San Mateo Countywide Water Pollution Prevention Program
Annual C.3 Workshop
June 18, 2024

Addressing MRP 3.0 Challenges in Roadway Projects and Frontage Areas

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San Mateo Countywide Water Pollution Prevention Program

Presentation Overview

- Overview of MRP 3.0 C.3 Requirements
  - C.3 Basics
  - Parcel-based Projects & Frontage Improvements
  - Transportation and Pavement Projects
- Green Infrastructure Options to Meet C.3
- Alternative Compliance Options
  - Definition and requirements
  - Example scenarios:
    - Frontage area treatment options
    - Reconstructed road scenario
    - Regulated utility trenching project

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Bay Area Municipal Regional Permit (MRP)

- Regional Phase I stormwater NPDES permit for urban areas (79 permittees):
  - San Mateo, Santa Clara, Alameda, and Contra Costa Counties, Fairfield-Suisun, and Vallejo
- Third reissuance "MRP 3.0" adopted May 11, 2022, and effective July 1, 2022
- New requirements for Provision C.3, New and Redevelopment Controls, effective <u>July 1, 2023</u>

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Provision C.3 Basics

- New Development and Redevelopment projects above certain impervious surface thresholds are required to manage stormwater runoff onsite using Low Impact Development (LID) measures or Green Infrastructure (GI).
- Permittees are also required to retrofit existing public streets and parking lots where feasible to treat runoff with LID/GI measures and meet certain targets for impervious area treated.

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Unchanged C.3 Requirements in MRP 3.0

- LID approach – source control, site design, treatment
- LID sizing and design guidelines
- Alternative compliance options
- Hydromodification management requirements
- O&M verification program requirements
- Site design requirements for small, unregulated projects

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Changes/New Requirements – Regulated Projects

- Parcel based development or redevelopment
  - Threshold for impervious surface created/replaced reduced from 10,000 to 5,000 square feet (SF) for most projects
  - Must include any impervious surface created/replaced in public ROW as part of project (e.g., sidewalk, street frontage)
  - Includes renovation of public/private parking lots and other pavement (down to top of base course)
  - New category – regulates detached single-family homes at 10,000 SF threshold

Consideration of the Project Frontage

- Off-site improvements in the public ROW that are required for a parcel-based project must be included as part of the project
  - Areas count toward thresholds
  - Areas must be treated if the project is regulated
- Example redevelopment project:
  - Development site boundary
  - Sidewalk replacement
  - Road improvements
  - Project boundary

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Changes/New Requirements – Regulated Projects

- Roads, sidewalks and trails
  - Threshold reduced to 5,000 SF contiguous impervious area for:
    - New roads, including sidewalks and bike lanes
    - Adding traffic lane to an existing road
    - New stand-alone trail projects ≥ 10 feet wide or ≤ 50 feet from creek bank built with impervious surface*

*Gravel is considered an impervious surface unless constructed like pervious pavement.

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Changes/New Requirements – Regulated Projects

- Public works maintenance projects (C.3.b.ii.(3))
  - Projects in the public right-of-way that disturb ≥ 5,000 SF of contiguous impervious surface (down to top of base course)
  - Small discontinuous projects like sidewalk gap closures, sidewalk replacement, and ADA curb ramps are typically not regulated unless associated with a parcel-based project
    - If associated with a Regulated Project, these improvements must be added to the cumulative impervious surface total of that project and treatment provided

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Changes/New Requirements – Regulated Projects

- Road reconstruction projects (C.3.b.ii.(5)) – regulated at ≥ 1 acre of contiguous* impervious surface
  - Reconstruction of existing public streets and roads (and adjacent sidewalks and bike lanes) down to top of base course
  - Extending the pavement edge of an existing road (e.g., paving gravel shoulders)
  - Utility trenching projects which are ≥ 8 feet wide on average, over the entire length of the project

*Project areas interrupted by cross streets or intersections are considered contiguous

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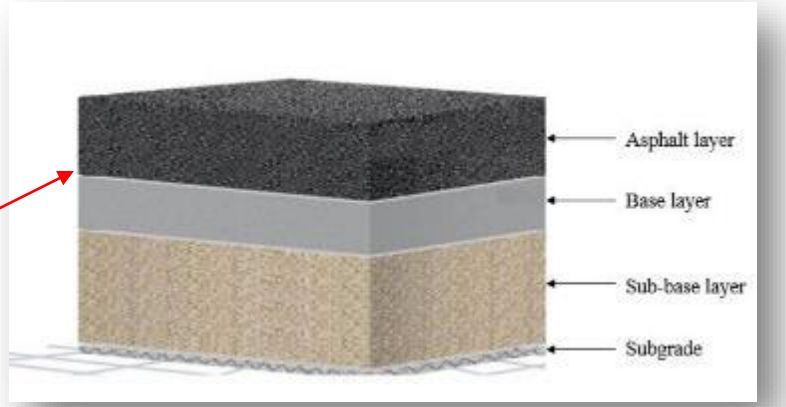
Pavement Maintenance vs. Reconstruction

- Surface treatment such as applying a top layer or sealant on existing impervious surface without disturbing the base course is <u>not regulated</u>
  - Base course = layer of material (typically aggregate) located above subbase and subgrade course, and below the surface layer
- Reconstruction (disturbing below top of base course) is <u>regulated</u>

Top of base course



- Upgrading from dirt to gravel* or from dirt/gravel to chip seal, asphalt, or concrete pavement is <u>regulated</u>

*Gravel is considered an impervious surface unless constructed like pervious pavement.

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Pavement Maintenance Requirements

- Pavement Maintenance on Roads
  - Included practices – regulated at ≥ 5,000 SF (contiguous)
    - Upgrade from dirt to gravel (unless built to spec for pervious pavement)
    - Upgrade from dirt/gravel to chip seal, asphalt, or concrete pavement
    - Removing/replacing asphalt or concrete to top of base course or lower
    - Repair of pavement base (i.e., base failure repair)
    - Extending the pavement edge or paving graveled shoulders
  - If these practices are part of a Road Reconstruction Project, the threshold is 1 acre of contiguous impervious surface created/replaced.

Unregulated Pavement Maintenance

- Excluded pavement maintenance practices (roads and parcels)
  - Pothole and square cut patching
  - Overlay gravel on existing gravel
  - Overlay asphalt/concrete on existing asphalt/concrete (no increase in area)
  - Apply bituminous surface treatment (e.g., “chip seal”) to existing asphalt or concrete (no increase in area)
  - Upgrade from chip seal to asphalt or concrete (no increase in area)
  - Shoulder grading
  - Reshaping/regrading drainage
  - Crack sealing and pavement preservation that does not expand road prism

Summary of Regulated Project Requirements

Project Type/Description	Threshold Area	MRP 2.0	MRP 3.0
Parcel-Based Projects			
Detached single-family home not part of larger plan of development	Cumulative	Exempt	**10,000 SF**
Public/private development or redevelopment project	Cumulative	10,000 SF	**5,000 SF**
Renovation of existing public/private parking lots or other pavement onsite	Cumulative	Exempt	**5,000 SF**
Roads, Sidewalks, and Trails			
New roads, including sidewalks and bike lanes	Contiguous	10,000 SF	**5,000 SF**
Adding traffic lanes to an existing road	Contiguous	10,000 SF	**5,000 SF**
New stand-alone trail projects ≥ 10 feet wide with impervious surface	Contiguous	10,000 SF	**5,000 SF**
Sidewalk gap closures, sidewalk replacement, ADA curb ramps not associated with a parcel-based project	Contiguous	10,000 SF	**5,000 SF**
Road Maintenance/Reconstruction Projects			
Reconstructing existing roads, including sidewalks and bicycle lanes	Contiguous	Exempt	**1 acre**
Extending roadway edge	Contiguous	Exempt	**1 acre**
Utility trenching projects with average trench width ≥ 8 feet	Contiguous	Exempt	**1 acre**

Parcel-based Projects and the "50% Rule"

- Where a redevelopment project alters ≥ 50% of the impervious surface of a previously existing development, runoff from the entire project (i.e., all existing, new, and/or replaced impervious surfaces) must be treated.
- Where a redevelopment project alters < 50% of the impervious surface of a previously existing development, only runoff from the new and/or replaced impervious surface of the project must be treated.
- The calculations in the scenarios above must include portions of the public right of way (e.g., frontage) that are developed or redeveloped as part of the Regulated Project.
  - Tip: Define project boundary to include parcel boundary plus just the offsite impervious surface that is being altered.

Road Reconstruction and the "50% Rule"

- Where a reconstruction project disturbs ≥ 50% of the existing impervious surface of the road, the entire road surface must be included in the treatment system design.
- Where a reconstruction project disturbs < 50% of the existing impervious surface of the road, only the new and/or replaced impervious surface of the road project must be included in the treatment system design.
  - However, if the runoff from that portion of the road cannot be separated from runoff from the rest of the road, the runoff from the entire surface draining onto the reconstructed portion must be treated.
  - This may also be an issue with regulated utility trenching projects that disturb a portion of the road but need to treat runoff from larger drainage areas
  - Can consider alternative compliance options to minimize the treatment area

GI Numeric Retrofit Targets (C.3.j)

- Each Permittee has a short-term numeric retrofit target (during the 5-year MRP term)
  - 3 acres treated per 50,000 population (up to 5 acres)
  - Can be met on countywide basis (43 acres for SM County)
  - Each permittee must implement or contribute to at least one project (minimum 0.2 ac. treated)
  - Projects constructed or funded by end of permit term, including road reconstruction projects, count toward target
- Long-term numeric goal to be developed during MRP 3.0

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GI Numeric Implementation Options

- Can count GI projects constructed since January 1, 2021
  - Retrofit existing street or public parking lot with GI
  - Coordinate with planned capital project ("no missed opportunities")
- Can count the impervious area treated for Regulated Road Reconstruction Projects
- Can count impervious area treated by non-Regulated Projects
- Can count impervious area treated by Regulated Projects that go "above and beyond"
- Can "contribute substantially" to GI project(s) outside of a Permittee's jurisdiction (within its County)

Options for GI in Public Rights of Way

Stormwater Curb Extension

Credit: EOA, Inc.

Stormwater Planter

Credit: EOA, Inc.

Planter with Trench Drains

Credit: EOA, Inc.

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Options for GI in Public Rights of Way

Credit: EOA, Inc.

Two-way, raised, separated bikeway with stormwater planter (Emeryville, CA)

Credit: SMCWPPP

Stormwater curb extension in Safe Routes to School improvements (San Mateo, CA)

Options for GI in Public Rights of Way

Tree Well Filter

Credit: DeepRoot Green Infrastructure

Suspended Pavement System with Silva Cells under Pervious Pavement (Palo Alto, CA)

Tree Well Filter

Credit: DeepRoot Green Infrastructure

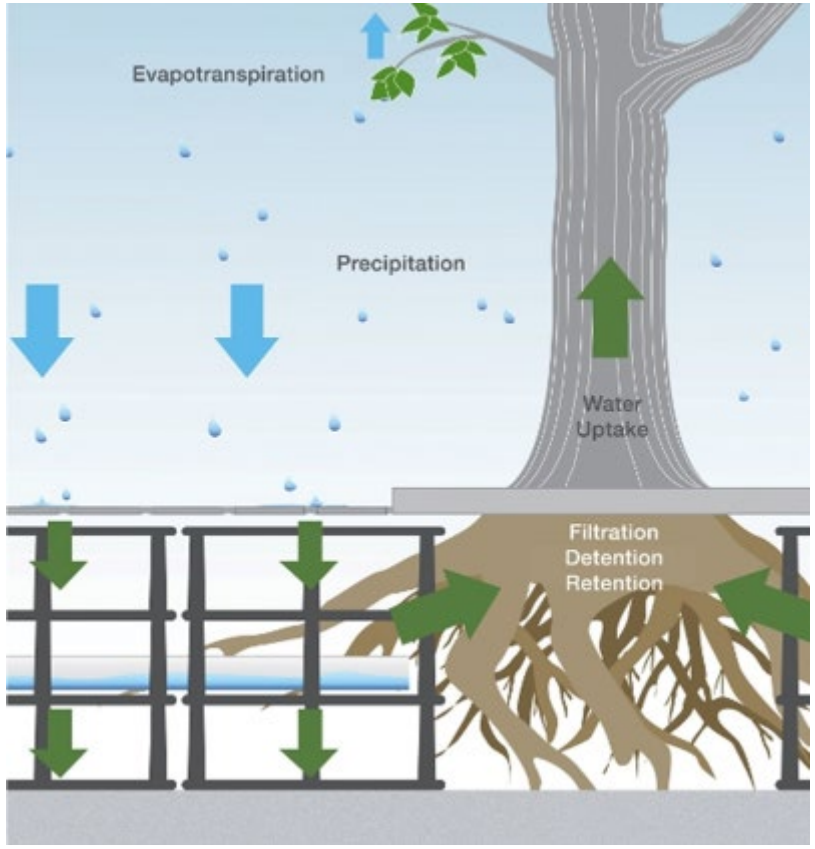
Suspended Pavement System with Silva Cells under Pervious Pavement (Seattle, WA)

Bioretention with Trees

Credit: EOA, Inc.

Adjacent sidewalk has suspended pavement system with structural soil (Emeryville, CA)

Options for GI in Public Rights of Way



Credit: DeepRoot Green Infrastructure

Suspended Pavement System with Silva Cells

Credit: DeepRoot Green Infrastructure

Credit: DeepRoot Green Infrastructure

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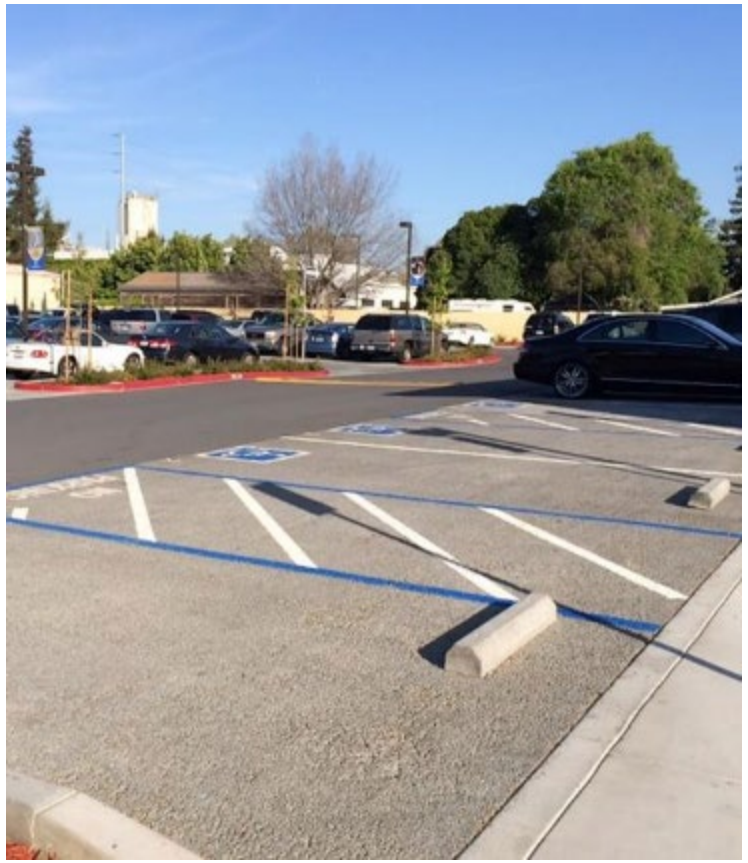
Options for GI in Public Rights of Way

Pervious Pavement

Credit: EOA, Inc.

Pervious Asphalt Parking Lot
(Los Gatos, CA)



Credit: EOA, Inc.

Pervious Concrete Parking Stalls
(San Jose, CA)

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Options for GI in Public Rights of Way

Pervious Pavement

Credit: EOA, Inc.

Credit: EOA, Inc.

Stormcrete Pre-cast Pervious Concrete Slabs
(Berkeley, CA)

Alternative Compliance

- Alternative Compliance (AC) is an option in Provision C.3.e that allows flexibility in meeting C.3 requirements for regulated projects
- The options for AC include:
  - LID treatment of equivalent impervious surface in another location off-site
  - Payment of in-lieu fee for off-site or regional project treatment
- AC projects must be in same watershed (defined broadly) and achieve a net water quality benefit (not defined)
- AC projects must be completed within 3 years of regulated project completion (up to 5 years with Water Board approval)

Locations/Types of Alternative Compliance (AC)

- AC for municipal projects within the permittee's jurisdictional boundaries (e.g., capital improvement projects, roads etc.)
- AC for private projects within the permittee's jurisdictional boundaries (e.g., regulated parcel-based projects)
- AC through a regional trading system where treatment could occur outside of the jurisdiction

AC for Public Projects Within the Jurisdiction

- Treat an equivalent amount of impervious surface (plus 10% extra for “net benefit”) in another location
- Build a voluntary GI project in the public ROW, park, campus, etc., and use “greened acres” for public projects needing AC
- Use existing GI projects to provide “greened acres” for alternative compliance if:
  - The project wasn’t used for a Regulated Project
  - The project complies with C.3.d sizing and other metrics
- Note that “greened acres” cannot be used for both AC and meeting GI numeric targets
  - Tracking of allocation required

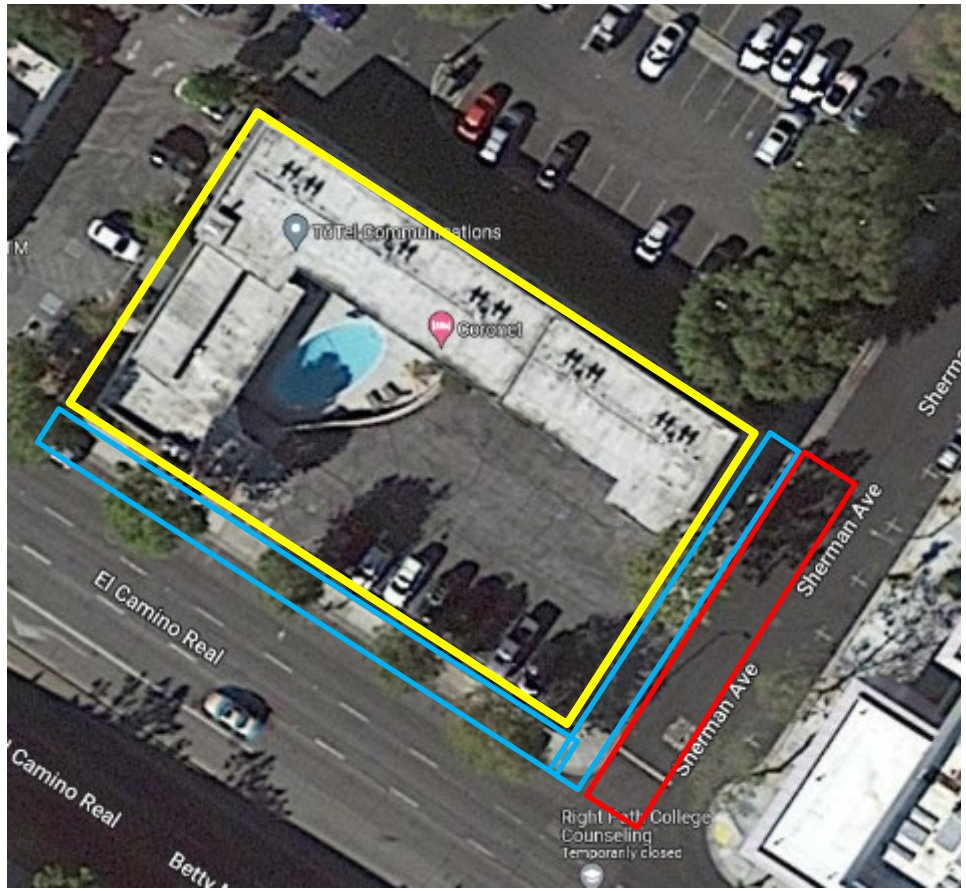
Considerations for AC with GI in Public ROW

- Finding locations for GI
  - Locations that provide the right amount of impervious area
  - Locations where it is feasible to install GI
  - Locations that are not planned for another use
- Ensuring maintenance of GI
  - Public agency or property owner (if associated with private project)?
    - If property owner, easier to ensure O&M if GI built close to project
    - If public agency, consider accessibility for O&M and funding
- Tracking allocations and maintenance responsibility

Example Scenarios for GI and AC in the Public ROW

Treatment of the Project Frontage

- Sidewalk replacement area
  - Drain toward new landscaped strip (self-retaining area)
  - Pervious pavement
  - Suspended pavement system + trees
- Side street trenching/repairs
  - Bioretention bulb-out or planter
    - Check drainage management area (DMA) size, flow direction and low point
    - Look for feasible location near that point
    - If infeasible, consider AC at another location (street or parking lot?)
    - Consider including sidewalk area as part of impervious area treated via AC



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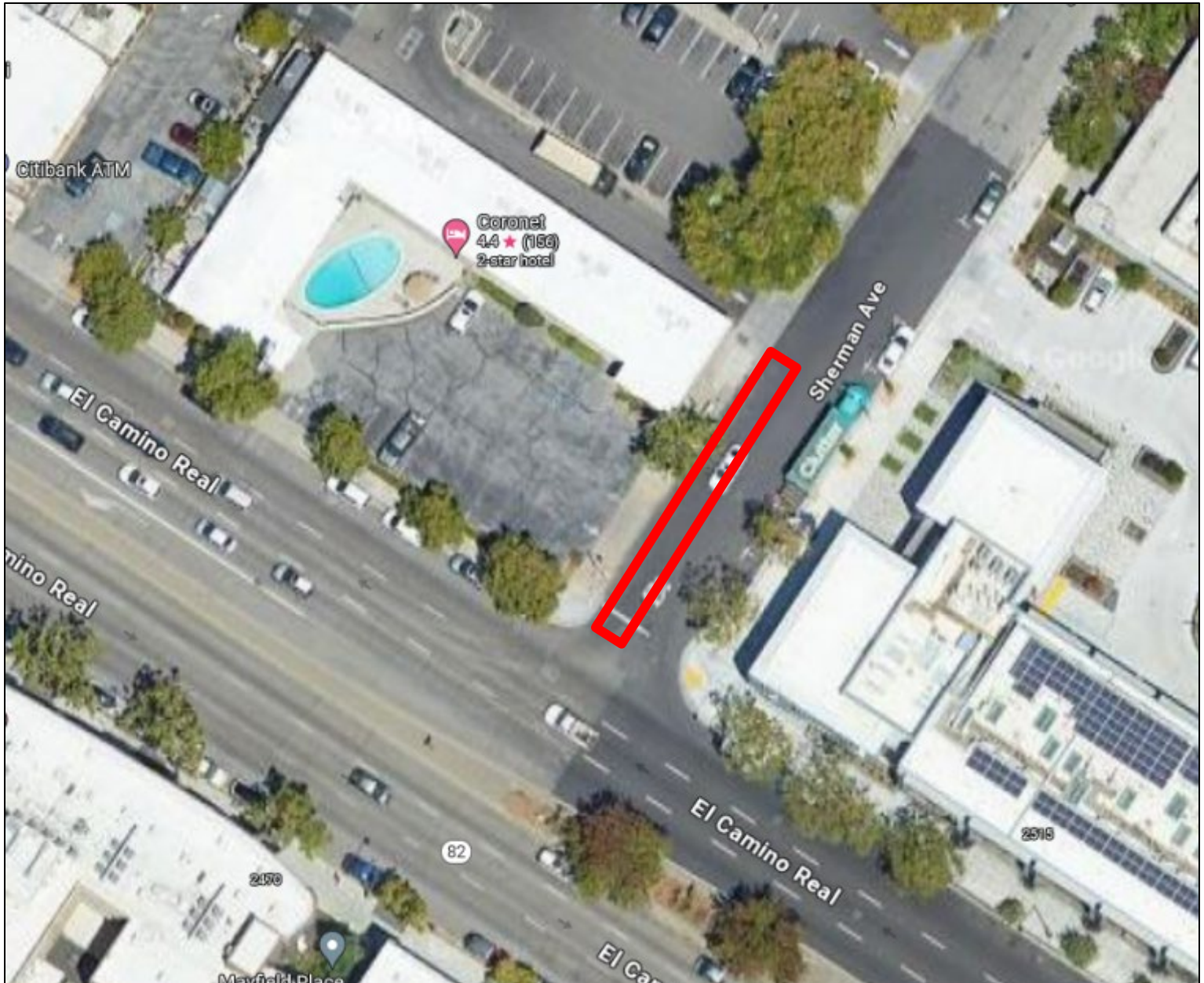
Treatment of the Project Frontage

- Options for Sherman Ave pavement replacement
  - Bioretention in bulb-out like opposite corner?
  - Put bioretention in 1-2 parking spaces across the street?
  - Problem – no storm drain inlets in this area
  - Bioretention in City parking lot behind project?
  - Find another AC location



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Considerations for AC for Road Reconstruction

- Regulated Road Reconstruction Projects:
  - Treated areas receive C.3.j credit
  - Street projects may use reduced sizing approach if constraints
  - Still may be challenging to provide full treatment in that road ROW
- Areas not regulated by the MRP can also receive C.3.j credit or be used for AC
  - Impervious areas treated that are not being replaced or created (e.g., parking lots that drain to the street on the surface*)
  - Upstream roadway areas that are treated in addition to the required areas

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Road Reconstruction AC Example

- Road, bike lane and gutter replacement boundary (Regulated treatment area)
- Sidewalk replacement (Regulated treatment area)
- Project boundary (Regulated treatment area)
- Possible alternative compliance treatment area
- Additional treatment area
- Parking lot contributing runoff

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Using AC for Utility Trenching Projects

- Considerations for Utility Trenching Project (>1 acre)
  - If the work can be kept below the trench width threshold of 8 feet (measured at the asphalt layer), this work will not be regulated.
  - Typically, it will not be feasible to capture runoff only from the trench area, so will need to size treatment for half of the road section, OR
  - Provide treatment of impervious surface equivalent to the trench area at one location (AC, either near the trench or another location)
  - Either option could generate additional treated area for C.3.j or an AC bank

Utility Trenching – AC Example
Trench is 10 ft. wide and 4400 ft. long

Impervious area replaced for utility trenching (regulated treatment area) = 44,000 sq. ft.

Alternative compliance area on side street = 44 ft. wide by 1,000 ft. long + 10% net benefit (or shorter if account for driveways, etc. contributing runoff)

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Questions?

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