

NOTES

1. Place a minimum of two bike lane symbol and arrow markings on each block face, centered in bike lane.
2. Place first marking on block 20 ft from curb return or crosswalk, unless otherwise noted.
3. Place last marking on block such that tip of arrow is 20 ft before curb return, unless otherwise noted.
4. Place additional mid-block markings, as noted on plans, such that spacing between symbols is no more than 200 ft, as measured from the base of one symbol to the next.
5. Adjust marking placement to leave at least 10 ft (parallel to the direction of travel) from advanced yield lines, limit lines, and other markings, unless otherwise noted.

NOT TO SCALE



CITY OF OAKLAND

DEPARTMENT OF TRANSPORTATION | SAFE STREETS DIVISION
 BICYCLE & PEDESTRIAN PROGRAM
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**BIKE LANE SYMBOL,
 ARROW, AND STRIPING**

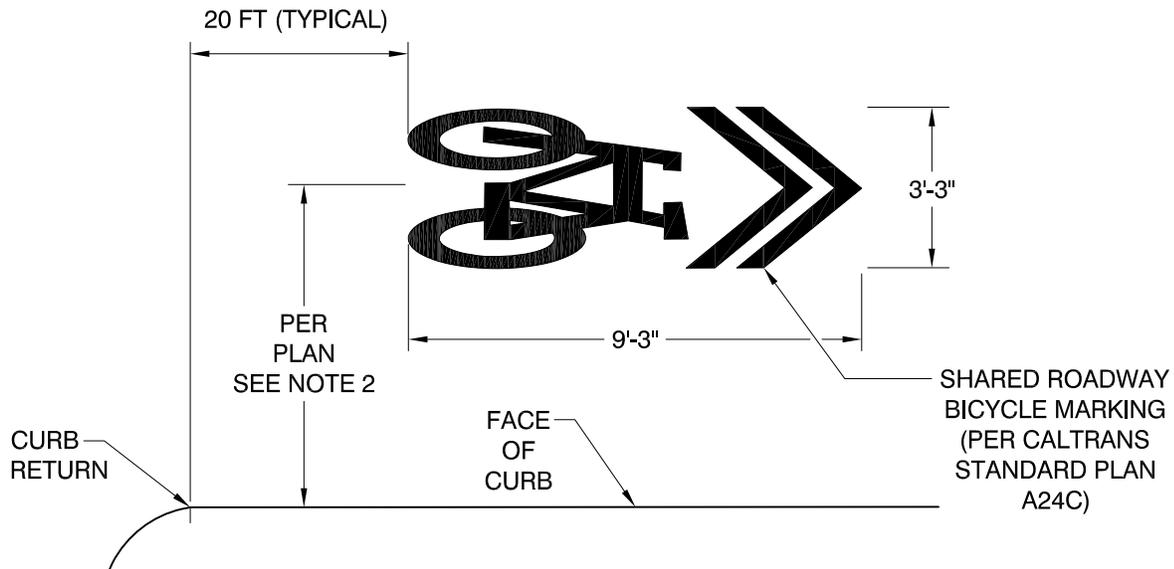
**ROADWAY MARKING
 DETAILS**

SCALE: NTS

DWG. NO.

RM-1

DATE: MAR 2021



NOTES

1. Place a minimum of two sharrow markings on each block face.
2. Sharrow markings should typically be centered in the shared travel lane, but not less than 11' from face of curb if on-street parking is present.
3. Place first marking on block 20 ft from curb return or crosswalk, unless otherwise noted.
4. Place last marking on block such that tip of marking is 20 ft before curb return, unless otherwise noted.
5. Place additional mid-block markings, as noted on plans, such that spacing between markings is no more than 100 ft, as measured from the base of one marking to the next.
2. Adjust marking placement to leave at least 10 ft (parallel to the direction of travel) from word legends, lane assignment arrows, other markings, and speed humps.

NOT TO SCALE



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**SHARED ROADWAY
 BICYCLE MARKING
 (SHARROW)**

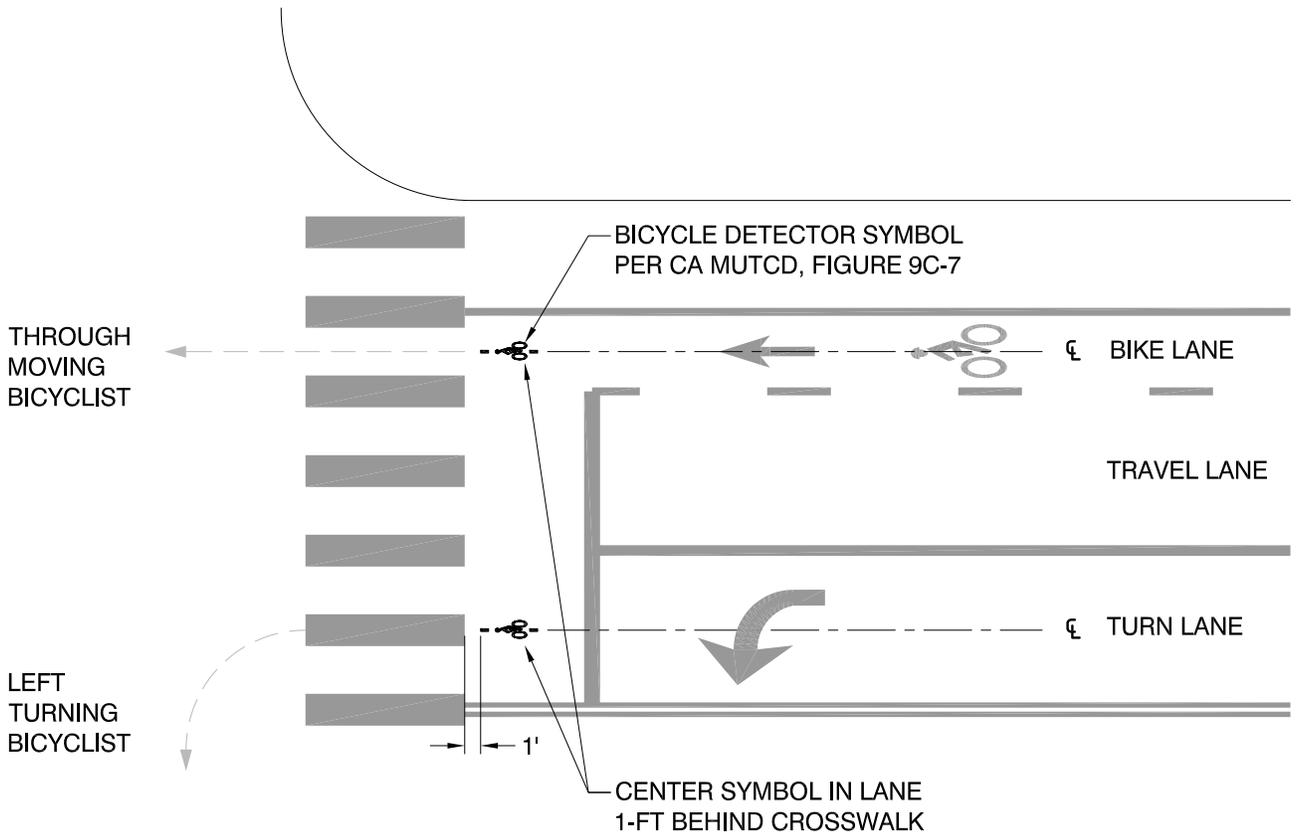
**ROADWAY MARKING
 DETAILS**

SCALE: NTS

DWG. NO.

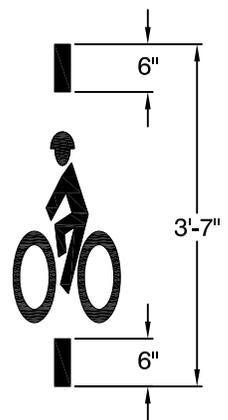
RM-2

DATE: MAR 2021



NOTES

1. The bicycle detector pavement marking (symbol) shall be used at all actuated traffic signal approaches that are capable of detecting bicycles.
2. A symbol shall be installed in the right-most lane serving the bicyclist's destination, including left turn lanes, through lanes, and bike lanes.
3. Center the symbol in the lane (aligned with lane assignment arrow).
4. The leading edge of the symbol shall be installed one foot behind the crosswalk (or limit line, if there is no crosswalk).
5. On Approaches with marked crosswalks and advanced limit lines, the symbol should be placed between the crosswalk and advanced limit line.



**BICYCLE DETECTOR SYMBOL
(CA MUTCD, FIGURE 9C-7)**

NOT TO SCALE



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**BICYCLE DETECTOR
PAVEMENT MARKING**

**ROADWAY MARKING
DETAILS**

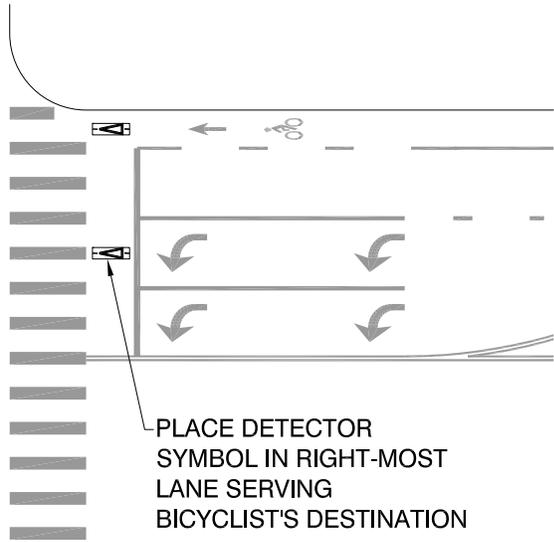
SCALE: NTS

DWG. NO.

DATE: MAR 2021

RM-3

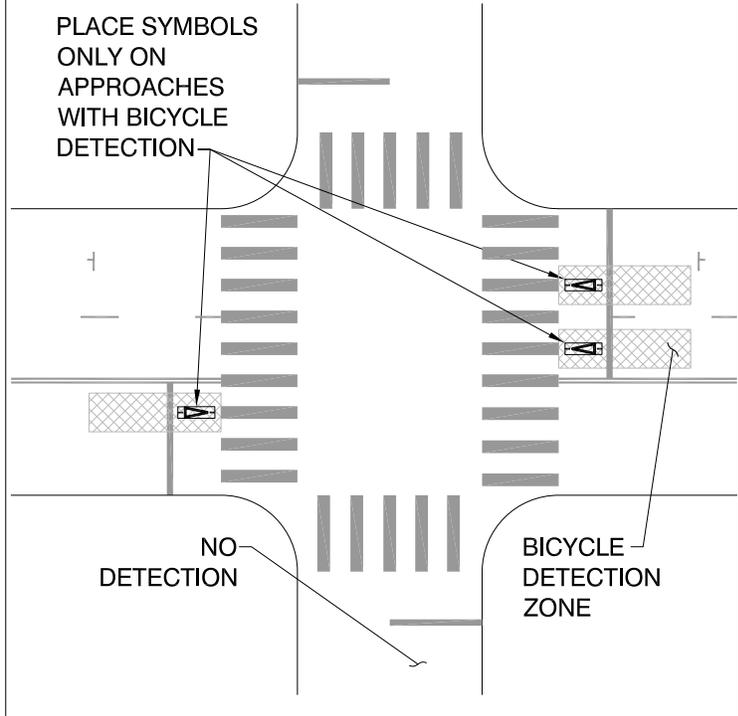
MULTIPLE TURN LANES



PLACE DETECTOR SYMBOL IN RIGHT-MOST LANE SERVING BICYCLIST'S DESTINATION

PARTIALLY ACTUATED SIGNALS

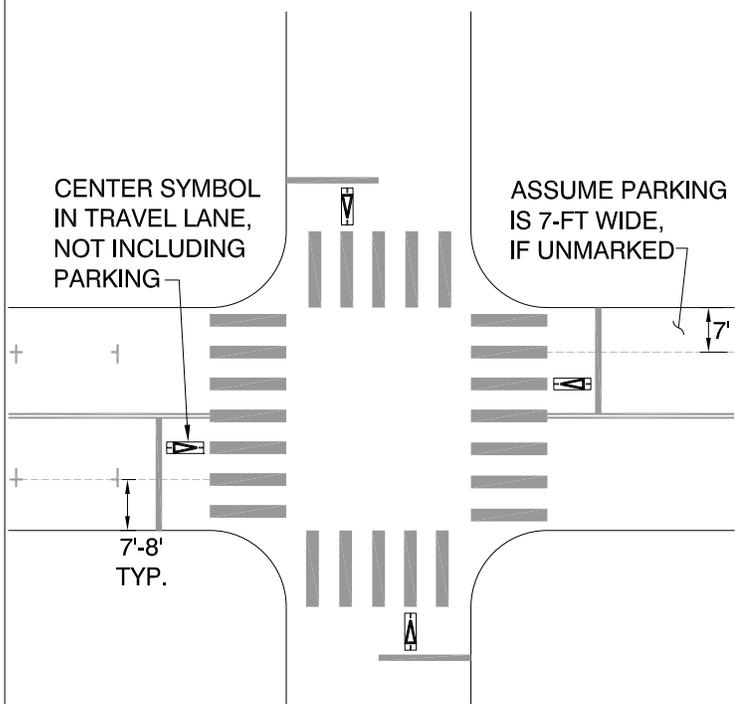
PLACE SYMBOLS ONLY ON APPROACHES WITH BICYCLE DETECTION



NO DETECTION

BICYCLE DETECTION ZONE

THROUGH LANES WITH ADJACENT PARKING

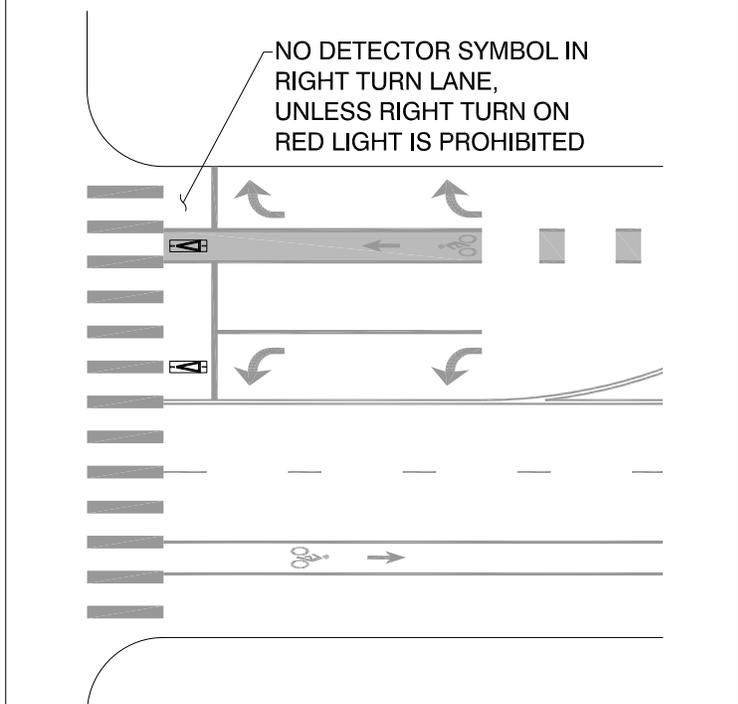


CENTER SYMBOL IN TRAVEL LANE, NOT INCLUDING PARKING

ASSUME PARKING IS 7-FT WIDE, IF UNMARKED

7'-8' TYP.

RIGHT TURN LANES



NO DETECTOR SYMBOL IN RIGHT TURN LANE, UNLESS RIGHT TURN ON RED LIGHT IS PROHIBITED

LEGEND:  BICYCLE DETECTOR SYMBOL (PER CA MUTCD, FIGURE 9C-7)



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BICYCLE DETECTOR PAVEMENT MARKING

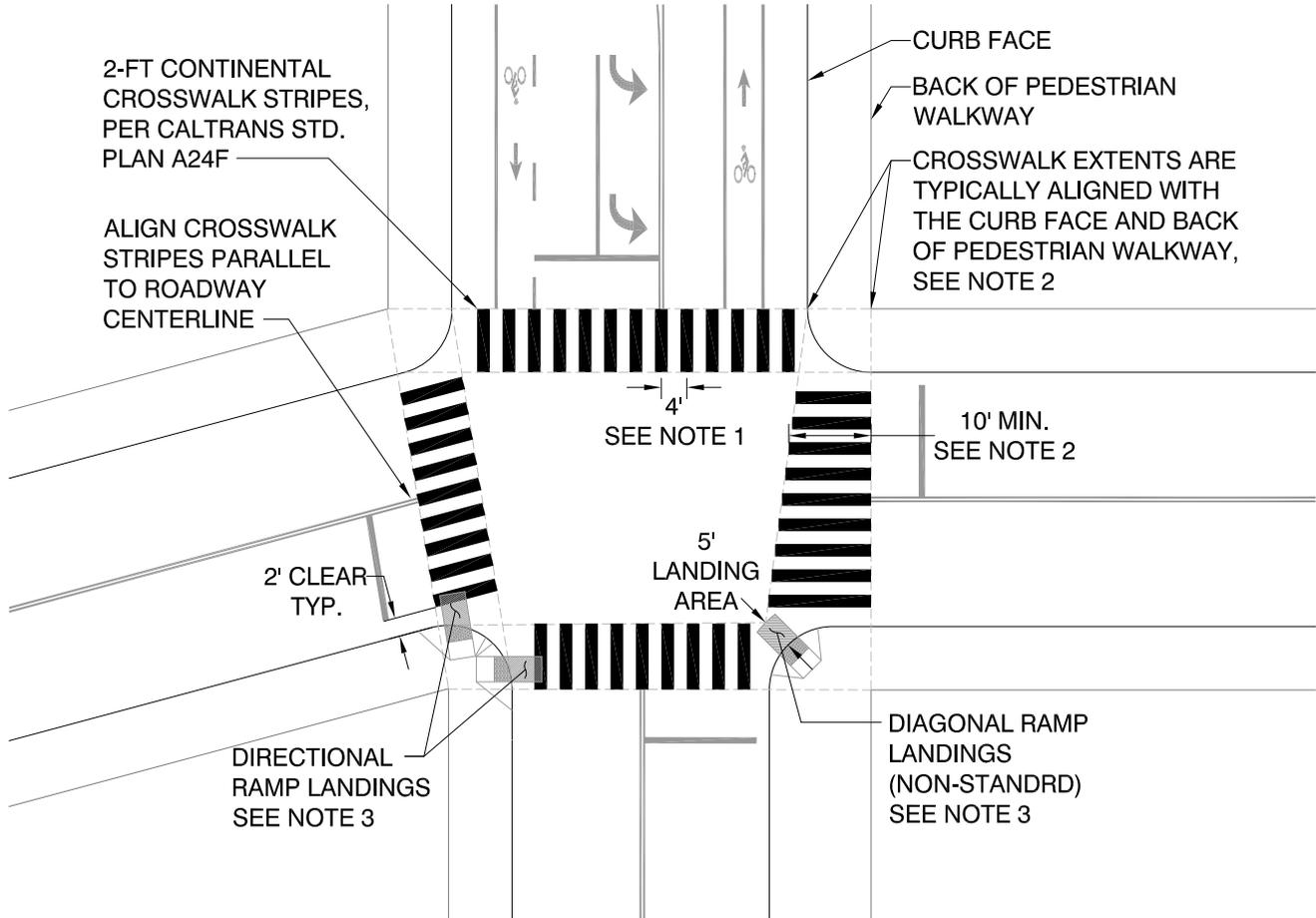
SUPPLEMENTAL GUIDANCE

SCALE: NTS

DWG. NO.

DATE: MAR 2021

RM-3A



NOTES

1. Continental crosswalk stripe spacing is 4 ft, on-center, unless otherwise specified. Align first crosswalk stripe with centerline of roadway and continue pattern toward edge of roadway, maintaining 2 ft clear from face of curb (if present).
2. Crosswalks should encompass the pedestrian walkways they connect. Unless otherwise specified, align the front of the crosswalk with the curb face at the corresponding curb returns. Align the back of the crosswalk with the back of the pedestrian walkway but no less than 10 ft back from the front of the crosswalk.
3. Crosswalks must encompass the curb ramp landing areas they connect. Directional ramps are the preferred standard, but where a single diagonal ramp serves both crosswalks at a corner, the front of the crosswalks may need to be shifted toward the intersection to encompass the entire 5' landing area at the bottom of the curb ramp.
4. See Detail RM-4A for supplemental crosswalk layout guidance.
5. At controlled approaches, install advanced limit lines with continental crosswalks, per Marking Detail RM-5.

NOT TO SCALE



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**CONTINENTAL
 CROSSWALK**

**ROADWAY MARKING
 DETAILS**

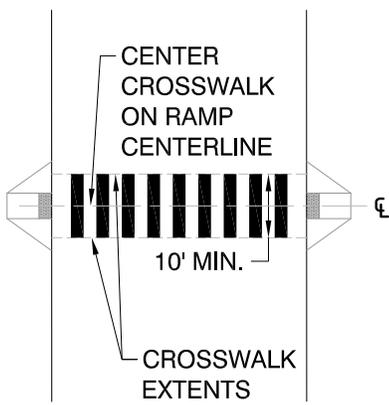
SCALE: NTS

DWG. NO.

