SIZING YOUR SOLAR PUMPING SYSTEM WORKSHEET

Type of Water Source (Check one): _____ Stream, Lake or Pond _____ Cistern or Dug Well _____ Drilled/Deep Well

Other _____ Season of operation (months) _____

Depth to Water: _____ Ft. (Be sure to account for variations) Distance of Float Switch Cable _____

Estimated Well Capacity: _____ GPM Amount of Water Required: _____ GPD (Winter) _____ GPD (Spring)

Well Inside Diameter (If applicable) _____ in. _____ GPD (Summer) _____ GPD (Fall)

Type of Application (Check one): _____ Domestic Water _____ Livestock _____ Irrigation Other _____

Vertical Lift Required From Water Surface to Outlet: _____ ft. Type of Storage: _____ Above Ground Other _____

Geographical Location of System _____ Temperature: _____ °F Min. _____ °F Max

Elevation Above Sea Level: _____ Ft. Distance from Solar Array to Pump: _____ ft.

Options: (please check if you would like one of the following) Float Switch _____ Generator Backup_____

General Solar Pumping Information

Flow Rates

GPD - Gallons per Day (To estimate GPD, multiply GPH by peak sun hours for location)
GPH - Gallons per Hour (To estimate GPH, multiply GPM by 60 min./hour)
GPM - Gallons per Minute

Pump Performance Vs. Solar Array Output

As voltage varies, flow rate will vary proportionally
Average stays nearly constant
Watts = Volts x Amps

Conversion Factors

Feet of Lift to PSIG - Divide Feet by 2.31
US Gallons to Liters - Multiply Gallons by 3.785
Feet to Meters - Divide Feet by 3.28

Consumption Estimates

People–10-100 GPD per person for all purposes
Large Livestock (horses, cattle) - 10 GPD per animal
Dairy Cattle - 35 GPD per animal
Small Livestock (sheep, hogs, etc.) - 2-4 GPD per animal
100 Chickens - 4 GPD