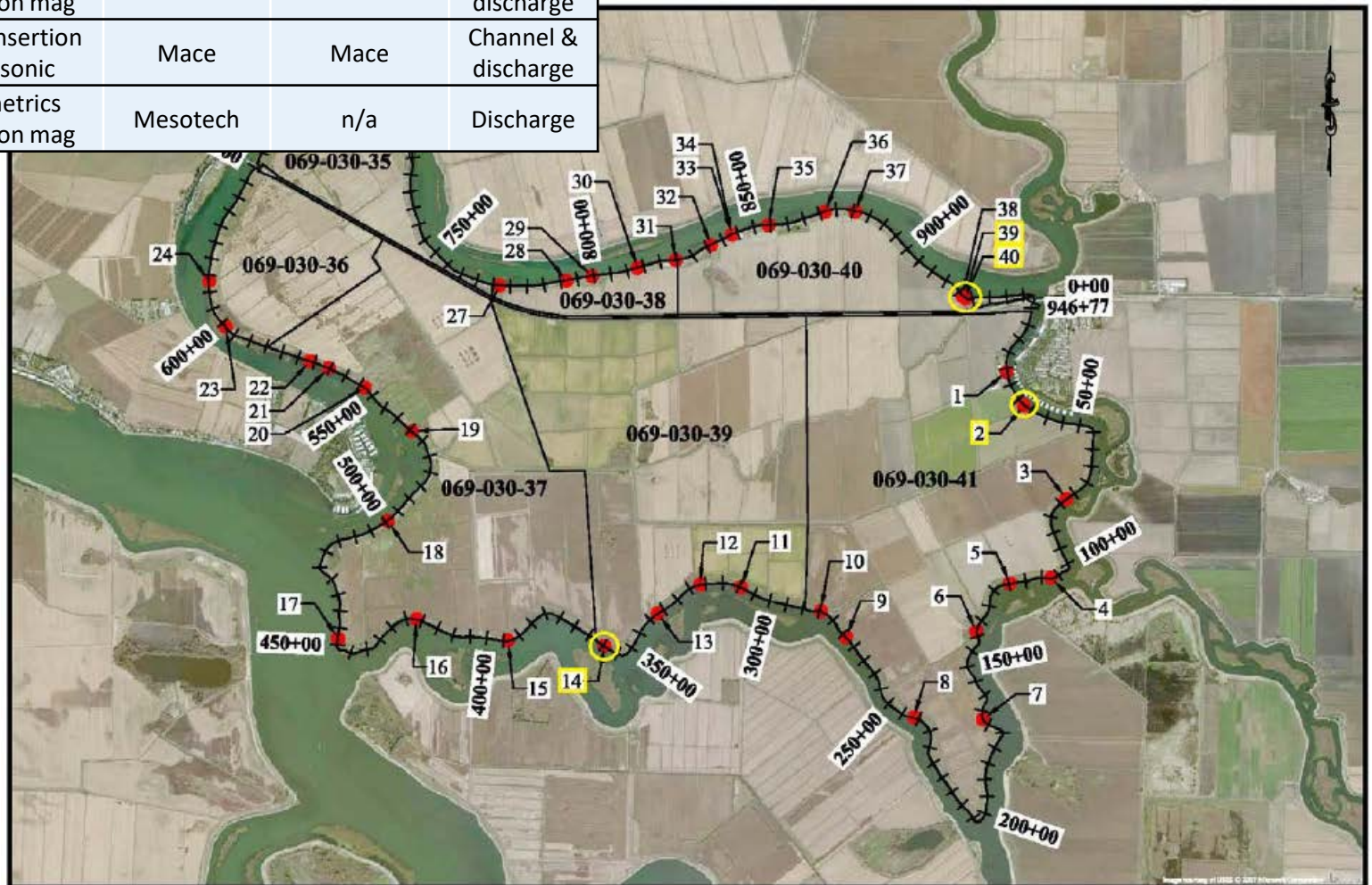


Metropolitan Water District of Southern California

GENERAL UPDATE TO DELTA MEASUREMENT
EXPERIMENT CONSORTIUM

JULY 17, 2018

Siphon No.	Meter	Data logger	Telemetry	Water Level
2	Seametrics flange mag	Seametrics	n/a	Discharge
14	McCrometer insertion mag	Mesotech	n/a	Channel & discharge
39	Mace insertion ultrasonic	Mace	Mace	Channel & discharge
40	Seametrics insertion mag	Mesotech	n/a	Discharge



