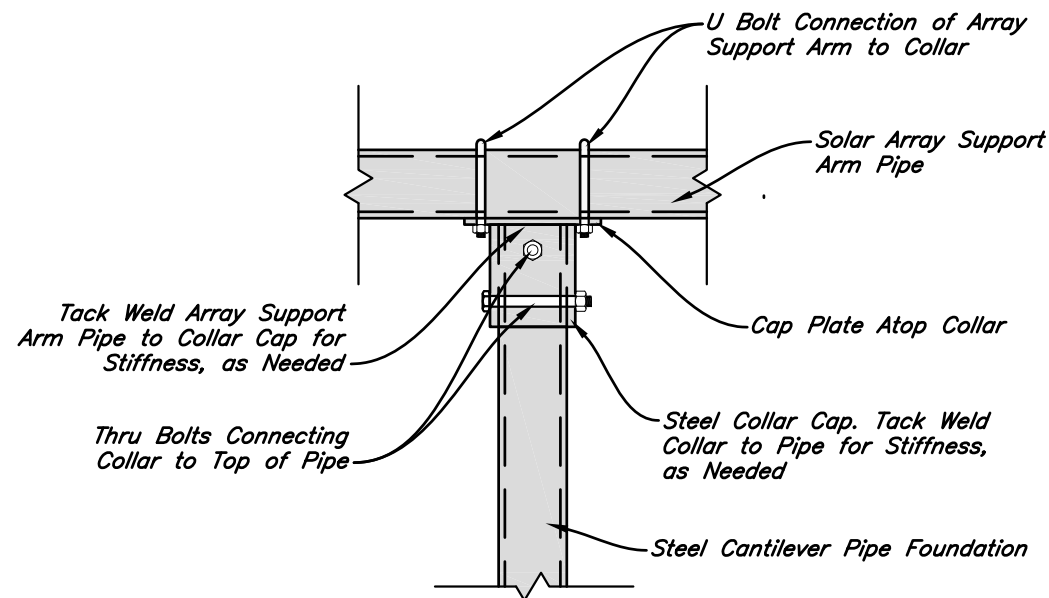


SOLAR PANEL ARRAY
FOUNDATION SUPPORT
Not to Scale



TYPICAL SOLAR ARRAY
SUPPORT ARM CONNECTION
Not to Scale

CONSTRUCTION NOTES

1. PV panels are to be tested and listed by Underwriters Laboratories (UL) to meet UL 1703 or tested and certified to withstand the impact of a 25-mm (1-inch) diameter hail at a minimum velocity of 23-m/s (51-mph) without major visual defects by another nationally recognized testing lab in accordance with IEC 61215 or IEC 61646. The panels are to also be certified to withstand winds of 130-km/hr (81-mph) or greater and an ice loading of 25-mm (1-inch) thick minimum over all exposed surfaces.
2. Installation of the storage tank shall meet North Dakota NRCS Specification 614 - Watering Facility.
3. Minimum post diameter, post hole diameter and post depth values have been designed for a wind speed of 105 mph for strength and 95 mph for serviceability (deflection) and a 1 inch thick ice load. Soil properties for the foundation design were presumed to have an allowable bearing pressure of 1,500psf and a lateral pressure per unit depth of 100psf/ft and is representative of all soil types except for organics. For a site whose conditions do exceed these design parameters, the required mounting post size and embedment depth will need to be determined by a qualified engineer.
4. The concrete used for casting the drilled pier is to be properly batched above ground prior to placement in the post hole. It is not acceptable to place dry ready mix concrete in the post hole and then fill the hole with water.
5. Care should be taken that all connections associated with the solar power system are made of similar materials to avoid the potential for corrosion.
6. The PV panel mount and all electrical components shall be properly grounded to provide lightning protection. Lightning rods are recommended for systems installed on high terrain if lightning is a known problem.
7. Pump controller, valves, switch box to be specified by manufacturer's recommendation.
8. Contractor to provide landowner/NRCS a diagram of the panel array wiring configuration.

DESIGN REQUIREMENTS

TDH _____ GPM _____

AS BUILT

PUMP:

Input Power _____ Operating Voltage _____

Manufacturer _____

Model _____

Controller _____

Description of Switch box or Shutoff Valves

PV PANELS:

Rated Max Power, _____ Watts

Vmpp _____ Tracker _____ YES _____ NO

Impp _____ Fixed Tilt Angle _____

PANEL CONFIGURATION:

Series _____ Parallel _____

TYPICAL SOLAR INSTALLATION

Date _____
Designed _____
Drawn Cassie Ahmed 03-22-2024
Checked _____
Approved _____

OWNER: _____

COUNTY: _____

United States
Department of
Agriculture
USDA
Natural Resources
Conservation Service

File Name
ND-DWG-134

Date
03-22-2024

Sheet of