For instance, if you happen to have a powder coated steel frame that is already mounted in concrete under an existing overhang and is nearly the exact, but not quite, the same size as the base we created here, then adjust the size of your box to fit what you have and don't buy the materials listed for the roof and base.

Be creative but don't go broke. Use your money to stock your finished pantry.

No.	Species	Thick	Width	Length	Qty	Notes	Part Number[1]
A	Cedar	5/4"	4"	8'	1	TK deck board, S4S, radiused edge	DK54408
B	Cedar	5/4"	4"	12'	1	TK deck board, S4S, radiused edge	DK54412
C	Cedar	1"	6"	10'	2	Tongue & Groove siding, TK	SDGTK1610TG
D	Cedar	1"	6"	12'	2	Tongue & Groove siding, TK	SDGTK1612TG
E	Cedar	2"	2"	10'	1	Clear cedar	CD2210D
F	Cedar	2"	2"	12'	1	Clear cedar	CD2212D
G	Cedar	11/16"	8"	10'	2	Bevel cedar siding	SDG1116810BVL
H	Cedar	11/16"	8"	4'	1	Bevel cedar siding	SDG1116804BVL
I	Hem/Fir	2"	4"	8'	1	Pressure treated	APCL2408
J	Hem/Fir	4"	4"	8'	1	Pressure treated	FN4408
K	Birch	1/2"	5'	5'	1	Baltic Birch plywood	BALTICBIRCH12MM
	Butyl Rubber		4"	75'	1	Self-adhesive flashing tape (*UV resistant*)	VYCORDECKPROTECT
	Metal	4"	4"	36"	2	EZ Spike Post	SIMFPBS44

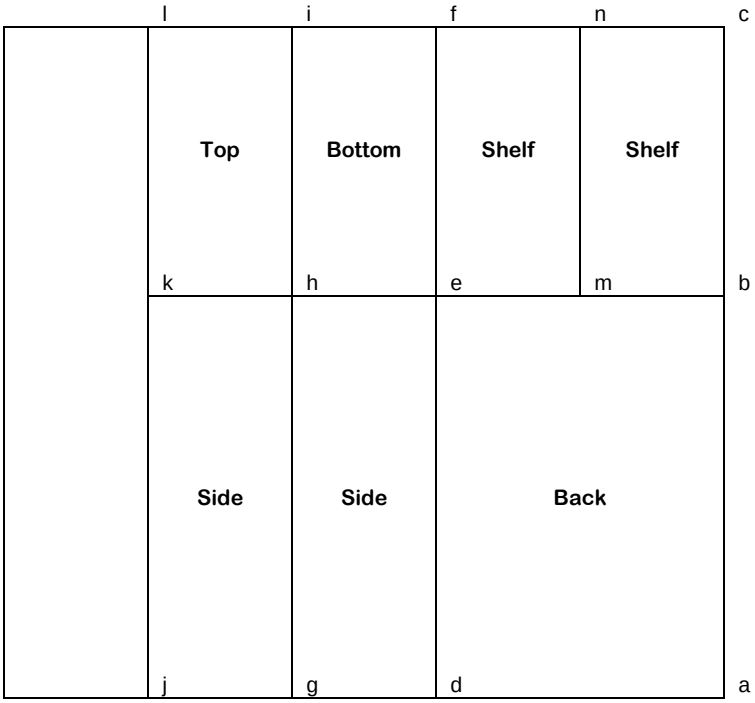
[1]Dunn Lumber part number

Glossary	
TK	Tight Knot–grade of cedar lumber
S4S	Smooth 4 sides
Clear	Free from knots
DK	Deck board
SDG	Siding
APCL	All purpose construction lumber
FN	Fencing
TG	(suffix) Tongue & Groove
D	(suffix) Clear
BVL	(suffix) Beveled

The Box

The basic box is built from Baltic Birch plywood. Being stronger and lighter than regular construction plywood, we chose ½" thickness to keep the overall weight down. Even though the cedar siding is fairly lightweight, the overall weight of the finished box was a major consideration.

