



HOUSING OPPORTUNITY CONFERENCE

Future-Proofing Communities

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MODERATOR

FEBRUARY 21, 2024

Fireproofing Communities

Jay Bullock, Rancho Mission Viejo

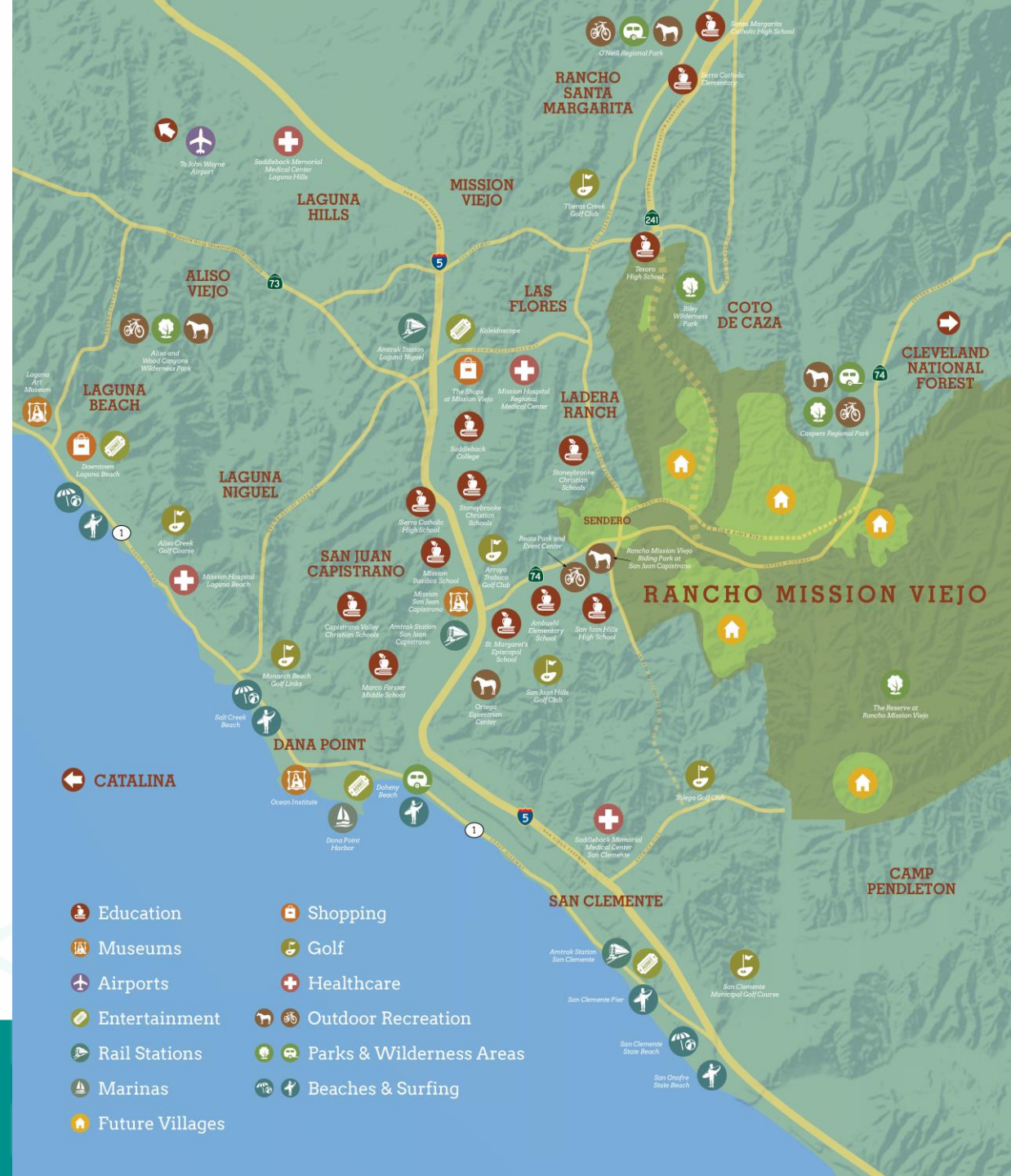


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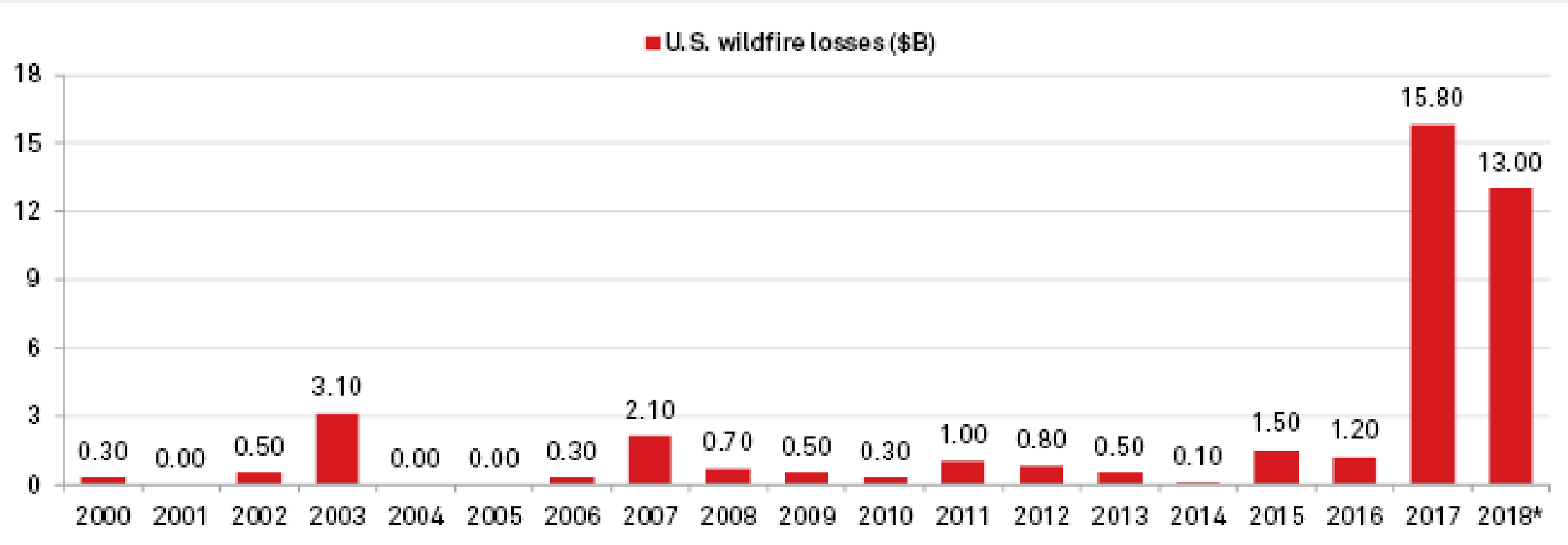
RANCHO MISSION VIEJO®

- 22,683 acres
- 75% Permanent Open Space
- 25% Development
 - 14,000 homes
 - 5.2M SF non-residential
- Master Developer
 - Entitlements
 - Infrastructure
 - Grading
 - Land Sales to Builders
 - Retain Assets
 - Manage Reserve



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California wildfires drive up US insured losses in 2017, 2018 (\$B)



Data compiled Sept. 20, 2019.

* 2018 annual wildfire insured losses are for California only and are sourced from California Department of Insurance May 8, 2019, press release.

