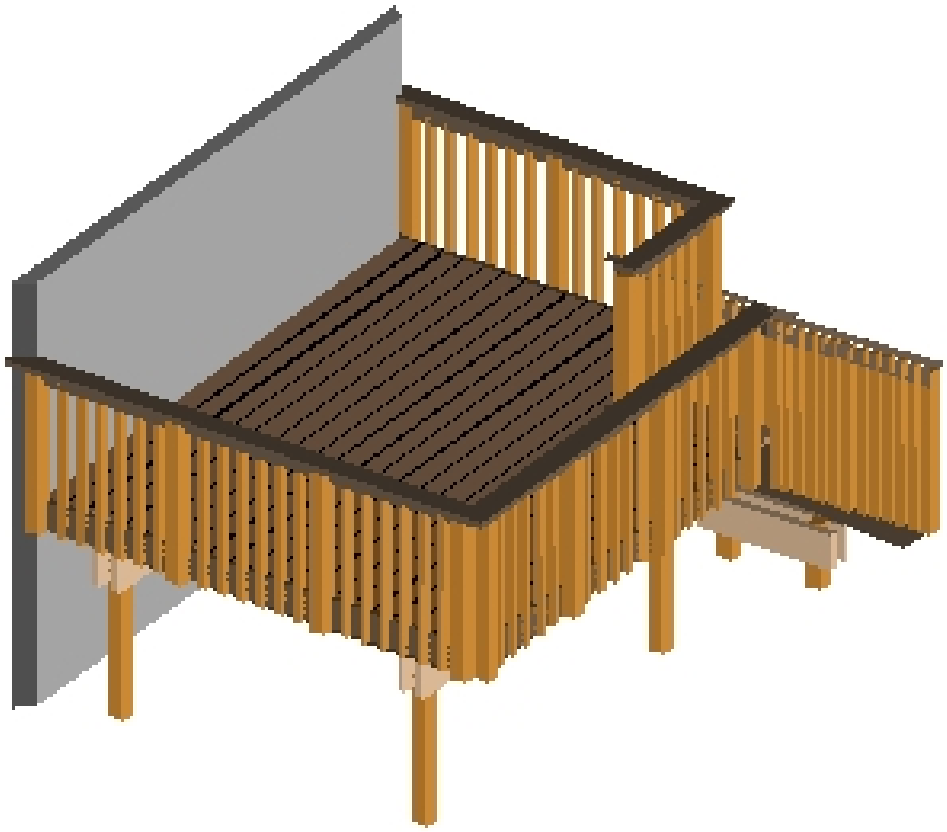
Design and Plan Your Deck

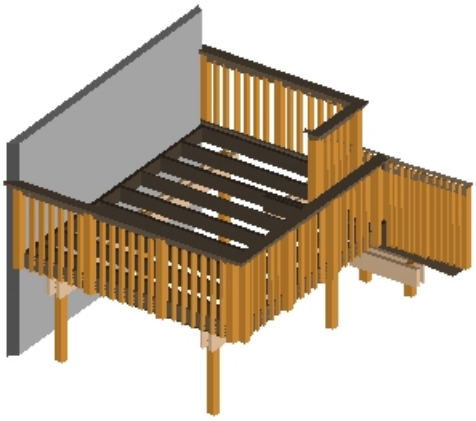


Lowes Deck Design For

Bob

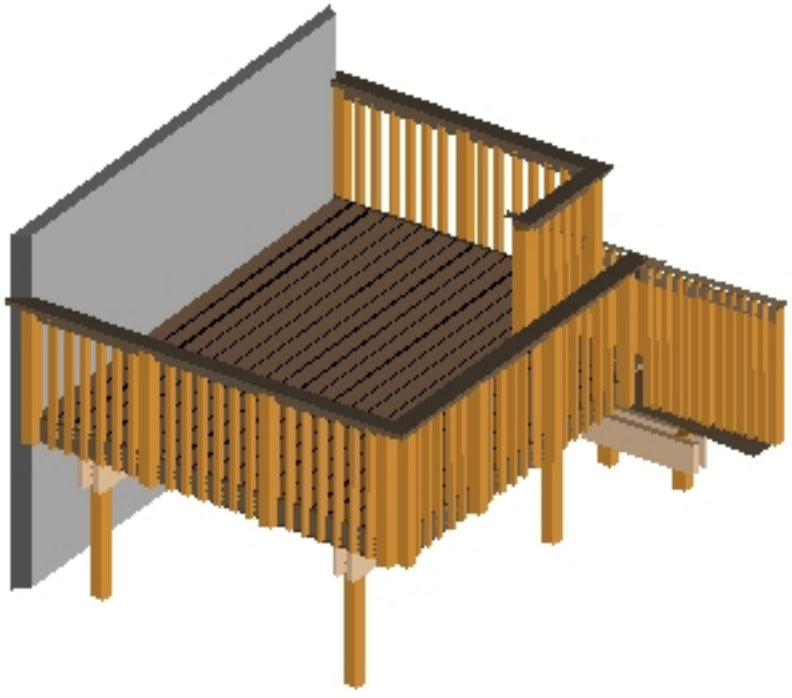
Print this document and take it to your local Lowe's.
One of our associates will help you find the materials you need.