The size originated from looking at our kitchen cupboards, deciding they were a good size to start with and then adjusting the size so that all the pieces could be cut from one piece of Baltic Birch plywood. This plywood comes standard in 5' x 5' sheets. You may be able to find bigger, but it will probably be a significant cost increase. Below is a cutting diagram to get all the pieces you'll need. There will be a 1' x 5' piece left over.



Cuts	Location	Inches
1st	d–f	24"
2nd	g–i	12"
3rd	j–l	
4th	b–e	36"
5th	e–h	
6th	h–k	
7th	m–n	≈ 11⅞"

Cut this last board exactly in half. It won't be exactly 12".

A table saw is handy for cutting these pieces, but a straight edge, some clamps to hold it firm and a skil saw will work equally well. To minimize splintering when cutting plywood, use a plywood blade or a good quality carbide tip saw blade with a minimum of 40 teeth. A 60T blade would produce finer cuts.

Once all your pieces are cut, assemble the box. Lay the BACK flat on your working surface. The SIDES and TOP & BOTTOM will go on top of the BACK. Our box was glued and then screws were used to hold the pieces together. Using a square and lining the pieces up on the BACK, make sure the whole assembly is square prior to attaching the back. You can use a pair of ratchet straps to hold the four pieces together while getting them lined up and square before you start nailing or screwing the sides together. Attach the BACK once the frame is square. Decide how far apart you want the shelves to be and then glue/nail/screw them inside. To determine the height of our shelves, we looked at the height of cereal boxes and the size of canned goods and adjusted our shelves to fit the average size of each.

Once the box was built, we used the self-adhesive butyl tape to cover the outside. Starting at the bottom and working your way up, put one piece of tape from the front of one side all the way around the back and to the front of the opposite side.

NOTE: Do NOT let the sticky side of the tape fold in half and touch itself. You **won't** get it apart.

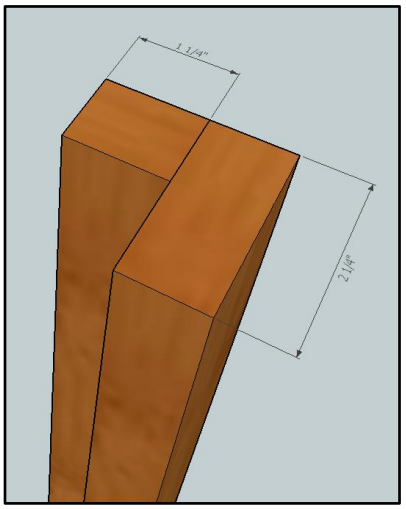
The next row of tape should overlap the one just below it ¼" or so. Repeat until you reach the top of the box. Once you reach the top, put rows of tape across the top (*starting from the back and going forward*) making sure to overlap each side just a little. The idea here is that if any moisture should get in at the top, it would roll down and over each row of tape all the way to the bottom.

Okay, so the basic box is done.

Here is the list of cuts to be made to finish the box, make the roof and build the base.

No.	Part Number	Length	Description	Qty
A1	DK54408	38"	Door Side	1
A2		28"	Door Top	2
B1	DK54412	38"	Door Side	1
B2		34"	Door Center	1
B3		36"	Box Corner	2
C1	SDGTK1610TG	12"	Side exterior	10
C2		22"	Back exterior	5
D1	SDGTK1612TG	12"	Side exterior	12
D2		22"	Back exterior	6
E	CD2210D	30"	Roof Rafters	4
F1	CD2212D	24"	Roof supports	2
F2		8"	Center upright, roof	2
F3		10"	Rafter spacers	8
G	SDG1116810BVL	24"	Roof Shakes	10
H	SDG1116804BVL	26"–28"	Roof Cap	2
I1	APCL2408	23"	Box Base	2
I2		9"	Box Base supports	4
J	FN4408	32"	Base Support	3
K1	BALTICBIRCH12MM	24" x 36"	Box, Back	1
K2		12" x 36"	Box, Side	2
K3		12" x 23"	Box, Top/Bottom	2
K4		12" x 23"	Box, Shelf	2

