



**INLAND EMPIRE WATERKEEPER®**  
Advocacy • Education • Research • Restoration • Enforcement



**ORANGE COUNTY  
COASTKEEPER®**

# Smartscape Implementation

**October 25, 2018**

Ian Achimore  
Senior Watershed Manager  
Santa Ana Watershed Project Authority



# Recommendation

Provide feedback based on the following options presented to increase the pace of Smartscape implementation and receive remarks from Garry Brown, Executive Director and CEO of Orange County Coastkeeper.



**Garry Brown**  
**Executive**  
**Director & CEO**



# Program Development and Task List



- Developed the Smartscape as a partnership between SAWPA member agencies and OC Coastkeeper in 2015 during SARCCUP development;
- Supports water customers (“clients”) that have transitioned from turf grass to drought tolerant landscaping through specific tasks:

- Landscape site visits
- Develop written training materials
- Workshops, training, etc.

**See complete list in  
Attachment A in PA 22  
Memo**





Workshop at East Valley Water District

**SMART IRRIGATION SAVES WATER**

Water is a precious resource in Southern California. Together we can make water conservation a way of life.

Our Mediterranean Climate has cool winters and hot dry summers. You may have a lawn and plants native to wetter climates that require significant amounts of supplemental water when grown in Southern California. Changing your plants to those better suited to the Inland Empire climate will certainly reduce your water usage.

But no matter what kind of landscape you have, using the right type of irrigation can substantially conserve water.

The key is to give your plants the right amount of water they need to thrive and to deliver water in the most efficient way possible.

For more information on water-saving rebates, including high-efficiency irrigation nozzles and weather-based irrigation controllers, please visit [wvwd.org/conservation](http://wvwd.org/conservation).

Before you change anything, start by understanding what you already have and then make adjustments to improve water conservation.

**TEN STEPS TO SMART WATERING**

1. Group plants with similar water needs on one water line. This "hydrozone" saves waste and supports healthy plants.
2. Know your soil. Clay holds more water, sand holds less.
3. Water early. The best time to water is before 7 am.
4. Use only the water that your yard needs. Water in several short cycles to water deeply without runoff.
5. Water only plants. If water hits pavement or walks, water is being wasted.
6. Apply water uniformly. Check that water from one sprinkler reaches over to the next sprinkler. This is called "head to head coverage".
7. Water when it is calm. Wind wastes water.
8. Adjust irrigation controllers as weather changes. Water more in the hot summer and less (or not at all) in the cooler months.
9. Apply mulch. Mulch keeps moisture in the soil where plants can use it.
10. Walk your garden regularly to look at your irrigation system while it is running. Leaks are a major cause for water waste.

**WEST VALLEY WATER DISTRICT**

**CONTACT US**  
 (909) 875-1864 x 347  
[wvwd.org/conservation](http://wvwd.org/conservation)  
 855 W Base Line Road  
 Rialto CA 92376  
[westvalleywaterdistrict](https://www.facebook.com/westvalleywaterdistrict)  
[westvalleywater](https://www.instagram.com/westvalleywater)

West Valley Water District  
 Developed in partnership with West Valley Water District and Inland Empire Waterworks

Brochure for West Valley Water District



Site Visit in Eastern Municipal Water District





# Program Overview and Agreements



- Program descriptions contained in Sub-Agreement and SAWPA Member Agency Roles/Responsibilities Memo:
  - Defines two year schedule (March 2020 end date)
  - Defines scope and qualifications for OCCK training and outreach personnel
  - Task list and their specific costs
  - Deliverables
  - Process for reporting to SAWPA and the four member agencies

# Roles of Project Partners



# Smartscape Budget



	<b>Grant Amount</b>	<b>Local Match*</b>	<b>Total Cost</b>
Coastkeeper Sub-Agreement Amount	\$122,000	\$278,000	\$400,000

Note: OCWD's SARCCUP local cost share funding originally intended for Smartscape was added to Conservation-Based Water Rates portion of SARCCUP.



# Spending Rates by Task

14%



	EMWD	IEUA	SBMVWD	WMWD	Total
<u>Actual To Date - Costs</u>					
2018Q1	-	-	\$1,000	-	\$1,000
2018Q2	\$2,375	\$500	\$33,700	\$3,000	\$39,575
2018Q3	-	\$750	\$5,500	\$500	\$6,750
<b>Totals</b>	<b>\$2,375</b>	<b>\$1,250</b>	<b>\$40,200</b>	<b>\$3,500</b>	<b>\$47,325</b>
Allocations	\$96,509	\$96,509	\$96,509	\$96,509	\$386,034
Remaining	\$94,134	\$95,259	\$56,309	\$93,009	\$338,709
<u>Actual To Date - Task* Amounts</u>					
Workshops	-	-	2	-	2
Site Visits	9	5	18	14	46
Designs	-	-	8	-	8
Written Material	-	-	3	-	3
Signage	-	-	5	-	5
<b>Totals</b>	<b>9</b>	<b>5</b>	<b>36</b>	<b>14</b>	<b>64</b>

\*Tasks shown are those being actively implemented.



# Projections

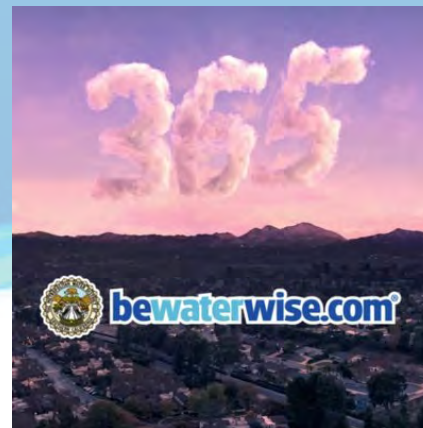
<u>Amount of Tasks Needed in Project Time Frame*</u>						
	EMWD	IEUA	SBMVWD	WMWD	<b>Total</b>	Costs per Task
Workshops	63		8		<b>70</b>	\$1,500
Site Visits		381	45	186	<b>612</b>	\$250
Designs			11	47	<b>58</b>	\$1,000
Written Material			9		<b>9</b>	\$1,200
Signage			6		<b>6</b>	\$2,000
<b>Total Projection</b>	<b>\$94,134</b>	<b>\$95,259</b>	<b>\$56,309</b>	<b>\$93,009</b>	<b>\$338,709</b>	NA

\*Time frame ends March 2020



# Reasons for Spending Rate

- Saturation of market in MWD service area for workshops and design assistance.
- The time needed to engage customers to register for Smartscape services, and the lack of interest from residential customers who previously received turf removal rebates.



# Reasons for Spending Rate (Continued)

- In SBVMWD's service area, the pace is faster largely because these services have not been previously available on a regional basis and they are in high demand by the retail water agencies.
  - In comparison, in IEUA has services offered by MWD such as landscape workshops that are no cost to IEUA.



# Recommendations for Feedback

## Provided by Advisory Workgroup:

- OCCK/IEWK develop a landscape maintenance program whereby staff adjusts controllers and makes minor adjustments to sprinkler heads.
  - May require OCCK/IEWK, or a subcontractor, to have C-27 Landscaping Contractor license.
- OCCK/IEWK can provide the outreach necessary to engage the public. Would entail reaching out to school districts, other public agencies.



# Recommendations for Feedback (Continued)

Provided by Advisory Workgroup:

- OCCK/IEWK can offer their design services to customers at the same time they register for MWD turf removal rebates.
  - Customers receive Smartscape services and use the momentum of the rebate program to educate customers on maintenance.

## New Landscape Transformation Program



More Info





# Questions and Feedback





# Emergency Drought Grant Program Update



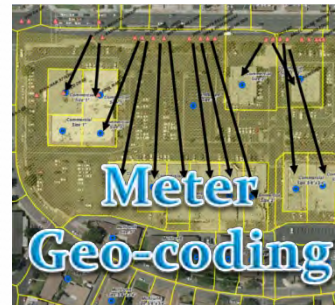
Ian Achimore  
Senior Watershed Manager  
Santa Ana Watershed Project Authority  
October 25, 2018

# Emergency Drought Grant Program Components

Project 1: Conservation Based Reporting Tools and Rate Structure Implementation



Project 2: High Visibility Turf Removal and Retrofit





# Note the Following Items

- The funding amounts for Project 2 show that the Sub-Grantee agreements have been amended, per the approval of the PA 22 Committee on August 24, 2017.
  - That action increased the funding available to EMWD, IEUA and WMWD.
- The funding amounts reflect the latest invoices that have been submitted to SAWPA by August 31, 2018.