Deck layout diagram



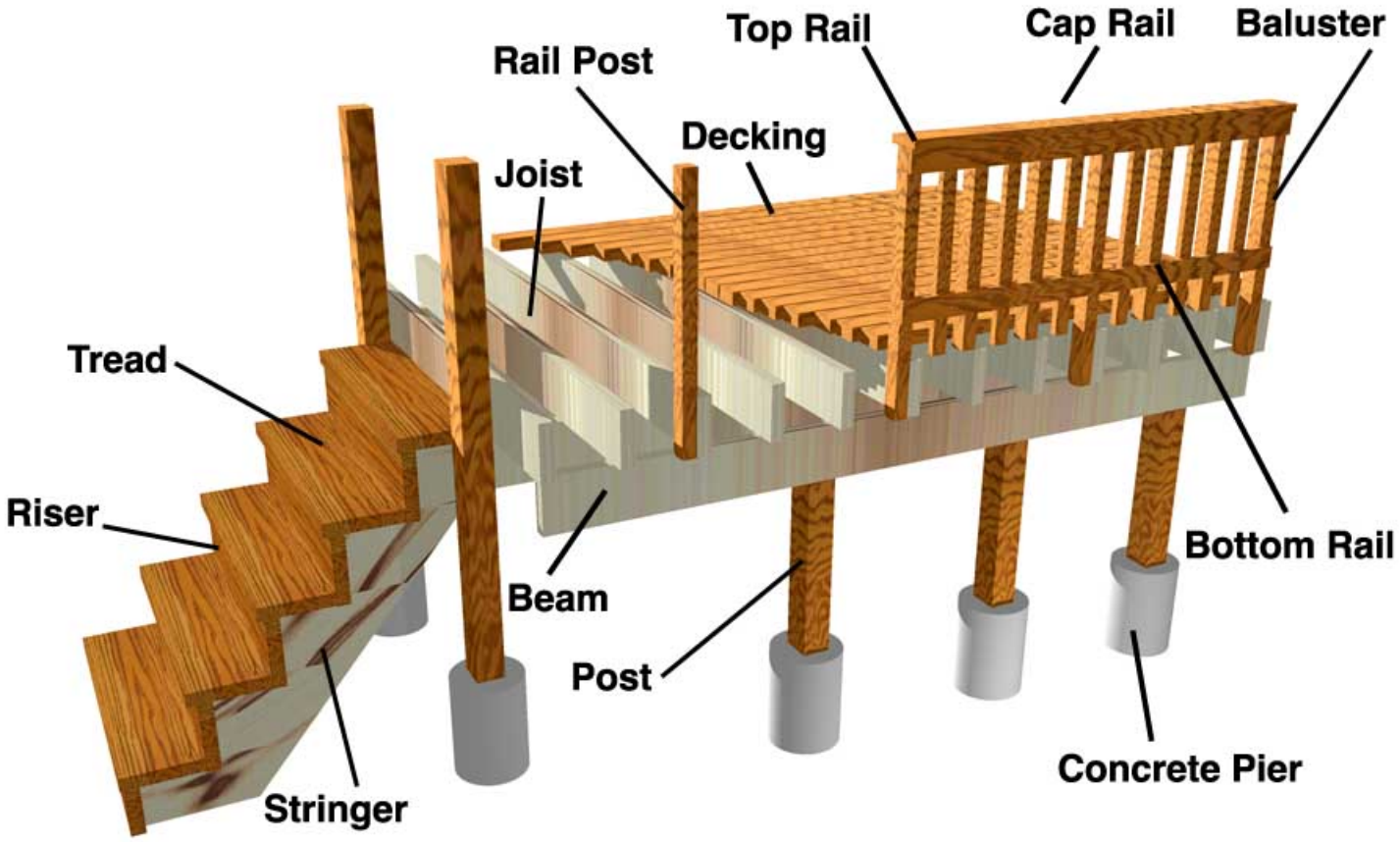
Top view without planks

Bottom view with planks



Top view with planks

Deck Part Identification



Baluster	**The vertical pieces of a railing spaced at regular intervals between posts.**
Beam	**A horizontal framing piece, which rests on posts and supports joists.**
Decking	**The boards used to make the walking surface of the deck**
Joist	**A horizontal frame piece that supports the decking and spreads the weight over the beams**
Ledger	**A horizontal strip that connects the deck to the house.**
Concrete Pier	**A vertical piece of concrete, used as a footing to support a post.**
Post	**A vertical framing piece, used to support a beam or a joist.**
Riser	**The board attached to the verticcal cut surface of a stair stringer.**
Stringer	**The diagonal board used to support treads and risers on a stairway.**
Tread	**The horizontal surface of a stair, perpendicular to the riser.**
Bottom Rail	**The lower horizontal piece that connects rail posts**
Top Rail	**The upper horizontal piece that connects rail posts**
Cap Rail	**The top horizontal trim on railing.**
Rail Post	**The vertical posts connected to the deck framing, to which railing is secured.**

Installation Checklist

Building code and zoning requirements

Check deed restrictions, building codes and/or zoning laws to make sure your deck complies.
Check with local utility companies to make sure deck construction will not disturb piping or wiring.

Deck function

While planning your deck, determine how it will be used.

Your climate

