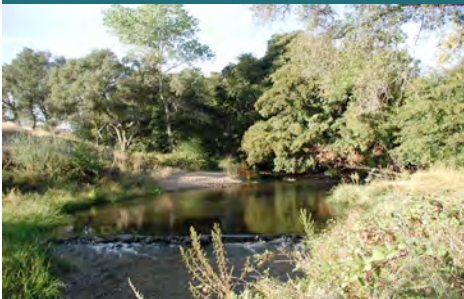


The Ahwahnee Water Principles

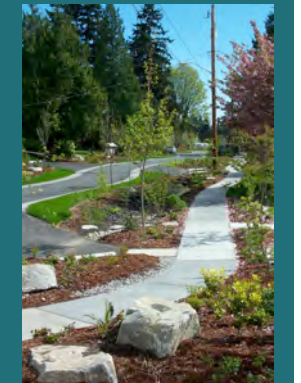
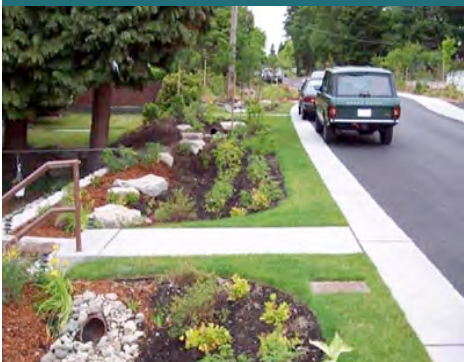
Smart Location, Efficient Development Patterns, Compact Community Design



Preserve and Restore Natural Infrastructure



Sustainable Site Design, Green Infrastructure



Draft Tentative Stormwater Permit

5% EIA Provision: All New Development and Redevelopment projects control pollutants, pollutant loads, and runoff volume emanating from impervious surfaces through percolation, infiltration, storage, or evapo-transpiration, by reducing the percentage of Effective Impervious Area (EIA) to less than 5 percent of total project area.

Effective Impervious Area

Impervious surfaces that are **directly “connected”** to the storm sewer system.

Rendered “ineffective” if runoff is directed to a drainage system (i.e. swale, raingarden, infiltration trench).

5% EIA Challenge #3

LOCATION MATTERS

**5% EIA easier to achieve in Greenfield
(Blank Slate, More Space)**

Location Matters

Should development on these sites be treated the same?



Effects of 5% EIA as performance measure

- No measure of ecosystem services lost
- Redevelopment of a one acre parking lot treated the same as bulldozing one acre of open space

5% EIA Challenge 2

DEVELOPMENT PATTERNS MATTER

**5% EIA easier to achieve
at Lower Densities**

**Community Form is Key to Reducing
Watershed-scale Imperviousness**

Community Form Matters

Which development pattern is better for water?



