

## City of La Quinta Public Works Department – Signing, Striping and Traffic Signal Checklist

The following checklist is a guideline for preparing or reviewing plans for new CIP and development related construction projects in the City of La Quinta. It is for informational purposes and does not represent City Standards. The CA MUTCD and engineering judgment should always be used when applying these guidelines.

### A. GENERAL

- Standard scale shall be 1"=40'. Applicant may use 1"=20' when additional detail or clarity is required. Show scale and north arrow on each sheet. Show 4" graphic bar scale.
- Existing signing and striping is to be drawn using a thin line weight with a short dashed line type and labeled.
- Signing and striping to be removed is to be drawn using a thin line weight with a closely spaced dot line type and labeled.
- New signing and striping is to be drawn with a thick, solid line and labeled.
- Bundle signing and striping plans with street plans whenever possible.
- Minimal topographic information should be shown on signing/striping plans.
- Show centerline stations at 100-foot intervals. Stationing should increase from south to north or west to east and should match stationing on street improvement plans.
- All streets and driveways should be shown on plans.
- Names of all streets should be shown on plans.
- Call out dimensions from centerline to medians, curb and right-of-way. Call out dimensions for all roadway lane widths.
- Show jurisdictional boundaries with heavy line and label. Identify adjacent development with tract or parcel number when feasible.
- Show interim and final signing/striping plans on separate plan sheets as necessary if applicable.
- Show existing improvements on adjacent segments and intersection legs that are not part of the project improvements.

### B. SIGNAGE

- All proposed and existing signage shown on plan should be called out with a construction note, its CA MUTCD designation and have its location identified using center line stationing.
- Plans should include a table (or equal) listing all proposed signage. Table should list the CA MUTCD sign number, an icon of the sign, its size, type of post, type of sheeting, sign quantity and recommended installation height.
- Sign number should be per the latest edition of the CA MUTCD manual. Sign numbers unique to California shall be followed with a (CA) designation
- Install signs on Telespar square tubular post(s) – exceptions include oversize signage or special breakaway post requirements.
- Proposed sign installation height and lateral clearance to be per CA MUTCD figure 2A-2
- All regulatory and warning signs are to use a minimum of Diamond grade reflective sheeting. All other signs except parking restriction signs shall use a minimum of High-Intensity grade sheeting. Parking restriction signs are to use a minimum of Engineering grade sheeting.

#### STOP:

- Stop signs (R1-1) to be typically located as close to BCR as feasible.
- Stop sign size guidelines:
  - Median nose and bike/equestrian/golf cart trails - 24" x 24".
  - Local/local street intersections (2-way or all-way stops) - 30" x 30".
  - Local street stopping at Major street - 36" x 36".
  - Major street stops - 48" x 48".
- R1-3p (All-way) signs at all All-way stop locations.
- W4-4p (Cross Traffic Does Not Stop) signs as appropriate.
- W3-1 (Stop Ahead) signs to be placed on streets with posted speeds of 35mph or greater. Signs can be placed on slower streets as circumstances dictate. Distance from stop bar to be determined using CA MUTCD Table 2C-4 as a guideline.

- ❑ Flashing red beacons can be used in conjunction with stop signs located in unusual situations (e.g. unexpected rural stops, restricted sight distance, etc.)

#### HORIZONTAL ALIGNMENT:

- ❑ W1-8 (single chevron) signs (18" x 24") can be installed on curves as warranted (min. quantity of 3).
- ❑ W1-2 (Curve Ahead) or W1-1 (Turn Ahead) sign should be used as warranted. Advisory Speed plaque (W13-1p) to be used if advised speed is lower than regulatory speed. Distance for placement of sign prior to curve to be determined using CA MUTCD Table 2C-4 as a guideline.
- ❑ Lane drops may use Class I Type 'F' delineators in transition taper if appropriate.

#### SPEED LIMIT:

- ❑ R2-1 speed limit sign (24"x 30") should be located downstream (between 100' to 300' depending on speed) of major cross streets and no more than ½ mile apart.

#### MEDIAN:

- ❑ Typical median nose treatment includes: R4-7 "Keep Right" symbol (24"x 30"), OM1-1 yellow object marker (18" x 18"). Smaller R4-7 (18" x 24") and OM1-1 (12" x 12") signs can be used at locations that are less than 3' in width.
- ❑ R4-7a "Keep Right" (text with arrow) can be used in non-median applications as needed.
- ❑ OM2-1H or OM2-IV can be used in place of OM1-1 due to clearance issues or on private medians.
- ❑ R6-1 "One Way" sign (36" x 12") are to be located on median noses where cross street traffic has left out capability. R6-1 "One Way" sign should be placed in median facing minor street that is right turn only.
- ❑ W6-1 (divided road) warning sign should be used for locations where medians begin or end at non-intersection locations.
- ❑ Signs in painted medians should be avoided. If necessary for special circumstances, utilize a 15 ft. Setback from the cross street flow line.
- ❑ Signs located in painted medians or shoulders must meet City requirement for breakaway post.

#### GUIDE SIGNS:

- ❑ D3-1 or G7-1 (CA) street name sign are to be used in advance of cross streets on arterial or higher and selected secondary roadways in curbed medians. When median placement is not feasible, shoulder/parkway placement can be used. Distance in advance of intersection for sign placement should be approximately 500'. D3-1 or G7-1 signs shall use 6" upper case and 4 1/2" lower case white letters on a green background.

#### RIGHT TURN /DROP/TRAP LANES:

- ❑ Exclusive right turn pockets of 100' or longer shall have a R3-7 RIGHT LANE MUST TURN RIGHT sign located at end of taper / beginning of storage area.
- ❑ Lane drops to include W9-1 RIGHT (LEFT) LANE ENDS sign in advance of W4-2 LANE ENDS SYMBOL sign. Refer to CA MUTCD Section 3B.04, Figures 3A-111(CA) and 3B-11 for placement details.
- ❑ Trap lanes to include R3-7 RIGHT (LEFT) LANE MUST TURN RIGHT sign at beginning of 8" white line. Advance warning signage should be a W73A(CA) RIGHT (LEFT) LANE TURNS RIGHT AHEAD sign which is to be preceded by a W74 THRU TRAFFIC MERGE LEFT (RIGHT) sign. Refer to CA MUTCD Section 3B.04, Figures 3A-111 (CA) and 3B-11 for placement details.

#### END OF ROAD:

- ❑ Dead End/Cul-de-sac streets should have a red OM4-1 object marker with a W31(CA) END sign. W31A(CA) "ROAD ENDS XX FEET" sign should be used where appropriate based on speed and distance from previous cross street.
- ❑ W14-2 "NO OUTLET" sign can be placed between 50' to 100' past the last intersection with alternate routes available. W14-2 sign should only be used when road termination is not obvious to drivers or special situations are present.
- ❑ Four W1-8 Chevron signs, two pointing to the left and two pointing to the right to be located at top of Tee intersections.
- ❑ W8-3 "PAVEMENT ENDS" sign can be used where paved roadway continues as an unpaved road.

#### GOLF CART/ HORSE CROSSINGS:

- Golf cart (W11-11) and Horse (W11-7) Crossing signs should be located at locations where established trails cross a street.

#### PEDESTRIANS:

- All pedestrian warning signs should have fluorescent yellow-green sheeting. Existing standard yellow pedestrian warning signage to remain should be replaced with new fluorescent yellow-green sheeting.
- Marked crosswalks at uncontrolled intersections should have W11-2 (30" x 30") with W16-7p (24" x 12") placed at crosswalk location (one each side).
- Marked crosswalks at uncontrolled intersections may have W11-2 as advance warning as warranted. Distance to be per CA MUTCD Table 2C-4, Condition B-0.
- At locations where pedestrian crossings are to be restricted a combination of R9-3a and R9-3b signs should be used. Call out for R9-3b sign should indicate direction (LT or RT).

#### PARKING RESTRICTION:

- Use of parking restrictions is to be minimized as much as possible.
- Parking restriction signage and red curb should not be placed in areas where parking is already illegal (i.e. improved roadways with a curb lane of 14' or less or a bike lanes of 6' or less in width) unless parking pressure from nearby land use creates parking problem. R7-9a signs may be placed along Class II bike lanes where parking issues can be expected.
- R26(CA) "NO PARKING ANY TIME" sign is City's standard parking restriction sign. Typical spacing is to range from 200' for local streets with severe parking pressure to 500' on high speed arterials. R26(S) "NO STOPPING ANY TIME" signs and red curb can be used if required. Other parking restriction signs, such as those with arrows, times of day, time limits, etc., can be used under special circumstances.
- R81A "BEGIN" and R81B "END" signs can be added beneath parking restriction sign when beginning and ending point for restriction needs to be clearly defined.

#### ROUNDBABOUTS:

- The signing for roundabouts should be according CAMUTCD Figures 2B-20 – 23

#### SCHOOLS:

- Signage in School areas to be done per CA MUTCD Figure 7B-1( and all subsequent Figures in Part 7 applicable to CA.
- All school warning signs should have fluorescent yellow-green sheeting. Existing standard yellow school warning signage to remain should be replaced with new fluorescent yellow-green sheeting.
- R26(S) NO STOPPING ANY TIME signs should be used to accommodate storage requirements for moving queue of cars where anticipated for pick-up and/or drop-off.

#### BIKE LANE:

- R81(CA) (12" x 8") "BIKE LANE" sign shall be installed at the beginning and ending point of any Class II bike lane and immediately after each crossing of a major roadway.
- R81A(CA) "BEGIN" sign should be installed underneath R81(CA) at the beginning point of any Class II bike lane.
- R81B(CA) "END" sign should be installed underneath R81(CA) at the ending point of any Class II bike lane.
- R7-9a "NO PARKING BIKE LANE" sign should be placed along Class II bike lanes when parking needs to be restricted. Sign spacing should be approximately 500 ft on urban arterials and 1000 ft for rural arterials.
- R4-4 "BEGIN RIGHT TURN YIELD TO BIKES" sign should be used where a Class II bike lane continues on the left side of a dedicated right turn lane. Locate at beginning of bike land/right turn lane weaving area.

#### SIGNAL:

- W3-3 "SIGNAL AHEAD" signs should be used on roadways with a posted speed limit in excess of 40mph and without a controlled intersection within ½ mile prior. W3-3 should also be used when sight distance approaching a signal is a concern.

**RIGHT OUT ONLY:**

- R3-5 "MANDATORY RIGHT TURN" sign can be used where a single lane of traffic is exiting and must turn right. If used, it should be placed underneath the stop sign (R1-1) and supplemented with a R6-1 "ONE WAY" sign on median of through street.

**DO NOT ENTER:**

- R51-1 "DO NOT ENTER" sign should be placed on entryways and internal drive isles where wrong way drivers would create an undue hazard. R5-1a "WRONG WAY" sign can supplement R5-1 sign when additional warning is desired.

**C. STRIPING/LEGENDS**

- All striping and legends to be in paint. No thermoplastic allowed.
- Striping and legend detail callouts shall be per the latest edition of the CA MUTCD manual.

**LANE LINES:**

- For roadways with posted speeds of 40 mph or less, use a 4" white dashed lane line per Details 8-10 striping.
- For roadways with posted speeds of 45 mph or greater, use a 4" white dashed lane line per Detail 11-12 striping.
- Lane widths should be per the City of La Quinta General Plan, Roadway Cross-Sections. Variations from standard cross-sections should be pre-approved by the City's Public Works Department.
- Maximum lane width on outside lane (without parking) should be 16'.
- Lane lines should break at intersections. Breaks should extend from ½ delta to ½ delta of intersecting street. Breaks are to occur only on side of street with intersecting roadway.
- A 4" solid white lead line with Type 'G' RPMs at 25' spacing should be used for each lane line where it breaks across an intersection. 100' of lead line on the approach side and 50' on the departure side. As there is no detail for lead lines in the CA MUTCD, they should be called out in construction notes.
- When lane lines are offset over an intersection, Detail 40 (cat track) striping with non-reflective white markers should be considered as lane line extension through the intersection. This detail should also be used for guide lines through intersections where there are dual or triple left/right turn lanes.
- Minimize gore areas as much as possible through utilization of edge striping, bike lanes, etc.

**CENTERLINES:**

- Double yellow centerline shall be Detail 22 striping.
- Skip yellow centerline shall be Detail 2 striping.

**MEDIANS:**

- Raised median islands shall have yellow RPMs placed along their length per Detail 24.
- Raised median noses should be painted yellow with yellow RPMs on top of curb to improve visibility.
- Raised medians using AC berm should have berm painted solid yellow.
- Painted median islands shall use Detail 29 striping.
- Painted median islands should not extend past limit line/back of crosswalk.
- When appropriate to accommodate cross street left turns, painted median noses shall have a flare using a 5:1 parabolic curve.
- Minor side streets with medians should have Detail 29 flared nose that extends from flowline to full width median.
- Raised medians at gated entrances should be extended with Detail 22 or 29 striping to limit line as appropriate.
- Striped "Pork Chop" islands should consist of 8" white solid stripe (with RPMs @ 1' to 4' O.C. if needed).
- Yellow diagonals (for opposing traffic) and white chevrons (for same direction traffic) in islands should be 8" stripe. Normal spacing to be 20' O.C.

**ROUNDBABOUTS:**

- The striping for roundabouts should be according CAMUTCD Figures 3C-1 -3C-14

**TWO WAY LEFT TURN LANES:**

- Two-way left turn lanes shall use Detail 32 striping.
- Type IV turn arrows are not normally used in two way left turn lanes.

#### EDGE LINES:

- 4" white edgeline per Detail 27b should be used along edge of pavement with no concrete curb and along AC dike on right side of roadway.
- 4" yellow edgeline per Detail 25 can be used along temporary AC medians (constructed as a temporary condition) prior to concrete curbed median.

#### TURN LANES:

- Use 8" white stripe for turn pocket lanes per Detail 38.
- Type IV arrows shall be installed in each turn pocket at 8' back of limit line/front of pocket. For turn pockets that are longer than 60' in length, a Type IV arrow shall be placed at the back of pocket. For pockets 150' or longer an additional arrow should be placed at the midpoint of the pocket.
- Bay tapers for pockets should measure 60' for approach speeds of 30mph or less; 90' for 35 to 40mph and 120' for speeds of 45mph and over.
- Deceleration lanes are to be installed at locations that are projected to have 50 or more right turns per hour during a peak hour or along certain high speed/high volume roadways as determined by the City's Traffic Engineer. See Engineering Bulletin #06-13 for more information on design lengths.
- Dual left or right turns shall be cat tracked through an intersection using Detail 40 and 40a, non-reflective white markers.

#### TAPERS:

- Taper lengths are to be calculated using the following formulas:
  - For speeds of 45mph or more – Taper length = offset X posted speed
  - For speeds of 40mph or less – Taper length = [offset X (posted speed)<sup>2</sup>] / 60
- 8" white stripe may be used for tapers if additional emphasis is needed.
- Tapers should start a minimum of 100' from intersections.

#### LANE DROPS:

- Lane drop markings and signage should be modeled after CA MUTCD Section 3B.04, Figure 3A-111 (CA) and Figure 3B-11(CA) Type VI lane drop arrows are normally used for all speeds.
- Type "F" markers can be used in transition taper if appropriate. Minimum of 3 markers spaced no more than 200' apart. Actual quantity and spacing dependent on speed and taper length.

#### TRAP LANES:

- Use 8" white stripe per Detail 38 at intersection. Length preceded by an 8" dashed white stripe per Detail 37B (elephant tracks). Detail 37B striping can range from 150' to 300' in length dependent on approach speed and geometric considerations.
- Type IV arrows shall be installed at the beginning of the Detail 38 stripe. Trap lanes with a Detail 38 stripe longer than 60' in length shall have a Type IV arrow placed 8' back of limit line/front of pocket. For lanes with a Detail 38 stripe longer than 150' in length an additional arrow should be placed at the midpoint of the pocket.

#### BIKE LANES:

- Use 6" white solid stripe per Detail 39.
- Use 6" white dashed stripe per Detail 39A for approach to intersections. Length of Detail 39A should be from 100' to 200' depending on approach speed of vehicular traffic.
- Bike lane width to be per City of La Quinta General Plan, Roadway Cross-Section. Nominal width of 6'. Up to 8' width when required (e.g. when golf carts need to be accommodated).
- For non-standard cross-sections or low speed roadways, 6' bike lane should be used. Minimum width is 5' with curb and gutter; 4' with edge of pavement.
- When bike lanes continue through an intersection, 4' bike lanes should be provided to the left of dedicated right turn lanes. For situations where there is a major right turn traffic movement that though bicyclists must negotiate, a R4-4 "BEGIN RIGHT TURN LANE – YIELD TO BIKES" (36"x30") with "cat tracking" should be considered.
- Bike lane legend shall consist of "BIKE LANE" text with directional arrow only. Placement shall be immediately following a major cross street adjacent to R81 sign and at least every ½ mile.

#### STOP BARS/CROSSWALKS:

- Standard stop bar is to be 12" white painted stripe per Caltrans Standard Plan A24E and located 5' behind the cross street curb. See City Standard Plans and Figure 2A-2(CA) and Figure 2A-3 of the CAMUTCD for proper placement.

- Standard crosswalk consists of two 12" white painted stripes generally separated by 10' inside (i.e. 11' center to center).
- Installing mid-block crosswalks should be avoided except when done in conjunction with the installation of a traffic control device that controls the flow of vehicular traffic across the crosswalk.
- Installing crosswalks across intersection legs should be provided only where there is a need to channelize pedestrians to optimize safety.
- Standard offset is 6' between median and crosswalk.
- Painted 12" yellow crosswalk line required in School Zones.
- Marked crosswalks are not automatically installed at stop signs on public streets.
- "STOP AHEAD" legends should be used in conjunction with W3-1 "STOP AHEAD" signs. Signs and legends normally used on streets with posted speeds of 35 mph or higher or at locations with sight distance issue. Distance to be per CA MUTCD Table 2C-4.
- "SIGNAL AHEAD" legend should be used in conjunction with W3-3 "SIGNAL AHEAD" signs at locations that require special emphasis or have sight distance issues. Distance to be per CA MUTCD Table 2C-4.

#### **D. TRAFFIC SIGNAL EQUIPMENT**

- Controller is to be ECONOLITE Cobalt or its equivalent.
- Malfunction Monitor Unit is to be Econolite or compatible equivalent.
- Interconnect is to be provided to adjacent traffic signals.
- Video detection is to be provided. Manufacturer is to be ITERIS or its equivalent.
- Emergency Vehicle Preemption is to be Opticom Multimode or its equivalent.
- Pedestrian signal head is to be of the LED Countdown type.
- Pedestrian pushbutton is to be of the audible feedback type.
- Battery backup power source is to be provided.
- Vehicle indications are to be 12" clear LEDs of the appropriate color.
- LED safety lighting is to be provided on all corners of the intersection
- Power pedestal is to have two meters 1 for signals 1 for street lighting.
- LED Internally Illuminated Street Name sign with the appropriate street name is to be provided on each corner of the intersection.
- Two signal heads for through movements are to be provided on mast arms over three lane approaches to an intersection

#### **E. MISCELLANEOUS:**

- Type VII (straight & turn) arrow marking should be placed in curb lane of multilane roadways with speed limits of 50mph or higher prior to major intersections if no dedicated turn lane is provided. Arrows should be placed at 8' and 250' behind limit line/BCR.
- Type I (straight thru) arrows are to be used only when possibility of wrong way drivers is significantly high.
- Pavement less than 500 ft in length is normally not considered a through traffic lane and should have an alternate treatment provided.
- Type "g" one-way clear reflectorized RPMs should be used at splitter, isolation and pork chop islands with 1' to 3' spacing)
- Blue RPMs should be used for fire hydrant identification on local streets and parking lot drive isles. Placement should be offset 6" from centerline on side closest to hydrant.