While planning your deck, consider local weather.
Take advantage of good views.

Install ledger

Install ledger to anchor deck to house.
Ledger placement determines the deck floor level, normally 2-4" below floor line.
If unsure about attaching a ledger board, consult a professional.
Use batterboards and mason's string to mark off deck area and locate footing.

Square with string

Attach string to ledger and/or batterboards.
Batterboards go just outside perimeter corners of the deck.
Use the 3-4-5 method to get a 90 degree angle in one corner.

Install posts

Footing/posthole depth is dictated by local codes.
Check with local utility companies to make sure deck construction will not disturb piping or wiring.

Installation Checklist

Post bracing

Brace posts as dictated by local codes.

Attach beams to posts

Determine the desired deck floor height on the posts.

Determine height for securing the top of the beam to the post.

Attach joists

Joists are attached to ledger board with joist hangers or by toenailing.

Determine where blocking will go and snap a chalk line, but make sure to stagger pieces for ease of nailing.

Lay decking

Attach boards "bark side up" to minimize cupping and warping.

The deck boards can be trimmed after they are installed.

Railings

Railings must be firmly attached to the framing members of the deck.

Check for local code restrictions on railings.

Stairs

Check local codes on stair restrictions.

Measure the rise and run of the stairs.

Multi-level decks

When planning a multi-level deck, for aesthetics make one deck larger than the other.