5% EIA easier here than..... Here

Scale and Development Context Matter

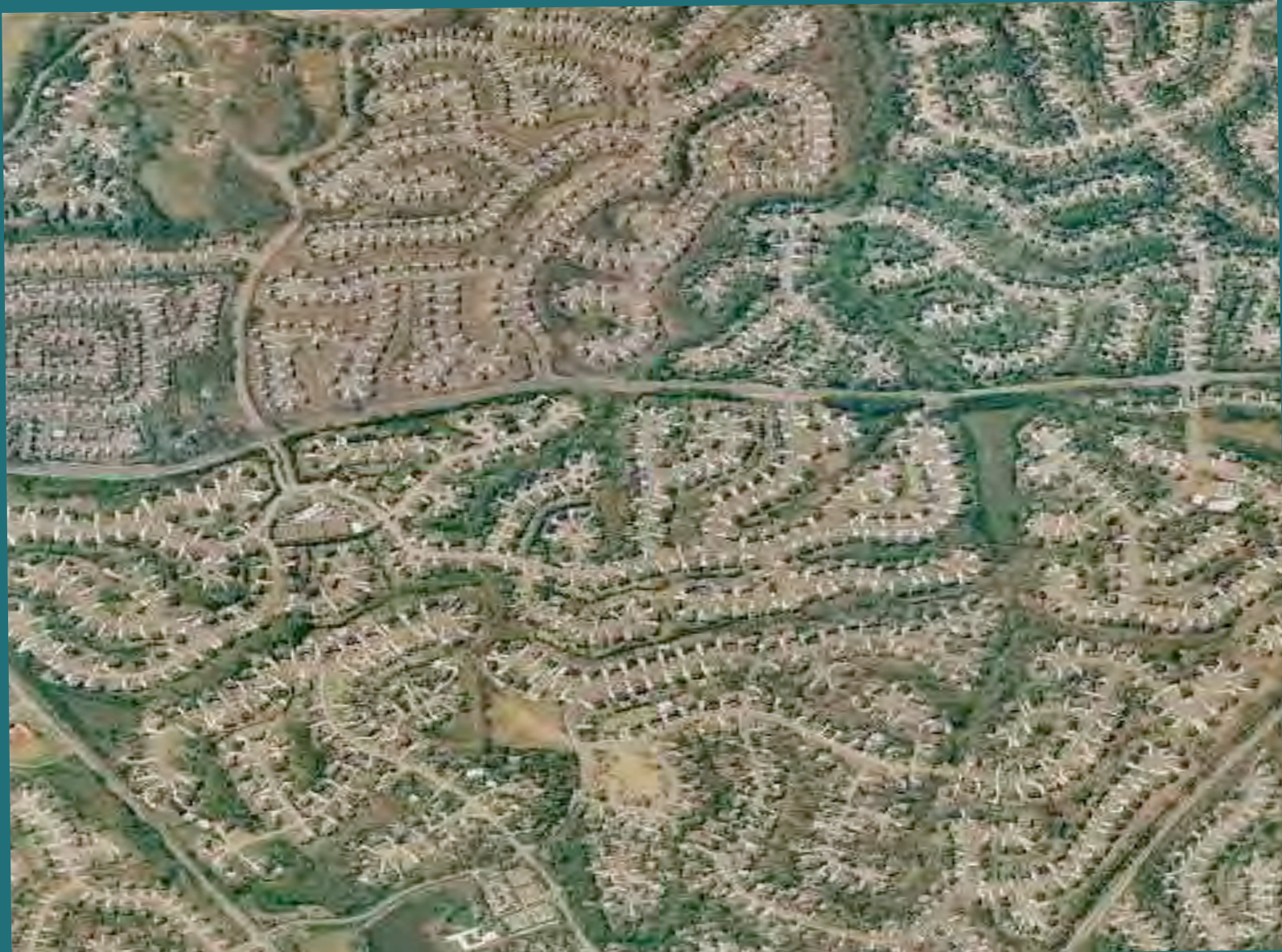
Model LID Subdivision



- single use,+ dispersed
- auto-dependent
- low density 1.6 DUA
- 0 affordable units
- side walks eliminated...



