Bureau of Engineering

Special Order

March 14, 2022 Special Order No. 04-0222

To All: Deputy City Engineers
Senior Managers
Group Managers
Division/District Managers

Subject: **ALTERATIONS RESULTING IN THE CONSTRUCTION, RECONSTRUCTION, OR UPGRADE OF CURB RAMP(S).** (Supersedes Special Order Nos. S036-1073, S009-0374 and S001-1020, dated October 31, 1973, March 6, 1974 and October 21, 2020, respectively)

I. PURPOSE

Title II of the Americans with Disabilities Act (ADA) requires that state and local governments ensure pedestrian facilities in the public right-of-way are readily accessible to and usable by persons with disabilities. An important part of this requirement is the obligation to provide curb ramps where street level pedestrian walkways cross curbs.

This Special Order addresses work within the roadway, crosswalk, and curb return which results in the requirement to construct, reconstruct, or upgrade curb ramps.

II. APPLICATION

This Special Order shall apply to all public and private construction projects in the City of Los Angeles (City).

III. REGULATIONS AND GUIDELINES

This Special Order provides requirements on the practical implementation of accessibility regulations and guidelines for the construction, reconstruction, or upgrade of curb ramps whenever a roadway, crosswalk, or curb return alteration occurs. The requirements stated herein are consistent with the minimum requirements for pedestrian accessibility as stipulated by the current editions of the following federal, state, and local disabled access regulations and guidelines:

- The ADA
  - 28 Code of Federal Regulations (CFR) parts 35 and 36
  - 2010 ADA Standards for Accessible Design
- The 2013 Department of Justice/Los Angeles Department of Transportation Joint Technical Assistance on Title II of the ADA requirements to provide curb ramps when streets, roads or highways are altered through resurfacing (2013 DOJ/LADOT)

- The 2015 Supplement to the 2013 DOJ/LADOT Joint Technical Assistance (2015 DOJ/DOT)
- The Proposed Right-of-Way Accessibility Guidelines (PROWAG)
- The California Building Code [CFR, Title 24, Part 2], adopted into the Los Angeles Building Code (LABC)
- The City of Los Angeles Municipal Code (LAMC)
- Applicable City's Bureau of Engineering (BOE) Standard Plans

IV. DEFINITIONS

A. BCR: Beginning of curb return curve.

B. Compliant Facility: A facility or element that meets the federal, state, and local accessibility requirements in effect at the time of its construction, reconstruction, or alteration.

C. Crosswalk: The portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street. Otherwise, it is any portion of a roadway distinctly indicated for pedestrian crossing by lines or other marking on the surface (California Vehicle Code, 275).

1. Unmarked Crosswalk: For the purpose of this Special Order, it is the portion of the roadway bound by a 15 foot wide band centered and aligned with the two curb ramps opposite each other. If a curb ramp is missing at a curb return, the 15 foot wide band shall be centered and aligned with the middle of the curb return (MCR) point.

D. Curb Ramp: A short ramp that cuts through or is built up to the curb [ADA 106.5, PROWAG R105.5]. For the purpose of this Special Order, this includes the ramp run, side flares, landing/turning space at the top and/or bottom of the curb ramp, and clear space at the bottom of the curb ramp. It also includes perimeter elements such as warning curbs, retaining walls/curbs, return curbs, grooved strips, detectable warning surfaces (DWS), or other specific features built to aid/support the construction and use of the ramp. Where grooved strips are provided outside the required components of the curb ramp (listed above), they shall not be considered part of the curb ramp.

1. Curb Returns: A curb return is that curved portion of a street curb joining the normal curb line of a street with that of an intersecting street or alley.

E. ECR: End of curb return curve.

F. Flowline: The bottom of the front of the curb where it joins the gutter or roadway, typically the lowest gutter point of its cross-section.

G. MCR: Mid-point of a curb return curve.

H. Non-Compliant Facility: A facility or element that does not meet the federal, state, and local accessibility requirements in effect at the time of their construction, reconstruction, or alteration.

I. Pedestrian Surface: A surface for use by pedestrians. Surface types include, but may not be limited to, concrete, asphalt, compacted soil, etc.

J. Roadway: For the purpose of this Special Order, the term roadway shall include highways and streets.

K. Transition: A portion or section of a pedestrian walking surface that connects a newly constructed or altered accessible compliant walking surface to an existing non-compliant walking surface. E.g., "transition panel(s)."

V. GENERAL

A. Impact Zones: For the purpose of this Special Order, two types of Impact Zones have been identified within the public right-of-way. *See Appendix A for graphical depictions and Appendix B for example scenarios, of each Impact Zone.*

a. Crosswalk Impact Zone (CWIZ)

i. **Marked Crosswalks:** The area within the street between two opposite curb returns bound by the linear projection of the outer edges of the crosswalk markings and the flowline. The boundary of adjoining zones is determined by the projection of the line bisecting the shared curb return but through the MCR point. See the LADOT Geometric Design Standard Plan to determine the outer edges of crosswalk markings if existing markings in the field are not readily identifiable.

ii. **Unmarked Crosswalks:** The area within the street between curb returns at intersections or mid-block crossings bound by a 15 foot wide band centered and aligned with the two curb ramps opposite each other. If a curb ramp is missing at a curb return, the 15 foot wide band shall be centered and aligned with the MCR point. The boundary of adjoining zones as applicable is determined by the projection of the line bisecting the shared curb return but through the MCR.

b. Curb Return Impact Zone (CRIZ)

i. The sidewalk area and curb ramp (where applicable) bound by the front property line(s) fronting the curb ramp(s), the street flowline, and at each end, by the beginning and end of the curb return. If a curb ramp is fully or partially outside the curb return area, the CRIZ shall be extended to encompass the curb ramp to a line projected across the sidewalk width at right angles to the street curb line.

1. Mid-block
2. and T-intersections: The sidewalk area encompassing the entire curb ramp bound by the front property line(s) fronting the curb ramp, the street flowline and, at each end, by the top of the curb ramp flare or to a point 10 feet from the center of the curb ramp along the street flowline, whichever is greater.

B. Measurable Limit of Work: For the purpose of this Special Order, the measurable limit of work for use in determination of whether an alteration occurs shall be the outer edge of the final restored/treated surface.

C. Minimum Sidewalk Replacement: No section of sidewalk to be replaced shall be smaller than 30 inches in either length or width. If the saw cut is within 30 inches of a construction joint, expansion joint, or edge the concrete shall be removed to the joint edge. Where the sawcut would fall within 12 inches of a score mark, then the saw cut shall be made in and

along the score mark. *See Standard Plans for Public Works Construction (SPPWC) 300-1.3.2.*

a. Installation or Relocation of Facilities within a Curb Return: Facility elements located above the finished surface or between the finished surface and 24 inches below the corresponding adjacent flowline elevation (such as vaults, meter boxes, signal cabinets, poles, etc.) shall not be installed, constructed, or relocated within a CRIZ. Pedestrian push buttons are exempt from this requirement and may be located in the Impact Zone.

b. Exception: Installation of a facility above the finished surface or between the finished surface and 24 inches below the corresponding adjacent flowline elevation within the CRIZ may be permitted if the following four conditions are met:

i. Significant technical constraints (right-of-way limits, existing structural or load bearing elements, etc.) prohibit locating the facility outside the CRIZ; and

ii. the facility will be installed in the location most likely to accommodate the construction or reconstruction of a sidewalk or curb ramp (based on current BOE Standard Plans and accessibility regulations) within the CRIZ at a later date; and

iii. the owner, entity, department, or division responsible for the installation of the facility within the CRIZ agrees to relocate the facility when necessary to accommodate the construction or reconstruction of a pedestrian facility (sidewalk, curb ramp, etc.) within the CRIZ, whether by the City or by a private entity under permit to the City. Such relocations shall occur immediately following the relocation request, or as soon as possible thereafter, and shall be completed at no cost to the project initiating the pedestrian facility work; and

iv. a corresponding agreement or permit with the entity installing the facility within the CRIZ has been obtained by the City to document these terms.

VI. MAINTENANCE

Maintenance activities keep existing facilities in proper operating condition in a routine, scheduled, or anticipated fashion to prevent failure and or degradation. Maintenance is work that preserves an element and prolongs its usable life. These activities do not affect the public's access to or usability of the facility.

As such, maintenance activities do not require the evaluation and construction/reconstruction of curb ramps or other pedestrian facilities outside the planned scope of work.

A. Roadway Maintenance: Roadway maintenance activities serve solely to seal and protect the road surface, improve friction, and control splash and spray.

Examples of roadway maintenance include, but are not limited to, the following:

1) Painting or striping lanes
2) Crack filling and sealing
3) Surface sealing
4) Chip seals
5) Slurry seals
6) Fog seals
7) Scrub sealing
8) Joint crack seals
9) Joint repairs
10) Dowel bar retrofit
11) Spot high friction treatment
12) Diamond grinding

B. Crosswalk Maintenance:

1. Roadway maintenance activities within the CWIZ.
2. Pavement patch or repaving to cover an excavation or trench within the CWIZ, which is less than one half of the field measured area of that zone.
3. Restriping an existing striped/marked crosswalk.

C. Curb Return Maintenance: Maintenance activities serve to preserve the curb return, CRIZ, or curb ramp (where applicable). Maintenance activities slow deterioration and maintain the functional condition of the curb return. Maintenance of the curb return includes, but is not limited to the following:

1. Replacing an existing facility within its existing surface footprint within the CRIZ as part of routine maintenance or repair.