Tools Required & Tips for Success

Tools Required:

Carpenter's level	Hearing protection	Ruler
Carpenter's square	Hammer	Safety glasses
Chalk line	Hand saw	Screwdrivers
Chisel	Hoe and hose (to mix concrete)	Shims or spacers
Circular saw	Ladder	Shovel
Claw hammer	Line	Socket wrench
Combination square	Mallet	Stakes or batter boards
Crescent wrench	Nail set	String
Drills and bits	Pencils	Tamper
Dust mask	Pick	Tape measure
Extension cord	Plumb bob	Transit
Framing square	Post hole digger	Tool belt
Gloves	Rafter square	Two foot level

Tips for success:

1. When cutting or drilling wood, always wear eye protection to prevent injury from flying wood particles
2. When cutting lumber, a fabric breathing mask will help to avoid ingestion of the dust. Wear gloves as the surface is rough and can cause splinters.
3. For outdoor projects, nails and other hardware should be hot-dipped zinc-coated or equally well-protected material to keep them from rusting.
4. To help prevent splitting, drill pilot holes in each piece of lumber before nailing or screwing.
5. Make sure to treat your deck to prolong its lifespan.
6. Before you apply a finish on your deck, test for moisture by sprinkling the surface of a small area of the deck with water. If the droplets bead up, the wood is still wet. Wood that is dry enough for treatment will quickly soak up the water.
7. Deck finishes come in both water and oil based. While oil-based finishes penetrate deeper into the wood, water-based products are easier to clean up and are more forgiving in damp conditions.
8. When applying finish or cleaner to your deck, protect surrounding vegetation by wetting with a hose and covering with plastic.
9. Invest in a pair of kneepads if you are doing floor jobs or working on a deck.
10. Dispose of scraps in the regular trash or take to a landfill - never burn.

"How to Guide" Download Information

If you have not read our deck building article, read it at Lowes.com/YourDeck

Below are the Specifications And Materials that you have selected for your deck.

Overview	Number of Levels: 1 Total Square Feet: 111	Footer Depth: 30" Live Load: 65 psf Dead Load: 10 psf

Component	**Size**	**Wood Type**
Joists	2 x 8	Top Choice Treated
Beams	2 x 10	Top Choice Treated
Posts	4 x 4	Top Choice Treated
Decking	5/4 x 6	Pressure Treated Standard Decking
Railing		Pressure Treated
Bench		None
Lattice		None

FooterDepth	30"	Live Load	65 psf
		Dead Load	10 psf

Item Numbers May Vary By Location

Some Items May Not Be Available In All Locations

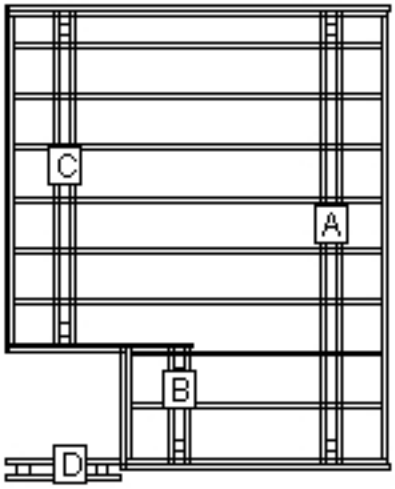
Material List

Lumber Materials			
Item Number	**Quantity**	**Description**	**Usage**
23717	2	2X10X12 TOP CHOICE STRUCT HF ACQ	Beam
98221	2	2X10X10 HF TPCHOICE STURUCT ACQ	Beam
4643	4	3-STEP STRINGER #1 WATER REPELENT	Stair Stringer
21210	1	5/4X6X8 STD ACQ TREATED	Top Rail
54826	1	5/4X6X10 SEVEREWEATHER TOP CHOICE	Top Rail
86570	1	5/4X6X14 STD ACQ TREATED	Top Rail
201704	1	5/4X6X16 SW TOP CHOICE ACQ	Top Rail
5705	17	4X4X48" 2-Groove Deck Post	Railing Post
46905	1	2X4X8 ACQ TOP CHOICE TREATED	Hand Rail
29153	2	2X4X16 TOP CHOICE DECKING HF ACQ	Hand Rail
7951	72	2x2x42" Baluster Angle Both End	Spindle
23712	3	2X8X8 TOP CHOICE STRUCT HF ACQ	Cladding
23715	5	2X8X10 TOP CHOICE STRUCT HF ACQ	Cladding
109461	2	2X8X20 TOP CHOICE STRUCT HF ACQ	Cladding
21565	6	5/4X6X10 STD ACQ TREATED	Deck Planking
21712	16	5/4X6X12 STD ACQ TREATED	Deck Planking
24551	3	2X8X16 TOP CHOICE STRUCT HF ACQ	Rim Joist
121	7	4X4X6 #2 .40 ACQ TREATED	Post
109468	2	2X10X8 TOP CHOICE STRUCT HF ACQ	Beam
86573	2	5/4X6X16 STD ACQ TREATED	Stair Tread