# Overall Program Status

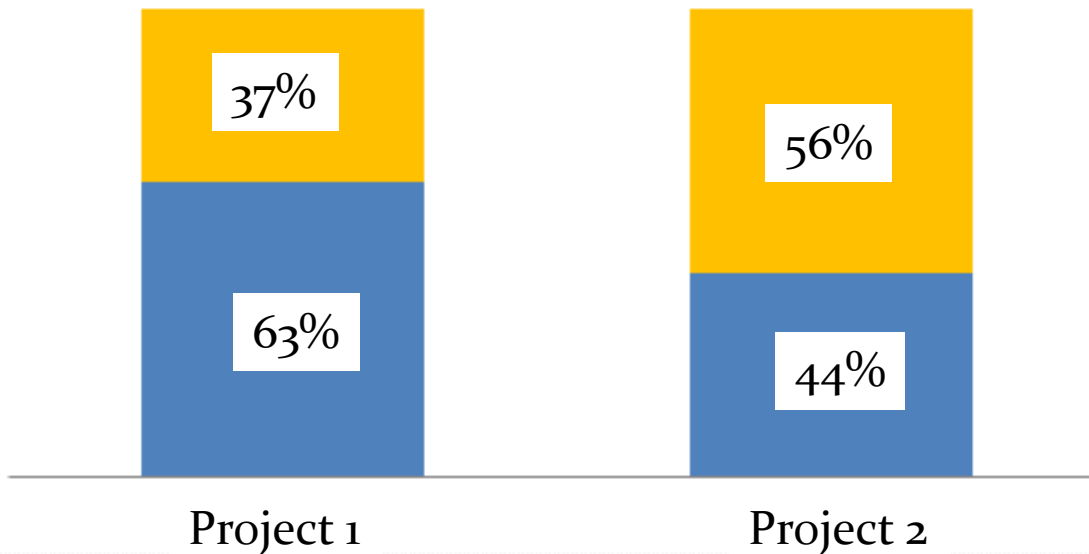
	<b>Grant</b>	<b>Required Funding Match</b>	<b>Total</b>
In Grant Agreement	\$ 12,860,110	\$ 7,051,533	\$ 19,911,643
Invoiced (\$)	\$7,087,112	\$ 5,943,834	\$13,030,946
<b>Invoiced (%)</b>	<b>55%</b>	<b>84%</b>	<b>65%</b>



# Status by Individual Project

## Grant Funds Invoiced

■ Invoiced ■ Not Invoiced



Scheduled dates of completion:

Project 1: April 2019

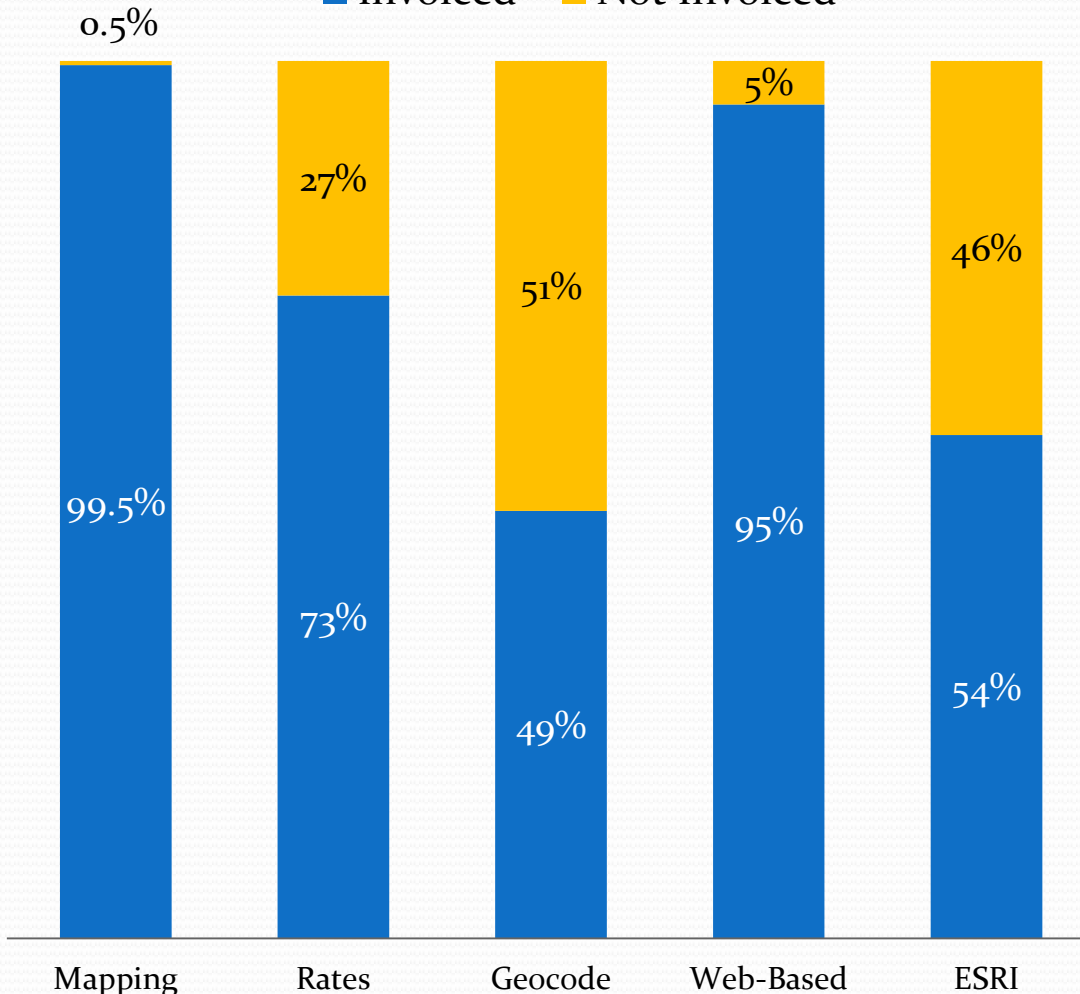
Project 2: March 2019



# Status by Component (Project 1)

## Grant Funds Invoiced

■ Invoiced ■ Not Invoiced



Scheduled dates of completion:

Mapping: (Completed) July 2017

Rates: April 2019

Geocoding : Dec 2018

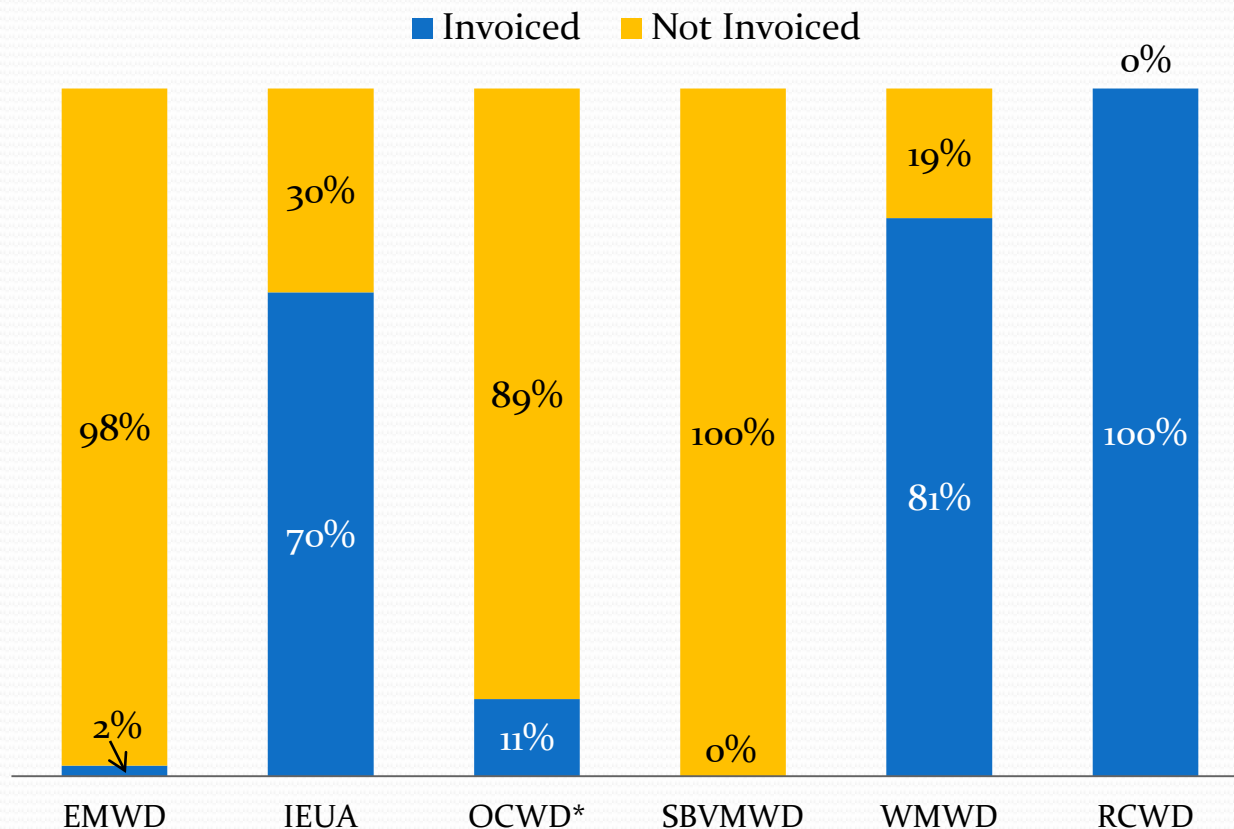
Web-Based Tool: (Completed) June 2018

ESRI Tool: Nov 2018



# Status by Agency (Project 2)

## Grant Funds Invoiced



Scheduled date  
of completion:

March 2019

\*OCWD has an agreement with MWDOC that passes down the conditions from their Sub-Grantee agreement to MWDOC



# Questions

# SAWPA TOOLS ROAD SHOW

EMWD	12:30 p.m. Monday, November 5, 2018
IEUA	Tentatively scheduled for 10:30 a.m. Wednesday, Nov. 28th or Jan 23rd
MWDOC	12:30 p.m. Thursday, December 6, 2018
SBVMWD	10:00 a.m. Wednesday, December 21, 2018
WMWD	2:30 p.m. Tuesday, November 13, 2018





# SAWPA TOOLS ROAD SHOW

EMWD	12:30 p.m. Monday, November 5, 2018
IEUA	Tentatively scheduled for 10:30 a.m. Wednesday, Nov. 28th or Jan 23rd
MWDOC	12:30 p.m. Thursday, December 6, 2018
SBVMWD	10:00 a.m. Wednesday, December 21, 2018
WMWD	2:30 p.m. Tuesday, November 13, 2018

# Meter / Commercial GIS Project

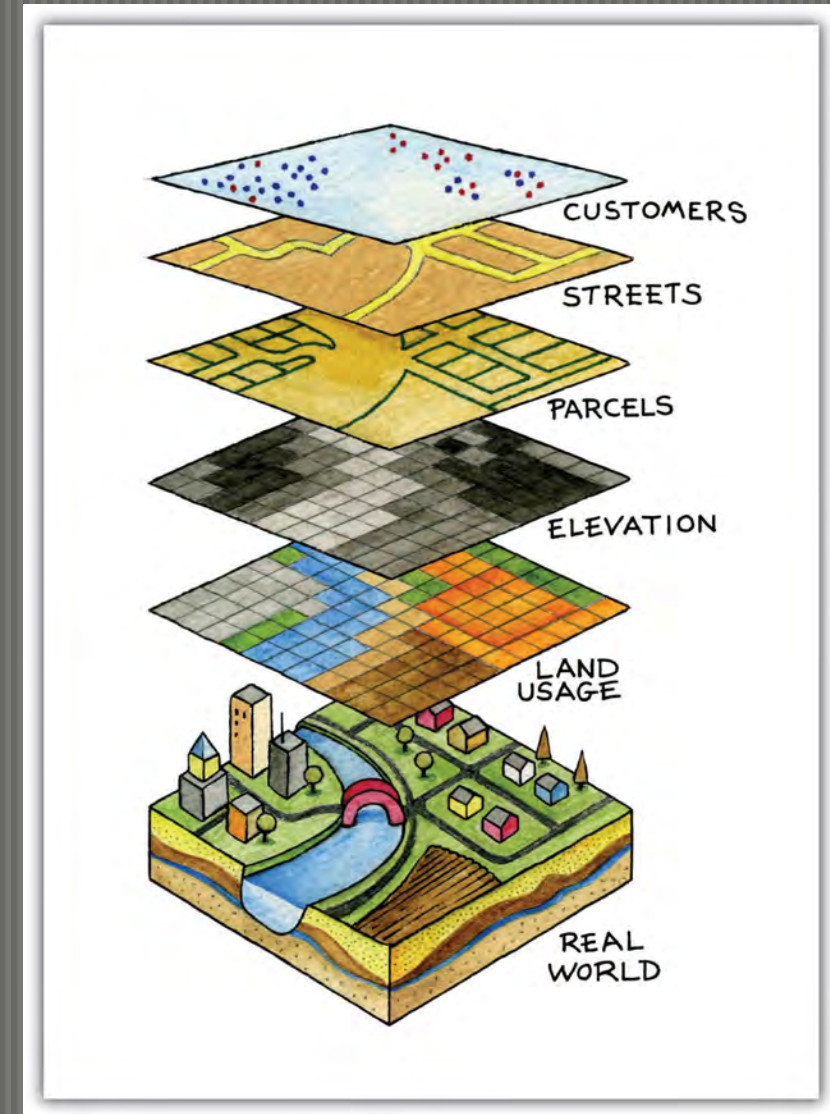
Doug Mende

Miller Spatial

October 2018

# Geographic Information Systems Methods

- ESRI ArcGIS
  - All districts have licenses
  - Different levels of use, data integration, and expertise
- SAWPA GIS project goals
  - Create conservation data
  - Irrigated and Irrigable areas
  - Create MSAs to overlay meters and NAICS
- Miller Spatial
  - Water Asset Management
    - System Implementation
    - Data Integrations
    - Application Developers



# Project Overview

- Link NAICS Business Data to Meter Data for Districts
  - Districts have varying degrees of GIS capability
- Complete 14 Agencies Complete by December 2018

# Current Project Status

- 23 Districts Signed Up
- 14/23 Agreements
- 20/23 Districts have NAICS Business Points Complete
- 9/23 Meters/MSA
  - 4/23 In Process
  - 5/23 Complete

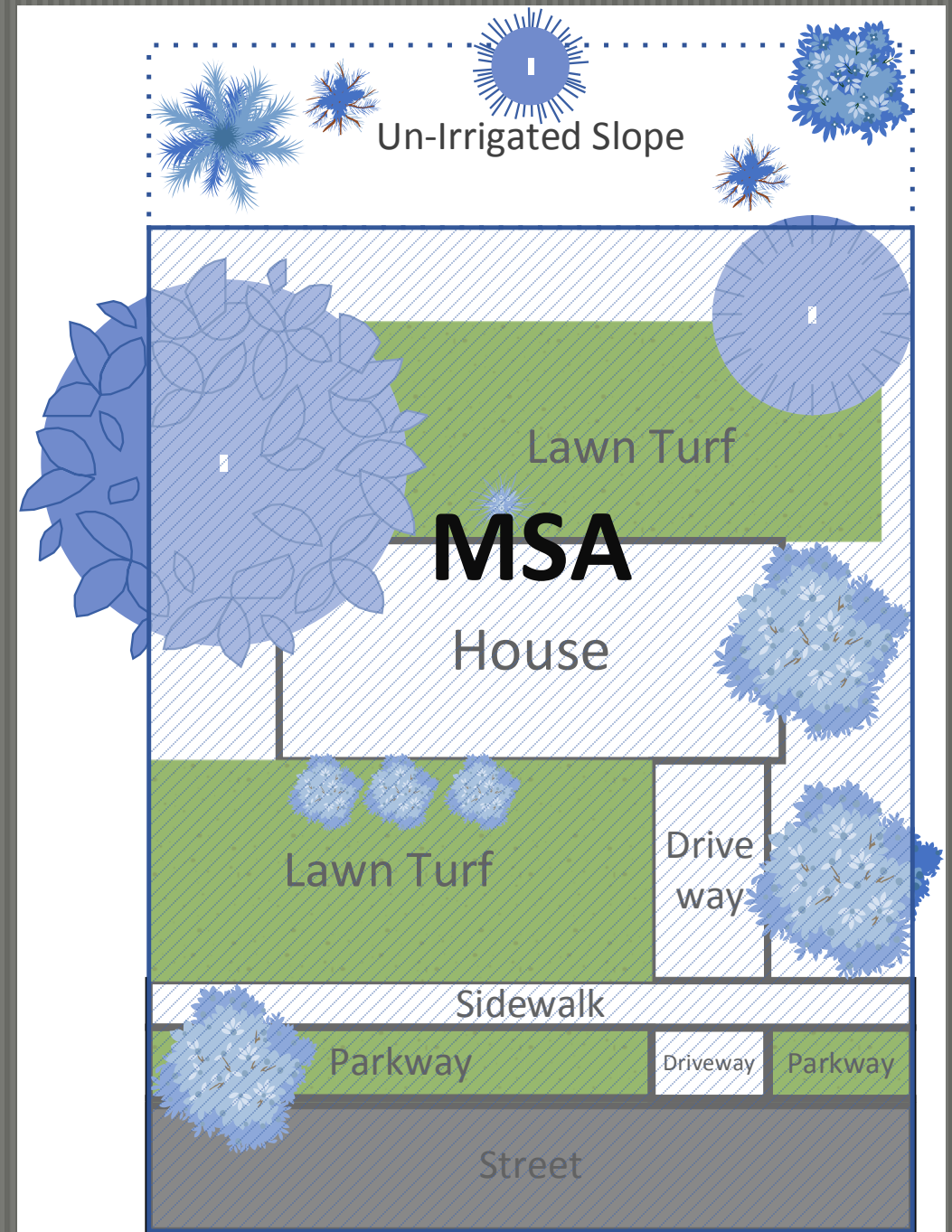
# Additional Work

- Jurupa Commercial Meter Accuracy / GPS (Plus, Asset Management System)
- Chino Meter / Budget-Based Rates
- Hemet Budget-Based Rates / Operational Dashboard
- Rancho California / Business to Landscape Tracing



