



# Pond Build II

**Advanced techniques for pond building:**

## **Concrete Collar Technique**

One of our favorite methods of pond construction is the concrete collar technique. You can find this technique illustrated on page 47 of the book Water in the Garden by James Allison published by Tetra Press. The benefits of this technique are:

- Ideal for soft soil areas or very deep ponds.
- Leveling is accomplished before rock work is installed, eliminates need to constantly check levels as you are laying rock.
- Prevents you from digging the pond larger than planned.
- Prevents cave-ins along the sides
- Safe firm edges
- Allows you to raise the pond above the existing grade thus preventing runoff from heavy rains from muddying your pond.

Although a concrete collar is not required for pond construction, it is an example of how a little extra effort pays off. The collar gives you a nice firm platform on which to lay in the stonework. Not one visitor to your pond will stand back and admire your pond; right on the edge is where they will be. A concrete collar guarantees a stable footing.

### **Directions:**

Before starting assemble:

Liner, Shovel, rake, level, sand, underlayment (optional) wheel barrow, and a long board to span the length of pond (used to check levels).

1. After determining the final length and width of your pond, first dig a trench around its outside dimensions. The trench should be 8 to 12 inches wide and 4 to 12 inches deep depending on how far north you live. The further north the deeper you should dig the trench. If the pond will be above ground see next page for instructions.
2. Lay in some reinforcing chicken wire or gutter screens (which are pre-cut to the desired width).
3. Pound stakes every 12" or so inside the trench. Level each stake by pounding it to the top of the desired grade of the collar. Check levels with a spirit level, string level or transit level.
4. Mix up concrete, 1 to 2 bags at a time (one 80 lb. bag is good for 2/3 of a cubic foot) and fill the trench to the tops of the pegs.
5. After the concrete is set, check the level again. If not level it's a simple matter to mix up a little concrete and trowel in the low areas.
6. Now the pond can be excavated. Tip: Slope the bottom to a "dimple" in the bottom. This approximately 2'x2' low point allows for easier maintenance when cleaning the pond. All detritus and debris is easily swept to this low point for removal from the pond. As you dig, angle the sides slightly, see illustrations next page.
7. Check the sides and bottom for sharp objects and remove.
8. Shovel and rake 1 to 2 inches of sand in the bottom
9. Line sides with liner underlayment material or old carpeting.
10. Lay the liner in the center of the pond and unfold.
11. Line the excavation with the liner. Lightly hold the edges in place with stones or bricks.
12. Fill with water, as the pond fills, the weight of the water will do a good job of smoothing out the wrinkles
13. Lay the rock work around the pond, then mortar into place.
14. Do not cut the excess liner until you are positive there are no low areas or fold where pond water can leak

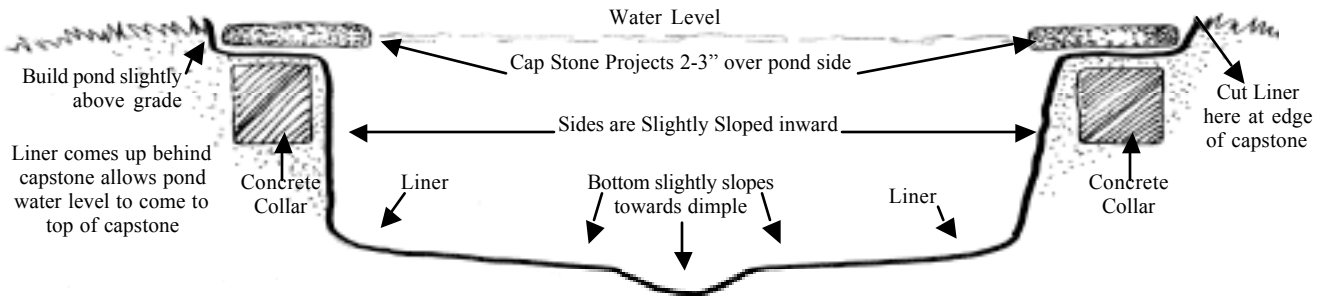
Tip: fill the pond to one inch depth. Starting at one end lift the edge of the liner up and slowly let it down. As the water rushes to fill the low area the weight of the water helps smooth out many of the wrinkles.

