POND PLANNER

Where would you put a pond in your yard?

KEY POINTS

- Plan First
- Set Goals
- Become Educated

THINGS TO CONSIDER

- Best Views Indoor / Outdoor
- Water / Electrical / Underground Utilities
- Deck / Patio / Bench For Enjoying My New Pond

» Ponds can be wonderful additions to any landscape but should be carefully planned if your dreams are to become a reality and not a disappointment. Planning requires careful assessment of your goals for the pond, how much time you have for maintenance, and answering many other questions. With the help of this form, which will guide you through the many options, you will be well on your way to enjoying a beautiful, healthy pond. Once you've considered your options and have chosen the correct pond style that fits you best, bring this form to your local pond dealer or professional installer.

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Water Garden & Koi Pond Elite Kits Available

Type of pond

» Most first time pond owners will be better served with a water garden or advanced water garden design. A true Koi pond with steep sides, large external filters, and heavy-duty bottom drains can become somewhat overwhelming for beginners. Asking yourself this simple question will help you in choosing the correct style for you: Am I building this pond more to enjoy Koi or aquatic plants?

FEATURE OPTIONS

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Small DIY Pond
(ENTRY GRADE)

Advantages:
- Low cost
- No exposed filtration inside pond
- Minimal installation time
  Great starter pond

Disadvantages:
- Not suitable for large fish or large quantities of fish
- Waterfall filter landscape lid not included
- Pond size limits predator protection
- Pond size limited when rocked

For ponds up to 100 square feet or 1,000 gallons;

RETAIL KIT PRICE:
*$1,200+**

**All typical prices exclude labor, rocks, fish, plants, & landscaping.*

Large DIY Pond
(MID-GRADE)

Advantages:
- Will support larger goldfish populations and a few Koi
- Greater surface area for more design flexibility
- More room for water plants

Disadvantages:
- No automatic water-fill option or overflow option in skimmer
- Size limits growth of large Koi
- Waterfall filter landscape lid not included

For ponds up to 180 square feet or 2,500 gallons;

RETAIL KIT PRICE:
*$1,900+**

**All typical prices exclude labor, rocks, fish, plants, & landscaping.*

Elite Pond
(BEST GRADE)

All Advantages of Crystal Ponds Plus:
- Skimmer boxes are bottom drain compatible
- Skimmer offers automatic water-fill & overflow options
- Greater volume of water promotes better fish health
- Deeper ponds offer more protection to fish from predators
- Greater water volume promotes healthier pond ecosystem
- Hiding waterfall box is quick and easy with the use of the landscape lid
- Greater biological filtration capacity in the waterfall filter

Disadvantages:
- Greater initial investment
- Longer installation time; more digging

Standard kits up to 550 square feet or 7,500 gallons;

RETAIL KIT PRICE:
*Typically $2,000 - $4,000**

**All typical prices exclude labor, rocks, fish, plants, & landscaping. Larger size and volume ponds available with a custom kit using the "Elite" style. Consult your pond design expert for assistance with these projects.*

Use these formulas to calculate the Blue Thumb products to make your dream come true, enter your calculations to the pond calculator at right

POND VOLUME 1

First step is to determine the total volume of water in the pond. There are two basic formulas you can use to determine the water volume in gallons. The first is for square, rectangle, or irregularly shaped ponds. Measure the length, width, and average depth in feet. Notice you use the average depth, not the max depth. Use the following formula: **Length x Width x Average Depth x 7.48 = Gallons** in pond. For circular ponds use the following formula: Top Diameter x Bottom Diameter x Depth x 7.48.

PUMP SIZE 2

Now that you have the total pond volume in gallons you can **select the proper pump for the project.** We recommend that you turn the overall pond volume over "at least" once per hour with the pump. Therefore, a 1,500 gallon pond should have a minimum pump flow rate of 1,500 gallons per hour. This figure can be adjusted based on how aggressive you want your waterfall to be.

WATERFALL BOX 3

With the flow rate of the pump and overall pond volume you can determine which waterfall box to use. The waterfall box serves two functions. The first is to create an easy way to build a waterfall and attach liner to it. The other is that the waterfall box acts as a biological filter which will help to keep the pond healthy and clear by processing the fish waste and removing excess nutrients in the pond which will decrease algae growth. **Match your pump size and pond volume to the size.** Refer to waterfall box instructions to determine amount of Bacti-Twist® needed.