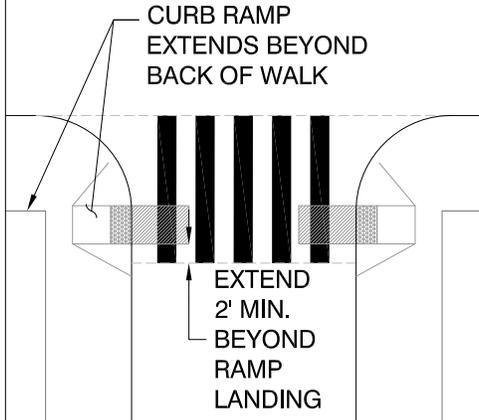
RM-4

DATE: MAR 2021

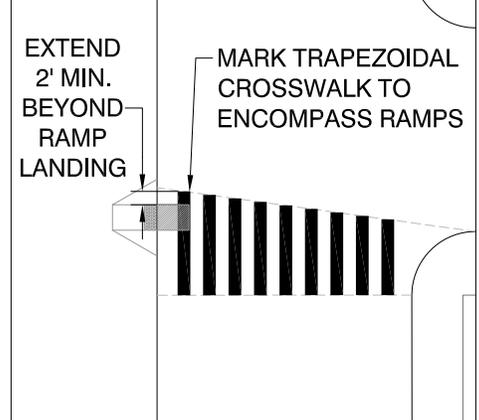
MID-BLOCK CROSSWALK



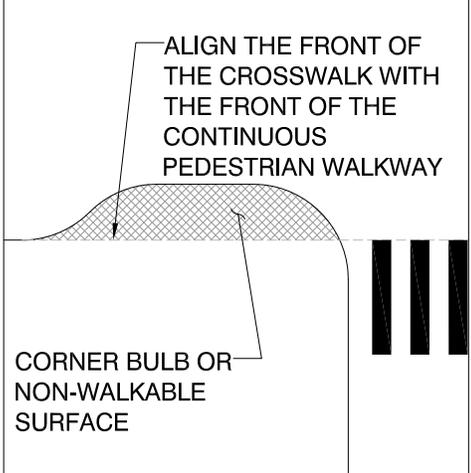
CURB RAMP OFFSET FROM SIDEWALK



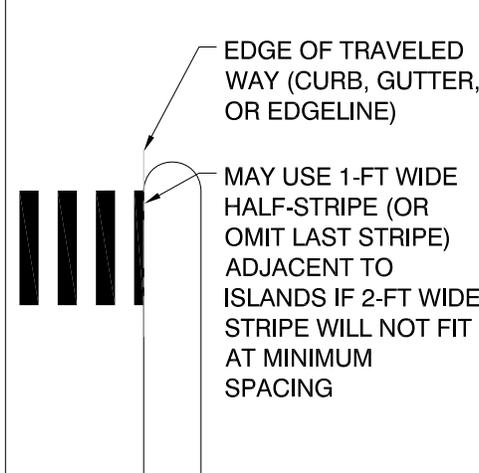
TEE INTERSECTION WITH OFFSET RAMPS



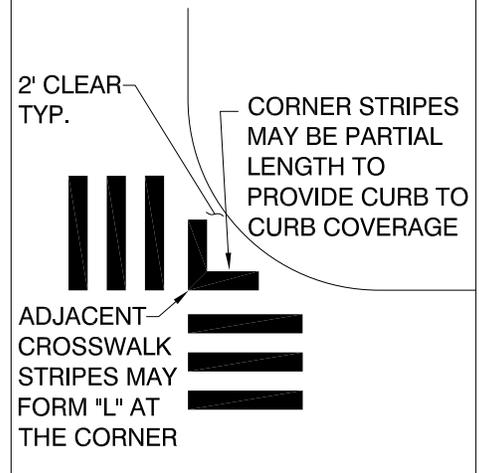
SET-BACK FRONT OF WALK



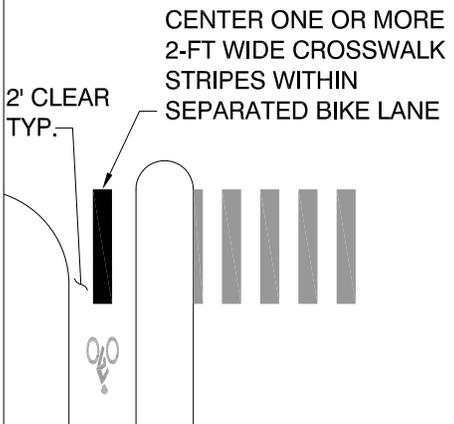
TRAFFIC ISLAND AND MEDIAN EDGES



LARGE RADIUS CORNERS



SEPARATED BIKE LANE CROSSINGS



LEGEND:

- CROSSWALK EXTENTS
- CENTERLINE
- CURB RAMP & LANDING AREA
- CROSSWALK STRIPE



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**CONTINENTAL
 CROSSWALK**

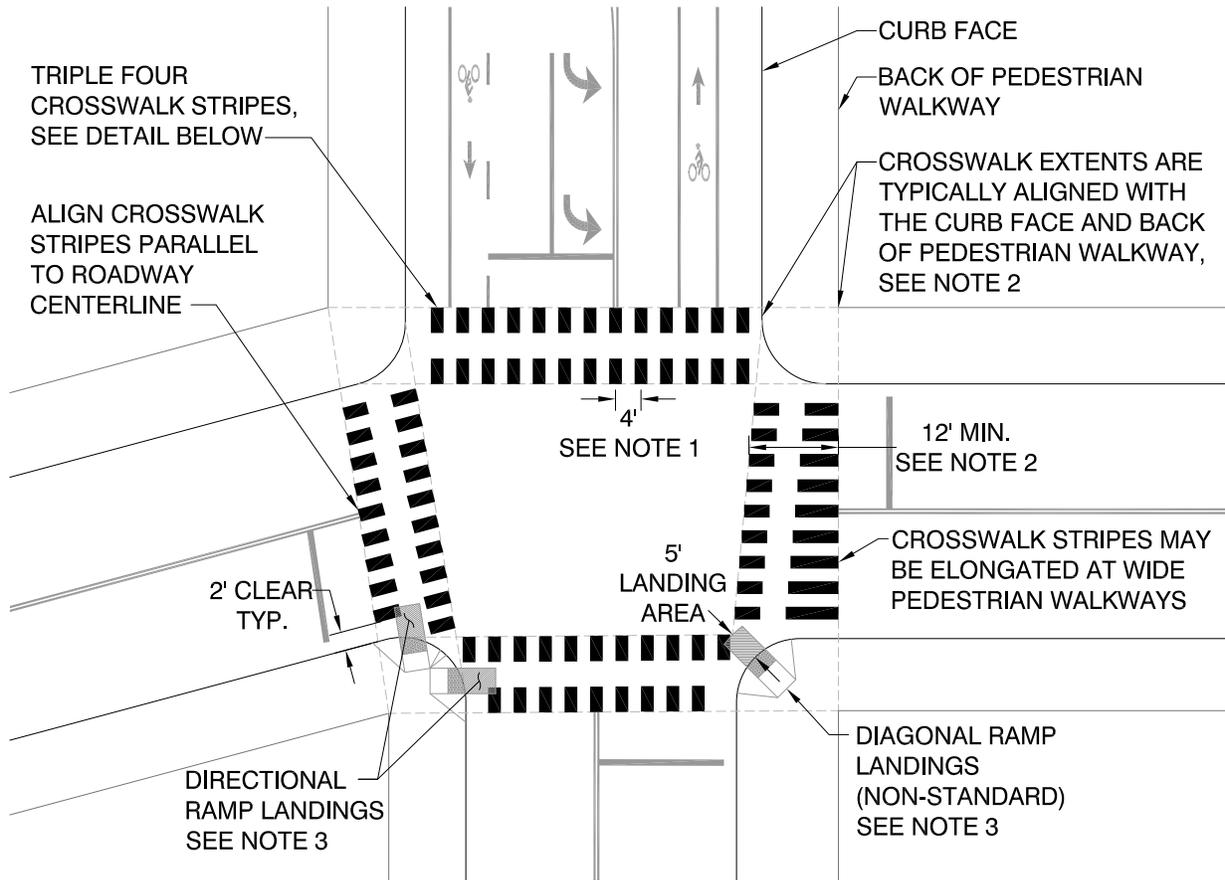
**SUPPLEMENTAL
 GUIDANCE**

SCALE: NOT TO SCALE

DWG. NO.

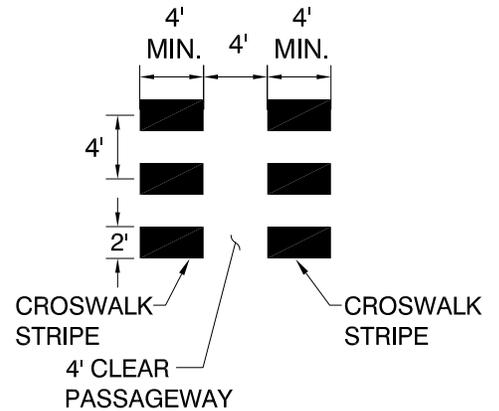
DATE: MAR 2021

RM-4A



NOTES

1. Triple four crosswalk stripe spacing is 4 ft, on-center, unless otherwise specified. Align first crosswalk stripes with centerline of roadway and continue pattern toward edge of roadway, maintaining 2 ft clear from face of curb (if present).
2. Crosswalks should encompass the pedestrian walkways they connect. Unless otherwise specified, align the front of the crosswalk with the curb face at the corresponding curb returns. Align the back of the crosswalk with the back of the pedestrian walkway but no less than 10 ft back from the front of the crosswalk.
3. Crosswalks must encompass the curb ramp landing areas they connect. Directional ramps are the preferred standard, but where a single diagonal ramp serves both crosswalks at a corner, the front of the crosswalks may need to be shifted toward the intersection to encompass the entire 5' landing area at the bottom of the curb ramp. Align the 4-ft clear passageway toward curb ramps.
4. See Detail RM-4C for supplemental crosswalk layout guidance.
5. At controlled approaches, install advanced limit lines with triple four crosswalks, per Marking Detail RM-5.



DETAIL
TRIPLE FOUR CROSSWALK
MARKINGS, PER CALTRANS
STANDARD PLAN A24F

NOT TO SCALE



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TRIPLE FOUR
CROSSWALK

ROADWAY MARKING
DETAILS

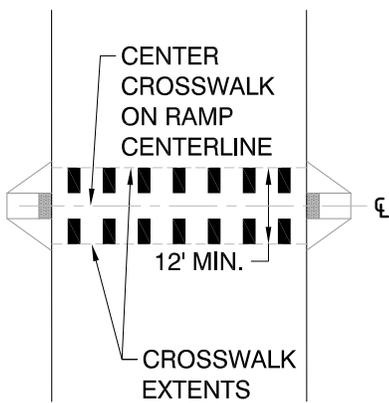
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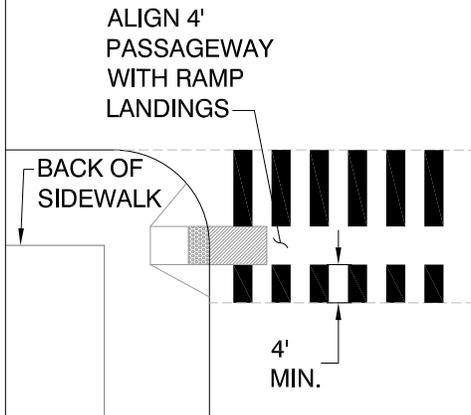
RM-4B

DATE: MAR 2021

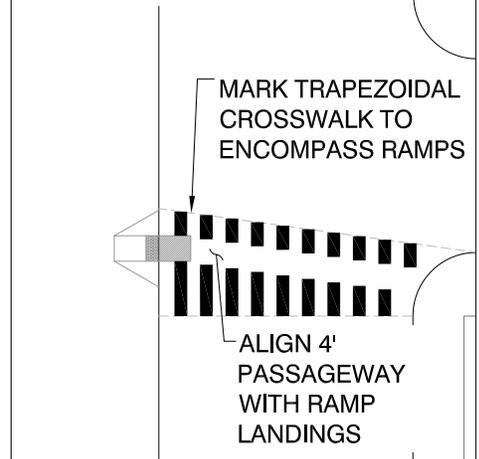
MID-BLOCK CROSSWALK



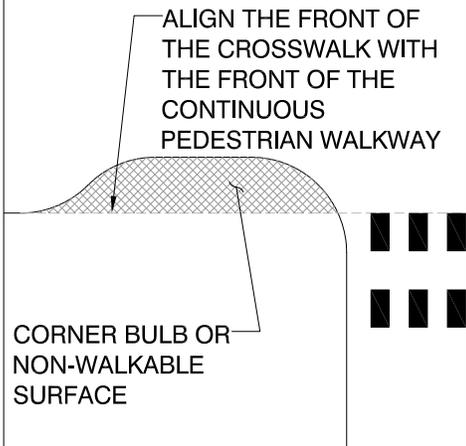
CURB RAMP OFFSET FROM SIDEWALK



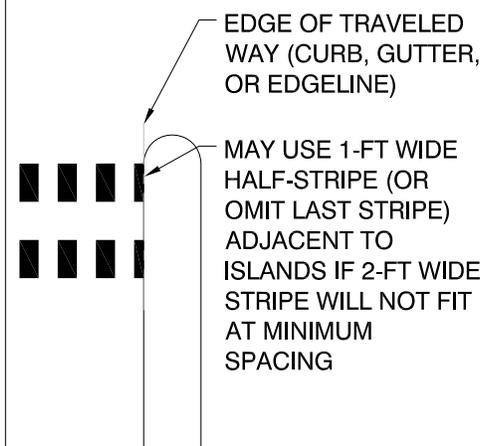
TEE INTERSECTION WITH OFFSET RAMPS



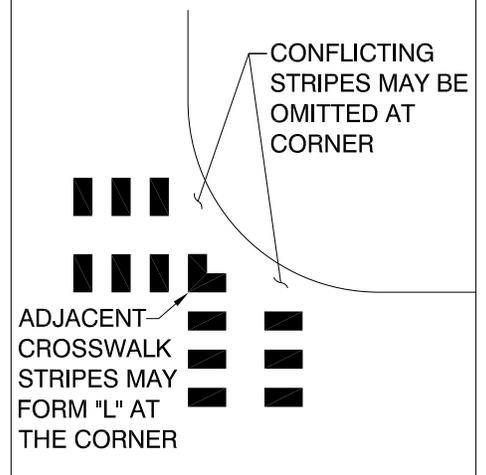
SET-BACK FRONT OF WALK



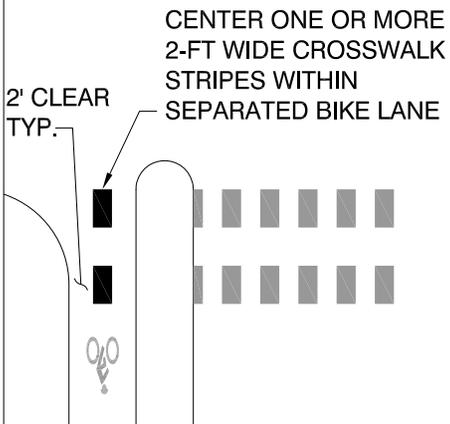
TRAFFIC ISLAND AND MEDIAN EDGES



LARGE RADIUS CORNERS



SEPARATED BIKE LANE CROSSINGS



LEGEND:

- CROSSWALK EXTENTS
- CENTERLINE
- CURB RAMP & LANDING AREA
- CROSSWALK STRIPES



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TRIPLE FOUR CROSSWALK

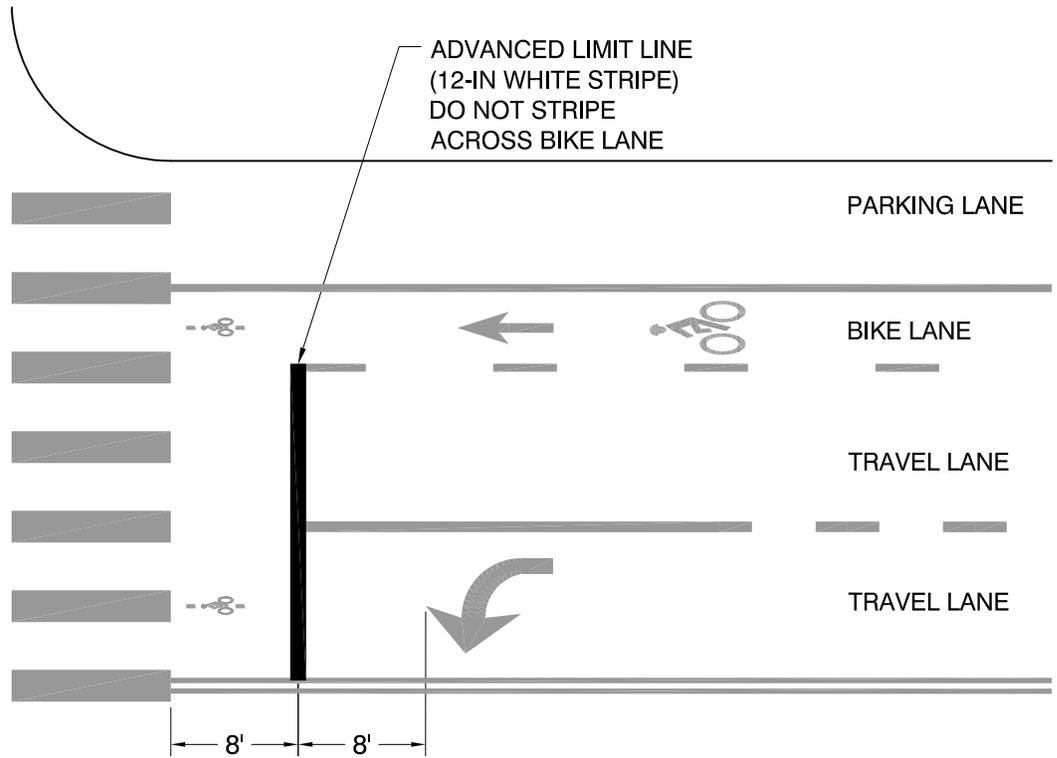
SUPPLEMENTAL GUIDANCE

SCALE: NOT TO SCALE

DWG. NO.

DATE: MAR 2021

RM-4C



NOTES

1. Install an advanced limit line on all signalized or stop-controlled travel lanes approaching a continental crosswalk, 8 feet in advance of the nearest crosswalk stripe, unless otherwise specified.
2. In some locations, it may not be possible to place a limit line 8 feet in advance of the crosswalk due to existing lane assignment arrows or stop legends. In this case, place the limit line 2 feet downstream of the conflicting markings and no less than 4 feet in advance of the crosswalk. If it is not possible to achieve these minimum clearances, remove the conflicting markings and replace them according to the typical 8-foot spacing.

NOT TO SCALE



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ADVANCED LIMIT LINE

**ROADWAY MARKING
 DETAILS**

SCALE: NTS

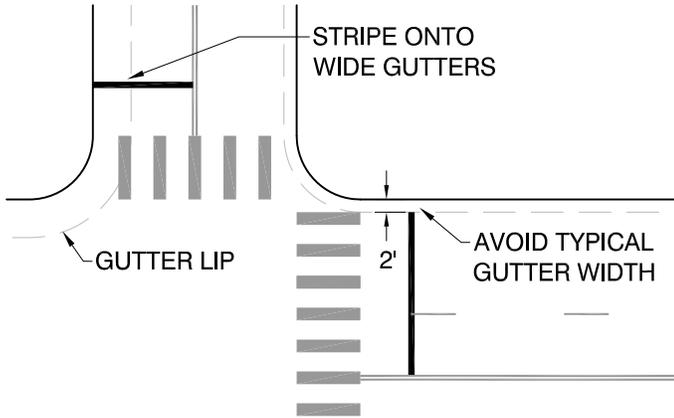
DWG. NO.

RM-5

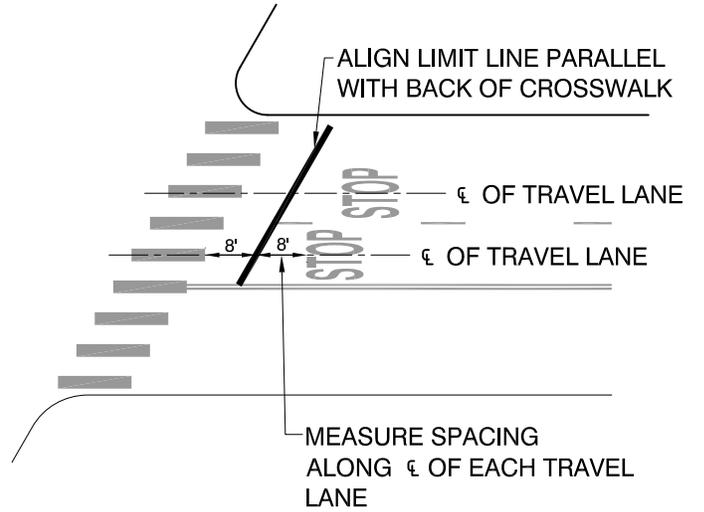
DATE: MAR 2021

STREETS WITHOUT BIKE LANES

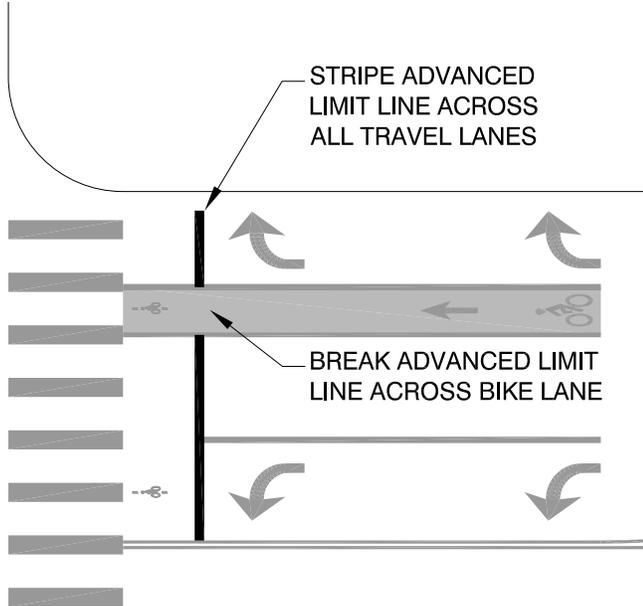
STRIPE LIMIT LINE TO EDGE OF ROAD IF NO BIKE LANE IS PRESENT



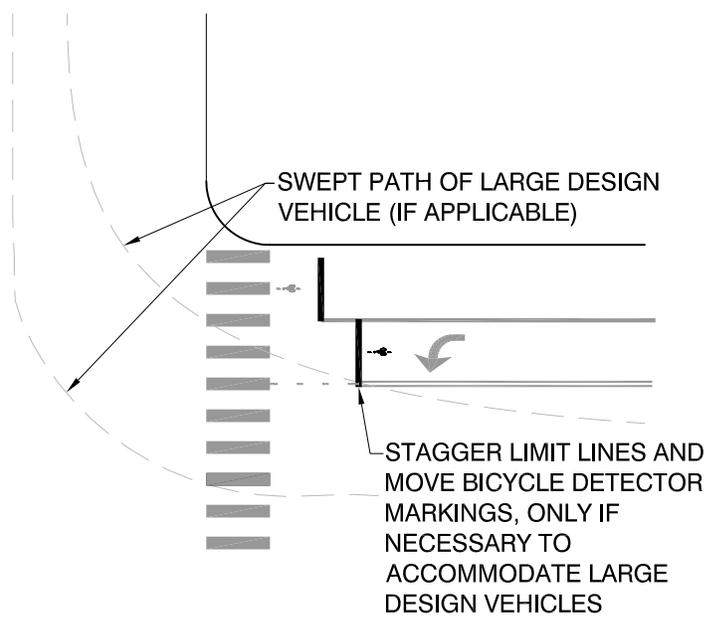
SKewed INTERSECTIONS



BIKE LANES BETWEEN TRAVEL LANES



STAGGERED LIMIT LINES



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ADVANCED LIMIT LINE

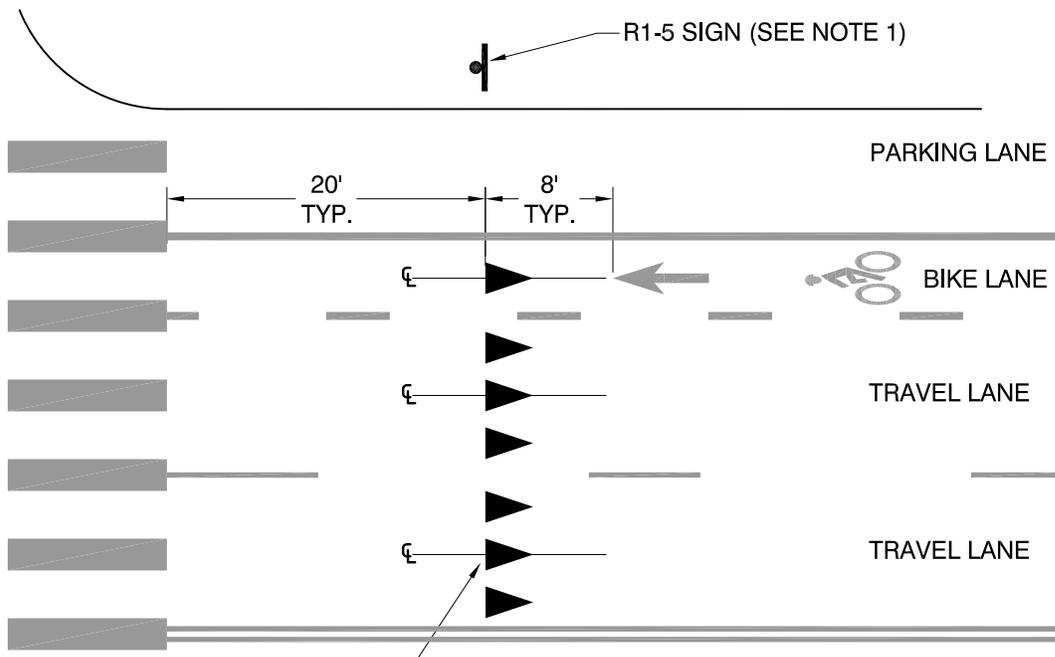
SUPPLEMENTAL GUIDANCE

SCALE: NTS

DWG. NO.