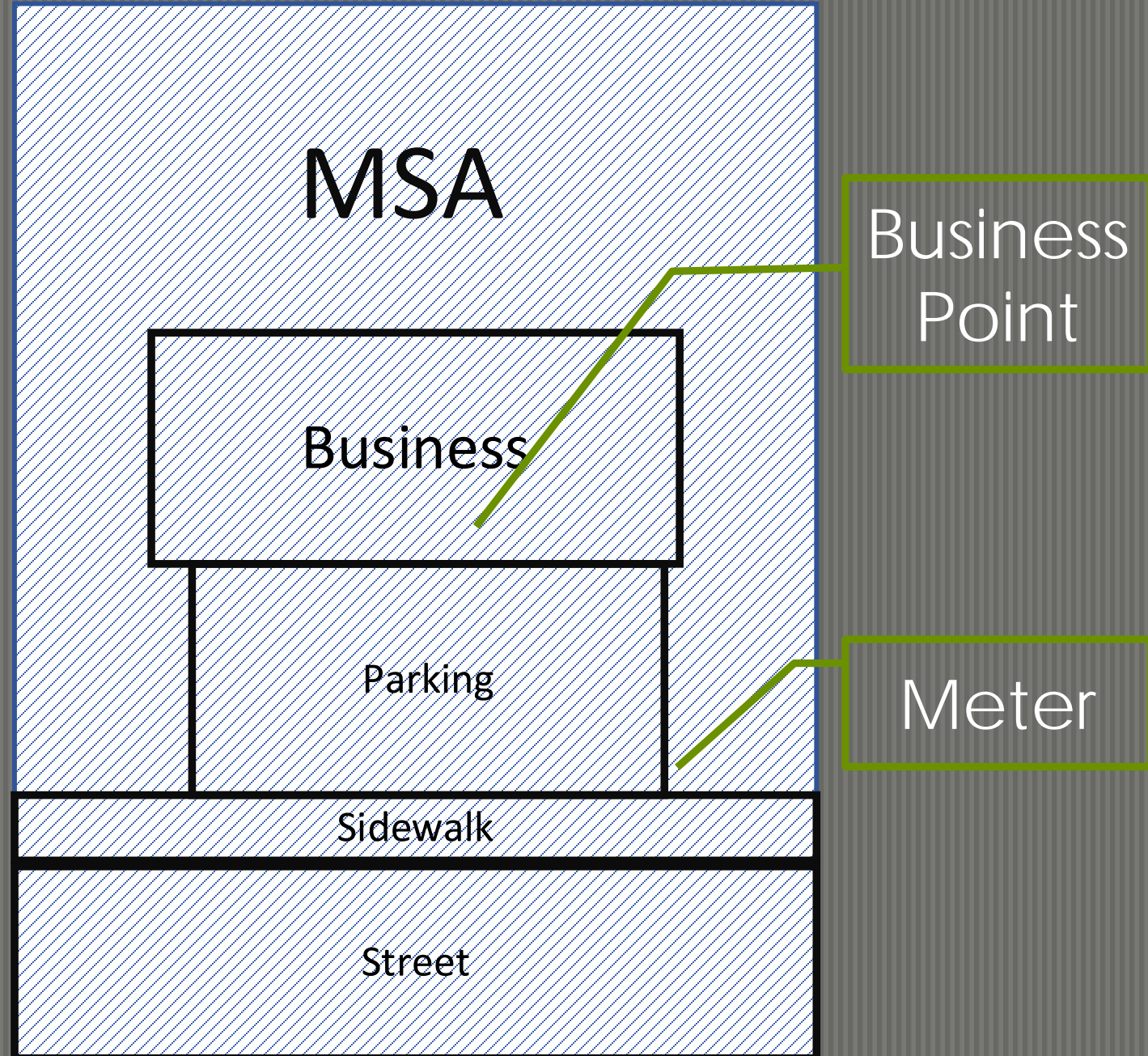
# GIS Design

- 2016 MSA
  - Imagery Analysis
  - Outdoor Irrigable and Irrigated Areas

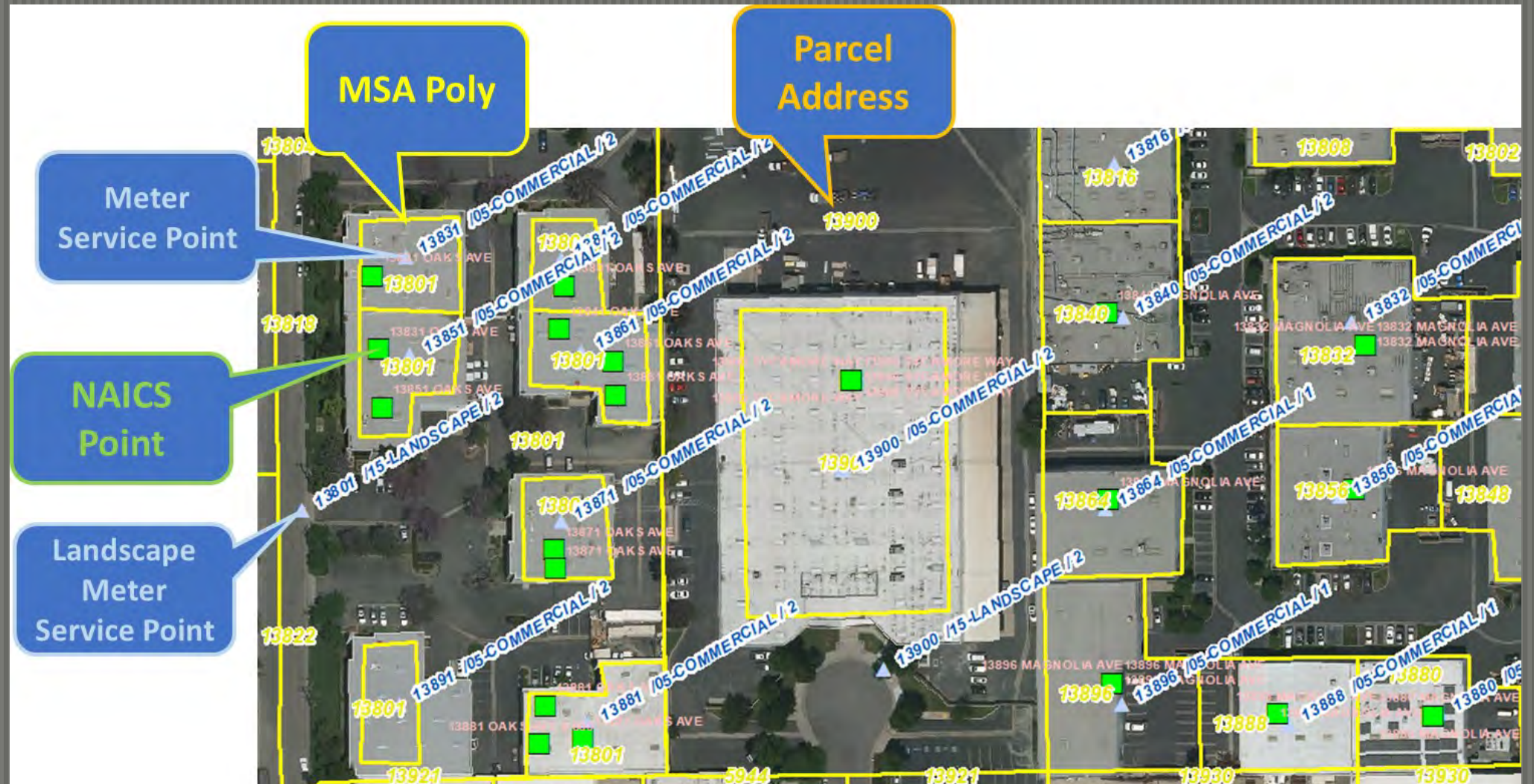


# GIS Design

- 2018 Business Point
  - NAICS
  - Located inside MSA on Building
- 2018 Meter Point
  - Located Inside MSA
- GIS Overlay creates relationship between Meter and Business Data
- Output data integrated with Billing System and Analysis