2. Where There is No Existing Curb Ramp:

a. Reconstruction and/or modification of the sidewalk within the CRIZ that is less than one half the field-measured area of the CRIZ. This area may be combined with Item VI.C.1 above, where localized perimeter reconstruction is necessary to remove and replace an item.

b. Reconstruction or modification of the sidewalk within the CRIZ that is less than one-hundred square feet and between 50 and 79 percent of the field-measured area of the CRIZ. This area may be combined with Item VI.C.1 above, where localized perimeter reconstruction is necessary to remove and replace an item.

3. Where There is an Existing Curb Ramp:

a. **Work Within a Compliant Curb Ramp:** Reconstruction, removal, and replacement, or trenching for access to underground facilities within any portion of an existing curb ramp that is fully compliant with current City Standard Plans and accessibility regulations. Only

the affected part of the curb ramp must be replaced in accordance with current City Standard Plans, SPPWC, and accessibility regulations.

b. **Work Within a Non-Compliant Curb Ramp:** *See Section VII. Alterations*

c. **Work Outside a Curb Ramp**

i. Reconstruction and/or modification of the sidewalk within the CRIZ that is less than one half the field-measured area of the CRIZ, inclusive of the existing curb ramp area. This area may be combined with Item VI.C.1 above, where localized perimeter reconstruction is necessary to remove and replace an item.

ii. Reconstruction or modification of the sidewalk within the CRIZ that is less than one-hundred square feet and between 50 and 79 percent of the field-measured area of the CRIZ, inclusive of the existing curb ramp area. This area may be combined with Item VI.C.1 above, where localized perimeter reconstruction is necessary to remove and replace an item.

4. Approved painting or coating concrete surfaces within the CRIZ, under a revocable permit.

VII. ALTERATIONS

An alteration is a change to an existing facility that affects or could affect the usability of all or part of the facility. Altered facilities shall be designed and constructed in compliance with current accessibility regulations.

A. Project Scoping: The scope of projects shall not be structured to avoid the obligation to provide curb ramps when altering a roadway, crosswalk, curb return or curb ramp. Any project that qualifies as an alteration shall include the required pedestrian facilities within the project's scope of work.

B. Timing: Where improvements to curb ramps are required as part of an alteration project, the curb ramps and alteration work may be constructed separately. However, the curb ramps shall be completed prior to or at the same time as the alteration work.

C. Evaluate/Evaluation Procedure: Given the high level of specificity required for achieving compliance, an evaluation shall be conducted with measurement tools that are precise, accurate, and consistent. A properly calibrated four-foot inclinometer is sufficient for determining the slope of constructed improvements. However, where an abrupt change in level, grade break, or divot in pavement is present, a two-foot properly calibrated inclinometer provides the level of measurement needed.

D. Roadway Alterations: The alteration of a roadway includes any modification that affects or potentially affects its usability. Roadway alterations include activities such as reconstruction, rehabilitation, resurfacing, widening, and projects of similar scale and effect. Roadway alterations and alteration activities that span the width the roadway, from one intersection to another require the evaluation of associated curb returns and curb ramps. *See Section G. Pedestrian Facilities.*

Examples of roadway alteration activities include, but are not limited to, the following:

1) Milling an existing street or road and overlaying with materials
2) New layer of asphalt or other surface material with or without milling
3) Open-graded surface course
4) Micro-surface and thin lift overlays
5) Cape seal
6) In-place asphalt recycling

E. Crosswalk Alterations: Crosswalk alterations require the evaluation of associated curb returns and curb ramps.

1. Pavement patch or repaving to cover an excavation or trench within the CWIZ which is greater than, or equal to, one half the field-measured area of that zone.

F. Curb Return Alterations: This is any work that results in the alteration, modification or reconstruction of the curb ramp or CRIZ, and is not otherwise indicated as a maintenance activity in the "Maintenance" section of this Special Order. In general, any change of the curb return that affects or could affect the usability of the sidewalk, curb, or curb ramp(s) within the curb return is a curb return alteration. Curb return alterations require the evaluation and reconstruction of the associated curb ramps. *See Section G. Pedestrian Facilities.* Curb return alterations include, but are not limited to, the following:

1. Where There is No Existing Curb Ramp:

a. Work that removes and replaces any portion of the curb within the CWIZ as part of the scope of work.

b. Reconstruction or modification of the sidewalk within the CRIZ that is one-hundred square feet or more and between 50 and 79 percent of the field-measured area of the CRIZ. This area may be combined with Item VI.C.1 above, where localized perimeter reconstruction is necessary to remove and replace an item.

c. Reconstruction and/or modification of the sidewalk within the CRIZ that is 80 percent or more of the field-measured area of the CRIZ.

2. Where there is an Existing Curb Ramp:

a. **Work Within a Compliant Curb Ramp:** *See Section VI. Maintenance.*

b. **Work Within a Non-Compliant Curb Ramp:** Reconstruction, removal and replacement, trenching for access to underground facilities within any part of the curb ramp, or other work that impacts or disturbs any part of the curb ramp.

c. Work Outside a Curb Ramp

i. Reconstruction and/or modification of the sidewalk within the CRIZ that is one-hundred square feet or more and between 50 and 79 percent of the field-measured area of the CRIZ, inclusive of the existing curb ramp area.

ii. Reconstruction and/or modification of the sidewalk within the CRIZ that is 80 percent or more of the field-measured area of the CRIZ, inclusive of the existing curb ramp area.

G. Pedestrian Facilities: Where an alteration occurs within the roadway, the CWIZ or the CRIZ, the associated curb ramp(s) shall be evaluated and if non-compliant, constructed new, reconstructed, or upgraded.

1. Scoping

a. No Existing Curb Ramps: Where a roadway, crosswalk, or curb return alteration occurs and there is no existing curb ramp(s) serving a pedestrian walking surface, curb ramps shall be constructed new. Where a pedestrian push button is existing or is constructed new as part of the project, it shall be made accessible per minimum accessibility requirements (e.g. button height, button orientation to crosswalk, reach range, clear space). *See VIII. Technical Requirements.*

b. Existing Curb Ramps: Where a roadway, crosswalk, or curb return alteration occurs and there are existing curb ramps connected to a pedestrian walking surface, the curb ramps shall be evaluated and if non-compliant, reconstructed to current accessibility requirements. Where a pedestrian push button is existing or is constructed new as part of the project, it shall be made accessible per minimum accessibility requirements (e.g. button height, button orientation to crosswalk, reach range, clear space). *See VIII. Technical Requirements.*

2. Exceptions

a. Safe Harbor. Existing curb ramps that meet the requirements of the Safe Harbor provisions in 28 CFR 35.151 are not required to be reconstructed to current accessibility requirements as part of a roadway or crosswalk alteration project. This exception does not apply to curb return alterations. Curb ramps that qualify for this

exception were constructed prior to March 15, 2012 and meet the requirements of the 1991 ADA Accessibility Guidelines or the Uniform Federal Accessibility Standards, including the following:

1) Curb ramp having a 36 inches minimum clear width.
2) Flush transition between the curb ramp and the adjoining surface.
3) Running slope 1:12 (8.33%) maximum.
4) Flare slope 1:10 (10.0%) maximum.
5) Cross slope 1:50 (2.0%) maximum.
6) Adjoining slope at the base of the curb ramp of 1:20 (5.0%) maximum.

b. Detectable Warnings. When the curb ramp evaluation has been performed and it is determined that the existing curb ramps are compliant, except missing DWS, such curb ramps may be brought into compliance by providing the missing DWS per Standard Drawing S-442, using pre-approved materials and techniques.

VIII. TECHNICAL REQUIREMENTS FOR THE EVALUATION, CONSTRUCTION, RECONSTRUCTION, OR UPGRADE OF CURB RAMPS

A. Construction/Reconstruction of Curb Ramps: Newly constructed and altered curb ramps shall be designed and constructed in accordance with Standard Plan S-442 and federal, state, and local accessibility requirements.

B. Uni-Directional Curb Ramps: As provided on Standard Plan S-442, newly constructed and altered curb ramps in the public right-of-way shall be dual uni-directional curb ramps.

1. Exceptions

a. Where the construction of dual uni-directional curb ramps presents significant challenges due to constraints presented by the built environment, alternate curb ramp configurations and alignments, including the use of bi-directional curb ramps, may be submitted to the City Engineer for review and approval.

b. Constraints which may warrant the use of alternate curb ramp configurations include the following:

1) Pullbox that cannot be relocated without pulling new runs of cable.
2) Interfering third party utilities.
3) Driveways and catch basins.
4) Fire hydrants, traffic signal poles, streetlight poles, power poles, and cabinets.
5) Trees.
6) Insufficient right-of-way.
7) Other conflicts deemed a significant challenge by the City Engineer.

c. This exception is not permitted where the work involves reconfiguring the CRIZ, such that the above constraints can be mitigated. Examples of reconfiguration include, but may not be limited to, the addition of bump outs, change of curb return radius, change of curb return shape or size, relocation of elements within the curb return, etc.

C. Number of Required Curb Ramps:

1. Roadway Alteration: Missing curb ramps and existing curb ramps located within the limits of the roadway alteration that do not conform to the accessibility requirements identified in Appendix C shall be constructed in accordance with S-442.

2. Crosswalk Alteration: For any altered CWIZ, missing curb ramps and existing curb ramps - typically two, one at each end - that do not conform to the accessibility requirements identified in Appendix C, shall be constructed in accordance with S-442.

3. Curb Return or Curb Ramp Alteration: For any altered CRIZ, missing curb ramps and existing curb ramps - typically one, but sometimes two adjacent curb ramps - shall be constructed in accordance with S-442.

