Build a Concrete Block Raised Garden Bed

Version 4

Craving

Since I can remember, I've always craved a rewarding garden experience. In the early 60s, my family lived in a mobile home situated on a treeless one-acre rural lot in the hills of upstate New York. My first encounter with dirt there was a discouraging one. As a young boy, I imagined becoming a farmer of sorts and spent a portion of my skimp allowance on a package of sunflower seeds and a small box of water-soluble fertilizer. I used a shovel and began turning over a small patch of ground, which I quickly discovered was rocky and troublesome to dig in. Determined to succeed, I persevered and planted several seeds according to the printed instructions on the back of the colorful package. After that, I began to water and fertilize the spot profusely each day. After three days, to my surprise, nothing happened. When an unacceptable level of frustration was reached, I dug into the ground, looking for the seeds I had planted. To my dismay, there were no seeds. It was as if I had sowed nothing. Finally, my mother from a farming background took pity on me and paid a local farmer to plow a right-sized family plot. To my recollection, the family plot produced little and was abandoned after the first year.

My passion for gardening has increased over the past 50+ years, and there appears to be no obstacle that can dissolve my love affair with plants. Unfortunately, I've seen some people give up on their gardening pursuits because of the troubles they encounter. I always encourage these people to get back in the game and never give up. Most of the horticulture problems people experience are linked to a lack of knowledge and practical application. Obviously, I have made my share of mistakes and have chalked them all up to the learning experience. Apart from that, dreadful weather events have occasionally occurred that have wiped out my seasonal efforts. Somehow these happenings, either self-inflicted or beyond one's control, need to strengthen our resolve and help us become better gardeners. They're all part of the growing process.

A productive garden is an asset that will claim some of your strength, time, and money. Be wise when making gardening decisions, and don't take on more than you can reasonably manage. Be conservative in your approach until you gain enough knowledge and confidence to expand your horticultural ideas.

Considering

If you are considering a raised garden bed, you are on a well-beaten path to a favorable outcome. This form of gardening is an excellent choice for both novice and expert gardeners because it offers many options and advantages. Gardens do not spontaneously appear in nature. They are human-made environments sustained through human intervention. The most labor-intensive gardening chores are bed upkeep and plant care, so keep these activities in mind as you develop your garden strategy.

Simply defined, a raised bed is a large container. As with all container gardens, the gardener must consider size, functionality, usability, aesthetics, materials, and maintenance. There are many options to capture one's imagination during the purchasing or constructing of a raised garden bed. This guide addresses only

one of those options; the concrete block raised garden bed. I have successfully built and used many sorts of raised garden beds over the years. I've concluded that concrete block garden structures are excellent for larger suburban applications where ground quality is poor. Whatever your preferences are, your garden should give you a sense of satisfaction and not become a burdensome place to work and play in. Happiness is a benefit of well-planned garden spaces.

Before committing resources to an outdoor project, write down your gardening goals, contemplate your current financial situation, research your options, and stay within your budget. Garden size affects all other factors, such as time and cost. Big infers "a lot," so set sensible boundaries and expand your garden area over time if need be.

Construction materials determine the longevity of a raised garden bed structure. A goal may be to minimize the replacement of structures due to weather-related deterioration or rot associated with soil contact. However, bed restoration is time-consuming and costly. An initial expenditure for more durable materials will save you hours and dollars in the long run.