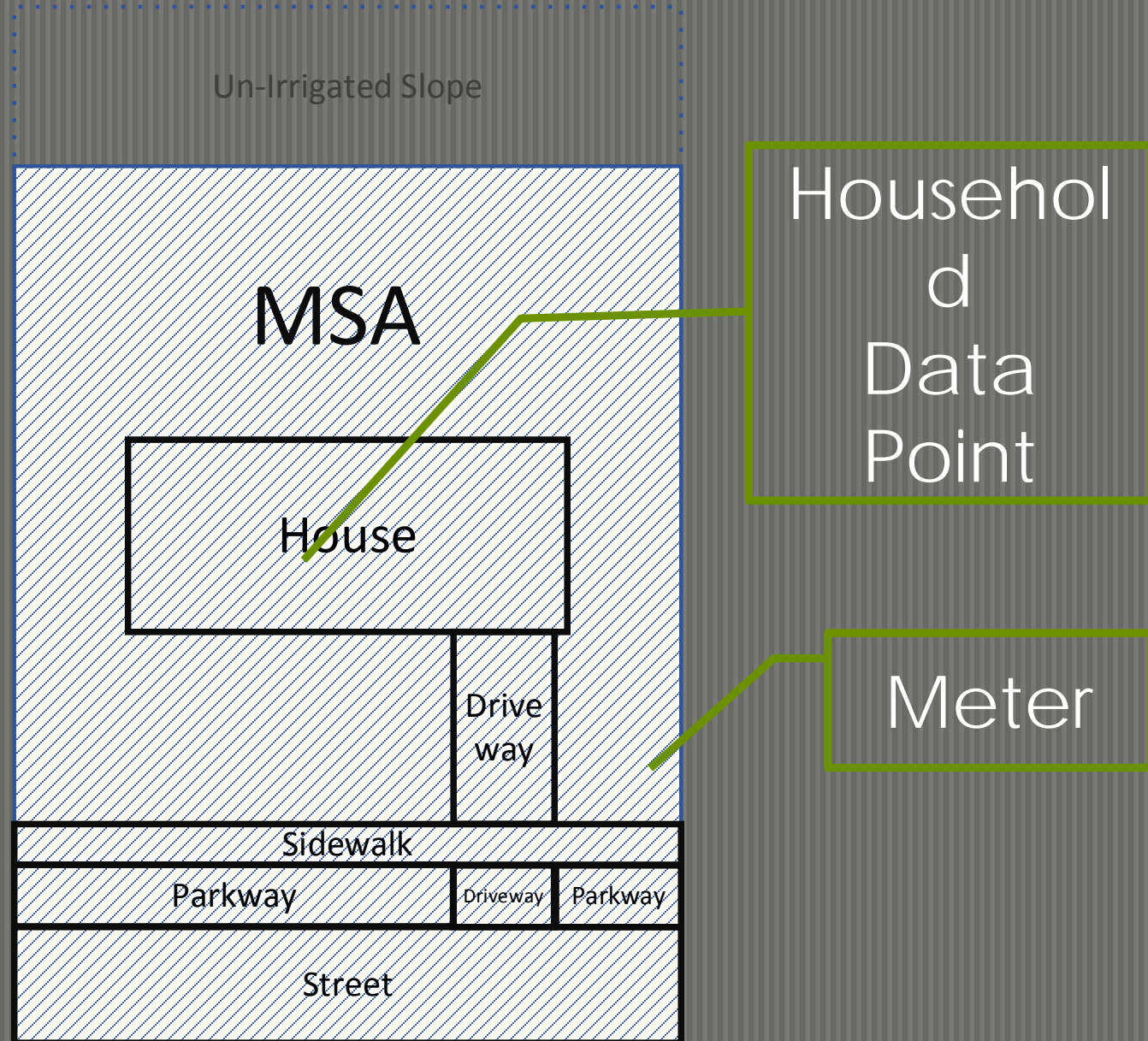


# Current Application



# Future Design

- Evapotranspiration
- Household Data
  - Number of People
  - Ages of Household
- Building Footprints
  - Becoming Readily Available



# Step by Step Example



# Billing System Data

	A	B	E	G	H	I	K	N
1	id	address	meter_serial	meter_size	service_type	rate_type	housing_units	
2	27030406	13652 LOMBARDY RD	72915155	5/8"x3/4"	Single family home	Metered	1	
3	27307406	10544 WESTMINSTER AVE	71343806	5/8"x3/4"	Commercial	Metered	1	
4	27006106	13931 HEIDI ST	71343587	5/8"x3/4"	Single family home	Metered	1	
5	29368109	11292 LAMPSON AVE	74492959	5/8"x3/4"	Single family home	Metered	1	
6	27308805	14111 LAKE ST	71343669	5/8"x3/4"	Single family home	Metered	1	
7	27315702	14182 PLEASANT ST	54815607	5/8"x3/4"	Single family home	Metered	1	
8	27311204	10682 MORNINGSIDE DR	67840373	5/8"x3/4"	Single family home	Metered	1	
9	27358109	14281 PLEASANT ST	54543017	5/8"x3/4"	Single family home	Metered	1	
10	27311106	10672 MORNINGSIDE DR	51733584	5/8"x3/4"	Single family home	Metered	1	
11	1344601	5322 SANTA BARBARA AVE	63420811	5/8"x3/4"	Single family home	Metered	1	
12	6310203	6681 ACACIA AVE	62270032	5/8"x3/4"	Single family home	Metered	1	
13	27309606	14201 LAKE ST	51816061	5/8"x3/4"	Single family home	Metered	1	
14	27318507	10622 WESTMINSTER AVE	60898195	1"	Commercial	Metered	1	
15	26001501	12810 NUTWOOD ST	42427636	5/8"x3/4"	Industrial	Metered	1	
16	25308929	10602 CHAPMAN AVE	29926691	6"	Fire service	Fire Service	1	
17	41005589	7301 ORANGEWOOD AVE	88888888	8"	Fire service	Fire Service		
18	41385033	12362 CHAPMAN AVE	88888888	4"	Fire service	Fire Service		
19	41310233	12072 TRASK AVE	71930923	3"	Hospital	Metered	1	
20	35008710	13811 A BETTER WAY	999999	6"	Fire service	Fire Service		
21	26000084	10561 GARDEN GROVE BLVD	88888888	6"	Fire service	Fire Service	1	
22	41330902	12601 SUNSWEPT AVE	77992043	1 1/2"	Multi-unit	Metered	8	
23	7004919	12651 INDUSTRY ST	88888888	8"	Fire service	Fire Service		
24	41300855	12761 EUCLID ST	80468035	1"	Landscape	Metered		
25	11017219	12411 MAGNOLIA ST	88888888	4"	Fire service	Fire Service	2	
26	29369013	11450 LAMPSON AVE	22063148	6"	Fire service	Fire Service		
27	4345428	12452 VALLEY VIEW ST	88888888	4"	Fire service	Fire Service	1	

Typical Service Account Info

service_id	start_on	end_on	billing_units
15311601	7/2/2013	7/3/2013	1
23345300	7/11/2013	7/15/2013	0
14309501	7/2/2013	7/16/2013	9
17024505	7/8/2013	7/16/2013	5
18327605	7/8/2013	7/9/2013	0
19302002	7/2/2013	7/10/2013	6
	...		
27007809	2/22/2017	4/20/2017	29
27018400	2/22/2017	4/20/2017	33
27002500	2/21/2017	4/20/2017	30
27352803	2/23/2017	4/20/2017	23
27316905	2/23/2017	4/20/2017	6
28000508	12/15/2016	2/23/2017	9
28030300	12/15/2016	2/23/2017	1

## Metered Consumption Info

service_id	start_on	end_on	billing_units	etoSum
24328507	4/30/2015	7/1/2015	39	10.45
15326308	6/18/2015	7/1/2015	2	2.77
9034102	6/9/2015	7/1/2015	6	4.19
3030504	6/1/2015	7/1/2015	7	5.73
2032006	5/27/2015	7/1/2015	12	6.67
9022602	6/9/2015	7/1/2015	4	4.19
16033806	6/19/2015	7/1/2015	7	2.53
3061107	6/1/2015	7/1/2015	6	5.73