4. Connecting Curb Ramps: Where a curb ramp shall be constructed, reconstructed, or upgraded, a connecting or receiving curb ramp must be constructed on the opposite end of a crosswalk (marked or unmarked) to complete the accessible route.

5. A single uni-directional curb ramp may be provided so long as the design is coordinated such that a second adjacent curb ramp can be constructed by others at a future time.

6. Where an existing connecting curb ramp provides access to several crosswalks is reconstructed, it shall be reconstructed to, at minimum, provide access to the crosswalks served by the original curb ramp. The design shall be dual uni-directional, or when approved by the City Engineer, a bi-directional curb ramp may be provided.

a. The reconstruction of curb ramps shall not reduce the number of curb returns or crosswalks that were accessible prior to the start of reconstruction. However, pedestrian traffic patterns may be reconfigured if the proposed improvements comply with accessibility requirements for new construction and approval from the City Engineer has been obtained.

D. Transitions to Non-Compliant Improvements: Where altered or newly constructed curb ramps connect or abut existing adjacent improvements that are non-compliant, the connection shall be made by means of a transition segment.

1. Location: A transition segment shall occur outside the project's scope of work. It shall be located outside the CRIZ and be located before the BCR or after the ECR.

a. Exception: On streets with wide sidewalks (i.e. 15 plus feet), where the existing sidewalk within the CRIZ is compliant, transitions may occur within the zone.

2. **Technical Requirements:** Transition segments may be warped to make a smooth transition between the compliant surface and the existing non-compliant surface. *See Standard Plan S-444 and S-431 for guidance.*

   a. **Surface Level and Grade:** A transition segment shall not create an abrupt change in level greater than ¼ inch or have slopes that exceed the slopes of existing adjacent non-compliant improvements.

   b. **Length.** The length of a transition segment may be the shortest length that meets the technical requirements for transitions. For most projects, transition segments are typically 5 feet to 20 feet in length.

E. Technical Infeasibility: Where existing significant constraints prevent full compliance with applicable federal, state, and local accessibility regulations and guidelines, a Technical Infeasibility Form (TIF) must be filed with the City upon approval by the City Engineer. *See **Appendix D**.*

IX. APPENDICES:

A. Appendix A – Impact Zones

B. Appendix B – Curb Ramp Evaluation Examples

C. Appendix C – Evaluation of Existing Curb Ramps (including checklist form)

D. Appendix D – Technical Infeasibility Form TIF (including TIF sample form)

(TA JS AM NS EA RMK)

EXE/SWD/JS/ns/lk Special Order No. 04-0222	Approved By:  Gary Lee Moore, PE, ENV SP City Engineer

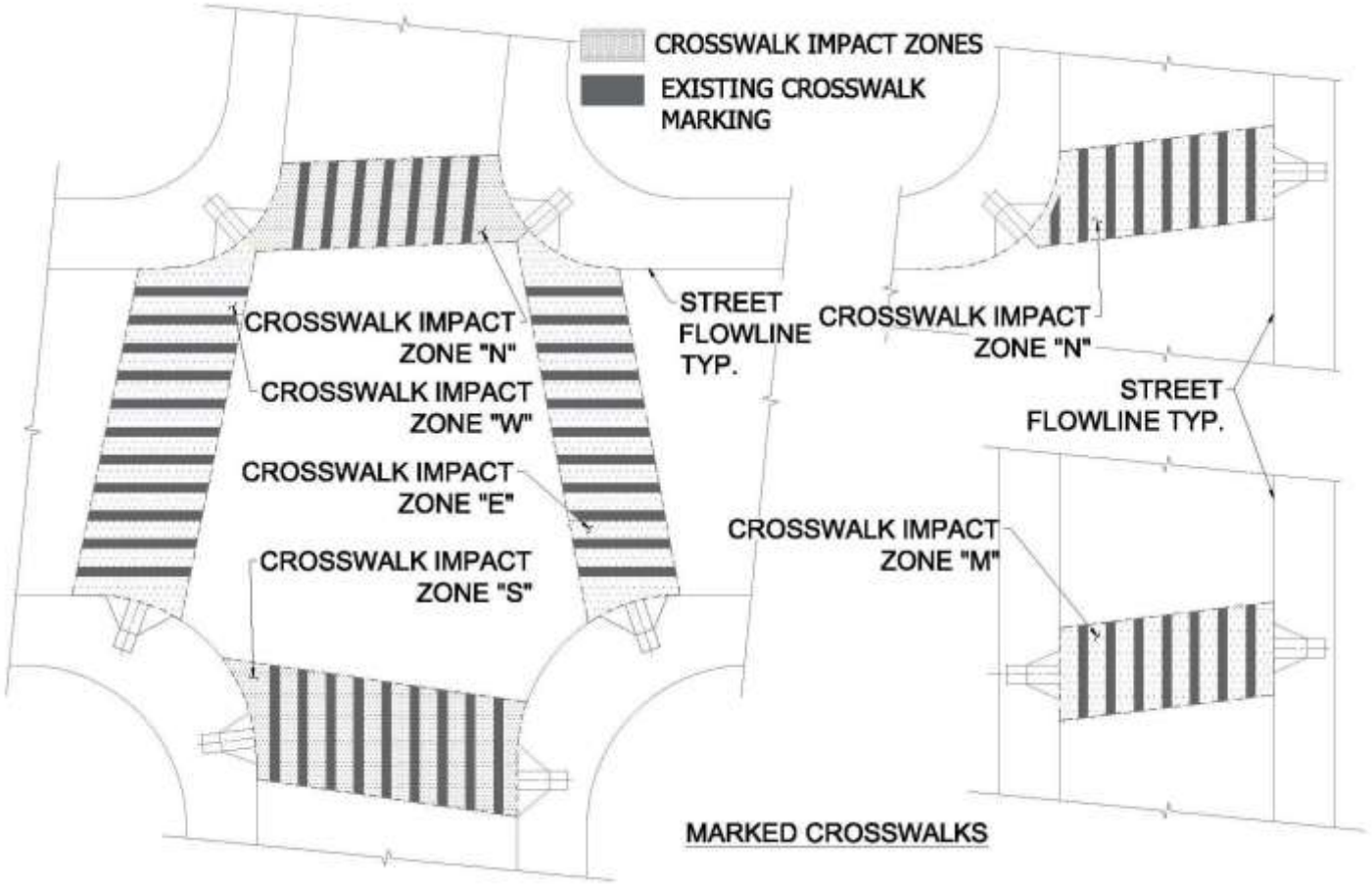
APPENDIX A

IMPACT ZONES

1. THE CWIZ

a. **For Marked Crosswalks:**

The CWIZ between two opposite curb returns is the street area bounded by the linear projection of the outer edges of the crosswalk markings and the flowline along the curb returns as illustrated below. The boundary of adjoining zones, or as applicable, is determined by the projection of the line bisecting the shared curb return but through the MCR point. See the LADOT Geometric Design Standard Plan to determine the outer edges of crosswalk markings if existing markings in the field are not readily identifiable.

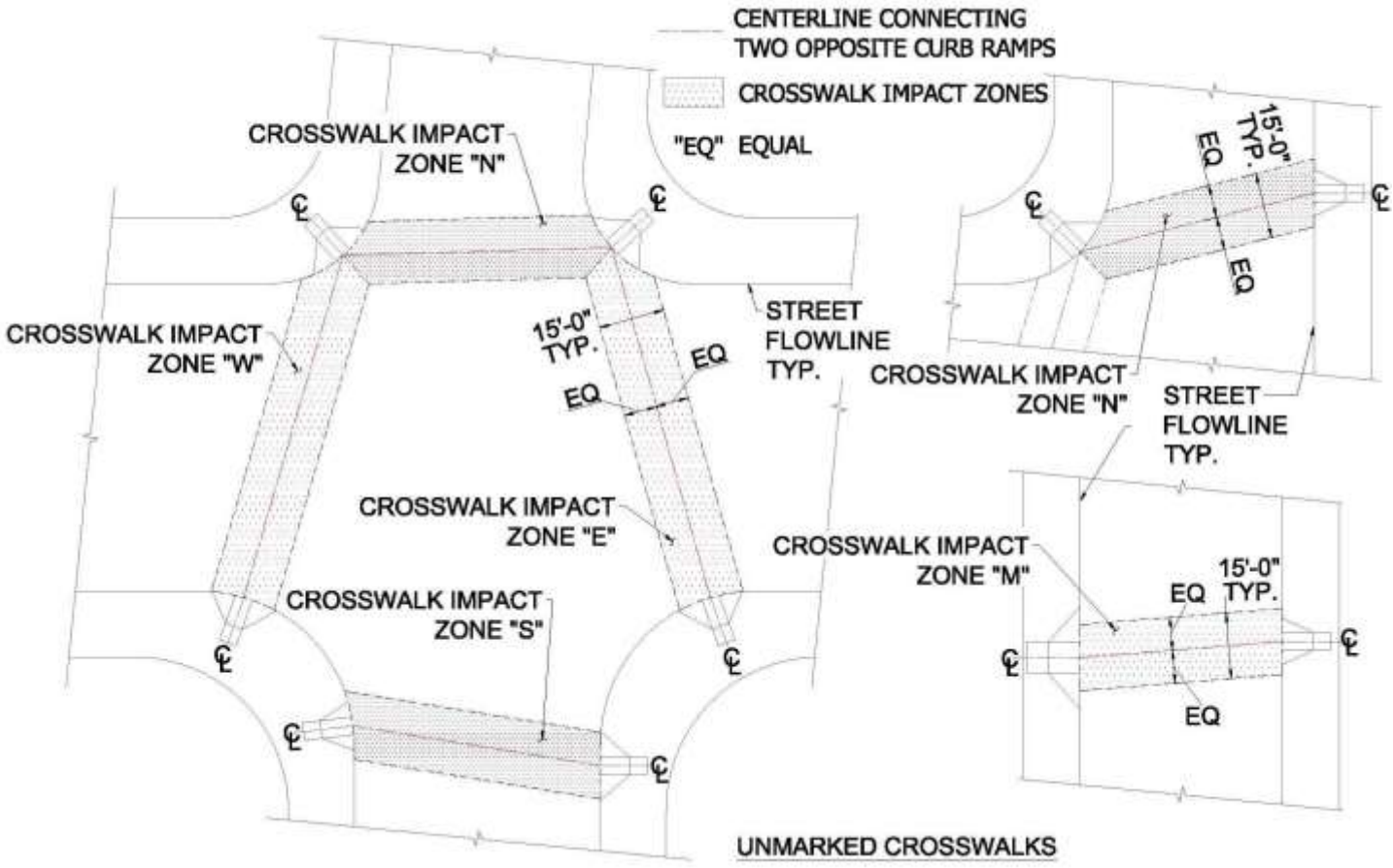


APPENDIX A

(Continued)