DATE: MAR 2021

RM-5A



YIELD LINE (2' X 3' TRIANGLES)
 PER CALTRANS STANDARD
 PLANS A24E,
 LAYOUT PATTERN AROUND
 CENTERLINE OF EACH LANE

NOTES

1. Install advanced yield lines and R1-5 "yield here to pedestrians" signs on all uncontrolled multi-lane approaches to marked crosswalks.
2. On uncontrolled multi-lane crosswalk approaches, the advanced yield line should be placed 20 to 50 feet in advance of the nearest crosswalk stripe (measured along the centerline of each travel lane). Any conflicting markings should be removed and replaced 8 feet in advance of the yield line.
3. Yield lines may also be installed on single-lane uncontrolled crosswalk approaches.
4. Parking should be prohibited between the crosswalk and the yield line.



MUTCD R1-5 SIGN

NOT TO SCALE



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**ADVANCED YIELD LINE AND
 SIGN FOR UNCONTROLLED
 CROSSWALKS**

**ROADWAY MARKING
 DETAILS**

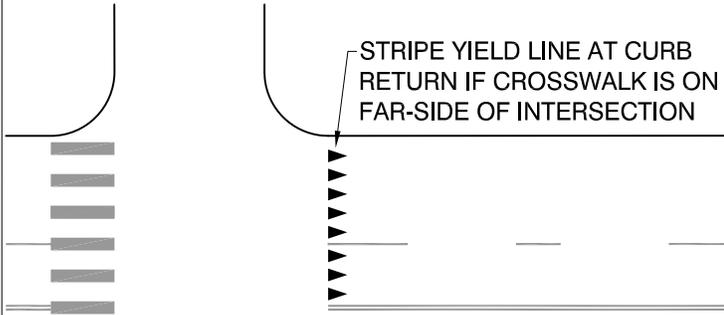
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DWG. NO.

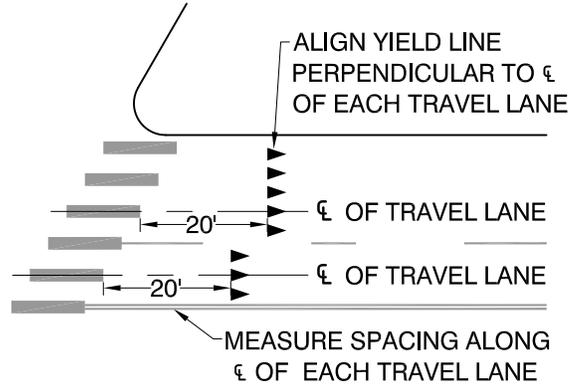
DATE: MAR 2021

RM-6

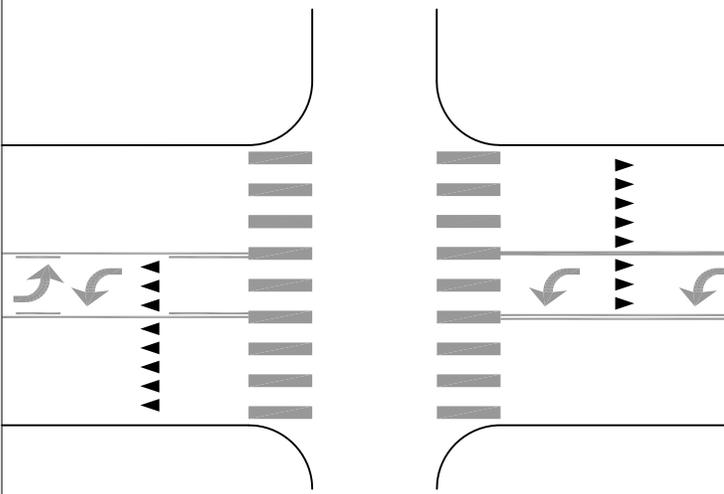
FAR-SIDE CROSSWALKS



SKWEVED INTERSECTIONS

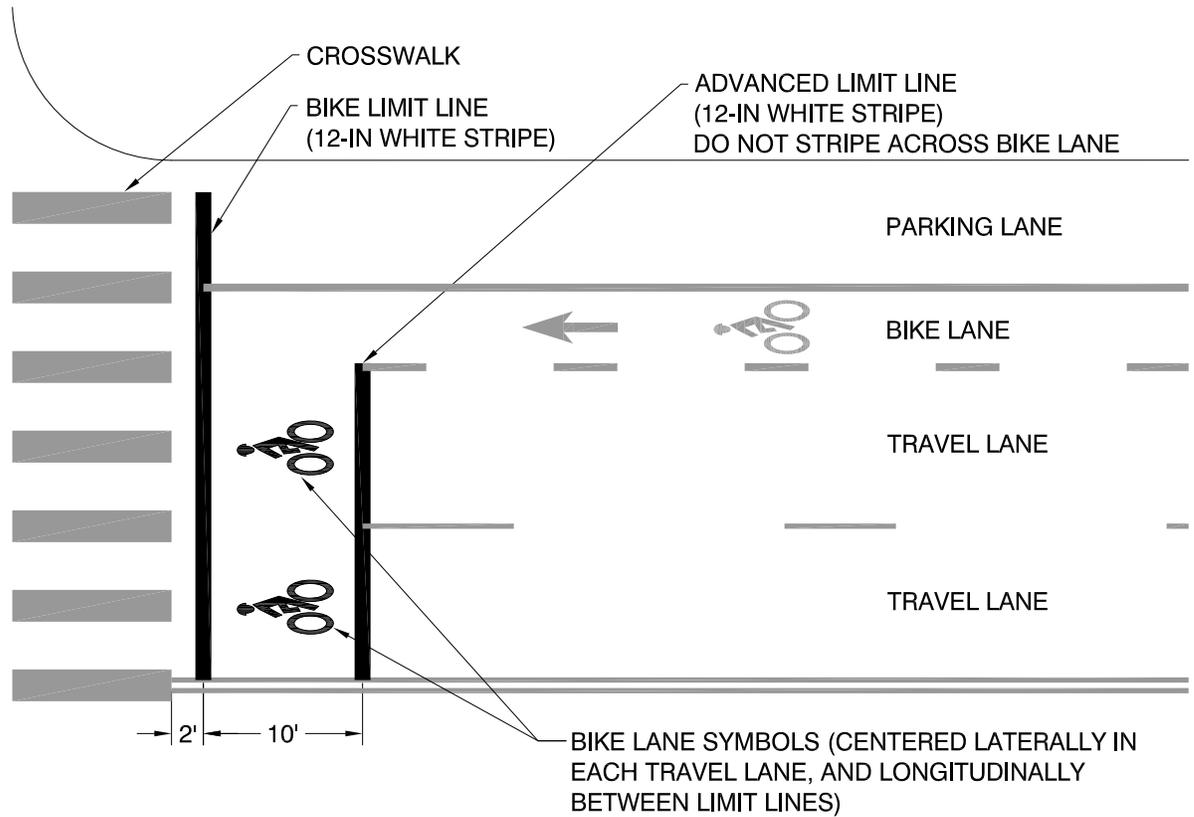


TURN LANES



STRIPE ADVANCED YIELD LINES
ACROSS TURN LANES THAT
CREATE MULTI-LANE CROSSWALK
APPROACHES

NOT USED



NOTES

1. Install bike boxes at signalized intersections where two or more bikeways intersect.
2. On approaches with passive detection for bicycles, provide passive detection within the bike box. Bike detector symbol pavement markings should be omitted from approach lanes encompassed by a bike box where a bike lane symbol is centered in the lane between the bike limit line and the advanced limit line.

NOT TO SCALE



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BIKE BOX

**ROADWAY MARKING
 DETAILS**

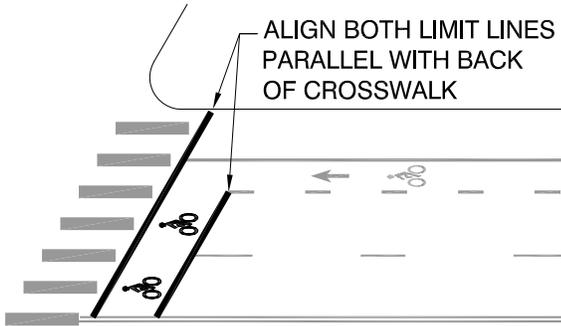
SCALE: NTS

DWG. NO.

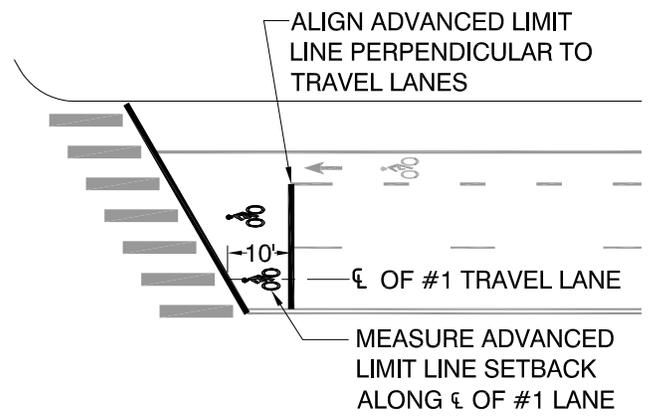
RM-7

DATE: MAR 2021

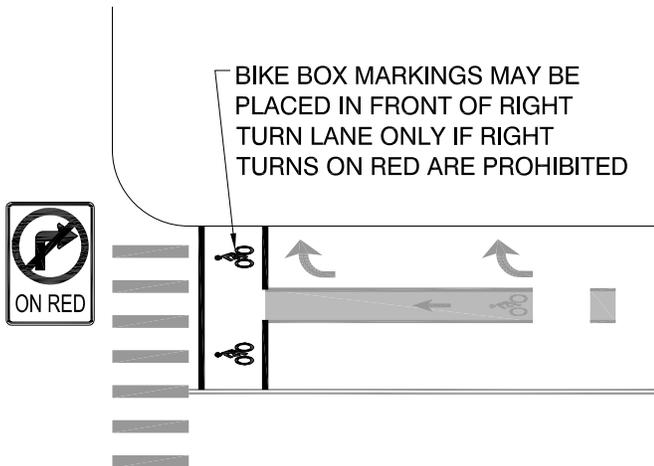
OBTUSE SKEW IN BIKE BOX



ACUTE SKEW IN BIKE BOX



RIGHT TURN ONLY LANES WITH TURN ON RED LIGHT PROHIBITED



NOT USED



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BIKE BOX

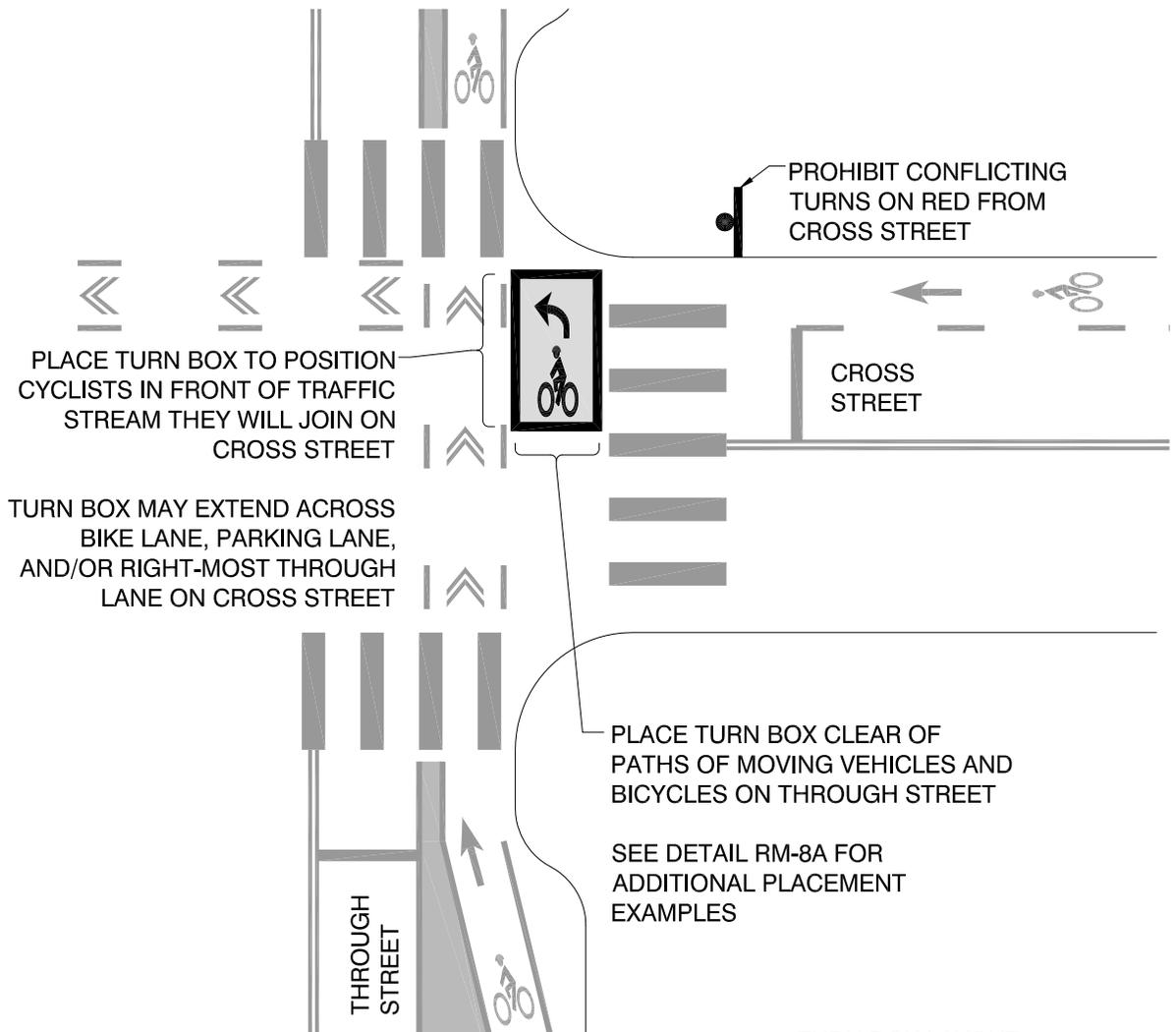
SUPPLEMENTAL GUIDANCE

SCALE: NTS

DWG. NO.

DATE: MAR 2021

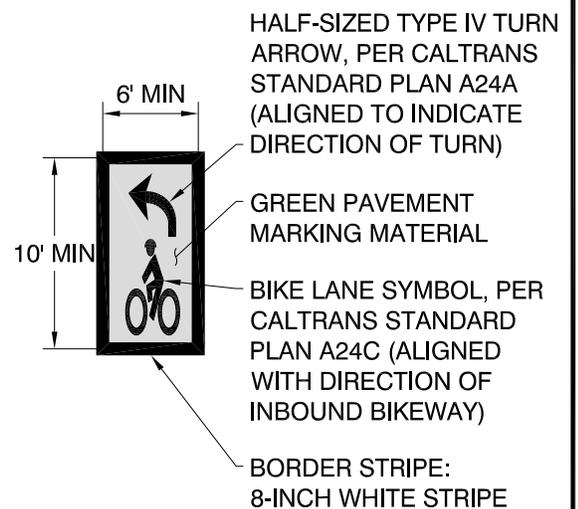
RM-7A



TURN BOX LAYOUT

NOTES

1. Install two-stage turn queue boxes (turn boxes) at signalized intersections where separated (Class IV) bikeways intersect with another bikeway, to facilitate two-stage turns from the separated bikeway.
2. Turn boxes may also be used at the intersections of other bikeway types, where comfortable and convenient turns are not otherwise supported.
3. Prohibit turns on red from intersecting streets where turn boxes are installed in the path of turning vehicles.
4. Turn boxes shall be placed in a protected area, outside of the path of conflicting vehicle, bicycle, and pedestrian movements.
5. Turn boxes may also be used at unsignalized intersections to simplify cyclist turning movements, but engineering judgement must be used to ensure the safe placement of queue boxes outside the path of conflicting vehicle movements.
6. At signalized intersections with passive detection for bicycles, provide passive detection within the turn box



NOT TO SCALE



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**TWO-STAGE TURN
 QUEUE BOX**

**ROADWAY MARKING
 DETAILS**

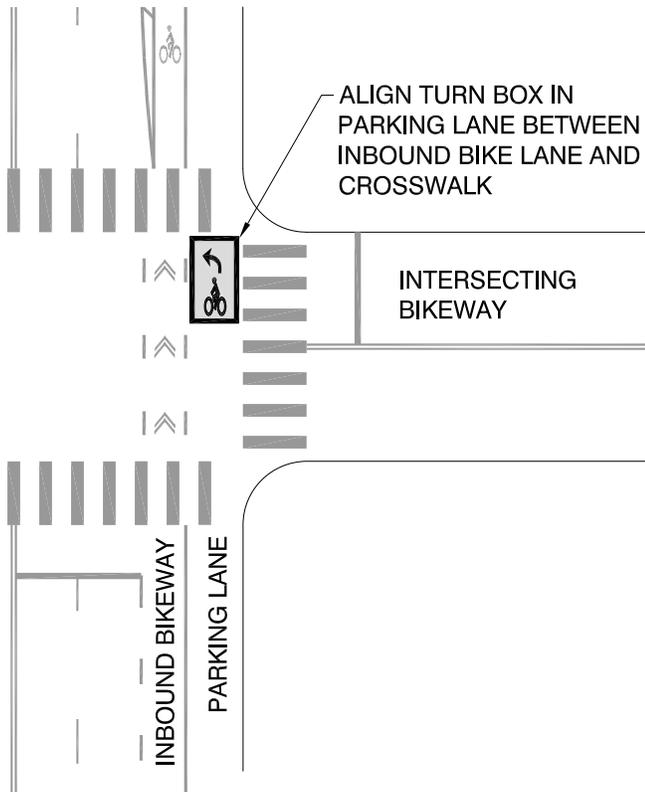
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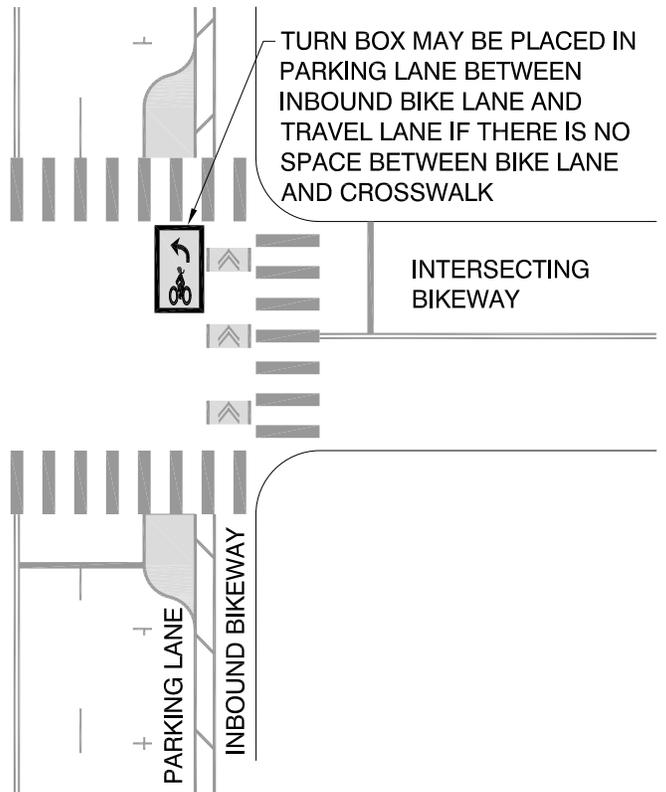
DATE: MAR 2021

RM-8

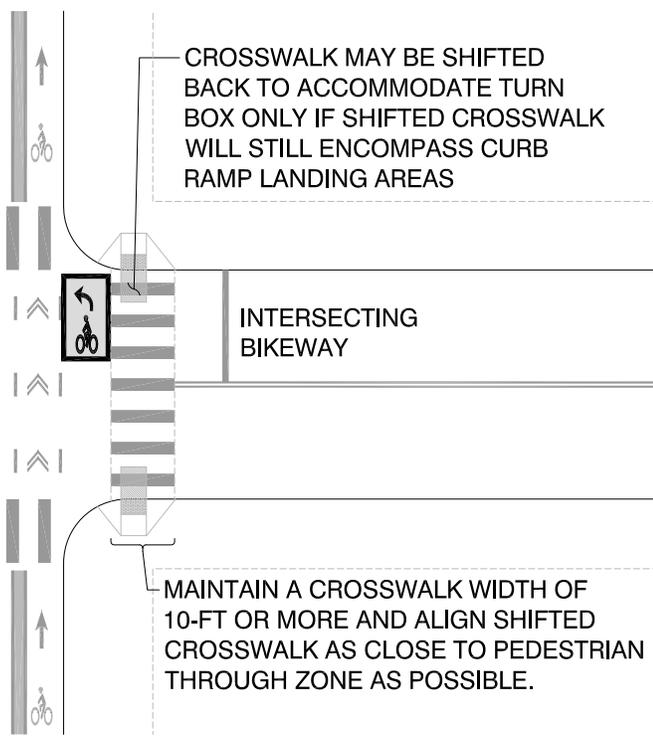
BIKE LANES ADJACENT TO ON-STREET PARKING



