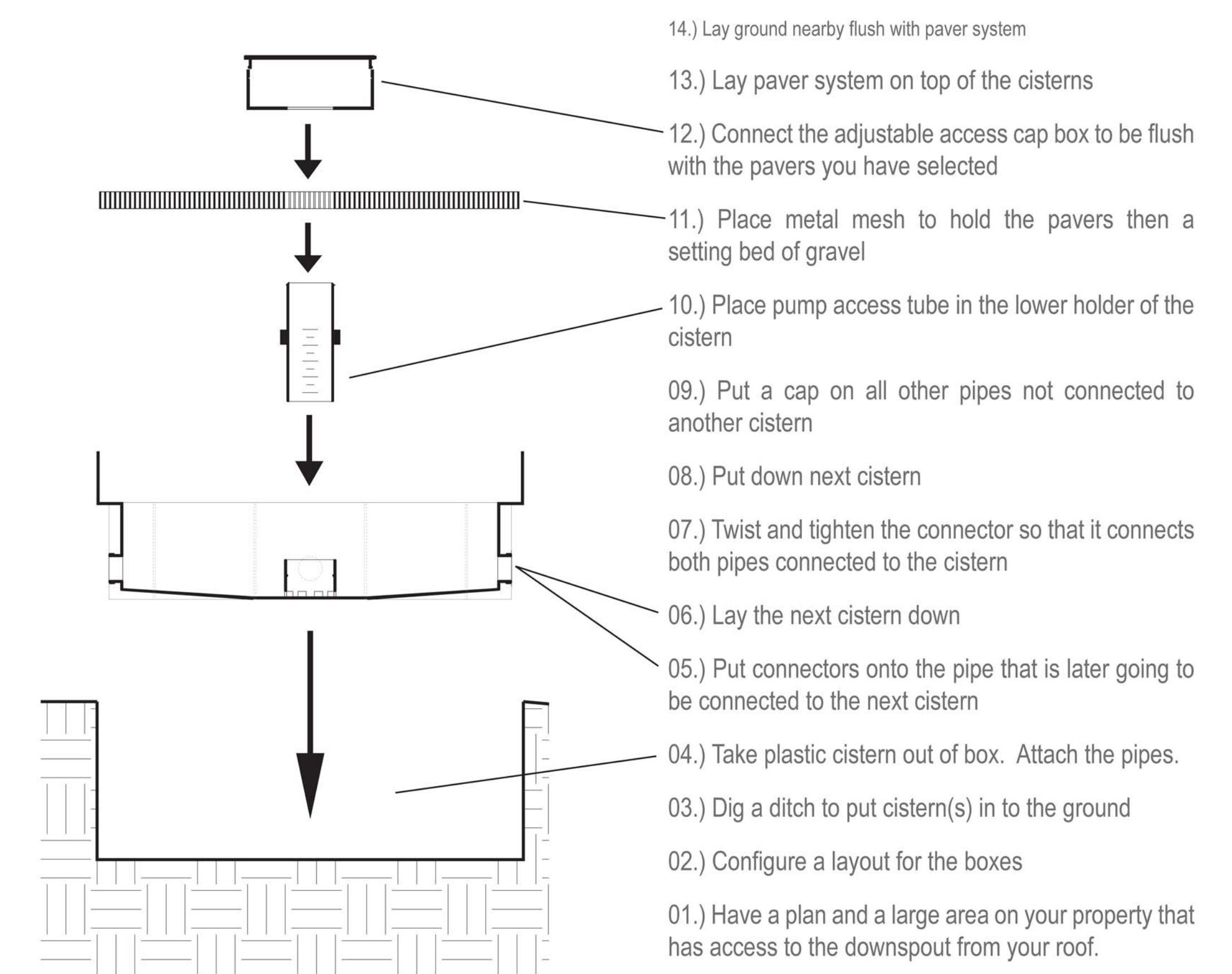


I PRO 344 - Residential Rainwater Harvesting

Pentair provides water solutions and technical products to meet the demands of today's ever-changing global environment. Distribution of clean, safe drinking water around the world to keeping high-tech electronics and electrical equipment protected from overheating and other environmental factors, Pentair delivers solutions that improve lives daily.