Calculating

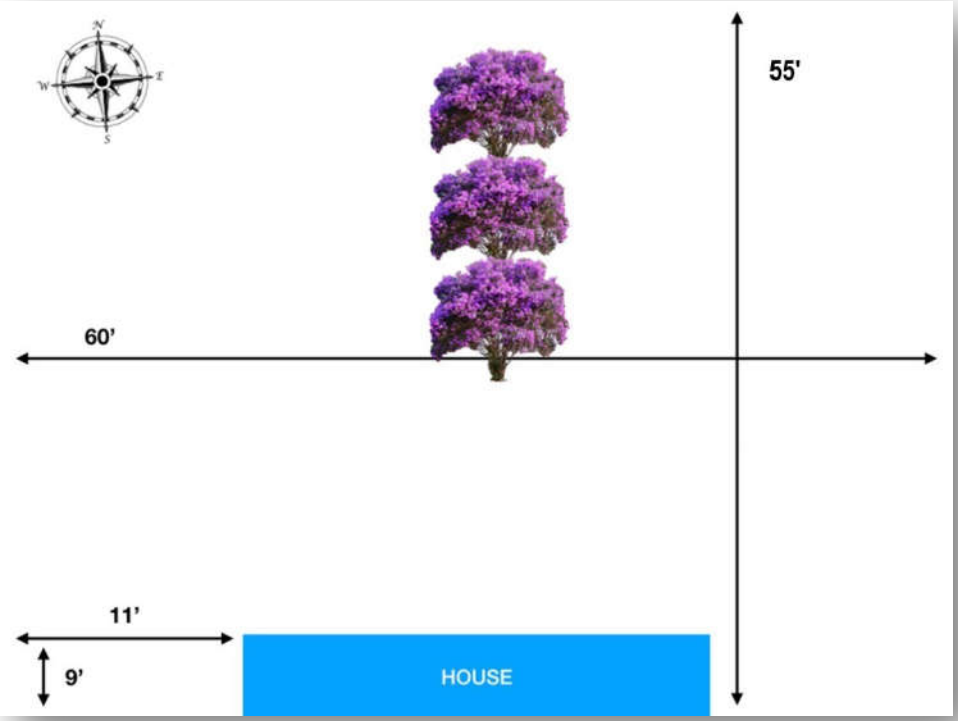
Estimating the cost of a project can be tricky if you've never done it before. Here is a list of things to take into account as you plan:

- Tools for both garden construction and maintenance, which includes any power tools
- Garden bed construction materials. Materials include large garden containers, if applicable
- Drainage and soil components
- Fertilizers and pest control items, such as manures, sprays, fences, etc
- Plants and seeds (annuals, perennials, bushes, shrubs, and trees)
- Gardening books
- Labor

This publication will guide you through the necessary steps to construct a Concrete Block Raised Garden Bed.

Step #1: Determine the garden location.

- Create a simple birds-eye view ***sketch*** of the area where you want to include a garden space. Take measurements. Show functional features including; boundaries, fences, buildings and outbuildings, paved areas, trees and shrubs, water features and sources, septic tank cover, poles, compass points, etc.