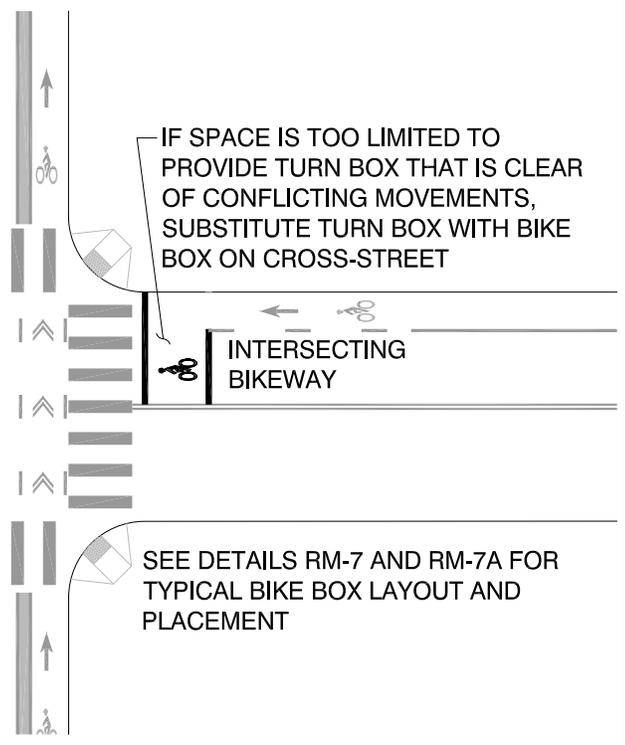
PARKING SEPARATED BIKE LANES (CYCLE TRACKS)



SHIFTING CROSSWALK TO ACCOMODATE TURN BOX



SUBSTITUTING BIKE BOX IN CONSTRAINED LOCATIONS



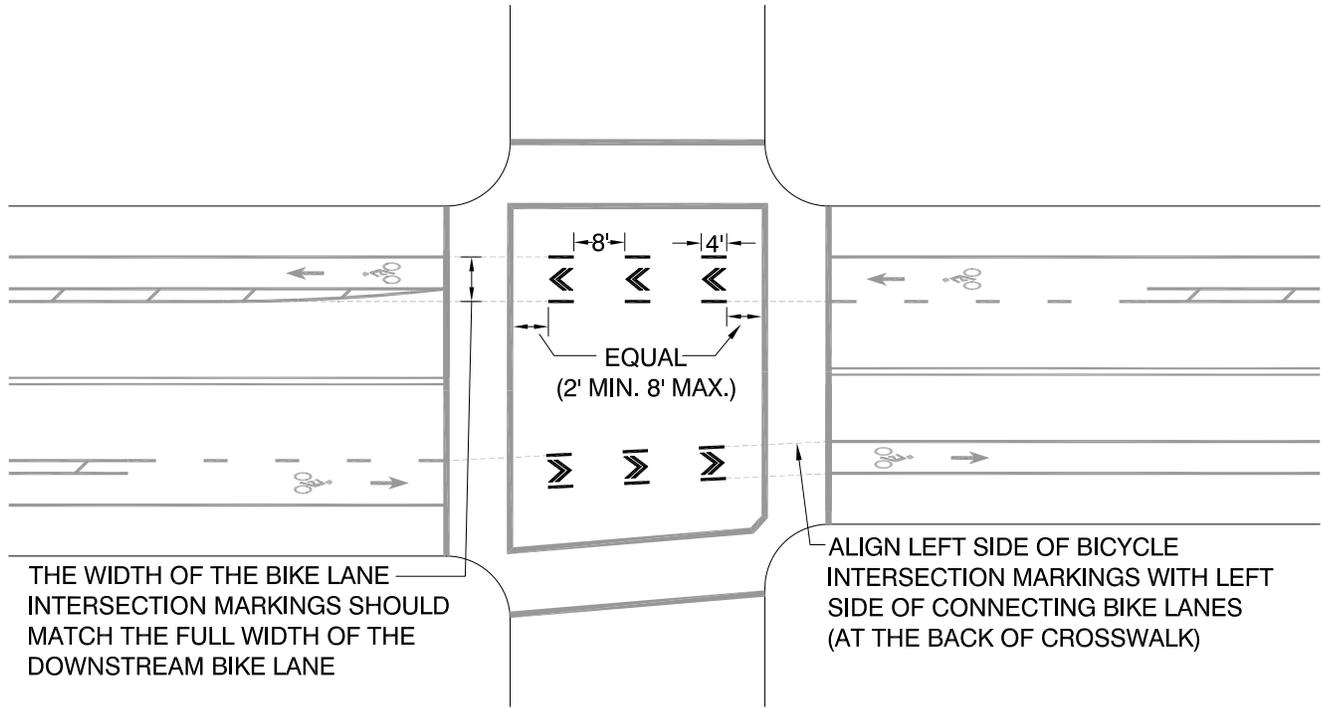
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 250 FRANK H. OGAWA PLAZA, SUITE 4314 * OAKLAND CA, 94612
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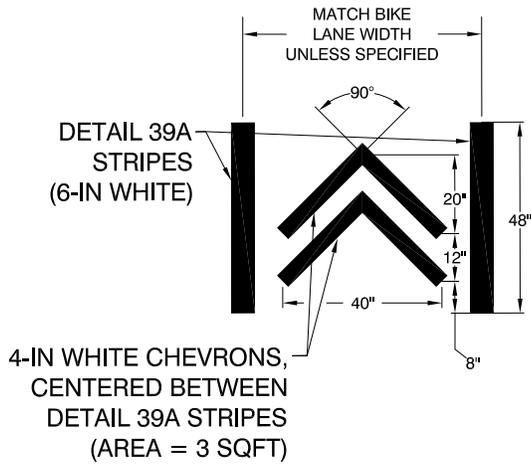
**TWO-STAGE TURN
 QUEUE BOX**

**SUPPLEMENTAL
 GUIDANCE**

SCALE: NTS	DWG. NO. RM-8A
DATE: MAR 2021	

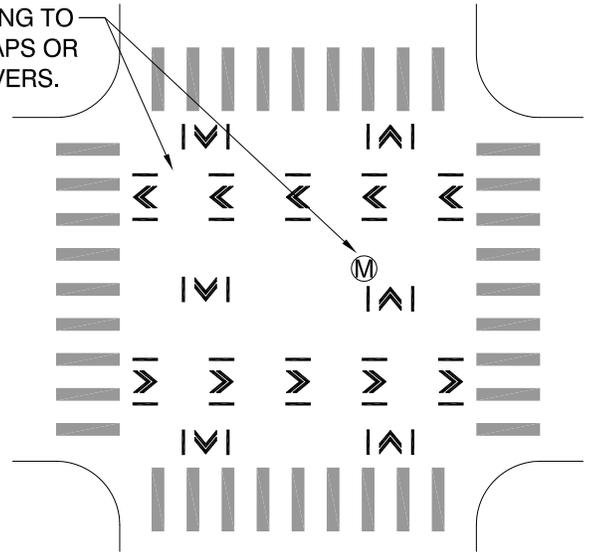


MARKING DETAIL



INTERSECTING BIKE LANES

MODIFY SPACING TO AVOID OVERLAPS OR MANHOLE COVERS.



NOTES

1. Install bike lane intersection markings to connect approaching and receiving bike lanes across intersections, unless otherwise specified.
2. See Green Bike Lane Detail GB-4 for standard bike lane intersection markings through complex intersections.

NOT TO SCALE



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BIKE LANE EXTENSION THROUGH INTERSECTION

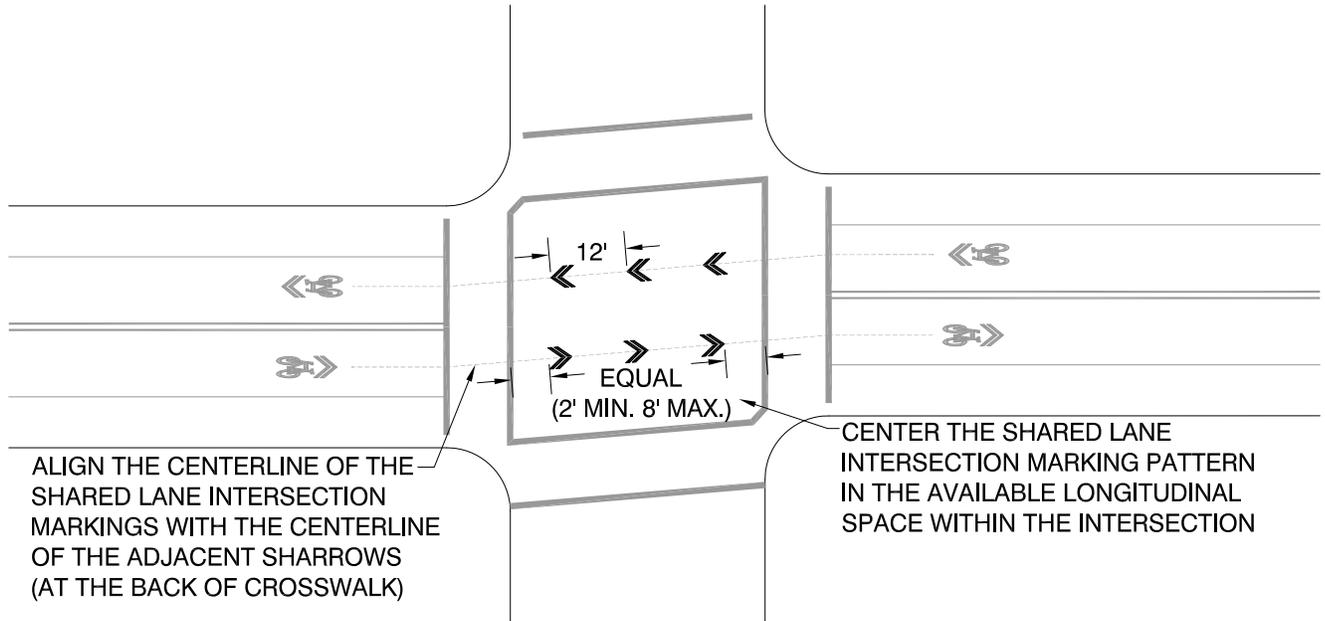
ROADWAY MARKING DETAILS

SCALE: NTS

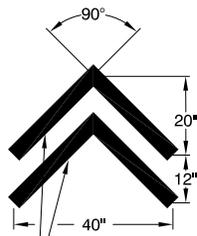
DWG. NO.

RM-9

DATE: MAR 2021



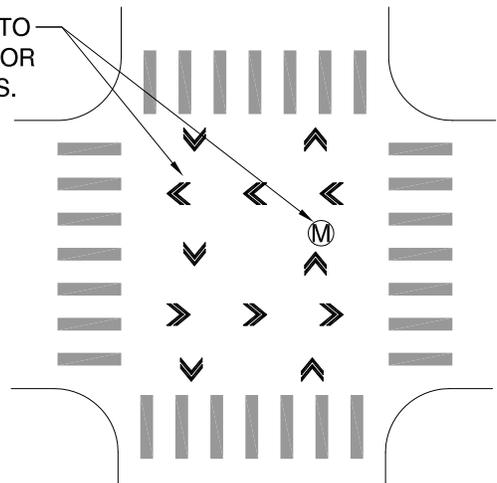
MARKING DETAIL



4-IN WHITE CHEVRONS
(AREA = 3 SQFT)

INTERSECTING BIKE LANES

MODIFY SPACING TO AVOID OVERLAPS OR MANHOLE COVERS.



NOTE

1. Install shared lane intersection markings to connect shared lane bikeways through intersections, as noted on plans.
2. When a shared lane bikeway connects to a bike lane across an intersection (or vice versa) install shared lane intersection markings, as noted on plan. Align intersection the shared lane intersection markings with the centerline of the sharrows on the shared bikeway side of the intersection and the centerline of the bike lane on the other.

NOT TO SCALE



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**SHARED LANE EXTENSION
THROUGH INTERSECTION**

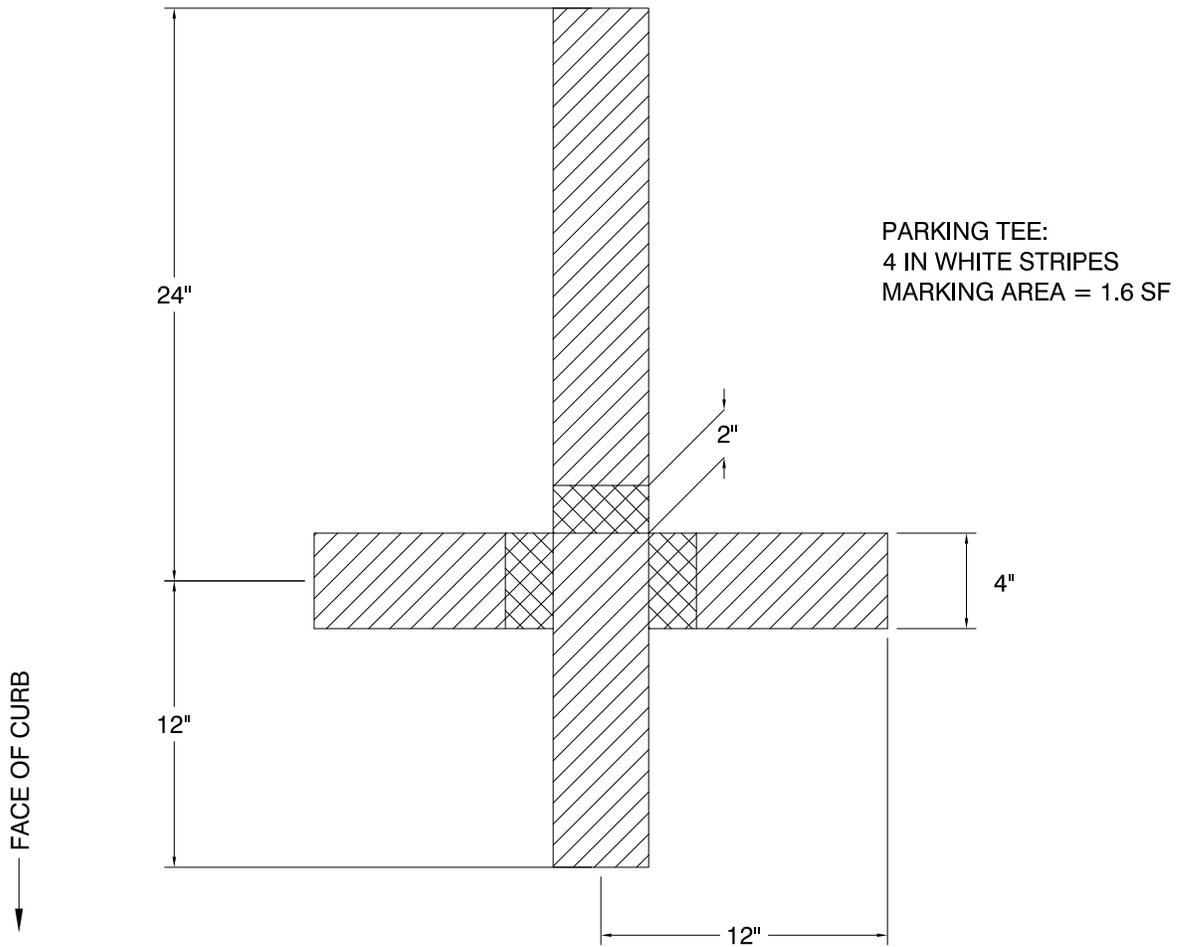
**ROADWAY MARKING
DETAILS**

SCALE: NTS

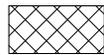
DWG. NO.

DATE: MAR 2021

RM-10

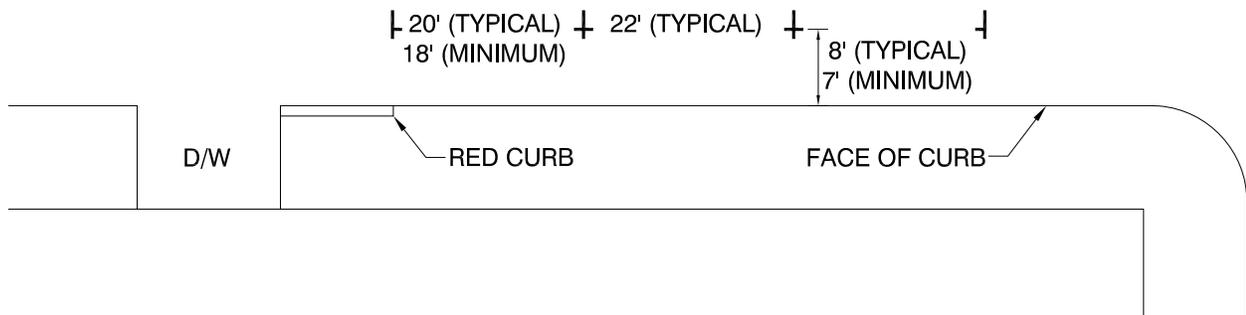


PARKING TEE:
 4 IN WHITE STRIPES
 MARKING AREA = 1.6 SF



OPTIONAL 2" GAPS FOR STENCIL-BASED APPLICATIONS

NOT TO SCALE



NOT TO SCALE



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PARKING STALL "TEE"

ROADWAY MARKING DETAILS

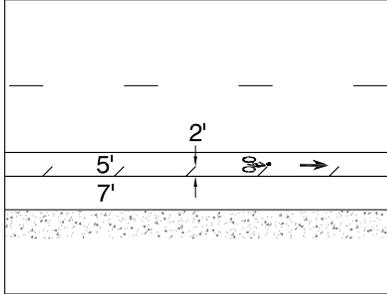
SCALE: NTS

DWG. NO.

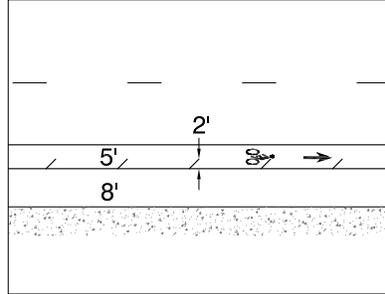
RM-11

DATE: MAR 2021

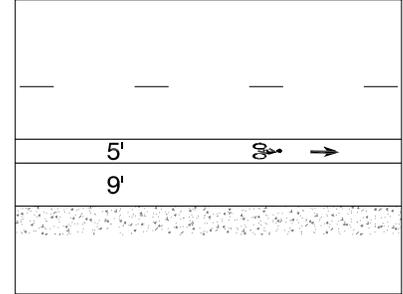
12' WIDTH



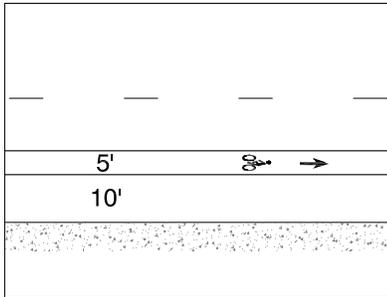
13' WIDTH



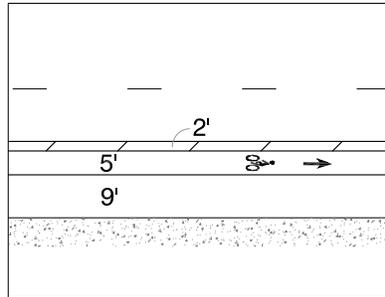
14' WIDTH



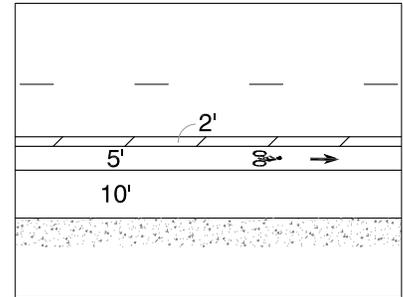
15' WIDTH



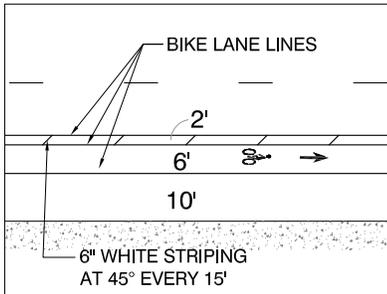
16' WIDTH



17' WIDTH



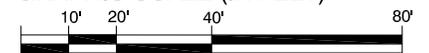
18' WIDTH



NOTES

1. Where width allows, use the 16', 17', or 18' cross-sections that include bike lane buffers.
2. If more than 18' is available, consider narrowing the cross-section with a striped median.
3. The parking-side diagonal buffer striping (for parking lanes 8-foot wide or narrower) is 2' in width, measured perpendicular to curb line.
4. On residential streets, the diagonal buffer striping spacing may be increased from 15' to 30'.

GRAPHIC SCALE (IN FEET)



CITY OF OAKLAND

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 EMAIL: bikeped@oaklandca.gov

**BIKE LANE, BUFFER, AND
 PARKING LANE WIDTHS
 (NON-METERED PARKING)**

**CROSS-SECTION
 DETAILS**

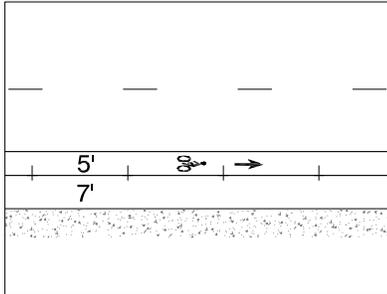
SCALE: 1" = 40'

DWG. NO.

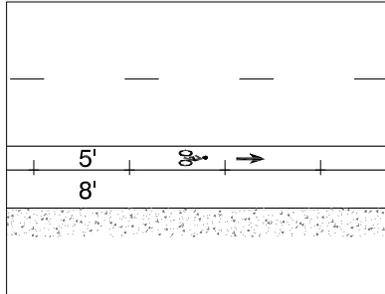
DATE: MAR 2021

CS-1

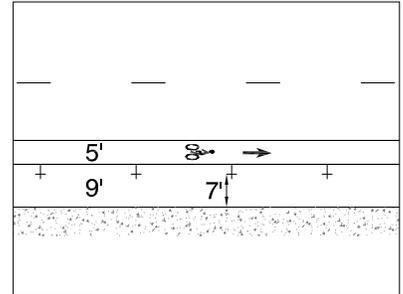
12' WIDTH



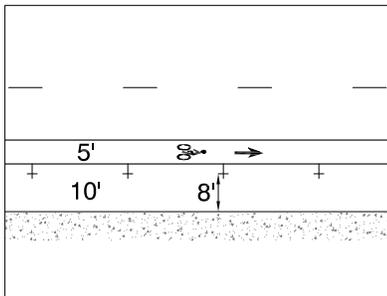
13' WIDTH



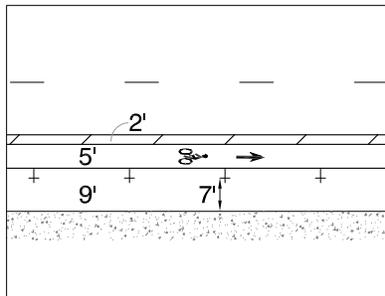
14' WIDTH



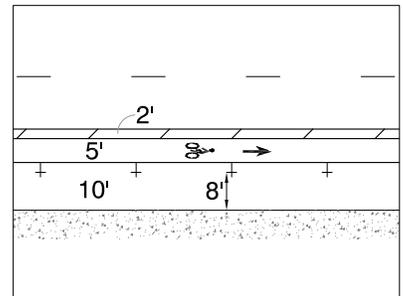
15' WIDTH



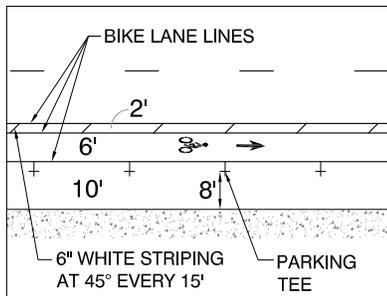
16' WIDTH



17' WIDTH



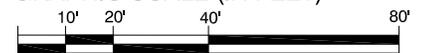
18' WIDTH



NOTES

1. Where width allows, use the 16', 17', or 18' cross-sections that include bike lane buffers.
2. If more than 18' is available, consider narrowing the cross-section with a striped median.
3. For parking lanes 8-feet wide or narrower, parking tees are placed on parking-side bike lane stripe, with long side extending into bike lane.
4. Mark parking tees with long side facing away from curb. See parking tee detail RM-11.