SKIMMER BOX 4

The other necessary filtration function in your pond is the skimmer box. The skimmer box is a mechanical filter and will protect the pump from clogging and assist in removing debris from the pond by skimming the waters surface before the debris is allowed to sink to the ponds bottom. **Match your pump size and pond volume to the appropriate skimmer box size.**

LINER SIZE 5

Next you will determine which size liner you need. You'll take your max length and max width and add the max depth to these measurements twice. Then add an additional two feet to each dimension for overhang. For example, a 18' x 14' x 2' deep pond would require the following: for the length 18' + 4' (twice the maximum depth) + 2' (overhang) = 24'; for the width 14' + 4' (twice the maximum depth) + 2' (overhang) = 20'. You would need a 24' x 20' pond liner to construct a 18' x 14' x 2' deep pond.

UNDERLINER SIZE 6

Now calculate how much protective underliner is needed. Underliner will protect the pond liner from punctures from roots, rocks, etc. as well as allow gases to escape from the earth's soil. Underliner comes 12' wide so you will take the total square feet of pond liner and divide it by 12'. Using your liner size from above of 14' x 18' = 252 square feet divided by 12' = 21'. Therefore, you need a 12' x 21' piece of underliner for beneath the pond liner.

FLEX HOSE SIZE 7

Choosing black PVC flex hose. PVC flex hose is available in three main diameters: 1.5", 2", and 3". Choosing the correct flex hose will be determined by the flow rate of the pump. For flow rates up to 2,500 gallons per hour 1.5" diameter flex hose can be used. Flow rates up to 6,000 gallons per hour 2" diameter flex hose should be used. For flow rates above 6,000 gallons per hour 3" diameter flex hose should be used. **Once the diameter of hose has been chosen determine the length needed to connect the pump** Measure from skimmer to waterfall box. Leave a bit extra to make sure there will be enough for any adjustments.

CHECK VALVE SIZE 8

A check valve assembly will make it easier for you to create the appropriate discharge needed based on the height of the skimmer box. In addition, the check valve will prevent the water from back-flowing from the waterfall to the skimmer box. This is especially nice when the pump is shut off during skimmer maintenance. **The correct check valve is determined based on the diameter size of the flex hose.**

ACCESSORIES & OPTIONS 9

Installation accessories & other options: (a) Black waterfall foam seals in between rocks and cracks forcing the water over the waterfall stones rather than in and around them. Usually one to two cans is enough for small to medium sized waterfalls. Larger waterfalls may require additional cans. (b) PVC Primer & Glue will also be required to plumb the flex hose to the PVC fitting in the waterfall box. (c) Beneficial bacteria will be needed to seed the biological media/ filter (waterfall box). (d) Extend the enhancement and enjoyment of your newly created water feature into the evening using our Illumiglow LED light kits. Consult your local Blue Thumb expert for recommendations.

NEED ASSISTANCE? 10

Bring your list of materials to your local Blue Thumb dealer for purchase. If you require additional assistance please contact our tech service department at 888-619-3474.

