

## **AFS 1100 Ballast Foundation and 80' Self-Raising Pole U.S. National Park Service**

### **Marsh-Billings Rockefeller National Park Installation**



*“The system is exceeding all expectations” - John Gilbert, NPS*



#### **OVERVIEW**

ARE Telecom & Wind, as sole-source provider to the US National Park Service, was contracted to mobilize and install our AFS 1100 ballasted foundation system with an 80 foot tilt-up monopole and hydraulic raising system to support a solar powered communication antennae to the Park.

#### **SOLUTION**

ARE's AFS 1100 ballasted foundation system is a versatile system designed to provide ease of portability and installation while providing a solid base for monopoles up to 80 feet. Thanks to our hydraulic pole raising system, the pole can be installed and lowered without a crane. Lowering the pole allows for easy maintenance and repair.

#### **Project benchmarks:**

- Critical pre-install logistics plan developed due to remote installation.
- Mobilize all equipment, tools and ballast up a half-mile logging trail.
- Prepare compacted gravel base and assemble ballasted foundation.
- Install 80' slip-joint monopole and hydraulic system
- Install R-56 compliant grounding system and four 150W solar panels.

#### **CHALLENGES**

- Remote location logistic
- Inability to use crane due to difficult geography
- Geotechnical conditions not allowing conventional concrete foundation
- Rapid installation required
- Minimal disturbance to environment

#### **PROJECT RESOURCES**

11 Man Days Labor, 1 Skid Steer and 1 Telehandler



Off-loading flatbed truck



Foundation hauled to mountain top



Installation of base trays and support arms



Installing side-walls while ballast is added



First pole section installed as ballast is completed



Foundation & 80' pole installed



Pole and solar panels assembled



Pole raised using hydraulic rams