Technical Data:
Dimensions Of Cistern:
- Length: 2'-0"
- Width: 2'-0"
- Depth: 6'-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
- 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? Assumingly, 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.

Survey Results:
Are you currently applying "Green Initiatives" like recycling, wind power, solar power, other at your residence?
- Recycling: 77% Yes, 23% No
- Wind power: 1% Yes, 99% No
- Solar power: 4% Yes, 96% No
- Other: 25% Yes, 75% No

Do you plan on "going green" in the foreseeable future?
- Yes: 62% Yes, 38% No
- No: 36% Yes, 64% No

Are you aware that roughly 1/5 of the world's population is suffering from chronic water shortages and the need of water will to continue to increase?
- Yes: 69% Yes, 31% No
- No: 30% Yes, 70% No

Are you aware that rainwater harvesting / collecting?
- Yes: 71% Yes, 29% No
- No: 27% Yes, 73% No

Do you have access to a gutter system?
- Yes: 72% Yes, 28% No
- No: 27% Yes, 73% No

Are you aware that rainwater harvesting / collecting?
- Yes: 60% Yes, 40% No
- No: 38% Yes, 62% No

Did you know you can save money by collecting and using rainwater?
- Yes: 32% Yes, 68% No
- No: 66% Yes, 34% No

Collected rainwater is typically held in a cistern. Would you prefer the cistern to be exposed or buried?
- Exposed: 17% Yes, 83% No
- Buried: 43% Yes, 57% No
- Doesn't matter: 39% Yes, 61% No

Are you aware of rainwater harvesting / collecting?
- Yes: 83% Yes, 17% No
- No: 13% Yes, 87% No

Pentair Water Company:
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
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- Mohammad Al-Sabah
- Adam Newman
- Alysa Kirkpatrick

Psychology Majors:
- Juan Martinez

Biology Majors:
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Business / Humanities Majors:
- Muqadas Mirhir

Instructors:
- Phil Lewis