

VIRGINIA DEPARTMENT OF TRANSPORTATION

LOCATION AND DESIGN DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: CURB RAMPS AND SIDEWALKS	NUMBER: IIM-LD-55.13
SPECIFIC SUBJECT: GUIDELINES FOR THE PLACEMENT OF CURB RAMPS FOR PEDESTRIAN ACCESS ROUTES	DATE: JULY 23, 2010
	SUPERSEDES: IIM-LD-55.12
DIVISION ADMINISTRATOR APPROVAL:	Mohammad Mirshahi, P.E. State Location and Design Engineer Approved July 23, 2010

Changes are shaded.

CURRENT REVISION

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- Design details for sidewalks, curb ramps and buffer strips have been removed from this memorandum and are now available in Appendix A of the VDOT Road Design Manual, accessible at <http://www.virginiadot.org/business/locdes/rdmanual-index.asp>.
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EFFECTIVE DATE

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- This memorandum is effective on all projects that have not been approved for Right of Way or prior to the PAC Meeting if construction is within existing Right of Way. Implementation on projects that have gone to Right of Way is encouraged where feasible.
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CRITERIA

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- The Americans with Disabilities Act (ADA) became effective January 26, 1992. Additional regulations to be adopted by the Access Board include specific provisions for compliance within "Public Rights-of-Way". These additional regulations are the "Final Report of the Public Rights-of-Way Access Advisory Committee" dated January 2001, the "Draft Guidelines for Accessible Public Rights-of-Way" dated June 17, 2002

and the "Revised Draft Guidelines for Accessible Public Rights-of-Way" dated November 23, 2005 as per the U.S. DOT FHWA Memorandum dated January 23, 2006. The Access Board and the Federal Highway Administration are in agreement with VDOT's policy to adhere to these revised draft guidelines. VDOT is also guided by the Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities dated July 23, 2004 and amended August 5, 2005.

- (1) The minimum requirements for curb ramps differ for new construction and alterations (For definitions and guidelines for alterations, see VDOT's Road Design Manual, Appendix A, Section A-5).
- (2) The types of curb ramps, identified by the direction the user is traversing the ramp in relation to the vehicular path of travel, are Perpendicular Design (CG-12, Type A), Parallel Design (CG-12, Type B), Combination Design (CG-12, Type C), and Diagonal Designs.
- (3) Whenever new construction or an alteration activity is conducted, curb ramp access must be evaluated as part of the project design.
- (4) New Pedestrian Access Routes (Sidewalks or Sidewalk Space) should be a minimum of 60" (1525 mm) wide. However, in unique situations where this is not feasible, a minimum clear width of 48" (1220 mm) shall be provided excluding the width of curb and will require the submission of a Design Waiver (See IIM-LD-227).

New Pedestrian Access Routes (Sidewalk or Sidewalk Space) less than 60" (1525 mm) in continuous width shall provide a pedestrian passing area a minimum of 60"x 60" (1525 mm x 1525 mm) at reasonable intervals not to exceed 200' (61 m). These passing areas can be provided at driveways with cross slopes no greater than 48:1 (2%), entrances or street intersections.

- (5) Gutter slopes at curb ramp locations should not exceed 20:1 for new construction. Therefore, VDOT's standard curb and gutter design should be modified for use adjacent to curb ramps to ensure proper slope and adequate drainage.
- (6) Pedestrian Access Routes that cross medians and refuge islands shall be a minimum of 72" (1830 mm) in length and include a break or cut-through a minimum of 60" (1525 mm) wide and include detectable warning surfaces.

In situations where a break or cut-through 72" (1830 mm) in length is not feasible due to existing conditions, detectable warning surfaces shall be provided (i.e. 48" (1220 mm) medians)).

Appropriate ramps and landings shall be provided as necessary. The designer shall ensure medians and refuge islands are graphically depicted accurately on plans, drawn to scale, and annotated to denote the Type of Median (M1 or M2) or Refuge Island (RI1 or RI2). See Road and Bridge Standards.

- (7) Detectable warning surfaces shall be truncated domes.
- (8) If on-street parking is provided, accessible spaces shall be provided in accordance with ADA regulations. See Road Design Manual, Appendix C, Parking Spaces at: <http://www.extranet.vdot.state.va.us/locdes/Electronic%20Pubs/2005%20RDM/RoadDesignCoverVol.1.pdf>.

