



Standard Pond Project Chart

Pond Size	Sq. ft. (LxW)	Rock & Gravel (LxW/40 = Rock) (Rock x 30% = Gravel)	Man Hours (5 man crew)
8' x 11'	88	½ ton 6-12" 1 ½ ton 12-18" ½ ton 18-24" ½ ton gravel	30
11' x 11'	121	1 ton 6-12" 1 ton 12-18" 1 ton 18-24" ¾ ton gravel	35
11' x 16'	176	1 ton 6-12" 2 ½ ton 12-18" 1 ton 18-24" 1 ton gravel	40
16' x 16'	256	2 ton 6-12" 2 ½ ton 12-18" 2 ton 18-24" 1 ¾ ton gravel	45
16' x 21'	336	2 ton 6-12" 4 ½ ton 12-18" 2 ton 18-24" 2 ton gravel	50
21' x 26'	546	3 ½ ton 6-12" 6 ½ ton 12-18" 3 ½ ton 18-24" 3 ¾ ton gravel	65

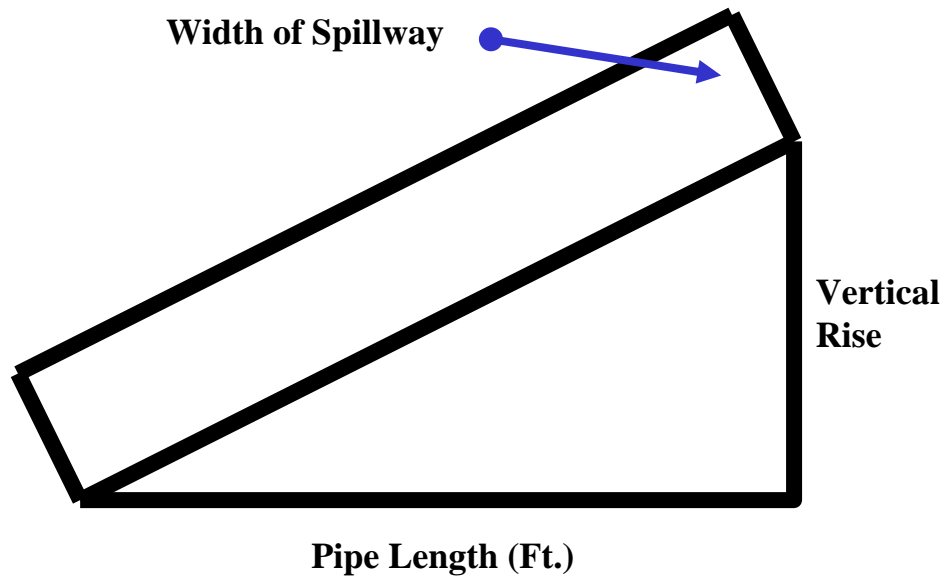


Stream and Waterfall Standards

Description or Size	Liner (Stream Length + 5')	Rock & Gravel (1 ½ ton per 10' of stream)	Man Hours (5 man crew)
10' stream	10'x15'	¼ ton 6-12" 1 ton 12-18" ¼ ton 18-24" ¼ ton gravel	10
15' stream	10'x20'	½ ton 6-12" 1 ton 12-18" ¾ ton 18-24" ½ ton gravel	15
20' stream	10'x25'	½ ton 6-12" 2 ton 12-18" ½ ton 18-24" ¾ ton gravel	20
Boulders Used for the face of a Mini/Signature Series™ BioFalls® Filter 2500		½ ton 12-18" ½ ton 18-24" No gravel	4
Boulders Used for the face of a Signature Series™ BioFalls® Filter 6000		¼ ton 6-12" ¾ ton 12-18" ½ ton 18-24"	6
Boulders Used for the face of a Classic Series Grande BioFalls® Filter		½ ton 6-12" 1 ton 12-18" 1 ½ ton 18-24"	10

General Pump Information

3 Factors for Pump Selection



Pipe Flow Chart

<u>Max Water Flow in gph</u>	<u>Inside Diameter of Tubing</u>
300	1/2"
720	3/4"
1200	1"
2000	1 1/4"
2700	1 1/2"
4800	2"
9600	Qty (2) 2"
11,500	3"
15,000	4"