b. **For Unmarked Crosswalks:**

The CWIZ between curb returns at intersections or mid-block crossings is the portion of the street bound by a 15 foot wide band centered and aligned with the two curb ramps opposite each other. If a curb ramp is missing at a curb return, the 15 foot wide band shall be centered and aligned with the MCR point. The boundary of adjoining zones as applicable is determined by the projection of the line bisecting the shared curb return but through the MCR point as illustrated below.



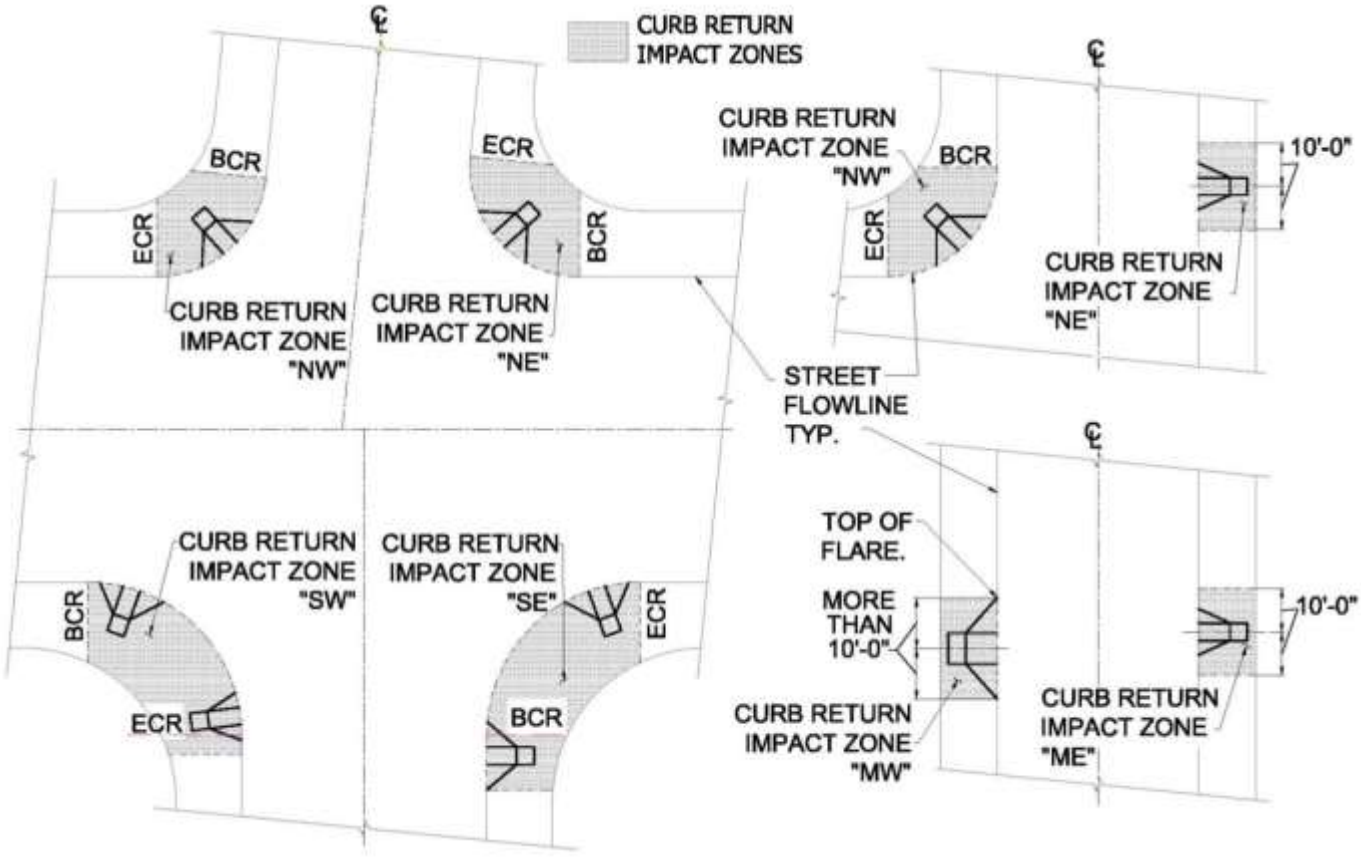
APPENDIX A

(Continued)

2. CURB RETURN IMPACT ZONES THE CRIZ

a. **General:** A CRIZ is the sidewalk area and curb ramp (where applicable) bound by the front property line(s) fronting the curb ramp(s), the street flowline, and at each end, by the beginning and end of the curb return. If a curb ramp is fully or partially outside the curb return area, the CRIZ shall be extended to encompass the curb ramp to a line projected across the sidewalk width at right angles to the street curb line.

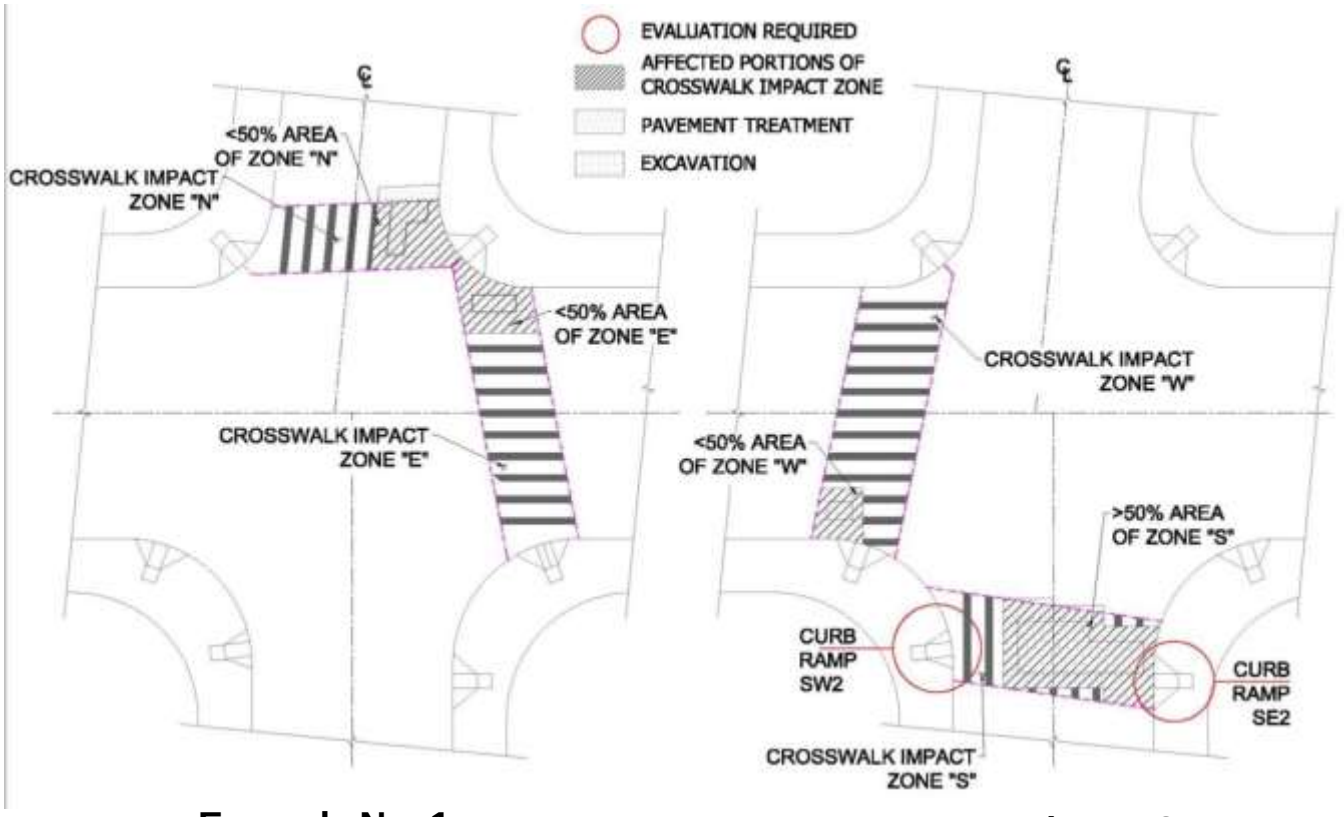
b. **Mid-block and T-intersections:** At these locations, a CRIZ is the sidewalk area encompassing the entire curb ramp bound by the front property line(s) fronting the curb ramp, the street flowline and, at each end, by the top of the curb ramp flare or to a point 10 feet from the center of the curb ramp along the street flowline, whichever is greater.