EXAMPLE EQUATIONS

L x W x Avg. Depth x 7.48 = Volume
10' x 10' x 1.5' x 7.48 = 1,122 Gal

Pump Flow
Low - 100gph per inch
Med - 200gph per inch
High - 300gph per inch

30" Falls x 200gph

6,000 Flow Rate Desired

POND PLANNING CALCULATOR

1. Pond Volume:

_____ **gal.**

2. Pump Size:

_____ **gph.**

3. Waterfall Box:

_____

4. Skimmer Box:

_____

5. Liner Size:

_____ **x** _____

6. Underliner Size:

_____ **x** _____

7. Flex Hose Size:

_____**inch. x** _____**ft.**

8. Check Valve Size:

_____

Don't forget:
a) Foam
b) PVC Glue & Primer
c) Bacti-Twist® Bio Media
d) Lights

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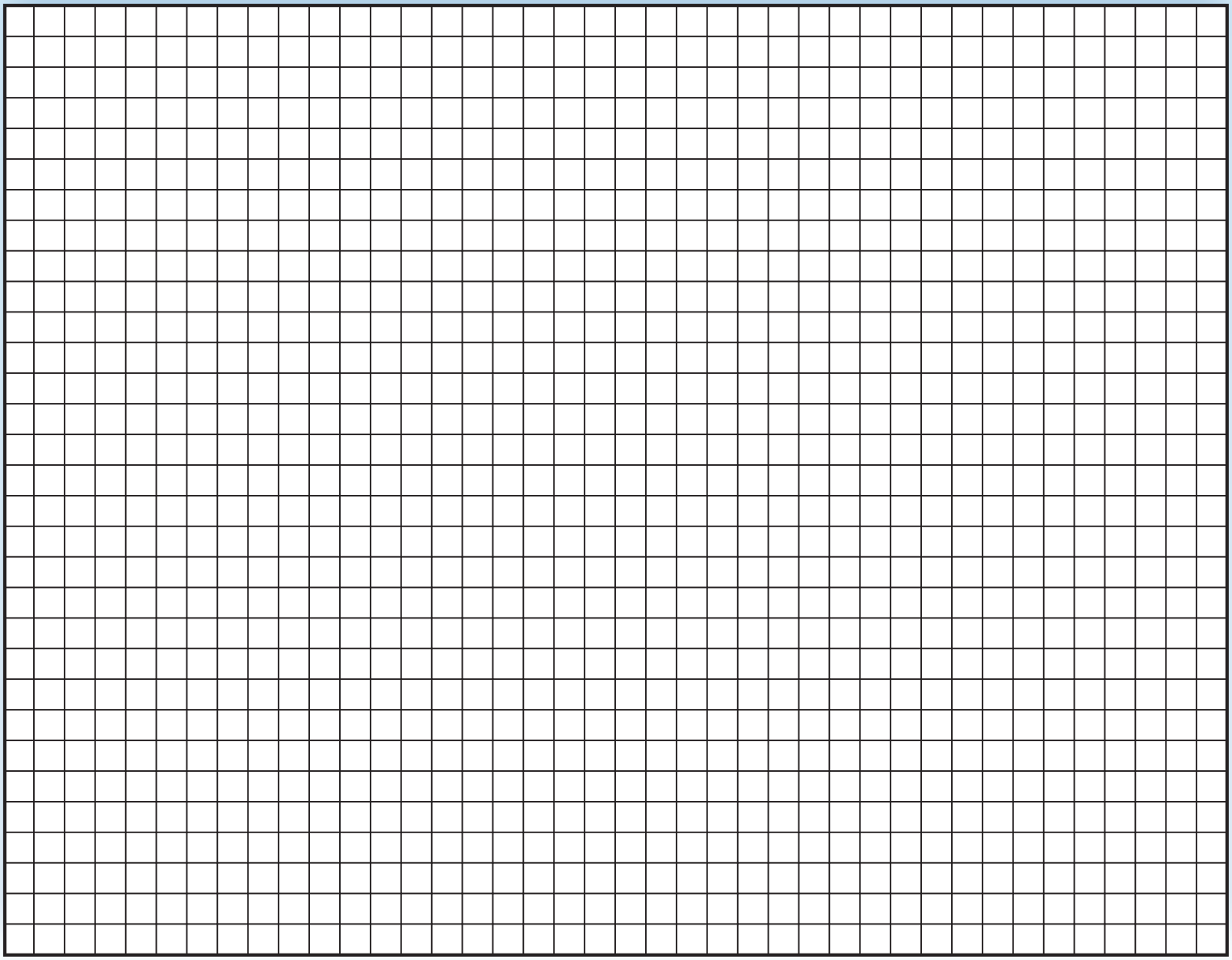
POND DESIGN



Pond Formula Quick Reference

How to Find the Correct Liner Size

Max Depth x 2 + Max Width + 2' over lap = Width of Liner

Max Depth x 2 + Max Length + 2' over lap = Length of Liner

CALCULATE GALLONS OF WATER

Square Pond

Length x Width x Average Depth x 7.48 = Gallons in Pond

Circular Ponds

Length x Width x Average Depth x 7.48 x .80 = Gallons in Pond

Streams

Length x Width x Average Depth x .25 x 7.48 = Gallons in Stream

YOUR LOCAL BLUE THUMB DEALER IS:

Waterfall Flow Rate

The flow rate is how much water is moving over a waterfall and/or stream.

The larger the flow rate the louder the water will be.

- **Soft Flow** = 100 gph per inch of spillway
- **Medium Flow** = 150 gph per inch of spillway
- **Loud Flow** = 200 gph per inch of spillway

Spillway Width x Flow Rate = Total gph

Quantity of Boulder for a Pond

(Length X Width) / 40 = Tons of Boulders

For every 1 ton of 6"-12" boulders, get 2 tons of 12"-18" boulders and 1 ton of 18"-24" boulder.

Quantity of Boulders for a Stream

1½ tons for every 10' of stream using 1:2:1 ratio above.

Quantity of Gravel for a Pond

Pond Gravel = 25% of the tons of boulders used in the pond.

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