ROCK CALCULATIONS

Rock Calculation for the POND

Length x Width ÷ 40 = Tons of boulders

Use a 1:2:1 ratio

For every (1 TON) of 6"-12" rock, Get (2 TON) of 12"-18" and (1 TON) of 18"-24"

Quantity of Boulders used in a STREAM

For Every 10' of STREAM = (1 ½ TON) using 1:2:1 RATIO from above

Quantity of GRAVEL Used in the POND

Pond Gravel = 30% total tons of pond boulders

Quantity of GRAVEL Used in the STREAM

Stream Gravel = 30% total tons of STREAM Boulders

Small MicroPond/ D.I.Y. Rock Calculation for the POND

Length x Width ÷ 65 = Tons of boulders

Small MicroPond / D.I.Y. Quantity of Boulders used in a STREAM

For Every 10' of STREAM = (½ TON) 6"-12" & (½ TON) 12"-18"

Quantity of Boulders Used for the FACE of the BioFalls® filter

Mini / Signature BioFalls® filter = (1 TON) will cover the face of the falls

Standard BioFalls® filter = (1 ½ TON) will cover the face of the falls

Grande BioFalls® filter = (3 TON) will cover the face of the falls

Quantity of Stone Used in the Aquascape Pondless® BASIN

Length x Width x Depth = CUBIC FT.

- 90 lbs. of rock per (1) cubic foot (4"-6" and/or 1 ½"- 2" rock)
- Minimum 40% of 4"-6" rock, 60% of 1 ½" – 2" and then any additional decorative gravel for on top

Quantity of Stone Used in the MicroPondless™ BASIN

Length x Width x Depth = CUBIC FT.

- 90 lbs. of rock per (1) cubic foot (1 ½" – 2" only)



Quantity of Boulders to use around the perimeter of the BASIN

(½ TON) 6"-12" Stone will cover 20 linear feet of edge

(½ TON) 12"-18" Stone will cover 5 linear feet of edge

Quantity of Stone Used in a WETLAND FILTER (PER 10ft.²)

750 lbs. 4" – 6" River Gravel

900 lbs. 1 ½" – 2" River Gravel

900 lbs. ½" – ¾" River Gravel

Quantity of Boulders Used for RETAINING WALL

(1 TON) of 12"-18" size rock will cover 10 linear feet

(1 TON) of 18"-24" size rock will cover 5 linear feet



USEFUL CALCULATIONS

Approximate Gallons of Water in a POND

Length x Width x 80% x Avg. Depth x 7.48 = total gallons
***the basin takes up approximately 80% of the actual SQ. FT.

Approximate Gallons of Water in a STREAM

(Length x Width x .25 (Depth) x 7.48) = Gallons in the stream.
You need 2x the amount of water in your basin

AquaBlox™ Water Matrix Specs

AquaBlox™ Large Water Matrix

4.3 cubic feet
Holds 32 gallons

AquaBlox™ Small Water Matrix

2.3 cubic feet
Holds 17 gallons

Approximate Gallons of Water in a Pondless® BASIN

With Stone

Length x Width x Depth x 2.2 = Gallons in the Basin

With Large AquaBlox™ Water Matrix

Length x Width x Depth / 4.3 = Number of AquaBlox™ Water Matrix used
Number of matrix used x 32 = Gallons in the Basin

With Small AquaBlox™ Water Matrix

Length x Width x Depth / 2.3 = Number of AquaBlox™ Water Matrix used
Number of matrix used x 17 = Gallons in the Basin

Electrical Consumption / Conversions

Amps x Volts ÷ 1,000 x .10 (kw/per hour) x 24 hrs x 30.4 days = Monthly Cost

Watts = volts x amps

Amps = watts ÷ volts

What's In Your Trailer?

Treatments: When going to a job site you should have a mix of different types of treatments. Most of these products come in different sizes and forms. You will need to choose what is best for you.