The beauty of the concrete collar technique is that after the collar has set, the pond is level. The fun and artistic part, arranging the stones around the pond can be done without having to check and recheck for level. A concrete collar pond is also safer, providing a firm level footing for foot traffic.

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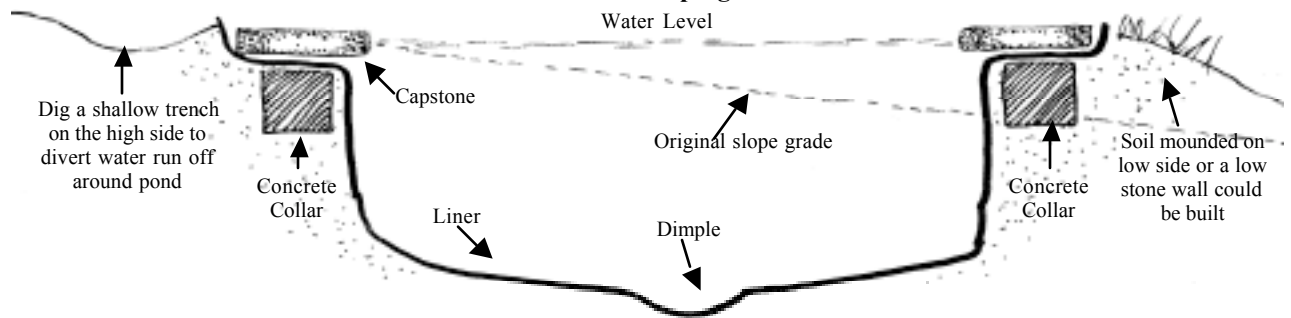
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### Profile of a Collar Construction



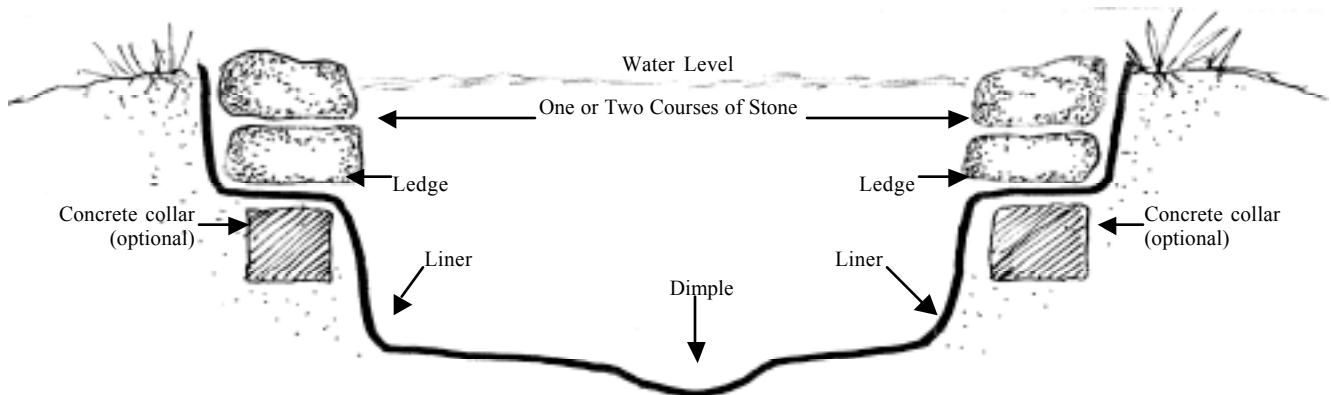
If you are constructing on a sloping site you may need to dig into the high side and build up the low side. To create forms for the low side use masonite cut into appropriate widths. This flexible material is easily bent into the shape you desire. Wooden stakes need to be driven in every 6-12 inches to hold the forms in place. Don't fret about the edges bulging out between the stakes; remember the collar will never be seen.

### Profile of a Sloping Site



### Alternate ideas:

Here's a method that creates the illusion that the rockwork extends below the surface of the pond to the bottom. Dig the trench 12" deep; only fill it half way with concrete. (Leveling is not an issue with this method.) Excavate the soil in the center. Next comes the liner. You've created a ledge on which to build a stone wall, the liner is pulled up behind the stones and makes the pond watertight.



### A Natural Edge—The Bog Edge Technique

You can incorporate a filter into the edge of your pond. Full details of this technique are provided in our Bog Filter Construction Handout.