This presentation premiered at WaterSmart Innovations

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INNOVATIONS

High Tech Joins High Touch in the Landscape

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CENTER FOR WATER-EFFICIENT LANDSCAPING

EXTENSION
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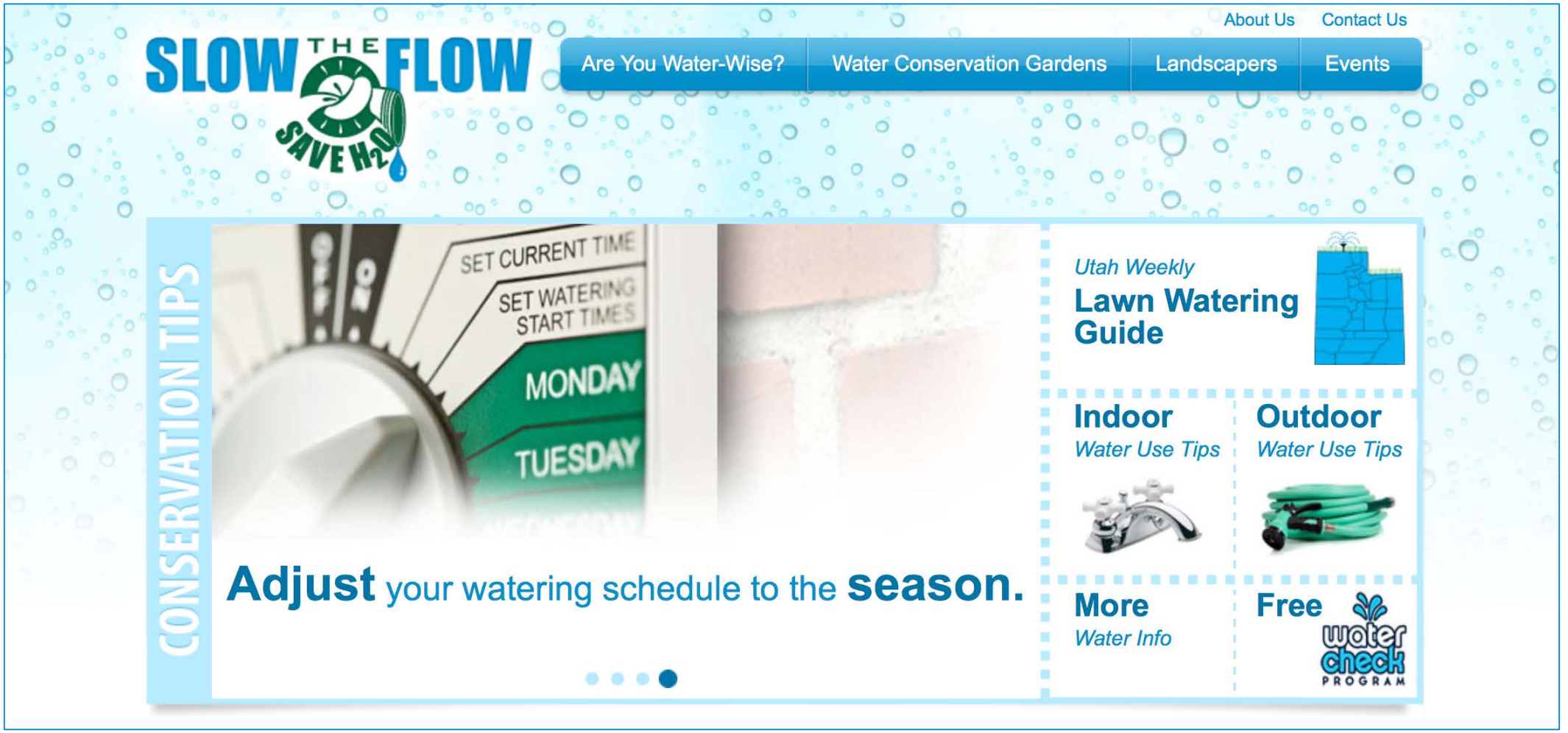
Water Check Program

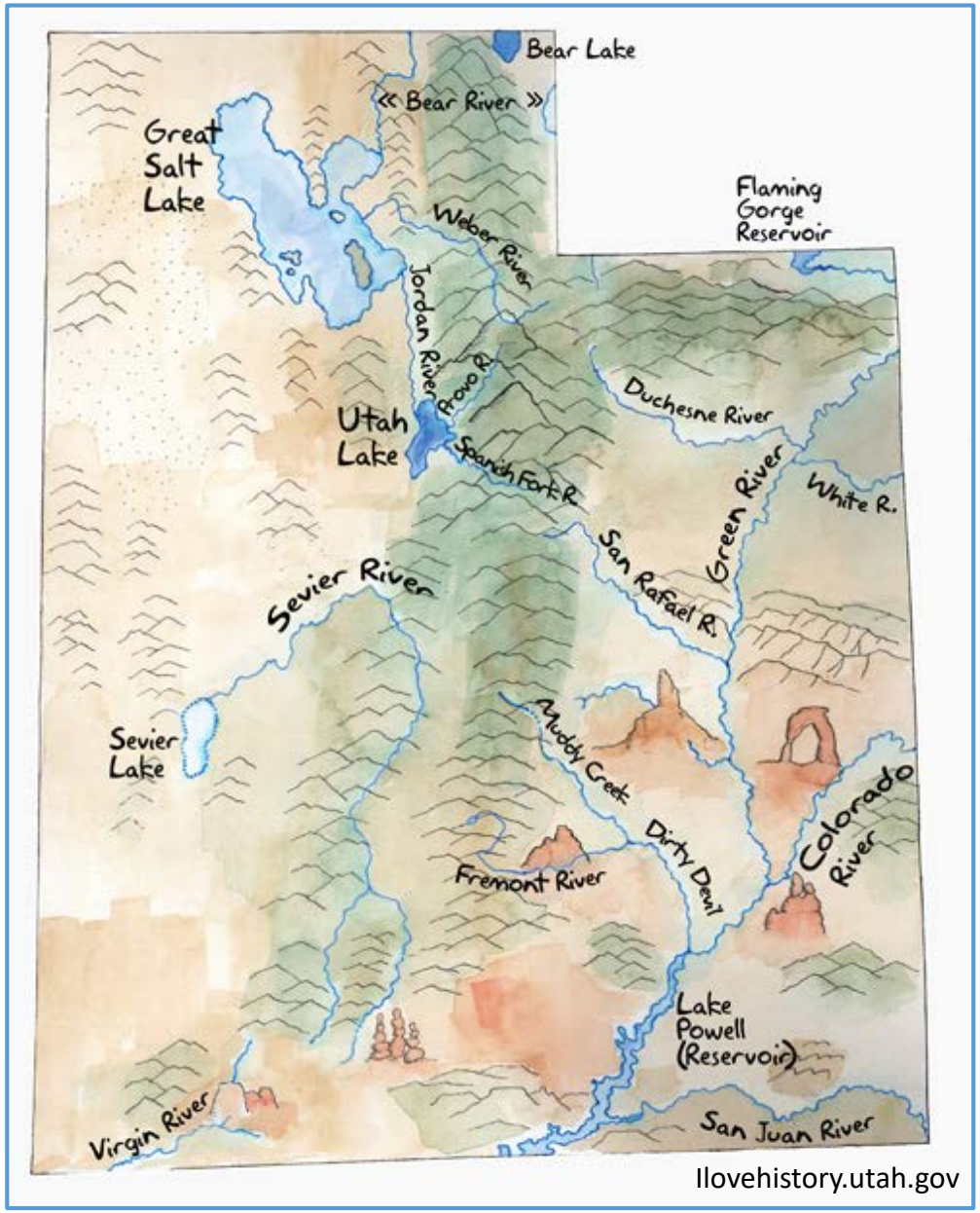
- Program inception 1999
- Center for Water Efficient Landscaping (CWEL) administration since 2005
- Participation is voluntary, cost to participants is $0
- Pairs of interns visit homes, CII sites to evaluate outdoor irrigation systems
- More than 12,000 residential and 400 CII checks to date



slowtheflow.org

Utah's Water Use

- 2nd driest state in the nation
- Highest municipal water use (USGS, 2010)
- Typical homeowner irrigates twice as much as needed
- Commercial properties may irrigate 3 - 4 times as much as needed
- Nearly 1/3 of the urban water supply is wasted through over-irrigation



