



CII AI Pilot Program:

From Classification to Action

UWUO OVERVIEW

CII Performance Measures

PERFORMANCE MEASURES



Classify CII Customers

By June 30, 2027

CII water users must be classified into 22 categories



Identify High Water Users

Options: 2025 / 2027 / 2029

Option 1: By June 30, 2025 — regardless of classification

Option 2: By June 30, 2027 — by classification category

Option 3: By June 30, 2029 — through KBAs



Best Management Practices

By June 30, 2039

Urban suppliers must implement BMPs for their high-water users



Banking/Financial
Services

Education

Entertainment/
Public Assembly

Food Sales
and Service

Healthcare

Lodging/
Residential

Manufacturing/
Industrial

Mixed-Use

Office

Parking

Public Services

Religious Worship

Retail

Services

Technology/
Science

Utility

Warehouse/
Storage

Other



CII Laundries

Landscapes with
Dedicated Irrigation
Meters (DIM)

Water Recreation

Car Wash

CLASSIFY → **IDENTIFY HIGH USERS** → **DEPLOY BMPs**

DEPLOY BMPs FOR TOP CII WATER USERS

Number of BMPs implemented depends on the high water use reporting option selected

Categories for Best Management Practices

This list is not exhaustive, and some programs may address multiple Best Management Practices (BMPs) simultaneously.

Outreach, Technical Assistance, and Education

- Direct contacts
- Bill inserts
- Workshops or developing training videos
- Webpage portals
- Cost-effectiveness analysis tools
- Commercials or advertisements
- Grass roots marketing
- Community based social marketing

Collaboration and Coordination

- "Green" building certification programs
- Land use authorities for landscape designs
- NGOs on outreach and education
- With municipal arborists and tree planting orgs
- Stormwater orgs to install green infrastructure

Landscape Practices

- Landscape and irrigation management practices
- Irrigation system inspections, audits, or surveys
- Irrigation scheduling and maintenance
- New development landscape support
- Turf replacement with climate-ready vegetation and trees
- Install green infrastructure to offset irrigation

Operational Practices

- Infrastructure changes (AMI)
- Billing or data collection procedures

Incentives

- Rebates and cost-sharing programs
- Water efficient customer recognition
- Indoor/Outdoor water use technologies

97.5th Percentile

2 BMP programs per high water user from EACH of the 5 BMP categories

80th Percentile & KBAs

1 BMP program per high water user from EACH of the 5 BMP categories

Water suppliers are also asked to describe how much their programs are saving water.

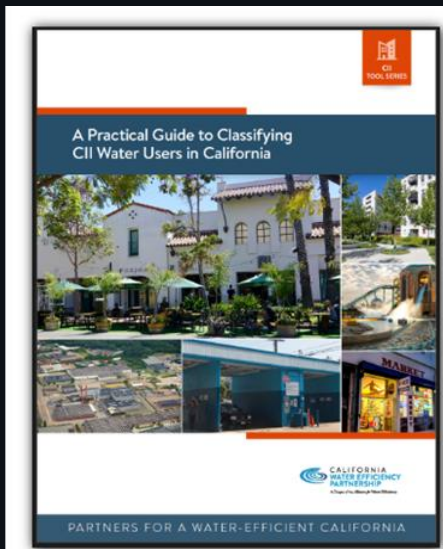
TOOLS AND TECHNICAL ASSISTANCE

Information Reported for 2023, California Building Energy Benchmarking Program, Downloaded July 16, 2025