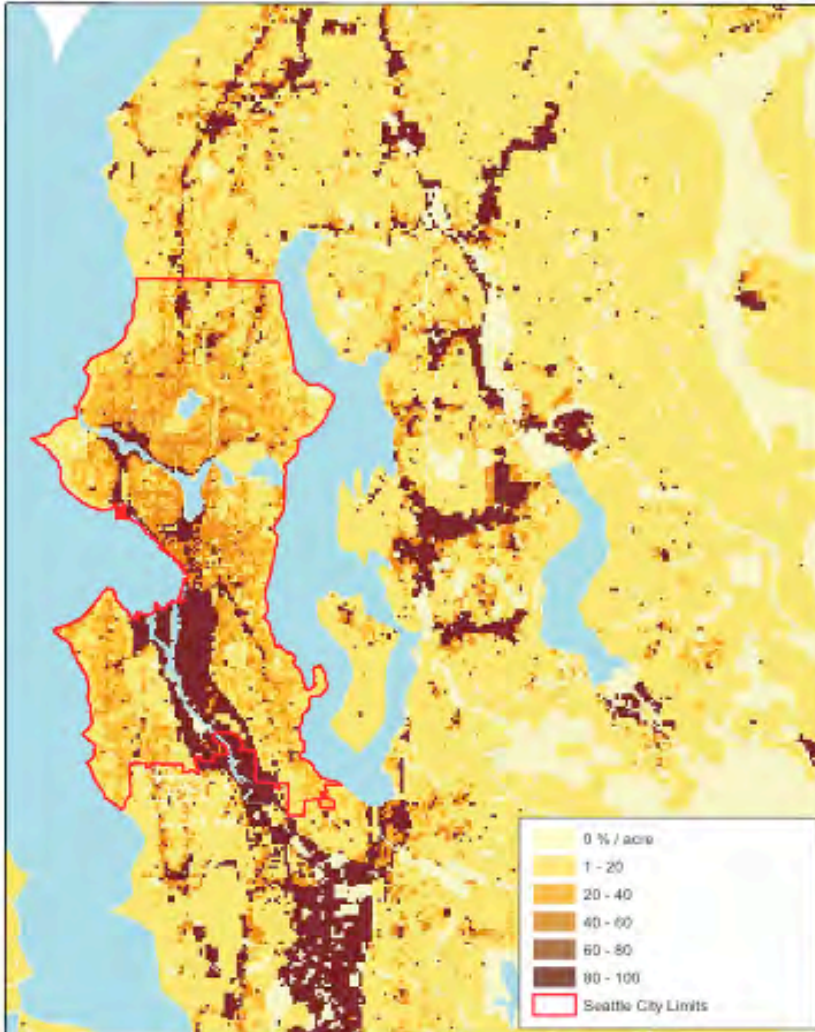
Scale and Development Context Matter



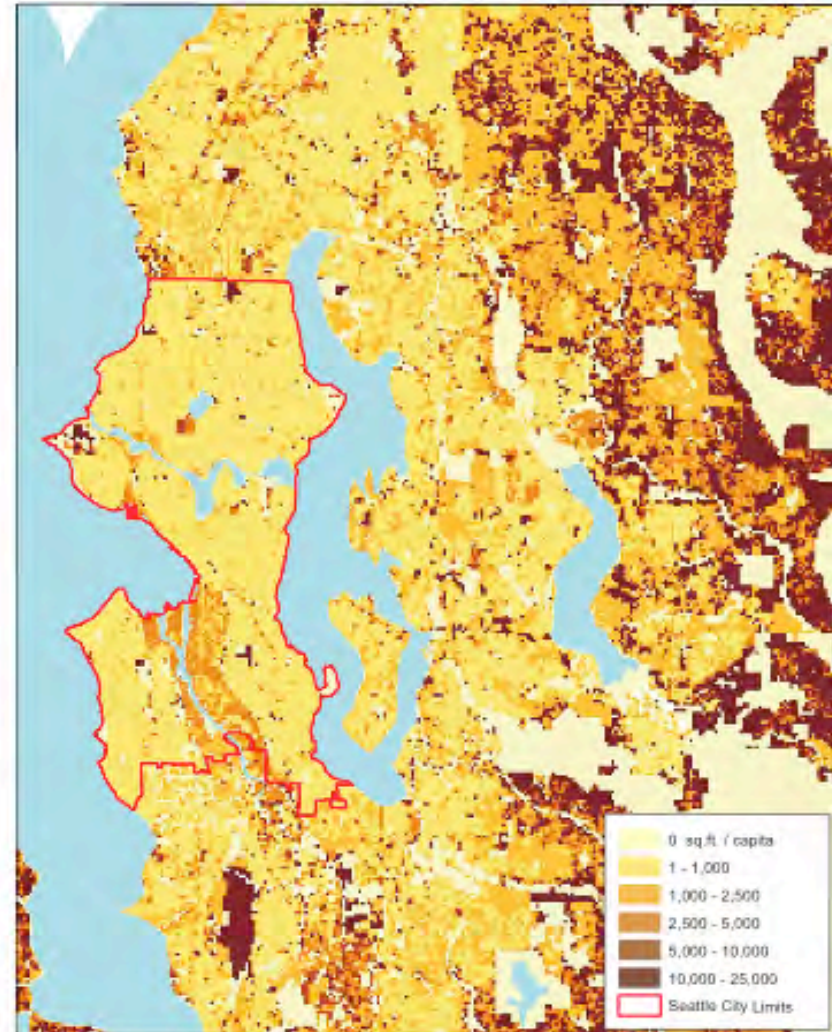
Scale Matters

Metropolitan Seattle Imperviousness

Per Acre



Per Capita



Source: Criterion Planners for the Puget Sound Regional Council

5% EIA Challenge #1!!!

Missed Opportunities!

Not Recognizing the
Environmental Performance Efficient
Land Use

(Infill and Redevelopment
Compact Design)

Urban Design BMPs: TOD, Mixed, Infill



Alhambra at S by:
Trammell Crow Residential

- 4.26 Acres
- 278 Condominium Units
 - (65 Units/acre)
- 4,486 sq. ft. of Retail
- 7-level Parking Garage
 - 420 Parking Spaces

How would this development demand (278 Units and 4,486 sq. ft. of retail, 420 Parking Spaces) look out in the watershed?

RPAMP Program

Ideas from March meeting:

- 1) Need Urban Watershed Plans – consider area holistically
- 2) Certain practices required (e.g. cisterns)
- 3) Sub-regional / regional strategies, shared drainage, parks, trail systems, etc.
- 4) Trading / offset program (pollutant/impact or impervious cover trading)
- 5) Credit for Parks/Green Space
- 6) Context of Jurisdiction determines criteria
- 7) RPAMPs should be locally developed
- 8) Performance standard reflects development context (tiered approach)

RPAMP Components

Objectives - The program has potential to meet multiple water quality objectives and other environmental and community goals. These need to be clearly defined to ensure buy-in.