Water Treatments

- Beneficial Bacteria Dry (9 lb bucket)
- Waterfall & Rock Cleaner (9 lb bucket)
- Stream & Pond Cleaner (9 lb bucket)
- Rapid Clear (1 gal)
- Pond Detoxifier
- Activated Pond Carbon
- Algaecide (1 gal)

Tools: From the basic shovel to the Dingo by Toro, here is a list of the recommended tools needed on the jobsite.

- Tool box of tools – screwdrivers, hammers, pliers, socket set, scissors, large and small adjustable wrenches
- Transit – for setting the water level in the skimmer and determining overall height
- Long handled round point shovels – for digging
- Long handled square point shovels - for scooping dirt or gravel
- Metal spades – for cutting the edges, leveling shelves, and sculpting the stream
- Pick axe – to break up clay and rock
- Axes – to cut through roots
- Broom – to clean up the customers driveway when the job is finished
- Wheel barrows – to move dirt and gravel around the site
- Tree ball cart – the easiest way to move large boulders without machines
- Tarps – to cover the customers grass
- Cleanout pump with hose attached – to remove the water during a pond cleanout
- Sheets of plywood – to drop stone on and to protect the customers yard from wheel barrow traffic
- Garden hose – you need to fill up the pond somehow if the customer doesn't have one
- Koi net – to save you time when you need to catch the fish

Power tools: Even though ponds are mostly built by hand, a few power tools are always nice to speed up the process.

- Dingo by Toro – to transport rock and other materials around the jobsite
- Sod cutter – It sure beats removing grass by hand
- Electric and cordless drill with drill bits – for the time you may need to modify a Biofalls® filter with an extra bulkhead fitting
- Heat gun – for seaming 40mil liners or heating up the 45mil liner to be tape seamed in cold weather
- Reciprocating saw – for quickly cutting pipe or plastic.
- Extension cord



Installation tools: There are not many tools you need to install a pond, but these can be used to work in conjunction with our kits.

- Foam kit – foam gun, foam, and cleaner. Don't leave home without it
- Extra foam cans – what if you run out? Keep a few extra cans handy
- Extra silicon – for installing the face plate of the skimmer and lip of the Biofalls® filter
- Pipe cutters – to cut pipe and excess liner and underlayment
- Flex PVC cement and primer – made specifically for flexible PVC pipe
- Cover and seam tape – to seam and patch 45 mil liners
- EPDM tape primer – this must be used when seaming with tape
- Water meter – to accurately measure how much water is in the pond
- Fish bucket – any large container that can hold fish if the fish need to be taken out
- Air stones – providing the fish with oxygen is necessary during the cleanout

Fittings: How many times will you have to run to the local hardware store because you were missing one or two fittings? Keep extras of these in your trailer, it will save you time and money

- Ball valves – 1½”, 2”, and 3”
- Water fill valve and parts – water fill unit, poly pipe, ¼ x 5/8 connectors
- Manifold kit – for splitting one pipe into two
- Male pipe thread fittings – 2”x1½”, 2”, and 3”
- 90 degree elbows – 1½”, 2”, and 3”
- Slip couplings - 1½”, 2”, and 3”
- Bulkhead fittings – 2” and 3”
- Pressure relief valves – in case you hit a low water table when digging the pond 5 to 8 feet deep
- Rubber couplings – 2”, 3”, and 2”x3”
- 2x3 conversion kit – to go from 2” to 3”
- Aquascape 2” and 3” duel union check valves and extra parts – extra reducer bushings, collars, and end caps

Extras: Here a few things you may want to have on hand just in case. Many of these items can only be purchased through Aquascape, Inc. There is no running to the local hardware store for these.

- Skimmer nets – standard/large, grande
- Skimmer baskets – standard/large only
- Skimmer mats – standard/large only
- Biofalls® filter mats – mini, standard, grande
- Support rack – mini, standard
- LED Lights
- Underwater lights – 20 or 50 watt
- Extra light bulbs – 20 or 50 watt
- 150 watt light transformers
- Aquascape submersible pumps – 1500, 3000, 4500, 7500, and 10,000
- CREATE A PARADISE DVDs – How many times does a friend or neighbor come up to you and want more information about the pond you just built? You can't market if you don't have anything on hand to give to a prospective customer.
- Yard signs – displaying signage with your company name and number is a good avenue for free marketing.