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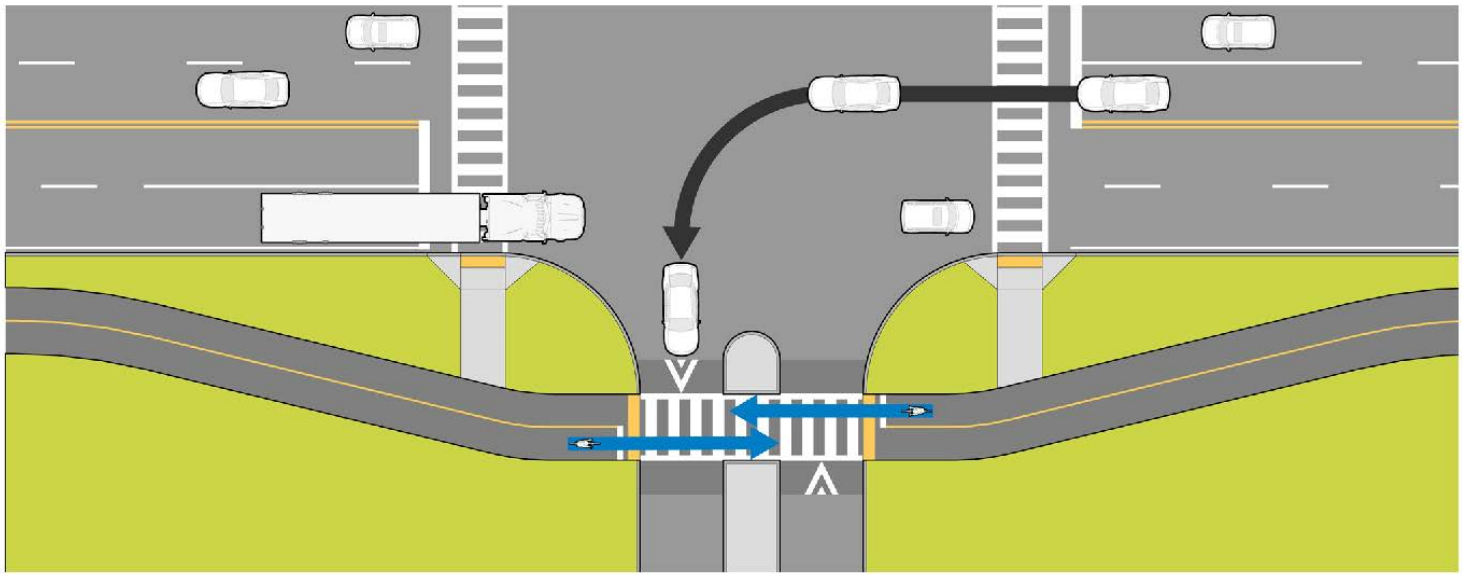
HOLLISTER AVENUE CLASS I BIKE PATH / MULTI-USE PATH PROJECT UPDATE

Teresa Lopes,
Sr. Project Engineer

July 19, 2016

Summary of Last Meeting

- Discussed typical Bend-Out Crossing Design Parameters, Common Use, and Benefits
- Presented the “Bend-Out” Design for the Hollister Class I Bike Path Project with a 25 ft Setback
- Discussed Three Possible Scenarios to Accommodate the Bend-Out Design and the Results of the Analysis Associated with Each Scenario



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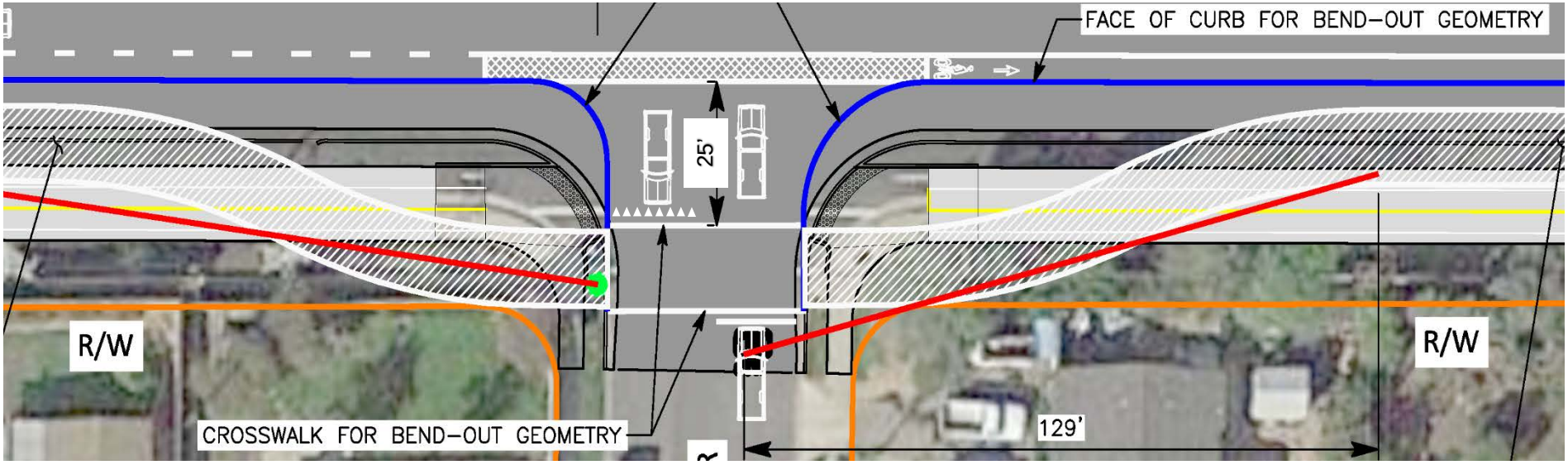
FACE OF CURB FOR BEND-OUT GEOMETRY
25'
R/W
R/W
CROSSWALK FOR BEND-OUT GEOMETRY
129'


El Colegio Road
56'

Previously Analyzed Three Possible Scenarios to Accommodate Bend-Outs

- Scenario 1 – Analyzed accommodation of a Bend-Out at each un-signalized intersection staying within existing R/W limits

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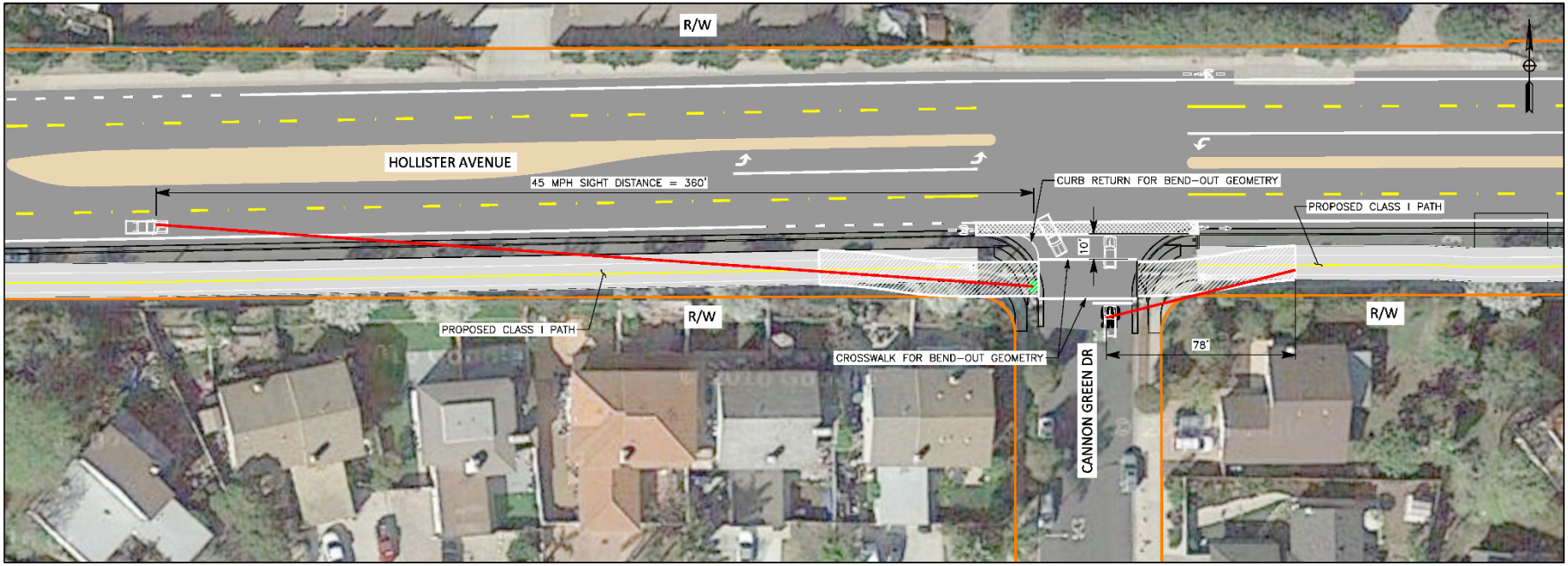
INTERSECTION CROSSING –BEND OUT DESIGN WITHIN R/W

