

COUNTY OF SAN DIEGO CONSTRUCTION AND DEMOLITION DEBRIS DIVERSION

BUILDING BETTER ROADS

JUNE 11, 2019

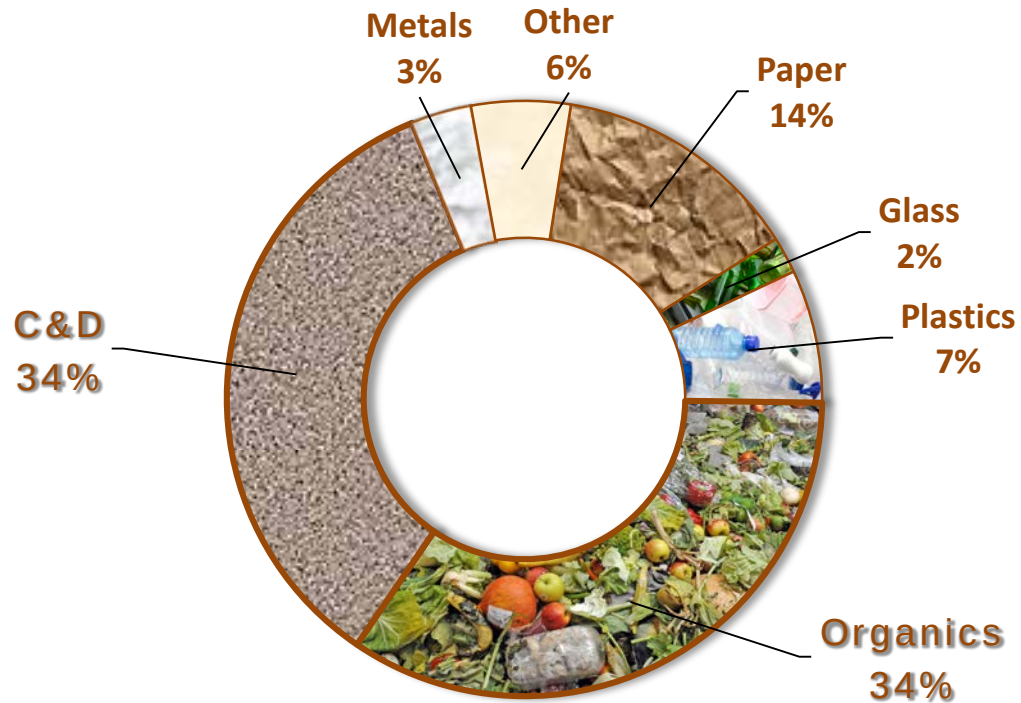


AGENDA

- Waste composition
- Changing waste diversion laws and goals
- Current & proposed C&D ordinance changes
- Effects on industry
- Infrastructure overview
- Region's projects using recycled products
 - County projects
 - City of Chula Vista – Sustainable Streets
- Q&A

WASTE COMPOSITION

- * Annual unincorporated disposal volume: 475,000 tons



REASONS FOR CHANGING C&D ORDINANCE

Achieve Board's Strategic Plan goals

Align with CALGreen requirements

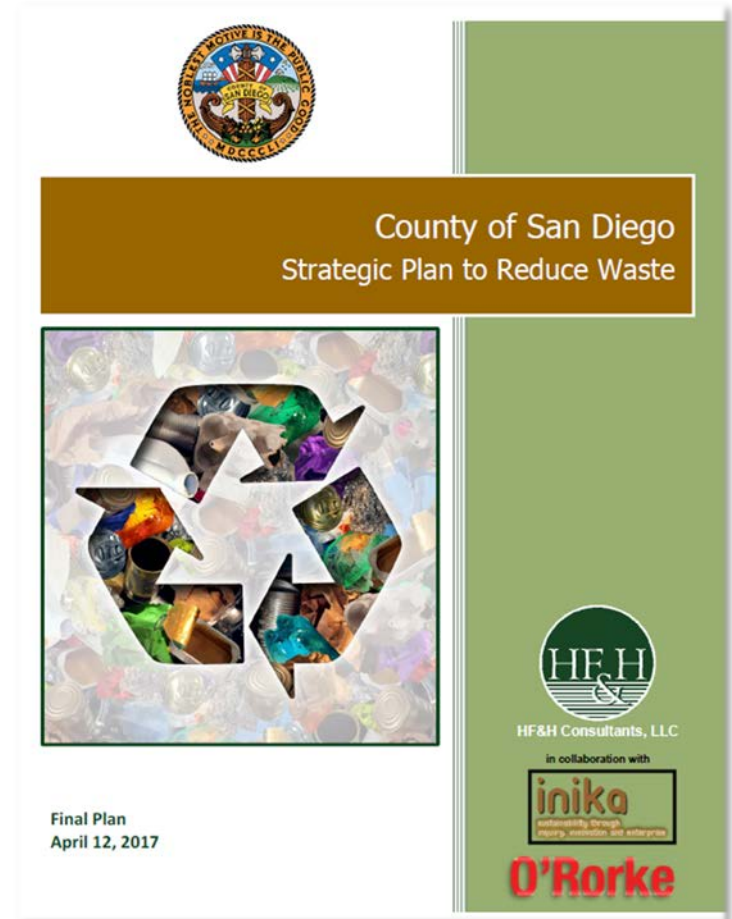
Comply with SB 1383

Increase financial incentives for compliance

STRATEGIC PLAN TO REDUCE WASTE

Board Direction

- Unincorporated Area
 - 75% diversion by 2025
 - 80% by 2030
 - Prioritize use of recycled materials in road construction
- Procurement



CALGREEN REQUIREMENTS

CALGreen – Effective 1/1/2017

CALGreen C&D recycling requirements

- 65% waste diversion for residential and commercial
- 100% excavation and land-clearing debris for non-residential
- SBI 383 requires enforcement of CALGreen

C&D DIVERSION REQUIREMENTS (SEC 68.516)

100%

- Excavation and land-clearing debris for non-residential projects* and for residential projects with major grading permits

90%

- Inerts

65%

- Overall diversion rate*

75%

- Potential future overall diversion rate

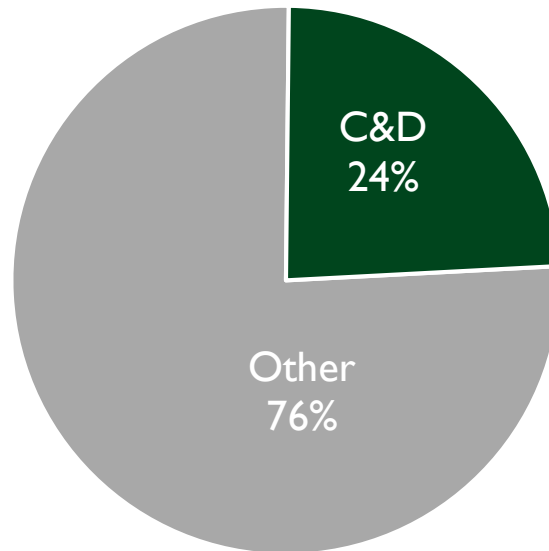
* CALGreen Section 4.408.1, 5.408.1, 5.408.3

OVERVIEW OF PROPOSED MODIFICATIONS

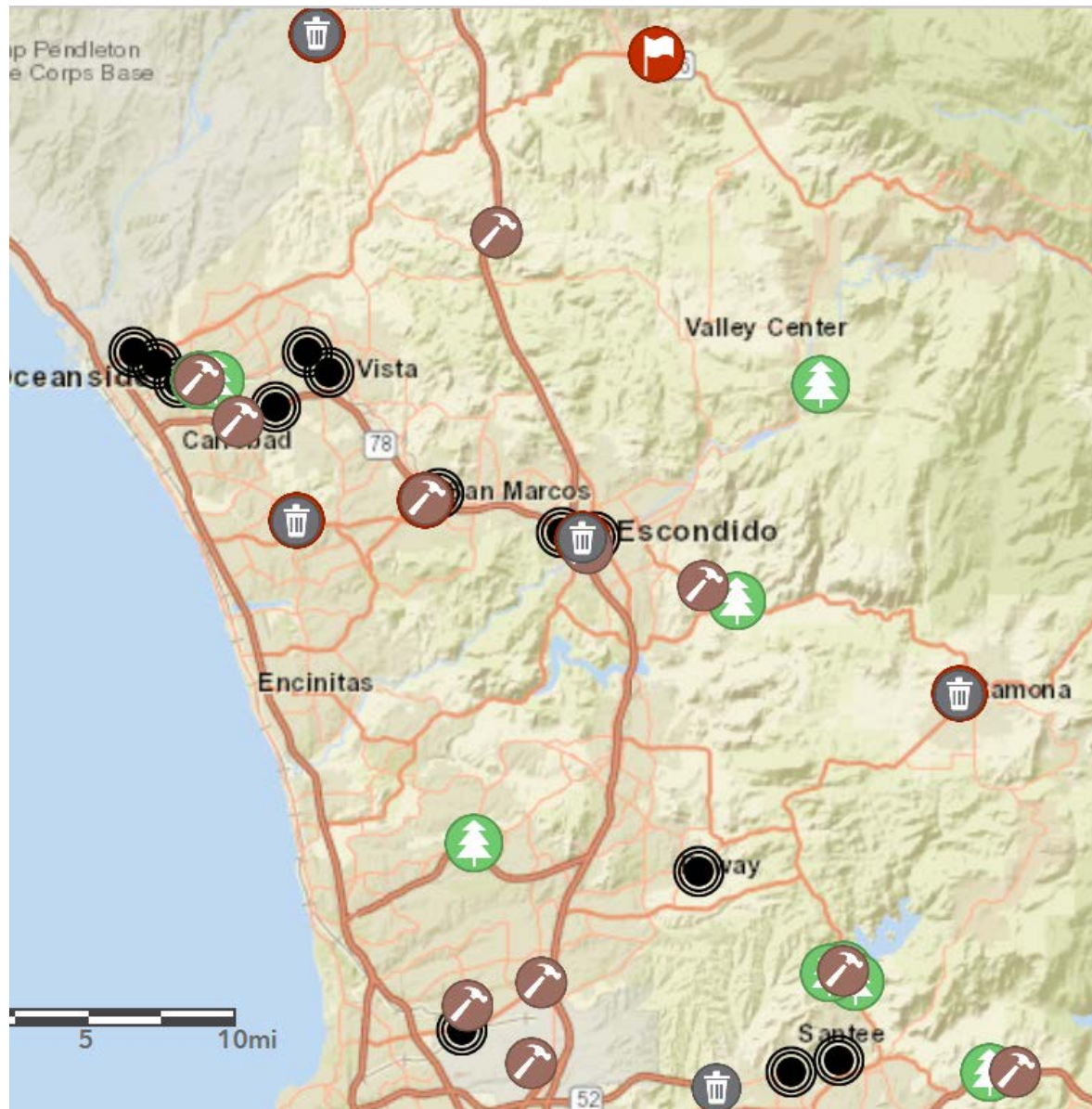
EARLY 2020

	Current	Proposed
Diversion Rate Requirement	90% Inerts 70% Other	90% Inerts 65% Overall 100% Land-clearing Debris
Project Thresholds	> 40,000 SF	>1,000 SF >5,000 cy (grading)
Deposit per Sq. Ft	\$0.20/SF	\$0.40/SF

EFFECTS ON INDUSTRY

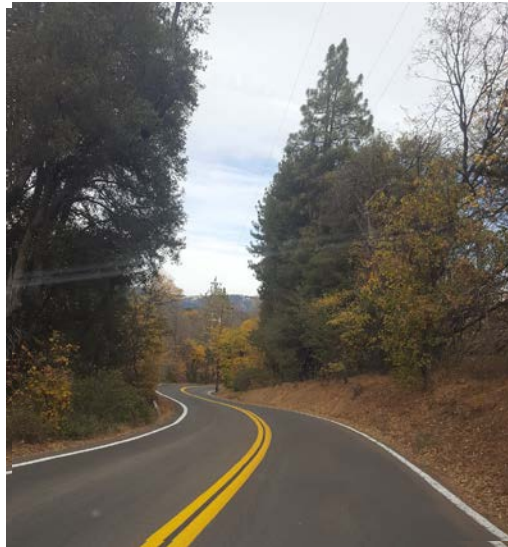


- Increase in C&D materials from additional projects
- Need improved end markets for increase in materials



GIS MAP OF RECYCLING FACILITIES

COUNTY PROJECTS USING RECYCLED PRODUCTS



- Annual Pavement Seal Resurfacing Contracts (2015-Present)
- The County's annual maintenance projects improve the overall condition of our nearly 2,000 mile road network
- Since 2015 The County has placed rubberized slurry seal on over 30 miles of County Roads.
- Rubberized seals replace up to 6% of the asphalt binder with ground tire rubber
- Over 4,000 scrap tires have been diverted from landfills as part of this effort.

COUNTY PROJECTS USING RECYCLED PRODUCTS



- Annual Asphalt Concrete Overlay Resurfacing Contracts (2015-Present)
- The County's annual maintenance projects improve the overall condition of our nearly 2,000 mile road network
- Since 2015 The County has placed over 66,000 tons of rubberized asphalt concrete as part of our asphalt resurfacing projects.
- Almost 100,000 scrap tires have been diverted from landfills as part of this effort.
- Additionally, during this same time period, The County has replaced 15% of the virgin aggregate used in asphalt concrete with reclaimed asphalt pavement (RAP). This results in less impact on both the dwindling supply of virgin aggregate and local landfills where RAP has been historically deposited.



Jose Luis Gomez PE,PLS
Principal Civil Engineer
Engineering & Capital Projects

DESIGNING AND MAINTAINING SUSTAINABLE STREETS



Chula Vista's Pavement Assets

Category	Centerline Miles	Lane Miles	Area – Million Sq. Ft.	PCI
Arterials	58.3	287.4	22.0	82
Collectors	77.7	223.2	19.8	73
Residential	316.4	642.5	56.4	73
Alleys	10.6	22.0	1.3	51
TOTAL NETWORK	463.0	1175.1	99.5	74

Pavement Asset Management

A Team Approach



A G E N D A PAVEMENT ASSET MANAGEMENT MEETING (21 May 2019)

1) Announcements/Approval of Minutes for *March 05, 2019*.

2) Previous Meeting Action Items

- Telegraph Canyon Road Utility Trench Failure

3) Nichols Engineering Optional Services Update

4) ARAM Locations

5) DESIGN Project Updates

- STL0423/0433: Pavement Minor Rehabilitation
- STM0396: RMRA Major Rehabilitation Funding FY18/19
- STM0397: Major Pavement Rehabilitation FY19/20

6) CONSTRUCTION Project Updates

- STL0430: Measure P – Phase II
- STM0393: Pavement Major Rehabilitation
- STM0395: RMRA Major Rehabilitation FY17/18

7) NEXT MEETING

- Tuesday, July 16, 2019

Meeting Attendees:

- Bill Valle
- Bob Beamon
- Frank Rivera
- Jose Gomez
- Nicola Kavanagh
- Kalani Camacho
- Steve Padilla
- Marc Amio
- Patrick Moneda
- Greg Tscherch
- Rosina Constanza
- Mike Schedine
- David White
- Claudia Estupinan
- Mari Malong
- Tim Jones

- Full Depth Reclamation
- 15% RAP in all Overlay projects
- Focus on Major Arterials-collector
- A Balanced Slurry to Overlay strategy



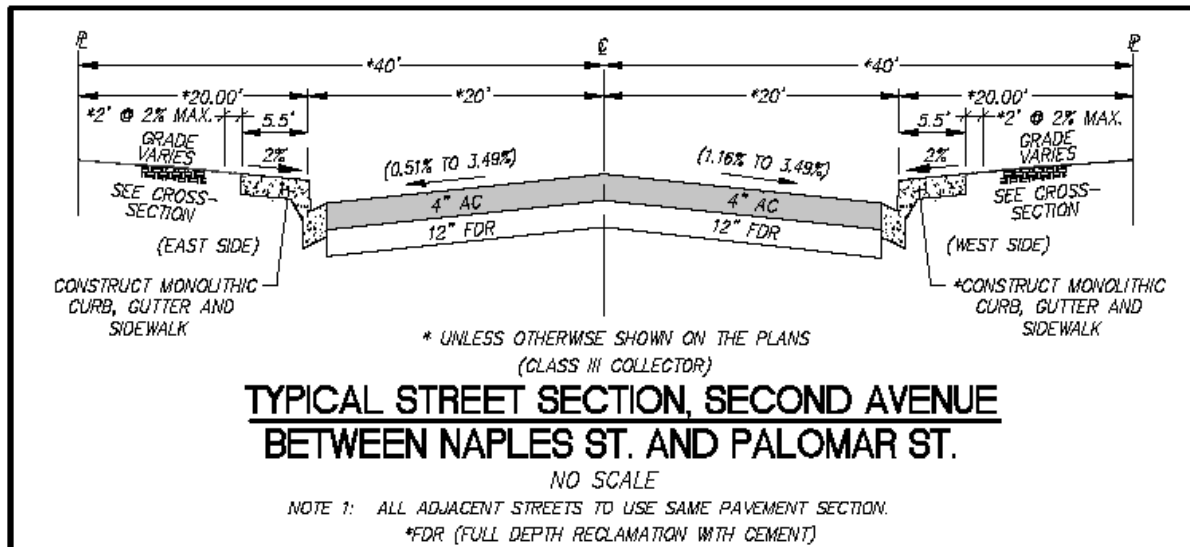
Reconstruction: Removal and replacement of both the asphalt concrete pavement and the aggregate base

Full Depth Reclamation:

Recycling and re-using the existing pavement, base and soil, which are pulverized and blended, and cement is added. 3" or 4" of asphalt concrete pavement is placed over the FDR base



Design Section 4"AC/12" FDR



Before and After FDR



FDR Schedule ¼ mile

Week 1 – Monday - Thurs, Pulverize & Mix Cement

Week 2 – Monday, Hot Mix Asphalt Coarse layer
Tuesday, Hot Mix Asphalt Finish layer

Summary of Results

- 36% less cost than conventional remove & replace sub grade (\$133,185)
- 744 Truck trips avoided for material removal & import of sub base
- 4 week reduction of project schedule
- Higher strength than aggregate base
- Resources saved in aggregate production

- Higher RAP % Content
- Cold in Place Recycling
- Warm Mix Additive

C Street 5% Asphalt Shingles Paved Oct. 2010

6/7/2019

Google Maps

Google Maps



Imagery ©2019 Google, Map data ©2019 Google 100 ft

<https://www.google.com/maps/@32.6485721,-117.0941236,225m/data=!3m1!1e3?hl=en>

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- Incorporate into Sustainability Plan
- Locations for test sites
- Funding sources
- Incentives for vendors
- Performance standards and testing
- Public education

QUESTIONS



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Solid Waste Planning and Recycling

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