Siding the Box



Our box is covered in tongue & groove (TG) cedar. To hide the cut ends of each piece, a vertical corner piece was made for each side on the back and the cut pieces of siding butt up to these vertical corner pieces effectively covering (*or concealing*) the cut ends. Take the two B3 pieces and rip them vertically at 2¼". Take the 1¼" piece and attach it at a right angle to the 2¼" piece. You'll end up with an L-shaped piece that is now the same width when measured from the outside edges to the center.

Attach these to the outside corners of the box. We used 1⅝" trim head screws. You'll be going through 1" of cedar, the butyl tape and into ½" plywood so don't over drive the screws. If you start to see the screw tip come through the inside of the box, stop, back it out and snip the tip off with a pair of cutters. Then drive it back in until the head is just flat with the edge of the board.

A WORD ABOUT SCREWS. Unless specifically noted, all screws used are ceramic coated steel screws. These are self-drilling and have a self-countersinking trim (*very small*) flat head. If driven just until they are flush with the wood, they are barely noticeable.

Cutting the Siding

There are eleven (11) pieces of the TG cedar on both sides and the back. Cut the C & D pieces so that you have twenty-two pieces at 12" and eleven pieces at 22". These will fit between the corner pieces on the back and between

the corner pieces and front frame which has yet to be built. **NOTE**: Be careful when cutting and handling the cedar siding. The tongue and grooves can break easily if handled roughly. Since you'll be nailing through the tongue, you need all of them to be intact.

Attaching the Siding

It's a good idea to dry-fit the siding pieces first to see where they will start/end on the box. On one piece, cut the tongue off. This will be the very top piece. With the box laid on one side, line the top of the tongue-less piece up with the top of the box. Press the rest of the pieces together and snug them all up against the corner piece. You should see the bottom piece hanging over the bottom of the box. That's okay. It's meant to help guide the box onto the base later on.

Once all the pieces are in place, clamp or hold the bottom-most piece in place and gently remove the rest of the pieces without damaging any of the tongues or grooves. Nail the bottom (*first*) piece to the box right at an angle in the bottom of the tongue. The idea here is to have the next piece cover the nail when it is pressed into place. Use 3 or 4 nails per board. Press the second piece in place on top of the first and snug up against the corner piece. Nail in place. Repeat this process working from the bottom up until all the pieces are nailed on. For the top piece, nail at an angle on the very top. The roof assembly will hide these nails.

Repeat process for the back pieces and opposite side pieces.

Since the cedar will hang down below the edge of the box, be very careful when setting the box upright since it will be resting on the cedar, not the plywood.

Making the Doors & Face Frame

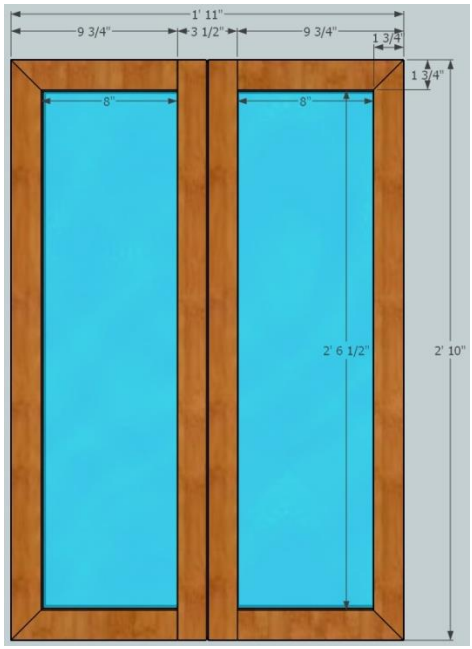
The door is essentially a picture frame that holds transparent material–in our case we used plexiglass–so the contents are visible with the doors closed. The frame extends beyond the dimensions of the box and does a couple things. First it hides the front edge of the siding and second, it helps locate the roof frame when placing it on top of the box.