Information curious of Pentair - www.pentair.com

Installation Instructions:



Assembly of team members:

- Architecture Majors:**
Sean Murray
Declain McCloat
Michael Gubser
Mohammad Al-Sabah
Adam Newman
Alysa Kirkpatrick

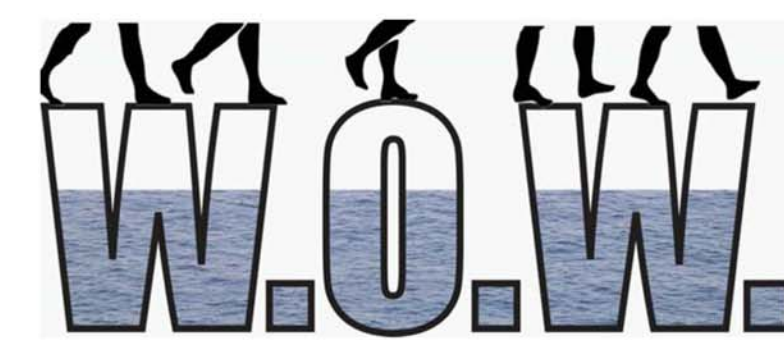


- Psychology Majors:**
Juan Martinez (not pictured)

- Biology Majors:**
Shuana Martin

- Business / Humanities Majors:**
Muqadas Muñir

- Instructors:**
Phil Lewis



Pentair's "Walking on Water" - Integrated Residential Paving / Collection System

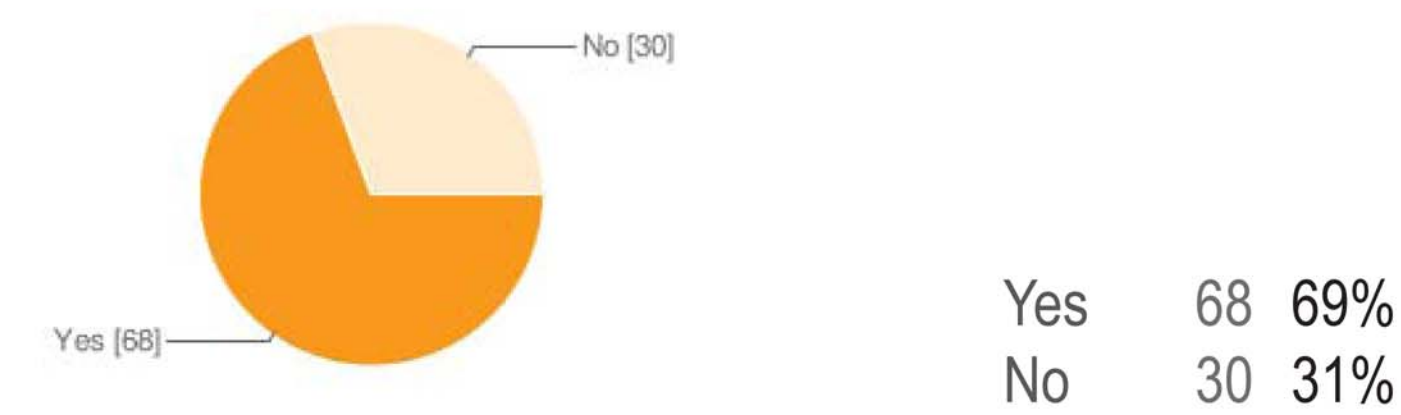
Survey Results:

Are you currently applying "Green initiatives" like recycling, wind power, solar power, other. At your residence?