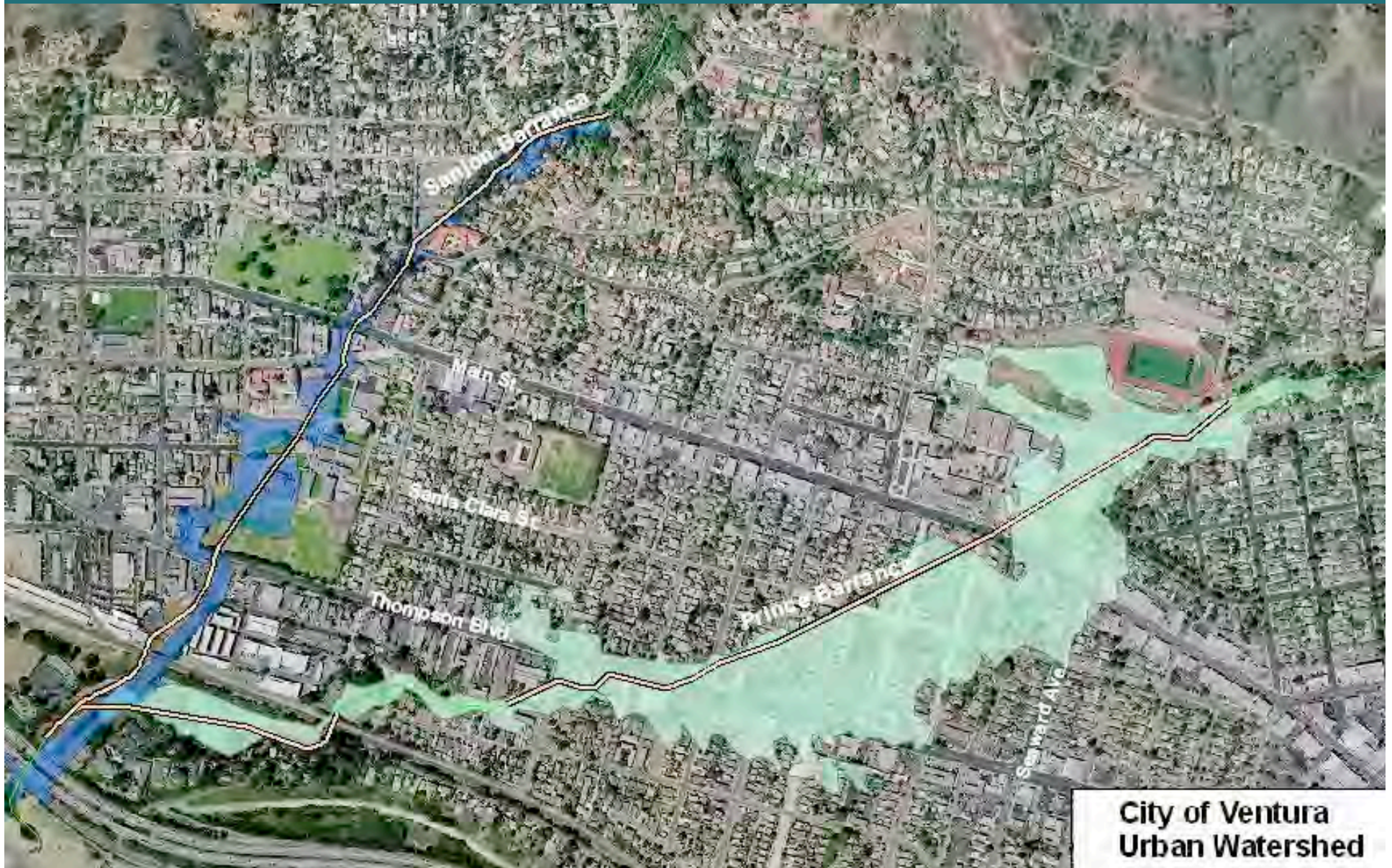
Location - In the permit, an RPAMP is one or more defined areas. The permit limited direction on what areas are allowed: *City Center areas; Historic District areas; Brownfield areas; Infill Development areas; Urban Transit Villages.*

Credit System (Performance Criteria) - Permit says an RPAMP can substitute in part or wholly for on-site requirements, but does not clarify how this is determined. A credit system with linking types of land use to water quality objectives is one method. For example, projects that include a mixed use,

Program Implementation

- } Area(s) designation
- } Credit System
- } Relationship to other programs
 - Regional / Sub-regional Solutions (e.g. green streets, restoration, etc)
 - Site Design Prerequisites? (cap on EIA reduction? Mandatory BMPs?)
 - Pollution / Imperviousness Trading / Offset Program
 - Mitigation Funding (could be linked to other programs)

