

# San Diego Housing Commission Properties: Survey, GIS Analysis, Visual Analysis

March 21, 2019

JB Hinds  
Angela Hsieh  
Kelly Banh  
Diana Alcocer  
Ilya Zaslavsky

# Property Inventory- Survey123



Surveyed SDHC properties

The screenshot shows a Survey123 form titled "SDHC Property Inventory". The form is displayed in a mobile application interface with a green header. At the top, there are tabs for "Form Preview", "Schema Preview", and "Settings". The form content includes:

- A date field labeled "What is the date?" with the value "Thursday, March 21, 2019".
- A section titled "Project Information" with a "Building Type" dropdown menu.
- A section titled "Roof Drainage" with a question "Is there gutter?" and radio button options for "Yes" and "No".
- A section titled "Water Damage" with a question "Is there evidence of flooding?" and radio button options for "Yes" and "No".

At the bottom of the form, there is a "Load time on Windows 10.4 seconds" indicator and a "Validate Input" button.

Using Survey123 to collect data

# Survey123 Questions

## Roof Drainage

- Is there gutter?
- Where does the outlet lead to?
- Is redirection possible?
- What obstacles?
- What other obstacle?
- What is the type of drainage?

## Water Damage

- Is there evidence of flooding?
- What type of evidence is there of flooding?
- What other evidence?
- Are there storm drain inlets on property?
- Is there evidence of erosion?
- Where is the erosion?
- How severe is the level of erosion?
- What is the level of grading/slope on property?

## Landscape

- Street terrace
- Common landscape area behind sidewalk
- Common area within multi-building properties
- Fencelines/property edges
- Building foundation plantings
- Residential lawn
- Active garden area
- Paved area other than driveway/walkway
- Unmanaged vegetation
- Stormwater/bioretention area
- Other

## Landscape Survey

- Type of trees
- Describe the condition of the landscape
- Is it irrigated?
- Is there possible laundry water for irrigation?
- Are there obstacles in the way?
- What obstacle(s)?
- What is the level of apparent use for the landscape?
- What type of activity?
- Formal or informal?
- Formal or informal seating?
- What other activity?

# Laundry Water Analysis

-41 properties with available laundry water

-main obstacles found are pathways and driveways, garage doors (walls), and limited foundation plantings

Address	Landscape	Obstacle	Landscape	Obstacle
1041_TWINING_AVENUE	lawn or dirt area	Driveway		
1128_RANSOM_STREET	lawn or dirt area	Driveway		
1170_ILEXEY_AVENUE	lawn or dirt area	Pathway and driveway		
1232_PETERLYNN_DRIVE	lawn or dirt area	Pathway and driveway		
1250_TWINING_AVENUE	lawn or dirt area	Pathway and driveway		
1351HOLLISTER_STREET	common areas within multi-building	no obstacles	fencelines/ property edges	no obstacles
178CALLE_PRIMERA	common areas within multi-building	no obstacles	fencelines/ property edges	Pathway
2005ALAQUINAS_DRIVE	common areas within multi-building	Pathways	building foundation plantings	Pathways
2045GRAND_AVENUE	Street Terrace	Pathway	common landscape area behind sidewalk	Pathway
2381GROVE_AVENUE	common areas within multi-building	no obstacles	fencelines/ property edges	no obstacles
2615GENESEEE_AVENUE	common landscape area behind sidewalk	Garage walls	common areas within multi-building	Pathways & walls
281SYCAMORE_ROAD	common areas within multi-building	no obstacles	fencelines/ property edges	Driveway
3051_54TH_STREET	fencelines/ property edges	Pathway		
402SYCAMORE_ROAD	common areas within multi-building	Pathways		
4043WILSON_AVENUE	fencelines/ property edges	Pathway		
4054CHEROKEE_AVENUE	fencelines/ property edges	Pathway		

# Laundry Water Analysis

-Number of landscape types found on site vary by property

EX: 2045 Grand Ave has highest number of landscape types (5)

Landscapes found: Street terrace, common landscape behind sidewalk, common areas within multi-building, fencelines/property edges, and building foundation plantings

<https://docs.google.com/spreadsheets/d/14E9oqAZFx4GwHV0Oul3e5e9-8POSusILntP2P0j7H9s/edit?usp=sharing>

-19 properties found with only 1 type of landscaping

-most common is lawn or dirt area, fencelines/property edges, or common areas within multi-building

EX: Twining Avenue has 1 type of landscaping on property (lawn or dirt area)

# ArcGIS Desktop - From Survey123 to ArcGIS

Form Preview | Schema Preview | Settings

SDHC Property Inventory

What is the date?  
Thursday, March 21, 2019

Project Information

Building Type

Roof Damage

Is there gutter?  
 Yes  
 No

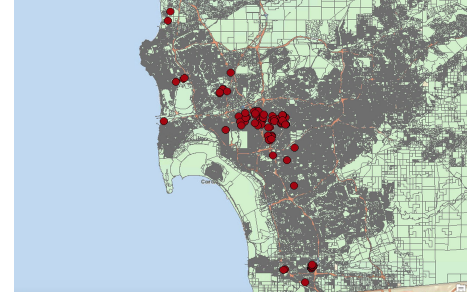
Water Damage

Is there evidence of flooding?  
 Yes  
 No

Load More Properties (14 properties) | Validate Input



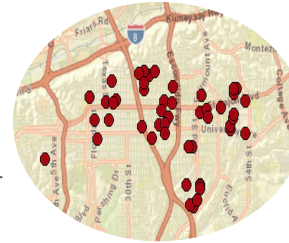
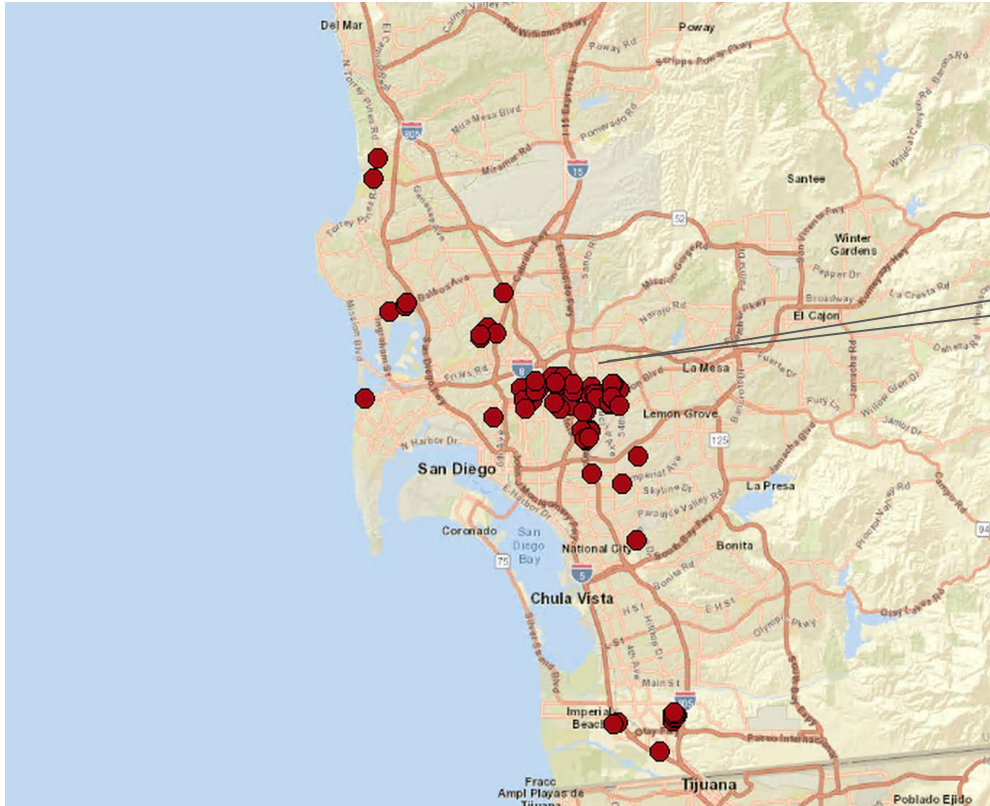
c39eba3c-eebe-4240-86dc-12ca9b6e557d	Multi-Family	10/4/2018 7:00:00 AM	4241912700	2045 Grand Avenue
c39f564d-ca99-4011-9a1a-d800af76835f	Multi-Family	10/4/2018 7:00:00 AM	4241112200	2644 Hornblend Stre
d98c2559-748f-44c7-95ea-8f098efc9d9d	Multi-Family	10/4/2018 7:00:00 AM	4112020100	2701 Figueroa Boule
480462db-9311-4d9b-e149-9f1570056e9a	Multi-Family	10/8/2018 7:00:00 AM	4204510500	7705 Beiden Street
db9c7a37-070a-4c0d-b62f-383a6f1ea792	Multi-Family	10/8/2018 7:00:00 AM	4312900700	7105 Eastman Street
e659cf96-a4f7-498f-9c12-c1631c056505	Multi-Family	10/8/2018 7:00:00 AM	4312801200	7085 Levent Street
b59af99-40af-480-89ab-ef8a7799118	Multi-Family	10/8/2018 7:00:00 AM	4326300700	7526 Fulton Street
a48f7221-494a-4c3b-81c7-a29eb6a42236	Multi-Family	10/11/2018 7:00:00 AM	4394012000	4720 34Th Street
6e6394e9-b4e8-4134-8482-b69402a61611	Multi-Family	10/11/2018 7:00:00 AM	4383920800	4729 33Rd Street
93737f9-c2e1-439a-8c08-6a656bc0a40a	Multi-Family	10/11/2018 7:00:00 AM	4383821200	4729 32Nd Street
72c30387-ab08-44b5-a639-c3400c55238	Multi-Family	10/8/2018 7:00:00 AM	4275609400	2615 Genesee Aven
5093a72-7af2-4ba6-8f6c-23a177006a442	Multi-Family	10/8/2018 7:00:00 AM	4312300400	2326 E. Jewett Stre
13486742-e5ac-48a2-9203-e9a8c0727a69	Multi-Family	10/5/2018 7:00:00 AM	4204510300	7720 Beiden Street
6470c0c-c3cc-4011-bbeb-c646883eb8e8	Multi-Family	10/11/2018 7:00:00 AM	4403922300	4756 35Th Street
877833c-9c1d-4d49-8841-9300ba212257	Multi-Family	10/15/2018 7:00:00 AM	4455812900	4080 Arizona Street
7b434429-469f-417d-ae09-096c0a49927e	Multi-Family	10/15/2018 7:00:00 AM	4453410300	4381 Louisiana Stre
23a6999-1b6a-456e-b678-745a71ba8da6	Multi-Family	10/15/2018 7:00:00 AM	4452111500	4450 Georgia Street



From Survey123, Property Inventory taken to **ArcGIS Desktop**

Data are organized into a point layer (based on address) and a polygon layer (by parcels)

# ArcGIS Desktop-



- There is a **concentration** of properties along this area in San Diego, below 5 Freeway.
- 84 of SDHC properties in Disadvantaged Community areas (DAC).

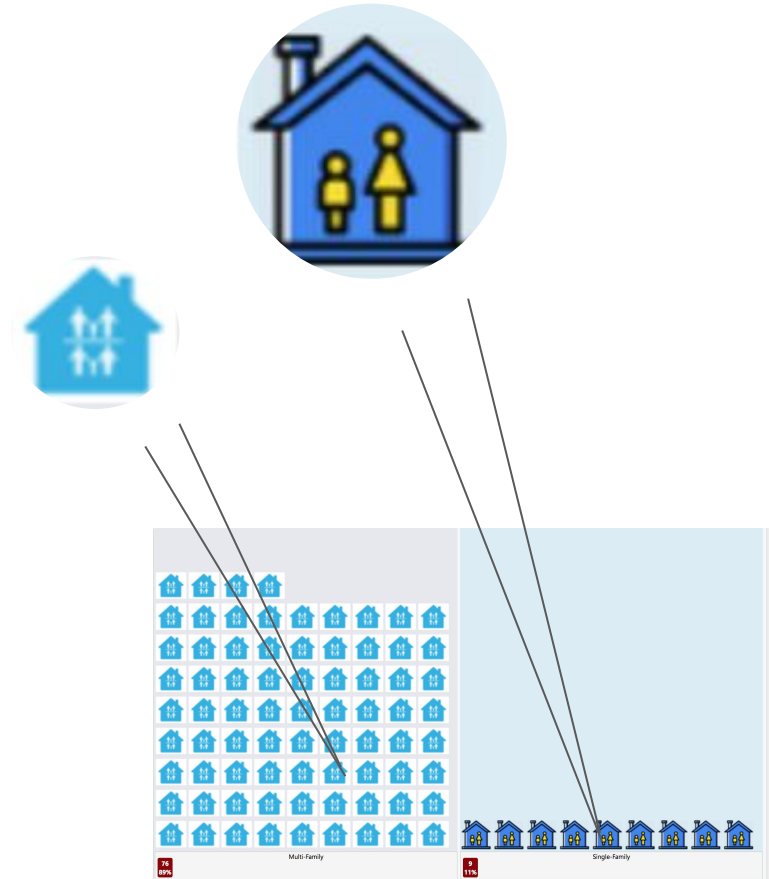
# GIS Analysis: Potential Next Steps

1. Create an online map + mechanism for SDHC to update property information
2. Overlay with accessibility and proximity layers, drainage patterns, land use, etc., based on SDHC priorities



# SuAVE (Survey Analysis via Visual Exploration)

- SuAVE used for **visual exploratory analysis** of property inventory.
- Capabilities allow for a closer look at each property, and the **patterns** between properties.
- Access at:  
[http://suave-dev.sdsc.edu/main/file=dpalcoce\\_SDHC\\_Property\\_Inventory\\_B.csv&views=1110101&view=bucket](http://suave-dev.sdsc.edu/main/file=dpalcoce_SDHC_Property_Inventory_B.csv&views=1110101&view=bucket)
- More info about SuAVE at  
<http://suave.sdsc.edu>



# SuAVE- Data Patterns

**89%** are Multi-Family Properties



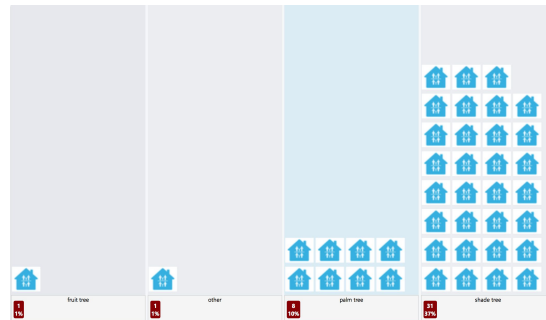
**98%** have gutters, including all Single-Family Properties



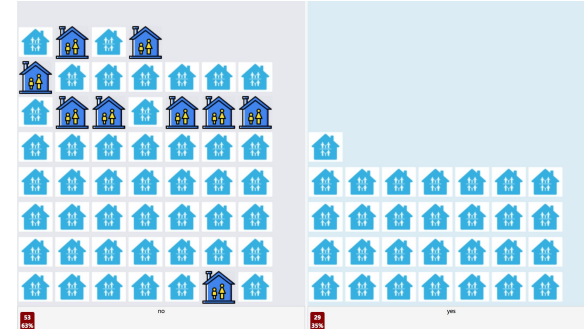
**70** of the properties show evidence of flooding (83%)



**31** Multi-Family Properties have shaded trees



**35%** of all properties have storm drain inlets, no Single-Family



Outlet redirection is possible in **49** Multi-Family properties, with obstacles to do so in **34** of those properties



# SuAVE: Potential Next Steps

1. Add photos of SDHC properties
2. Include more property characteristics from GIS and surveys
3. Organize a sequence of SuAVE views into an online narrative
4. Set it up so that data can be shared and edited by SDHC