Property Name	Address 1	Property GFA - Calculated (Buildings) (ft ²)	Primary Property Type Portfolio Manager- Calculated
redemption - 161	161 nortech parkway	71200	Worship Facility
170 baytech drive	170 baytech drive	76799	Office
150-160 baytech drive	150 baytech drive	150000	Office
4435 fortran drive	4435 fortran drive	150000	Office
2801 leavenworth church	150 baytech drive	71200	Worship Facility
argonaut hotel-sv	2835 fortran drive	150000	Office
4425 fortran dr	4425 fortran drive	77805	Office
anchorage square (2800 leavenworth)	4425 fortran street	133675	Worship Facility
tsinghan taiwanese christian church	2800 leavenworth street	180000	Office
7220 taylor	4405 fortran court	76319	Office
he wax museum building	2720 taylor street	319933	Strip Mall
1160/2190 gold street	145 jefferson street	66000	Worship Facility
hotel zephyr - whole building	2160 gold st	54967	Mixed Use Property
8718-san joes-santa clara	250 beach street	121481	Museum
2100 gold street	2131 gold street	127124	Office
2130 gold street	2100 gold street	225235	Hotel
2300 stockton street, llc	2130 gold street	54439	Hotel
williams sonoma - 100 north point	2340 stockton street	71169	Office
1150 gold street	100 north point street	52142	Office
tu plaza fisherman's wharf hotel	2150 gold street	44530	College/University
ington allison hotel fisherman's wharf	2500 mason street	60000	Office
san francisco fishermans ca hies	2700 jones street	52214	Office
1300 columbus ave	550 north point street	345000	Hotel
	1300 columbus avenue	126250	Hotel
		164550	Hotel
		249352	Hotel



Resource provided by CaDC and CalWEP



Column Name	Column	Definition
NAICS Title	A	NAICS codes classify businesses based on the particular product or service they supply. While a business typically has a primary NAICS code, it can also possess multiple NAICS codes if it provides a variety of products and services.
NAICS Code	B	A numerical code that corresponds to the type of business.
CI Classification	C	Classification of business can be Commercial, Industrial, Institutional, The commercial, industrial, and institutional (CI) sector is the most diverse group of water users in urban areas. Water usage in this sector varies greatly depending on the industry and the specific facility.
EnergyStar Classification	D	The 22 broad categories follow the EPA EnergyStar classification system, the industry standard for benchmarking commercial buildings. Each category represents the primary use of water. This includes the CA-SWRCC four additional classifications.
EnergyStar Sub-Classification	E	The 80+ sub-categories using the EPA EnergyStar classification system, the industry standard for benchmarking commercial buildings. This includes the CA-SWRCC four additional classifications as subclassifications.
User Notes	F	Important details, preferences, or insight relevant to the NAICS code to consider for documentation.

Direct Technical Assistance

Get UWUO-Ready with Less Time, Less Cost, and More Confidence

Join CalWEP's Direct Technical Assistance Pilot: AI-Assisted CII Classification

A Smarter, Faster Way to Meet UWUO Requirements

- One-time, cost-effective technical assistance
- AI + expert review delivers secure, accurate, UWUO-ready results in weeks (95%+ accuracy)
- Powered by CalWEP | Delivered by MEA | Built for California water suppliers

MEA = Maureen Erbenzik & Associates



AI Assisted Classification Pilot



WHY CLASSIFY?

Classification Is Just Step One

Knowing the number and type of businesses you serve is *foundational* — but it's only the beginning. The real value comes from what you do next: understanding use, identifying savings, and connecting customers to action.

AUTOMATE STEP ONE • INVEST YOUR TIME WHERE IT MATTERS

FROM CLASSIFICATION TO ACTION

Four steps to managing commercial water use in your community

01



CLASSIFY

Know Your Customers

Identify the number and type of CII businesses you serve. Automate this so your time goes elsewhere.

02



UNDERSTAND

Measure Actual Use

Pair classifications with consumption data to see how each business type actually uses water.

03



IDENTIFY

Find Savings Potential

Pinpoint efficiency measures and savings opportunities by business type and use pattern.