GRAPHIC SCALE (IN FEET)



CITY OF OAKLAND

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 EMAIL: bikeped@oaklandca.gov

BIKE LANE, BUFFER, AND
 PARKING LANE WIDTHS
 (METERED PARKING)

CROSS-SECTION
DETAILS

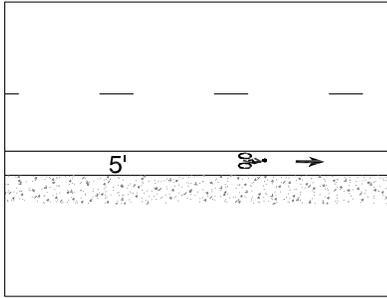
SCALE: 1" = 40'

DWG. NO.

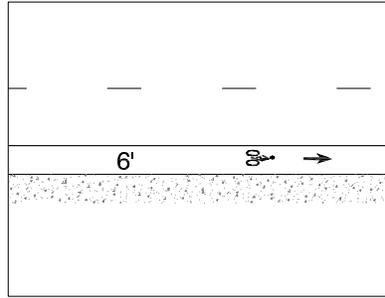
CS-2

DATE: MAR 2021

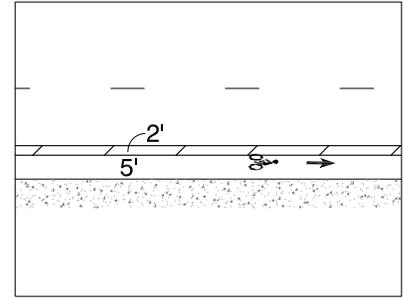
5' WIDTH



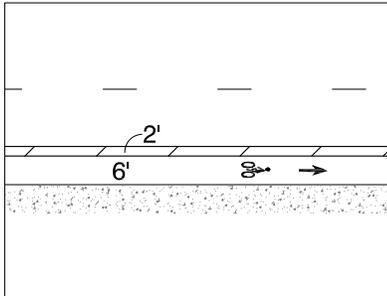
6' WIDTH



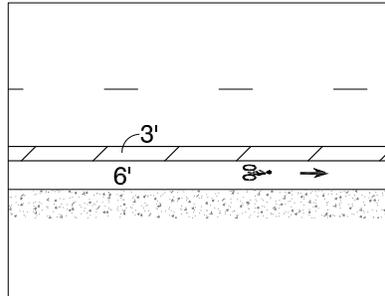
7' WIDTH



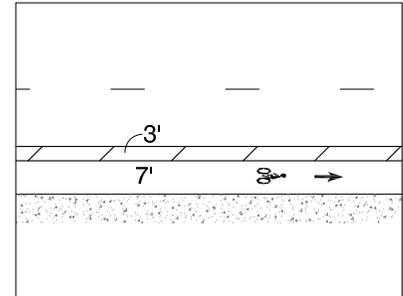
8' WIDTH



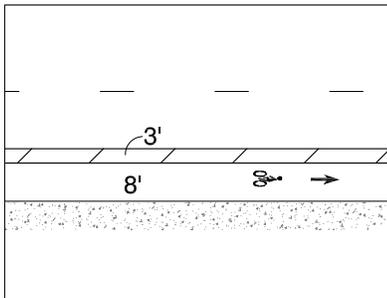
9' WIDTH



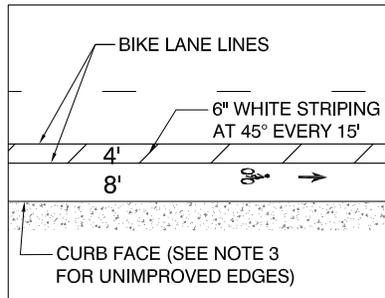
10' WIDTH



11' WIDTH



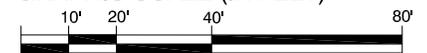
12' WIDTH



NOTES

1. The desired minimum width for a curbside bike lane is 5 feet, measured from the face of curb. However, on extremely constrained, low-speed roadways, where other lanes cannot be narrowed, a 4-foot wide curbside bike lane may be used if there is no gutter present or if the gutter is wider than 4-feet.
2. If existing drainage inlets (DIs) protrude into the bike lane, the bike lane should be at least 6-feet wide. For bike lanes less than 6-feet wide, the inlets should be moved if practical. All drainage inlet grates must be bicycle friendly and fit within their frames with no gaps larger than 1/2-inch.
3. If the edge of the road is unimproved (i.e. no curb and/or sidewalk), add a bike lane line to delineate the right side of the bike lane.
4. Curbside bike lanes with striped buffers may include additional vertical separation elements. See Cross-Section Detail CS-4 for minimum parking separated bike lane widths.

GRAPHIC SCALE (IN FEET)



CITY OF OAKLAND

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CURBSIDE BIKE LANE
 AND
 BUFFER WIDTHS

CROSS-SECTION
 DETAILS

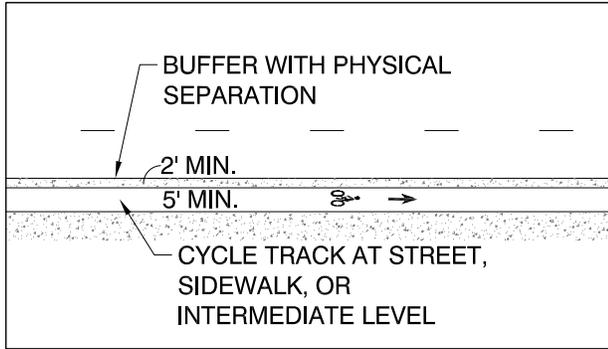
SCALE: 1" = 40'

DWG. NO.

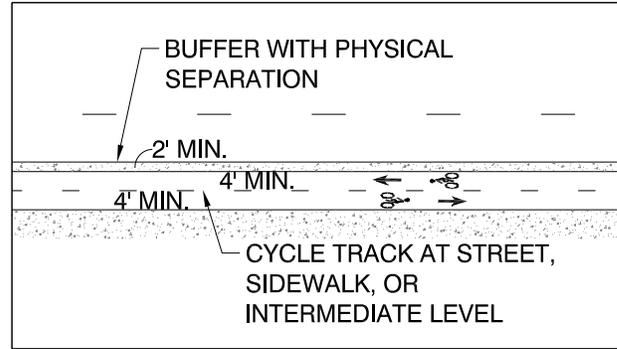
CS-3

DATE: MAR 2021

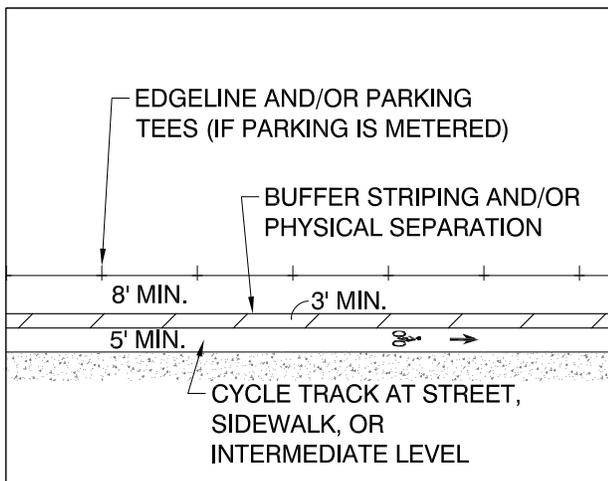
**ONE-WAY CYCLE TRACK WITH
NO ADJACENT PARKING**



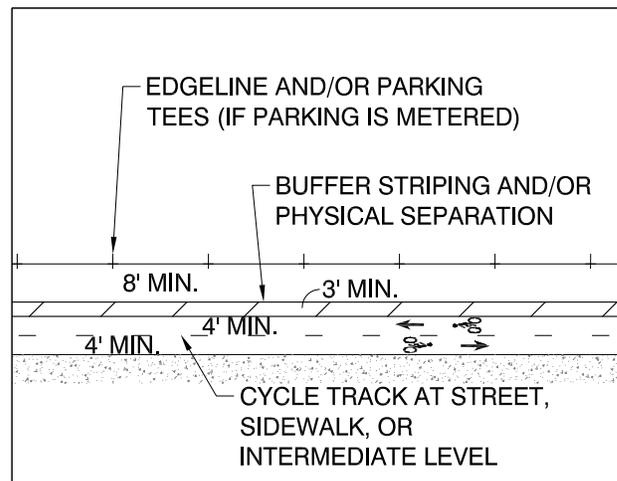
**TWO-WAY CYCLE TRACK WITH
NO ADJACENT PARKING**



**ONE-WAY PARKING
SEPARATED CYCLE TRACK**



**TWO-WAY PARKING
SEPARATED CYCLE TRACK**



NOTES

1. This detail provides basic minimum desirable widths for cycle tracks, cycle track buffers and adjacent parking lanes (if present). These minimum dimensions should be exceeded in all but the most constrained conditions. How to distribute additional available width between these elements is context sensitive and should be determined using engineering judgement and the criteria below.
2. If existing gutters or drainage inlets protrude into the cycle track such that there is a longitudinal seam within the bikeway, and these structures cannot be reconstructed to move the seam out of the bikeway, the affected bike lane direction (if two-way) should be widened such that the rideable surface clear of the seam is at least 4-ft wide.
3. Where high bicycle volumes are expected, the cycle track should be 7-feet or wider in each direction, to allow for passing and/or side-by-side riding.
4. For parking separated cycle tracks, striped buffer areas may be widened and any vertical separation should include regular breaks to provide access to parked vehicles.
5. At accessible parking and loading zones, the striped buffer shall be 5-foot wide (min.) to provide an access aisle connecting to a crosswalk and/or curb ramp per ADA guidelines. The access aisle should be at the same grade as the cycle track and the cycle track may be narrowed to 4 feet (if necessary) for the length of the access aisle.
6. The width between the curb and any vertical separation elements should be at least the fleet maintenance vehicle width.

NOT TO SCALE



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**SEPARATED BIKE LANE
(CYCLE TRACK)
MINIMUM WIDTHS**

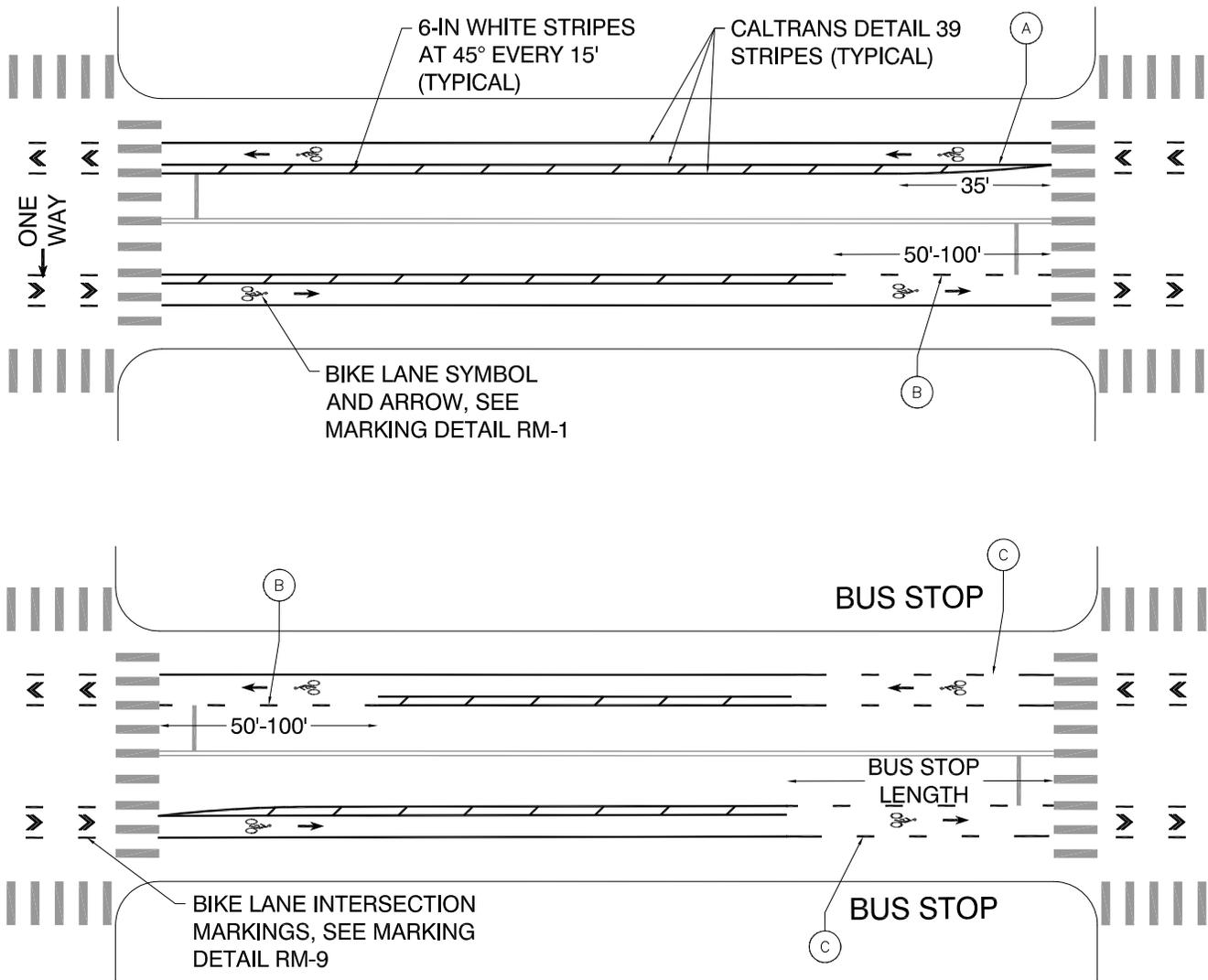
**CROSS-SECTION
DETAILS**

SCALE: NTS

DWG. NO.

DATE: MAR 2021

CS-4



NOTES

- (A) At locations where motorists will make right turns from side-streets, taper left buffer stripe over a 35' length.
- (B) On approaches where motorists will make right turns onto side-streets, drop left side bike lane buffer and use Caltrans detail 39A stripe to define left side of bike lane for 50' (typical) at minor intersections and in downtown, otherwise 100' (typical).
- (C) At bus stops, drop the buffer and use Caltrans detail 39A stripes to define both sides of the bike lane for the length of the bus stop.

See Details CS-1 and CS-2 for cross-section dimensions.



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**BUFFERED BIKE LANES
(PLAN VIEW)**

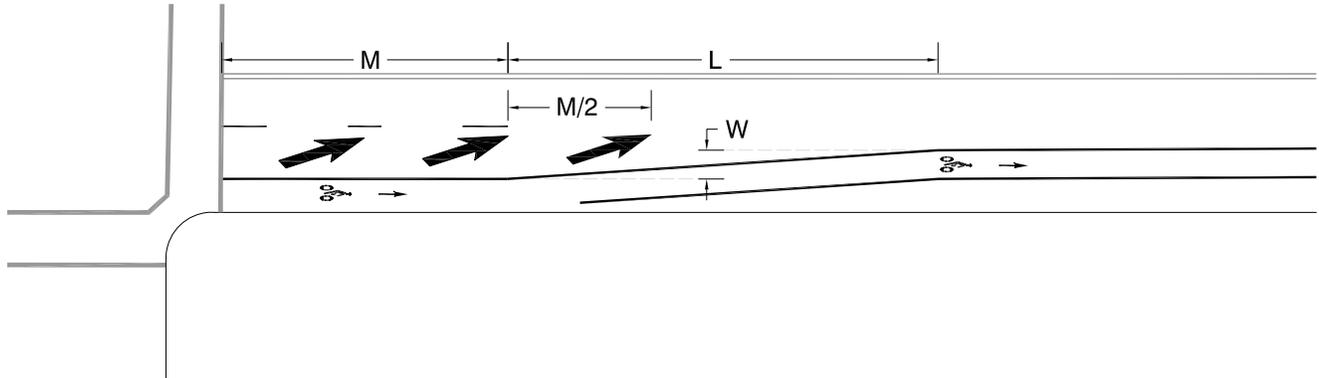
**CROSS-SECTION
DETAILS**

SCALE: 1" = 40'

DWG. NO.

DATE: MAR 2021

CS-5



NOTES:

Transition equation (40 mph or less): $L = \frac{WS^2}{60}$ (CA MUTCD Section 3B.09)

L = Length in feet

S = Speed in mph

W = Offset in feet

M = Length of skip stripe in feet: $M = \frac{2L}{3}$ & $M \geq 55'$

M/2 = Spacing of arrows in feet

Example Values				
S	W	L	M	L+M
25 mph	5'	52'	55'	107'
25 mph	6'	63'	55'	118'
25 mph	7'	75'	55'	130'
25 mph	8'	83'	56'	139'
30 mph	5'	75'	55'	130'
30 mph	6'	90'	60'	150'
30 mph	7'	102'	68'	170'
30 mph	8'	120'	80'	200'

GRAPHIC SCALE (IN FEET)



CITY OF OAKLAND

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**LANE REDUCTION
 TRANSITION MARKINGS
 WITH BIKE LANE**

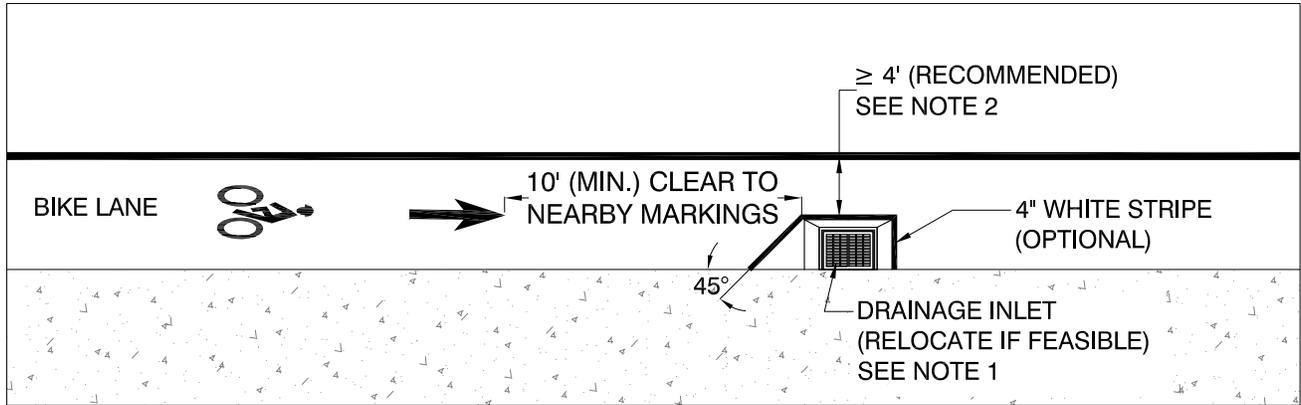
**CROSS-SECTION
 DETAILS**

SCALE: 1" = 40'

DWG. NO.

CS-6

DATE: MAR 2021



NOTES

1. Drainage inlets in the bikeway should be removed and replaced where feasible with inlets recessed into the curb face. See City of Oakland Standard Type E Inlet Detail (DWG. D-8).
2. If a drainage inlet in the bikeway cannot be relocated, the recommended width of rideable surface between the bike lane stripe and edge of the inlet apron is 4-ft or greater. In extremely constrained locations, narrower rideable widths may be deemed acceptable by engineering judgement, if all other lanes have been narrowed to their minimum acceptable values.
3. The pavement adjacent to a drainage inlet should conform to the lip of the inlet apron.
4. All in-street drainage inlet grates must be bicycle safe and fit properly in their frames, in conformance with City of Oakland Standard Details D-3 through D-9, and Caltrans Standard Plan D77B.



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**CURBSIDE BIKE LANE
 AND
 DRAINAGE INLETS**

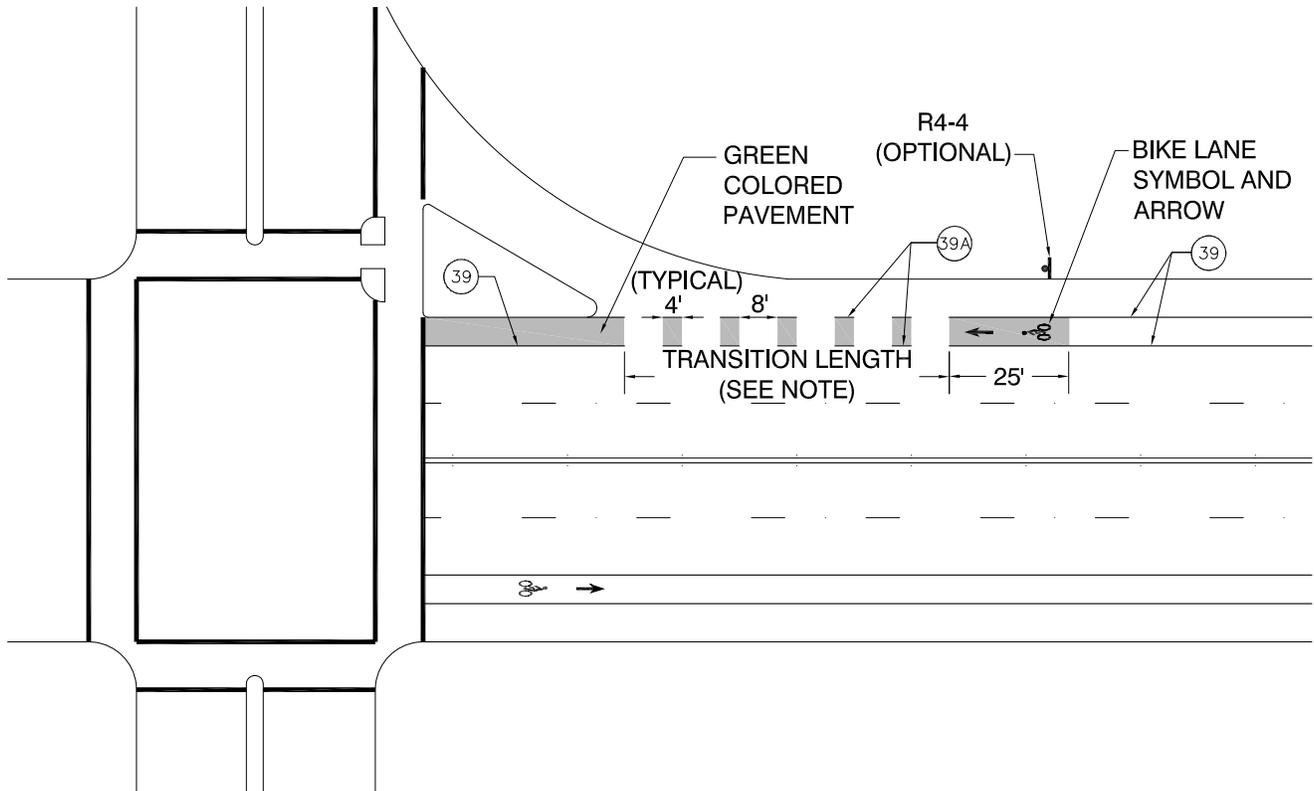
**CROSS-SECTION
 DETAILS**

SCALE: NTS

DWG. NO.