Cannon Green Drive



HOLLISTER AVE/CANON GREEN DR INTERSECTION
BEND-OUT TURNING MOVEMENT WITHOUT R/W TAKE

AVAILABLE SETBACK DISTANCE = 10 Ft

LEGEND
R/W
LINE OF SIGHT
PEDESTRIAN PATH BEND–OUT GEOMETRY
TRAVEL PATH OF CLASS II BIKE LANE AT INTERSECTION
LOCATION OF BICYCLIST/PEDESTRIAN ON CURB RAMP

HOLLISTER AVE
CLASS I BIKE/PEDESTRIAN IMPROVEMENTS

SCALE: 1"=20'
JUNE 2016
SHEET 3 OF 4

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Previously Analyzed Three Possible Scenarios to Accommodate Bend-Outs

- Scenario 1 – Analyzed accommodation of a Bend-Out at each un-signalized intersection staying within existing R/W limits

Results of Analysis:

- Cannot achieve the minimum setback distance of 25 ft at any of the intersection crossings
- Setback distances obtained do not provide space needed for a vehicle to queue when yielding to a path user without blocking the Class II bike lane and in some cases the rightmost EB lane

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Previously Analyzed Three Possible Scenarios to Accommodate Bend-Outs

- Scenario 2 – Analyzed impacts associated with providing a standard Bend-Out, with a 25 ft minimum setback, and keeping Hollister Ave as a 4-lane roadway

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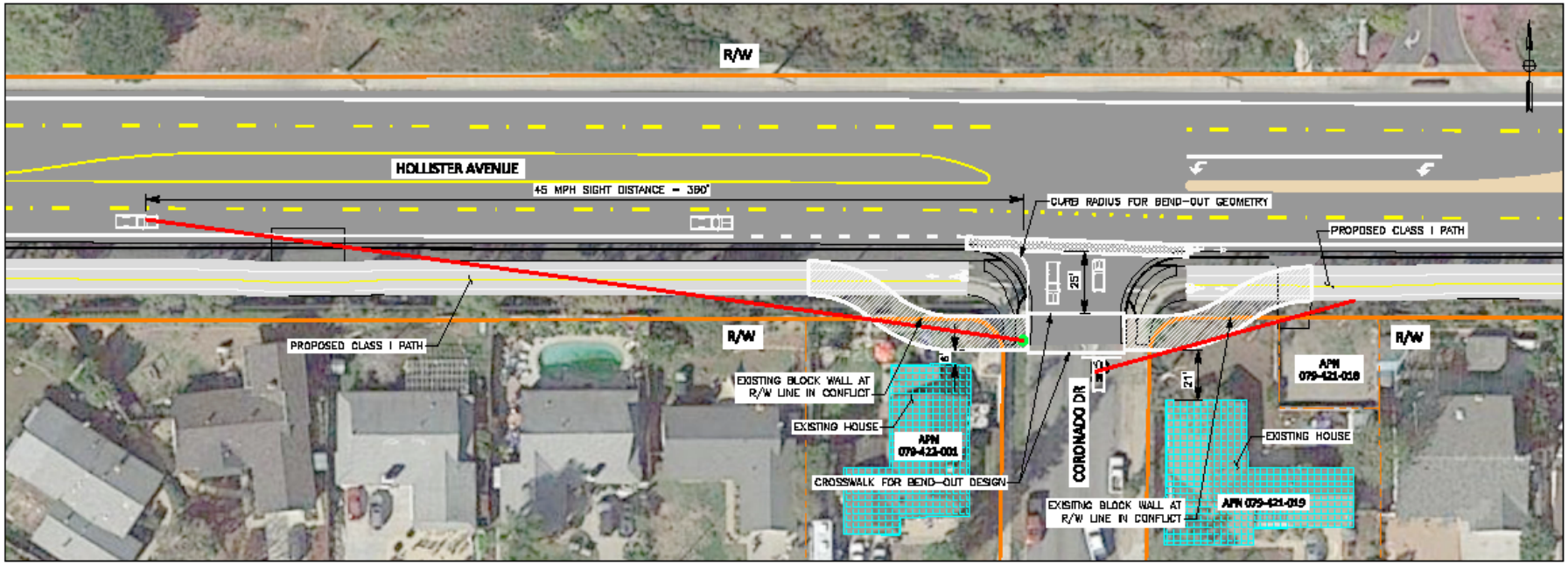
INTERSECTION CROSSING –BEND OUT DESIGN WITH R/W TAKE
Coronado Dr.



HOLLISTER AVE/CORONADO DR INTERSECTION
BEND-OUT TURNING MOVEMENT WITH R/W TAKE

LEGEND
- R/W
- APPROXIMATE PARCEL BOUNDARY
- LINE OF SIGHT
- PEDESTRIAN PATH BEND-OUT GEOMETRY
- TRAVEL PATH OF CLASS II BIKE LANE AT INTERSECTION
- LOCATION OF BICYCLIST/PEDESTRIAN ON CURB RAMP

HOLLISTER AVE
CLASS I BIKE/PEDESTRIAN IMPROVEMENTS

SCALE: 1"=20'
JUNE 2016
SHEET 2 OF 4

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Previously Analyzed Three Possible Scenarios to Accommodate Bend-Outs

- Scenario 2 – Analyzed impacts associated with providing a standard Bend-Out, with a 25 ft minimum setback, and keeping Hollister Ave as a 4-lane roadway

Results of Analysis:

- A total of 12 parcels would be impacted in order to accommodate the Bend-Outs
- Bend-Outs at Pebble Beach and Santa Barbara Shores would impact an environmentally sensitive habitat area (ESHA) and will have impacts to the Coastal Zone

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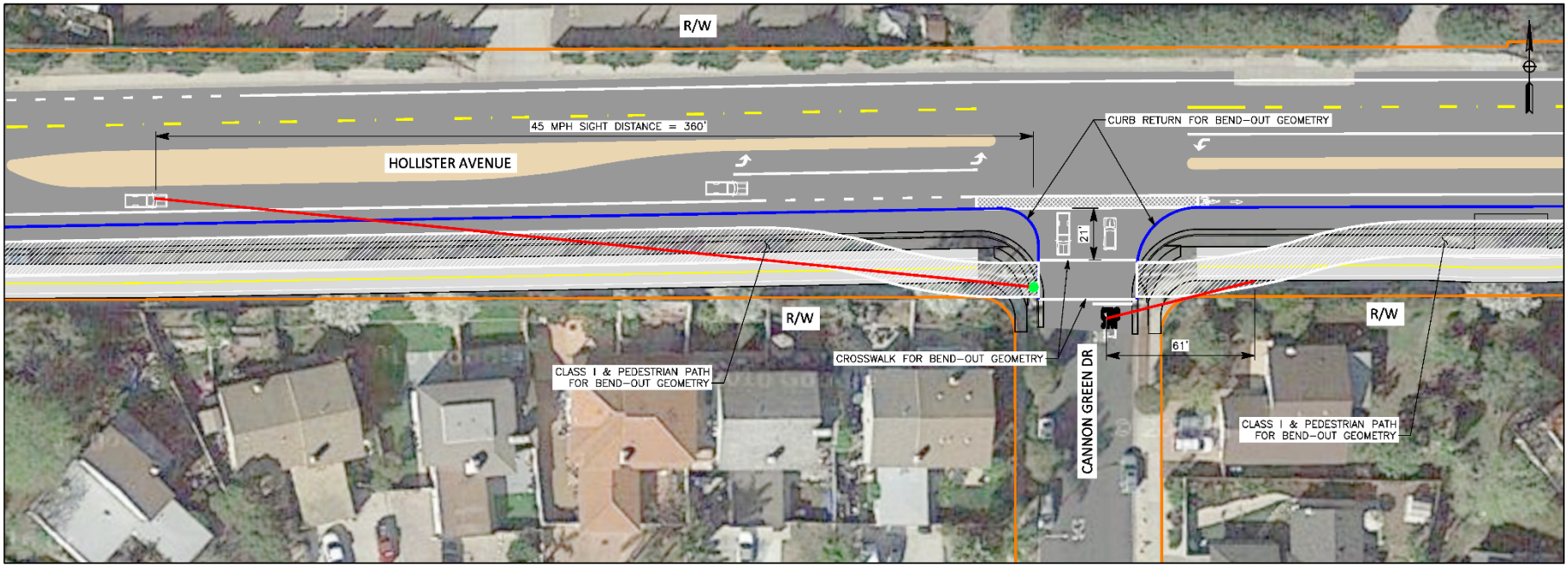
Previously Analyzed Three Possible Scenarios to Accommodate Bend-Outs

- Scenario 3 – Analyzed accommodation of a Bend-Out with a 25 ft. setback, if Hollister Ave was reduced to one traffic lane in the Eastbound (EB) direction

INTERSECTION CROSSING –BEND OUT DESIGN WITH 1 EB LANE ON HOLLISTER – NO R/W TAKE

Cannon Green Dr.