04



CONNECT

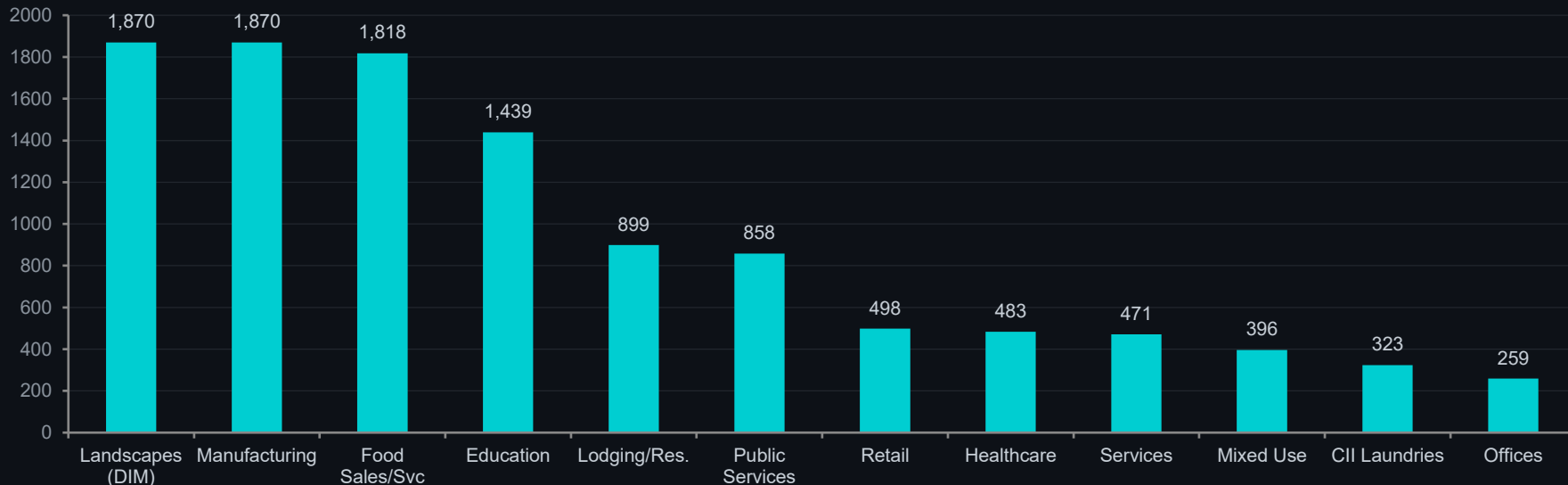
Drive Customer Action

Market the value and offer programs that give customers both the motivation and the means to act.

STEP 1

Know Your CII Portfolio

Across a sample of ~12,000 CII accounts, a handful of categories dominate total water use. Three categories alone — Manufacturing, Landscapes (DIM), and Food Sales/Service — account for 45% of total CII consumption but just 39% of accounts.