RPAMP - Location Component



City of Ventura
Urban Watershed

RPAMP - Location Component



Inside an RPAMP

Credit design strategies that fit the development context

Infill & Redevelopment

Transit proximity
Mixed Use
Density
Streets and Parking



LID Techniques
-urban sites -
- retrofit prioritization -

City of Ventura
Urban Watershed

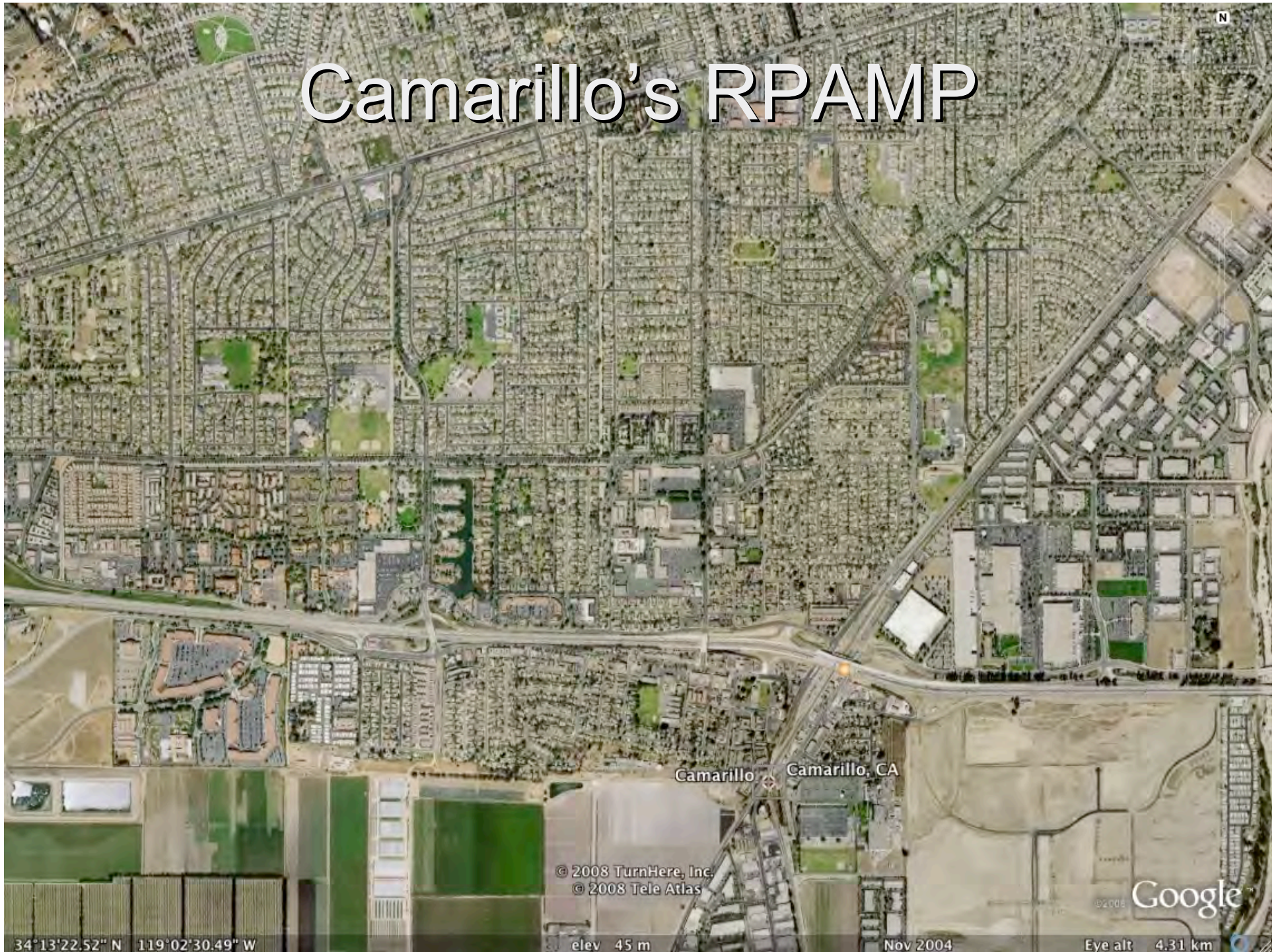
Credit System

Strategy	Criteria	Points
Use Mix	Vertical MU	2
	Horizontal MU	1
		?
Density	10 - 20 DUA; 0.75 -1.0 FAR	1
	20 - 30 DUA; 1 - 1.5 FAR	2
	30 - 40 DUA; 1.5 - 2 FAR	3
Parking Strategies	Shared, Structures, etc.	1
Street Design	Grid density, connectivity	
Transit Proximity	1/8 mile or 1/4 mile	
Urban Forestry	Shade canopy	
Others		

Link to mitigation, regional programs



Camarillo's RPAMP



Camarillo Camarillo, CA

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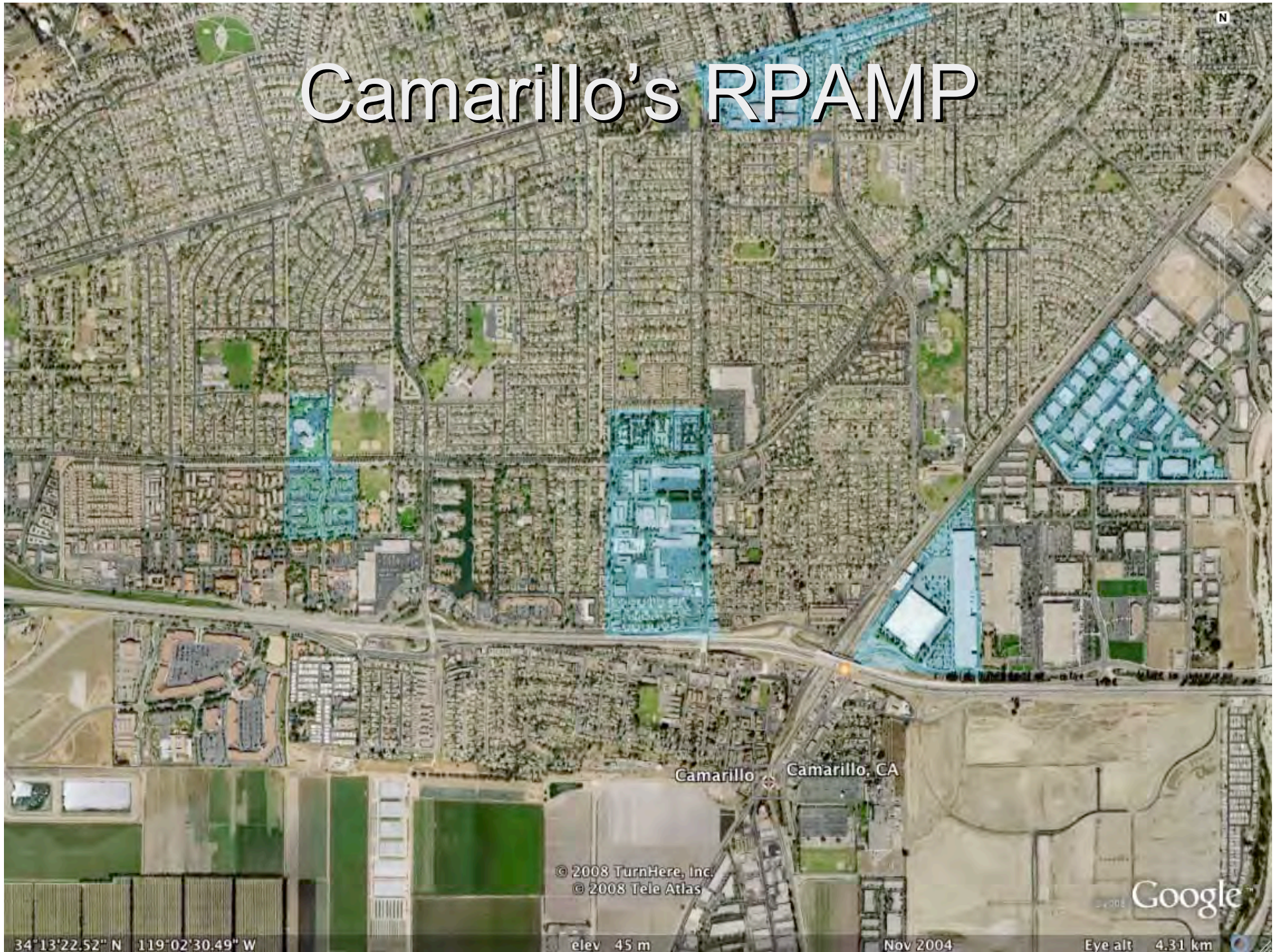
34°13'22.52" N 119°02'30.49" W