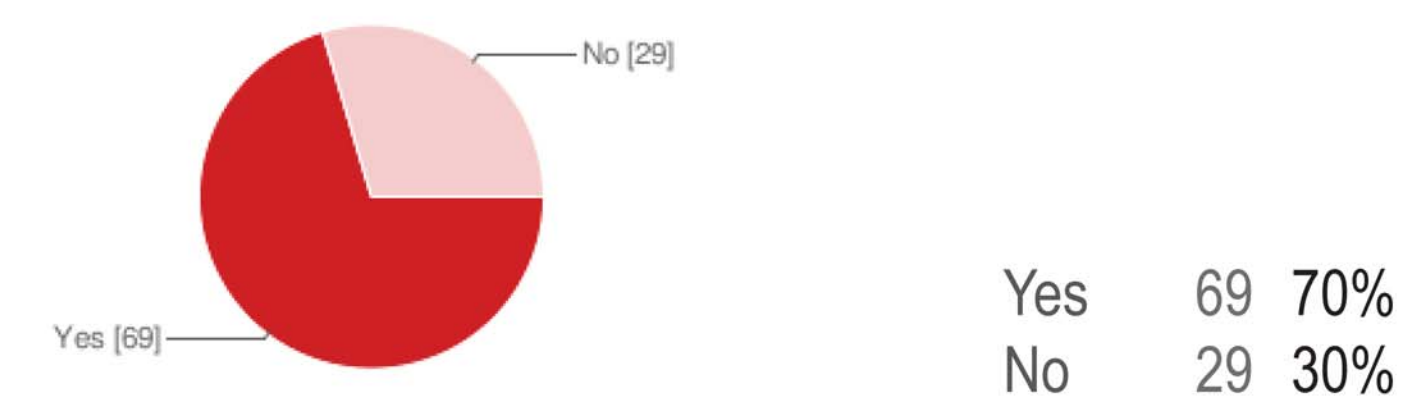


*Individuals may have selected more than one checkbox, so percentages may add up to more than 100%.

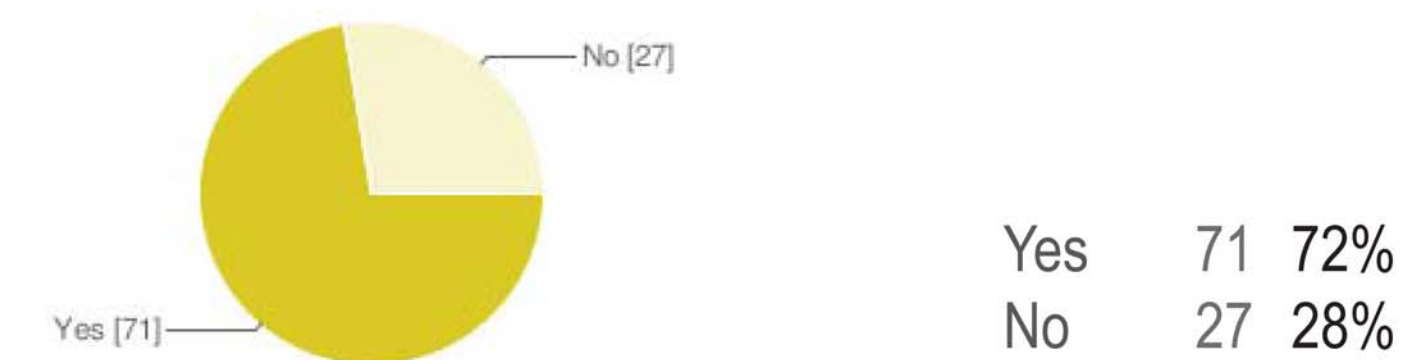
Do you plan on "going green" in the foreseeable future?



Are you aware that roughly 1/5th of the world's population is suffering from chronic water shortages and the need of water will continue to increase?



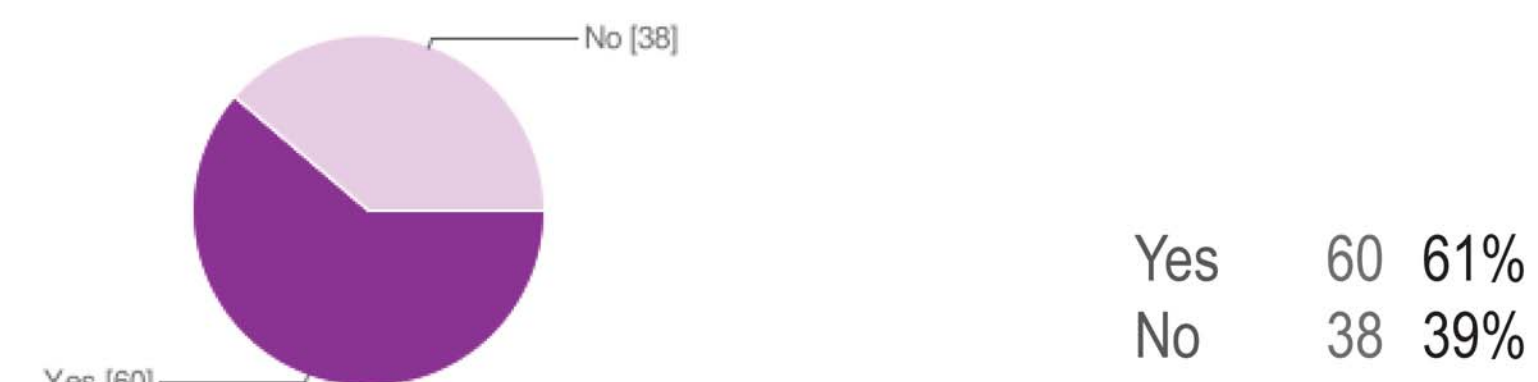
Are you aware of rainwater harvesting/ collecting?



Are you aware of rainwater harvesting / collecting?



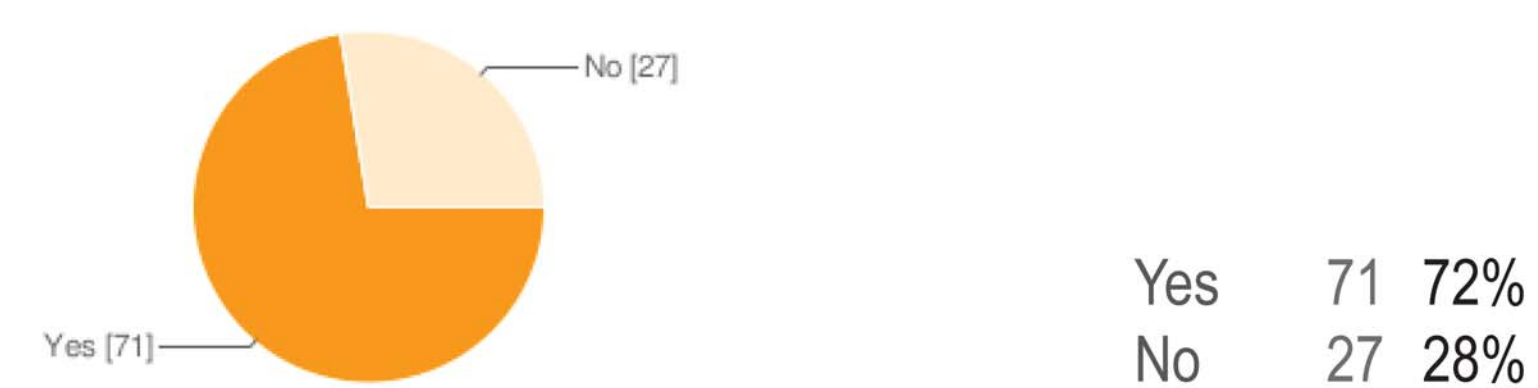
Did you know you can save money by collecting and using rainwater?



Collected rainwater is typically held in a cistern, would you prefer the cistern to be exposed or buried?



Do you have access to a gutter system?



If you are a renter of a property would you utilize a rainwater collection product in which your landlord or building owner implemented it in your building?



Product Marketing:

Technical Data:

Dimensions Of Cistern:

Length: 2'-0"
Width: 2'-0"
Depth: 0'-6"

Total Volume: (2 Cubic Feet)

1 Cubic Foot Water - 7.5 gallons of water
2 Cubic Feet Water - 15 gallons of water / module

Calculations:

To Water 800 Sqft Of Garden:

800 sq. ft X 0.5 gal/sq. ft = 400 gallon (required)
400 gal / 15 gal per module ~ 27 Modules
27 modules (2'-0"x 2'-0" surface area) = 108 sq. ft of modules

One module of 15 gallons waters > 30 sq. ft of garden

Or

Ratio area approximately 1:8
E.G. 4 sq. ft of surface (1 Module)
Accommodates ~ 32 sq. ft of garden

10 inches of rainfall per year:

24" x 24" (area of module) x 10" = 5760 cubic inches
5760 cu. in. / 1728 cu. in. / cubic foot = 3.34 cubic feet
3.3 cubic feet x 7.48 gallons/cubic foot = 24.684 gallons
1 module = 25 gallons/year for 10 inches of rainfall per year.

Example:

How many gallons can be saved, if the consumer purchased 30 modules? Assuming, they live in an area that receives approximately 40 inches of rainfall annually?

40 in. of water per year = 100 gal. per year per module
30 modules x 100 gal. /module = 3000 gal. per year saved

Pump Requirements:

9 gallons per minute (gpm) desired (approximate water flow rate of a typical residential garden hose).

16 Gal / 9 Gpm = 1.64 min
1.66 minutes (100 Seconds) to empty
One module at flow rate of 9 gpm

In order to water 800 sq. ft of garden:

27 modules are required. It would take 45 minutes (27 modules X 100 seconds per module / 60 seconds) to empty.

In The Alotted Time Of An Hour:

Empty 36 modules with a total of 540 gallons: This would require a pump that can (at a minimum) push 540 gallons per hour (gph).

120v water pump needed that can pump water at a rate of 540 gph.