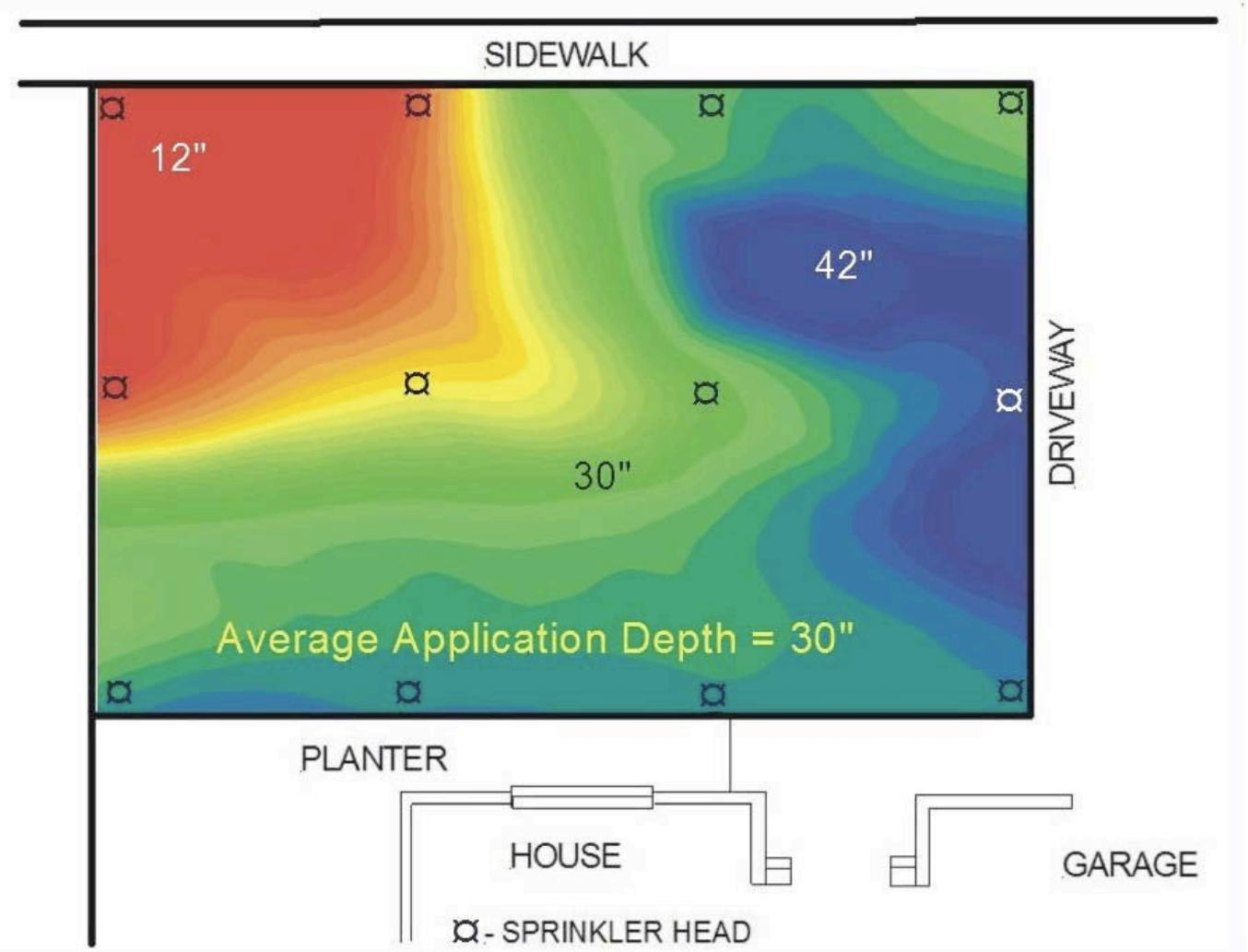
Ilovehistory.utah.gov

In Addition…

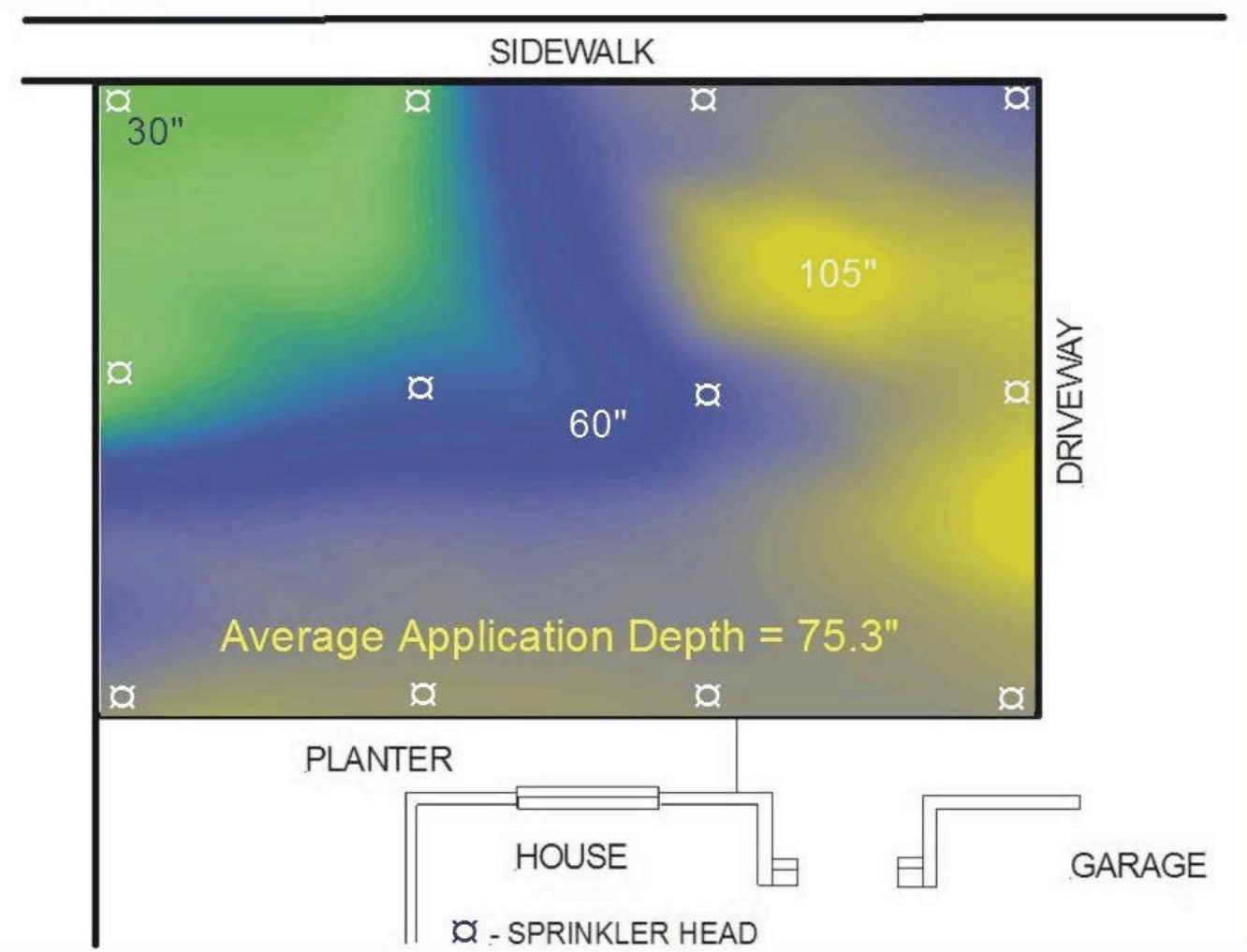
- Current water supply capacity is over-taxed during the growing season
- Surface and ground waters may be contaminated by runoff and deep percolation
- Concrete and pavement may be damaged by continual runoff
- Many plant health issues result from over-irrigation

Distribution Uniformity (DU)

