

SOLAR POWERED SUBMERSIBLE PUMP FOR SURFACE WATER COLLECTION

MOUNTING POST SELECTION TABLE

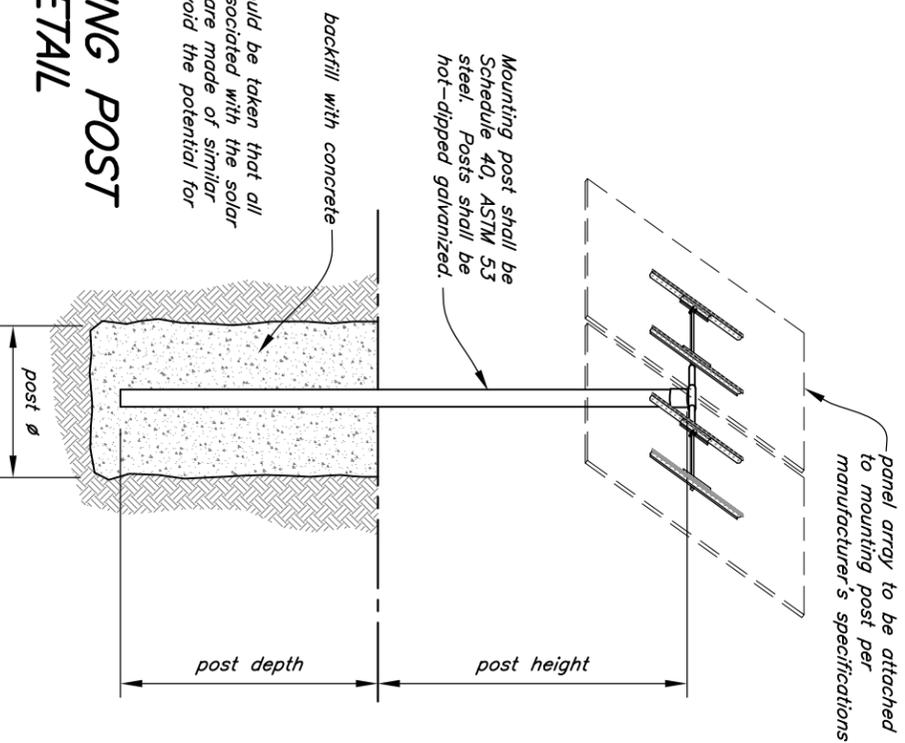
(Producer shall install mounting configuration circled below)

POST HEIGHT (FT)	PANELS	MIN. POST DIA. (IN)	POST HOLE DIA. (IN)	MIN. EMBEDMENT DEPTH (IN)	CONCRETE VOLUME (CY)
4 FT	Single Panel (A = 13.9 ft ²)	4	24	38	0.46
	Double Panel (A = 27.8 ft ²)	4	24	48	0.55
	Triple Panel (A = 41.7 ft ²)	4	30	54	0.96
	Quad Panel (A = 55.6 ft ²)	4	36	56	1.42
6 FT	Single Panel (A = 13.9 ft ²)	4	24	36	0.44
	Double Panel (A = 27.8 ft ²)	4	30	50	0.90
	Triple Panel (A = 41.7 ft ²)	4	36	54	1.38
	Quad Panel (A = 55.6 ft ²)	6	36	60	1.49
8 FT	Single Panel (A = 13.9 ft ²)	4	30	38	0.72
	Double Panel (A = 27.8 ft ²)	4	30	50	0.90
	Triple Panel (A = 41.7 ft ²)	6	36	54	1.36
	Quad Panel (A = 55.6 ft ²)	6	36	60	1.49
10 FT	Single Panel (A = 13.9 ft ²)	4	24	44	0.51
	Double Panel (A = 27.8 ft ²)	6	30	52	0.91
	Triple Panel (A = 41.7 ft ²)	6	36	58	1.45
	Quad Panel (A = 55.6 ft ²)	8	36	64	1.58

NOTE: Minimum post diameter and post hole diameter and post depth values have been designed for a wind speed of 95 mph and a 1 inch thick ice load. Sites where wind and ice loads exceed these values will need to be examined by a qualified engineer.

Note: Care should be taken that all connections associated with the solar power system are made of similar materials to avoid the potential for corrosion

MOUNTING POST DETAIL



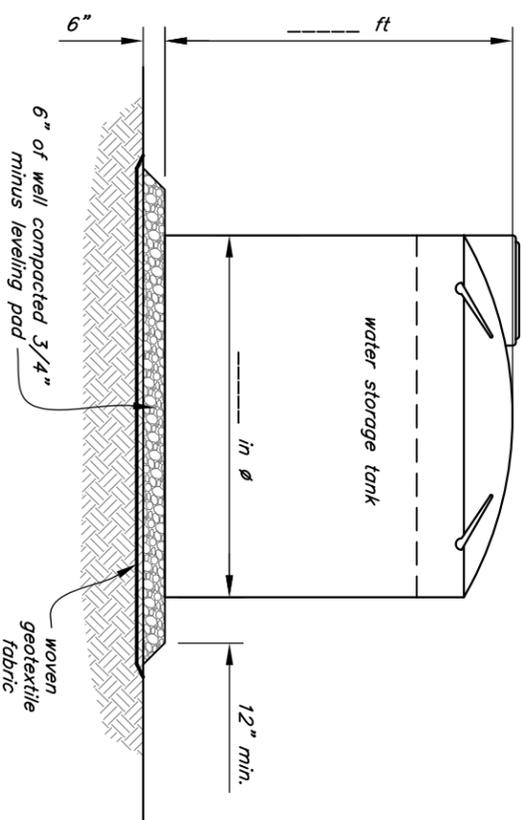
PUMP ¹	_____ watts	_____ design gpm
	_____ amps	_____ manufacturer (or approved equal)
	_____ volts	
PANEL ARRAY	_____ minimum watts needed (pump size*1.25)	
	_____ summer tilt angle	_____ amps
	_____ winter tilt angle	_____ volts
PANEL CONFIGURATION ²	_____ series	_____ parallel
TANK VOLUME	_____ gallons	
FLOAT SWITCH	_____ yes	_____ no
WATER TROUGHS	_____ # of troughs	_____ size of trough
FLOAT	_____ #1	_____ #3
	_____ #2	min. pressure head to open valves
FISH SCREEN REQUIRED ³ (at intake)	_____ yes	_____ no