We used the cedar deck boards, A & B in the BOM because they have a nice rounded edge. They are 3½" wide and when ripped in half, produce a 1¾" wide board for both the frame and the door itself. Cut the lengths indicated for A1-A2 and B1-B3. Cut the 45° corners and dry fit your pieces together. At this point it would be a good idea to use some masking tape and mark the boards as to their location (*top, bottom, left, etc.*). Since the boards will be ripped in half, make sure to place the tape so that once the boards are cut, you can put both cut pieces in their correct place.

The door (*right*) fits into the frame (*left*).

The doors being hinged to the frame, will need some clearance in order for the door to swing open. Likewise, the two doors will need some space between to open/close properly. When the deck boards are ripped, the saw blade will eliminate about an ⅛". So when the boards are assembled for the frame and doors, there will be enough space for them to swing freely.

Here again, some ratchet straps will help keep the frame together while you assemble. Make sure to get it square or when the doors are set inside, they will not swing open/close correctly. You can use some cardboard folded in half to maintain the gap between frame and doors while you assemble the pieces.



Attaching the Hinges

You can get as fancy as you want with hinges using anything from continuous piano hinges to regular cabinet hinges hidden on the inside. We used three sets of small to medium size stainless steel hinges on each door and just attached them to the outside of the door. We also used magnetic catches, two for each door, at the top and bottom to keep the doors closed.

NOTE: While it is not shown in the plans, we ended up putting a piece of wood from the top to the bottom at the very front of the box so when the doors are closed, there was no gap where stuff could get into the box. You could use some of the scrap plywood left over or a piece of cedar or whatever else you might have.

See through doors or not?

We decided to use plexiglass for the doors so people could see what's inside without having to open the pantry. The doors could just as easily be made with other material. For instance, a thin plywood like a door skin, some countertop laminate or even sections of plexiglass if one solid piece is unavailable. Our doors were routed on the inside to a depth of ¼" and then the plexiglass was placed in the grooves and the door assembled with the plexiglass in place. It could also be done by placing the plexiglass behind the door and securing with the same type of fasteners that hold mirror in place on a wall. Without using fasteners, they could be secured by laying a bead of silicone adhesive all the way around the inside and then placing the plexiglass in place. Use some clamps to hold it in place while the adhesive sets.

Making the Roof

Our roof frame was made of cedar 2x2's and assembled using trim head screws. The beveled cedar siding was also attached using trim head screws. Cutting the 2x2's per E & F1-F3 will provide the pieces that make up the rectangular base, long pieces that support the shingles and the spacer pieces that keep those pieces evenly spaced. The angle of the roof is 30º so cut one end of each of the long pieces at that angle. Essentially, you are creating a couple of 'ladders' that will lean together and rest on one upright that is attached to the rectangular base.

Once the frame is assembled, test it for fit on top of the box. It should fit snugly inside the face frame and between the siding pieces. Don't secure it yet. If it fits well you can begin to attach the shingles.

Attaching the Shingles

The box is 1' deep and the shingles are 2'. This allows for overlap. The question of how much overlap, and where, is up to you. We went heavy on the front side, meaning more of the shingles were protecting the door from overhead elements than the back. Work out how much of the shingles you want to hang over the front and mark a couple of them on the inside.