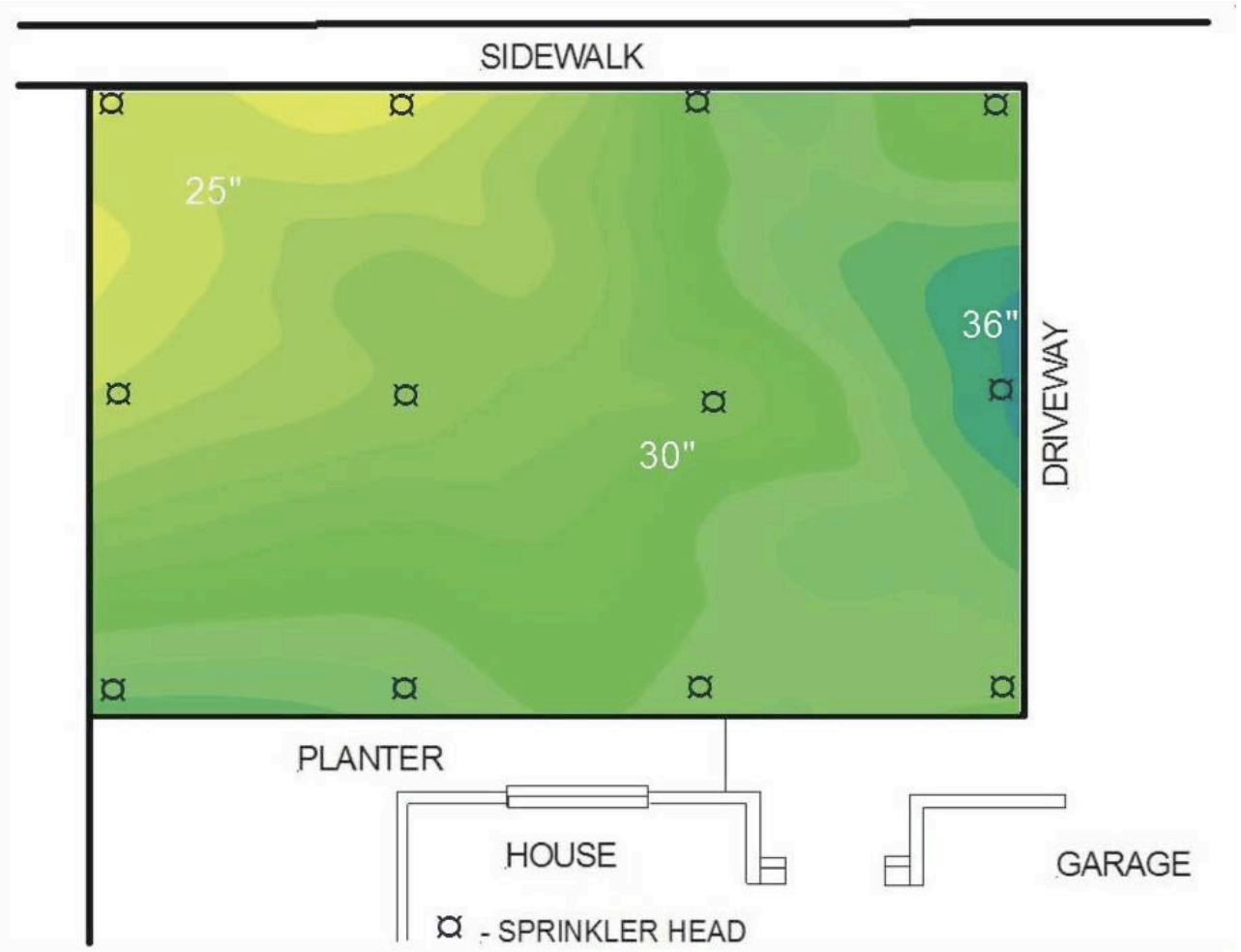
- DU represents irrigation system efficiency, 100% if water were applied *completely* evenly over an irrigated area
- If DU is 50%, some areas may receive twice as much water as other areas



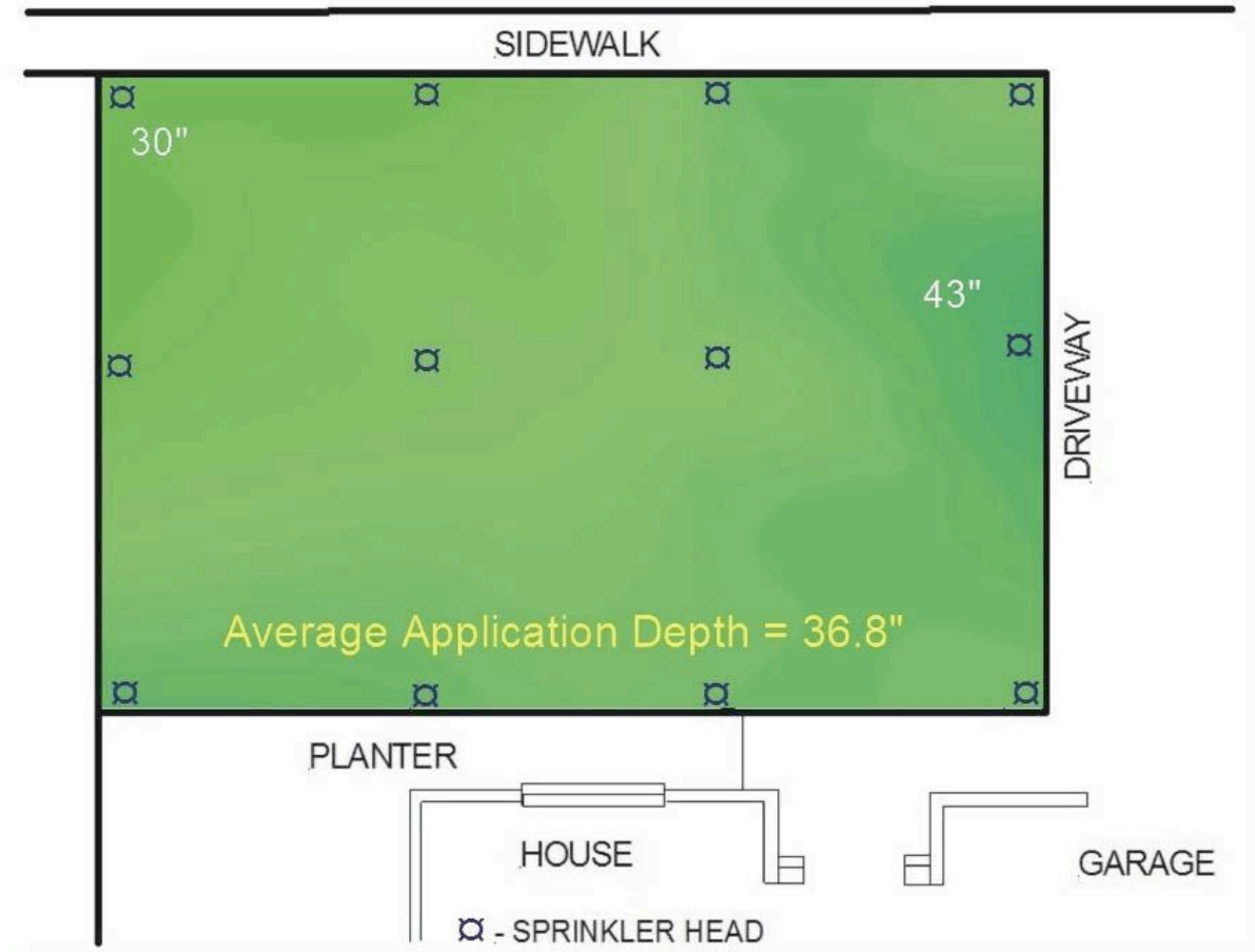
DU=50%, Ave. Depth=30”, Min. Depth=12”, Max. Depth=42”



DU=50%, Ave. Depth=75”, Min. Depth=30”, Max. Depth=105”



DU=85%, Ave. Depth=30”, Min. Depth=25”, Max. Depth=36”



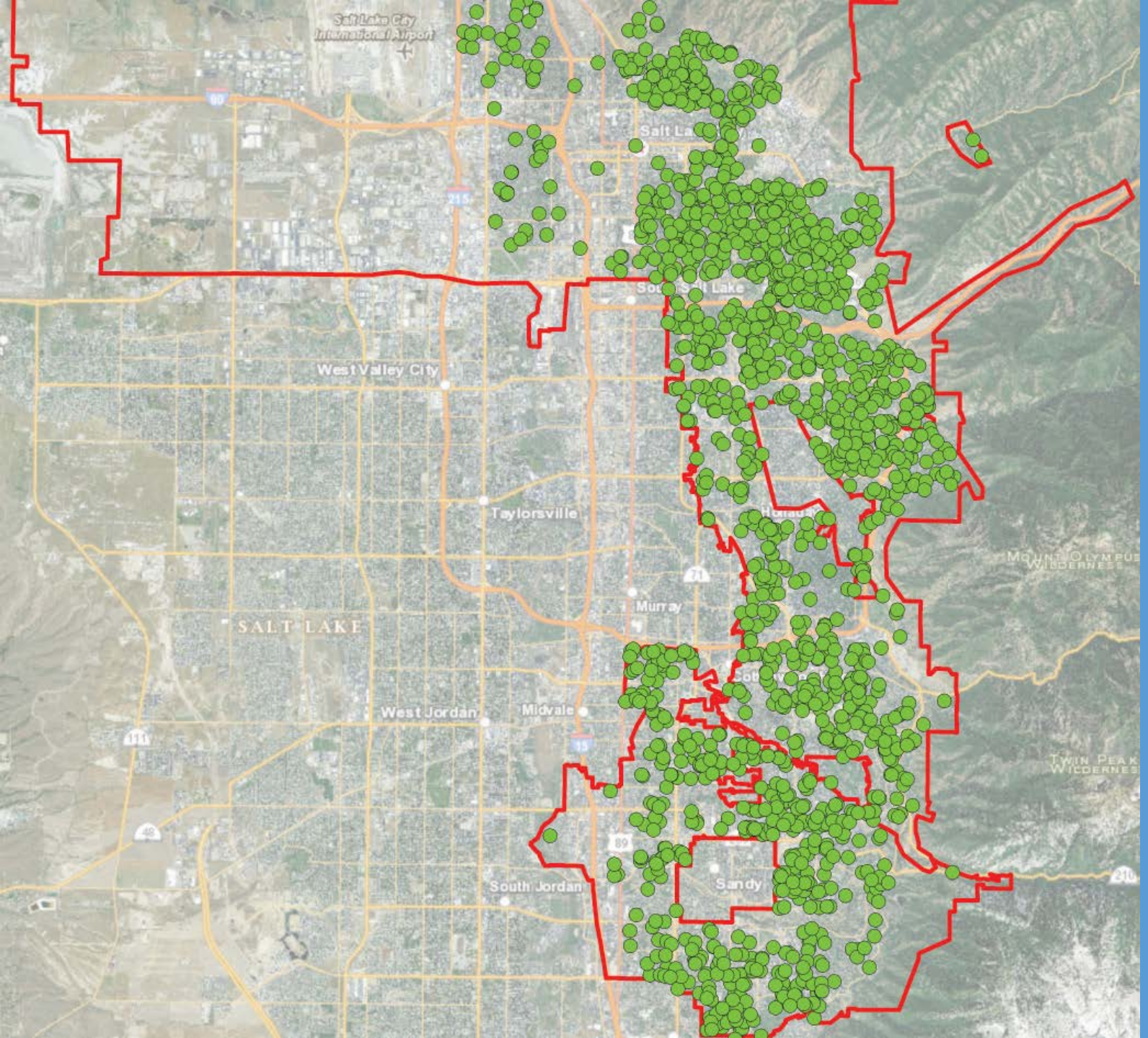
DU=85%, Ave. Depth=37”, Min. Depth=30”, Max. Depth=43”