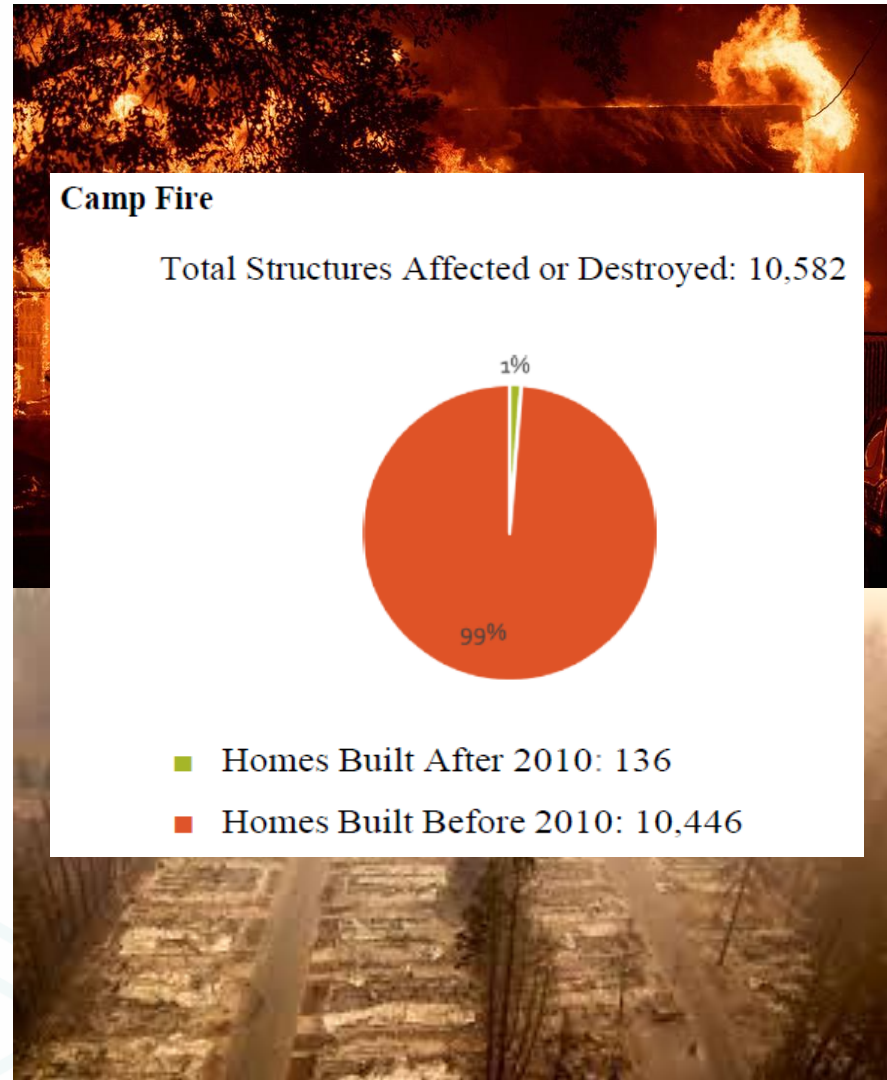
Source: Aon PLC's Catastrophe Insights November 2018 report; California Department of Insurance press release



Wildfires are a Growing Danger ... especially for older homes

We've all seen the news reports, pictures, and videos highlighting the increased risk to homes and neighborhoods in California, and throughout the West ... but, no master-planned community in California constructed after 2010 has suffered significant structural loss - even during the extreme fire events ...

Based on the ten worst wildfire incidents since 2017, which have damaged or destroyed 18,551 homes



Rancho Mission Viejo Fire Protection Program



- **Fire-hardened homes**
- **Fuel Modification Zones, perpetually funded & maintained by HOA**
- **Emergency access and evacuation routes**
- **Adequate water supplies**
- **Residential fire sprinklers**
- **Undergrounded high-voltage utility lines**
- **New fire stations, fire equipment and funding for firefighters**