Other Materials			
Item Number	**Quantity**	**Description**	**Usage**
2411	9	4X4 2-SIDE POST ANCHOR TZ (14354)	Footing to Post
103283	13	BASIC CONCRETE MIX 80LB	Footing to Post
10748	9	RFB#4X5 1/2X5 RETROFIT BOLT	Footing to Post
69262	1	NAIL COMMON GALV 5 LB 10 D	Footing to Post
63449	72	GALV ROUND WASHER 1/2"	Post to Beam
67357	36	GALV CARRIAGE BOLT 1/2 X 8	Post to Beam
67342	36	GALV 1/2 HEX NUT	Post to Beam
69138	8	NAIL COMMON GALV 1LB 8D	CladRimOrStair
90575	32	HURRICANE TIE	Joist Framing
68408	1	JOIST HGR.NAIL 1 LB 1-1/2"NA111CD	Joist Framing
115180	12	H2.5AZ REVERSIBLE HURR CLIP ZMAX	Joist Framing
108806	16	LUS28Z ZMAX 2X8 JOIST HANGER	Joist Framing
184956	1	10DX1 1/2" NAIL (5 LB.) MC	Joist Framing
87727	6	L70Z 7" ANGLE ZMAX	Joist Framing
1411	2	LSU26-R 2X6 SLOPE/SKEW HANGER	CladRimOrStair

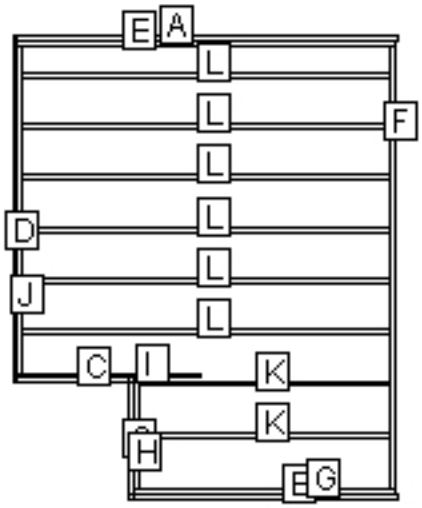
Other Materials			
Item Number	**Quantity**	**Description**	**Usage**
27388	1	Olympic Maximum Waterproofing Clear Sealant	Deck Planking
61342	34	DPT7Z 4X4 DECK POST TIE	Railing Post
41196	3	3/8" HEX NUT GALVANIZED (25) PP	Railing Post
41706	6	3/8" FLAT WASHER GALV (25) PP	Railing Post
67353	68	GALV CARRIAGE BOLT 3/8 X 8	Railing Post
69264	2	NAIL COMMON GALV 5 LB 16 D	PlankingOrRail

Beam Layout Level 1



BEAM LABEL	BEAM LENGTH	POST COUNT	POST SPACING
A	11' 9"	3	5' 4 3/4"
B	3' 1 1/2"	2	2' 2"
C	8' 9"	2	7' 9 1/2"
D	3'	2	2' 1/2"