APPENDIX B

CURB RAMPS EVALUATION EXAMPLES

A. **CROSSWALK IMPACT ZONE THE CWIZ**



Example No. 1 **Example No. 2**

Ex.1. Alteration surface treatment as a result of an excavation within CWIZ “N” is less than one half the area of the CWIZ. This work **is not** an alteration and therefore does not require the evaluation of curb ramps.

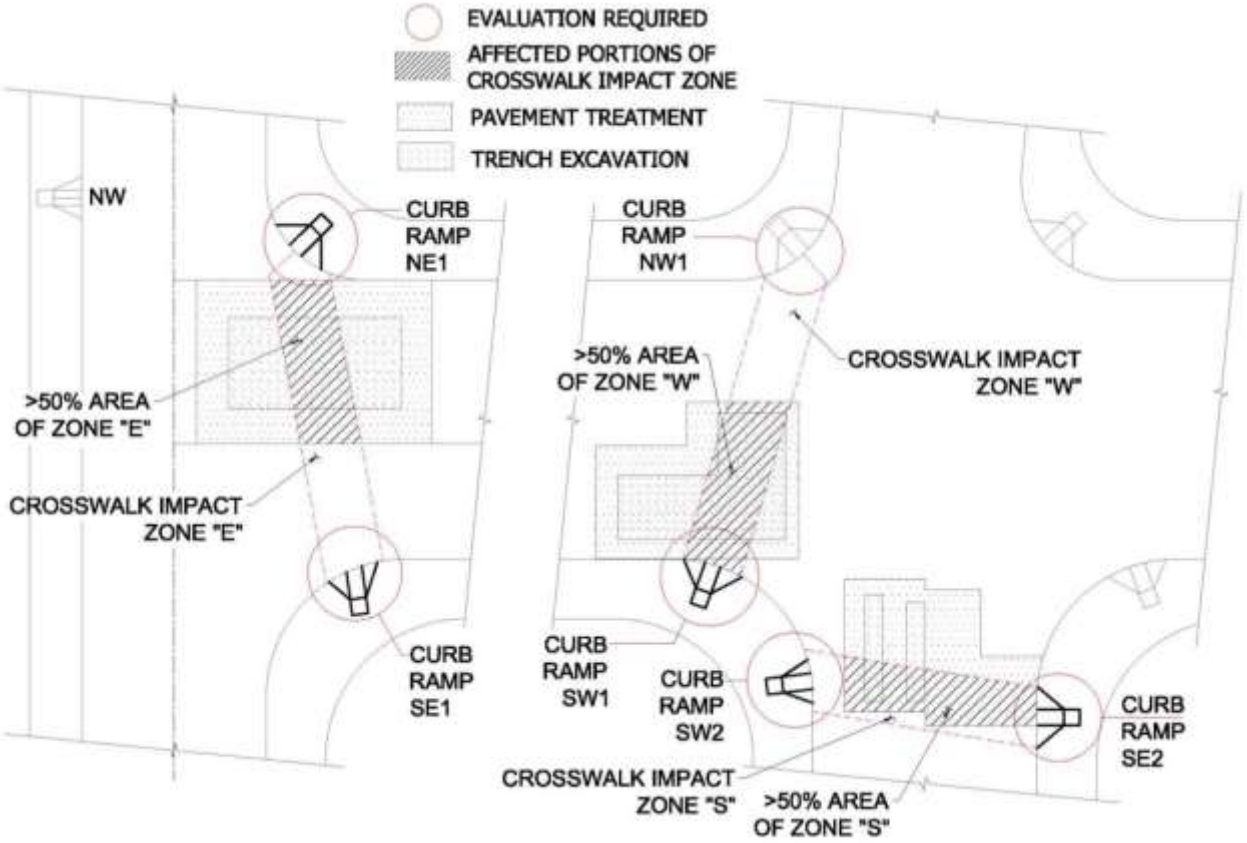
Alteration surface treatment as a result of an excavation within CWIZ “E” is also less than one half the area of the CWIZ. Therefore, this work **is not** an alteration and does not require an evaluation of curb ramps.

Ex.2. Alteration surface treatment within CWIZ “S” is more than one half the area of the CWIZ. This work **is** an alteration and therefore requires an evaluation of curb ramps "SW2" and "SE2".

Resurfacing within CWIZ “W” is less than one half the area of the CWIZ. Therefore, this portion **is not** an alteration and does not require an evaluation of curb ramps.

APPENDIX B

(Continued)



Example No. 3 **Example No. 4**

Ex.3. Alteration surface treatment within CWIZ "E" is more than one half the area of the CWIZ. This work **is** an alteration and therefore requires an evaluation of curb ramp "SE1" and "NE1".

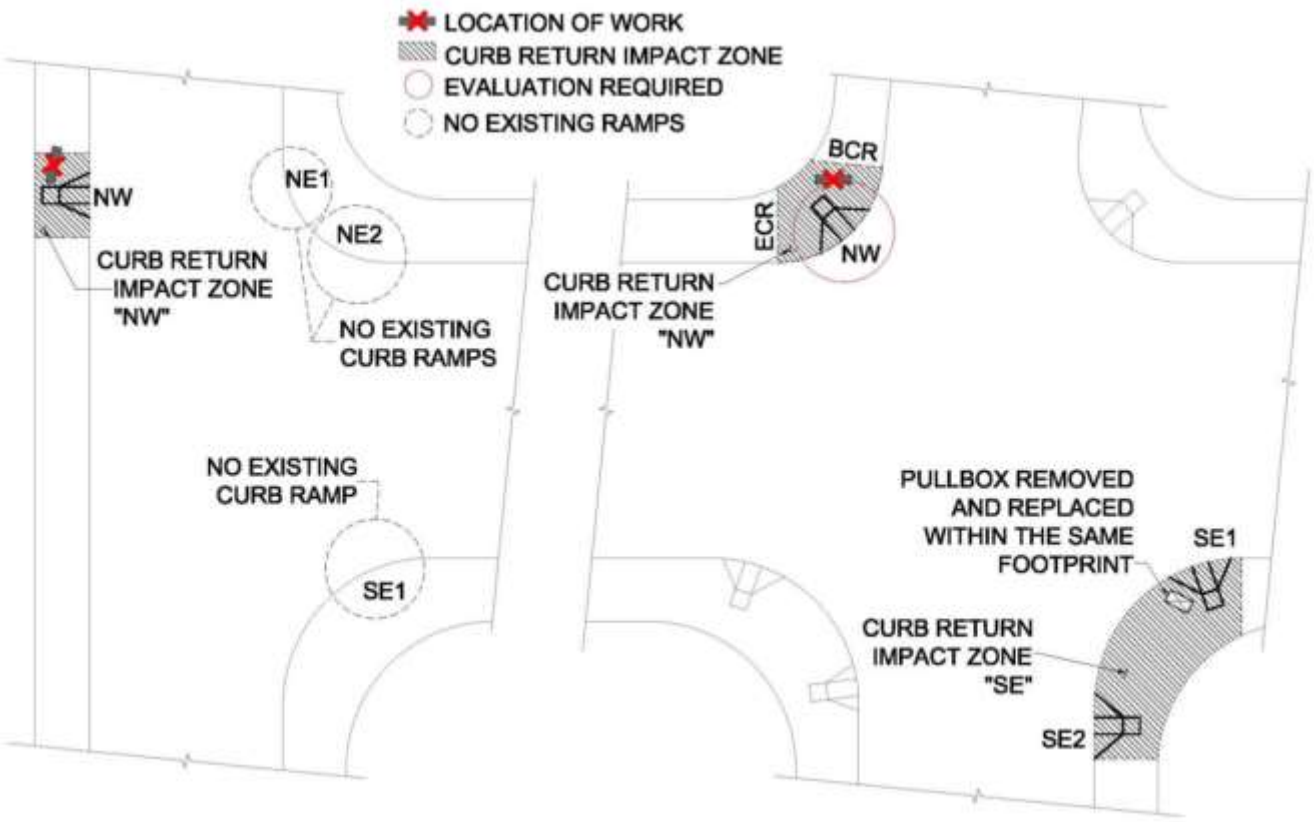
Ex.4. Alteration surface treatment within CWIZ "S" is more than one half the area of the CWIZ. This portion of the work **is** an alteration and therefore requires an evaluation of curb ramps "SW2" and "SE2".

Alteration surface treatment within CWIZ "W" is more than one half the area of the CWIZ. This portion of the work **is** also an alteration and therefore requires an evaluation of curb ramps "SW1" and "NW1".