Water Check Process

- Meeting and permissions
- Walk-through
- Data collection
- Develop customized schedule
- Provide schedule and report to participant
- Additional materials

Gathering Data

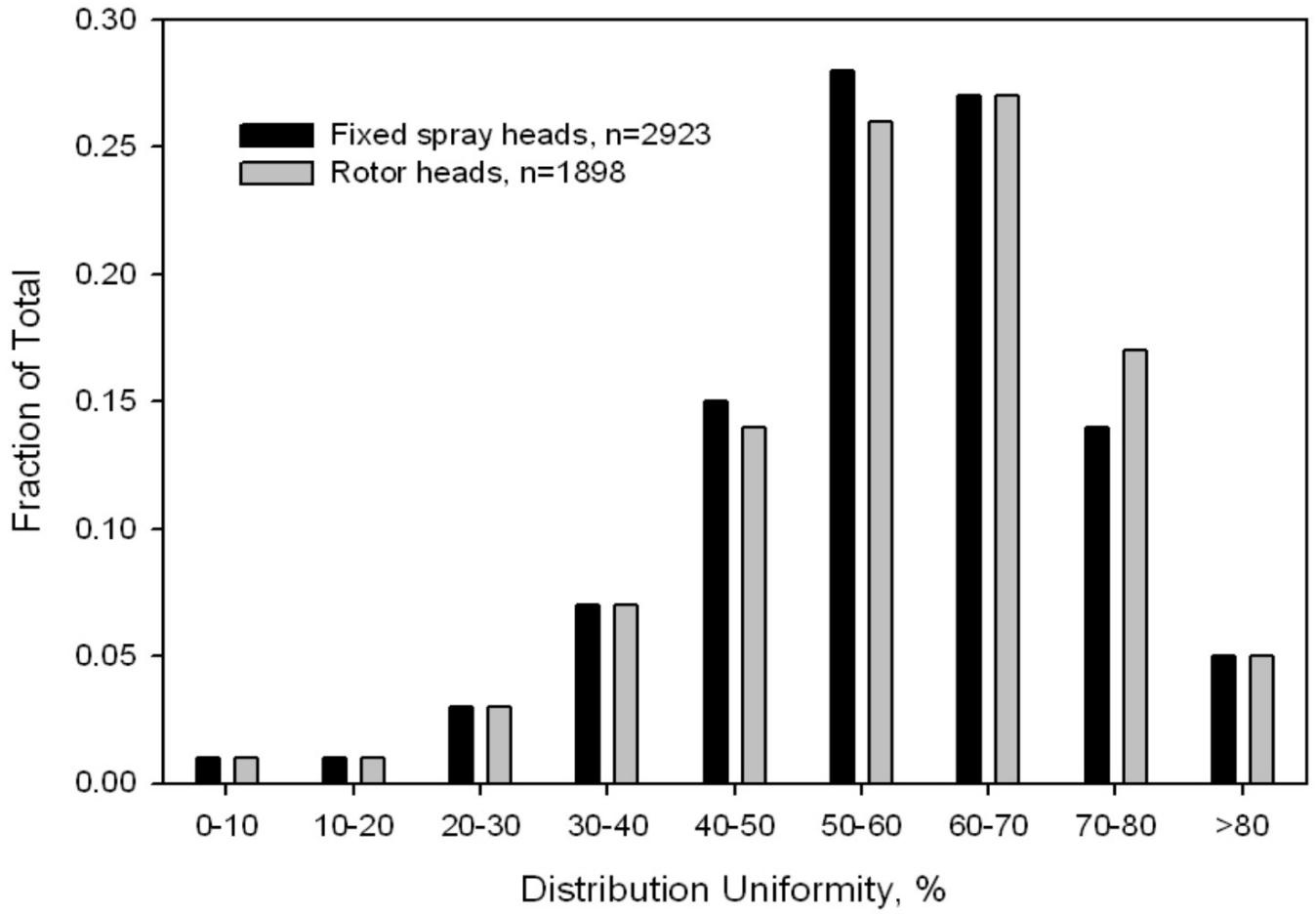
- Property areas
- Irrigation system
  - System pressure
  - Precipitation rate
  - Distribution uniformity
  - Application rate
- Existing irrigation schedule
- Plant requirements
- Local ET rates, climate data
- Water billing data