MBK
ENGINEERS

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Sacramento, California 95825
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RECLAMATION DISTRICT NO. 756
BOULDIN ISLAND

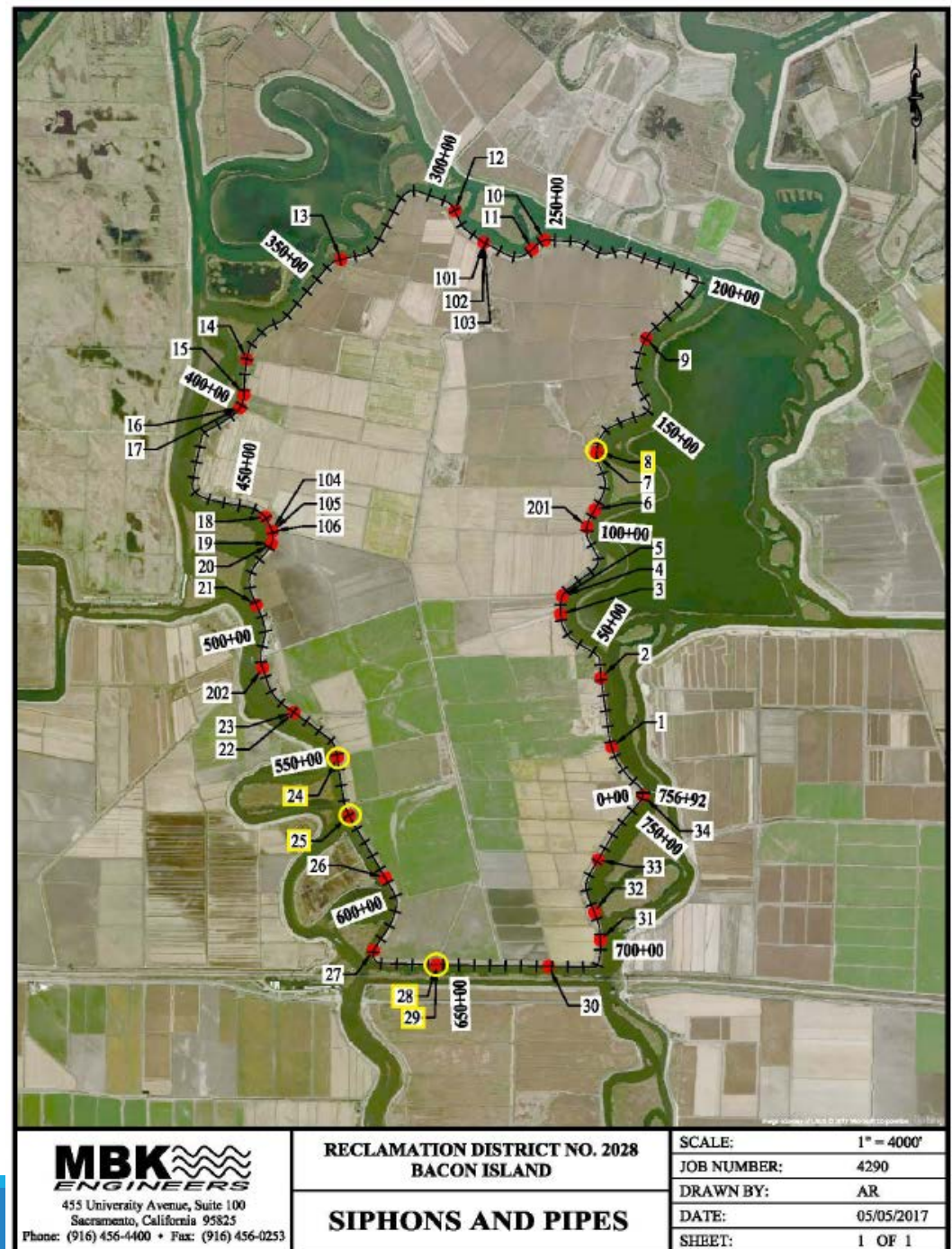
WATER DIVERSION POINTS

SCALE:	1" = 4000'
JOB NUMBER:	4125
DRAWN BY:	AR
DATE:	05/05/2017
SHEET:	1 OF 1

DRAFT – Preliminary Data

Siphon No.	Meter	Data logger	Telemetry	Water Level
8	Mace insertion ultrasonic	Mace	Mace	Discharge
24	Seametrics insertion mag	WildEye	WildEye	Channel
25	McCrometer saddle mag	Mesotech	n/a	n/a
28	McCrometer insertion mag	WildEye	WildEye	Channel & discharge
29	McCrometer propeller	Seametrics	n/a	n/a

Siphon Nos. 24 and 28 also have pressure sensors installed inside the siphon pipe.



DRAFT – Preliminary Data

General Updates

❖ Status of equipment installations

- 9 of 9 flow meters and data loggers
- 4 of 4 sites telemetered
- Water level sensors
 - 3 of 3 channel
 - 7 of 7 landside discharge
 - 5 of 5 telemetered
- Pressure sensors in pipe 2 of 2

❖ Collecting data from equipment and farmer logs

❖ Challenges

Adequate Power Supply

To power data loggers (resolved)

To power insertion meters (unresolved)

Example: Bacon Island Siphon No. 24

Installed Equipment:

- Seametrics Insertion Magnetic Meter
- Wildeye Enterprise Data Logger
- Dwyer Pressure Sensor
- Mercoid Pressure Transducer

Manufacturer recs:

10-watt solar panel, no external battery



Bacon Island Siphon No. 24

Adequate Power Supply



Manufacturer recs:

~~10-watt solar panel, no external battery~~

Troubleshooting:

25-watt solar panel, 35 amp-hr battery



Bacon Island Siphon No. 24

Adequate Power Supply



Manufacturer recs:

~~10-watt solar panel, no external battery~~

Troubleshooting:

~~25-watt solar panel, 35 amp-hr battery~~

50-watt solar panel, 35 amp-hr battery



Bacon Island Siphon No. 24

Adequate Power Supply



Bacon Island Siphon No. 24



Manufacturer recs:

~~10-watt solar panel, no external battery~~

Troubleshooting:

~~25-watt solar panel, 35 amp-hr battery~~

~~50-watt solar panel, 35 amp-hr battery~~

50-watt solar panel, 100+ amp-hr battery?

Vegetation and Debris



Propeller meter at Bacon
Island Siphon No. 29



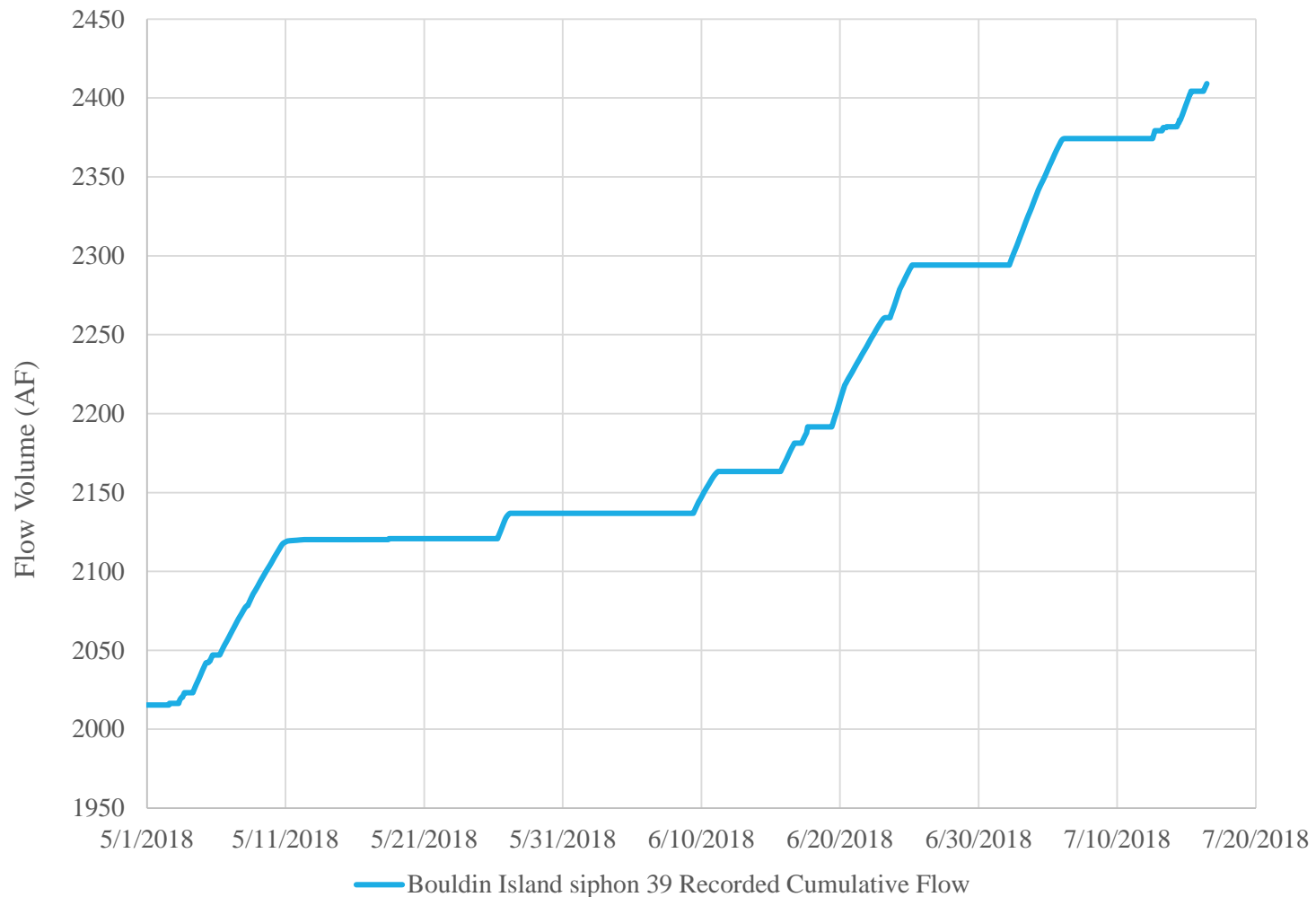
Vegetation and Debris

Insertion meter in Sac Valley,
installed May 2017

Same meter as
Bouldin Island Siphon No. 40
Bacon Island Siphon No. 24



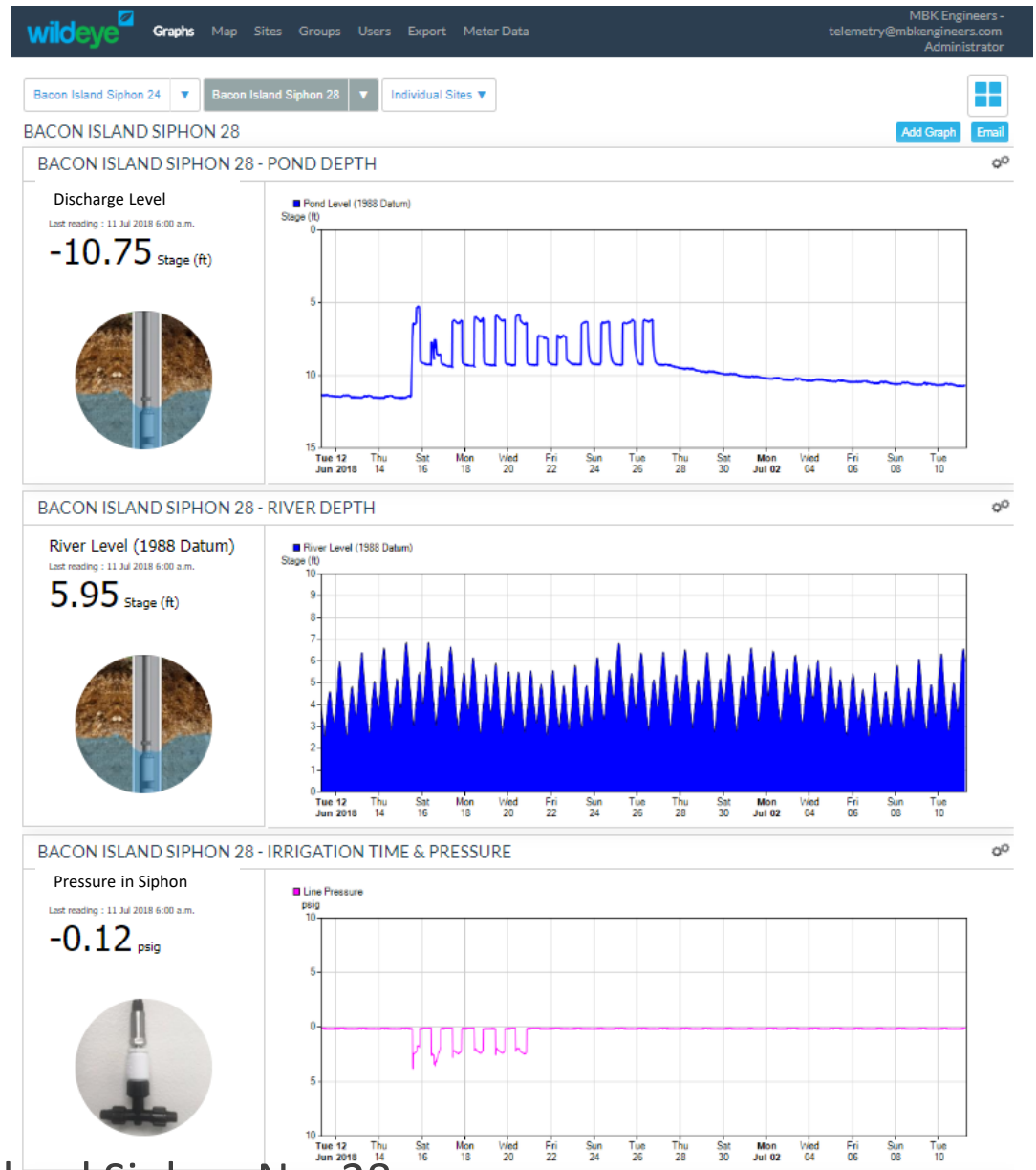
Data Example



Insertion ultrasonic meter at Bouldin Island Siphon No. 39

DRAFT – Preliminary Data

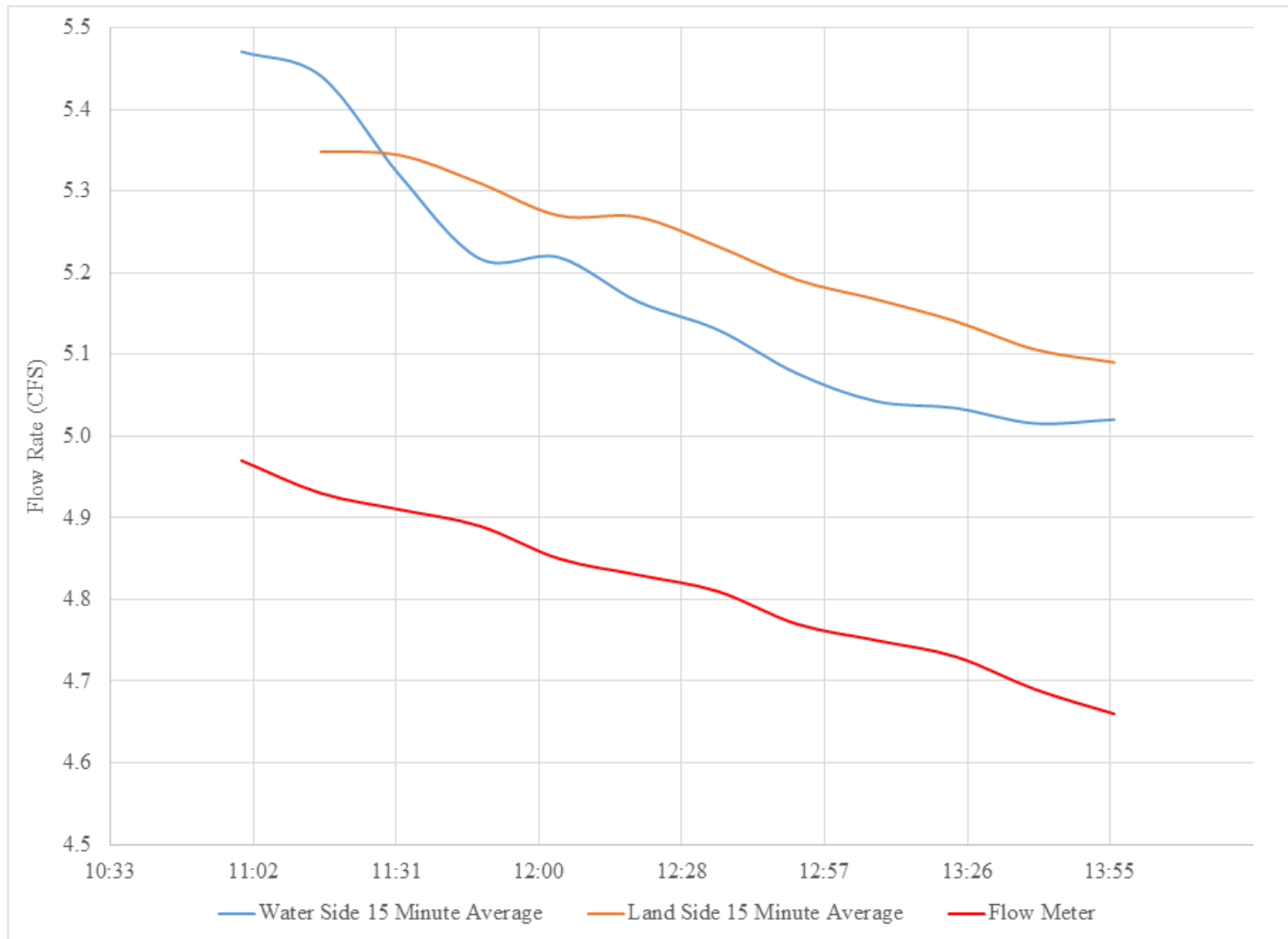
Data Example



Insertion mag meter at Bacon Island Siphon No. 28

DRAFT – Preliminary Data

Data Example



Flange mag meter at Bouldin Island Siphon No. 2

DRAFT – Preliminary Data

Next Steps

- ❖ Troubleshoot equipment to resolve issues
- ❖ Collect and compare June farmer logs with measured data
- ❖ Continue field work
 - Test portable vs installed meters
 - Use portable meter on unmeasured siphons
- ❖ Data analysis
 - Ongoing collection and review during irrigation season
 - Develop calculations and conclusions in fall of 2018
 - Final report by end of 2018