DATE: MAR 2021

CS-7



NOTES

Transition length is determined by roadway geometry (68' as shown).



MUTCD R4-4 Sign

NOT TO SCALE



CITY OF OAKLAND

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**GREEN BIKE LANE
 (TYPE 1)
 SLIP TURN - UPSTREAM**

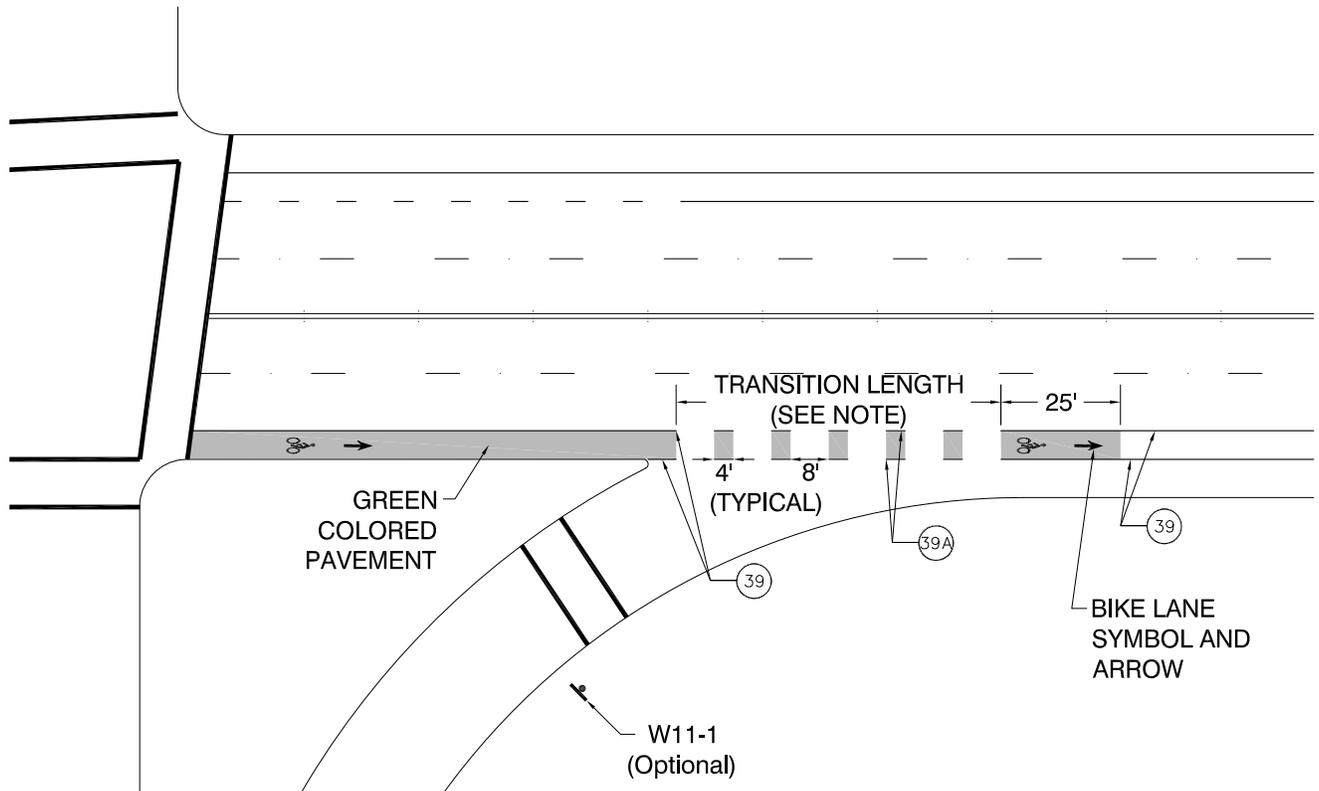
**GREEN BIKE LANE
 DETAILS**

SCALE: NTS

DWG. NO.

DATE: MAR 2021

GB-1



NOTES

Transition length is determined by roadway geometry (68' as shown).



MUTCD W11-1 Sign

NOT TO SCALE



CITY OF OAKLAND
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**GREEN BIKE LANE
 (TYPE 2)
 SLIP TURN - DOWNSTREAM**

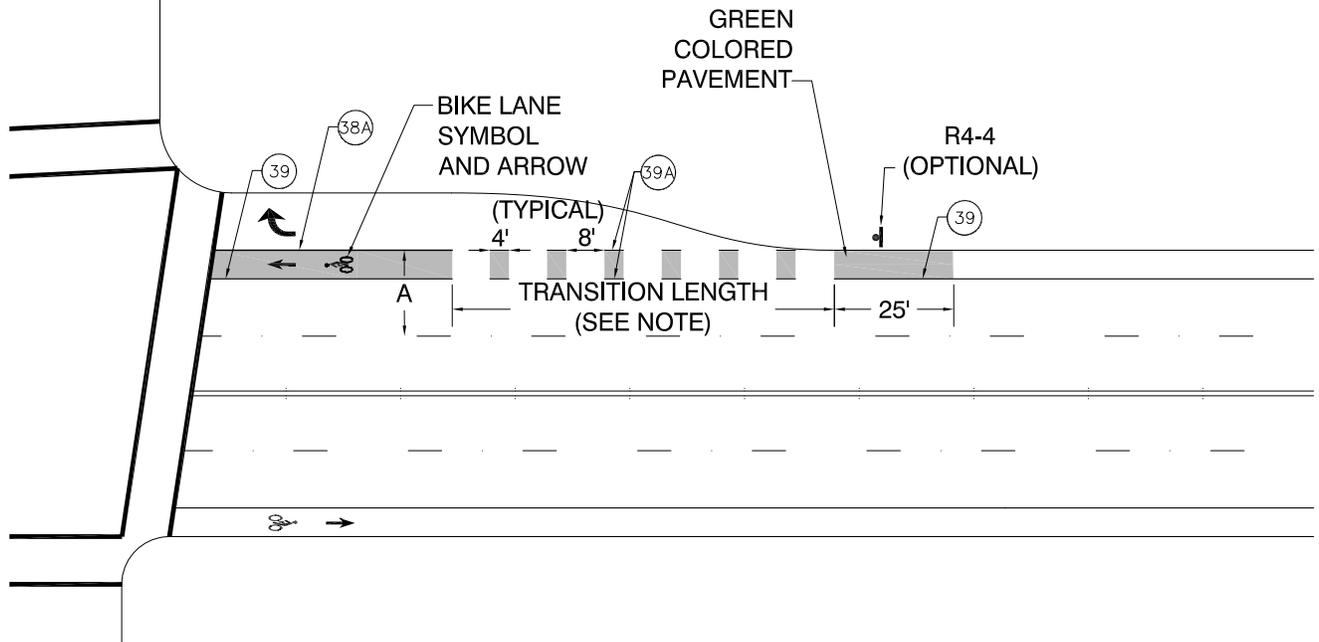
**GREEN BIKE LANE
 DETAILS**

SCALE: NTS

DWG. NO.

DATE: MAR 2021

GB-2



NOTES

Transition length = 5 x A (typical, 80' as shown).



MUTCD R4-4 Sign

NOT TO SCALE



CITY OF OAKLAND

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 EMAIL: bikeped@oaklandca.gov

**GREEN BIKE LANE
 (TYPE 3)
 TURN POCKET**

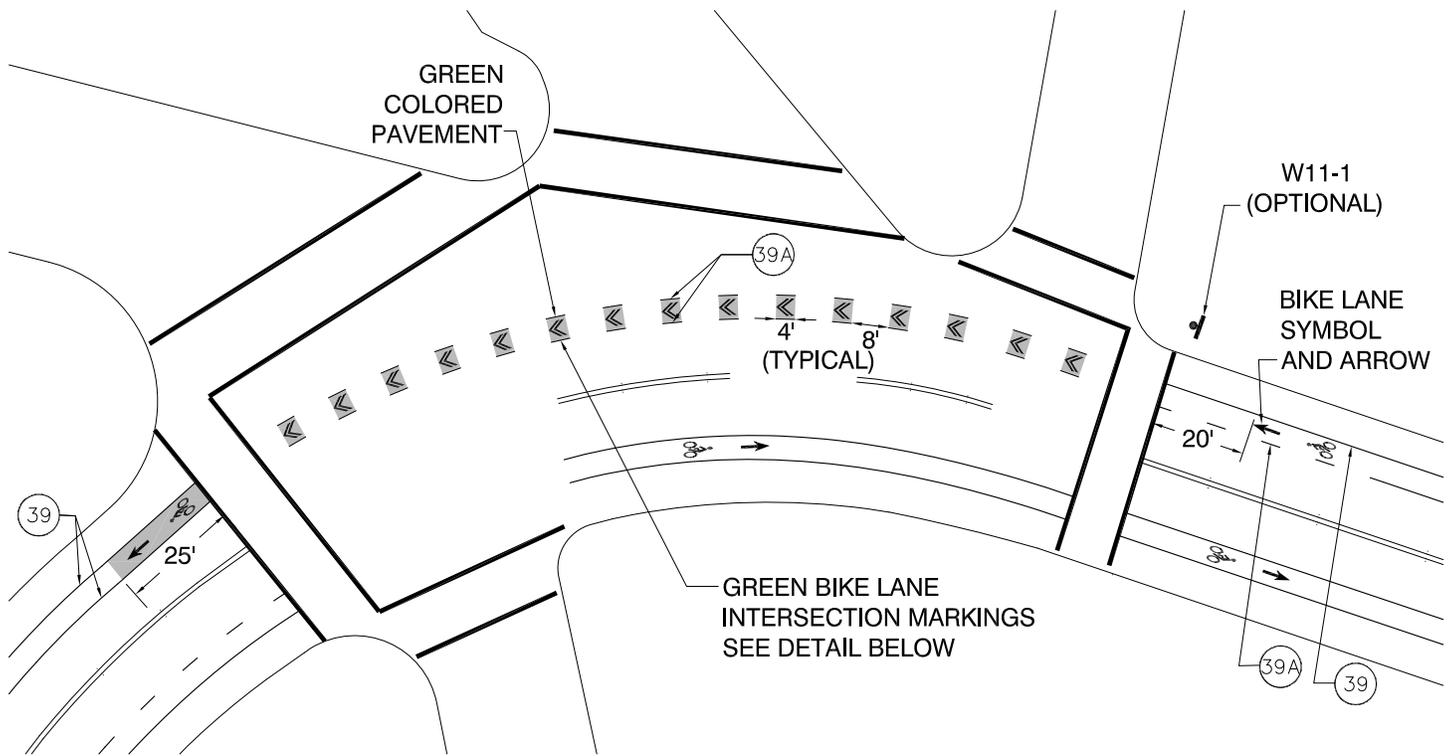
**GREEN BIKE LANE
 DETAILS**

SCALE: NTS

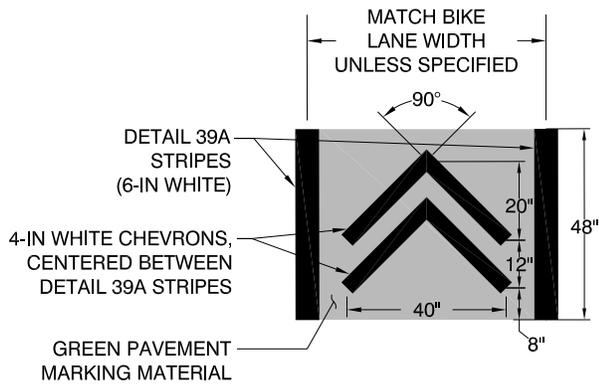
DWG. NO.

GB-3

DATE: MAR 2021



GREEN BIKE LANE INTERSECTION MARKING DETAIL



MUTCD W11-1 Sign

NOTE: UNLESS OTHERWISE SPECIFIED ON PLANS, THE LAYOUT OF BIKE LANE INTERSECTION MARKINGS SHALL CONFORM TO THE FOLLOWING:

1. SPACING PATTERN OF MARKINGS SHALL APPROXIMATE SPACING OF DETAIL 39A STRIPE (4-FT STRIPE, 8-FT SKIP MAY VARY, SEE BELOW)
2. THE LENGTH OF SKIPS BETWEEN MARKINGS MAY VARY TO ACCOMMODATE CURVES AND AVOID UTILITY COVERS OR OTHER IN-STREET APPURTENANCES
3. EACH INTERSECTION MARKING SHALL BE RECTANGULAR IN SHAPE, WITH SQUARE CORNERS AND PARALLEL SIDES.

NOT TO SCALE



CITY OF OAKLAND

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 EMAIL: bllkped@oaklandca.gov

**GREEN BIKE LANE
 (TYPE 4)
 COMPLEX INTERSECTION**

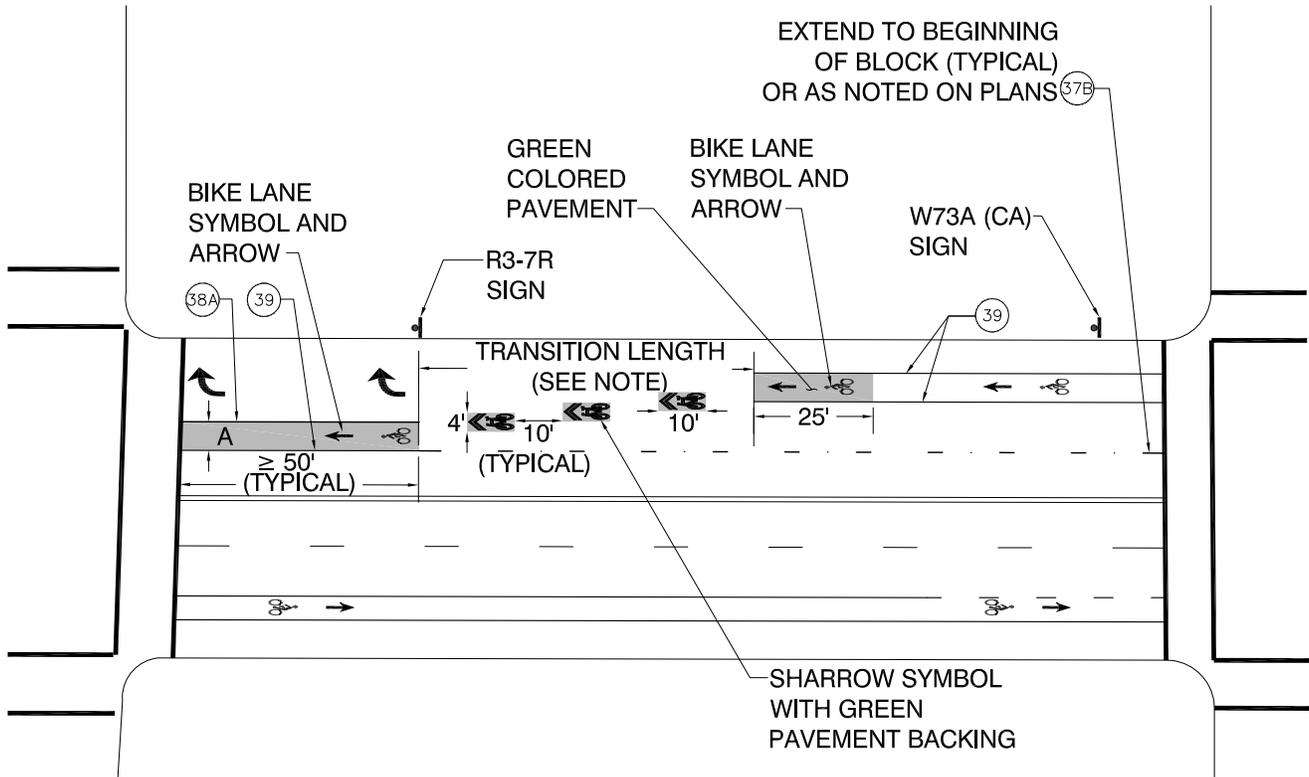
**GREEN BIKE LANE
 DETAILS**

SCALE: NTS

DWG. NO.

DATE: MAR 2021

GB-4



NOTES

Downstream bike lane width (A) ≥ 6' recommended (4' minimum)

This treatment uses green-backed sharrows to mark the mixing zone. The first sharrow is centered on the right edge of the upstream travel lane. The last sharrow is centered on the left edge of the right turn lane. The sharrows in between shift evenly to the left. The typical transition length is 12 x A (70' as shown).



MUTCD R3-7R Sign



MUTCD W73A (CA) Sign

NOT TO SCALE



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 EMAIL: blkeped@oaklandca.gov

**GREEN BIKE LANE
 (TYPE 5)
 RIGHT-ONLY TRAP LANE**

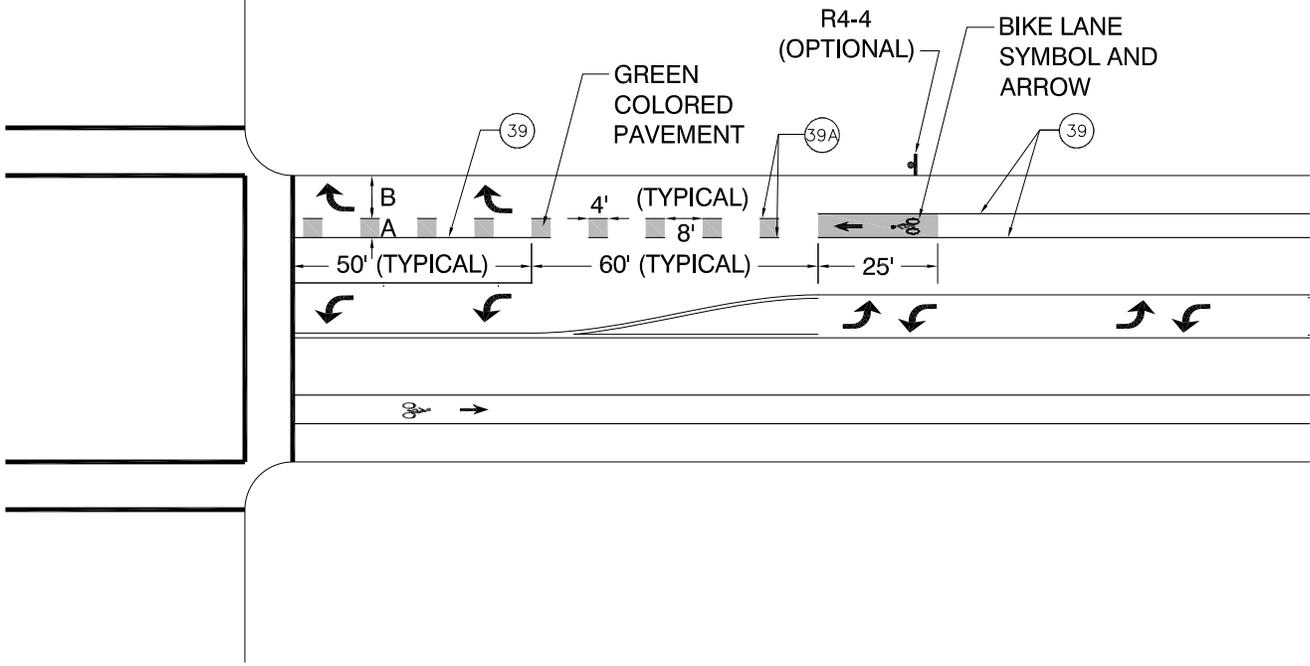
**GREEN BIKE LANE
 DETAILS**

SCALE: NTS

DWG. NO.

DATE: MAR 2021

GB-5



NOTES

Downstream bike lane width (A) = 4' (Minimum)
 Turn pocket width (B) = 8' (Minimum)

If $A + B \geq 15'$, use the Turn Pocket (Type 3) Detail for green bike lanes (DWG. GB-3)



MUTCD R4-4 Sign

NOT TO SCALE



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**GREEN BIKE LANE
 (TYPE 6)
 COMBINED BIKE LANE
 & RIGHT TURN POCKET**

**GREEN BIKE LANE
 DETAILS**

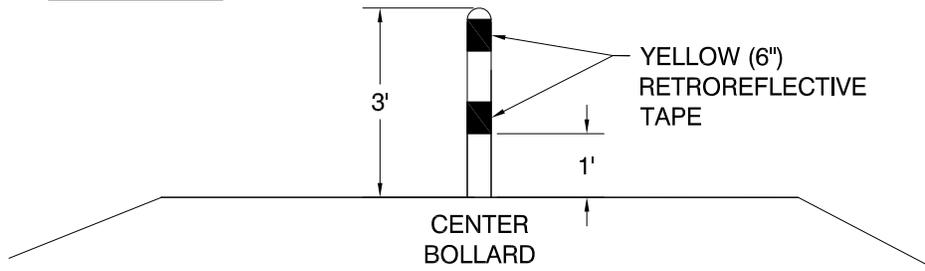
SCALE: NTS

DWG. NO.