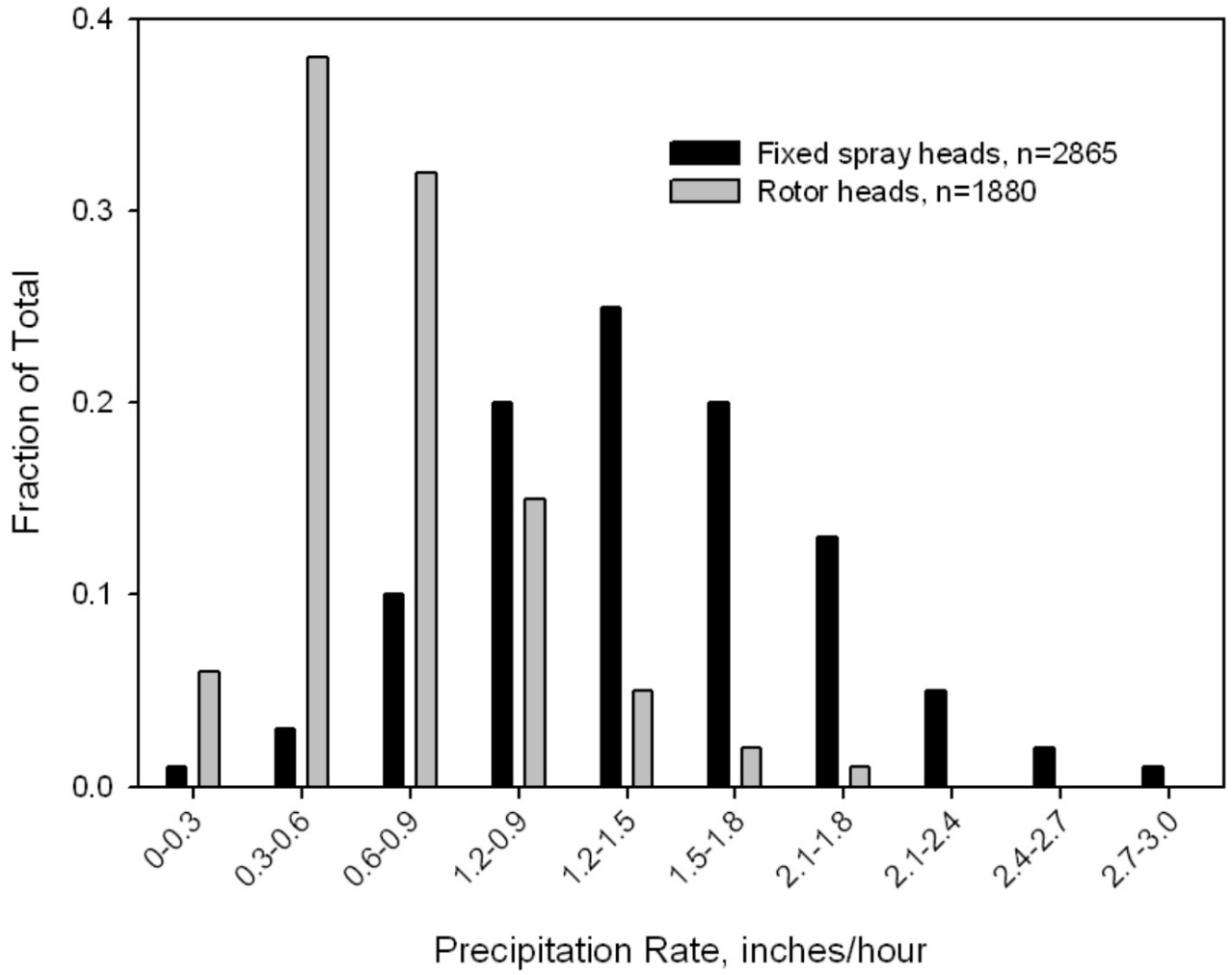
Distribution of Water Checks

Analyses

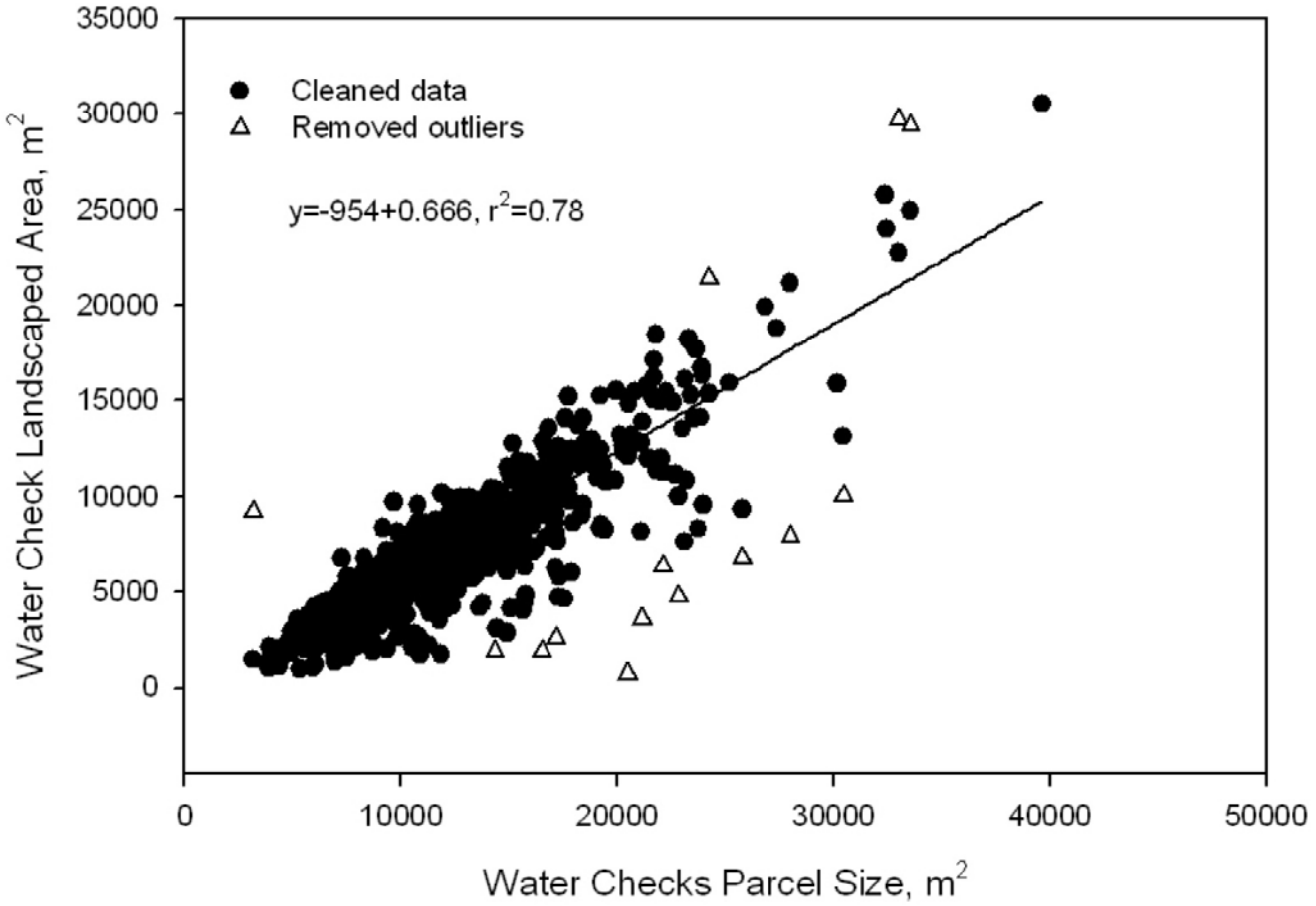
- Descriptive statistics
- Development of statistical relationships among water check data
- Comparison of participant water use to determined irrigation requirements
- Comparison of water check participant water use prior to and following participation
- Comparison of water check participants to matched control groups, general population



Distribution Uniformities of Irrigation Systems



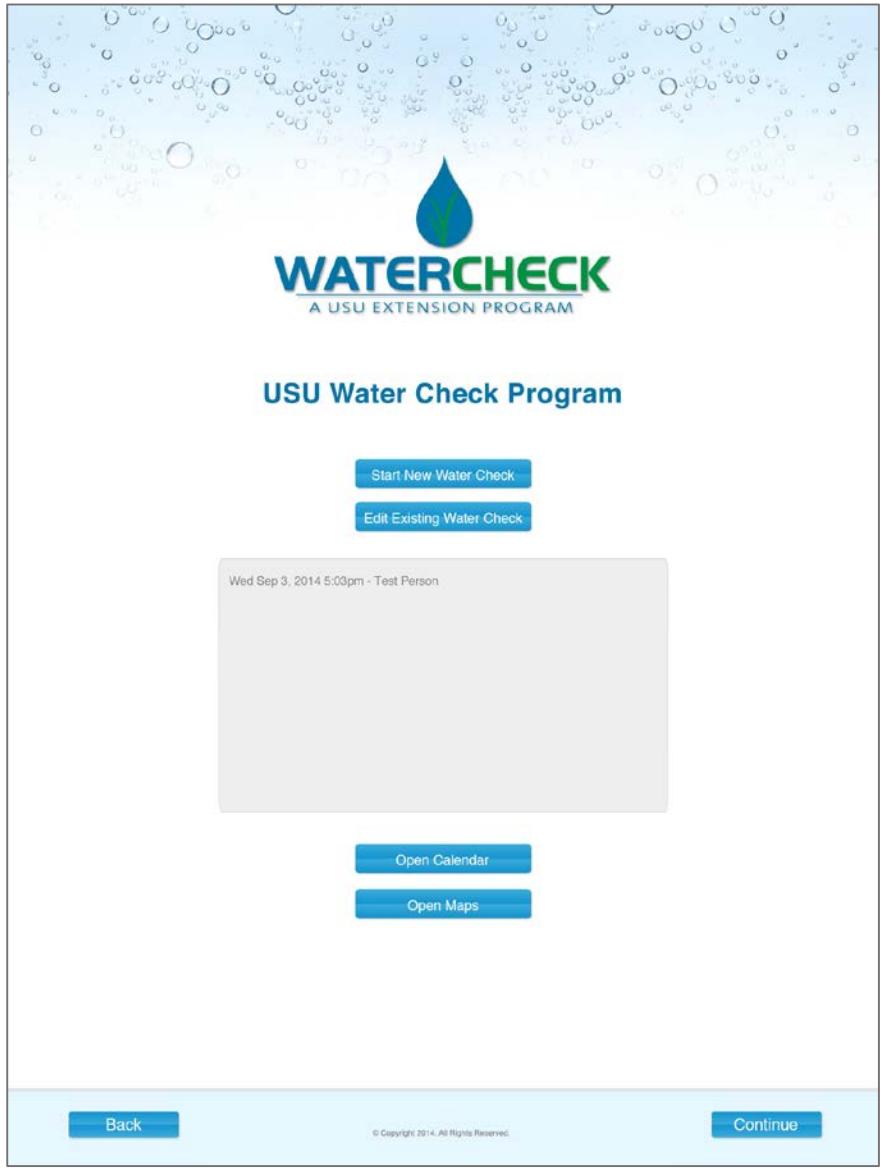
Precipitation Rates of Irrigation Systems by Sprinkler Type