APPENDIX B

(Continued)

B. CURB RETURN IMPACT ZONE



Example No. 5 **Example No. 6**

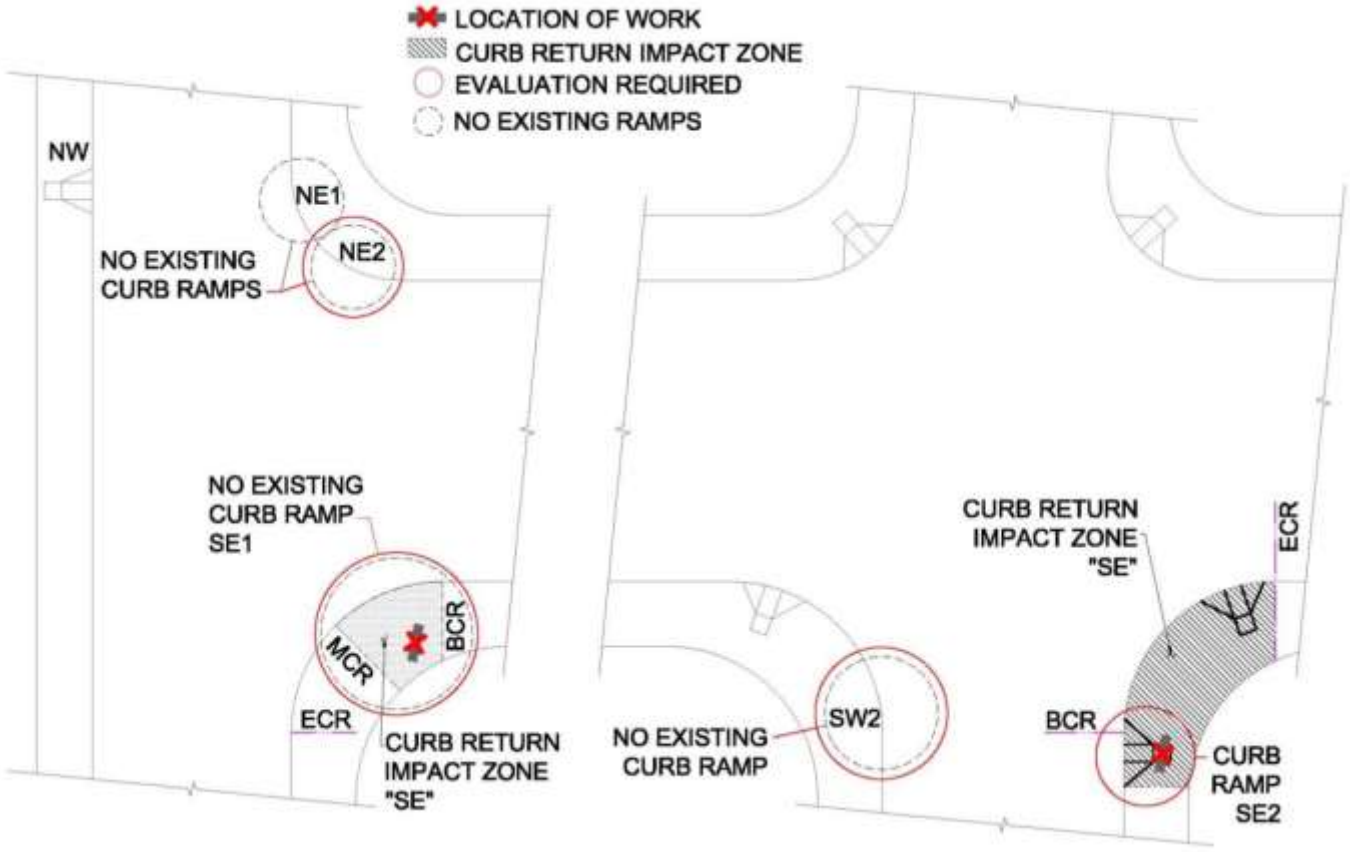
Ex.5. An existing signal pole will be removed and replaced. Installation of the new pole will disturb 40 percent of the CRIZ's field measured area. This work **is not** an alteration and will not require an evaluation of curb ramps.

Ex.6. Excavation to maintain an existing underground facility is planned within CRIZ "NW". The measurable limit of work will be more than 100 square feet and 60 percent of CRIZ's field measured area. This work **is** an alteration and will require an evaluation of curb ramp **"**NW**"**. Since existing curb ramps exist on opposite associated corners, no other curb ramp needs evaluation.

In addition, a pull box and/or signal pole is removed and replaced within the same exact footprint within a CRIZ "SE". This portion of the work **is not** an alteration and evaluation of the curb ramp(s) is not required.

APPENDIX B

(Continued)



Example No. 7

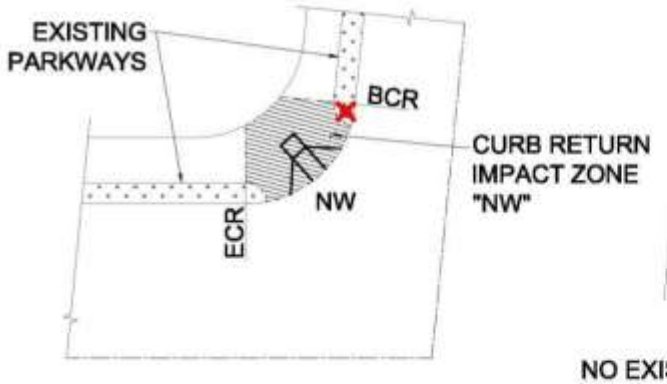
Example No. 8

Ex.7. Excavation to install a new underground facility is planned within the CRIZ “SE”, where there is no existing curb ramp. The measurable limits of work will be 82 percent of the CRIZ’s field measured area. This work **is** an alteration and will require the construction of curb ramp “SE1” and the construction of curb ramp "NE2" to complete the path of travel. Location of curb ramp "NE2" shall allow for future installation of curb ramp "NE1".

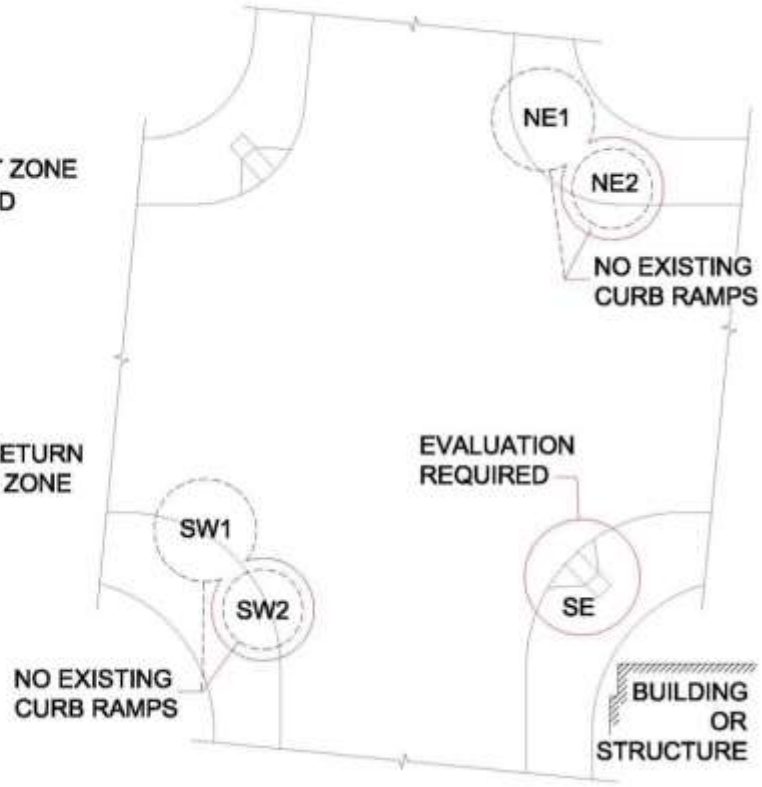
Ex.8. The top landing of curb ramp SE2 is impacted during a project. The existing curb ramp landing does not comply with current Standard Plan or accessibility regulations. This work **is** an alteration and will require an evaluation of curb ramp”SE2”, as well as construction of curb ramp "SW2", to complete the path of travel.

APPENDIX B

(Continued)



Example No.9



Example No. 10

Ex.9. Work within the existing parkway inside the CRIZ “NW” **is not** an alteration and will not require an evaluation of curb ramp “NW”.

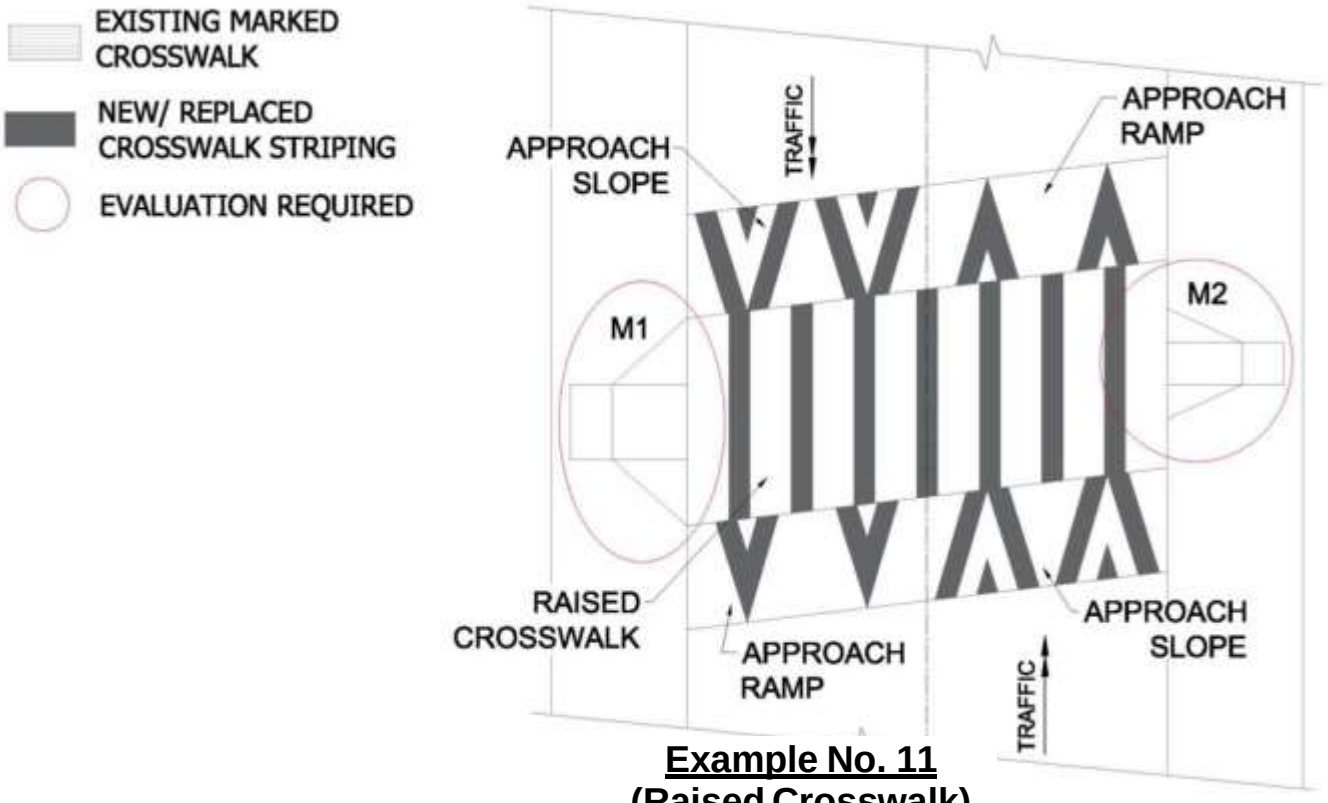
Ex.10. Corner ramp "SE" is required to be brought up to compliance and current City Standard as a part of a public or private development. This will require an evaluation of curb ramp "SE" and the construction of new curb ramps, “SW2” and "NE2", to complete the accessible route. Location of new curb ramp “SW2” and NE2 shall allow for future installation of curb ramp “SW1” and "NE1".

