Standards Update Transmittal

Reference Number: 2021-04


Update:

1. Standard Drawings:
   a. AR-2.0 CURB RAMP ELEMENTS DEFINITIONS AND STANDARDS: add “or below” to note 2a; change “face of curb” to “flowline” in note 6b and 8b
   b. AR-3.0 CURB RAMP GENERAL DETAILS: change concrete section to 6” from 5.5”; change AB section to 6” from 4”
   c. AR-4.3 DUAL PERPENDICULAR CURB RAMPS WITH ATTACHED SIDEWALK: change “face of curb” to “flowline” in note D.
   d. AR-4.5 DUAL FLARED PERPENDICULAR CURB RAMPS WITH DETACHED SIDEWALK: change “face of curb” to “flowline” in note D.
   e. AR-4.7 SIDEWALK DRIVEWAY DETAIL: change note * to read “See section 4-7 of the improvement standards.”; move section A-A cut line to plan view.
   f. AR-4.8 DETACHED SIDEWALK DRIVEWAY DETAIL: change note * to read “See section 4-7 of the improvement standards.”; move section A-A cut line to plan view.
   g. D-2 DRAFTING STANDARDS: change existing line style to differentiate between the proposed condition and existing condition.
   h. G-1 EXTERIOR PERIMETER PROPERTY LINE GRADING: move property line leader to the correct line.
   i. SD-16 CENTER SUPPORT ASSEMBLY FOR MULTIPLE GRATES: add “Greenbook” to read “(APWA Greenbook Standard Plan 301)” in note 2.
   j. ST-20 COMMERCIAL DRIVEWAYS TYPE A-6: move section A-A cut line to plan view; add “sidewalk” label on plan view.
   k. ST-21B SIDEWALK RAMP FOR A-7 DRIVEWAYS WITHOUT ADDITIONAL R/W: change AB section to 6” from 4”.
   l. ST-32 CROSS GUTTER: revise to 95% compaction from 90% to match with other drawings.
   m. T-6A STREET NAME SIGN GENERAL LOCATION: change T-5 to T-5A and T-5B
   n. T-9A TYPICAL STREET CROSS SECTIONS, change (66”) to (68”), typo.
Effect of Update:

1. Ensure that notes, provided information, and labeling on drawings are consistent with other documents and drawings.

Request for Update Initiated By: Sang Nguyen 10/20/20

Update Reviewed for Conformity and Consistency to Standards:

Jeff Werner, P.E., ESD Manager 2/24/2021 | 6:56 PM PST

Update to Standards Approved:

Robert Murdoch, P.E., City Engineer 2/25/2021 | 9:45 AM PST
1) Sidewalk Transitions
   a: Located adjacent to the top of ramp as needed
   b: 48" minimum width
   c: 1.5% (1:66) maximum cross slope
   d: 4.5% (1:22) maximum parallel slope

2) Landings
   a: Located above or below ramp (as shown in details)
   b: 48" minimum clear space in all directions
   c: 1.5% (1:66) maximum parallel and cross slope

3) Ramps
   a: Located above pan or below landing
   b: 48" minimum width
   c: 1.5% (1:66) maximum cross slope
   d: 7.5% (1:13) maximum slope
   e: All ramps shall have a Detectable Warning Surface (truncated domes) and shall be placed on the ramp unless the ramp is connected to a pan.
   f: Transition to gutter shall be flush and free of abrupt changes
   g: Grade breaks shall be perpendicular to direction of ramp run

4) Pans
   a: Located below ramp (as shown in details)
   b: 60" minimum at back of pan
   c: 54" minimum from back of pan to flow line
   d: 1.5% (1:66) maximum cross slope
   e: On corners, pan boundaries are to be radial
   f: Transitions to gutter shall be flush and free of abrupt changes.
   g: All pans shall have a Detectable Warning Surface (truncated domes).

5) Flares
   a: Located adjacent to ramp (as shown in details)
   b: Required between ramps where there is no planter area
   c: Required on the exterior of ramps where there is an adjacent concrete sidewalk, regardless of obstacles
   d: Shall also have at least 24" long segment of straight curb located on each side of the curb ramp and within marked crossings.
   e: Generally triangular in nature
   f: 9% (1:11) maximum slope when not in the path of travel
   g: 7.5% (1:13) maximum slope when flare is in the path of travel

6) Gutters
   a: Adjacent to ramp or pan
   b: 4.5% (1:22) maximum slope for 4' out from flow line
   c: Transition to ramp or pan shall be flush and free of abrupt changes

7) Retaining Curbs
   a: Required adjacent to sidewalk transitions, landings, ramps and pans where the existing landscape (planter area) is 1" or higher at any point above the newly constructed curb ramp element
   b: Required for existing planter areas between ramps
   c: Retaining curbs are to have a 6" width and a vertical face
   d: Retaining curb foundations are to extend 8" below the adjacent ramp element surface
   e: Outside corners of retaining curbs must have a 6" radius

8) Detectable Warnings
   a: Placement of detectable warnings shall be per drawings AR - 3.2
   b: 6"-8" from the flow line
   c: 3' depth x full width
   d: Detectable Warning requirements, see AR - 3.1

General Notes:
1. Directional curb ramps are required unless otherwise approved by the Engineer.
2. All elements, except gutters and retaining curbs, must be constructed planar in nature with weakened plane joints scored between each element.
3. Opposing curb ramps shall align unless otherwise approved by the Engineer.
4. These Elements, Definitions and Standards, General Details, and Standard Drawings shall apply to all curb and gutter types.
5. There are variations and adjustments that may be required upon the approval of the Engineer.
6. References to maximum cross slope of 1.5% are intended to allow for normal construction tolerances in an effort to keep the actual constructed cross slope to less than the required ADA standard of 2.0% maximum cross slope. Any installations of cross slopes greater than 2.0% will be unacceptable.
WEAKENED PLANE JOINT (WPJ)

RETAINING CURB WHEN REQUIRED

NOTE: DETECTABLE WARNING REQUIRED ON RAMP

LANDING 1.5%

RAMP 7.5% MAX

GUTTER 4.5% MAX

TYPICAL CROSS SECTION FOR CENTER LINE OF FLARE, COMBO OR PLANTER STRIP CURB RAMP

RETAINING CURB WHEN REQUIRED

NOTE: DETECTABLE WARNING REQUIRED ON RAMP

PAN 1.5%

GUTTER 4.5% MAX

TYPICAL CROSS SECTION FOR CENTER LINE OF PAN CURB RAMP

NOTES:
1. SURFACE OF RAMPS AND PANS SHALL HAVE A TRANSVERSE BROOM SURFACE TEXTURE ROUGHER THAN ADJACENT SIDEWALK.
2. COLORING SHALL BE ADDED TO NEW CONCRETE AS NECESSARY TO MATCH EXISTING COLOR.
1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. THE RAMP MUST BE LOCATED INSIDE CROSSWALKS OR PRIOR TO STOP BARS.
4. DETECTABLE WARNING SURFACE IS PLACED IN THE RAMP PER STANDARD DRAWING AR-3.2.
5. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.

A) 4" MINIMUM CURB HEIGHT DESIRABLE - 9% MAX SLOPE CONTROLS CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

B) NO MINIMUM DIMENSION. FLARES CAN INTERSECT.

C) ALL RAMPS WILL HAVE A MINIMUM OF 48" x 48" LANDING. TWO RAMPS CAN SHARE ONE LANDING.

D) FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.

TRANSITION GUTTER CROSS SLOPE TO 4.5% ALONG TOTAL LENGTH OF AREA OF RAMPED PORTION (TYP.)
1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. THE RAMP MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
4. DETECTABLE WARNING IS PLACED IN THE RAMP AND AS PER DRAWING AR-3.2.
5. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.

A. 4" MINIMUM CURB HEIGHT DESIRABLE - 9% MAX SLOPE CONTROLS CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
B. NO. MINIMUM DIMENSION. FLARES CAN INTERSECT.
C. ALL RAMPS WILL HAVE A MINIMUM OF 48"x48" LANDING. TWO RAMPS CAN SHARE ONE LANDING.
D. FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.

TRANSITION GUTTER CROSS SLOPE TO 4.5% ALONG TOTAL LENGTH OF AREA OF RAMPED PORTION (TYP.)

CITY OF ELK GROVE - PUBLIC WORKS
DUAL FLARED PERPENDICULAR CURB RAMPS WITH DETACHED SIDEWALK

DATE 09/22/2017  NOT TO SCALE
REVISION 02/16/2021
APPROVED BY: JMW
DATE 02/26/2021
CITY ENGINEER
DRAWING NUMBER AR - 4.5
ELEVATION

SECTION A-A

NOTES:

A. DRIVeway WIDTH AS PER CITY CODE.

B. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10’ TO 20’ WIDE. DRIVEWAYS 22’ TO 35’ WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT 1/3 AND 2/3 POINTS.