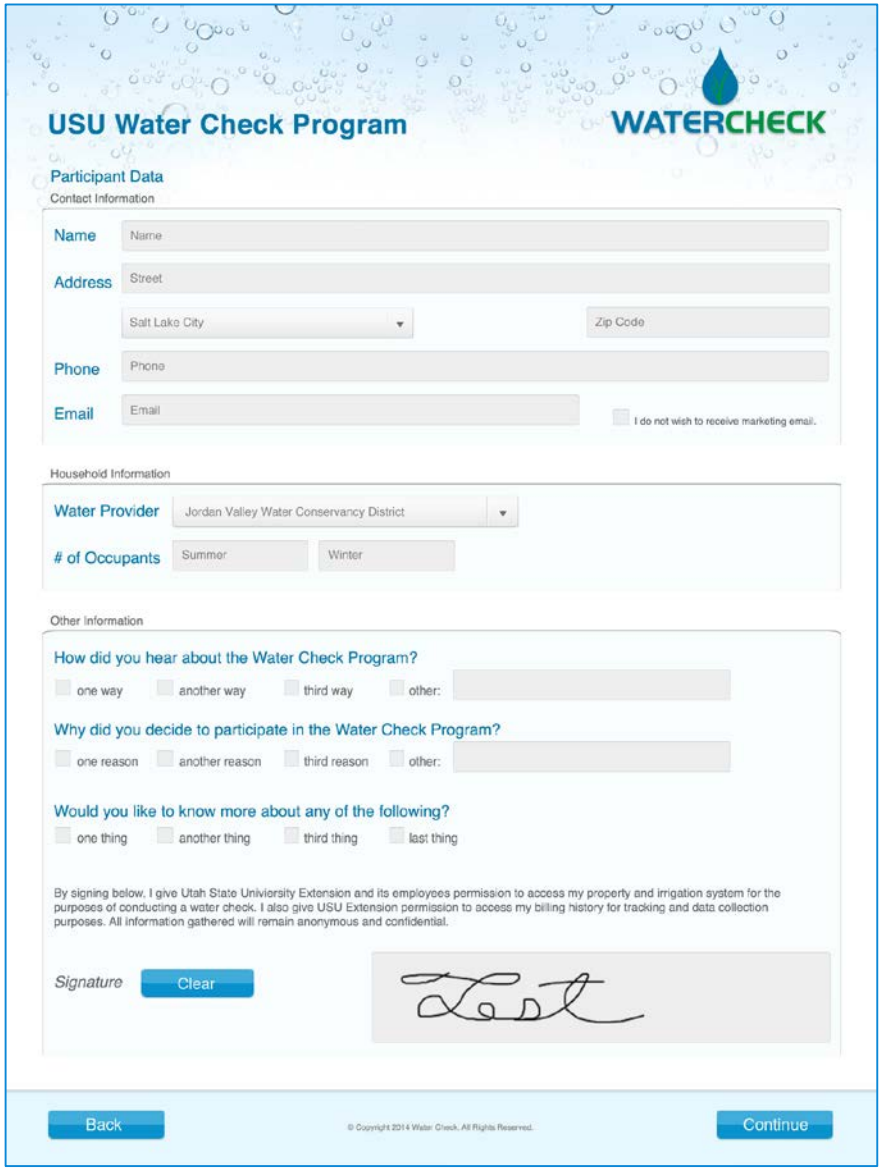


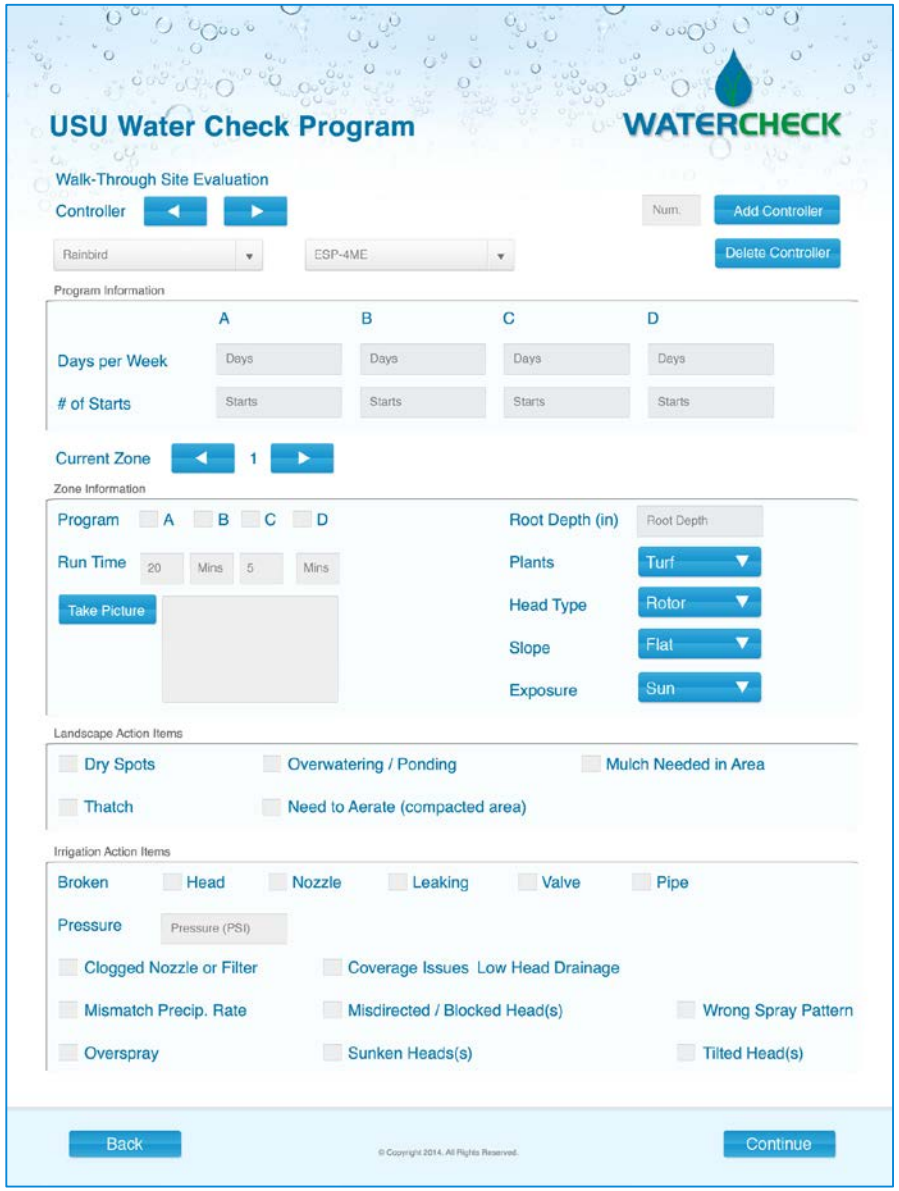
Relating Landscaped Area to Parcel Size

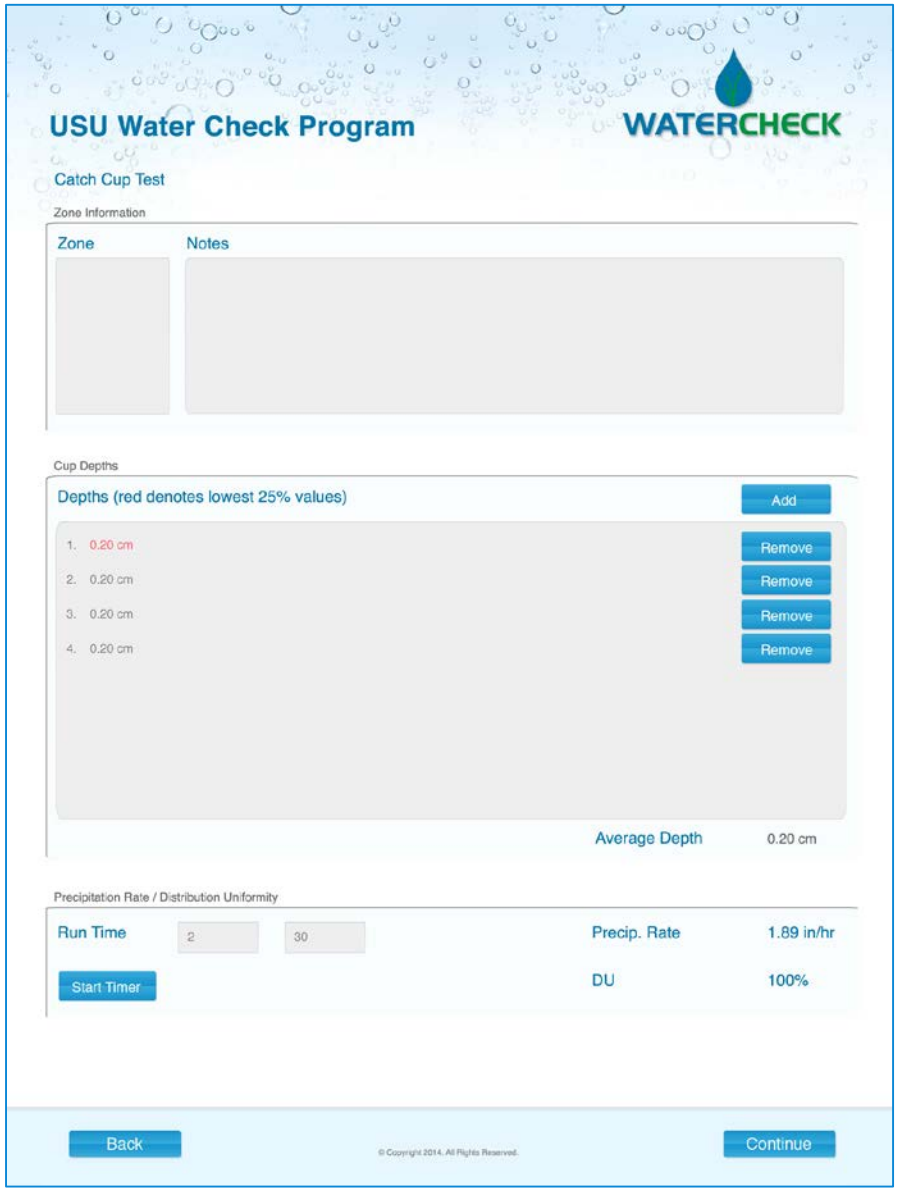
That’s Great But…

- Familiarity with irrigation system and controller
- Uncertainty about plant requirements
- Weak and muddled pricing signal
- Ongoing support
- Are we reaching the “right” customers