References:

- LAMC 12.37.A6 and A9 (Ordinance No. 184,718);
- LAMC 91.106.4.7 (Ordinance No. 185,587);
- 28 CFR 35.151.(b)

APPENDIX B
(Continued)

C. **UPDATING CROSSWALKS**



Example No. 11
(Raised Crosswalk)

Ex.11. Construction/reconstruction and/or modification of the raised crosswalk **does** require an evaluation of curb ramps "M1" and “M2".

APPENDIX C

Guidelines for the Evaluation of Existing Curb Ramps

The following selected minimum requirements are excerpts from currently in effect requirements and are provided to assist in the evaluation of existing curb ramps. A sample checklist form reflecting these requirements is attached. See referenced accessibility documents for a complete listing of requirements.

See exceptions above for when the Safe Harbor provision applies.

When evaluating pedestrian facilities for compliance, it is recommended that a calibrated 2 foot and 4 foot digital level and/or inclinometer be used.

Curb Ramps Minimum Requirements:

1. Accessible floor and ground surface shall be firm, stable, and slip-resistant, and where permitted, vertical offsets not-to-exceed 1/4-inch or horizontal gaps not-to-exceed 1/2-inch.
   - *[2010 ADA Standard 302.1, 302.3, 303.2; PROWAG R302.7; LABC 91.11B-302.1, 302.3, 303.2]*
2. Ramp clear width not less than 48 inches.
   - [*PROWAG R304.5.1 and LABC 91.11B-406.5.2*]
3. Running slope between 1:20 (5.0%) and 1:12 (8.33%).
   - [*2010 ADA Standards 406.1, 405.2; PROWAG R304.2.2 and R304.3.2; and LABC 91.11B-406.2.1, 406.3.1*]
4. Maximum 1:48 (2.0%) cross-slope.
   - [*2010 ADA Standard 406.1, 405.3; PROWAG R304.5.3; and LABC 91.11B-406.5.7*]
5. Grade breaks along ramp run not permitted.
   - [*2010 ADA Standards 406.1, 405.4; PROWAG R304.5.2; and LABC 91.11B-406.5.6*]
6. Counter slope of adjoining gutter/road within 24 inches of curb ramp not-to-exceed 1:20 (5.0%).
   - [*2010 ADA Standards 406.2; PROWAG R304.5.4; and LABC 91.11B-406.5.8*]
7. Flush transition between curb ramp and adjacent walk, gutter, and streets.
   - [*2010 ADA Standards 406.2; PROWAG r304.5.2; and LABC 91.11B-406.5.8*]
8. Ramp Flares with slopes not-to-exceed 1:10 (10.0%).
   - [*2010 ADA Standards 406.3; PROWAG R304.2.3; and LABC 91.11B-406.2.2*]
9. Landings with a clear length of 48 inches with corresponding applicable slopes and including requirements and exceptions for turning spaces and landing of parallel and diagonal ramps.
   - [*2010 ADA Standards 406.4; PROWAG R304.2.1 and R304.3.1; and LABC 91.11B-406.3.2, and 91.11B-406.5.3*]
10. Diagonal curb ramps and flares do not project into vehicular traffic lanes, parking spaces, or parking access aisles.
    - [*2010 ADA Standards 406.6, and LABC 91.11B-406.5.1 and 91.11B-406.5.10*]
11. Diagonal curb ramps and flares are within 24 inches minimum from the end of flares and whole contained within the crosswalk markings.

- [*2010 ADA Standards 406.6 and LABC 91.11B-406.5.1 and 91.11B-406.5.10*]

12. Clear space (or turning space) at the bottom of a diagonal ramp, minimum 48-inches long, with slopes not to exceed 2.0% in any direction.
    - [*2010 ADA Standards 406.6, and LABC 91.11B-406.5.9*]
13. Detectable warning surface (i.e. truncated domes) just behind the curb, extend 36 inches minimum, cover full width of ramp, and placed 6-8 inches from flowline.
    - [*PROWAG R305.1.4, LABC 91.11B-406.5.12 and 91.11B-705; and S-442*]
14. Blended transitions with slopes not-to-exceed 1:20 (5.0%).
    - *[PROWAG R304.4, and LABC 91.11B-406.4.1]*
15. Blended transitions to have a minimum clear width of 48 inches.
    - *[PROWAG R304.5.1, and LABC 91.11B-406.5.2]*
16. Blended transitions to have a cross slope of 1:48 (2.0%) or less.
    - *[PROWAG R304.5.3, and LABC 91.11B-406.5.7]*
17. Blended transition to gutter/street slopes not-to-exceed 1:20 (5.0%).
    - *[PROWAG R304.5.4, and LABC 91.11B-406.5.8]*
18. Raised islands have cut through crossings level with adjacent street or have curb ramps at both ends.
    - *[2010 ADA Standard 406.7, and LABC 91.11B-406.6]*
19. Raised islands have a 60-inches wide accessible route.
    - *PROWAG R302.3.1, and LABC 91.11B-406.6]*
20. Raised islands with curb ramps have a landing with a clear length no less than 48 inches.
    - *[2010 ADA Standard 406.7, and LABC 91.11B-406.6]*
21. Raised islands have DWS at least 36 inches in depth, full width of path, and at least 24 inches separating adjoining detectable warning surface.
    - *[PROWAG R305.2.4, and LABC 91.11B-705.1.2.3]*

ENGINEERING
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Existing Curb Ramp Evaluation Checklist

Version 10-15-20

Evaluator(s) Information		
Name(s):	**Title:**	**Company:**
Email:	**Phone:**	**Address:**

Facility Name/Address:	**Date of Evaluation:**
Location:	

This document lists selected excerpts from minimum accessibility requirements currently in effect to assist in the evaluation of existing curb ramps. Refer to applicable regulations for specific conditions, cases, and/or exceptions. Record your measurements in the blanks when they are provided. (*A circled "N" signifies non-compliance and a circled "Y" signifies compliance*).

When evaluating the above parameters and limits, it is recommended that a calibrated 2ft and 4ft digital level and/or inclinometer be used for applicable measurements.

Describe each curb ramp type and its location using cardinal directions. Reference the nearest intersection or roadway or immediate address:
EXAMPLE 1: Left unidirectional curb ramp as you face intersection; N-W Corner.
EXAMPLE 2: Midblock parallel curb ramp on East side of X St.; nearest address: 12019 X St.
EXAMPLE 3: 1st parallel curb ramp on median; btw N-W and S-W corners; as you travel North to South.

Curb Ramp A:	Curb Ramp D:
Curb Ramp B:	Curb Ramp E:
Curb Ramp C:	

Refer to #	Curb Ramp (CR) Questions	Curb Ramp A		Curb Ramp B		Curb Ramp C		Curb Ramp D		Curb Ramp E	
1	Is accessible floor and ground surface stable, firm, slip resistant, and where permitted, vertical offsets not to exceed ¼ - inch or horizontal gaps not to exceed ½ -inch? [*2010 ADA 302.1,303.2,302.3, PROWAG R302.7, R302.7.2 R302.7.3, and LABC 91.11B-302.1, 91.11B-302.2, 91.11B-303.2*]	Y	N	Y	N	Y	N	Y	N	Y	N
2	Is the ramp clear width at least 48 inches? [*PROWAG R304.5.1 and LABC 91.11B-406.5.2*]	Y	N "	Y	N "	Y	N "	Y	N "	Y	N "
3	Does the CR have a running slope between 1:20 (5.0%) and 1:12 (8.33%)? [*2010 ADA Standards 406.1, 405.2, PROWAG R304.2.2 and R304.3.2, and LABC 91.11B-406.2.1, 406.3.1*]	Y	N %	Y	N %	Y	N %	Y	N %	Y	N %

ENGINEERING
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Existing Curb Ramp Evaluation Checklist

Version 10-15-20

Facility Name/Address:	Date of Evaluation:
Location:	