DATE: MAR 2021

GB-6

SECTION VIEW



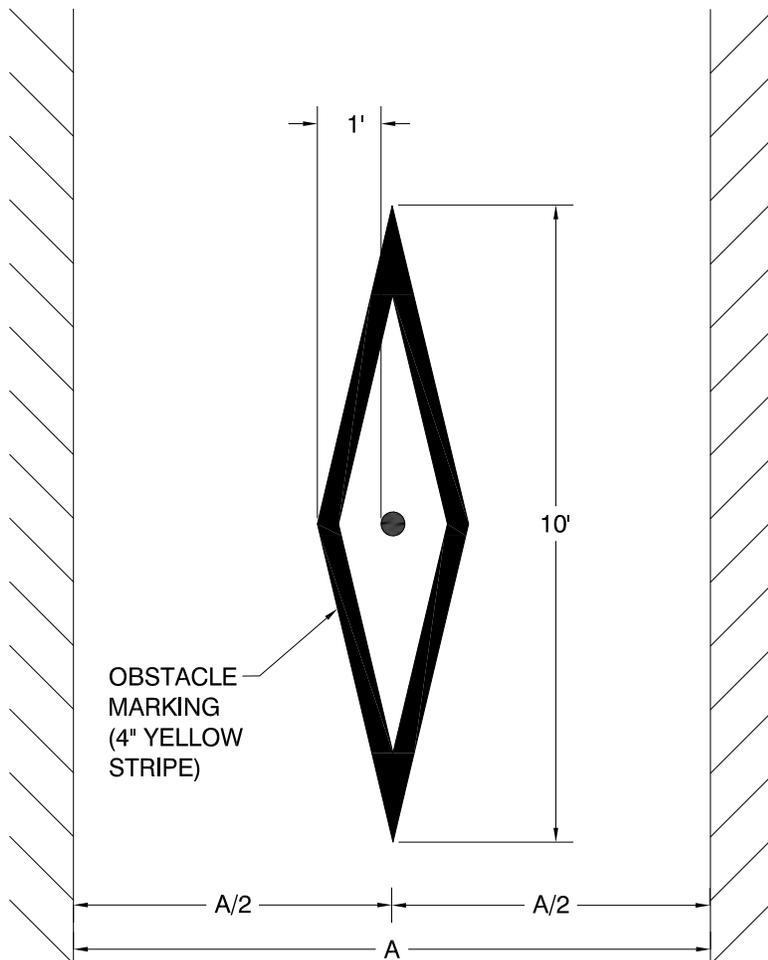
MUTCD Section 9C.101(CA) Barrier Posts on Class I Bikeways

Support: Before a decision is made to install barrier posts, consideration needs to be given to the implementation of other remedial measures, such as Bike Path Exclusion (R44A(CA)) signs (see Section 9B.08) and/or redesigning the path entry so that motorists do not confuse it with vehicle access.

Guidance: Such devices should be used only where extreme problems are encountered.

Oakland Standard: Removable bollards shall have a mount point that is flush with the travel surface.

PLAN VIEW



NOT TO SCALE



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**BOLLARD PLACEMENT
AND MARKINGS:
CENTER BOLLARD**

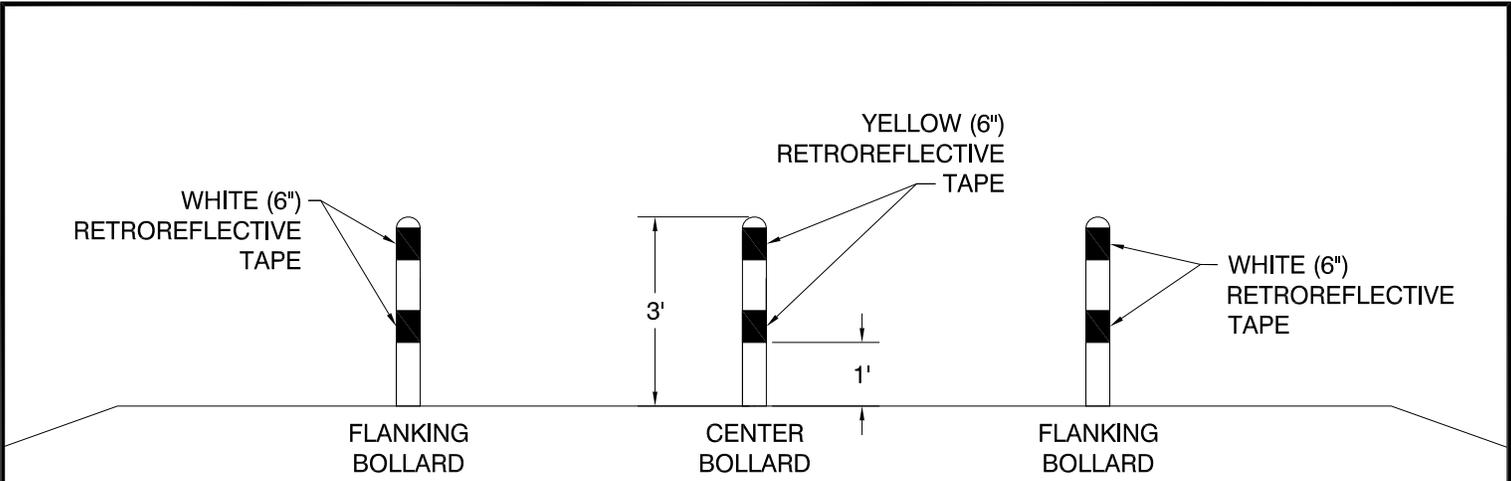
BICYCLE PATH DETAILS

SCALE: NTS

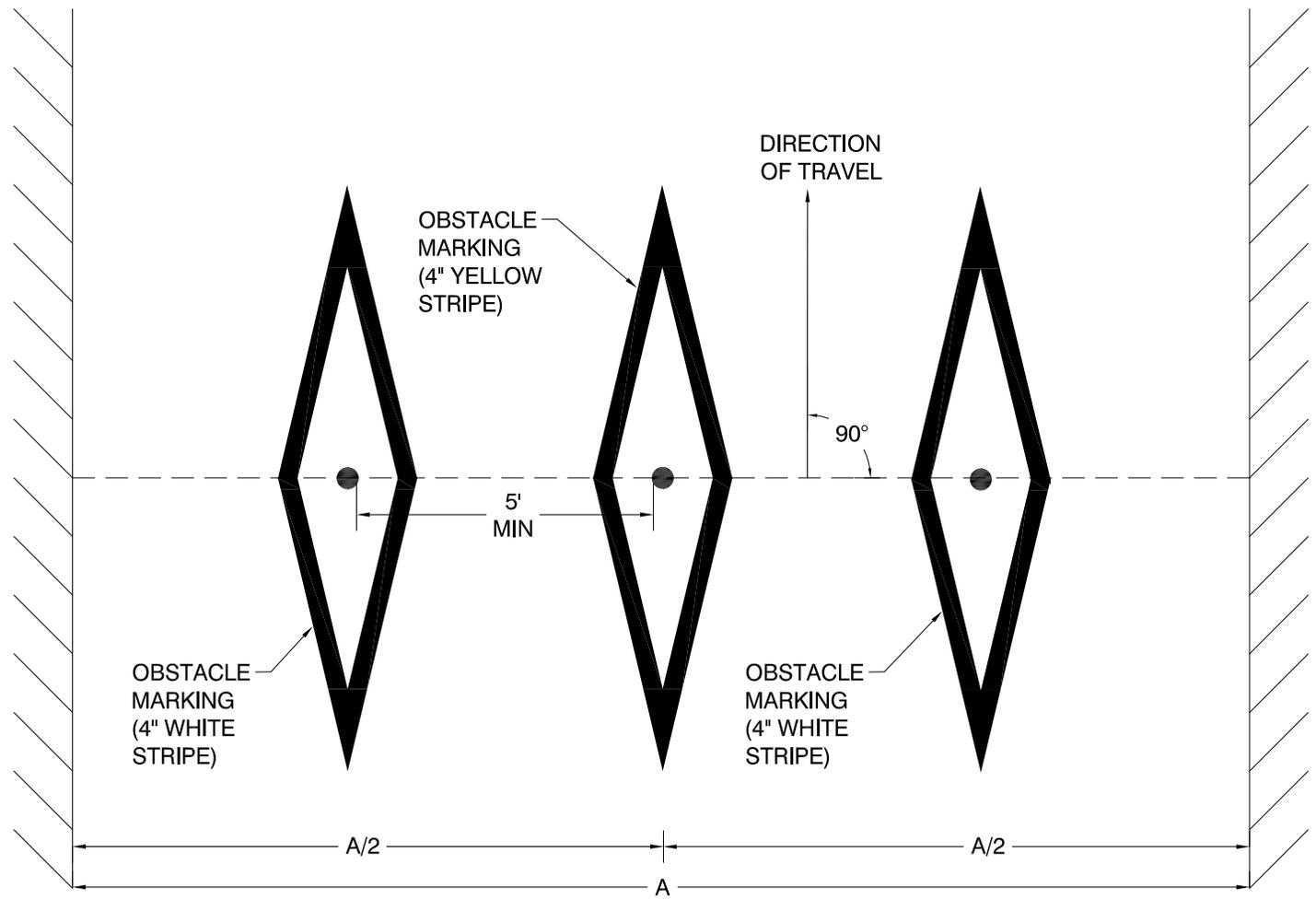
DWG. NO.

DATE: MAR 2021

BP-1



SECTION VIEW



PLAN VIEW

NOT TO SCALE



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EMAIL: blkeped@oaklandca.gov

**BOLLARD PLACEMENT
AND MARKINGS:
CENTER BOLLARD WITH
FLANKING BOLLARDS**

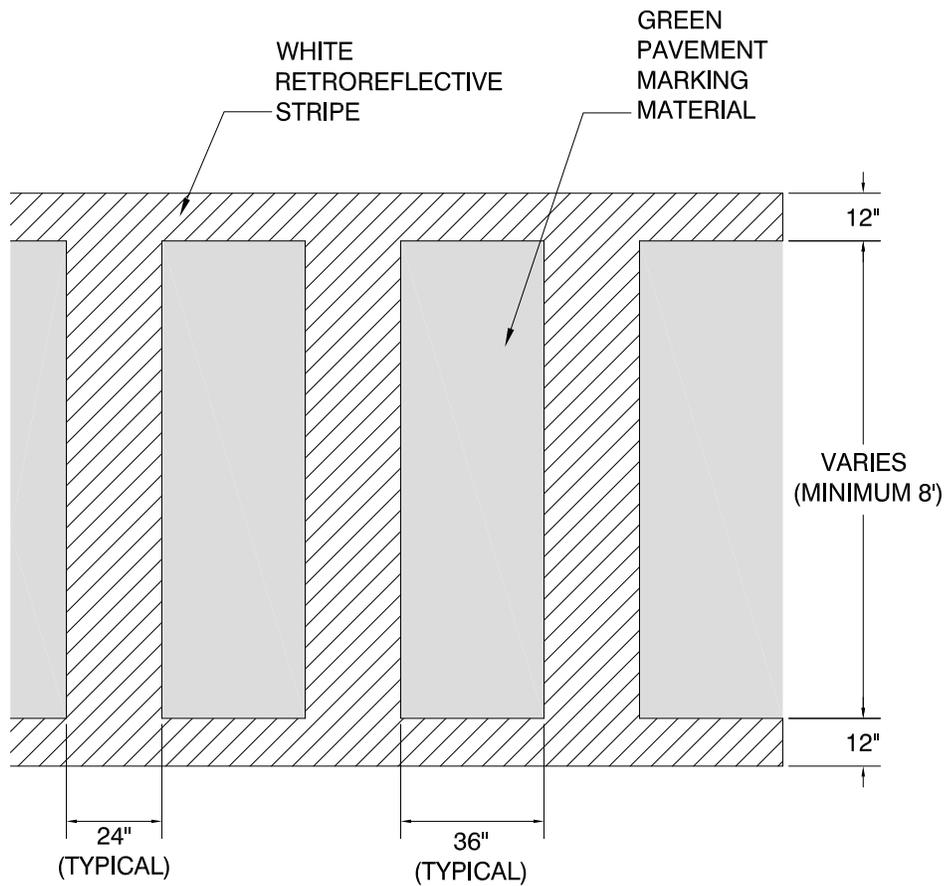
BICYCLE PATH DETAILS

SCALE: NTS

DWG. NO.

BP-2

DATE: MAR 2021



NOTES

1. The ladder crosswalk for bicyclist/pedestrian paths should be used at locations where a bicyclist/pedestrian path (multi-use trail) crosses an intersecting street. This detail may be used where driveways cross a bicyclist/pedestrian path.
2. The green and white pavement marking materials used to mark this crosswalk detail shall be installed to ensure a comfortable crossing surface, free of any large surface discontinuities, and with anti-slip properties (by incorporation of anti-skid particles or other means). If thermoplastic materials are used, green and white thermoplastic material shall be of the same thickness and the installation shall be free of any large seams, gaps, or overlaps that would create a "rumble strip" effect.

NOT TO SCALE



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 EMAIL: bkped@oaklandca.gov

**CROSSWALK MARKING
 FOR
 BICYCLIST/PEDESTRIAN
 PATHS**

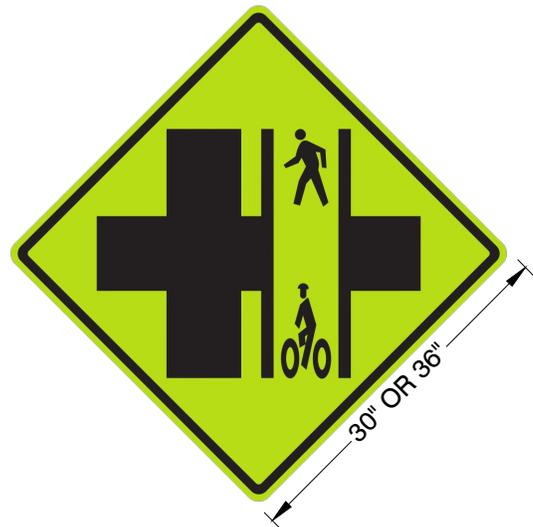
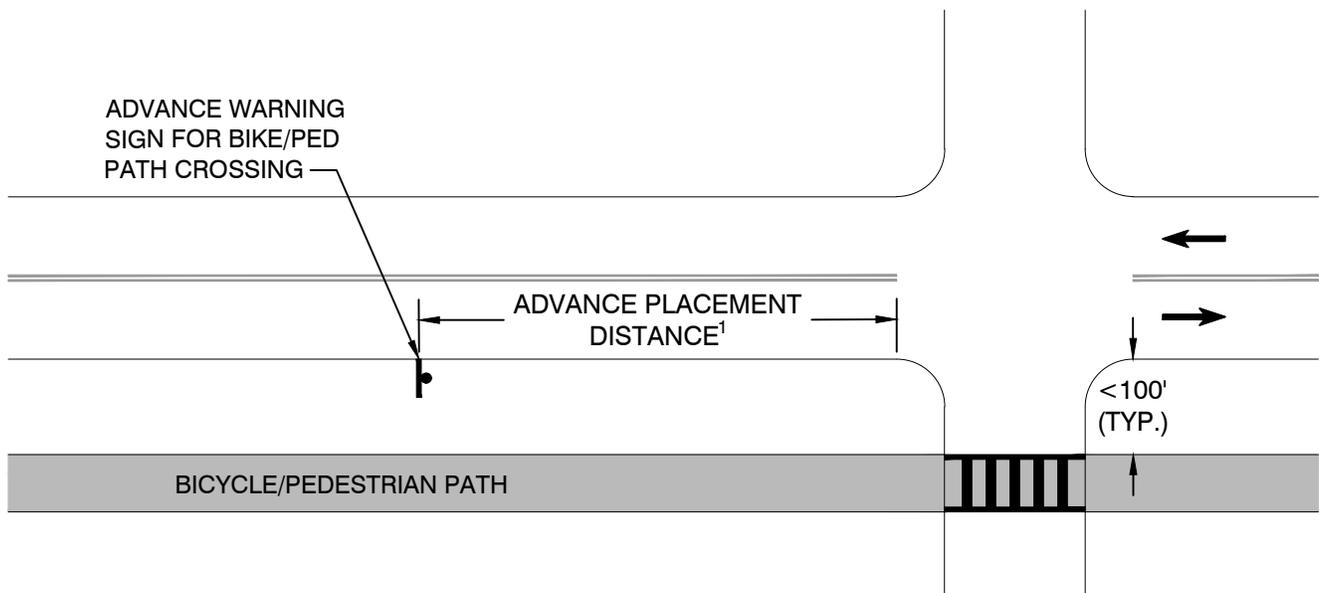
BICYCLE PATH DETAILS

SCALE: NTS

DWG. NO.

BP-3

DATE: MAR 2021



ADVANCE WARNING SIGN FOR BIKE/PED PATH CROSSWALKS (STANDARD INTERSECTION)

NOTES

1. For advance placement distance, see CA MUTCD, Table 2C-4
2. Sign background color = fluorescent yellow-green, retroreflective
3. Sign legend and border color= black
4. For source file (.pdf) for fabrication, email bikeped@oaklandca.gov

NOT TO SCALE



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 EMAIL: bikeped@oaklandca.gov

ADVANCE WARNING SIGN FOR BICYCLE/PEDESTRIAN SIDE PATH CROSSWALKS (STANDARD INTERSECTION)

BICYCLE PATH DETAILS

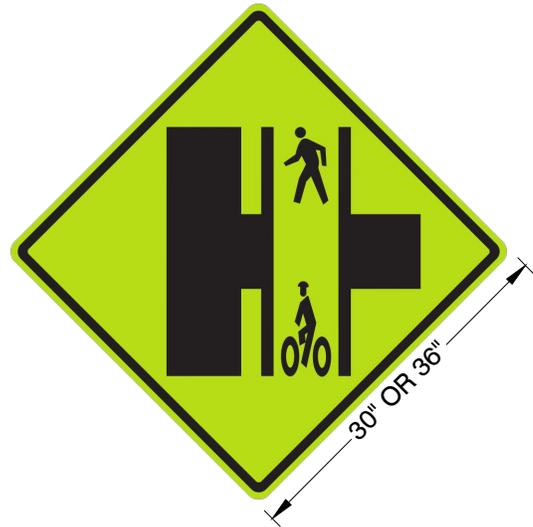
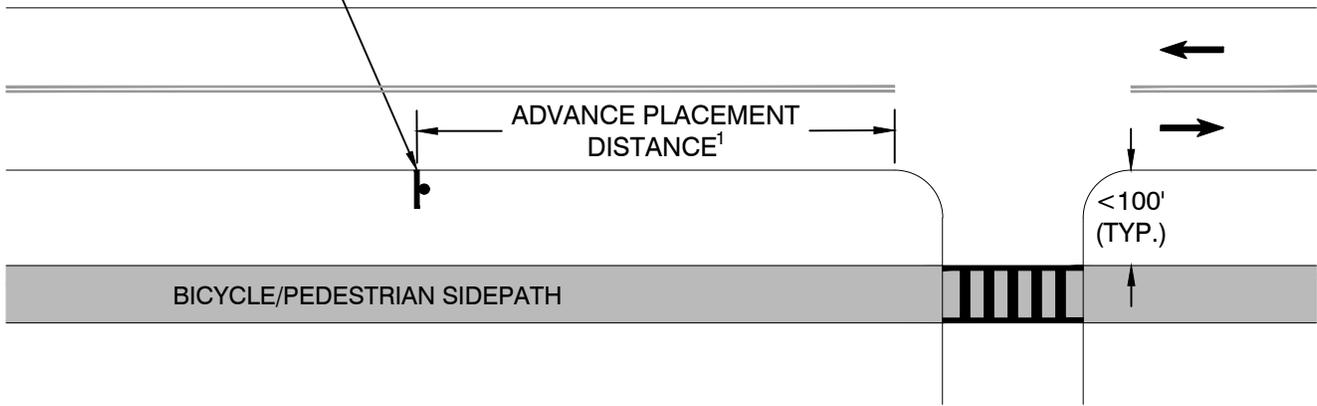
SCALE: NTS

DWG. NO.

DATE: MAR 2021

BP-4

ADVANCE WARNING
SIGN FOR BIKE/PED
PATH CROSSING



ADVANCE WARNING SIGN FOR
BIKE/PED PATH CROSSWALKS
(T INTERSECTION)

NOTES

1. For advance placement distance, see CA MUTCD, Table 2C-4
2. Sign background color = fluorescent yellow-green, retroreflective
3. Sign legend and border color = black
4. For source file (.pdf) for fabrication, email bikeped@oaklandca.gov

NOT TO SCALE



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**ADVANCE WARNING SIGN FOR
BICYCLE/PEDESTRIAN SIDEPATH
CROSSWALKS
(T INTERSECTION)**

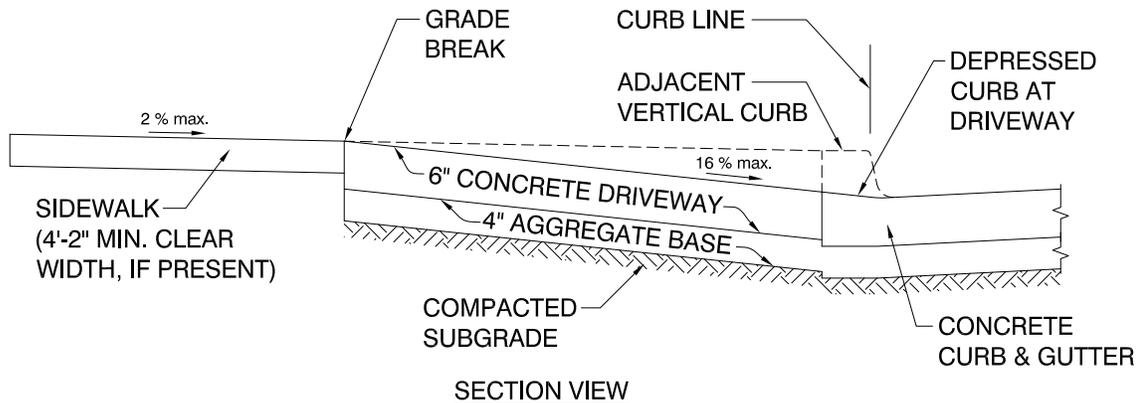
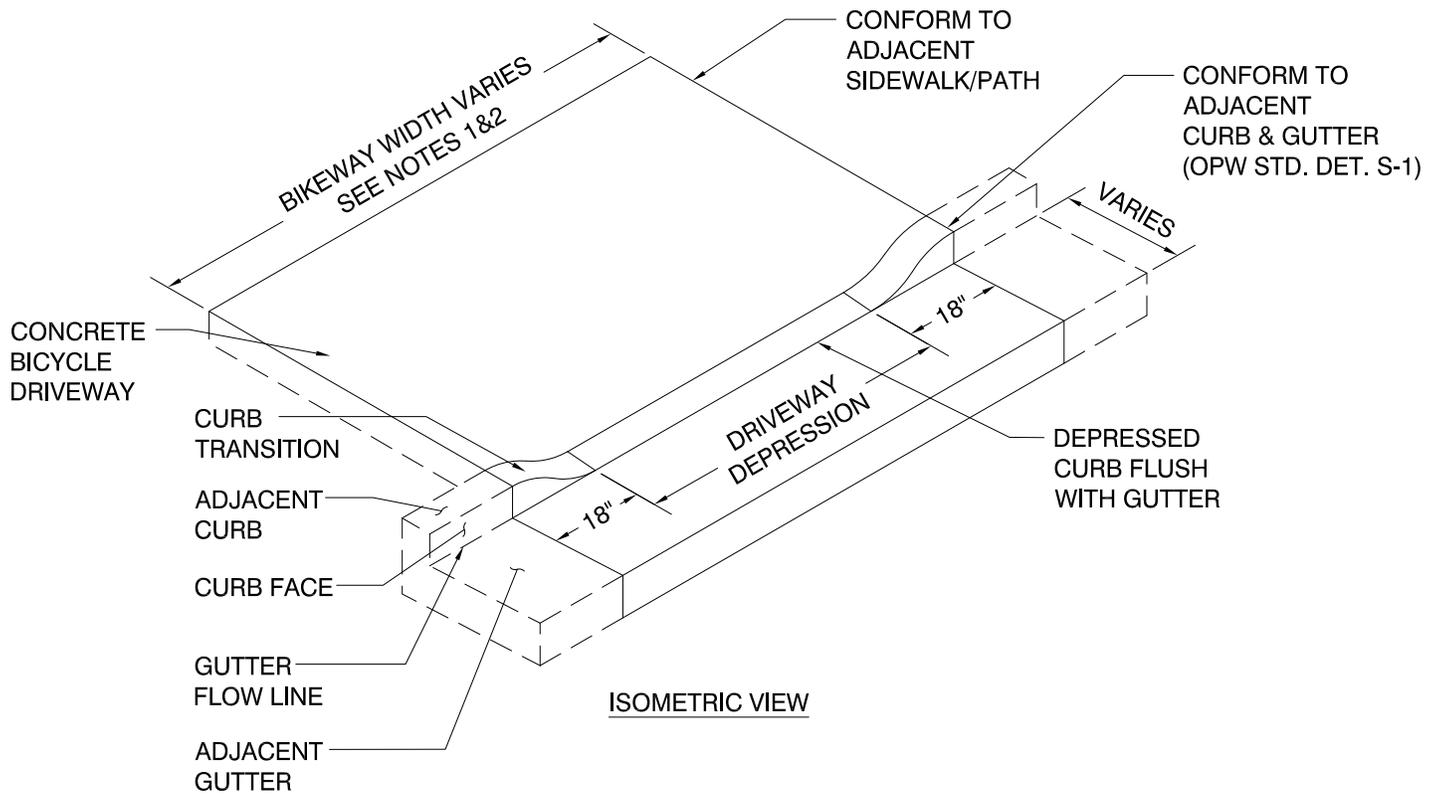
BICYCLE PATH DETAILS

SCALE: NTS

DWG. NO.