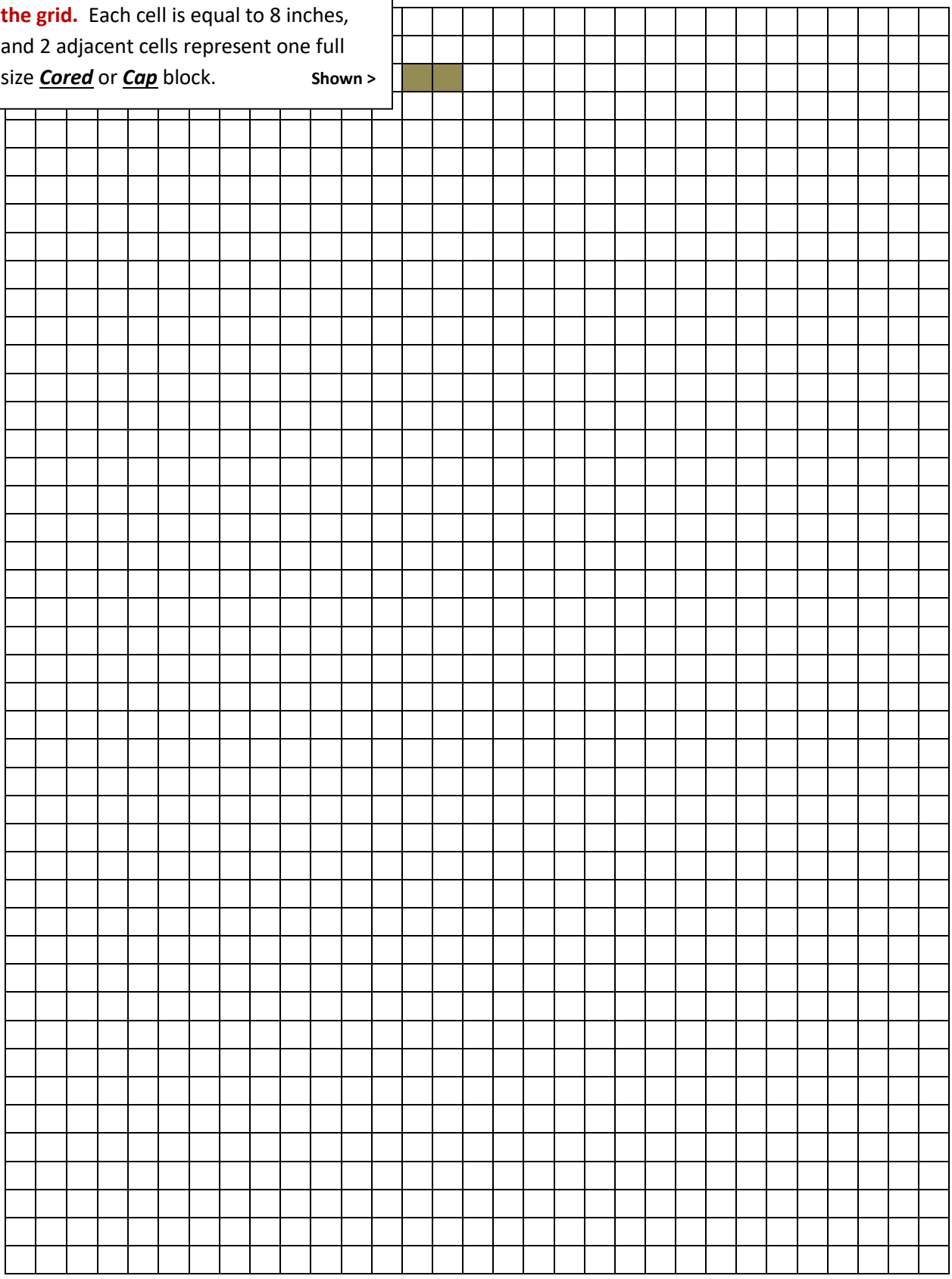
- Mark (**X**) locations on the ***sketch*** where the beds get placed. Consider; obstacles, sun exposure (shaded areas), ground grade, existing soil quality, access to water sources, proximity to the kitchen, etc.

Step #2: Review the concrete block information.

There are 3 types of lightweight concrete blocks used, as illustrated (left to right). 1) **Full size** Standard ***Cored*** Concrete Block (Common: 8-in x 8-in x 16-in; Actual: 7.625-in x 7.625-in x 15.625-in), 2) Solid ***Cap*** Concrete Block (Common: 16-in x 4-in x 8-in; Actual: 15.625-in x 3.625-in x 7.625-in), and 3) **½ size** Standard ***Cored*** Concrete Block that is approx. 8-in x 8-in x 8-in.

!! Important Note !! A garden bed needs to be at least 16 inches deep to adequately root various types of plants. Cored blocks are eight inches in height, and Cap blocks are four inches. The number of blocks required increases substantially as the height of the bed increases. Concrete blocks can be dyed/stained and sealed for appearance reasons. However, blocks should be colored before assembling the raised bed.

Step #3: Lay out the bed "DESIGN" on the grid. Each cell is equal to 8 inches, and 2 adjacent cells represent one full size ***Cored*** or ***Cap*** block. **Shown >**



Step #4: Record all measurements on the DESIGN grid.

Jot down the length and width of all areas.

Collecting

Step #5: Gather the tools and materials needed to construct the raised bed area.

Get tools and materials from local home improvement stores and garden centers.