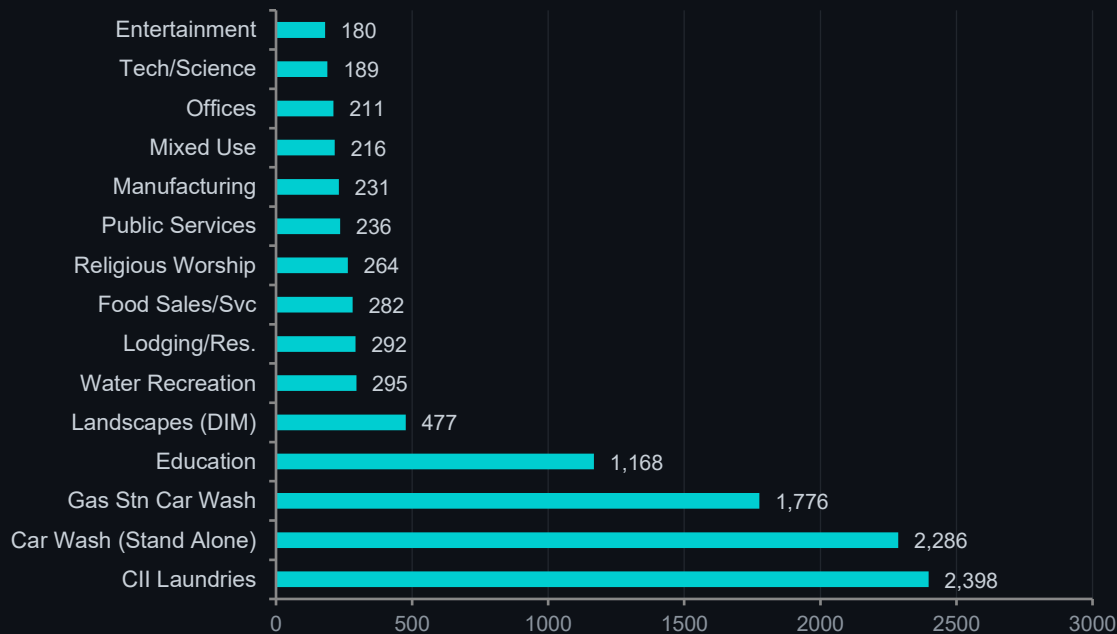


~12,000 CII accounts • 22 ESPM categories • Top 3 categories = 45% of total use

STEP 2

Understand Actual Water Use

Median annual consumption per account varies dramatically by category. CII Laundries, Car Washes, and Education use 5–11× the overall CII median of 218 CCF per account.



CII Laundries use 11× the median — only 107 accounts but massive per-unit savings potential



Education is 3% of accounts but 12% of total use at 5.3× median intensity



Overall CII median: 218 CCF/account — intensity ranges from 180 to 2,398 CCF

CLASSIFICATION IS THE FOUNDATION

Get it right. Get it automated. Then build on it.



200K+

CII Accounts
Classified



70%

of Use in
Top 6 Categories



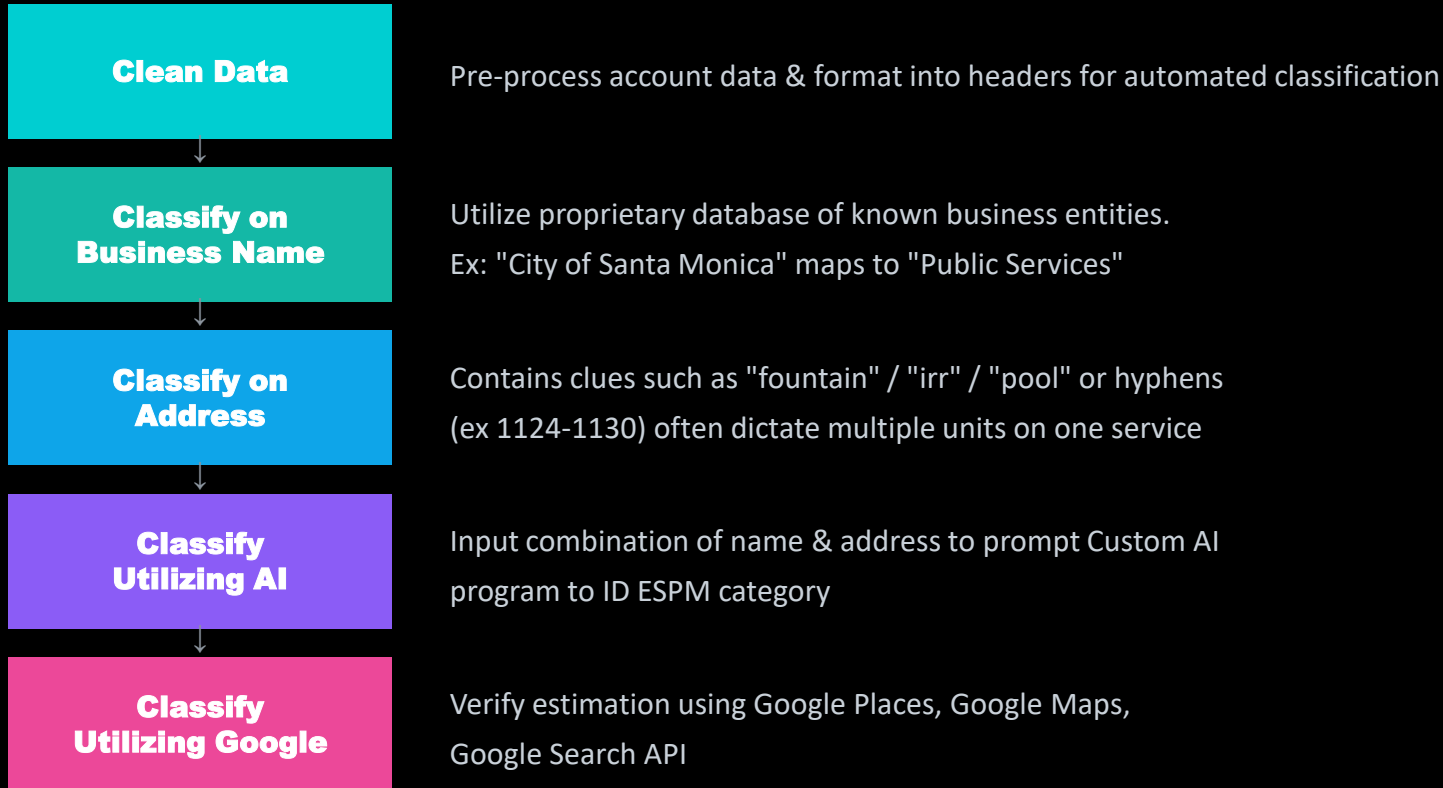
11x

Intensity Range
Across Sectors

Now let's see how the AI handles classification in real time...

AI CLASSIFICATION PILOT PROGRAM

How the classification workflow operates



AI CLASSIFICATION PILOT PROGRAM



```
"credit union": "Banking/Financial Service",  
"high school": "Education",  
"juice bar": "Food Sales and Service",
```



Automated
Process



Local JSON
Mapping



Controlled
Use of AI



Google Maps
API



90%+
Accuracy



Visually Verify
Mixed Use



Full CII Account
Database



UWUO Annual
Report Summary

IS IT A

DIM



HOW TO PLAY

CLASSIFY THE BUSINESS. BE FIRST. BE RIGHT.

01

LOOK

Study the Business Name
& Address on screen

02

10 SECONDS

Countdown begins.
Think fast. Use every clue.

03

SHOUT!

On "ZERO" — shout your
ESPM classification

TEAM NFT BAN vs **TEAM AMI ALL-STARS**

CATEGORIES

Banking/Financial Service

Education

Entertainment/Public Assembly

Food Sales and Service

Healthcare

Lodging/Residential

Manufacturing/Industrial

Mixed Use Properties

Offices

Parking

Public Services

Religious Worship

Retail

Technology/Science

Services

Utility

Warehouse/Storage

CII Laundries

Landscapes with DIM

Water Recreation

Stand Alone Car Wash

Car Dealership with Car Wash

Gas Station with Car Wash

Repair Service with Car Wash

STUDY UP!

ROUND 1

"The Grand Distractor"

 **10 SECONDS**

INFINITE ARCHITECTURAL DISPLAYS

**3232 W BARCLAYS AVE
SAN DIEGO**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
Public Services
Religious Worship
Retail
Technology/Science
Services
Utility
Warehouse/Storage
CII Laundries
Landscapes with DIM
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Stand Alone Car Wash
Car Dealership with Car Wash
Gas Station with Car Wash
Repair Service with Car Wash

ROUND 1

"The Grand Distractor" — THE REVEAL

THE ANSWER:

OFFICES or SERVICES



THE AI LOGIC

The AI didn't take the bait on 'Architectural' or 'Displays' as Technology. It recognized this as a Sign Making Company — with typical office-level water use: mostly breakrooms and restrooms.



THE "AHA!" MOMENT

This is a low-intensity user. The AI keeps your auditors away from low-impact sites so they can focus on the real 'Water Whales' — high-use process water accounts.

This could be an office or service and not a top target for water programming.



AWARD THE POINT → NEXT ROUND!

ROUND 2

"The Hidden Pipe"

 **10 SECONDS**

HERITAGE ARMS CONDOMINIUMS

**8800 MAGNOLIA AVE POOL
WOODLAND HILLS**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
Public Services
Religious Worship
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ROUND 2

"The Hidden Pipe" — THE REVEAL

THE ANSWER:

WATER RECREATION



THE AI LOGIC

The AI ignored 'Condominiums' entirely and keyed specifically on the POOL tag embedded in the address field. One keyword changes everything.



THE "AHA!" MOMENT

We aren't looking at residential indoor use here — we're looking at evaporation and backwash. This is a target for leak detection programs and pool covers.



AWARD THE POINT → NEXT ROUND!

ROUND 3

"The Stealth Washer"

 **10 SECONDS**

PRESTIGE MOTORS

**500 AUTO MALL PKWY
VAN NUYS**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
Public Services
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ROUND 3

"The Stealth Washer" — THE REVEAL

THE ANSWER:

CAR DEALERSHIP WITH CAR WASH



THE AI LOGIC

'Auto Mall' + 'Motors' = high-frequency vehicle washing. The AI combines both name signals and address signals to catch what a simple keyword match would miss.



THE "AHA!" MOMENT

Dealerships wash inventory constantly to stay 'showroom ready.' This isn't just retail — it's a high-process water user. BMP target is recycling systems.

Note limited opportunity

- New dealership most have a small conveyor or in-bay wash system and are required since 2014 to recycle water.
- Smaller dealerships likely rely on hand washing or send vehicles off-site



AWARD THE POINT

for
→

NEXT ROUND!

ROUND 4

"The DIM Detective"

 **10 SECONDS**

ST. JUDE'S PARISH

**120-130 CHURCH ST
UNIT B-IRR**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
Public Services
Religious Worship
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ROUND 4

"The DIM Detective" — THE REVEAL

THE ANSWER:

LANDSCAPES WITH DIM



THE AI LOGIC

The AI spotted the UNIT B-IRR suffix hidden deep in the address field. 'B-IRR' = dedicated irrigation meter suffix. The building name 'Parish' is a complete distraction.



THE "AHA!" MOMENT

This specific meter IS a Dedicated Irrigation Meter. #1 candidate for turf replacement programs or irrigation upgrades.



AWARD THE POINT → NEXT ROUND!

ROUND 5

"The Catch-All Chaos"

 **10 SECONDS**

MAIN STREET PLAZA

400 MAIN ST STE LNDR

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
Public Services
Religious Worship
Retail
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ROUND 5

"The Catch-All Chaos" — THE REVEAL

THE ANSWER:

CII LAUNDRIES



THE AI LOGIC

In a 'Mixed Use' or 'Plaza' setting, the AI found the LNDR token buried deep in the suite string. This triggers laundry classification — not Office, not Retail.



THE "AHA!" MOMENT

This is the 'Water Whale' of the building. Finding these allows for targeted outreach for ozone laundry retrofits rather than generic office conservation tips. Maximum impact.



AWARD THE POINT → NEXT ROUND!



BONUS ROUNDS

TIE-BREAKERS ✦ ADVANCED PLAY

These are harder. Only the sharpest classifiers survive.

★ **BONUS ROUND**

"The Hyphenated Enigma"

🕒 **10 SECONDS**

JCB INVESTMENTS

**33513 VENICE WAY #A-G
LOS ANGELES**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
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Religious Worship
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★ BONUS ROUND

"The Hyphenated Enigma" — THE REVEAL

THE ANSWER:

MIXED-USE PROPERTIES

THE AI LOGIC

The AI triggered an external lookup, found a LoopNet listing, and discovered it's a multi-tenant shopping plaza. 'JCB Investments' sounds like Finance — the AI saw through it.

THE "AHA!" MOMENT

Units #A-G contain a nail salon, a café, and a boutique. Hyphenated unit ranges [#A-G] are a massive signal for Shared Metering. How many 'Water Whales' hiding behind one bill?



AWARD THE POINT → NEXT ROUND!

★ **BONUS ROUND**

The Meme King Generator

🕒 **10 SECONDS**

AT&T

**900 ALAMEDA ST
LOS ANGELES, CA**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
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★ BONUS ROUND

"The Meme King Generator" — THE REVEAL

THE ANSWER:

TECHNOLOGY/SCIENCE

THE AI LOGIC

The AI ignored the brand name and investigated the address.

An external lookup revealed this is an AT&T switching / telecom facility — the kind of building packed with servers, fiber routing, and network hardware that keeps phone and internet traffic moving across the city.

THE "AHA!" MOMENT

It looks like a normal commercial address... but it's critical telecommunications infrastructure. Not a cell phone store. Not offices.

It's not technically a data center but using a lot electricity and water to cool the building. Target for cooling tower upgrades.



AWARD THE POINT → NEXT ROUND!

★ **BONUS ROUND**

The Skunky Warehouse

🕒 **10 SECONDS**

GREEN ROADS

**1007 N MAIN ST
LOS ANGELES, CA**

CATEGORIES

Banking/Financial Service
Education
Entertainment/Public Assembly
Food Sales and Service
Healthcare
Lodging/Residential
Manufacturing/Industrial
Mixed Use Properties
Offices
Parking
Public Services
Religious Worship
Retail
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★ BONUS ROUND

"The Skunky Warehouse" — THE REVEAL

THE ANSWER:

MANUFACTURING

THE AI LOGIC

The AI lookup generated a Retail location initially based upon the brand name of CBD company.

But a secondary search on LoopNet showed an 8,000 sqft warehouse. Likely for industrial manufacturing or a growing facility.

THE "AHA!" MOMENT

Though the brand name is a retail company, this is a manufacturing facility.

Scraping data from commercial property website LoopNet led us to some type of manufacturing.

Pairing this classification with Water Use data leads up to believe it is a Growing Facility or CBD production site → Manufacturing/Industrial!



AWARD THE POINT → NEXT ROUND!



FINAL SCORE

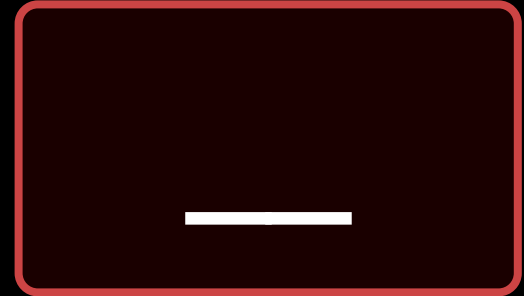
TEAM NFT BAN



POINTS

VS

TEAM AMI ALL-STARS



POINTS

WHY AI WINS

AI CLASSIFICATION ✦ THE NUMBERS DON'T LIE



HUMAN

~2 MIN



AI

~10 SEC

per classification

12× FASTER

Mundane manual review is replaced with instant machine logic — freeing humans for high-value work



HUMAN ACCURACY

~70%



AI + HUMAN REVIEW

95%+

accuracy rate

25pt ACCURACY GAIN

AI flags edge cases for human review — combining machine speed with human judgment



MANUAL REVIEW

TEDIOUS



AI WORKFLOW

SCALABLE

at any volume

ZERO FATIGUE

No cognitive load, no missed tokens — the AI reads every address character every single time

"The AI never guesses. **It classifies.** Every time. Every address. Every token."

HOW TO TAKE IT TO THE NEXT STEP?



**ADD
CONSUMPTION**

More data, more accuracy.



**ACCURACY
IMPROVES THROUGH
VALIDATION**

*Does that "Car Wash" only use
700 CCFs per year?*



**CLASSIFICATION
+
CONSUMPTION**

**RAPID BMP
PLANNING**

AI Classification Pilot Program



- ✓ Reduce Staff Burden
- ✓ Stay Compliant
- ✓ Save Money

Get involved today to enhance your agency's efficiency and start your CII classification journey.

Join us for a pilot program that streamlines your CII classification

Get in touch

How do they act?

Interested in the AI Classification Pilot Program?

- Contact Julia@calwep.org to learn more

CLASSIFY → UNDERSTAND → IDENTIFY → CONNECT

Thank you!

MEA
CONSULTING



Maureen Erbeznik
merbeznik58@gmail.com

CLASSIFY → UNDERSTAND → IDENTIFY → CONNECT

STEP 3

Identify Measures & Savings Potential

The top 6 categories represent 70% of total CII water use. Tailored BMPs for these sectors drive the largest savings; lower-use categories can share generic, low-cost programs.

ESPM Category	Median CCF	Tier	Recommended BMP Focus Areas
Education	1,168	VERY HIGH	Landscape irrigation audits, cooling tower optimization, fixture retrofits, submetering
CII Laundries	2,398	VERY HIGH	Water recycling systems, ozone laundry, HE washer rebates, process water audits
Car Washes	2,286	VERY HIGH	Water reclaim/recycling systems, efficient nozzle upgrades, rinse water reuse
Landscapes (DIM)	479	HIGH	Smart controllers, drip conversion, turf replacement, weather-based scheduling
Manufacturing	231	SCALE	Process water audits, cooling system optimization, closed-loop retrofits
Food Sales/Service	282	SCALE	Pre-rinse spray valves, HE dishwashers, ice machine rebates
Retail / Services	94–108	LOW	Low-cost fixture rebates (aerators, HE toilets), landscape BMPs

Top 6 categories = 70% of total CII use • Prioritize BMP depth here • Generic BMPs for the rest

Priority Matrix

Mapping categories by total volume (system impact) and per-account intensity (savings opportunity)

PRIMARY TARGETS

High Volume + High Intensity

- ▶ Education — 12% of total use, 5.3× median intensity
- ▶ Landscapes (DIM) — 15% of total use, 2.2× median
- ▶ Lodging/Residential — 7% of total use, campus-scale

NICHE TARGETS

Low Volume + Very High Intensity

- ▶ CII Laundries — 11× median, only 107 accounts
- ▶ Car Washes (Stand Alone) — 10.5× median, 44 accts
- ▶ Gas Station Car Washes — 8.1× median, 6 accounts

SCALE PLAYS

High Volume + Moderate Intensity

- ▶ Manufacturing — 15% of use, 1,148 accounts
- ▶ Food Sales/Service — 15% of use, 1,758 accounts
- ▶ Public Services — 7% of use, 504 accounts

LOWER PRIORITY

Low Volume + Low Intensity

- ▶ Services — 3.8%, median 94 CCF
- ▶ Retail — 4.1%, median 108 CCF
- ▶ Banking, Parking, Warehouse

STEP 4

Connect Customers to Action

The final step: give customers both the motivation and the means. Market the value of efficiency and offer programs that make action easy.



THE MOTIVATION

Why should they care?

- ▶ Sector-specific cost savings data
- ▶ Benchmarking against similar businesses
- ▶ Rebate and incentive visibility
- ▶ Drought resilience messaging



THE MEANS

How do they act?

- ▶ Turnkey BMP programs by sector
- ▶ Pre-qualified contractor networks
- ▶ Streamlined rebate applications
- ▶ Technical assistance and audits

CLASSIFY → UNDERSTAND → IDENTIFY → CONNECT