elev 45 m

Nov 2004

Eye alt 4.31 km

Camarillo's RPAMP



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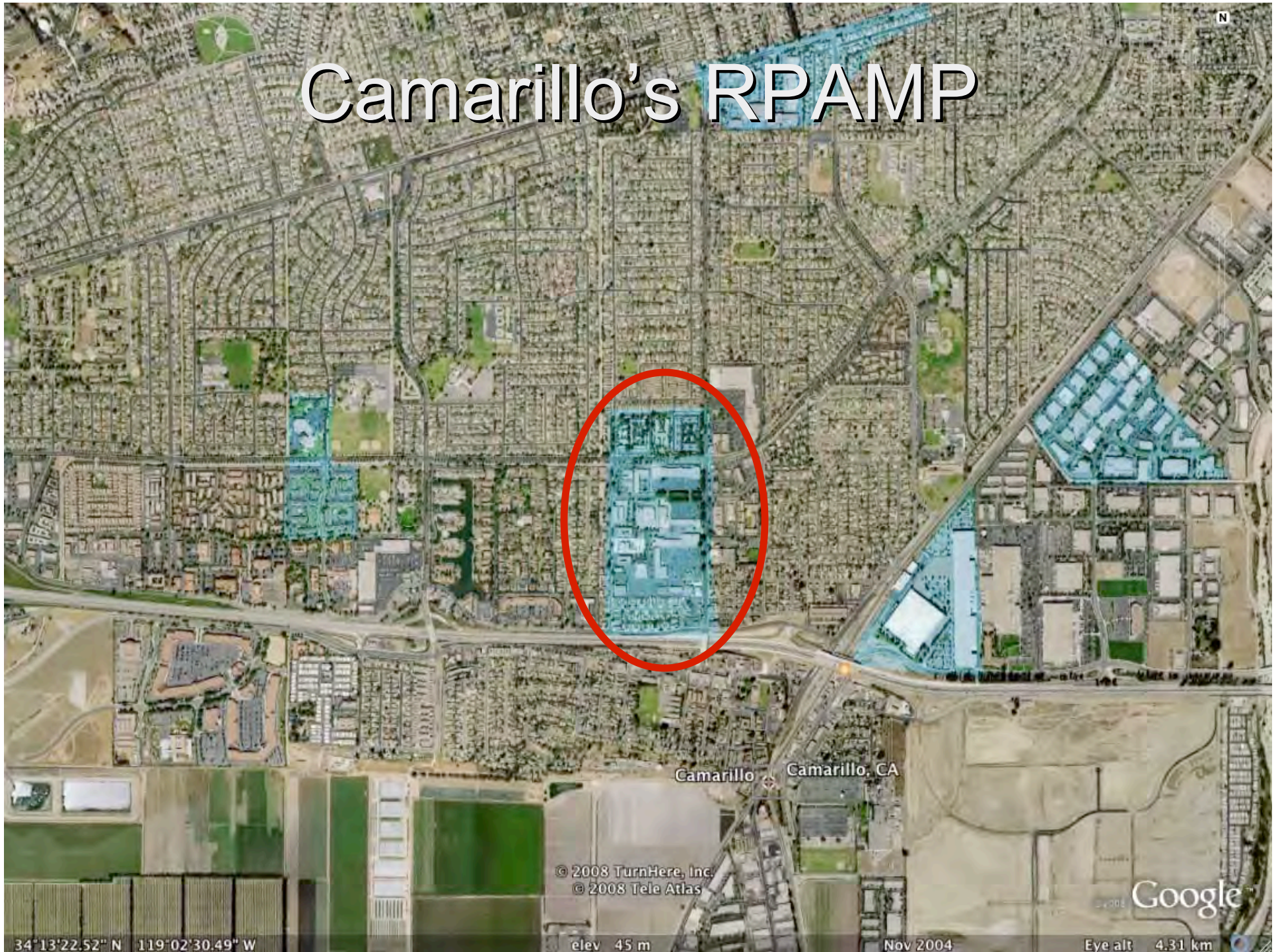
34°13'22.52" N 119°02'30.49" W

