ArcGIS Platform: Office to Field, Field to Office

Myron Shields Jr., Crow Tribe Water Resources Department
Tim Penfield, Bartlett & West
AGENDA

Resources      Project Background               Phases
1. PC’S - Local Area Network (Cable)

2. LAPTOPS – Wide Area Network (Wifi)

3. MOBILE DEVICES – Cloud Based (Cellular)
DATA
WORKFLOW

Real-Time Info

Pads/Tablets
ArcGIS
Online
Mobile
Apps
Feature
Services
Project
Staff
2010 Water Settlement

• Irrigation Project

• Water Project
IRRIGATION PROJECT

1. History of System

2. Purpose of Project

A Story Map to Completed Projects
1. History

2. Purpose of Project

A Story Map to Project Phases
1. Planning
2. Design
3. Right-of-Way
4. Construction

Operations & Maintenance
PHASE 1: PLANNING

1. Hardware: Smart Phones, Tablets and Pads
2. Software: ArcGIS Online
3. Data: Structure Feature Service
4. Application: ArcGIS
5. People: Crow Tribe
6. Task: User Inventory
   • Navigate to Structure
   • Complete Inventory
   • Verify Interest in System
   • Confirm User Inventoried
## Inventoried Users Example

![Image of a tablet displaying a map and user information]

### Users:
- **Inventoried:** Yes
- **Water Connection Desired:** Yes
- **Date:** 6/4/13, 6:00 PM
- **Name:** GOODLUCK, DALE &
- **Phone Number:** 406-620-2763
- **Physical Address:** 957 GARRYOWEN RD
- **Occupants Presently:** 5
- **Occupants Future:** 0
- **Horses - Present:** 10
- **Horses - Future:** 0
- **Cattle - Present:** 0
- **Cattle - Future:** 0
- **Horse/sheep - Present:** 0
Committed Users Example
PHASE 2: DESIGN

1. Hardware: Desktops
2. Software: ArcGIS Desktop
3. Data: System Routing Feature Service
4. Application: Hrun
5. People: Bartlett & West Engineers
6. Task: Pre-Construction
   • Potential Users
   • System Routing
   • Elevation Profiles
   • System Hydraulics
SYSTEM HYDRAULICS EXAMPLE
ELEVATION PROFILE EXAMPLE
PHASE 3: REVIEW

1. Hardware: Desktops, Phones, Tablets and Pads
2. Software: ArcGIS Desktop and Online
3. Data: Master Plan Feature Service
4. Application: ArcGIS, Collector
5. People: Crow Tribe/Bartlett & West
6. Task: Pre-Construction
   - Field Review
   - Environmental Assessment
   - Permitting
   - Easements
Re-Route Example
Design Example
1. Hardware: Desktops, Phones, Tablets and Pads
2. Software: Land Insight, ArcGIS Online
3. Data: Land Ownership Feature Service
4. Application: ArcGIS, LandInsight
5. People: Crow Tribe, Bartlett & West
6. Task: Easements
   • Contact Land Owner
   • Obtain Survey Consent
   • Obtain ROW Consent
   • Record Easement
SURVEY CONSENT EXAMPLE
PHASE 5: CONSTRUCTION

1. Hardware: Desktops, Phones, Tablets and Pads
2. Software: ArcGIS Desktop and Online
3. Data: Record Drawings Feature Service
4. Application: Collector, Operations Dashboard
5. People: Crow Tribe, Bartlett & West
6. Task: Material Installation
   • Project Progress
   • Construction Observation
   • GPS Assets
Observation Example
1. **Hardware**: Desktop PC’s, Laptops, Mobile Devices
2. **Software**: ArcGIS Online, ArcGIS Desktop, Mobile
3. **Data**: Operational System Feature Service
4. **Application**: ArcGIS, Collector, Operations Dashboard
5. **People**: Crow Tribe
5. **Task**: Repair & Maintenance

- Utility Bills
- Asset Inventories
BENEFIT: REAL-TIME INFORMATION
QUESTIONS

Myron Shields Jr.
Crow Tribe Water Resources Department
Myron.Shield@crow-nsn.gov

Tim Penfield
Bartlett & West, Inc.
Tim.Penfield@barwest.com