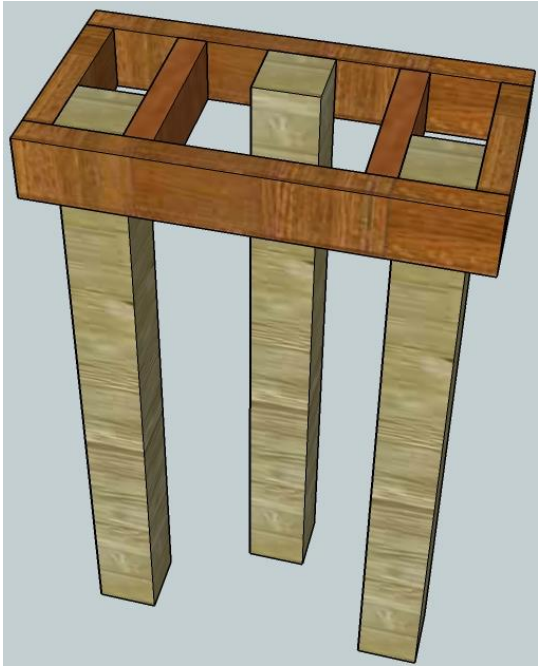
Here's where a few hands (*or clamps*) will come in real handy–no pun intended. Place the very bottom shingle on the frame and hold/clamp it in place. Put another one on and overlap the first one. Hold/clamp this one. Continue working up until all five are in place and just reach the top of the frame. If you get the spacing right the first time, great. If not, keep adjusting them until you get the same amount of overlap and they cover from the bottom to the top. **NOTE:** make sure the very bottom one overhangs the 2x2 frame about an inch. This will direct water away from the frame itself.

Draw a line on each shingle so you know how far each one overlaps the other and then remove them stacking them in the order that they came off. Secure the first shingle to the frame using the mark you made on the underside to set the overhang. The next shingle will cover the screw or nail used on the first shingle, so make sure you screw/nail above

the line you drew. Repeat this for all the shingles and do the same for the other side. For the very top piece, you'll need to cut the heavy side of two other pieces and butt them together to make a solid–roughly 'L' shaped piece–that will cover the gap where the two top shingles meet. You can attach these pieces together using whatever method works well for you—glue, nails, silicone adhesive. Attach this top piece to the roof using a silicone caulk and/or construction adhesive. The goal is to waterproof the gap created by the top two shingles.

Making the Base

The base is made from pressure treated lumber since it is the part of the box making contact with the ground. We also chose to use a method that would allow the box to be mounted securely, but would allow for it to be moved if/when the need arose. In other words, if you want to dig a hole, plant some 4x4's and pour concrete so the box has a solid base that'll never budge, go ahead. If you need a less permanent solution, try using the EZ Spike Post from Simpson. This is a 3' metal spike designed to securely hold a 4x4 post. Pound the spike into the ground, set your post in it and secure the post with some screws. Just reverse the process if you need to move your pantry.



The pieces I1-I2 & J in the cutting list will allow you to make a base as shown here.

The 2x4 will make a base that fits neatly under the box. The cedar siding that overlaps the bottom of the box will help locate the frame on the underside of the box.

Only the front two legs (4x4's) are secured in the EZ Spike Post base. The back leg just rests on the ground and keeps the box from tipping over. The length of the legs is dependent on the overall height of the box, so cut them to fit your needs.

NOTE: Whenever you cut pressure treated lumber, you expose the cut end to moisture, bugs and all those things the cause wood to rot. Make sure you use an end cut solution to coat the cut ends to maintain the integrity of the pressure treatment.

Summary

This document and the accompanying Sketchup images and Sketchup file were created after our original box was created. So in some ways, it's better since our original box was built largely 'on the fly' as a group project during one of our community outreach Sundays. It also may be lacking in some areas, since I can't remember exactly what was done at every step of the way. However, as I've stated in the beginning, make this as you want it to be and with the skills and abilities you have. Adjust any and all parts of this to fit your needs.

Have fun and send pictures of what you create.

The people at CommonHouse Vineyard, Woodinville, WA