C. THICKNESS OF APRONS SHALL BE 6” ON RESIDENTIAL DRIVEWAYS AND 6” ON COMMERCIAL DRIVEWAYS.

D. APRON WILL BE DEPRESSED ON CURB AND GUTTER WHEN RECONSTRUCTING EXISTING COMMERCIAL DRIVEWAYS.

** SEE SECTION 4-7 OF THE IMPROVEMENT STANDARDS

** IF CURB & GUTTER ARE Poured SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB.
NOTES:

A. DRIVEWAY WIDTH AS PER CITY CODE.

B. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10' TO 20' WIDE. DRIVEWAYS 22' TO 35' WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT 1/3 AND 2/3 POINTS.

C. THICKNESS OF APRONS SHALL BE 6''.

* SEE SECTION 4–7 OF THE IMPROVEMENT STANDARDS

** IF CURB & GUTTER ARE Poured SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB.
DRAFTING STANDARDS

ALL SUBDIVISION PLANS, CONSTRUCTION DRAWINGS, & PROPERTY PLATS SUBMITTED TO THE CITY ENGINEER FOR CONSIDERATION SHALL CONFORM TO AND BE PREPARED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

1. ALL LETTERING, OTHER THAN THAT HEREIN SPECIFIED OR SHOWN BELOW, SHALL BE A MINIMUM OF 0.100 INCH IN HEIGHT AND USING 0.01" LINE WIDTH, OR EQUAL.

2. SUBDIVISION PLANS

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<thead>
<tr>
<th>Description</th>
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<td>STREET CENTER LINES</td>
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<tr>
<td>RADIAL BEARING LINES</td>
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<tr>
<td>EASEMENT LINES</td>
<td>0.01&quot; WIDTH</td>
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<tr>
<td>LOT LINES</td>
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<tr>
<td>RIGHT-OF-WAY LINES</td>
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<tr>
<td>BLOCK OUTLINE</td>
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<td>BENCH MARK ELEVATION</td>
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<tr>
<td>COORDINATES, ETC.</td>
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<td>ADJACENT SUBDIVISIONS</td>
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<td>ADJACENT LOT NUMBERS</td>
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LETTERS 0.175" HIGH AND 0.04" LINE WIDTH
LETTERS 0.175" HIGH AND 0.02" LINE WIDTH
LETTERS 0.100" HIGH AND 0.01" LINE WIDTH
LETTERS 0.175" HIGH AND SHADOW LETTERING AND 0.01" LINE WIDTH
LETTERS 0.175" HIGH AND DOTTED LETTERING AND 0.01" LINE WIDTH

TITLE BLOCK AND OTHER RELATED LETTERING SHALL BE IN ACCORDANCE WITH STANDARD ACCEPTED ENGINEERING PRACTICE, BUT IN NO CASE SHALL THE LETTERING BE LESS THAN 0.100 INCH IN HEIGHT AND USING LINE WIDTH OF 0.01".

3. IMPROVEMENT PLANS

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<th>Description</th>
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CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY: [Signature] 02/26/2021
CITY ENGINEER
DATE

DRAWING NUMBER D - 2

09/22/2017
NOT TO SCALE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY: [Signature] 02/26/2021
CITY ENGINEER
DATE

DRAWING NUMBER D - 2
PROPOSED FINISH GRADE

BOUNDARY

2' MIN.

1

2

1

2½ MAX

RETAILING WALL
(SEE STD DWG G-4)

PROPOSED FINISH GRADE

ORIGINAL GROUND

ORIGINAL GROUND

NOT TO SCALE

CITY OF ELK GROVE • PUBLIC WORKS

EXTERIOR PERIMETER
PROPERTY LINE GRADING FOR
FILL AREAS

DATE
09/22/2017

NOT TO SCALE

CITY OF ELK GROVE • PUBLIC WORKS

EXTERIOR PERIMETER
PROPERTY LINE GRADING FOR
FILL AREAS

APPROVED BY:

STN 01 02/16/2021

JRW

DATE
02/26/2021

CITY ENGINEER

DRAWING NUMBER

G - 1
NOTES:

1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT.

2. L=57 INCHES FOR CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER (APWA GREENBOOK STANDARD PLAN 301).

3. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
1. TYPE 3 CURBING ON SITE SHALL EXTEND TO WHERE THE DRIVEWAY APPROACH IS.
   A MINIMUM OF FOUR INCHES ABOVE THE BACK OF SIDEWALK ELEVATION AT THE DRIVEWAY.
2. LENGTH OF DRIVEWAY FLAIR ON STREETS STEEPER THAN 3.70% SHALL REQUIRE SPECIAL
   APPROVAL BY DESIGN CHIEF OF THE DEPARTMENT OF TRANSPORTATION.
3. A 1/2-INCH CONCRETE BATTER SHALL BE PLACED ON ALL CURB LIPS.
4. SEE STD. DWG. AR-4.7 FOR ELEMENTS NOT SHOWN HEREON.
   * DRIVEWAY APRON MATCHES SIDEWALK WIDTH