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Nov 2004

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Camarillo's RPAMP



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Google

34°13'22.52" N 119°02'30.49" W

elev 45 m

Nov 2004

Eye alt 4.31 km

Camarillo Commons Strategic Plan

Currently:
Lots of pavement...



Camarillo Commons

Credit System

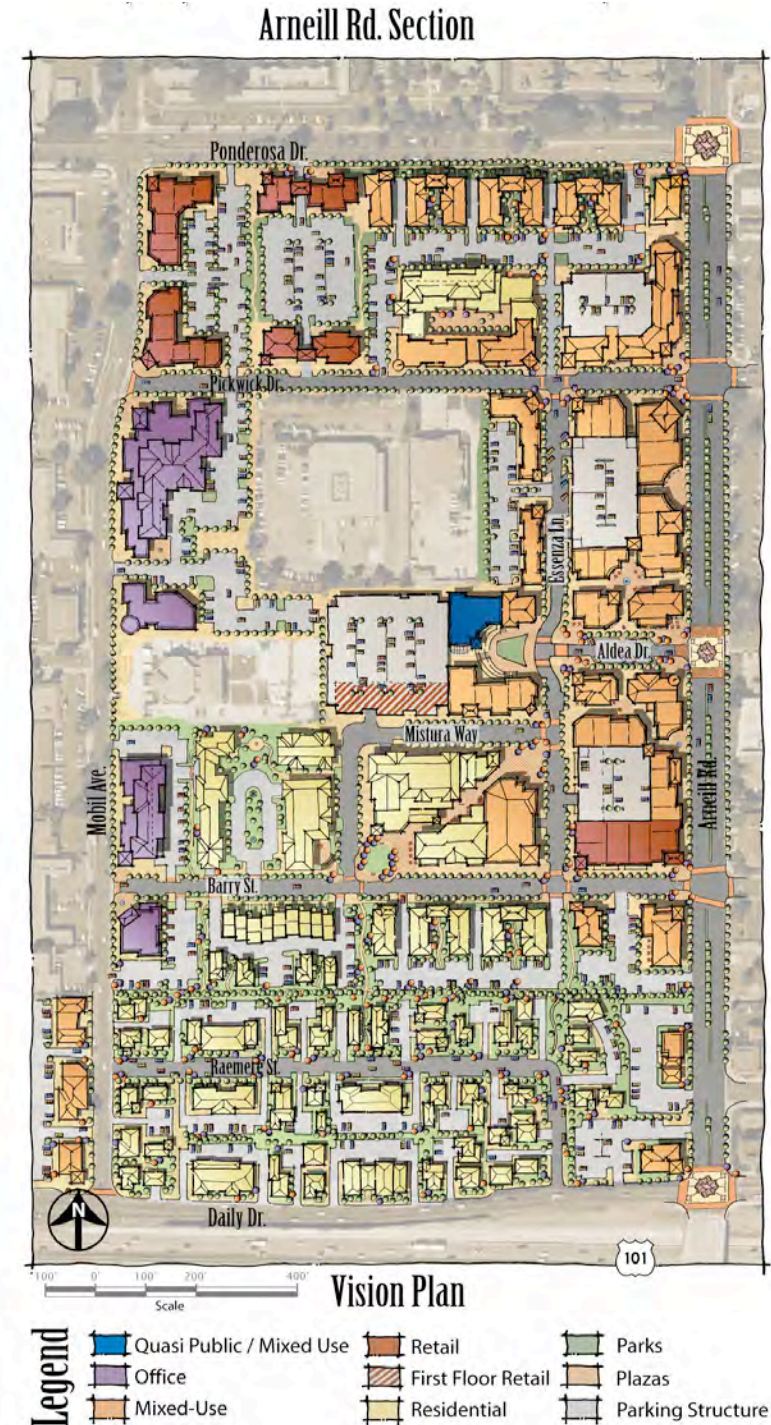
- + Mixed Use (5)
 - + Vertical Density/MU (5)
 - + High Density Residential (10)
 - + Housing Mix (5)
 - + Shared and on-street parking (5)
 - + Transit Proximity (5)
- = 35 credits **New EIA = 40%?**

Integration

- LID prerequisites
- shared drainage
- impervious cover trading

Example

- project meets 15% EIA = 20 credits?
- OR, project still can't, pays into in-lieu for green streets program.



Camarillo Commons

Location Component?

Yes: Redevelopment/Infill

Form Component?