CIMIS Eto Info

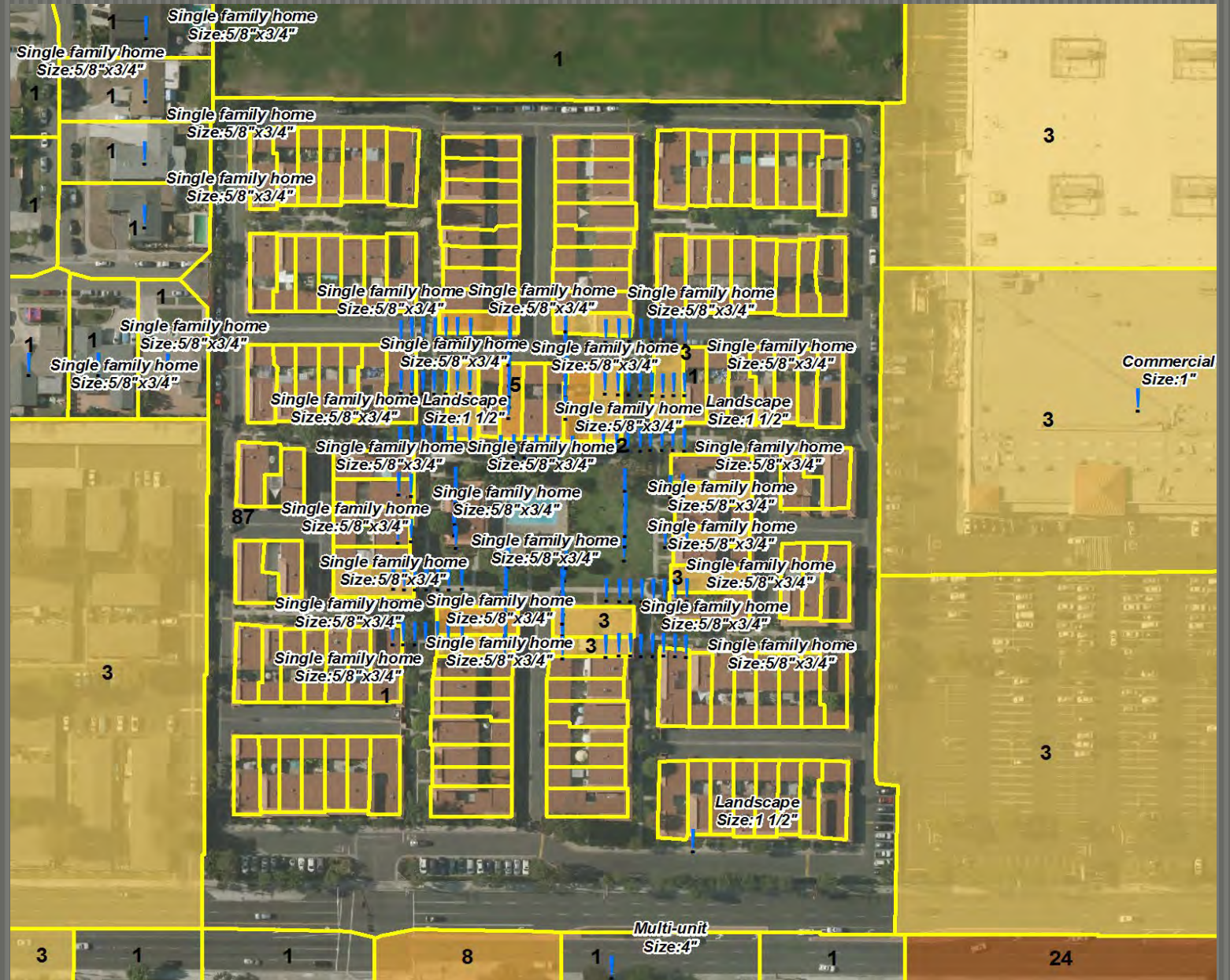
# Geocoding

- Locate Business Points (NAICS)
- Locate Service Location Points
- Typical GIS will NOT have precise address locations...
- Further edits within the MSA...



# Editing

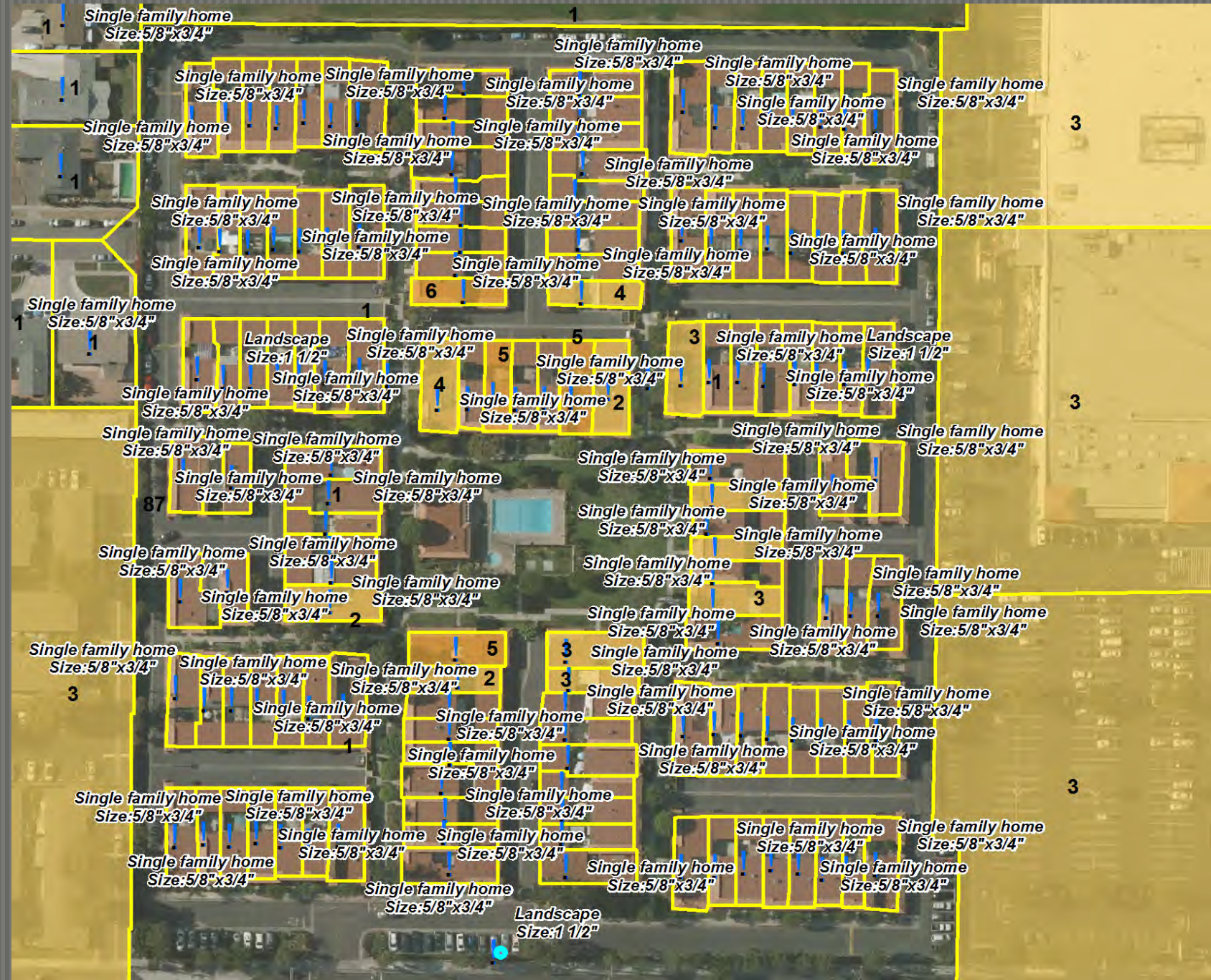
- Edit MSA polygons...
- Move Service Locations/Meter Data to Proper MSA Location...
- Move Businesses to more accurate location...