HOLLISTER AVE/CANON GREEN DR INTERSECTION
BEND-OUT TURNING MOVEMENT WITH ONE EASTBOUND LANE

AVAILABLE SETBACK DISTANCE = 21 Ft

Does Not Meet Bend Out Standards

LEGEND
R/W
LINE OF SIGHT
CLASS I & PEDESTRIAN PATH FOR BEND–OUT GEOMETRY
TRAVEL PATH OF CLASS II BIKE LANE AT INTERSECTION
LOCATION OF BICYCLIST/PEDESTRIAN ON CURB RAMP

HOLLISTER AVE
CLASS I BIKE/PEDESTRIAN IMPROVEMENTS

SCALE: 1"=20'
06/20/2016
SHEET 3 OF 4

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Previously Analyzed Three Possible Scenarios to Accommodate Bend-Outs

- Scenario 3 – Analyzed accommodation of a Bend-Out with a 25 ft. setback, if Hollister Ave was reduced to one traffic lane in the Eastbound (EB) direction

Results of Analysis:

- Even with taking one traffic lane off Hollister the minimum required setback distance could not be developed at 5 out of 6 of the intersections

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Conclusion of Last Council Meeting

- **Council directed Staff to look at a fourth scenario** -
  - Analyze the impacts of a “lane diet” along Hollister Avenue – reducing Hollister Ave from a four-lane roadway to a two-lane roadway (one lane in each direction)
  - The purpose of the lane diet to provide additional width in order to accommodate the Bend-Out design with a minimum 25 ft setback at each unsignalized intersection.

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Update Since Last Council Meeting

- Staff engaged the consultant team of Drake Haglan and Associates, Kimley Horn, and Stantec to look at impacts of a lane diet along Hollister Ave from Pacific Oaks Road to west of Pebble Beach Drive
- Reviewed the 2014 Traffic Analysis which looked at the operations associated with a Two-Lane Hollister Ave
- Looked at the design of Bend-Outs at all unsignalized intersections with the Two-Lane Hollister Ave
- Held a meeting with representatives of SBBIKE and COAST on June 30 to discuss the analysis outcome and options

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2014 Traffic Report

- 2014 Traffic Operations Analysis for the Hollister Class I Bike Path
  - Kittleson and Associates, Inc.
  - Completed in October, 2014

2014 Traffic Report

- Analyzed Existing Traffic Volumes and Operations for Hollister Avenue
  - Four-Lane Hollister Ave
  - Two-Lane Hollister Ave
- Analyzed Future 2035 Traffic Volumes and Operations for Hollister Avenue under two scenarios
  - With the Goleta 101 Overcrossing
    - Four-Lane Hollister Ave
    - Two-Lane Hollister Ave
  - Without the Goleta 101 Overcrossing
    - Four-Lane Hollister Ave
    - Two-Lane Hollister Ave

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2014 Traffic Report

Key Findings: Two-Lane Hollister Ave Intersection Impacts

- **Existing Conditions**: Intersection Operations and roadway segment operations will not exceed City's impact threshold with a Two-Lane Hollister Ave, except at Cannon Green
- **Future 2035 Conditions** (**Without** 101 Overcrossing: Project traffic operations degrade to below City's impact threshold at the following intersections:
  - Pacific Oaks Road
  - Cannon Green Drive
  - Coronado Road
- **Future 2035 Conditions** (**With** 101 Overcrossing: Project traffic operations degrade to below City's impact threshold at the following intersections:
  - Pacific Oaks Road
  - Cannon Green Drive

City of Goleta Level of Service (LOS) Threshold is LOS C

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2014 Traffic Report

Key Findings: Intersection Impacts Required Mitigation

- **Pacific Oaks Road** – Provide four lanes (2 Lanes each direction) at Pacific Oaks Road
- **Cannon Green Drive** – Install a signal to mitigate future volume operations
- **Corondao Drive** – Provide a continuous two-way center left-turn lane to allow two-stage gap acceptance

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2014 Traffic Report

Key Findings: Roadway Segment ADT Threshold Analysis

- Analyzed the average daily traffic (ADT) for two-lane roadway segments along Hollister Ave
  - Ellwood Elementary School to Entrance Road
  - Entrance Road to Pacific Oaks Road

- Conclusion: Analysis indicated that for Future 2035 traffic volumes with the 101 Overcrossing – the volumes along the segment from Entrance Road to Pacific Oaks Road would exceed the City's LOS Threshold.

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Two-Lane Hollister Avenue Bend-Out Design Analysis

- Analyzed reducing Hollister Ave to one EB lane and one WB lane between Entrance Road and west of Pebble Beach Drive
- Road section consists of 12 ft Lanes, 6 ft Class II Bike Lanes and a 16 ft center two-way left turn lane
- Reduced width on Hollister Avenue would accommodate the bend-out design with the 25 ft setback

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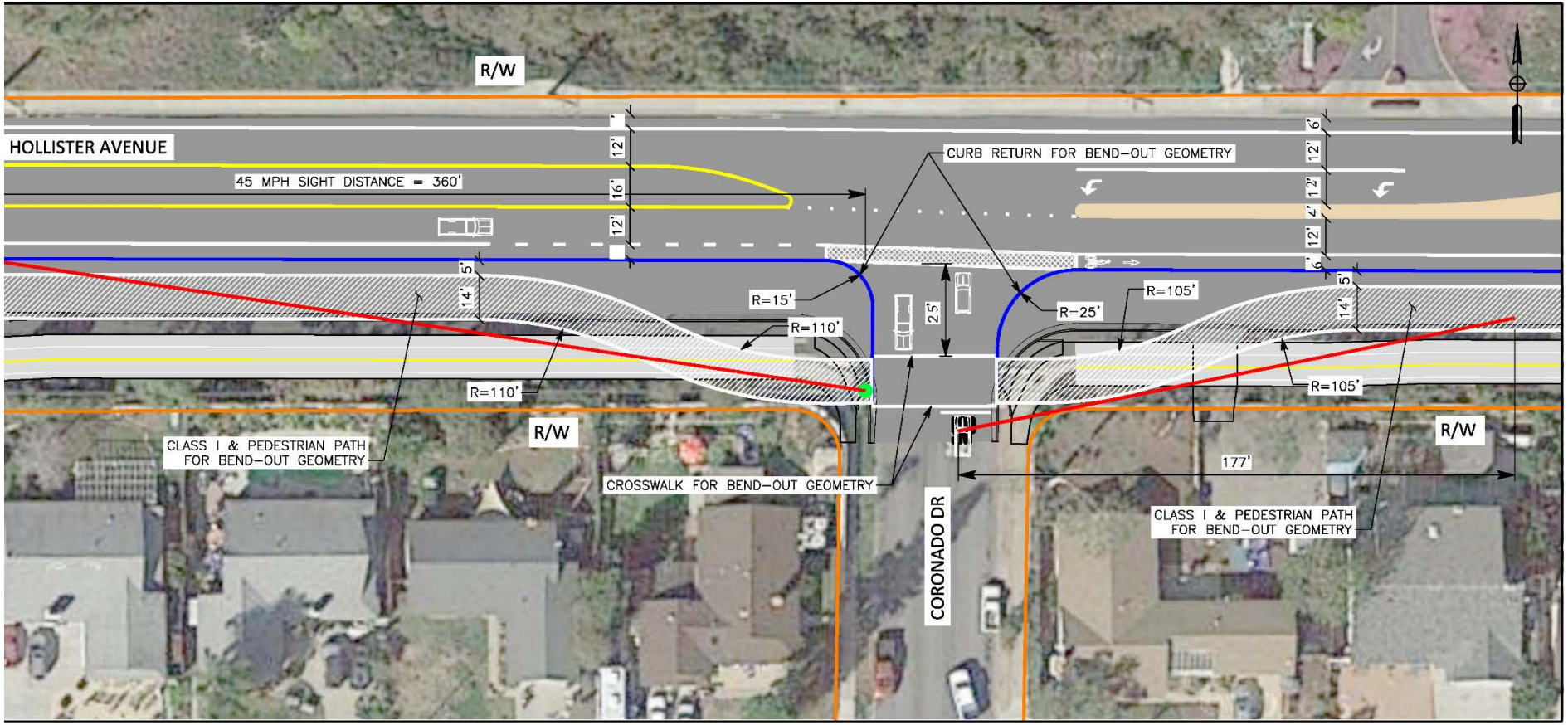
Typical Bend-Out Design
Two-Lane Hollister Ave