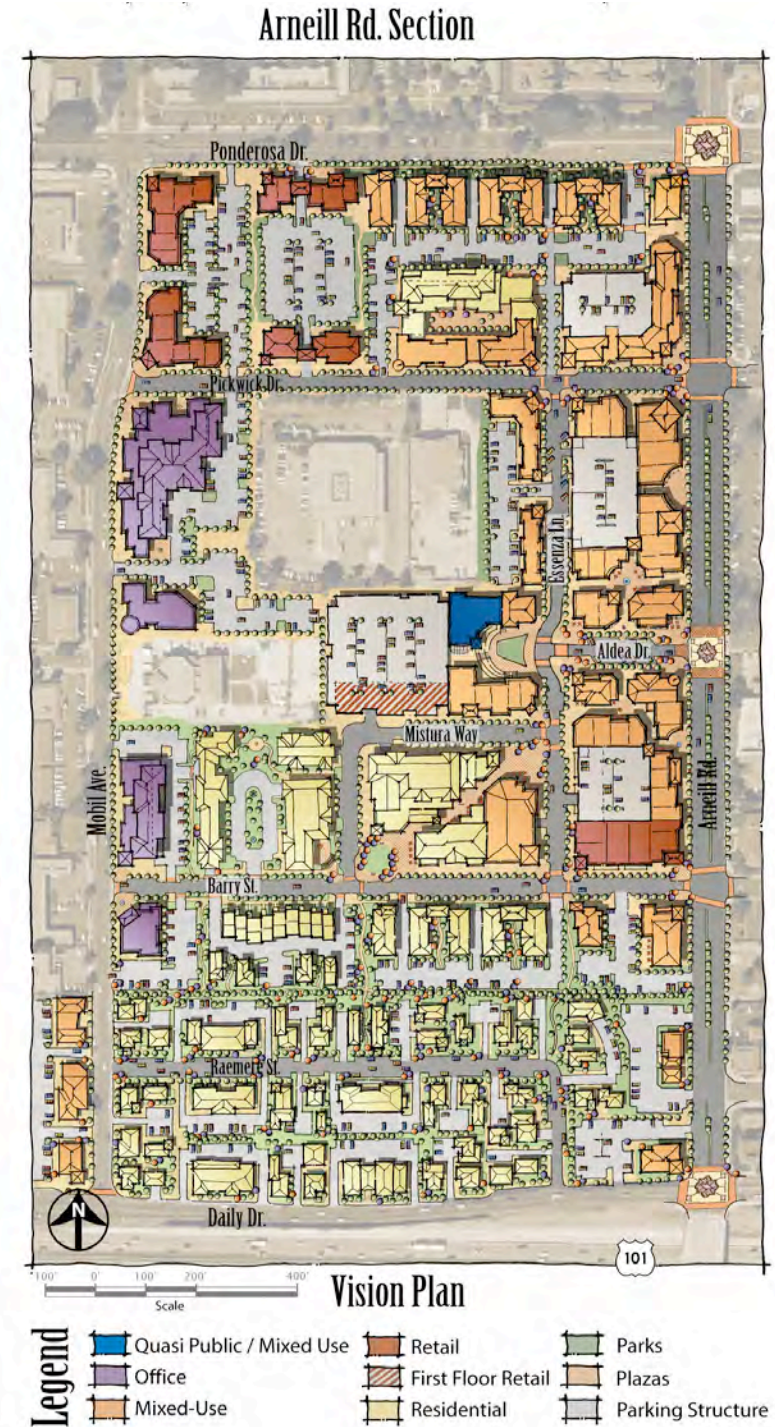
- } Mixed Use (5 pts)
 - } Vertical Density/MU (5 pts)
 - } High Density Residential (
 - } Housing Mix
 - } Shared and on-street parking
 - } Pedestrian Orientation
- + 35 points = 35 % reduction of EIA
= 40% EIA is new standard

Design Components?

No - BMPs need to be determined

Integration

- shared drainage in plan area
- impervious cover trading



Beyond the Site

Sustainable Urbanism & Stormwater Regs

Why a program for “alternative” compliance?

- Dismantle the components of sprawl (don't add to them)
- Address transportation footprint/impacts
- Prevent imperviousness and land conversion
- Reduce the overall development footprint
- Avoid unintended consequences
- Attain a higher level of environmental performance
- Coordinate with other community objectives

Next steps and Recommendations

- 1) Decide to move forward - is there support for moving this program forward?
- 2) Clarify program objectives and submit to Regional Board by May 29.
- 3) Pilot the program
 - 1) Hold RPAMP workshop to define parameters.
 - 2) Select demonstration projects to analyze and use as a prototype.
- 4) Funding for future phases.

Workshop Options

1. Water-wise Planning and Design Workshop

- Intro talks about innovative design strategies at various scales
- Tables work with past or current projects/plans
- Report out with attention to barriers to be addressed
- May include participation from Berkeley grads
- Concepts used in final plan

2. RPAMP Planning and Design Workshop

- similar but focused on RPAMP development
- may include modeling and analysis using INDEX software to:
 - a) test method for determining RPAMP area(s)
 - b) model water quality implications of different land use strategies
 - c) modeling helps assign values for credit system

3. RPAMP Methods Workshop - bring in various consultants to discuss RPAMP development and linkage to other permit programs.