¹ Pump controller, valves, switch box to be specified by manufacturer's recommendation

² Contractor to provide landowner/NRCS as-builts to include panel array configuration and wiring details

³ See Oregon Department of Fish and Wildlife Screening Criteria

PV SYSTEM INFORMATION



COMPACTED FILL:

$$\text{cubic yardage} = \left[\frac{\pi}{4} (D + 2)^2 (0.5' \text{ gravel}) \right] \frac{1}{27} = \text{_____ cu yd}$$

TANK AND FOUNDATION DETAIL

DETAILS ARE NOT TO SCALE

WATER QUALITY AT SOURCE

_____ Very Good Water contains no abrasive particles, and/or TDS < 50 ppm
 _____ Good Water may contain small amounts of silt, and/or TDS < 100 ppm
 _____ Fair Water may contain small amounts of silt, sand, or rust, and/or TDS < 200 ppm
 _____ Poor Water may contain moderate amounts of silt, sand, or rust, and/or TDS = 200-800 ppm
 _____ Very Poor Water regularly contains silt, sand, or rust, and/or TDS > 800

COMMENTS: _____

WATER STORAGE DATA

Volume Required = Maximum Daily Requirement _____ (gal/day) x _____ days = _____ gallons.
 Open Tank Pres. Tank In Line Other Total
 Volume Available (gallons): _____
 New or Existing: _____

WATER PUMPING DATA

Static Water Depth: _____ ft. (Distance from ground to water surface when not pumping).
 Drawdown Level: _____ ft., at _____ GPM. (Depth water drops when pumping).
 Discharge Head: _____ ft. (Dist. from ground surface to highest water surface in discharge line)
 (Use either Discharge Level or Pressure Head, but not both)
 Pressure Head: _____ ft. (Tank pressure in psi: x 2.31)
 Losses: _____ ft. (Minor and friction losses in discharge line from pump to tank)
 Total Dynamic Head: _____ ft. (Sum of values above).

WATER SOLAR POWER DATA

Solar Station

SOLAR ISOLATION VALUES

Average kWh/m ² /day or full sun hours	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Latitude												

Month Hours

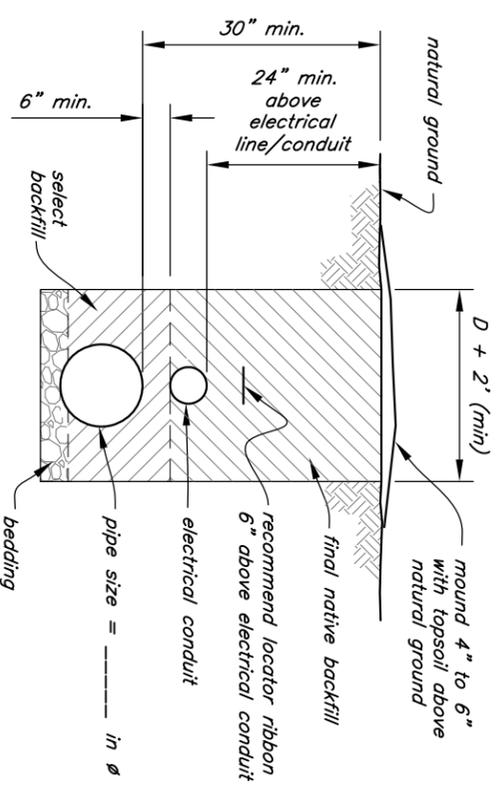
Design Solar Radiation Hours = _____ hours
 Design Flow Rate (gpm) = _____ gals (Volume Required) / _____ Solar Radiation Hours (1 hour/60 minutes)

WATER SOURCE INFORMATION

SUBSURFACE		SURFACE		
WELL	SPRING	STREAM	CANAL	POND
Depth (ft)	Yield (gpm)	Flow Rate (gpm)		
Max. Yield (gpm)	COLLECTION BOX DATA	Seasonal or Perennial		
Casing I.D. (in)	Depth (ft)	Min. Water Elev. (ft)		
Well Test (Y or N)	Volume (gal)			
Date of Test	Covered (Y or N)			

WATER USE INFORMATION

Type of Use	Seasonal Water Requirement (gal/day)				Comments (# or type of animals, type of irrigation, etc.)
	Summer	Fall	Winter	Spring	
Livestock					
Wildlife					
Irrigation					
Domestic/Potable					
Other					
Total Requirement					



TYPICAL TRENCH DETAIL

Date _____
 Designed _____
 Drawn _____
 Checked _____
 Approved _____
 Title _____

SOLAR POWERED WATERING SYSTEM GENERAL INFORMATION



File Name: solar_install.dwg
 Drawing No.: _____
 Sheet 2 of 2