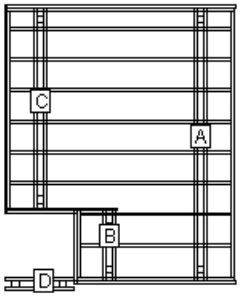
Materials Cut List: Level 1



LABEL	NAME	QTY	LENGTH	BEVELS	LABEL	NAME	QTY	LENGTH	BEVELS
A	Fascia	1	10'	F45 S45	G	Outer Joist	1	6' 9"	
B	Fascia	1	7'	F45 S45	H	Header	1	3'	
C	Fascia	2	3' 1 1/2"	F45 S45	I	Outer Joist	1	4' 8 3/4"	
D	Fascia	1	9'	F45 S45	J	Header	1	8' 6"	
E	Outer Joist	1	9' 9"		K	Joist	2	6' 6"	
F	Header	1	11' 6"		L	Joist	6	9' 6"	

Cut Angles: L=Left, R=Right, F=Front, S=Side

Permit Page: Level 1



LOAD AND SUPPORT:

Your deck will support a 65 PSF live load.
Posts have 30" below ground support.

DECK AND POST HEIGHT:

You selected a height of 54" from the top of the decking to the ground level. The top of the deck support posts will therefore be 45.25" above ground level.

Joists:

Set joists on top of beams, 16"; center to center.

Stress Analysis: Level 1

Component	PSF
Joist Deflection	438
Joist Bending	98
Joist Shear	118
Joist Compression	196
Beam Deflection	77
Beam Bending	77
Beam Shear	75
Bolt Shear	182
Post Stability	267

Warning: This may not be a final design plan. Variations in building codes, specific architectural considerations, or site conditions may require changes to this design. You are responsible for the final structural, code verification, material usage, and structural safety of this design. Be sure to check and verify the design with your architect, engineer and building inspector.

Lowe's is a supplier of material only. Lowe's does not engage in the practice of engineering, architecture, or general contracting. Lowe's does not assume any responsibility for design, engineering, or construction; for the use of installation of materials; or for compliance with any building code or standard of workmanship. Always refer to information on fastener packaging for use with pressure treated lumber.

Preferences: Certain assumptions have been made in order to provide an accurate material quote for your Deck Project. Because local codes vary throughout the country, it is imperative that you check with your local municipality for compliance with local building codes. The following building practice assumptions have been made in providing the materials for your project:

Footer Depth:	30
Footer Type:	Post On Concrete
Joist Cantilever:	12 inches
Joist Spacing:	16" center to center
Spacing Between Deck Planking:	1/8 inch
Stair Stringers:	10 inches
Deck Live Load:	40 psf
Deck Dead Load:	10 psf
Stairs Live Load:	40 psf
Stairs Dead Load:	10 psf

Be sure to check and verify the design with your architect, engineer and building inspector.

Note: It is recommended that joist that meet on top of beams should be spliced with gussets. The gussets should be 2- by wood the same width at the joist and overlap by 6 inches on each side.These gussets should be held in place with 12 16d galvanized nails.

Handling Precautions for Pressure-Treated Wood

Disposal: Dispose of treated wood by ordinary trash collection. Treated wood should not be burned in open fires, stoves, fireplaces, or residential bilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g construction sites) must be disposed of in accordance with state and Federal regulations, which may include burning only in commercial or industrial incinerators or boilers. Always refer to information on fastener packaging for use with pressure treated lumber.

Operating Conditions: Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing, sanding and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood. (Lowe's in-store saws are equipped with a vacuum to minimize airborne sawdust).

Protection: When power-sawing and machining, wear goggles to protect eyes from flying particles.

Clean Thoroughly: Wear gloves when working with the wood. After working with the wood, and before eating, drinking, toileting, and use of tobacco products, wash exposed areas thoroughly.

Wash Separately: Because preservatives or sawdust may accumulate on clothes, they should be laundered before reuse. Wash work clothes separately from other household clothing.

For Additional Information: www.epa.gov - www.healthybuilding.net - www.ccasafetyinfo.com
www.treatedwood.com - Call: (800)282-0600 or (800)356-AWPI