WHISPER VALLEY

ECO SMART
SOLUTION



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Case Study: Whisper Valley

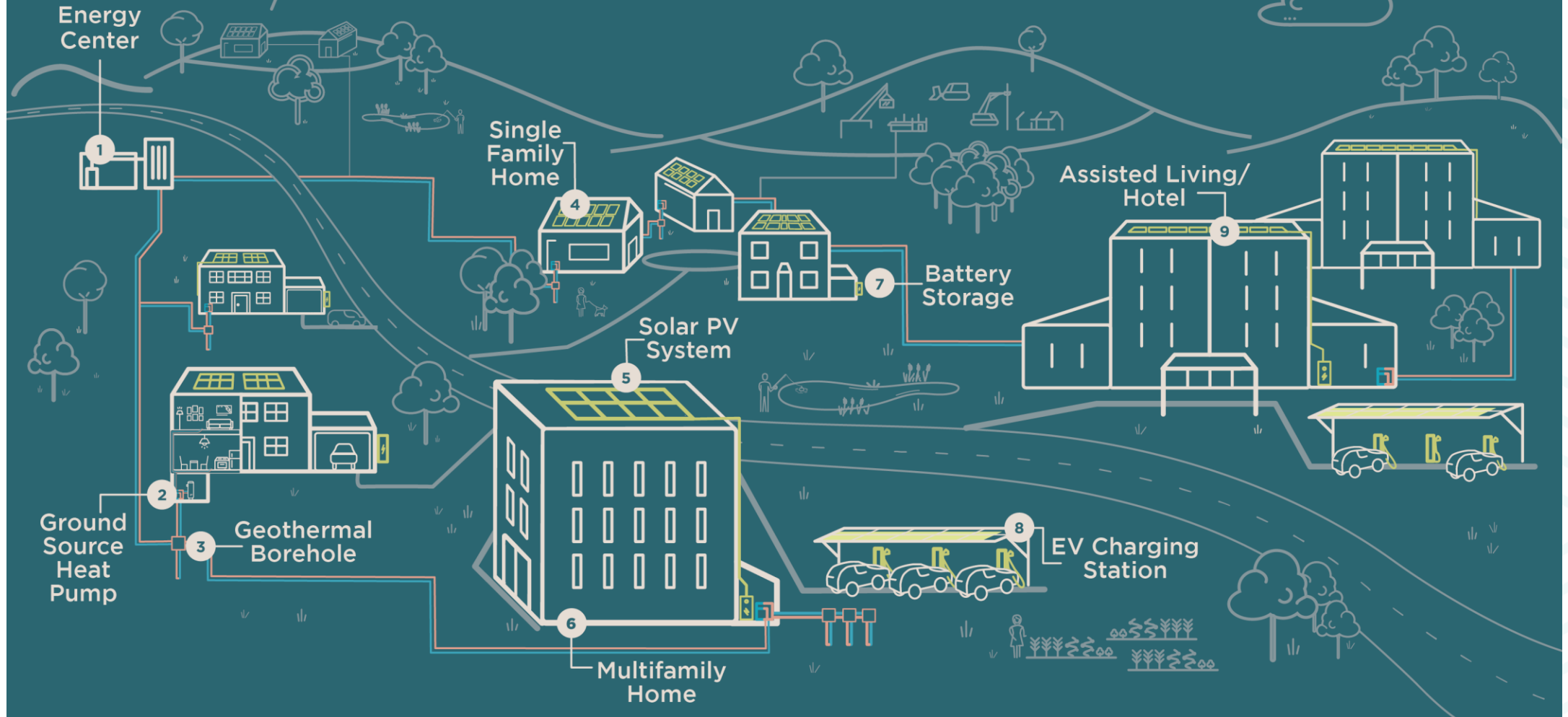
Proof of Concept in Austin, Texas – 2,067-Acre Community

Whisper Valley is the largest sustainable master-planned community in the nation using this innovative geothermal exchange infrastructure and employing many new sustainable principles.