Refer to #	Curb Ramp (CR) Questions	Curb Ramp A		Curb Ramp B		Curb Ramp C		Curb Ramp D		Curb Ramp E	
4	Does CR have a cross-slope of 1:48 (2.0%) or less? [*2010 ADA Standards 406.1, 405.3, PROWAG R304.5.3, and LABC 91.11B-406.5.7*]	Y	N	Y	N	Y	N	Y	N	Y	N
			%		%		%		%		%
5	Are there no grade breaks along the ramp run? [*2010 ADA Standards 406.1, 405.4, PROWAG R304.5.2, and LABC 91.11B-406.5.6*]	Y	N	Y	N	Y	N	Y	N	Y	N
6	Is the counter slope of the adjoining gutter/road within 24 inches of the CR not exceeding 1:20 (5.0%)? [*2010 ADA Standards 406.2, PROWAG R304.5.4 and LABC 91.11B-406.5.8*]	Y	N	Y	N	Y	N	Y	N	Y	N
			%		%		%		%		%
7	Are transitions on and off the CR flush with adjacent walk, gutter, and streets? [*2010 ADA Standards 406.2, PROWAG R304.5.2, and LABC 91.11B-406.5.8*]	Y	N	Y	N	Y	N	Y	N	Y	N
8	Does the slope of the CR flares not exceed 1:10 (10.0%)? [*2010 ADA Standards 406.3, PROWAG R304.2.3, and LABC 91.11B-406.2.2]*	Y	N	Y	N	Y	N	Y	N	Y	N
			%		%		%		%		%
9	Is the landing at least 48 inches long with corresponding applicable slopes and including requirements and exceptions for turning spaces and landing of parallel and diagonal ramps? [*2010 ADA Standards 406.4, PROWAG R304.2.1 and R304.3.1, and LABC 91.11B-406.3.2, 91.11B-406.5.3 including exception*]	Y	N	Y	N	Y	N	Y	N	Y	N
			"		"		"		"		"
10	Diagonal CR and flares do not project into vehicular traffic lanes, parking spaces, or parking access aisles? [*2010 ADA Standards 406.6 and LABC 91.11B-406.5.1 and 91.11B-406.5.10*]	Y	N	Y	N	Y	N	Y	N	Y	N
11	Is the diagonal CR and flares within a minimum of 24 inches from the end of flares and are they contained within the cross walk markings? [*2010 ADA Standards 406.6 and LABC 91.11B-406.5.1 and 91.11B-406.5.10*]	Y	N	Y	N	Y	N	Y	N	Y	N
			"		"		"		"		"

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Existing Curb Ramp Evaluation Checklist

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Facility Name/Address:	Date of Evaluation:
Location:	

Refer to #	Curb Ramp (CR) Questions	Curb Ramp A		Curb Ramp B		Curb Ramp C		Curb Ramp D		Curb Ramp E	
12	Is the clear space (or turning space) at the bottom of diagonal curb ramp minimum 48 inches long, with slopes not to exceed 2.0% in any direction? [*2010 ADA Standards 406.6 and LABC 91.11B-406.5.9*]	Y	N	Y	N	Y	N	Y	N	Y	N
			"		"		"		"		"
13	Is the detectable warning surface (i.e. truncated domes) just behind the curb extends 36 inches minimum in the direction of travel, extends the full width of the ramp, and placed between 6 inches to 8 inches from the flow line? [*PROWAG R305.1.4, LABC 91.11B-406.5.12, 91.11B-705, and S-442*]	Y	N	Y	N	Y	N	Y	N	Y	N
14	Is the running slope for blended transitions not steeper than 1:20 (5.0%)? [*PROWAG R304.4, and LABC 91.11B-406.4.1*]	Y	N	Y	N	Y	N	Y	N	Y	N
			%		%		%		%		%
15	Is the clear width for blended transitions at least 48 inches? [*PROWAG R304.5.1, and LABC 91.11B-406.5.2*]	Y	N	Y	N	Y	N	Y	N	Y	N
			"		"		"		"		"
16	Is the cross slope for blended transition 1:48 (2.0%) or less? [*PROWAG R304.5.3, and LABC 91.11B-406.5.7*]	Y	N	Y	N	Y	N	Y	N	Y	N
			%		%		%		%		%
17	Is the counter slope of the gutter or street at the foot of blended transitions not exceeding 1:20 (5.0%)? [*PROWAG R304.5.4, and LABC 91.11B-406.5.8*]	Y	N	Y	N	Y	N	Y	N	Y	N
			%		%		%		%		%
18	Are raised islands in crossings cut through level with the street or have CRs at both sides? [*2010 ADA Standard 406.7,and LABC 91.11B-406.6*]	Y	N	Y	N	Y	N	Y	N	Y	N
19	Is the clear width of the accessible route at islands 60 inches? [*PROWAG R302.3.1, and LABC 91.11B-406.6*]	Y	N	Y	N	Y	N	Y	N	Y	N
			"		"		"		"		"

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Existing Curb Ramp Evaluation Checklist

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Facility Name/Address:	Date of Evaluation:
Location:	

Refer to #	Curb Ramp (CR) Questions	Curb Ramp A		Curb Ramp B		Curb Ramp C		Curb Ramp D		Curb Ramp E	
20	Is the clear length of the landing for raised islands with CR not less than 48 inches? [*2010 ADA Standard 406.7, and LABC 91.11B-406.6*]	Y	N	Y	N	Y	N	Y	N	Y	N
			"		"		"		"		"
21	Is the detectable warning at pedestrian islands at least 36 inches in depth extending the full width of the pedestrian path, placed at the edges of the pedestrian island and separated by at least by 24 inches of walking surface without detectable warnings? [*PROWAG R305.2.4 and LABC 91.11B-705.1.2.3*]	Y	N	Y	N	Y	N	Y	N	Y	N

Comments:

Existing Curb Ramp Evaluation Checklist

Version 10-15-20

Facility Name/Address:	Date of Evaluation:
Location:	

APPENDIX D

Technical Infeasibility Form

Technical Infeasibility refers to an alteration that has little likelihood of being accomplished because existing site conditions would require the removal or relocation of a substantial structural component to achieve strict compliance with accessibility requirements.

Technical Infeasibility may apply to the alteration of existing pedestrian facilities. Technical infeasibility does not apply to the construction of new pedestrian facilities where none currently exist.

Where full compliance is determined to be technically infeasible, the alteration shall comply with the requirement to the maximum extent feasible [CFR Title 28 § 35.151 (b)] and a TIF submitted to the City Engineer for review and acceptance prior to permit/project approval. See sample TIF attached.

Where new construction encounters a condition that makes full compliance structurally impracticable, (as noted in CFR Title 28 § 35.151 (a).2), this may be brought to the attention of the City Engineer.

Once a dedicated Special Order regarding a TIF is issued, that Special Order will take precedence on Technical Infeasibility related items.

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Instructions:
1) Complete form, including the addt. of pictures where required.
2) Secure appropriate approval.
3) Forward signed form to_____.
4) Document/reference TIF on Project Plans or Permit Application.

Place Applicant Professional seal here

Technical Infeasibility Form (TIF)

***** Used to Document Design Decisions and to be Completed prior to Permit/Project Approval *****

Facility Type	☐ Curb Ramp ☐ Sidewalk ☐ Driveway ☐ Other_____(check one)	
Project	**Name:**	**Council District #:**
	ADA Related Scope:	
	Location/Address:	
	Permit #:	**Work Order #:**
	District Office:	**Lead office/ Bureau:**

Registered Design Professional Certification

Name:	**Company:**
Title:	**Address:**
Lic.#:	**City, State, Zip:**
Agent for:	**Phone No.:**

I certify that the information contained in this report is true to the best of my knowledge. **Signature:** _____

Primary Non-Compliant Elements (check all applicable)

Curb Ramp

☐ Running slope
☐ Cross-slope
☐ Top landing/turning space
☐ Bottom clear/turning space
☐ Flare slopes
☐ Counterslope
☐ Detectable warning surfaces
☐ Other _____

Sidewalk / Driveway

☐ Walkable Surface
☐ Sidewalk width
☐ Running slope
☐ Cross-slope ☐ Other _____

Detailed Explanation: _____

Justification for Technically Infeasible *(check all that apply)*

☐ Limited Right-of-Way
☐ Existing infrastructure
☐ Structures, Building
☐ Historical Bldg/Facility
☐ Environmental Issues
☐ Other _____

Detailed Explanation: _____

Description of Investigated Alternatives and Extent of Implementation

Approval (Senior Engineer and above)

_____ **Name (PRINT)** _____ **Signature** _____ **Date**

Revisions

☐ Not Constructed
☐ Construction revisions (see page 2)

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Project Name:

Location/Address:

Permit #: **Work Order #:**

Applicant Name:

Technical Infeasibility Form (TIF)

***** Used to Document Design Decisions and to be Completed prior to Permit/Project Approval *****

SKETCH OR ATTACH DRAWING OF FACILITY AND THE ELEMENTS THAT WILL FALL OUT OF COMPLIANCE.

IF PROCESSING A PERMIT, UPLOAD SKETCH WITH APPLICATION.

Revisions

Approved By: Date:

ENGINEERING
CITY OF LOS ANGELES

Project Name:

Location/Address:

Permit #: **Work Order #:**

Applicant Name:

Technical Infeasibility Form (TIF)

***** Used to Document Design Decisions and to be Completed prior to Permit/Project Approval *****

Photo Sheet (Existing Conditions)

ATTACH PHOTOS OF FACILITY AND THE ELEMENTS THAT WILL FALL OUT OF COMPLIANCE.

IF PROCESSING A PERMIT, UPLOAD PHOTOS WITH APPLICATION.

Description:

Viewing Direction:

Description:

Viewing Direction:

Description:

Viewing Direction:

Description:

Viewing Direction: