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Siting Analyses for New Infrastructure – February 2024 Update

Organic Waste Processing or Thermal Conversion Facility(s)

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Agenda

- Regional Organic Waste Capacity Assessment (2022 Report)
- Infrastructure Needs
- Siting Analysis Approach/Methodology
- Siting Criteria
- Identification of Potential Facility Locations
- Findings
- Next Steps

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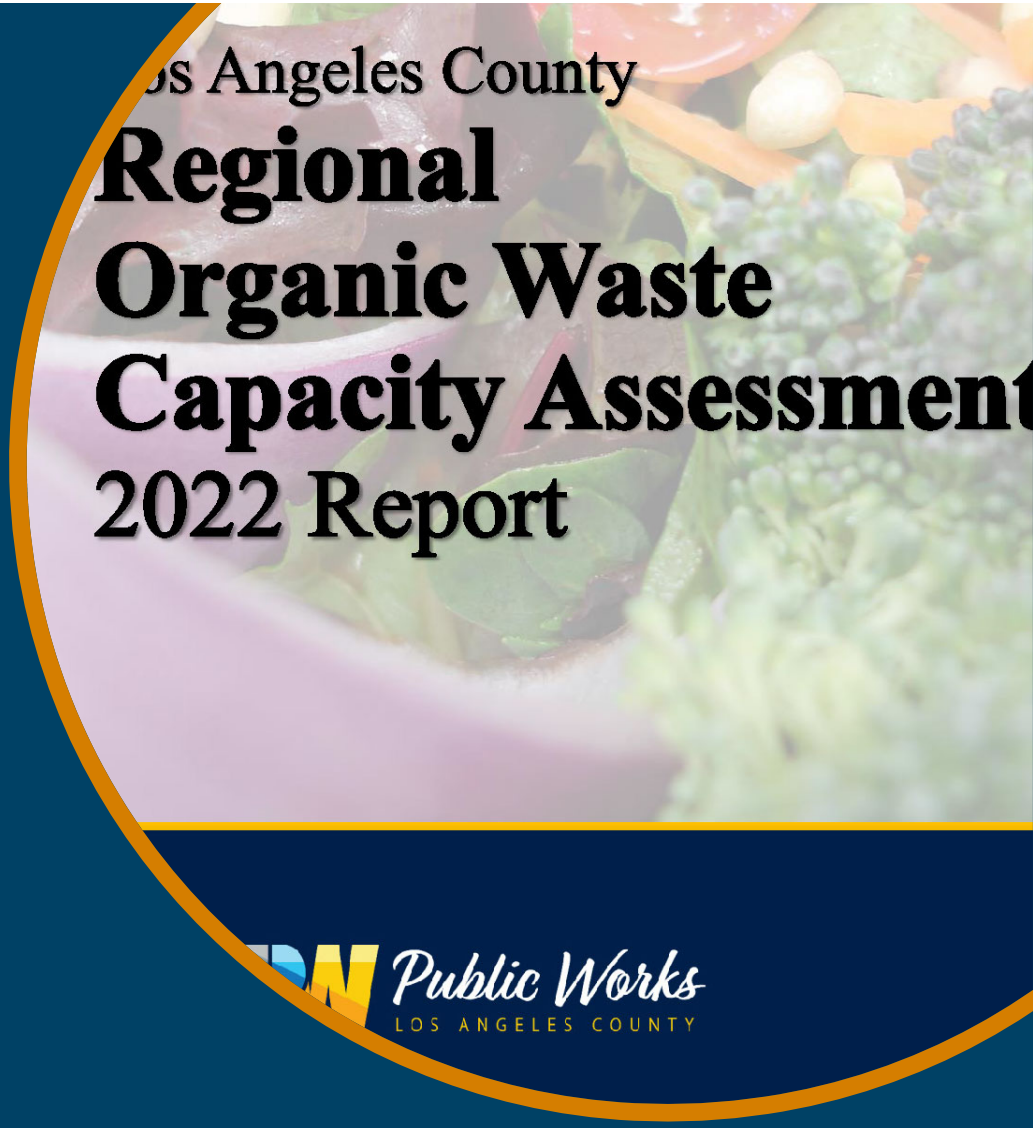
Los Angeles County Regional Organic Waste Capacity Assessment 2022



Organic Waste Generation

Organic Waste Generation Quantities

	Estimated % in Solid Waste Generation	Estimated Solid Waste Generation[2]	Estimated Organic Waste Generation
	A	B	C=A*B
Statewide	22.7%	88.2 million tons	≈20 million tons[1]
Countywide	22.7%	31.1 million tons[3]	7.1 million tons

[1] The 20 million tons of organics waste generated was provided by CalRecycle via presentation at the County's Solid Waste Management Summit in November 2018.
[2] This value was derived from CalRecycle's: *State of Disposal in California Updated 2016* and *2014 Disposal-Facility-Based Characterization of Solid Waste in California* Reports
[3] This value is from the *County of Los Angeles Countywide Integrated Waste Management Plan, 2020 Annual Report*

Existing Organic Waste Processing Capacity (2022 Report)

In-County Capacities

Facility/Operation Type	Number of Facilities that Provided Data	Available Capacity (tons per year)
Composting	7	55,962
Chipping and Grinding	12	270,504
Anaerobic Digestion/Co-Digestion	4	91,000

Out-of-County Capacities

Facility/Operation Type	Number of Facilities that Provided Data	Available Capacity (tons per year)
Composting	35	1,693,199
Chipping and Grinding	13	171,600
Anaerobic Digestion/Co-Digestion	5	227,500

Existing Organic Waste Processing Capacity

Capacity Assessment Results

- There is adequate Regional capacity to meet the needs of the LA County.
- Capacity cannot be guaranteed for Los Angeles County.
  - Agreement of services would need to be formed.

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Organic Waste Processing Facility Types

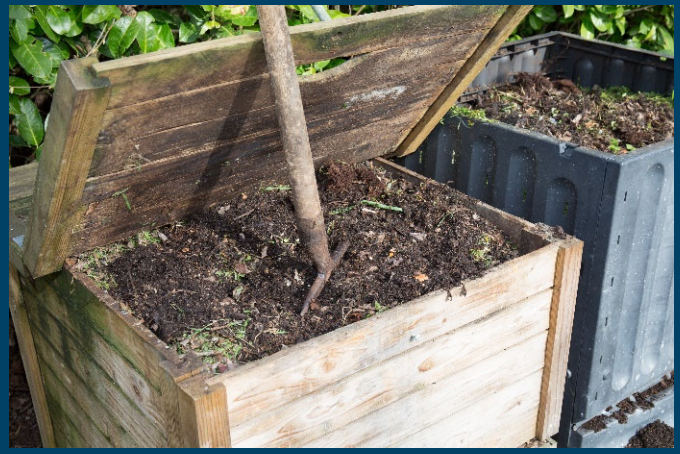
Facility Types - Organic Waste Processing Facility

Anaerobic Digestion (AD) Facility

SSO Pre-Processing for Co-digestion at a Wastewater Treatment Plant

Covered Aerated Static Pile Composting

Open Windrow Composting



Community Composting

Thermal Conversion Technologies

Gasification Facility

Pyrolisis

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Siting Criteria

Potential Locations for Alternative Technology Facilities – LA County CSE

TABLE 7-1: Proposed Potential Locations for Alternative Technology Facilities in Los Angeles County[1]

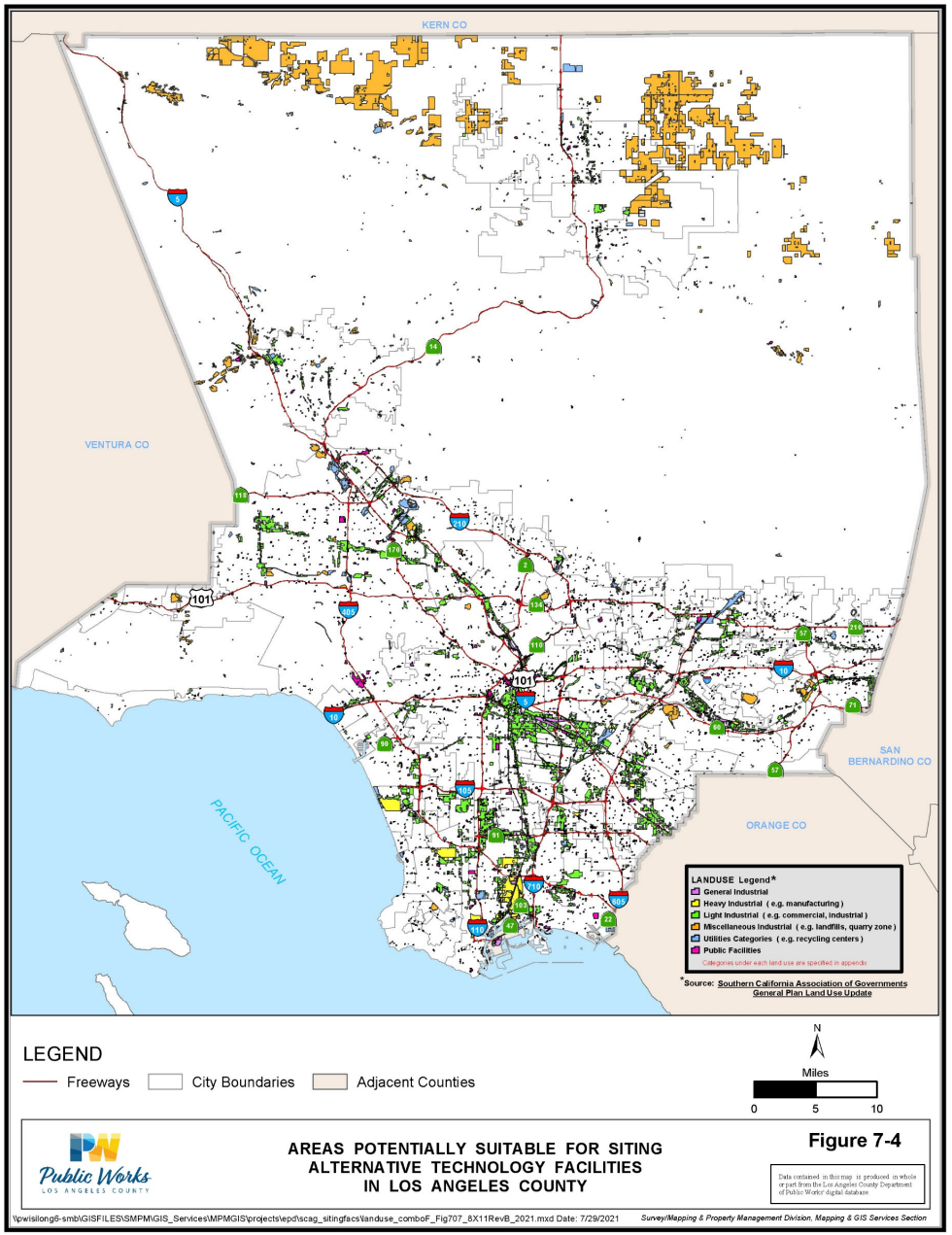
No.	Stakeholders	Site Name [Site Operation]	Site Location	Site Owner	Site Zoning	Site Acreage (acres)	Proposed Capacity (tpd-6)
1	Forum Engineering & Construction Inc.	N/A[2]	12605-12615 Lopez Canyon Rd, Sylmar, CA 91342	Forum Engineering & Construction Inc.	Heavy Agriculture	35	N/A
2	City of Santa Monica Public Works	Santa Monica Pier	200 Santa Monica Pier, Santa Monica, CA 90401	City of Santa Monica	Industrial	~0.25	N/A
3	City of Santa Monica Public Works	Santa Monica Airport	3223 Donald Douglas Loop S, Santa Monica, CA 90405	City of Santa Monica	Industrial	1-3	N/A
4	City of Santa Monica Public Works	City of Santa Monica Public Works Corps Yard	2500 Michigan Avenue, Santa Monica, 90404	City of Santa Monica	Industrial	~0.50	N/A
5	City Terrace Recycling LLC	N/A	1525 Fishburn Avenue, Los Angeles, CA 90063	Robert M. Arsenian	Industrial	1.1	N/A
6	CR&R	CR&R Catalina	1 Dump Road, Avalon, CA 90704	City of Avalon	Landfill	+/- 10	10-20
7	Interior Removal Specialists, Inc.	N/A	8990 Atlantic Ave., South Gate, CA 90280	CARERNCAR LLC	Industrial	1-2	100-500
8	Waste Resources Recovery, Inc.	N/A	357 W. Compton Blvd., Gardena, CA 90248	Waste Resource Recovery, Inc.	Industrial	0.3	50

Notes:

1 The proposed potential locations were provided by site owners and their inclusion in the CSE was approved by the cities in which they are located or the County (for locations in unincorporated areas). The fact that a location is identified in this CSE as potentially suitable for siting an alternative technology facility does not automatically mean that an alternative technology facility will be sited at that area or location. If an alternative technology facility is sited at any of the proposed potential locations, no determinations have been made on the type of technology that will be used by the facility. Such technologies may include non-combustion thermal conversion technologies (such as gasification or pyrolysis) and/or anaerobic digestion.

2 "N/A" means information is not currently available.

Anaerobic Digestion Facility



Initial Site Assessment Criteria

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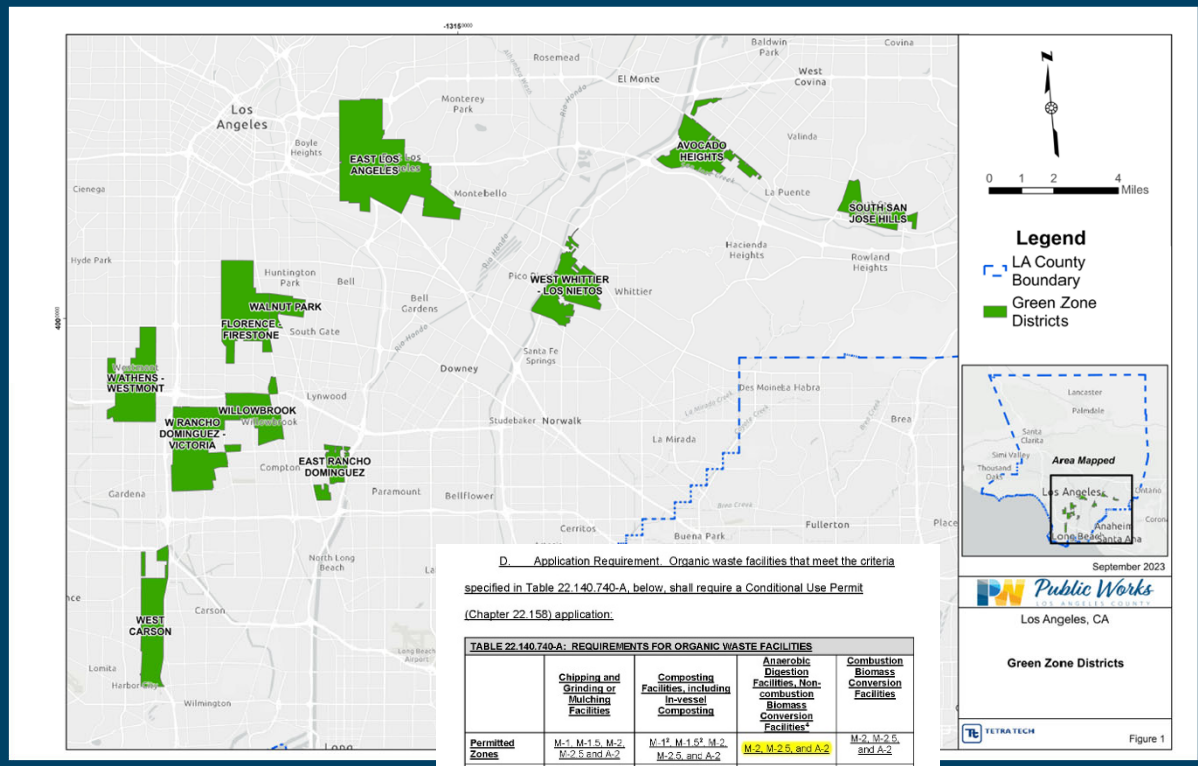
LA Countywide Siting Element (CSE) and Green Zone Ordinance

- Requirements for Organic Waste Facilities
- Permitted zones
- Prohibitions
- Distance to the nearest sensitive uses
- Minimum lot size



D. Application Requirement. Organic waste facilities that meet the criteria specified in Table 22.140.740-A, below, shall require a Conditional Use Permit (Chapter 22.158) application:

TABLE 22.140.740-A: REQUIREMENTS FOR ORGANIC WASTE FACILITIES

	Chipping and Grinding or Mulching Facilities	Composting Facilities, including In-vessel Composting	Anaerobic Digestion Facilities, Non-combustion Biomass Conversion Facilities[4]	Combustion Biomass Conversion Facilities
Permitted Zones	M-1, M-1.5, M-2, M-2.5 and A-2	M-1[2], M-1.5[2], M-2, M-2.5, and A-2	M-2, M-2.5, and A-2	M-2, M-2.5, and A-2
Prohibition[1]	SEA, High Fire Hazard Severity Zone, or Very High Fire Hazard Severity Zone	SEA	SEA, ARA	SEA, ARA
Distance to the nearest sensitive uses	1500' from the lot line of the nearest sensitive use, unless entirely enclosed	500'[3] or 1500' from the lot line of the nearest sensitive use	500' or 1500'[5] from the lot line of the nearest sensitive use	1500' from the lot line of the nearest sensitive use, unless entirely enclosed
Minimum Lot Size	1.5 acres	3 acres	3 acres	3 acres

1. Any portion of the facility and operation areas are prohibited in specified areas.
2. A composting facility that accepts green materials only may be permitted in zones M-1 and M-1.5.
3. A composting facility that accepts green materials only or is fully enclosed within a building and accessory to a legally established use, and processes waste generated on-site only, may be located within 500 feet of a lot containing a sensitive use. Otherwise a composting facility shall be located at least 1,500 feet from a lot containing a sensitive use.
4. Anaerobic digestion facilities and non-combustion biomass conversion facilities that are co-located with an existing landfill are exempt from the zoning requirements.
5. An anaerobic digestion or non-combustion biomass conversion facility that is fully enclosed within a building, processes waste produced on site only, and is accessory to a legally established use may be located within 500 feet from a lot containing a sensitive use. Otherwise an anaerobic digestion or non-combustion biomass conversion facility shall be located at least 1,500 feet from a lot containing a sensitive use.

E. Co-location. An organic waste facility that co-locates as a primary use on a parcel with an existing solid or recycling waste facility may be permitted to apply for a

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Initial Site Assessment Criteria

CA Public Resources Code (PRC) 40900-40901:

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- **PRC Section 40004**

  Solid waste processing and composting facilities

- **PRC Section 40053**

  Imposition and enforcement of land use conditions or restrictions on solid waste management facilities

Initial Site Assessment Criteria Objectives

Siting Criteria Objectives	Siting Factors for Each Siting Criteria Objective	Criteria for the Siting Factor
A. Protect the residents.	• Distance to the nearest sensitive uses (Green Zone Ordinance (GZO)),. • **Proximity to residents** • Proximity to public facilities • General Plan • **Zoning** • Green Zone District • Structures within 1,000 ft. of landfill are prohibited	• Site must have a **1,500-foot buffer zone between any residential developments** (from the lot line of the nearest sensitive use). • Preferable if the site has a significant buffer zone between any public facilities (schools, churches, parks, or any location where large groups congregate). • The facility must be in conformance with local land use and zoning requirements of a county or city planning agency. • Site general land use designation allows the development of an AD and/or organic waste processing facility with minimal constraints. • The facility should be located where the zoning and existing land use are compatible with the proposed use. • The facility must comply with additional development requirements if located in a current Green Zone District. Organic waste are allowed in Industrial and Agricultural zones only (**M2 Heavy Manufacturing**, M2.5 Aircraft Heavy Manufacturing, and A2 Heavy Agriculture if in unincorporated County areas). • The facility must not be constructed or developed on or within 1,000 ft. of a land disposal facility unless the facility is isolated by an approved natural or manmade protection system.
B. Ensure the structural stability and safety of the facility.	• Flood hazard areas • Floodplains • Areas subject to tsunamis, seiches, and storm surges • Proximity to active or potentially active faults	• The facility must be designed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return period • The facility must not reduce the flow of a 100-year flood or reduce the temporary storage capacity of the flood plain • The facility must not be constructed or operated in areas subject to tsunamis, seiches, and storm surges unless designed, constructed, operated, and maintained to preclude failure due to such events. • The facility must not be constructed or operated above a **Holocene Fault**.
C. Protect surface water	Not Applicable	Not Applicable
D. Protect groundwater	Not Applicable	Not Applicable
E. Protect air quality	Not Applicable	Not Applicable
F. Protect environmentally sensitive areas	• Significant Ecological Areas, Agricultural Resource Areas, and Hillside Management Areas (GZO) • Wetlands • Proximity to habitats of threatened and endangered species • Agricultural lands • Natural, recreational, cultural, and aesthetic resources • Significant ecological areas, • Coastal zones.	• The facility should avoid locating in current Significant Ecological Areas and Agricultural Resource Areas per GZO. • The facility should avoid locating in current wetland areas unless (a) industrial usage is permitted by the local government's land use planning or zoning, and (b) fish, plant, and wildlife resources can be maintained and enhanced in a portion of the site or preserved elsewhere in the area. • The minimum site size must be exclusive of any endangered or threatened species or the destruction or adverse modification of their critical habitat. • The facility must be in conformance with a local jurisdiction's General Plan and abide by federal and state regulations regarding protected species and their habitats. • The minimum site size must be exclusive of areas protected for endangered species. • The facility must obtain a local land use permit from the local jurisdiction if zoned in an area zoned for agricultural uses. • The facility should avoid locating in areas sited as "natural, recreational, and aesthetic resources" unless compatible with the land use in the area. • The facility should avoid locating in current coastal zone.
G. Ensure safe and economic transportation of solid waste	• Proximity to areas of waste generation • Distance from major transportation routes	• Facilities should be centrally located near wasteshed areas to minimize potential impacts associated with greater travel distances. • The site should be readily accessible via major transportation routes, with limited or no access through areas that contain sensitive receptors (e.g., residential, schools, hospitals).

Initial Site Assessment Criteria Objectives

Siting Criteria Objectives	Siting Factors for Each Siting Criteria Objective	Criteria for the Siting Factor
H. Protect social and economic development goals of the community	• Consistency with the General Plan • Permitting and environmental considerations	• Consistency with the General Plan. • Preferable if the site is not designated as Williamson Act land. • Preferable if the site is not located in an Environmental Justice zone.
I. Ensure compliance with federal, state, and local requirements	• Legal Considerations	• Permitting constraints and approval considerations (i.e. closure and post-closure status, potential environmental impacts).
J. Site Characteristics	• **Site Size** • GZO Minimum Lot Size • Utilities • Interconnection Availability	• Site Size (Anaerobic Digestion): Minimum of **three (3) to eight (8) acres** of land suitable for development(*) with a preference for a larger site, depending on facility size, ideally up to thirty-six (36) acres for the largest facility size. Suitable area for development would exclude floodplains, wetlands, and habitats for endangered species as well as filled areas at landfills. Minimum 3 acres per GZO. • Utilities (water or reclaimed water, sewer, gas, and electricity) are nearby or available at the site but may need to be upgraded to meet facility needs. • The potential for interconnection to a gas main and/or the power grid for sale of energy products is within proximity to the site. For an electricity generating project, the requirement would be for an adequately sized transmission line (13.8kv or larger) or a substation to be in proximity to the site.

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Siting Approach/ Methodology

GIS Data Sources

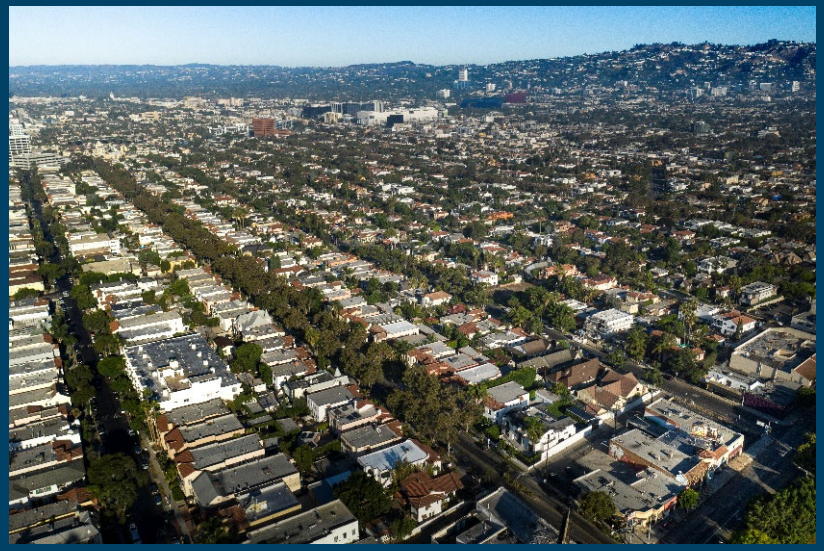
Sources of data for LA County include:

- County of Los Angeles Enterprise GIS hub
- Los Angeles County GIS for Equity
- United States Geological Survey (USGS)
- U.S. Fish & Wildlife Service
- Federal Emergency Management Agency (FEMA)
- California Department of Education Geo Hub
- Southern California Association of Governments (SCAG)
- CalRecycle Solid Waste Information System (SWIS)

Identifying Parcel Zones

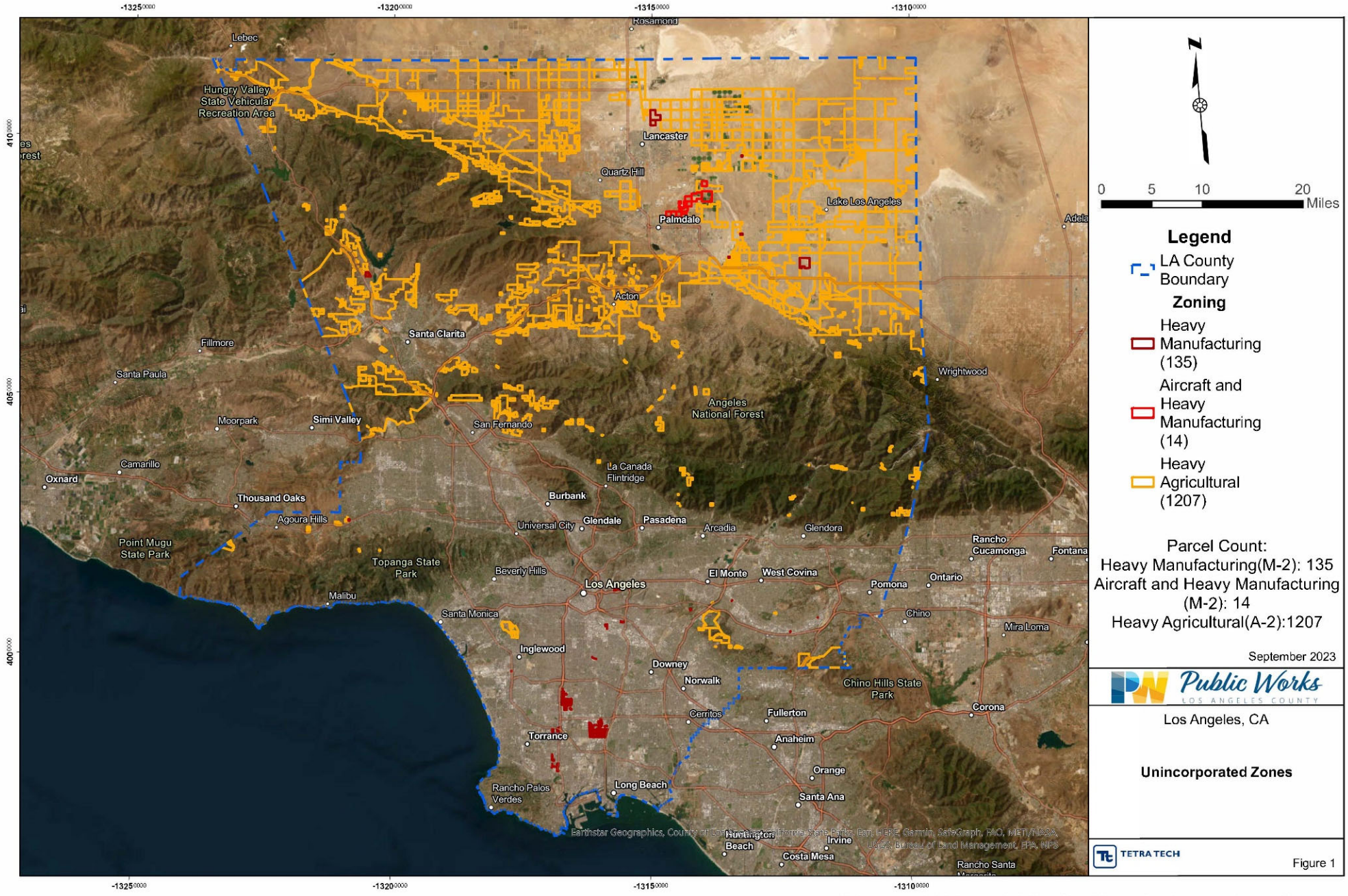
Zoning Feature Layers

- Unincorporated LA County Areas
  - M2 – Heavy Manufacturing
  - M2.5 – Heavy Industrial
  - A2 – Heavy Agriculture
- Incorporated LA County Cities
  - M2.5 – Heavy Industrial
  - M2 – Light Industrial
  - A2 – Agriculture



- Total parcels identified:
  - 1,356 parcels (Unincorporated LA County areas)
  - +20,000 parcels (County Incorporated cities)

Unincorporated LA County Area Parcels



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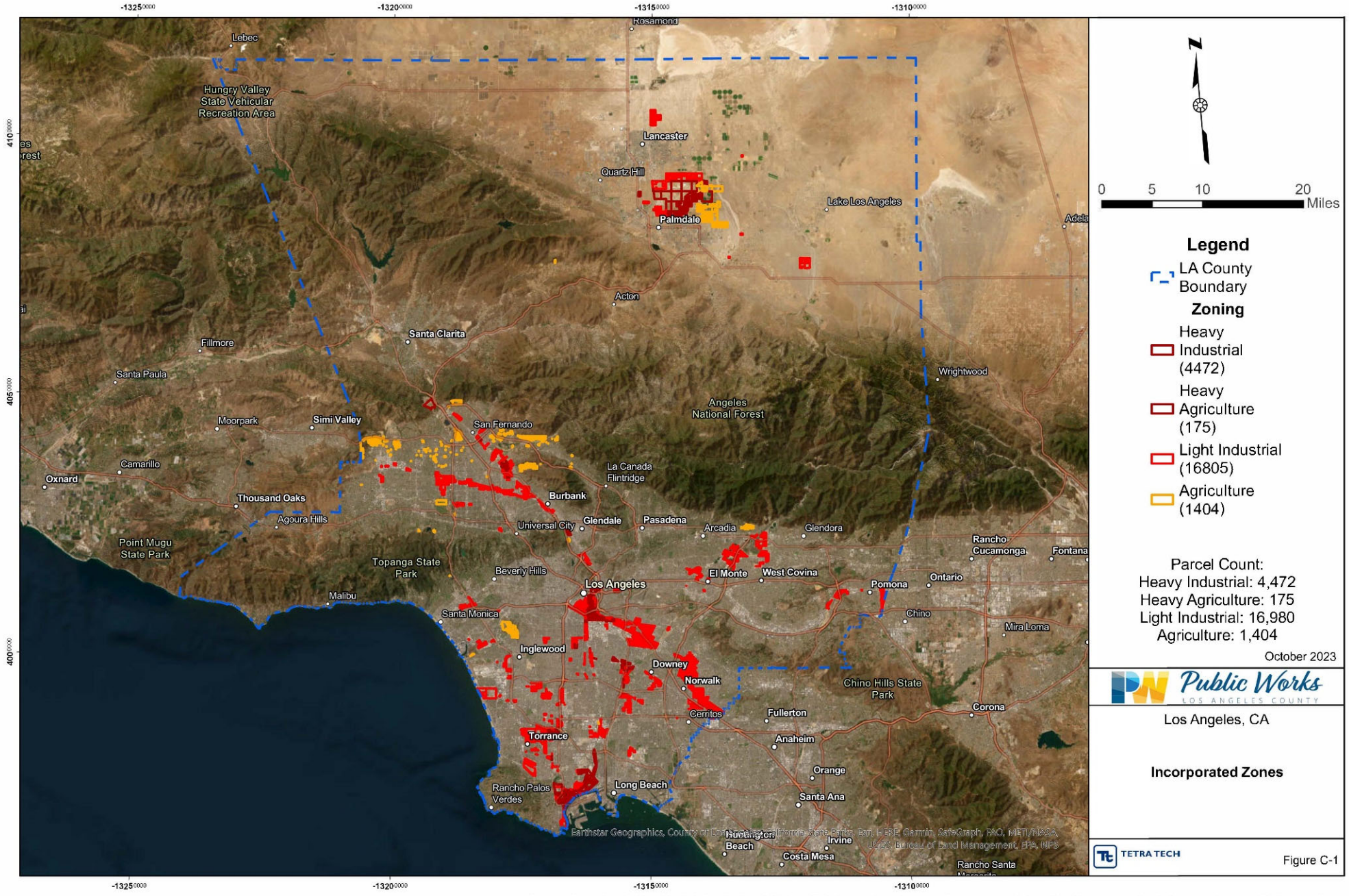
Incorporated Cities Parcels



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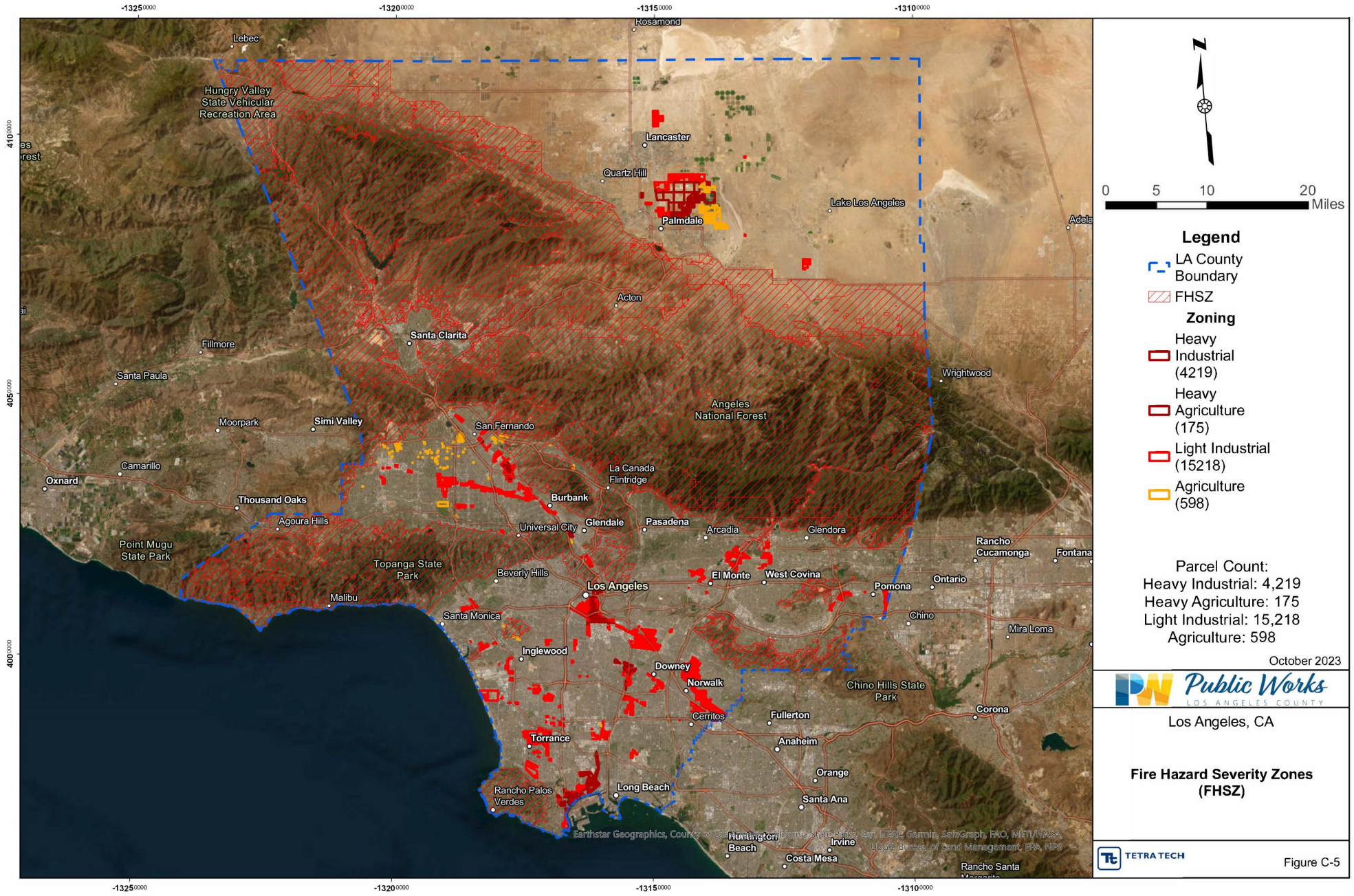
Identification of Potential Facility Locations

Initial Site Assessment Criteria Summary

1. Land Use Designation (Zoning)
2. Green Zone Ordinance Districts
3. Holocene Fault
4. Significant Ecological Areas (SEA)
5. Fire Hazard and Severity Zones
6. Flood Hazard Areas, Wetlands, and National Forests

Example: Fire Hazard Severity Zones



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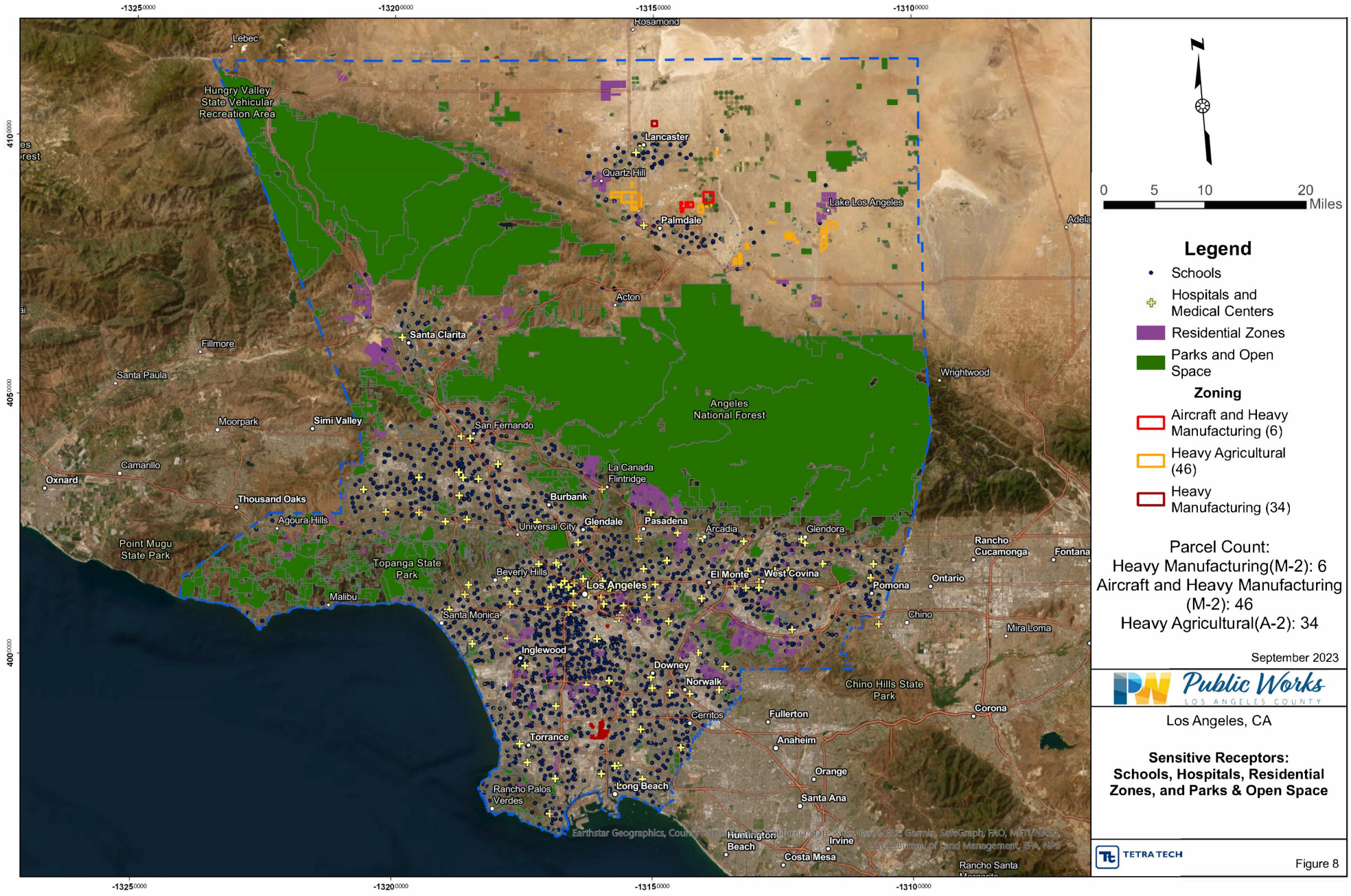
Initial Site Assessment Criteria Summary

7. Major Transportation Routes
8. Sensitive Receptors (Schools, hospitals, parks and open spaces)
9. Sensitive Receptors (Residential Zones 1)
10. Sensitive Receptors (Residential Zones 2)
11. Minimum Acreage

Example: Sensitive Receptors



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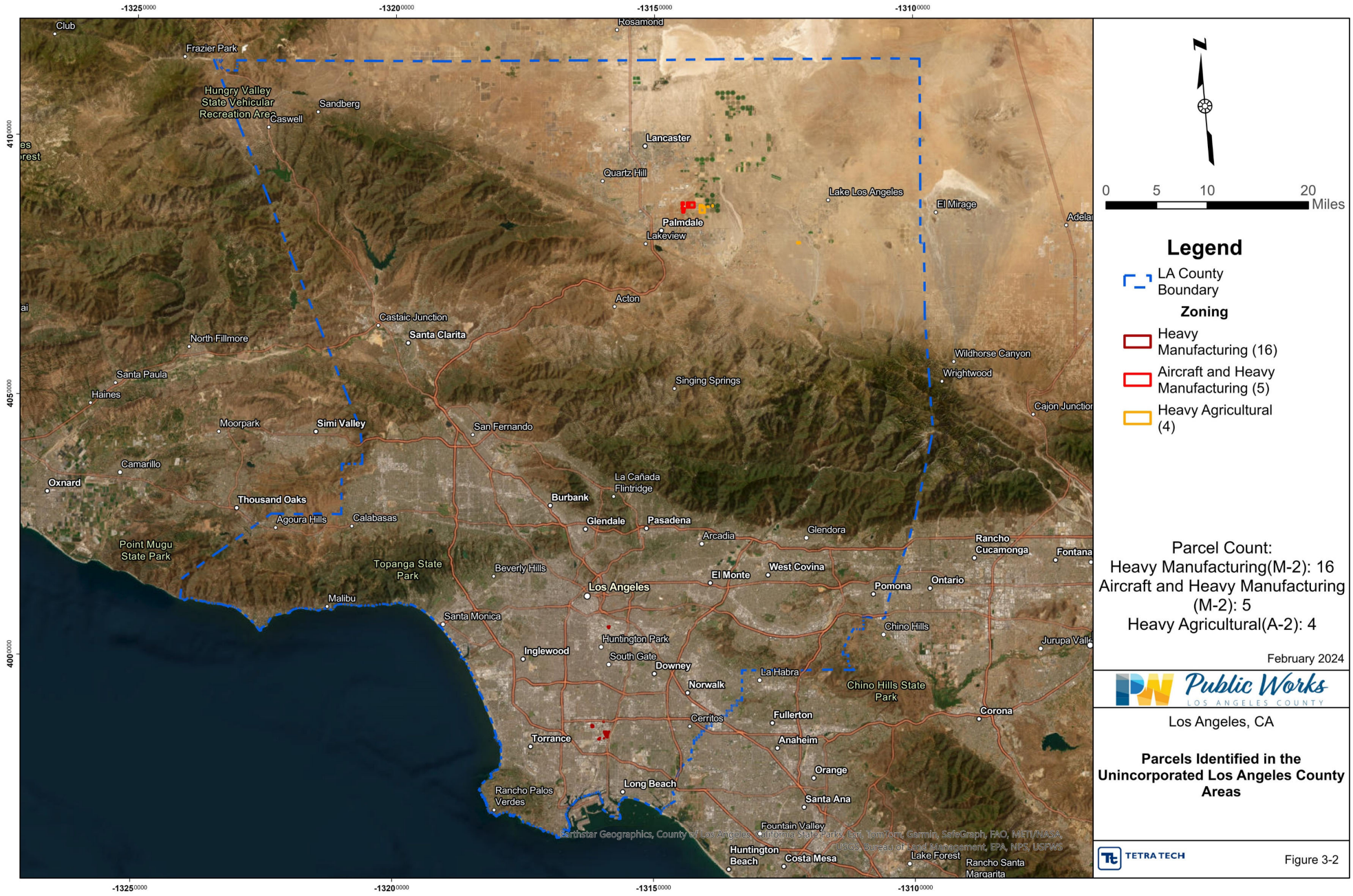
Findings

Unincorporated LA County Area – Total Parcel Count: 25



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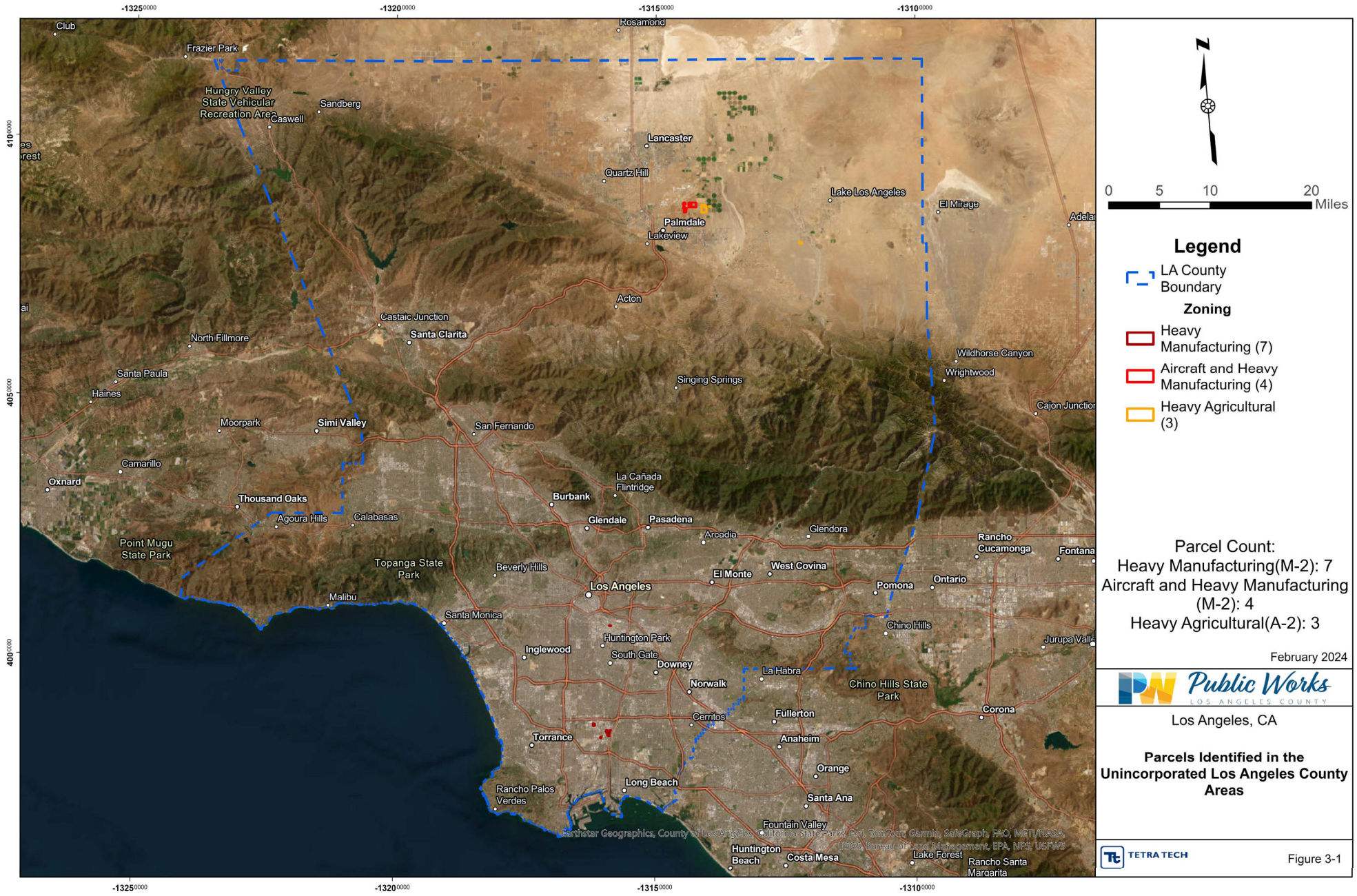
Unincorporated LA County Area – Total Parcel Count: 14



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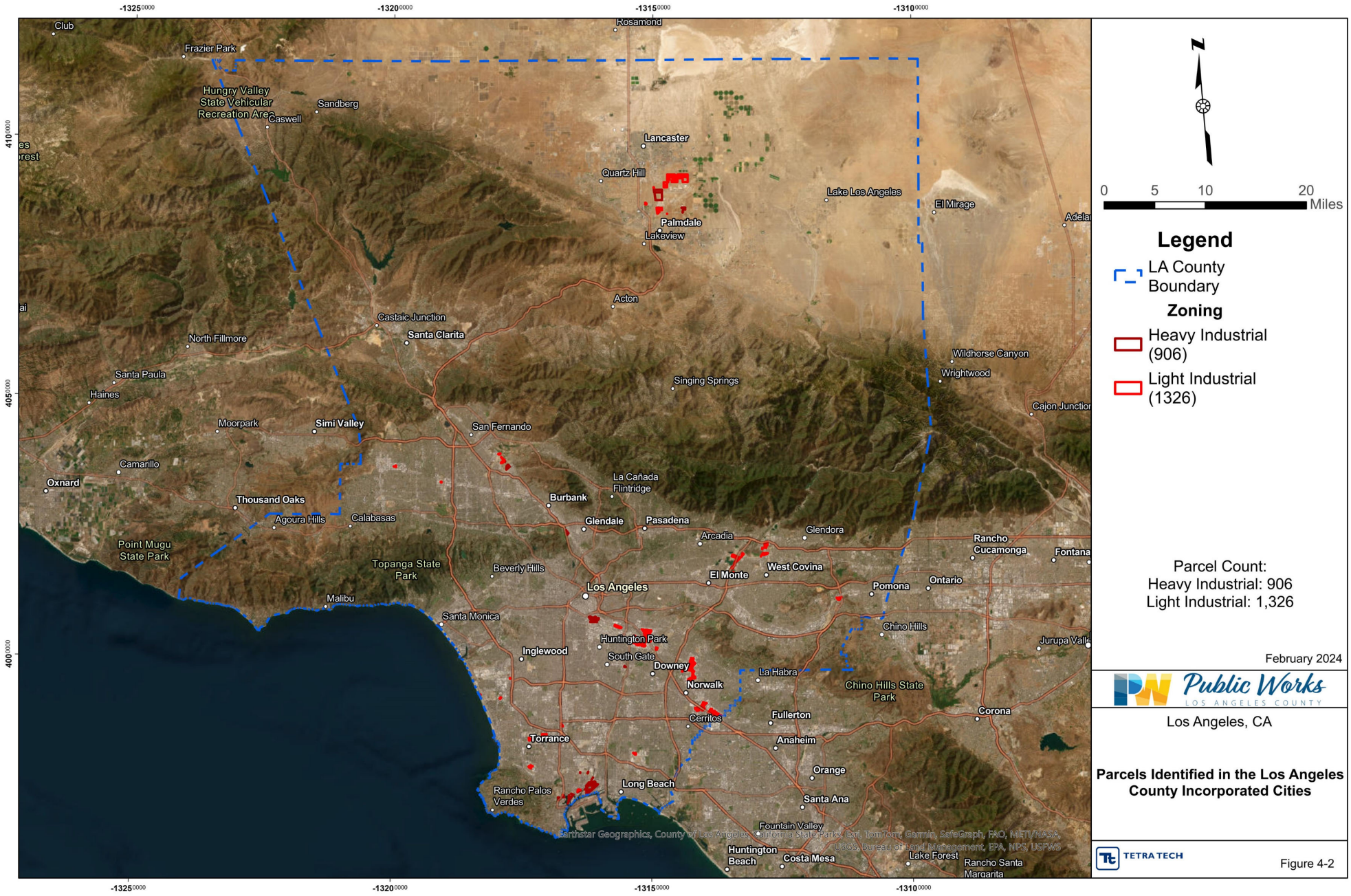
Incorporated Cities – Total Parcel Count: 2,232



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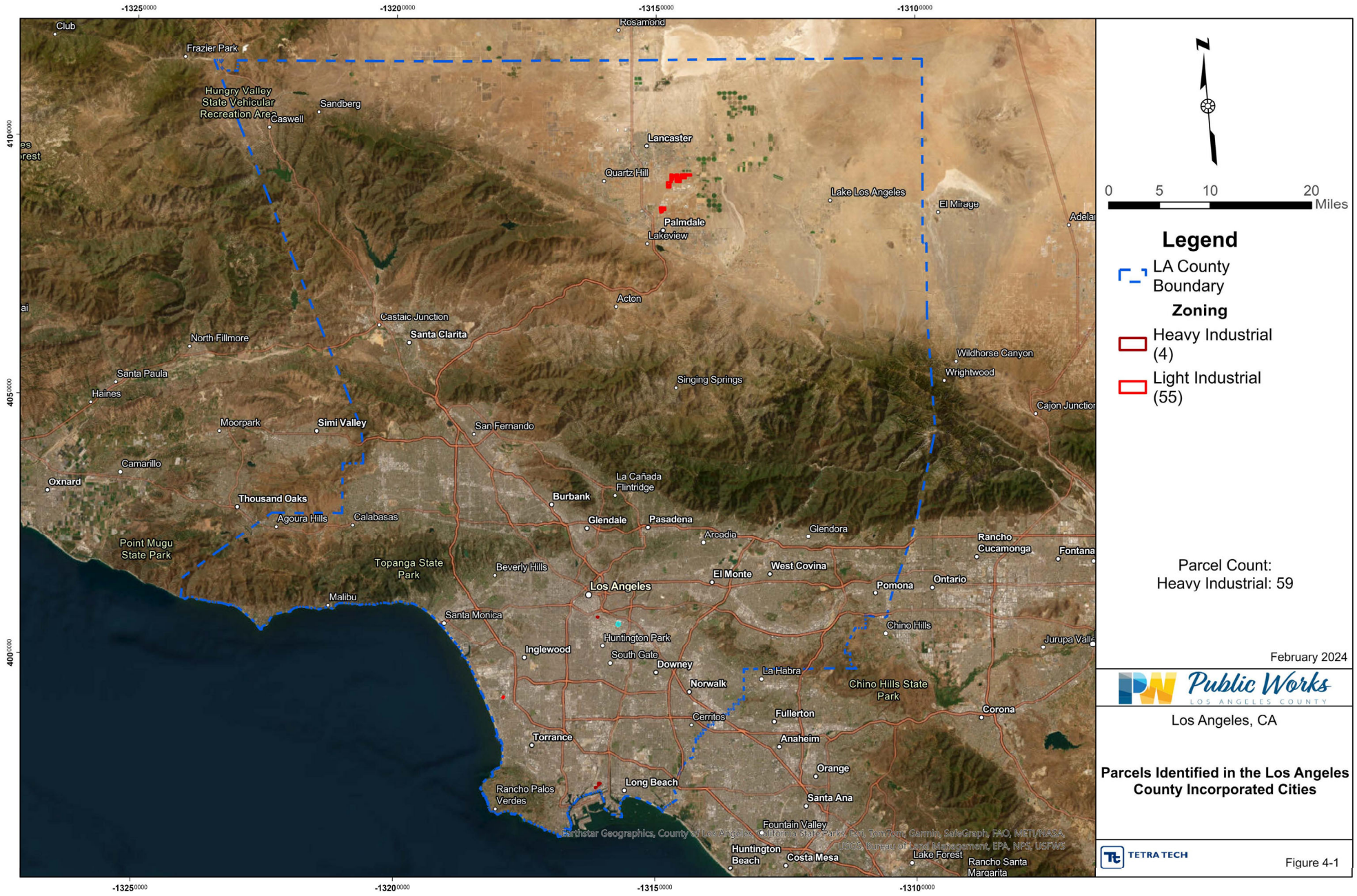
Incorporated Cities – Total Parcel Count: 59



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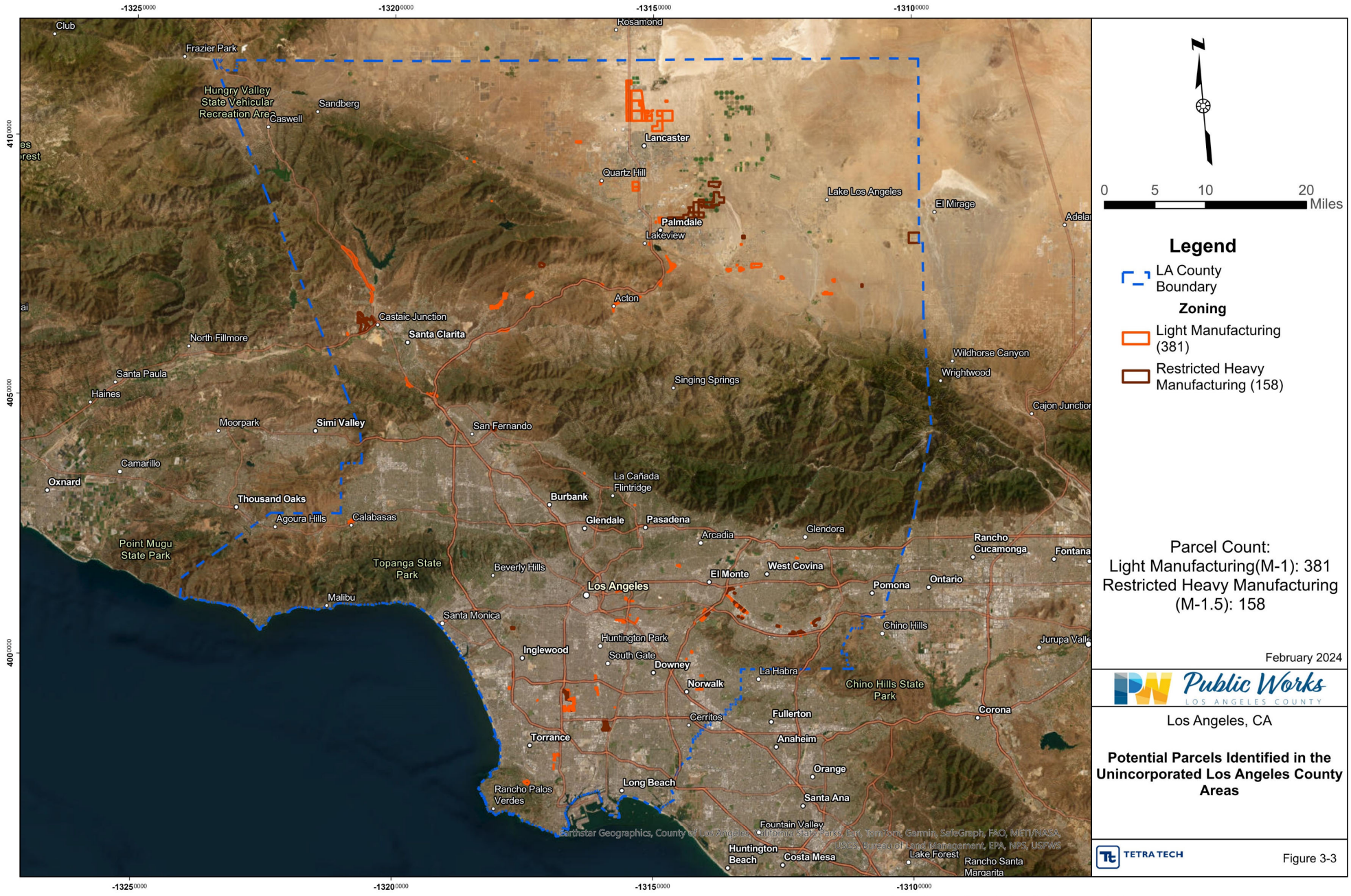
Next Steps

Next Steps

- Siting Analyses In-Progress
- Evaluate the Consolidation of Small Parcels
- Detailed Evaluation of Three Closed Landfill Sites
- Talk to Los Angeles County Planning Department
- Talk to Incorporated Cities Planning Departments

Unincorporated LA County Area – Light Manufacturing Zone



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Thank you! Questions?

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