- **~7,700-unit** Mixed-Use Master-Planned Community (approx. 70% SF, 30% MF + Retail/Commercial)
- **500+ homes currently closed** with EcoSmart systems installed
- **867 lots served and connected** by 4 GeoGrid™ infrastructure districts
- **1,000+ tons** of installed HVAC capacity
- **36,000 tons/year** of CO2 avoided when complete
- **25+ MW DC Projected** Solar PV capacity + Energy Storage + EV Charging
- **35 GWh/year estimated** Rooftop Solar PV Generation



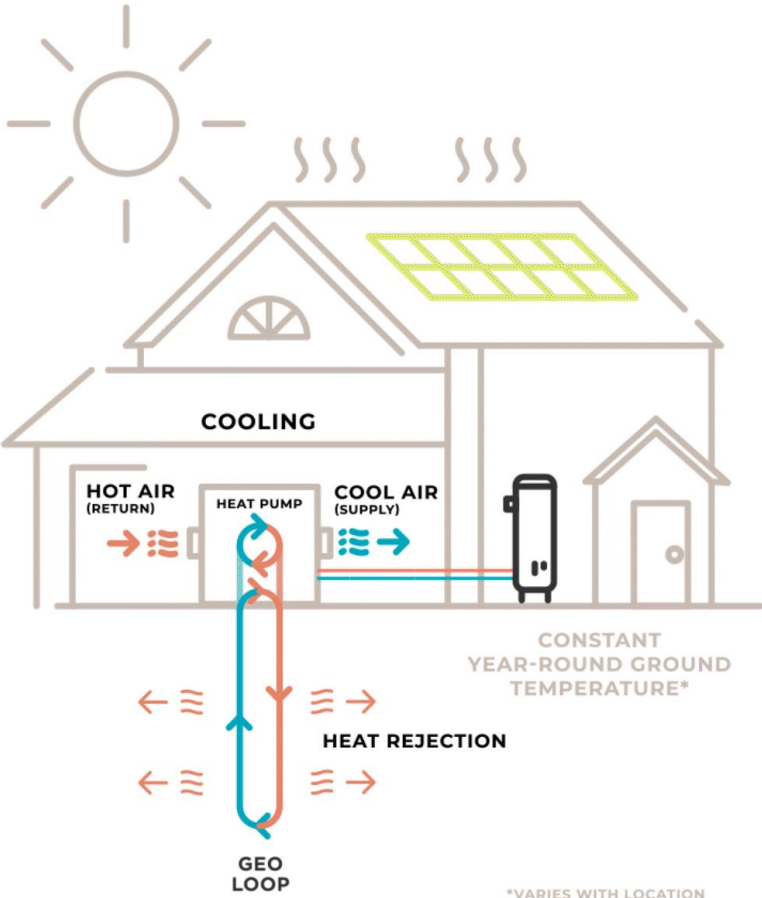
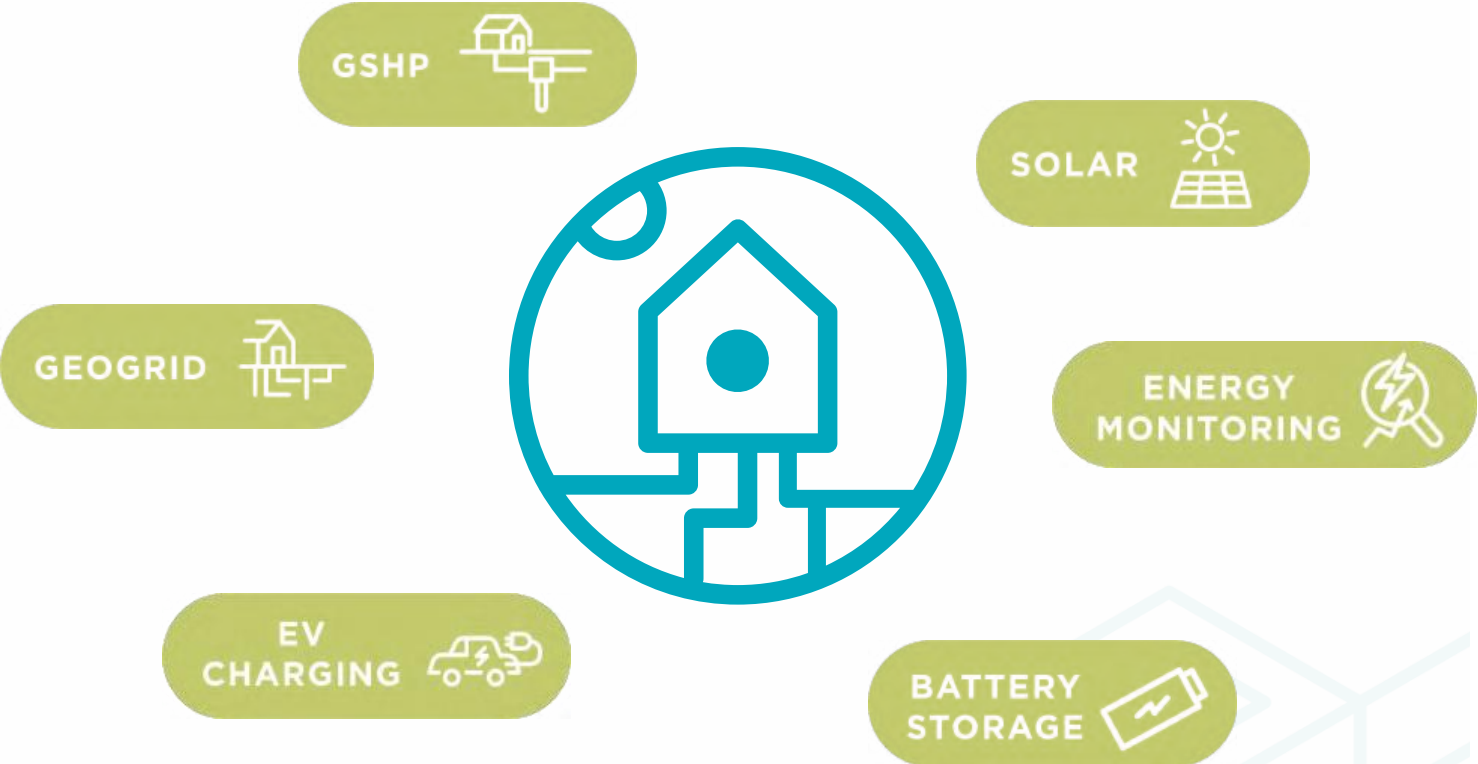
GEOGRID™ DISTRICT