HOLLISTER AVE/CORONADO DR INTERSECTION
BEND-OUT TURNING MOVEMENT WITH ONE WESTBOUND & EASTBOUND LANE

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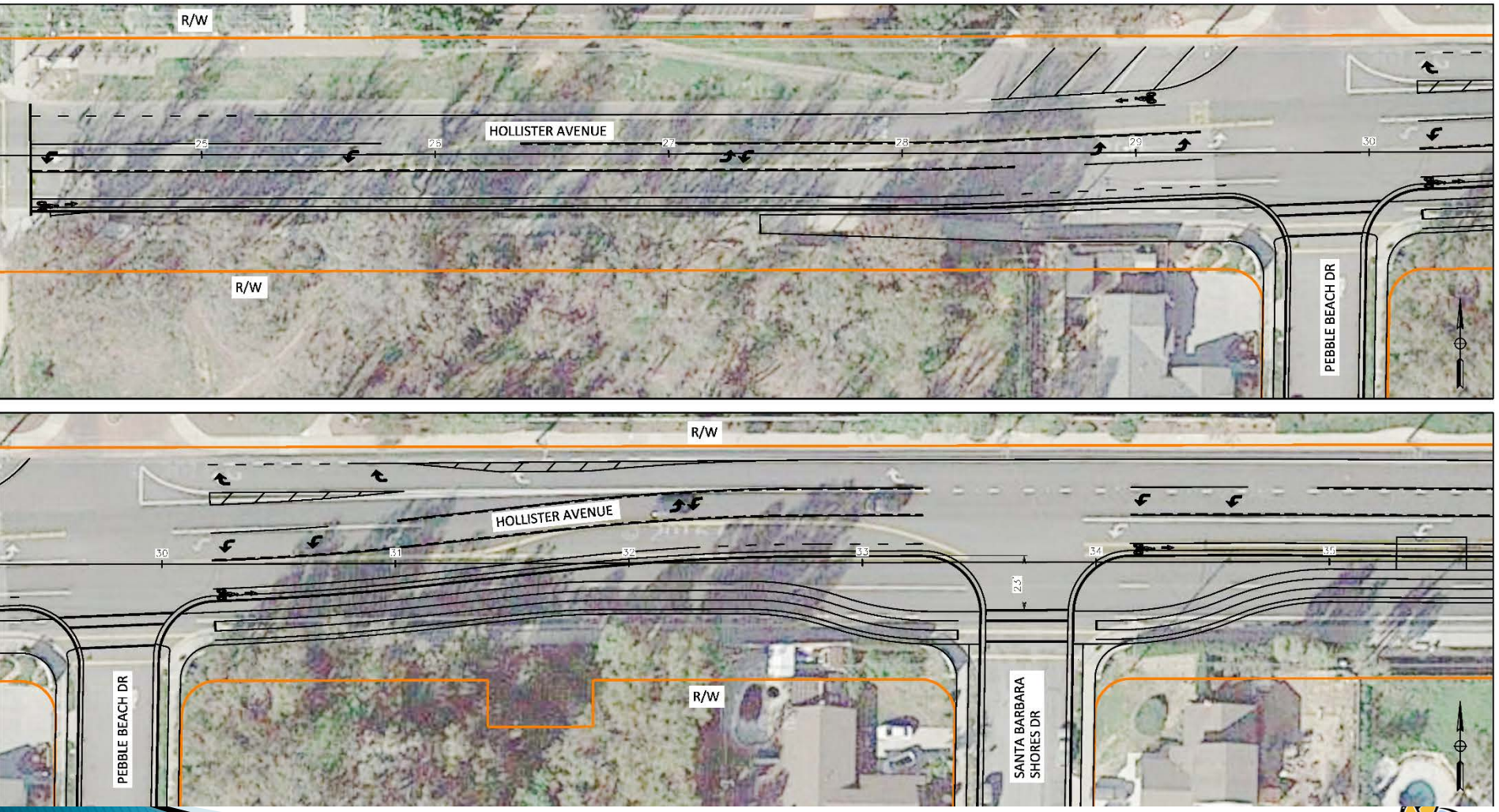
Two-Lane Hollister Ave Transition at Pebble Beach Drive



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Two-Lane Hollister Avenue Impacts and Tradeoffs

- Higher traffic volumes will result in fewer gaps along mainline Hollister Ave
  - Results in increased delay to vehicles turning off of, or onto Hollister Ave
  - Increased queuing on side streets during peaks
  - Left turns out of side streets and driveways required to make a “two-staged” turn using the center turning lane – not all motorists are comfortable doing this
- May require further environmental analysis due to traffic operations impacts

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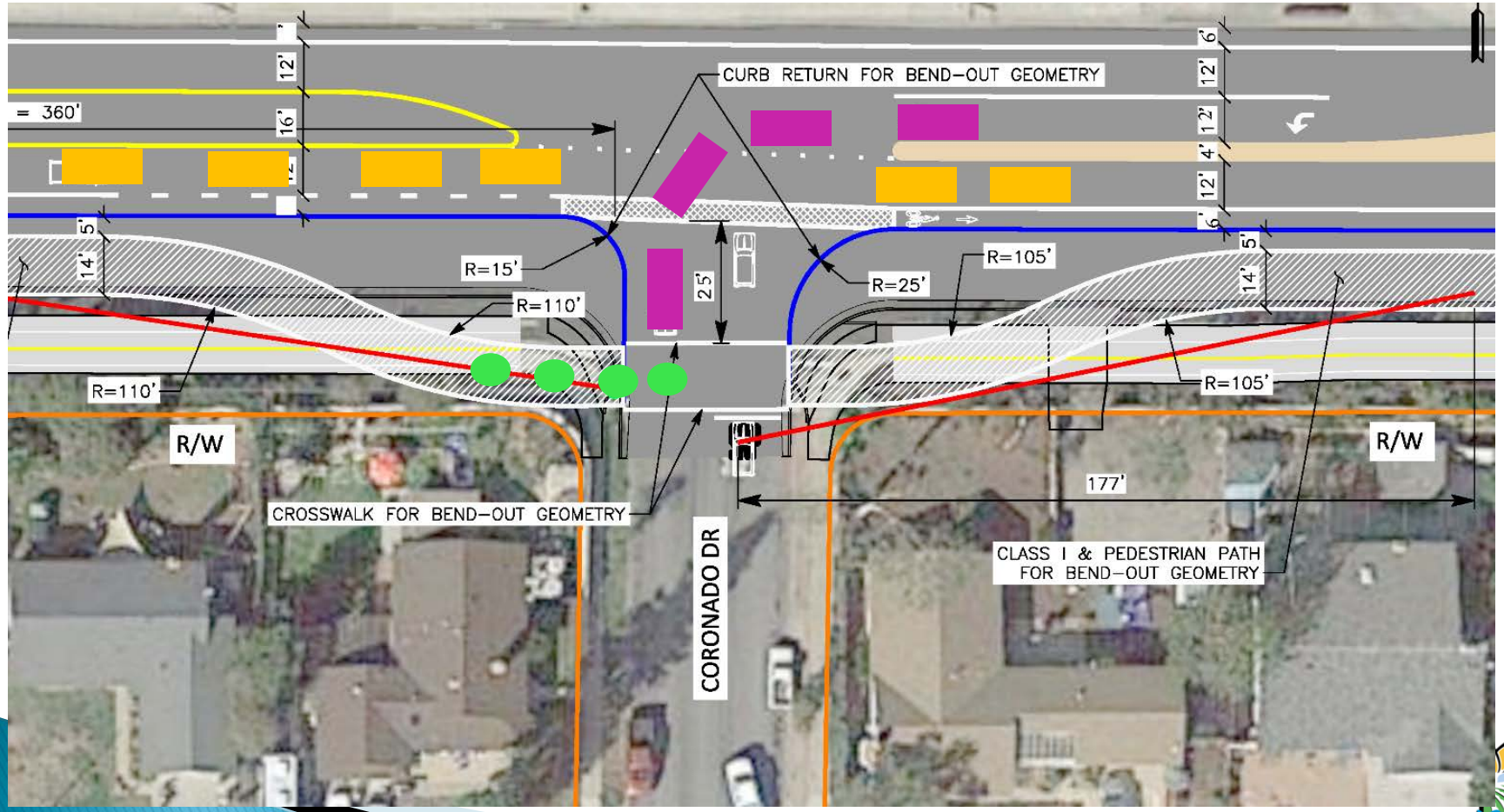
Two-Lane Hollister Avenue Impacts and Tradeoffs

- Left Turn Issues



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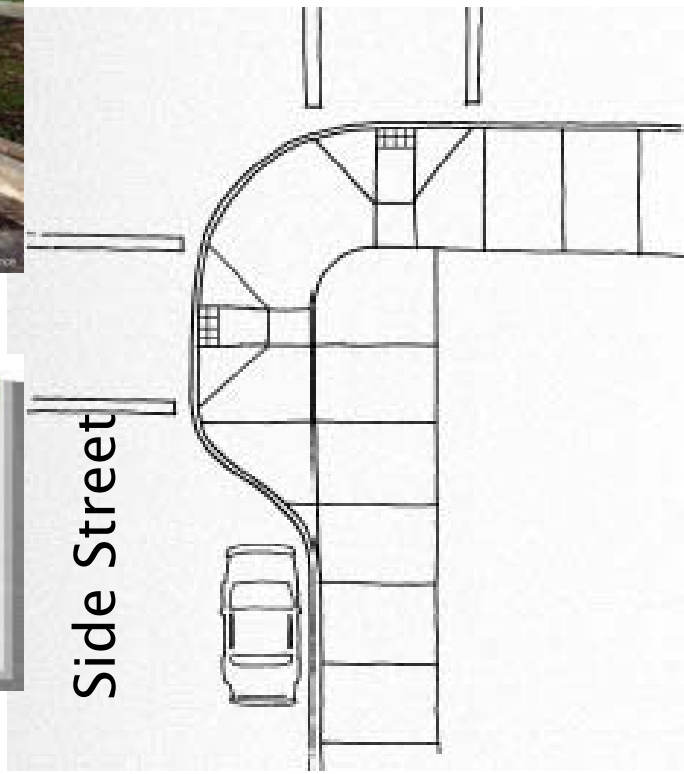
Curb Extensions (Bulb-Outs)

Benefits

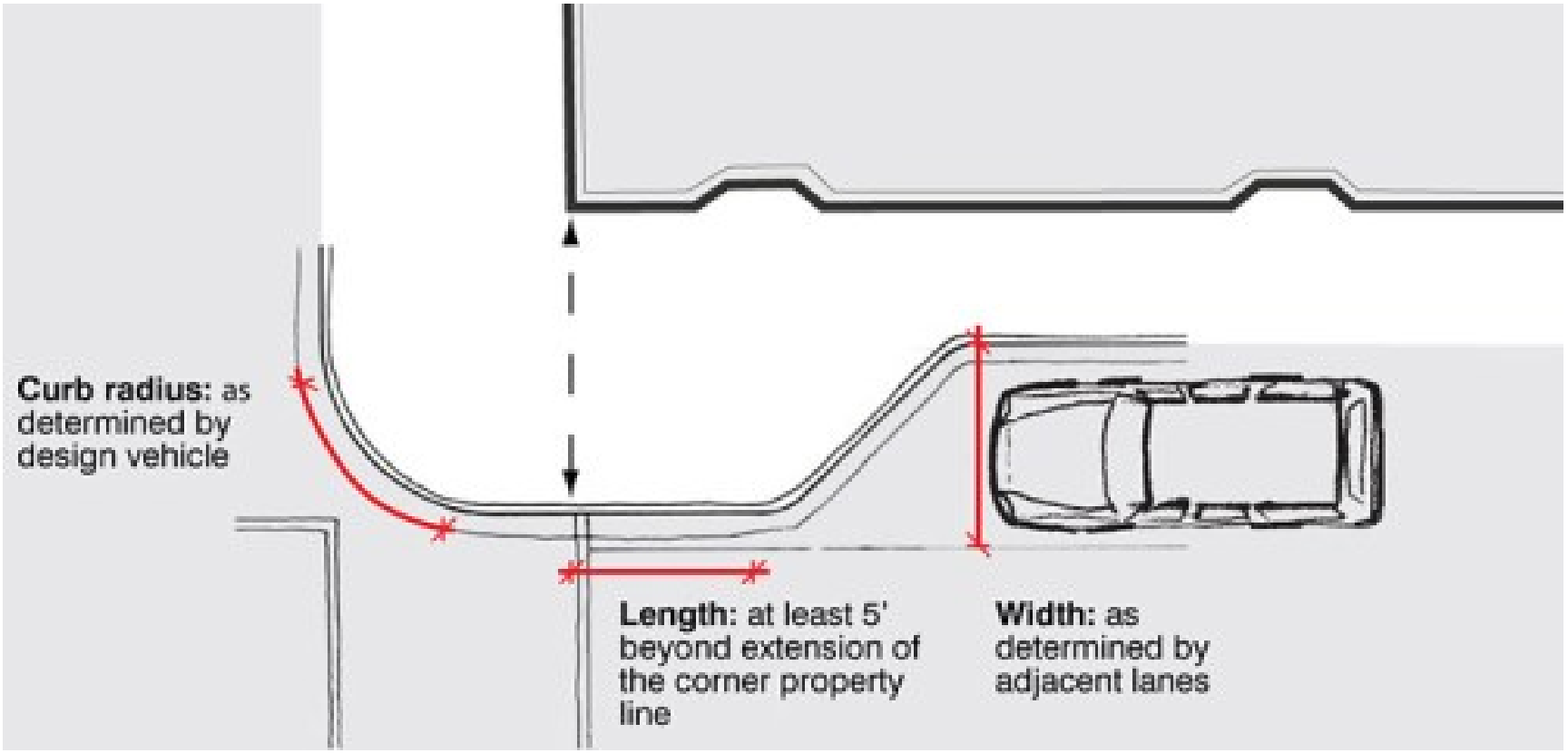
- Can prevent motorists from parking too close to the crossing
- Can increase visibility of pedestrians
- Shorten the crossing distance
- Encourage crossing at designated location

Cons

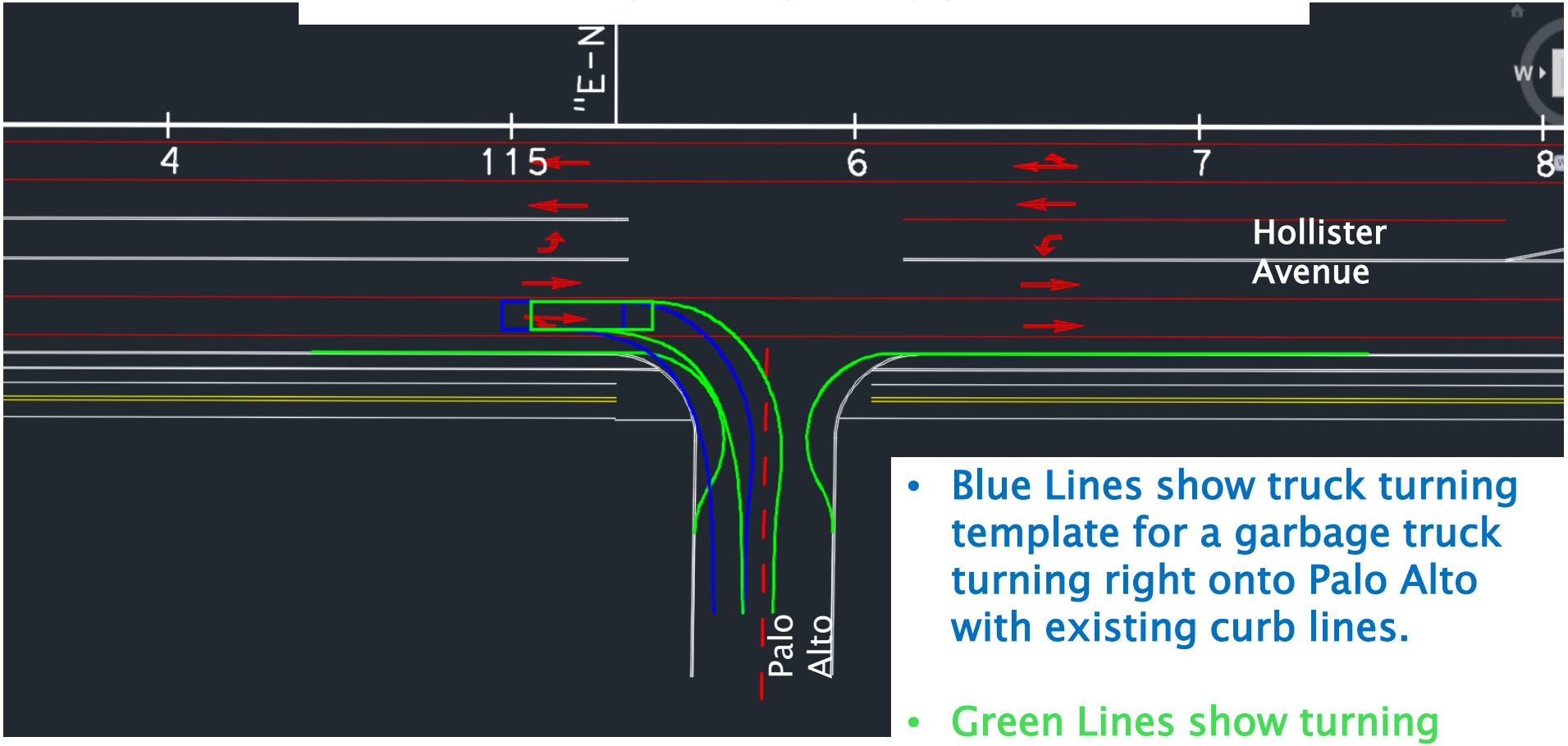
- Will affect turning of large vehicles (garbage trucks, emergency vehicles)



Curb Extension (Bulb-Outs)



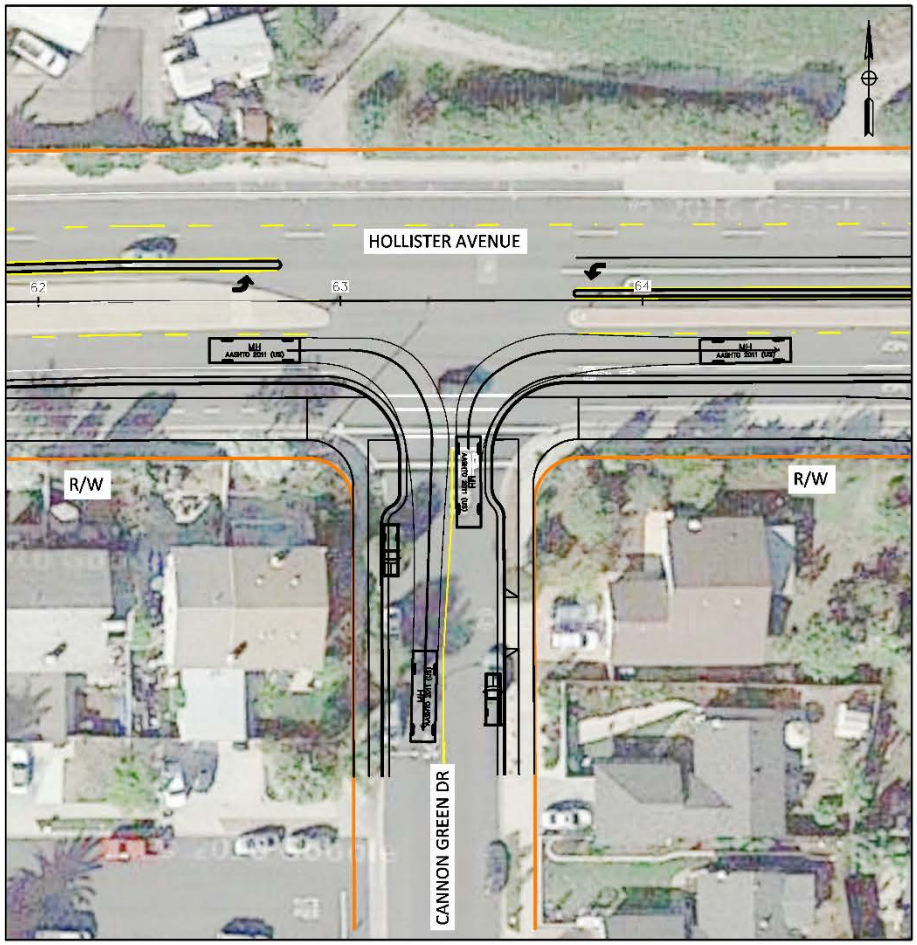
TRUCK TURNING TEMPLATE FOR A GARBAGE TRUCK

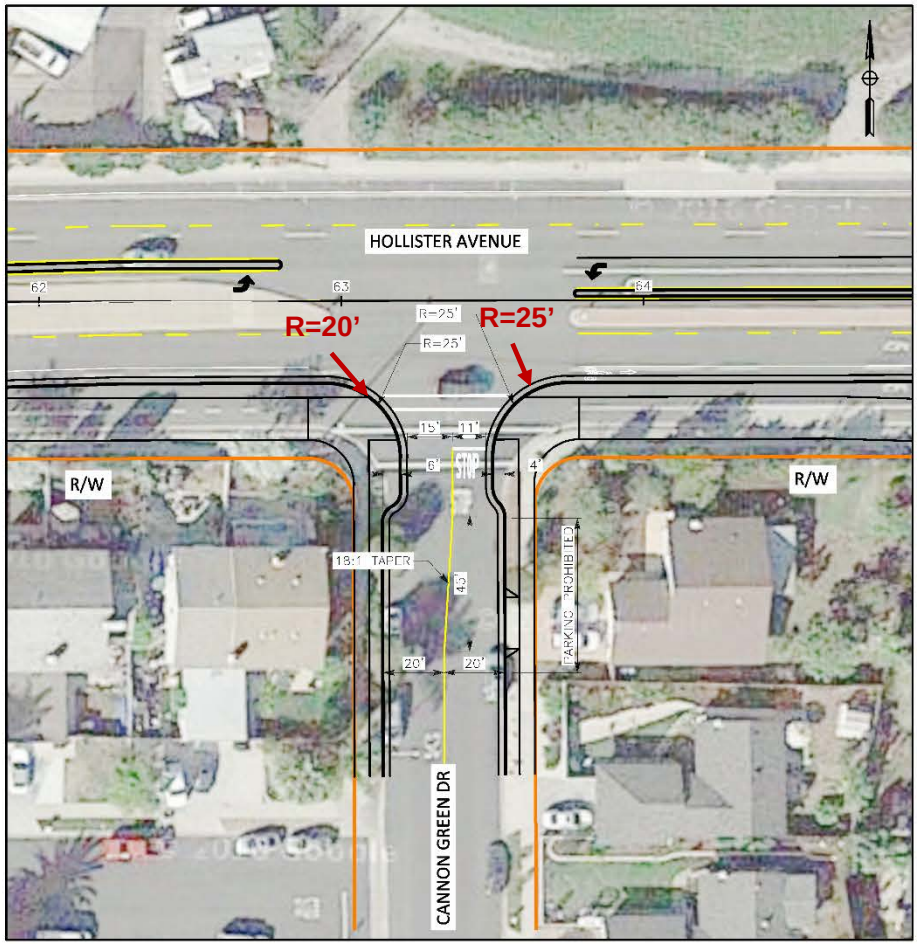


- Blue Lines show truck turning template for a garbage truck turning right onto Palo Alto with existing curb lines.
- Green Lines show turning template for a garbage truck turning right onto Palo Alto with curb extensions.

- 6 Ft Curb Extension
- 12 Ft lanes
- Curb Return Radius – 25’

Typical Curb Extension (Bulb-Out) Design





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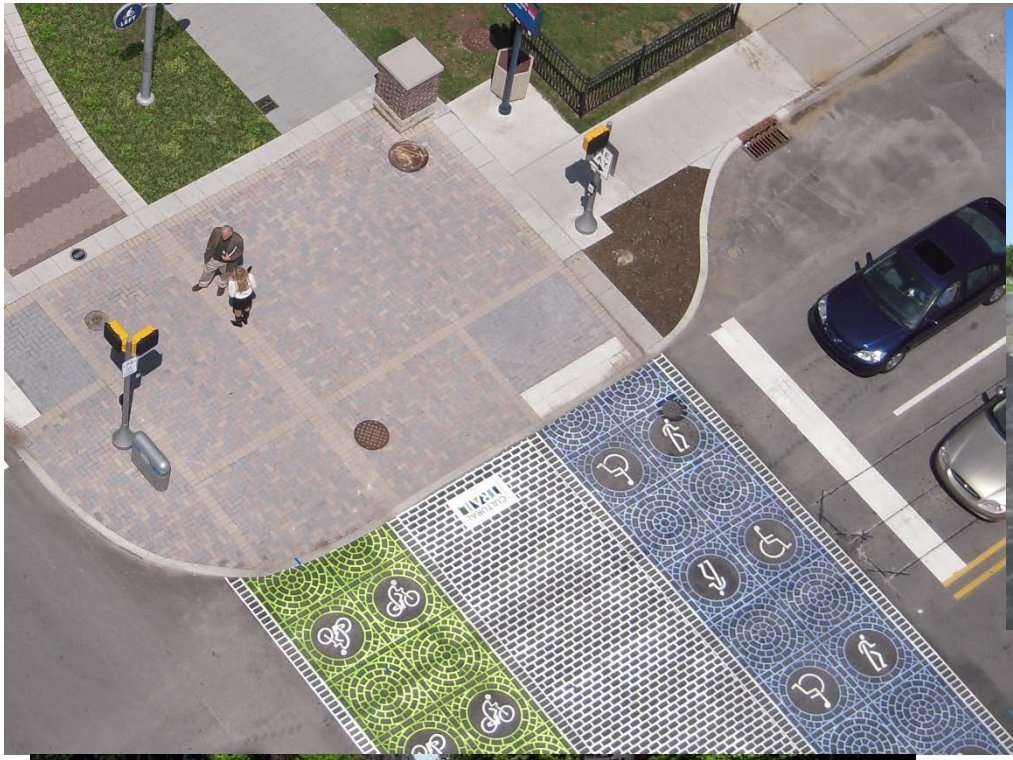
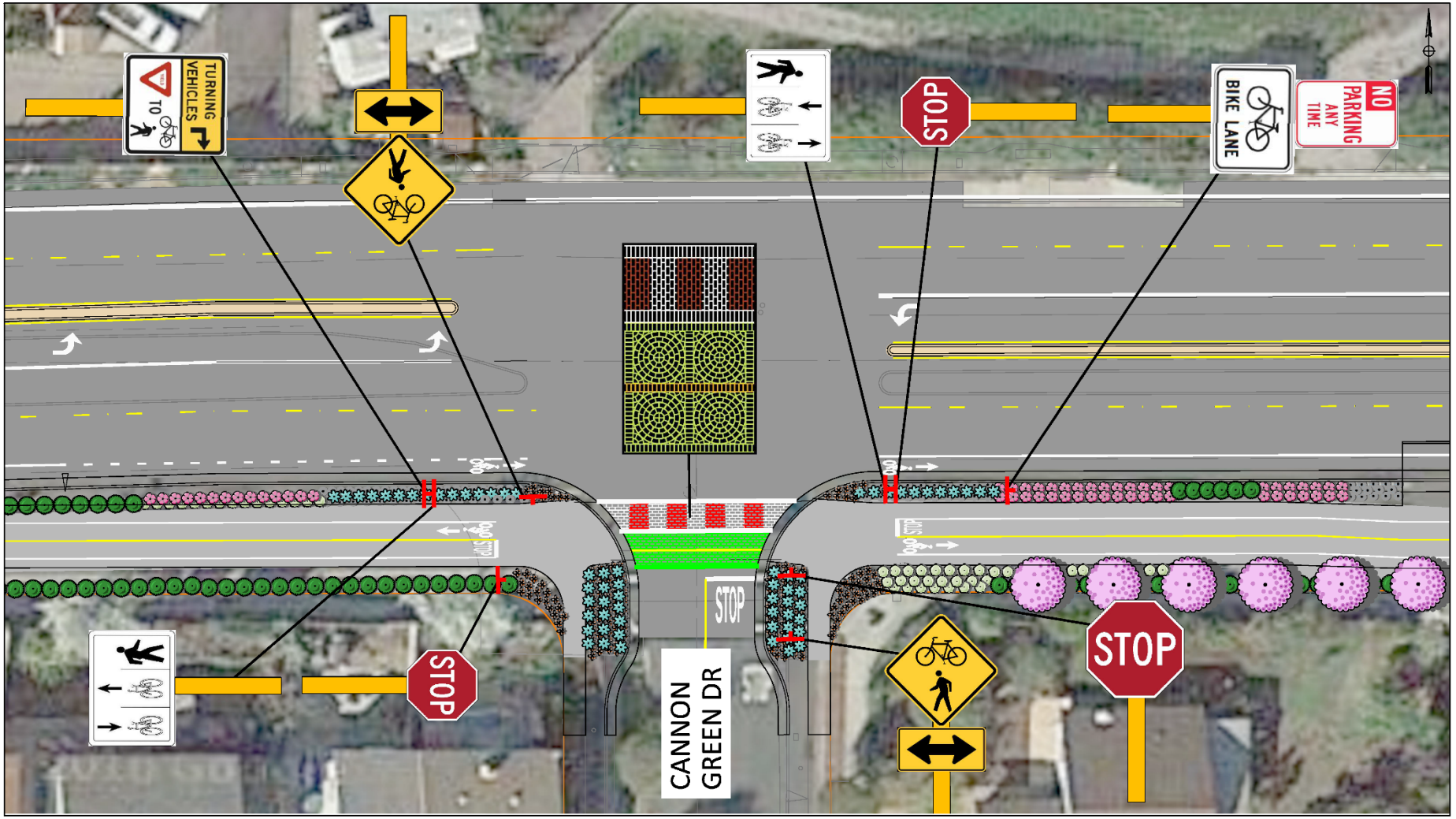
Typical Crossing Pavement Markings and Signing



Typical Crossing Pavement Markings and Signing



LEGEND

- OVERLAY LIMITS
- PAINTED CROSSWALK
- RAISED MEDIAN
- PEDESTRIAN PATH/CLASS 1 BIKE PATH
- SIGNS

HOLLISTER AVE
CLASS I BIKE/PEDESTRIAN IMPROVEMENTS

SCALE: 1"=20'

JULY 2016

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QUESTIONS

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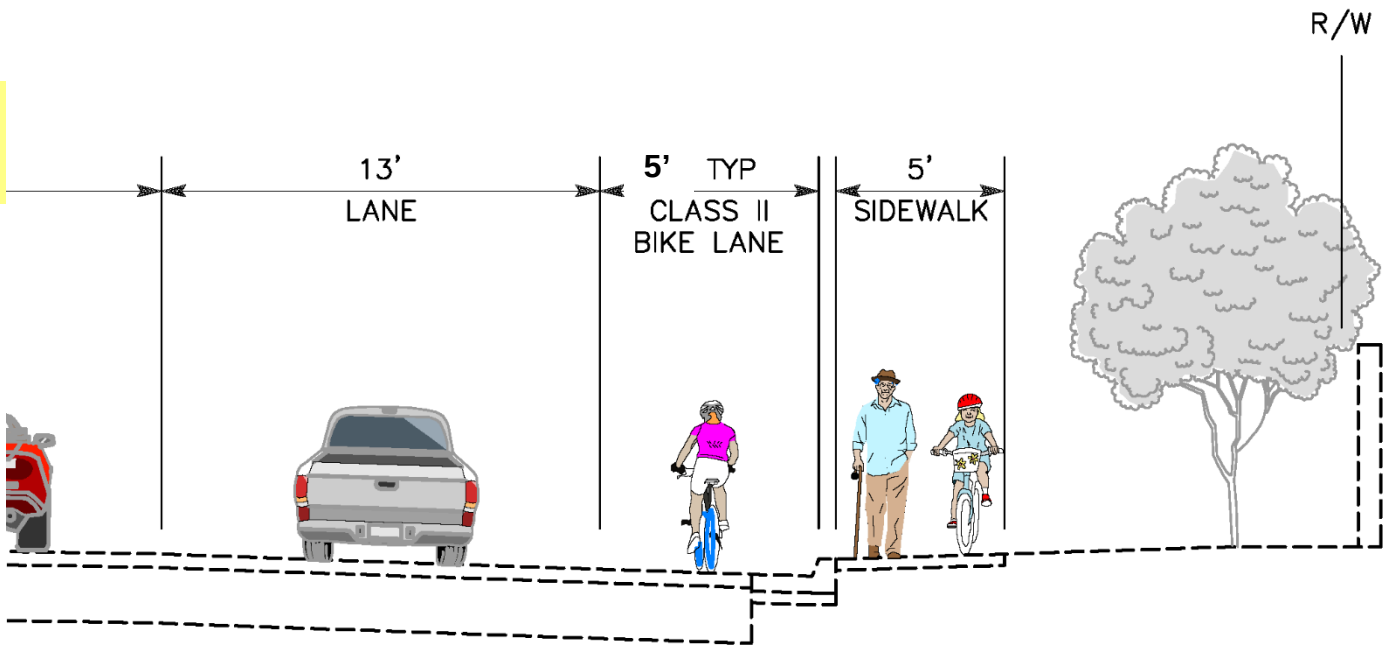
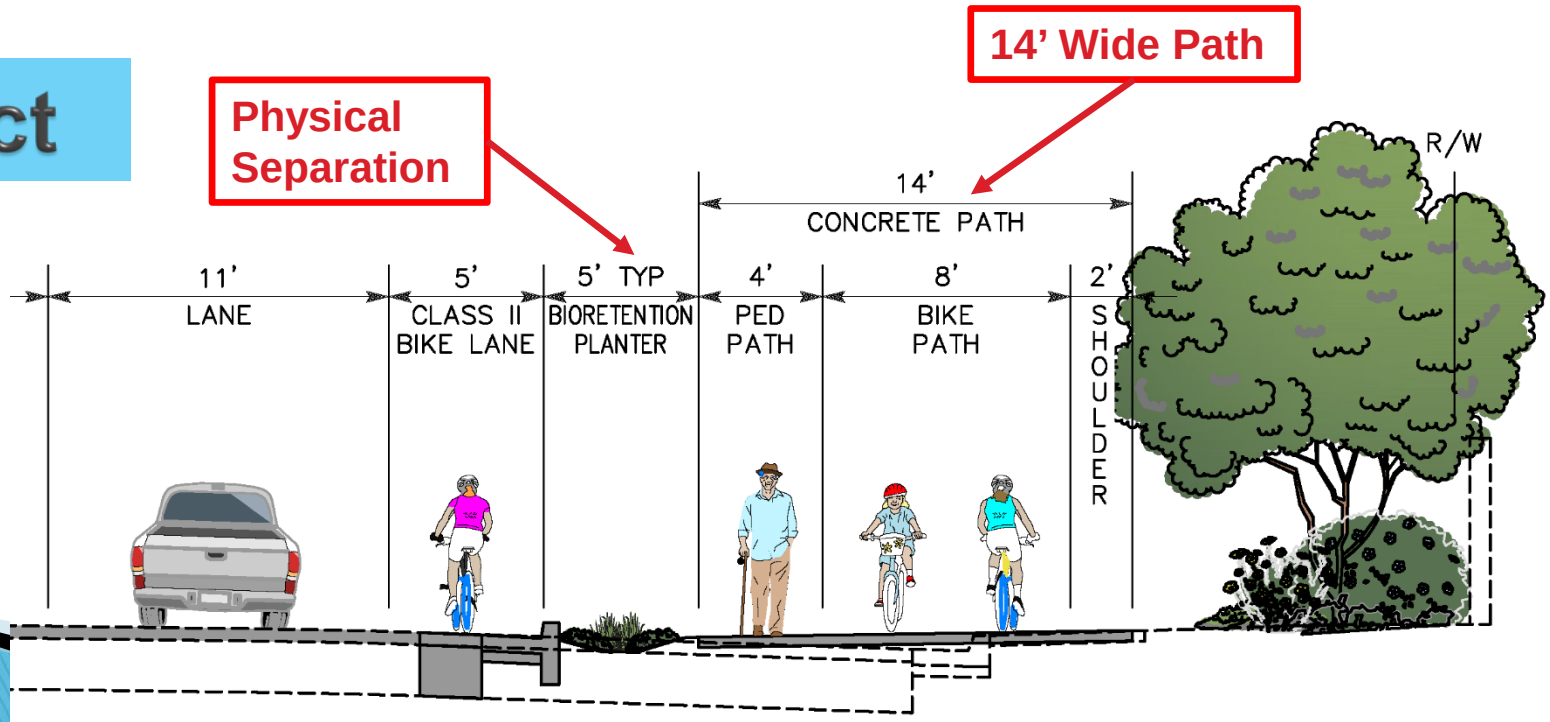
Existing



Project



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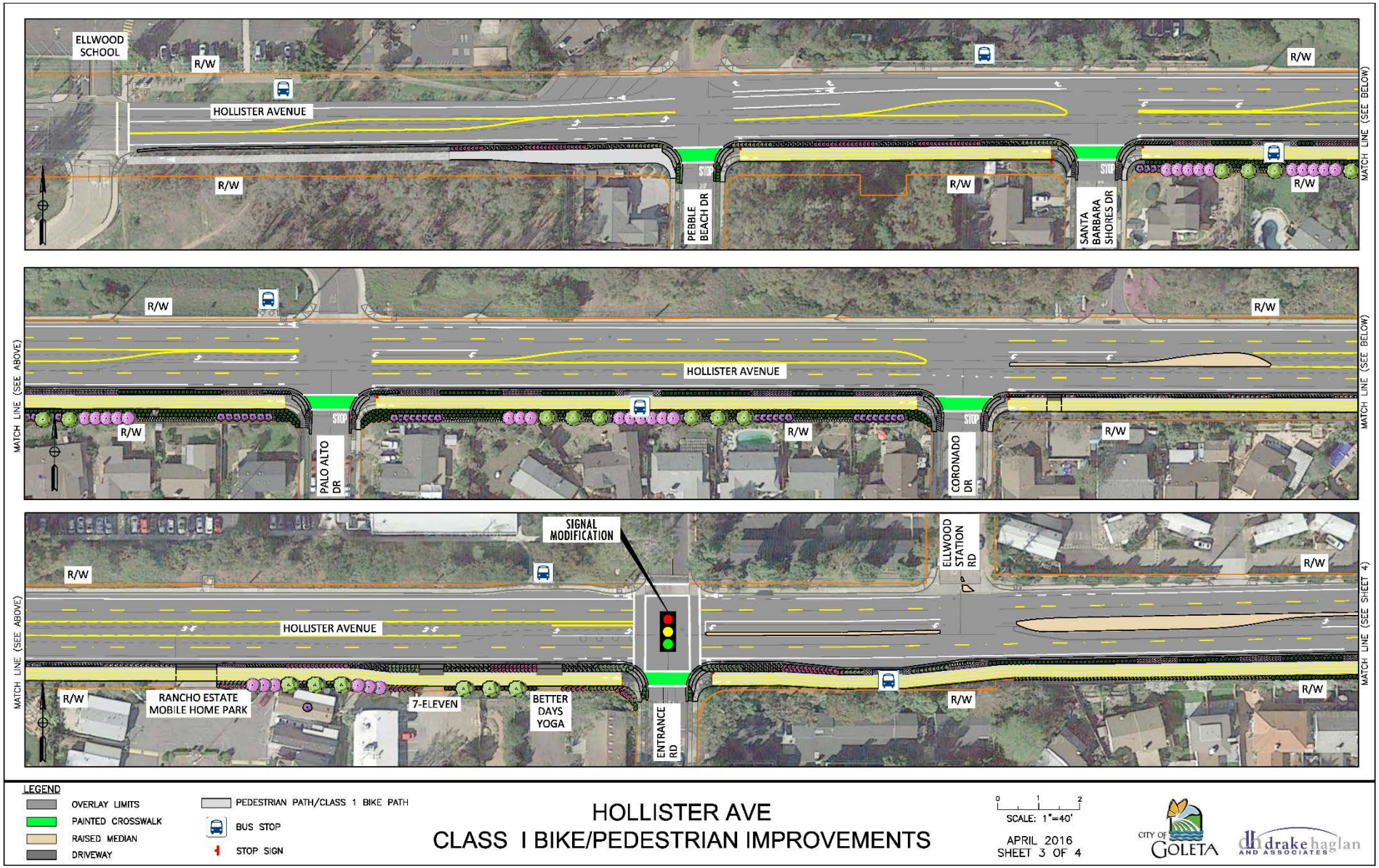
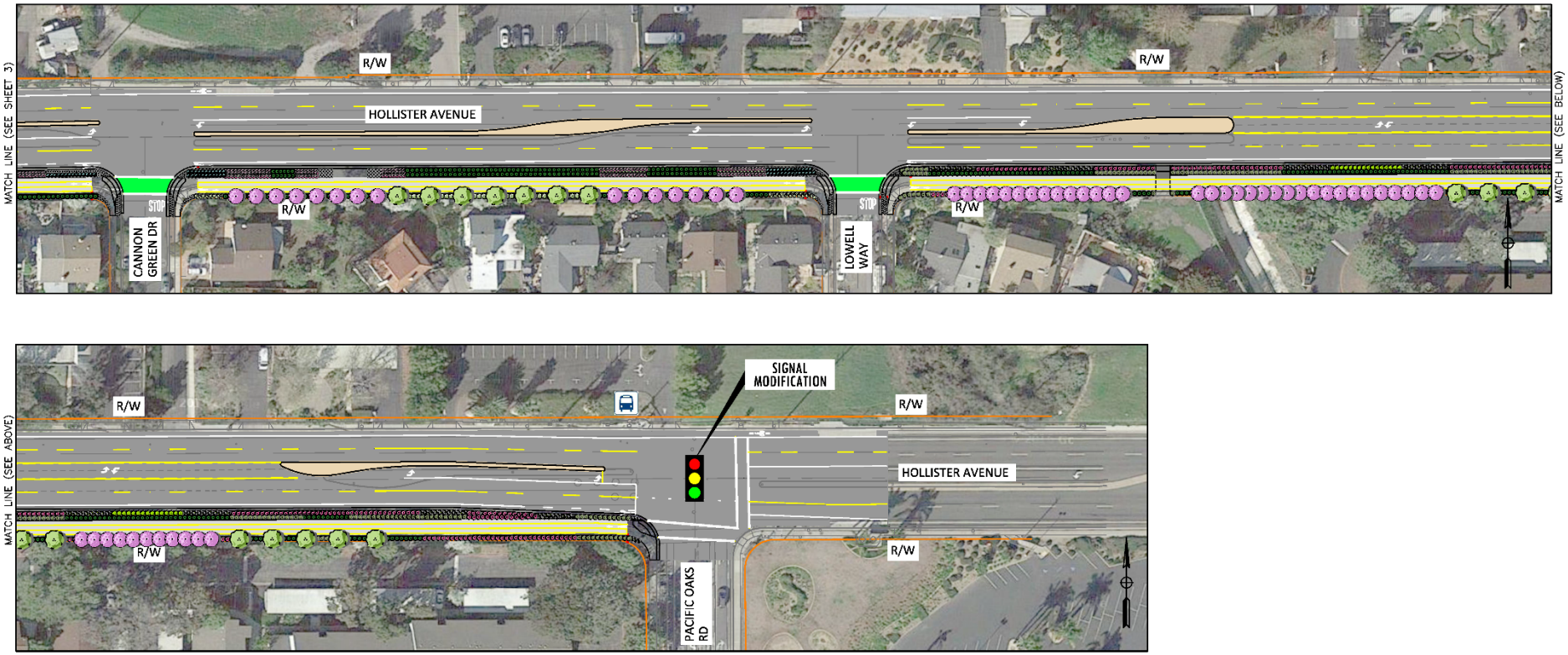
Final Design – Layout



Final Design – Layout



LEGEND

- OVERLAY LIMITS
- PAINTED CROSSWALK
- RAISED MEDIAN
- DRIVEWAY
- PEDESTRIAN PATH/CLASS 1 BIKE PATH
- BUS STOP
- STOP SIGN

HOLLISTER AVE
CLASS I BIKE/PEDESTRIAN IMPROVEMENTS

SCALE: 1"=40'

APRIL 2016
SHEET 4 OF 4

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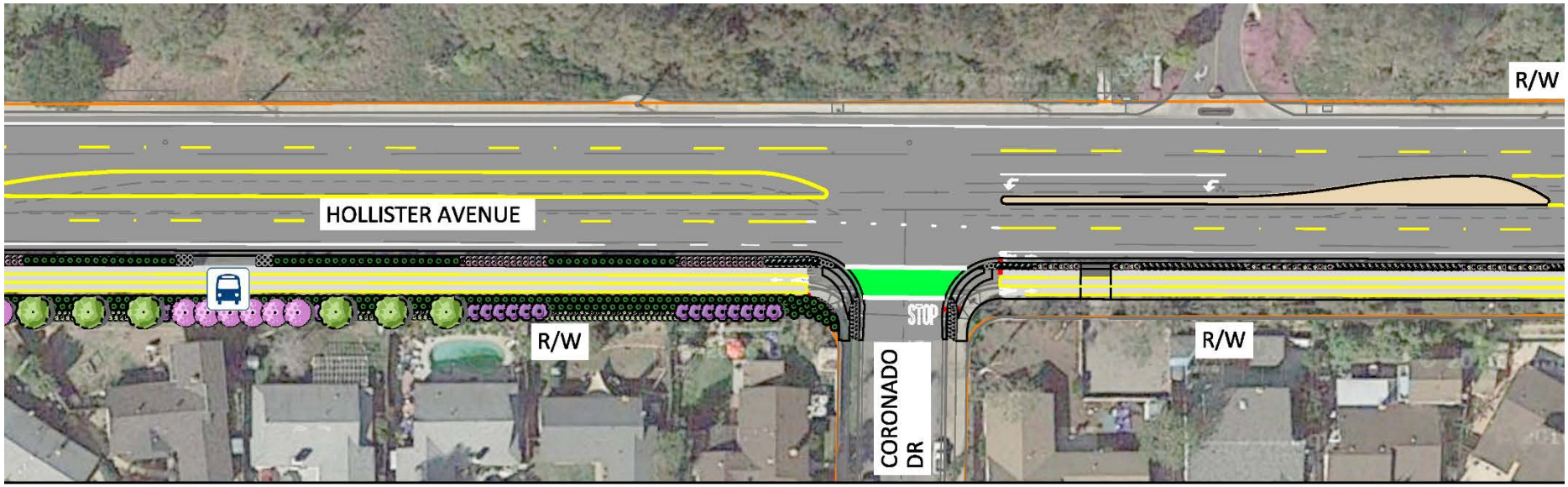

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INTERSECTION CROSSING –BEND OUT DESIGN

Example of a Ideal Bend Out Design
El Colegio Road at Embarcadero del Mar