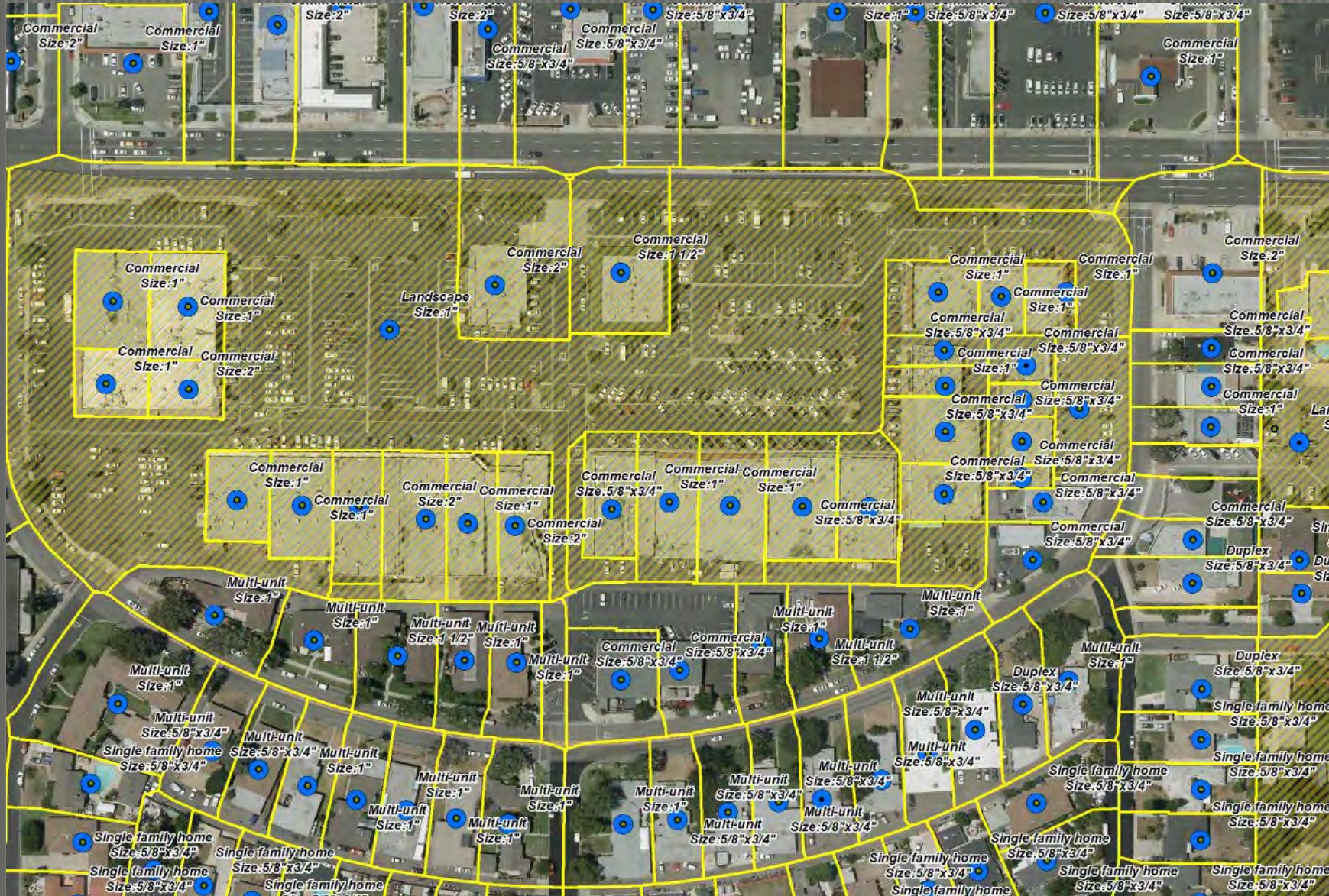
# Editing

- Edited results...



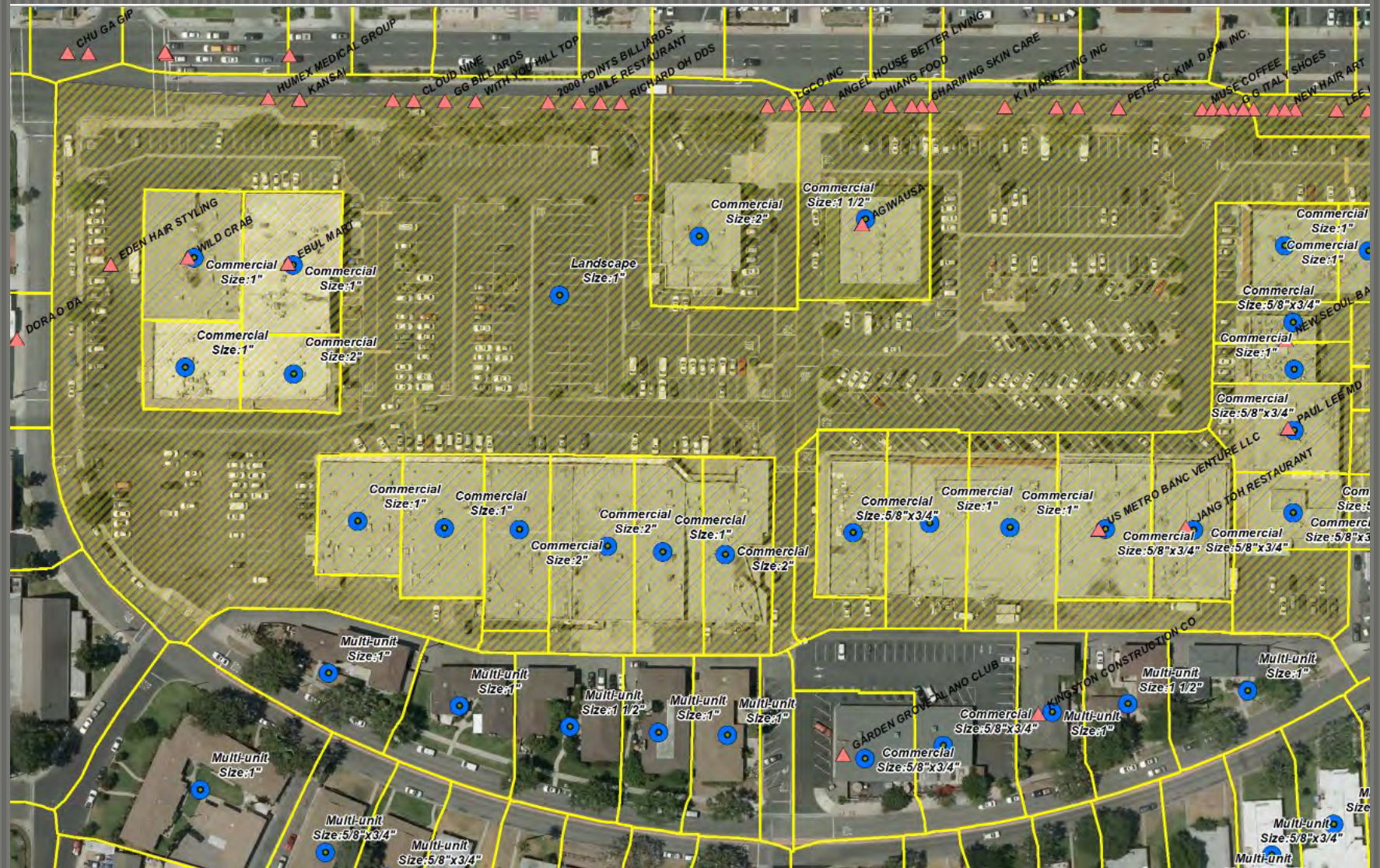


# CII Clusters (Mixed Meters/Landscape)





# Editing NAICS Data





# CII Data Overlay





# Data Summary

Excel spreadsheet showing a data summary for 'CII\_3\_YEAR.dbf.xlsx'. The spreadsheet displays columns for service details, meter information, and various summary metrics.