Tools Checklist

- ☐ Power cultivator/tiller (optional)
- ☐ Wheelbarrow (optional)
- ☐ Shovel (Pointed-tip for digging)
- ☐ Garden rake
- ☐ Tamp (8" preferred)
- ☐ Broom
- ☐ Line level, 6-8" small level, and 36" + large level
- ☐ Tape measure
- ☐ Large square
- ☐ Landscape flags/stakes (for positioning)
- ☐ Mason hammer (for cutting blocks)
- ☐ Mason chisel (for cutting blocks)
- ☐ Paintbrush (if dyeing blocks)

Structural Materials Checklist

- ☐ Lightweight concrete blocks and capstones (do not use cinderblocks)
- ☐ Paver base (a mixture of gravel and sand)
- ☐ Drainage rock
- ☐ Fast-setting concrete mix (optional)
- ☐ Mason sand (optional)
- ☐ Concrete cleaner/etch (if dyeing blocks)
- ☐ Concrete dye (if dyeing blocks)

Soil Materials Checklist

- ☐ 50:50 Topsoil/Compost mix (from a local gravel/soil provider $), or Miracle-Gro Raised Bed Garden Soil mix, or other OMRI labeled soil mix (recommended, $$)
- ☐ Vermiculite or peat moss (for water retention, per instructional use)
- ☐ Rotted manure or Black Kow (bagged is recommended)
- ☐ Granular organic fertilizer (Various, per instructional use)

Constructing

Step #6: In your outdoor space, stake or flag the corners of the proposed garden beds.

Use a tape measure and mark (stake or flag) where the corners of the garden bed will be. Make any adjustments to the raised bed position based on the observed results.

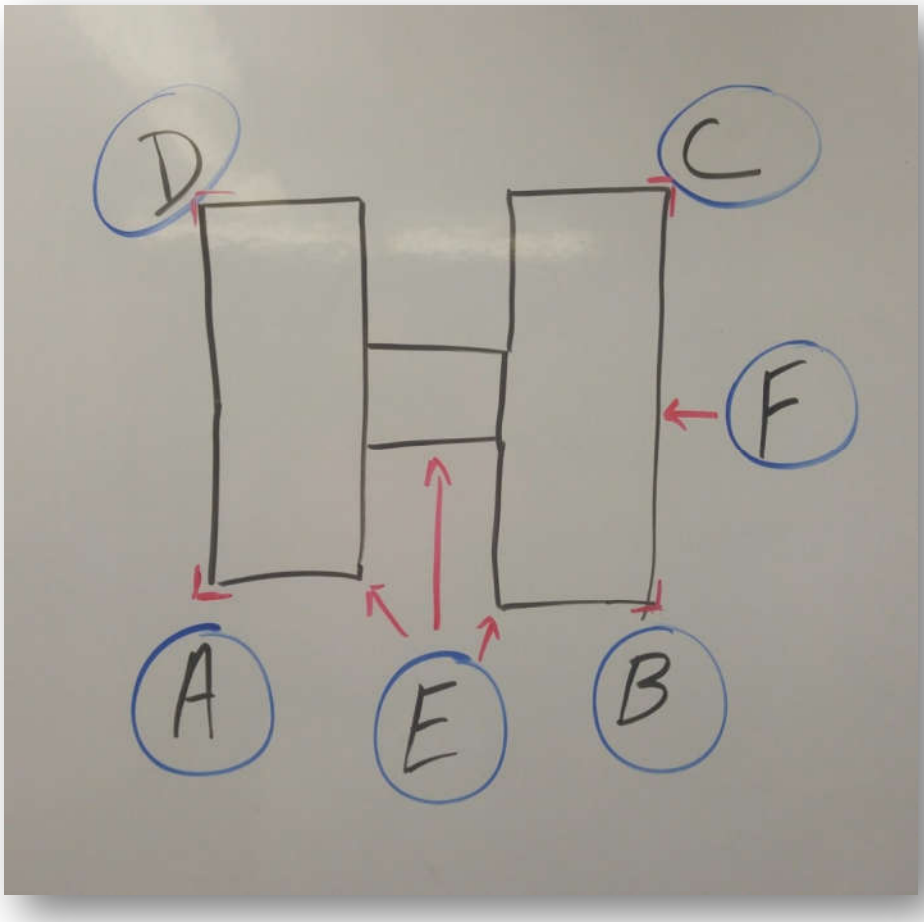
Step #7: Determine the garden space's highest point and lowest point.

Use a line level (with string) to determine the grade/slope of the garden area. Note the highest point and lowest point along the perimeter of the DESIGN area.

!! Important Note !! *Base blocks* are the concrete blocks placed at the lowest level of the bed wall and are the foundation blocks for all upper wall blocks. Correctly "setting" these blocks is the most crucial step in constructing the garden bed.

Step #8: Determine where to set the 1st base block in the garden bed area.

Refer to the following sketch to make this determination:



Per the illustration, this garden plan is two 4' x 8' beds (vertical) connected by an intermediate 4' x 3' bed (horizontal), forming an H-shape design. Corners (A, B, C, D) and mid-points (E, F) are reference points.

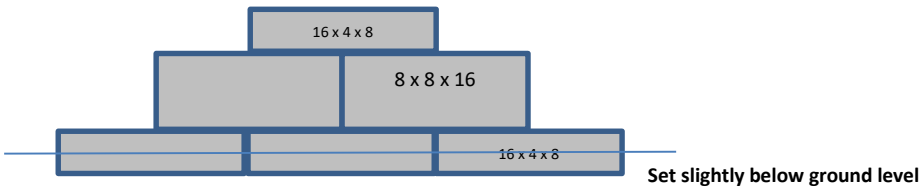
- **If "A" is the HIGHest point and "B" is the LOWest point, then place the 1st base block at "E" (one of the 3 points).**
- **If "D" is the HIGHest point and "B" is the LOWest point, then place the 1st base block at either "A" or "C."**
- **If "C" is the HIGHest point and "B" is the LOWest point, then place the 1st base block at "F."**

Step #9: Set the 1st base block.

A base block (**cap block in this example**) gets set below the ground surface at a depth of 2-4 inches. Prepare (dig out) an area slightly larger than the base block. Add a thin layer of drainage rock to the prepared site and tamp. Next, spread the paver base across the spot and re-tamp. Set the base block in the area and check to see if it is level in all directions. If need be, add more paver base, tamp, and reset the base block until it is completely level in all directions.

Step #10: Set the remaining base blocks.

The remaining base blocks are added, in-line, with a previously placed base block. The following base block is leveled in the same manner as the 1st one and pressed tightly against its neighboring block. The top surfaces of the base blocks must be even and level with each other. Corners get placed the same way. Setting the base blocks is a tedious process, but it is the most crucial process in constructing the raised bed. If the base blocks get placed correctly, all upper rows of Cored or Cap blocks will be level and fit tightly together. Keep in mind measuring, squaring, and leveling get performed consistently to ensure a visually pleasing result when finished.



Standard configuration – 16" high – Staggered joints

Step #11: Stack the wall blocks.

All of the base blocks get placed before stacking the wall blocks. Finally, stack all remaining Cored and Cap blocks to finish the designed structures. Caps can be scored and cut using a mason hammer and chisel if need be.

!! <u>Important Note</u> !! If the bed wall height exceeds 24 inches, then secure the corner Core blocks using a fast-setting concrete mix in the Core block openings. If there is any question about the stability of the bed walls, secure those Core blocks with fast-setting concrete mix also. When connecting adjacent beds, consider staggering the blocks to lock the beds into place.

Step #12: Fill the concrete block raised garden bed with a soil mixture.

a) Retain as much of the native soil (rock-free) as possible.
b) Combine quality composted materials to the native soil at a rate of 1:1 (use a bagged in-ground garden soil mix). This mixture of native and bagged soil forms the bottom-most layer of dirt in the raised bed.
c) ***Add a garden soil mix*** (topsoil + compost, or a bagged organic raised bed soil) ***and rotted manure*** (bagged preferred) ***to the bed***.
d) Add peat moss or horticultural vermiculite to the raised bed per instructional use.
e) Thoroughly combine all of the soil elements and level the mixture.
f) Test the soil for pH and nutrient composition (preferred).
g) If needed, add a granular organic fertilizer to the top 6-8 inches of the raised bed soil mixture per instructional use.

Cultivating

Step #13: The raised garden bed is ready for use.

Celebrating

Step #14: Personalize the garden space.

A garden is an extension of your creativity and preferences!