WATERCHECK
A USU EXTENSION PROGRAM
USU Water Check Program
Start New Water Check
Edit Existing Water Check
Wed Sep 3, 2014 5:03pm - Test Person
Open Calendar
Open Maps
Back
Continue


USU Water Check Program
WATERCHECK
Participant Data
Contact Information
Name
Address
Street
Salt Lake City
Zip Code
Phone
Email
I do not wish to receive marketing email.
Household Information
Water Provider
Jordan Valley Water Conservancy District
# of Occupants
Summer
Winter
Other Information
How did you hear about the Water Check Program?
one way
another way
third way
other:
Why did you decide to participate in the Water Check Program?
one reason
another reason
third reason
other:
Would you like to know more about any of the following?
one thing
another thing
third thing
last thing
By signing below, I give Utah State University Extension and its employees permission to access my property and irrigation system for the purposes of conducting a water check. I also give USU Extension permission to access my billing history for tracking and data collection purposes. All information gathered will remain anonymous and confidential.
Signature
Clear
Back
Continue





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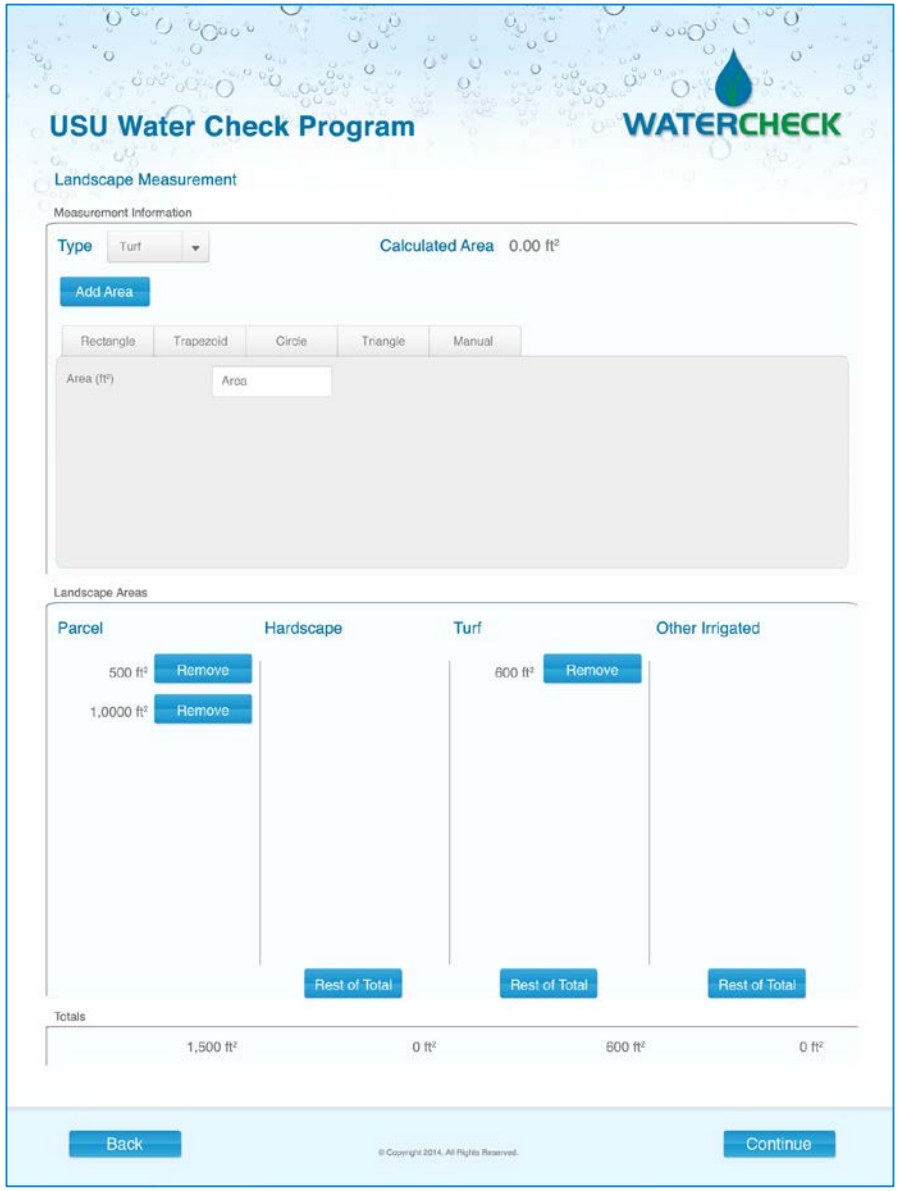
USU Water Check Program
WATERCHECK
Landscape Measurement
Measurement Information
Type
Turf
Calculated Area 0.00 ft²
Add Area
Rectangle
Trapezoid
Circle
Triangle
Manual
Area (ft²)
Area
Landscape Areas
Parcel
Hardscape
Turf
Other Irrigated
500 ft²
Remove
1,0000 ft²
Remove
600 ft²
Remove
Rest of Total
Rest of Total
Rest of Total
Totals
1,500 ft²
0 ft²
600 ft²
0 ft²
Back
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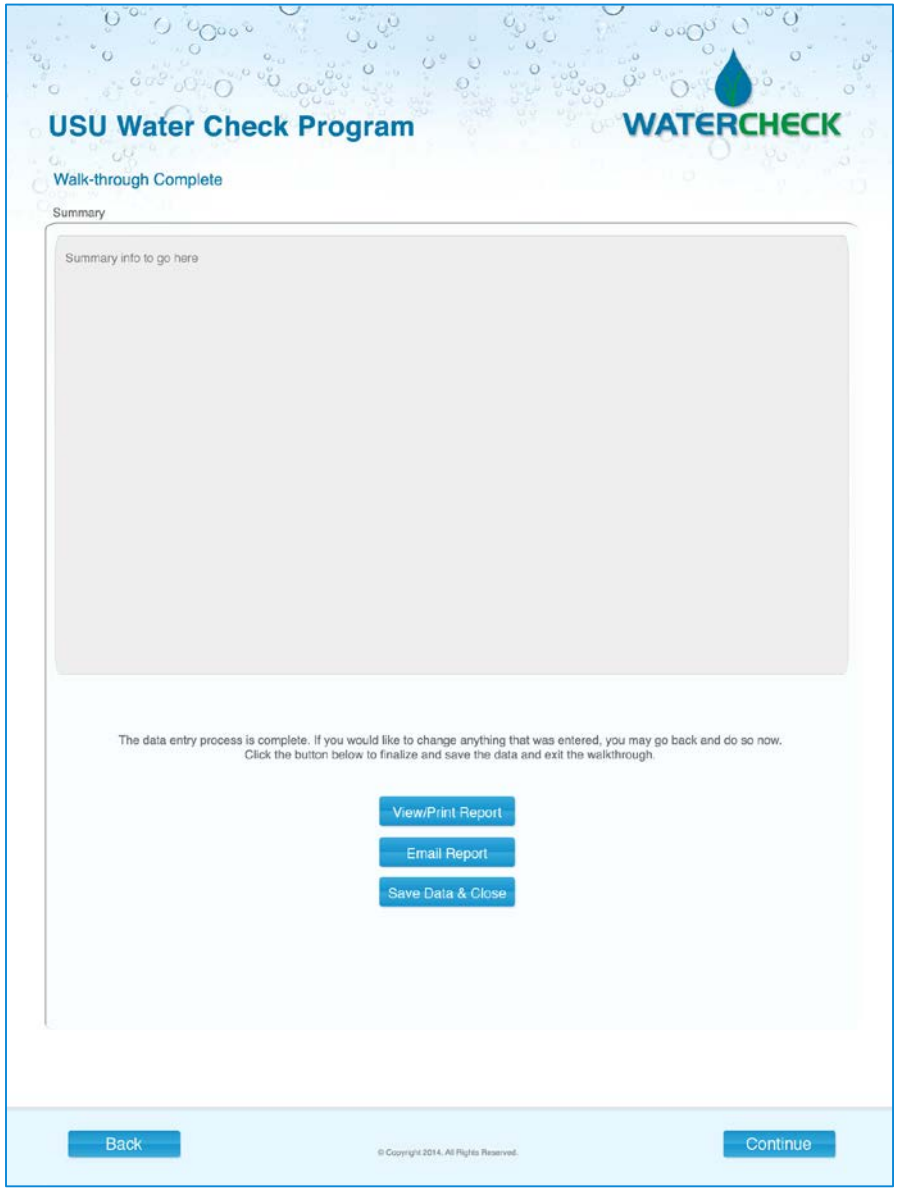
Continue


USU Water Check Program
WATERCHECK
Walk-through Complete
Summary
Summary info to go here
The data entry process is complete. If you would like to change anything that was entered, you may go back and do so now.
Click the button below to finalize and save the data and exit the walkthrough.
View/Print Report
Email Report
Save Data & Close
Back
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Continue

Database Upgrade

- A structured query database (SQL) was developed from the original Access database
  - SQL-programming language for managing data held in relational databases
  - Standard for American National Standards Institute (ANSI)
- Accepts field data remotely from one or more users
- Allows generation of custom reports for both administrators and program participants

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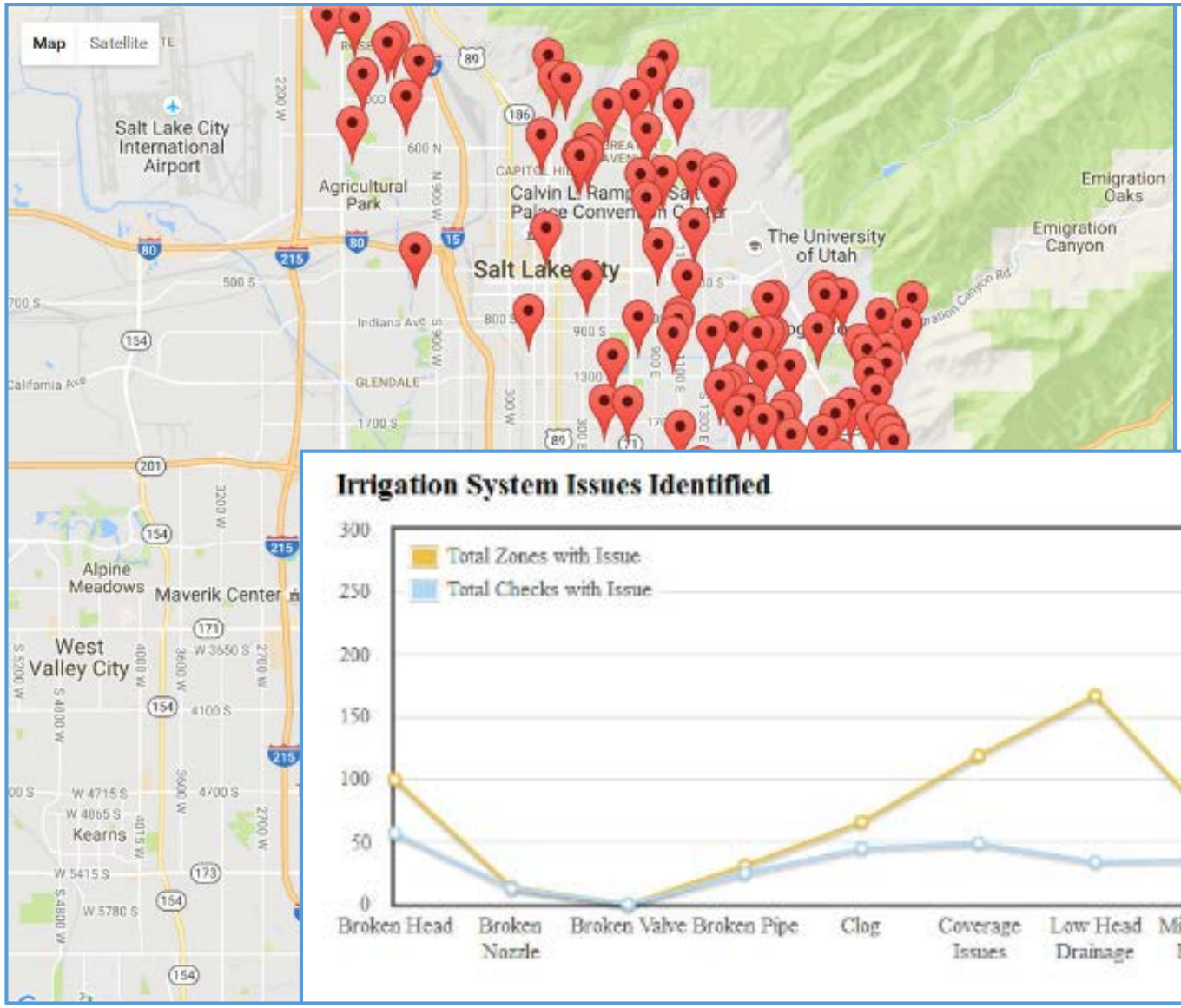
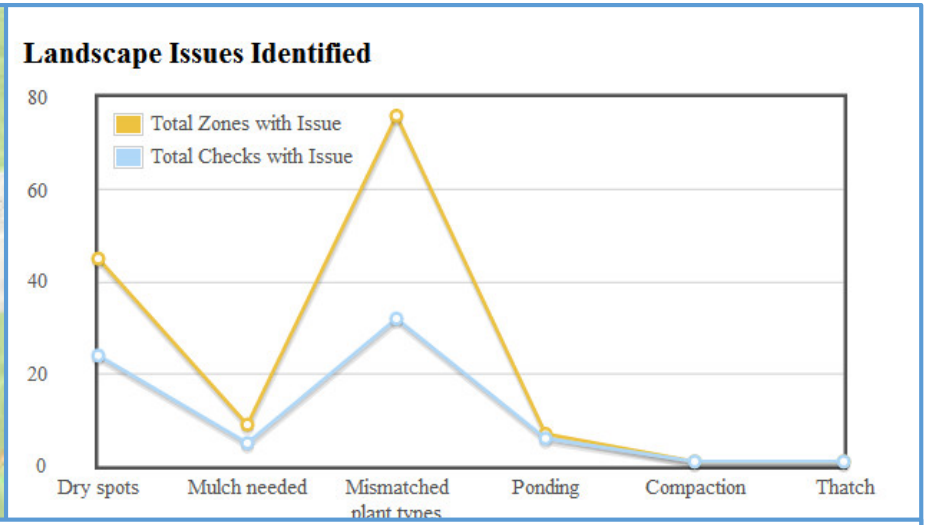
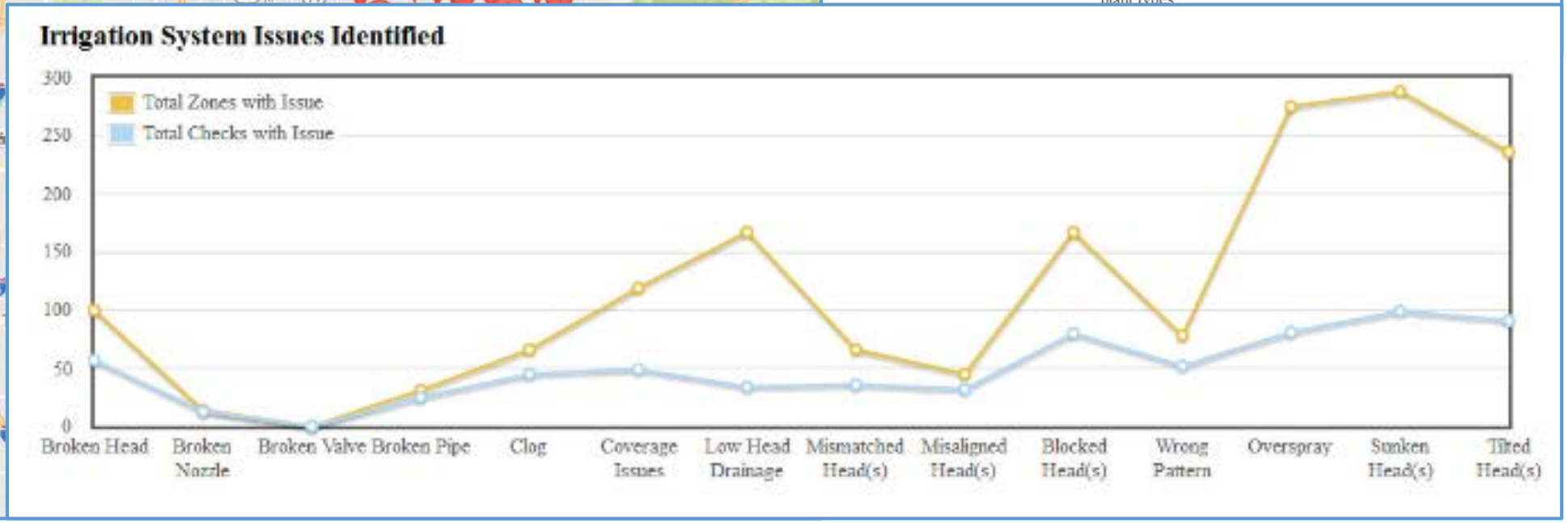

Map
Satellite
Salt Lake City International Airport
Agricultural Park
Salt Lake City
The University of Utah
Emigration Oaks
Emigration Canyon
GLENDALE
Alpine Meadows
Maverik Center
West Valley City
Kearns


Landscape Issues Identified
Total Zones with Issue
Total Checks with Issue
80
60
40
20
0
Dry spots
Mulch needed
Mismatched plant types
Ponding
Compaction
Thatch


Irrigation System Issues Identified
Total Zones with Issue
Total Checks with Issue
300
250
200
150
100
50
0
Broken Head
Broken Nozzle
Broken Valve
Broken Pipe
Clog
Coverage Issues
Low Head Drainage
Mismatched Head(s)
Misaligned Head(s)
Blocked Head(s)
Wrong Pattern
Overspray
Sunken Head(s)
Tilted Head(s)

Next Steps

- Working with agencies to identify priorities for customer engagement
- Personalized communications portal
  - Web
  - Email
  - Text
  - Phone

Thank you!

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