service_id	billing_un	etoSum	ADDRESS	suite	RATE_TYPE	SERVICE_TY	METER_SIZE	housing_un	SERVICE_CLUSTER_ID	SUM_XMSA_S	SUM_XPOL_S	SUM_XTUR_S	SUM_XTSH_S	SUM_XOTH_S	SUM_XDED_S	IRRIG	FREQUENCY	SUM_billin	MEAN_billin	MIN_star	
14319203	2	3.17	9061 GARDEN GROVE BLVD		Metered	Commercial	5/8"x3/4"	1	CII	0	13,388	0	302	136	0	583	1,021	21	114	5	7/2
21342707	7	0.55	12082 BROOKHURST ST		Metered	Commercial	5/8"x3/4"	1	CII	40	4,843	0	0	0	5	64	69	20	277	14	7/8
17009480	0	2.46	12151 BROOKHURST ST		Metered	Commercial	1 1/2"	1	CII	41	25,916	0	306	147	16	230	699	19	2,271	120	7/8
25016108	3	1.71	12351 EUCLID ST		Metered	Commercial	1"	1	CII	0	16,597	0	1,057	1,249	1	721	3,027	20	876	44	7/8
26020506	0	1.96	10641 GARDEN GROVE BLVD		Metered	Commercial	5/8"x3/4"	1	CII	0	16,554	0	870	969	0	722	2,561	21	72	3	7/8
25016000	0	2.70	12345 EUCLID ST		Metered	Private school	1 1/2"	2	CII	0	29,232	0	745	2,687	1	1,626	5,059	19	397	21	7/17
17007004	10	4.24	9542 CHAPMAN AVE		Metered	Commercial	5/8"x3/4"	1	CII	0	10,920	0	532	368	2	453	1,355	19	1,186	62	7/8
25016108	31	2.70	12351 EUCLID ST		Metered	Commercial	1"	1	CII	0	16,597	0	1,057	1,249	1	721	3,027	20	876	44	7/8
34331854	76	5.03	13220 HARBOR BLVD		Metered	Landscape	1 1/2"	1	CII	76	316,024	0	11,574	8,771	117	8,585	29,046	19	3,237	170	7/2
34331809	0	5.03	13220 HARBOR BLVD		Metered	Commercial	2"	1	CII	76	55,446	0	8	0	0	26	34	18	7,780	432	7/2
17007102	22	5.40	9562 CHAPMAN AVE		Metered	Commercial	5/8"x3/4"	1	CII	0	42,231	0	2,278	1,413	19	3,287	6,997	19	2,373	125	7/8
35003200	28	3.82	13692 HARBOR BLVD		Metered	Commercial	1"	2	CII	0	36,678	0	142	8	0	213	363	18	358	20	7/8
26030404	0	3.66	10702 GARDEN GROVE BLVD		Metered	Commercial	5/8"x3/4"	1	CII	0	25,255	0	520	262	0	133	915	19	22	1	7/18
35038605	0	2.01	13880 HARBOR BLVD	#A	Metered	Commercial	5/8"x3/4"	0	CII	0	1,955	0	0	0	0	3	3	18	58	3	7/29
37022003	135	4.00	13018 CHAPMAN AVE		Metered	Laundromat	2"	1	CII	0	17,833	0	241	434	135	810	1,620	18	9,531	530	7/9
27319462	6	4.73	10871 CAPITAL AVE		Metered	Industrial	1 1/2"	0	CII	102	24,141	0	962	676	2	880	2,520	20	778	39	7/19
35010009	1	3.10	11631 ANABEL AVE		Metered	Industrial	5/8"x3/4"	1	CII	0	8,143	0	206	118	0	183	507	19	60	3	7/29
41311029	180	6.83	12901 LEWIS ST		Metered	Private school	4"	1	CII	0	387,268	0	20,861	21,868	1,796	20,233	64,758	18	7,726	429	7/2
21347859	0	6.81	12342 BROOKHURST ST		Metered	Commercial	1 1/2"	0	CII	39	11,899	0	119	46	7	117	290	20	982	49	7/11
24026308	158	6.78	10802 KATELLA AVE		Metered	Car wash	2"	1	CII	0	45,080	2,068	2,535	3,123	35	3,292	11,053	19	4,470	235	7/16
26001310	1	6.29	12812 NUTWOOD ST		Metered	Commercial	5/8"x3/4"	0	CII	0	22,865	0	17	11	0	370	397	21	10	0	7/18
35038723	0	4.63	13892 HARBOR BLVD	#A	Metered	Commercial	5/8"x3/4"	1	CII	0	3,622	0	82	17	0	121	220	18	35	2	7/29
4345355	9	2.31	12500 VALLEY VIEW ST		Metered	Commercial	5/8"x3/4"	1	CII	0	15,471	0	641	899	498	195	2,232	18	279	16	8/2
35036405	1	3.27	12582 GARDEN GROVE BLVD		Metered	Commercial	5/8"x3/4"	1	CII	0	18,126	0	73	38	9	171	292	19	25	1	7/11
35036405	2	5.03	12582 GARDEN GROVE BLVD		Metered	Commercial	5/8"x3/4"	1	CII	0	18,126	0	73	38	9	171	292	19	25	1	7/11
35038665	0	5.85	13884 HARBOR BLVD	#A	Metered	Commercial	5/8"x3/4"	1	CII	0	1,981	0	13	6	0	13	32	18	35	2	7/29
9300301	153	9.86	11032 MAGNOLIA ST		Metered	Commercial	1"	5	CII	0	2,292	0	0	0	0	5	5	18	1,516	84	7/2
9302707	7	0.40	10936 DALE ST		Metered, no s	Industrial	2"	0	CII	0	32,018	0	3,238	1,181	7	1,335	5,761	18	2,261	126	8/19
27307446	37	8.09	10548 WESTMINSTER AVE	(& 10550	Metered	Commercial	5/8"x3/4"	3	CII	0	10,851	0	23	6	2	61	92	21	826	39	7/19

# Needed

- Districts are at widely different stages of GIS
- Almost all districts don't have GIS linked to consumption/billing system

Page Intentionally Blank



# Conservation-Based Water Rates Update



Ian Achimore  
Senior Watershed Manager  
Santa Ana Watershed Project Authority  
October 25, 2018

# Cities Participating

## Chino



Prop 218 Hearing:  
June 19, 2018  
Implement rates:  
February 2019

## Chino Hills



Prop 218 Hearing:  
May 8, 2018  
Has Implemented rates:  
October 2018

## Hemet



Prop 218 Hearing:  
March 2018  
Implement rates:  
June 2019



# SAWPA Assistance to Cities

- \$25,000 Task Order with CV Strategies following for Factsheets
- \$14,000 Change Order to Develop Website Content and Implement Changes



- Excerpt from factsheet about fixed costs -

# Rate Fact Sheets

1. Why Conservation Based Rates and Why Now?
2. What is the Difference Between Conservation-Based and Other Rate Structures?
3. Preparing for a Successful Public Process.
4. Legality of Conservation-Based Rates. Why Are They Defensible? San Juan Capistrano?
5. How to Talk About Fixed Costs.
6. How Are Conservation-Based Rates Fair to All Customers?
7. Maintaining the Structure during the Implementation Phase.



# Water Use Efficiency Tools

## Webpage – SAWPA Website

- Assist in outreach with rates and marketing of tools with SAWPA website development, graphics, content, and forms retail agencies can fill in.

**SB 606 and AB 1668**



Draft Page in  
PA 22 Packet

**Aerial Imagery, Geocoding  
& ESRI**



Text Drafted

**Water Rates**



Draft Page in  
PA 22 Packet

# ACWA Conference Panel on Rates and Other Tools

- November 28, 2018, 3:30 PM, San Diego
- Panelists:
  - Larry McKenney, representing Municipal Water District of Orange County (Moderator)
  - Ian Achimore, Senior Watershed Manager, Santa Ana Watershed Project Authority
  - Peter Brostrom, Water Use Efficiency Program Manager, Department of Water Resources
  - Nadeem Majaj, Public Works Director, City of Chino Hills
  - Richard Harris, Manager of Water Conservation, East Bay Municipal Utilities District



# Questions

Page Intentionally Blank





# Update on Outreach to Department of Water Resources



Ian Achimore  
Senior Watershed Manager  
Santa Ana Watershed Project Authority  
October 25, 2018

# DWR and New Water Use Efficiency Legislation



- DWR is the lead for technical assistance related to urban water use targets per Making Water Conservation A California Way of Life legislation (AB 1668 and SB 606)
- PA 22 Committee recommended SAWPA staff connect with DWR Water Use Efficiency Program Manager Peter Brostrom and share Drought Grant tools,
- SAWPA met with Brostrom twice and he recommended a study SAWPA can manage.

# Bostrom's Recommended Study

## Scope

- SAWPA ensures approximately three retailers use the aerial imagery data via the ESRI Customer Parcel Water Budget Tool and upload their billing data to compare customer budgets to the volume of water used per customer.
- By involving the retail agency partners, DWR would be interested in knowing:
  - How many customers are over budget,
  - How many customers are under budget, and
  - What's the most effective way to let customers know they are over budget?





# DWR's Needs for this Study

- DWR wants to ensure aerial imagery data can be a tool for retail water agencies, rather than just a mandated water budget.
- DWR wants to understand a major challenge for water users related to the new legislation - comparing area measurement data (outdoor water budgets) to billing data (customer water use).
- DWR wants to understand:
  - Are a marginal group of customers in a given service area driving an agency's high water use, and
  - How difficult is it to change the habits of that marginal group?

# Data Needed to Perform Study:

## Water Usage



- To be able to compare outdoor budgets to customer usage, the data from partnering retailer agencies needed is:
  - Customer Physical address,
  - Customer Assessor Parcel Number (APN), and
  - Customer's water volume used.
  - Note: do **not** need customer ID numbers.
- Partnering retail agencies would likely be comfortable sharing historic data and their 2015-2017 data would be usable for this study.
  - 2015-2017 water usage data would still be comparable to SAWPA's 2015 aerial imagery data.

# Data SAWPA Has to Perform Study Budgets

- Outdoor water budgets (Historical from 2015)
- Evapotranspiration layers (Historical by month)
- Important to note:
  - SAWPA can purchase indoor budget data via consultant InfoGroup.
  - SAWPA has tool to view and compare data (ESRI Customer Parcel Water Budget Tool).





# Benefits of Study and Next Steps

- Study benefits PA 22 and Watershed by:
  - Our region is taking a leadership role related to water use efficiency state policy and aerial imagery,
  - Demonstrating value of locally produced imagery, and
  - Helping us refine imagery collection and related water use efficiency tools.
- Next Steps:
  - SAWPA develops scope and budget and present to PA 22.
  - SAWPA develops talking points and outreach plan to incentivize retailers in the watershed to partner on study.
  - DWR researches available budget for study and whether an existing consultant can also support it if statistical analysis is necessary.



# Update on DWR's Aerial Image Efforts



- DWR will be making retail agency water budgets available by January 2021
  - Budgets will be based on DWR's 2018 aerial imagery (4 band; 1 foot resolution)
  - Agencies can buy actual imagery data for \$5 per square mile (DWR will not own data per licensing agreement with contractor)



# Questions