**NOTES:**

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<tr>
<th>SLOPE OF GUTTER</th>
<th>&quot;A&quot; (APPROX. LENGTH)</th>
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<tbody>
<tr>
<td>0.25% TO 0.65%</td>
<td>6'-0&quot;</td>
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<tr>
<td>&gt; 0.65% TO 1.75%</td>
<td>7'-0&quot;</td>
</tr>
<tr>
<td>&gt; 1.75% TO 2.55%</td>
<td>8'-0&quot;</td>
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<tr>
<td>&gt; 2.55% TO 3.20%</td>
<td>9'-0&quot;</td>
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<tr>
<td>&gt; 3.20% TO 3.70%</td>
<td>10'-0&quot;</td>
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<tr>
<td>&gt; 3.70%</td>
<td>SEE NOTE 2</td>
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NOTES:

1. IT MAY BE USED FOR RECONSTRUCTION OF TYPE A-7 DRIVEWAYS IN AREAS WITHOUT SUFFICIENT RIGHT-OF-WAY FOR STANDARD TYPE A-7 DRIVEWAY CONSTRUCTION AND WITHOUT WALKWAY EXTENSION ON TO ABUTTING PROPERTY.

2. NO PULL BOX, UTILITY VAULT, UTILITY POLE, MANHOLE OR SIMILAR APPURTENANCE SHALL BE LOCATED WITHIN SIDEWALK RAMP AREA.

3. IT IS DESIRABLE TO LOCATE ALL DRAIN INLETS OUT OF SIDEWALK RAMP AREA. USE OF DRAIN INLET WITHIN RAMP AREA REQUIRES SPECIAL DESIGN OF INLETS.
6" MIN AGGREGATE BASE (95% RELATIVE COMPACTION) TO BE PLACED WITHIN LIMITS OF CROSS GUTTER.

REINFORCING STEEL TO BE EXTENDED 12" MIN & SPLICED ACCORDING TO STATE SPECIFICATION.

SECTION A-A

CONTACT JOINT DETAIL

3" Typ.

1/2" Ø REINFORCING BARS

MINIMUM GUTTER SLOPE 0.5%

NOTE:
6" MIN AGGREGATE BASE (95% RELATIVE COMPACTION) TO BE PLACED WITHIN LIMITS OF CROSS GUTTER.
LEGEND:

STREETS HAVING 80’ OR GREATER R/W WIDTH

NOTE:
1. SIDE STREETS INDICATED ARE STREETS WITH R/W WIDTHS EQUAL TO OR LESS THAN R/W WIDTH FOR THROUGH STREET
2. STREET SIGNS ARE TO BE LOCATED AT MID-RETURN APPROXIMATELY 30 INCHES BEHIND THE FACE OF CURB OR 6" BEHIND ATTACHED SIDEWALKS. SEE STANDARD DRAWING T-1 WHEN COMBINED WITH A STOP SIGN.
3. SIGNS SHALL BE INSTALLED ON NORTHEAST AND SOUTHWEST CORNERS OF INTERSECTIONS. SIGNS SHALL BE INSTALLED ON STREET LIGHTING STANDARD WHEN APPROPRIATE AND AS APPROVED BY CITY.
4. CITY TO REVIEW AND APPROVE SIGN LOCATIONS PRIOR TO INSTALLATION.
5. SEE STANDARD DRAWINGS T-1, T-3, T-4, T-5A, T-5B, AND T-6B.

STREETS HAVING LESS THAN 80’ R/W WIDTH
AT THE DISCRETION OF PUBLIC WORKS

1. ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'. IF PARKING IS NOT NEEDED, PARKING CAN BE CHANGED TO 6' BIKE LANE. IF BIKE LANES ARE NEEDED, ADD 12'.

2. 8' OF LANDSCAPING SEPARATING THE STREET FROM THE SIDEWALK MAY BE ADDED.

3. IF PARKING IS NOT NEEDED, IT MAY BE REMOVED. MINIMUM RIGHT-OF-WAY SHALL BE 40 FEET. ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'. IF PARKING IS NOT NEEDED, PARKING CAN BE CHANGED TO 6' BIKE LANE.

4. IF BIKE LANES ARE NOT NEEDED, REDUCE BY 11'.

5. LANDSCAPING AND SIDEWALK SHALL BE DEDICATED BY FEE TITLE OR LANDSCAPE/PEDESTRIAN EASEMENT AS APPROVED BY THE DIRECTOR.

MINOR DEVIATION MAY BE APPROVED BY THE DIRECTOR.