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EcoSmart Solution

Package Components



EcoSmart Solution

Three Pillars

Geothermal

- GeoGrid™ - Geothermal Exchange Infrastructure
- Planned upfront, installed early in phase development
- **Demand Reduction**

Solar PV

- Standardized system sizing for production builders
- **Energy Generation**

Smart Technology

- Standardized Energy Monitoring Systems
- Funnels to a proprietary energy management platform
- **Energy Behavior**



Energy Center 2 – Auxiliary Cooling

US Climate Events – 1980-2021



Flooding & Severe Weather
CA, LA - 2021



Winter Storm & Cold Wave
Multi states - February 2021



Severe Weather
East & Central states - 2021



Tornadoes
Southeast - 2021



Tropical Storms & Hurricanes
Sunbelt – July – August 2021



Wildfires
Midwest & West - 2021

	# of Events	Cost	Deaths
1980-1989	31 (3.1/yr)	\$201.5B (\$20.2B/yr)	2,970 (297/yr)
1990-1999	55 (5.5/yr)	\$307.7B (\$30.8B/yr)	3,062 (306/yr)
2000-2009	67 (6.7/yr)	\$576.1B (\$57.6B/yr)	3,102 (310/yr)
2010-2019	128 (12.8/yr)	\$918.8B (\$91.9B/yr)	5,227 (523/yr)
2019-2021	56 (18.7/yr)	\$315.2BB (\$105.1B/yr)	1,030 (343/yr)
1980-Present	338	>\$2.25T	15,689

“In 2021, the United States experienced record-smashing **20 weather or climate disasters** that each resulted in at least **\$1 billion in damages**. NOAA map by NCEI.”

[Source](#)



ENCORE Tampa

Harvesting the Value of Water



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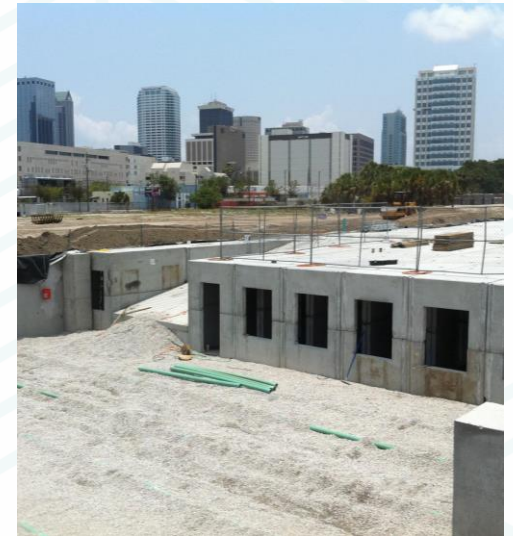
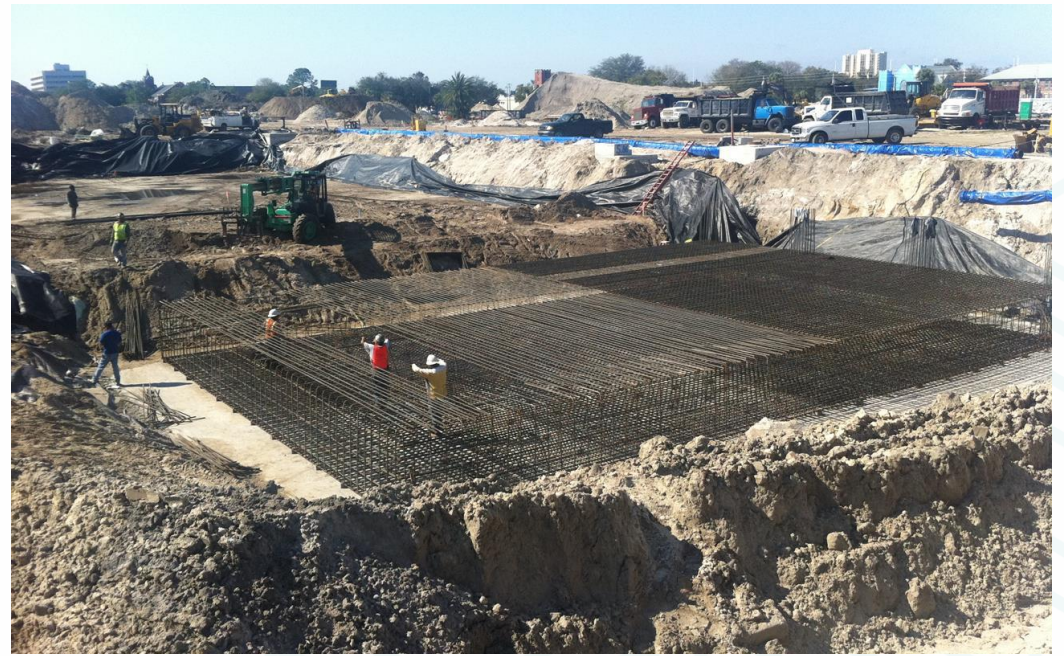
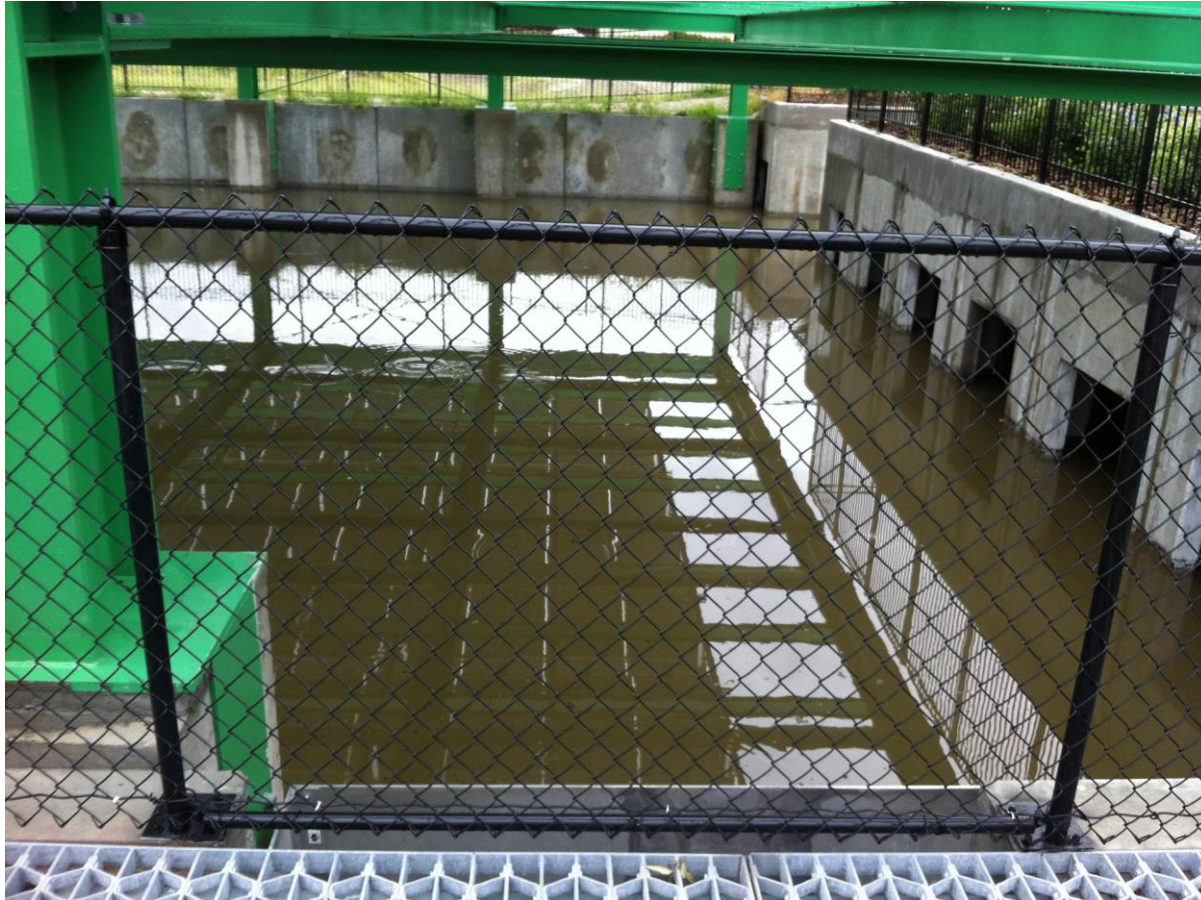
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STORM WATER HARVESTING VAULT





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Q&A

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APRIL 12, 2024 | NEW YORK, NY

RESILIENCE SUMMIT

ULI's annual event focused on how buildings, cities and communities can be more prepared for the impacts of climate change.

uli.org/resiliencesummit



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Developing Resilience Toolkit

Protecting Buildings and Sites

- Collection of over 140 resilience strategies
- 9 major hazards covered
- Filterable by hazard, suitability to new construction/retrofit/landscape, co-benefits, and more
- Contains info on operations & maintenance considerations, asset type specifics, real development examples, & technical guidance
- Includes a resilient design process to incorporate these strategies



ULI Developing Resilience Toolkit

PROTECTING BUILDINGS AND SITES



SCAN ME



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