DATE: MAR 2021

BP-5



NOTES

1. Bicycle specific driveways for one-way bicycle travel should be a minimum of 7 feet in width (4-foot minimum driveway depression and two 18-inch curb transitions).
2. Bicycle specific driveways for two-way bicycle travel should be a minimum of 11 feet in width (8-foot minimum driveway depression and two 18-inch curb transitions).
3. Bicycle specific driveways shall be flush with the gutter for the entire width of the driveway depression, and shall be sloped to drain along adjacent gutter flow line.
4. Bicycle specific driveway, curb, and gutter shall conform to line, grade, and dimension of adjacent sidewalks, curbs and gutters.
5. If driveway crosses a sidewalk, the driveway should be designed to maintain a sidewalk clear width of 36 inches, minimum. The maximum cross-slope in the sidewalk shall not exceed 1/4-inch per foot (~2%).
6. See City of Oakland Standard Details S-1 and S-2 for general driveway, curb, and gutter construction and material notes.

NOT TO SCALE



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**CONCRETE DRIVEWAY
 BICYCLES ONLY**

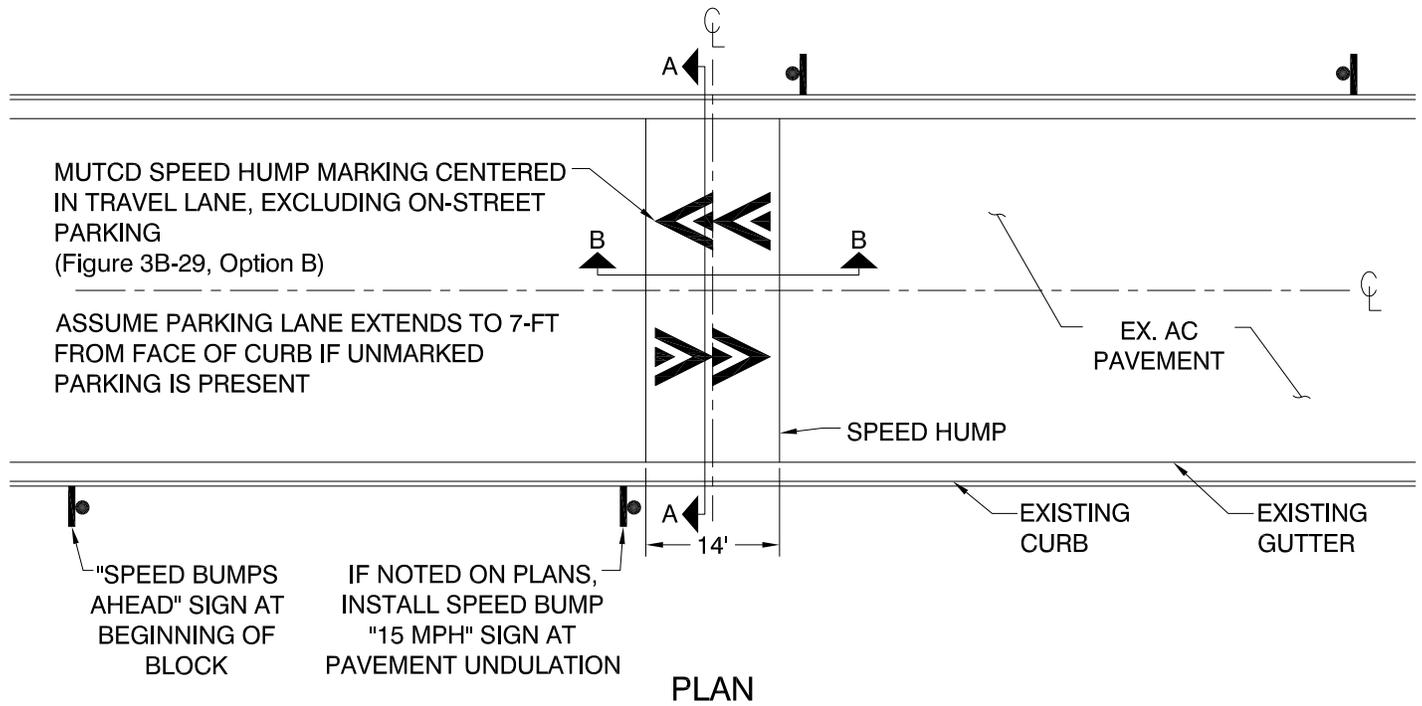
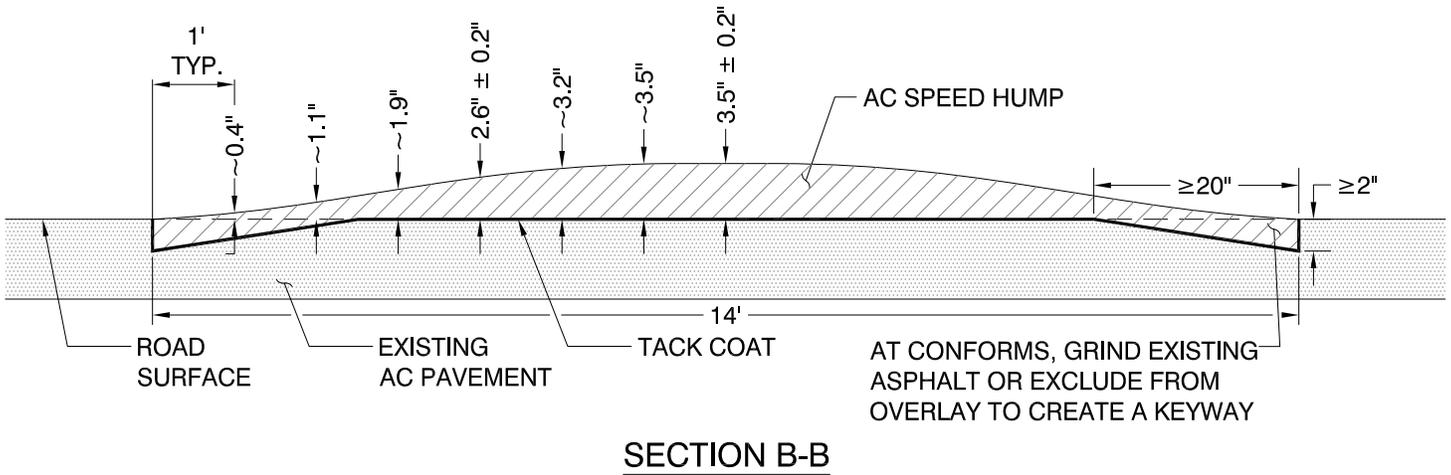
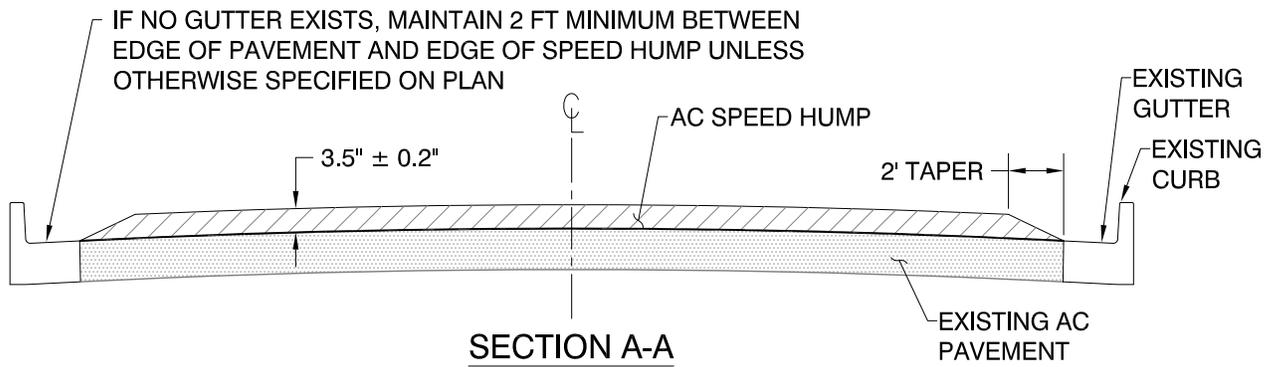
BICYCLE PATH DETAILS

SCALE: NTS

DWG. NO.

BP-6

DATE: MAR 2021



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SINUSOIDAL SPEED HUMP

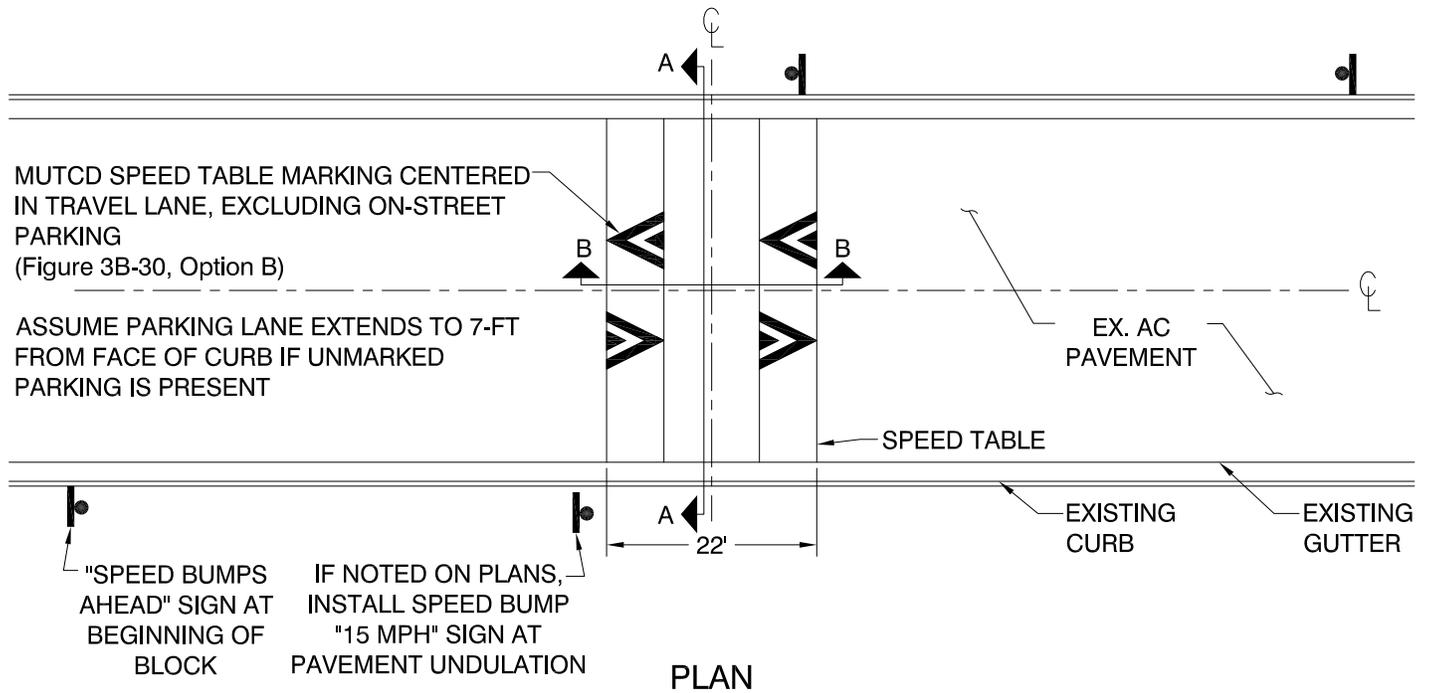
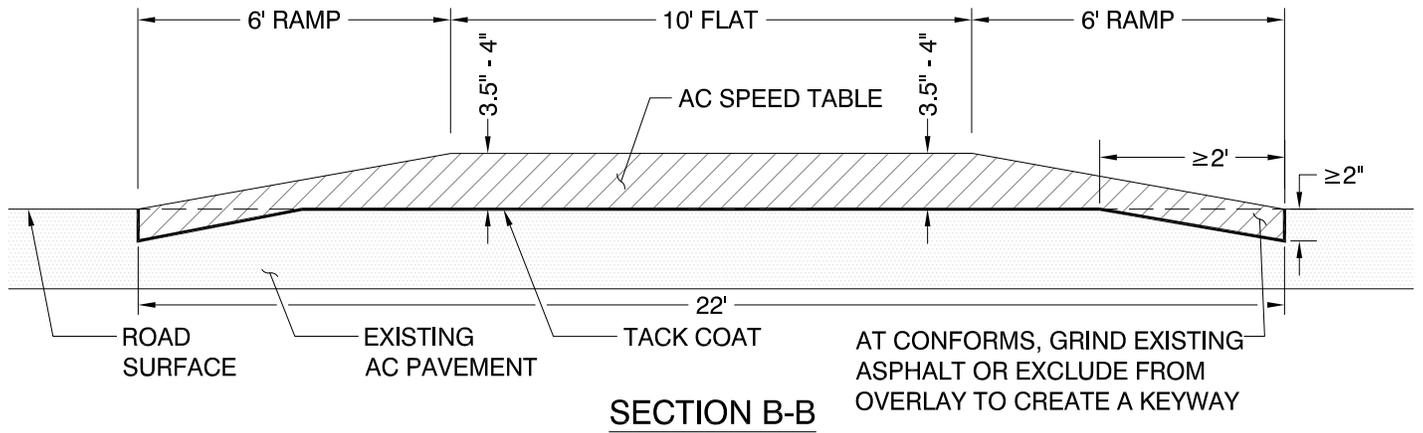
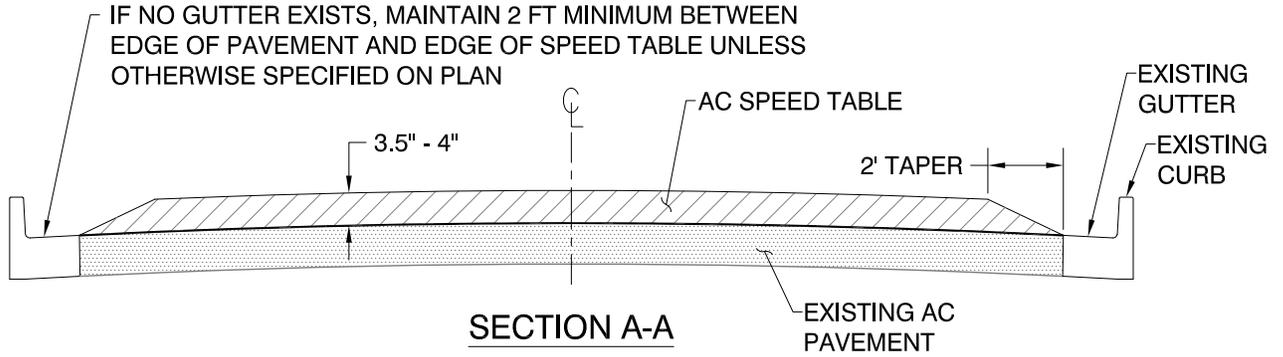
TRAFFIC CALMING DETAILS

SCALE: NOT TO
SCALE

DWG. NO.

DATE: MAR 2021

TC-1



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SPEED TABLE

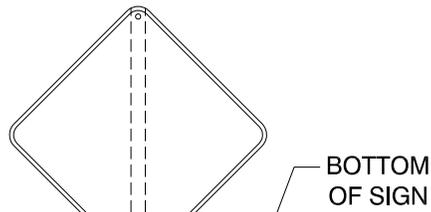
TRAFFIC CALMING DETAILS

SCALE: NOT TO SCALE

DWG. NO.

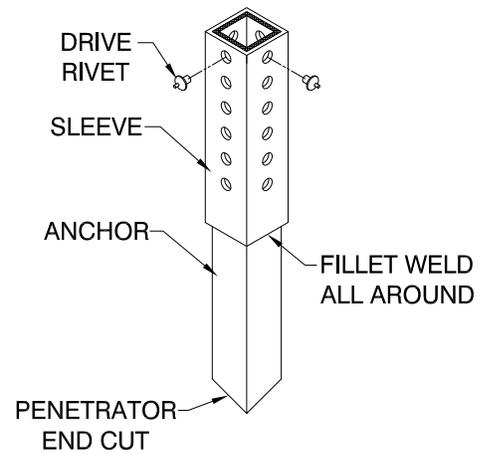
DATE: MAR 2021

TC-2



2"x2"x14 GAUGE SIGN POST
(CUT POST TO MEET
SPECIFIED SIGN HEIGHT)

7' MIN.



ANCHOR/SLEEVE DETAIL

SECURE USING 3/8" ZINC
PLATED DRIVE RIVETS ON TWO
ADJACENT SIDES OF POST
SEE ANCHOR/SLEEVE DETAIL

TWO
ANCHOR
HOLES
ABOVE
GROUND

TOP OF
SIDEWALK

FACE OF CURB 18" MIN.

2-1/2" x 2-1/2" x 12 GAUGE SLEEVE
MIN. LENGTH = 12"
WELDED TO ANCHOR
SEE ANCHOR/SLEEVE DETAIL

2-1/4" x 2-1/4" x 12 GAUGE ANCHOR
WITH PENETRATOR END CUT
MIN. DEPTH = 24" (CONCRETE SURFACE)
MIN. DEPTH = 30" (UNFINISHED SURFACE)
SEE ANCHOR/SLEEVE DETAIL

NOT TO SCALE



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(510) 238-3466 * FAX (510) 238-7415

STANDARD SIGN POST DETAIL

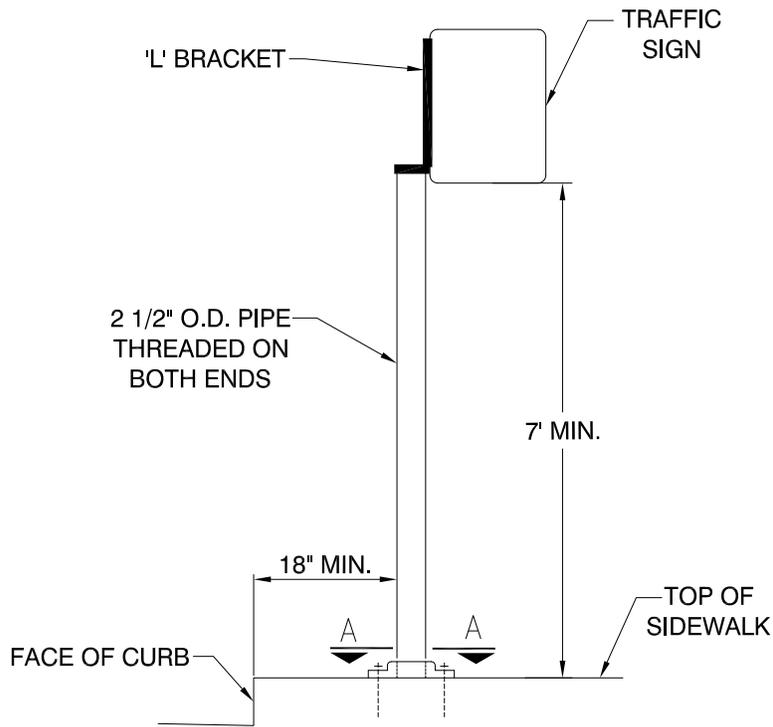
SIGNAGE DETAILS

SCALE: NTS

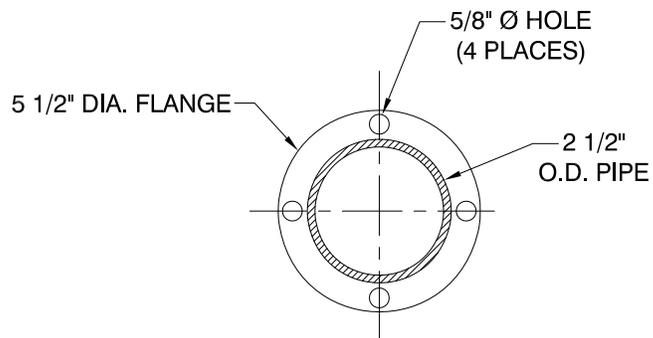
DWG. NO.

DATE: MAR 2021

SD-1



METAL POLE
(WITH BASEMENT REQUIREMENTS)



SECTION A-A
1/4" THICK FLANGE,
USE 3/8" DIA. x 3" LENGTH ANCHOR
BOLTS, HILTI KWIK OR EQUAL.

NOT TO SCALE



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(510) 238-3466 * FAX (510) 238-7415

**ROUND POLE SIGN
INSTALLATION DETAILS**

SIGNAGE DETAILS

SCALE: NTS

DWG. NO.

DATE: MAR 2021

SD-2