POLICY

- VDOT's policy is to provide facilities for persons with disabilities in accordance with the Code of Virginia, Section 15.2 –2021:
<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+15.2-2021> .
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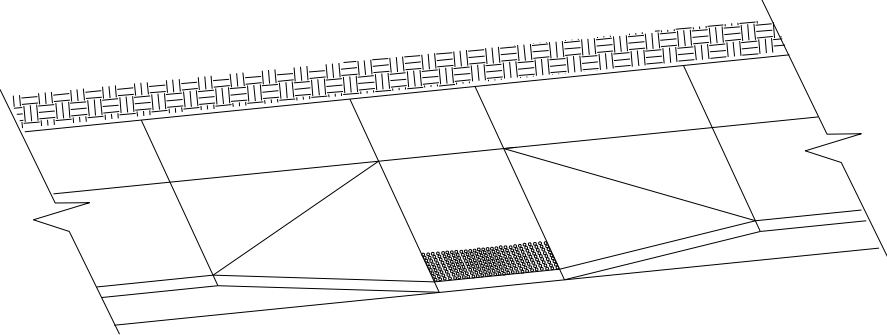
PAY ITEMS

14100	Removal of Sidewalk and Entrance	SY	SQ M	To remove exist. sidewalk
14120	Removal of Comb. Curb and Gutter	LF	M	To remove exist. C&G (or curb only)
13108	CG-12 Detectable Warning Surface	SY	SQ M	For the detectable area
13220	Hydr. Cement Conc. Sidewalk 4"	SY	SQ M	For the SW concrete portion of ramp
13222	Hydr. Cement Conc. Sidewalk 7"	SY	SQ M	For the SW concrete portion of ramp
12600	STD. Comb. Curb & Gutter CG-6 *	LF	M	For the prop. C&G
12700	STD. Comb. Curb & Gutter CG-7 *	LF	M	For the prop. C&G
12020	STD. Curb CG-2*	LF	M	For the prop. Curb
12030	STD. Curb CG-3*	LF	M	For the prop. Curb

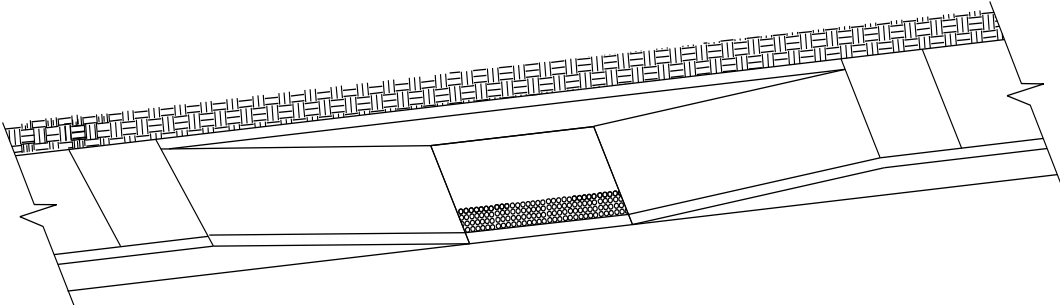
*(Std. Type.) (match exist. conditions)

- All items should be plan quantity. Curb ramps should be graphically depicted accurately on plans, drawn to scale, and annotated to denote the Type of curb ramp (CG-12, Type A, B or C) to ensure required quantities and placement can be readily ascertained.
- Where there is an existing curb and gutter, the contractor may choose to remove only the curb utilizing a saw cut in which case the contractor is still paid only for the plan quantity item for Removal of Comb. Curb and Gutter.
- Where there is existing curb (with no gutter), the removal will be paid for by the same item (Removal of Comb. Curb and Gutter) as if there was curb and gutter.
- No special provisions are needed.
- Where curb ramps are constructed adjacent to commercial entrances or street connections with heavy truck traffic, Hydraulic Cement Concrete Sidewalk 7" should be considered. See Road and Bridge Standards CG-13.

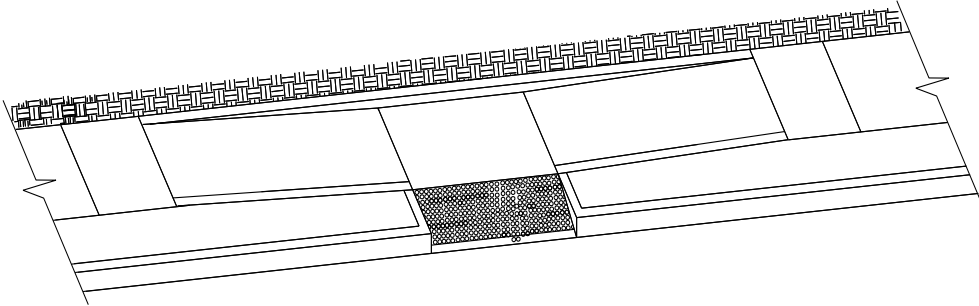
CURB RAMP EXAMPLES



**PERPENDICULAR
CG-12, TYPE A**



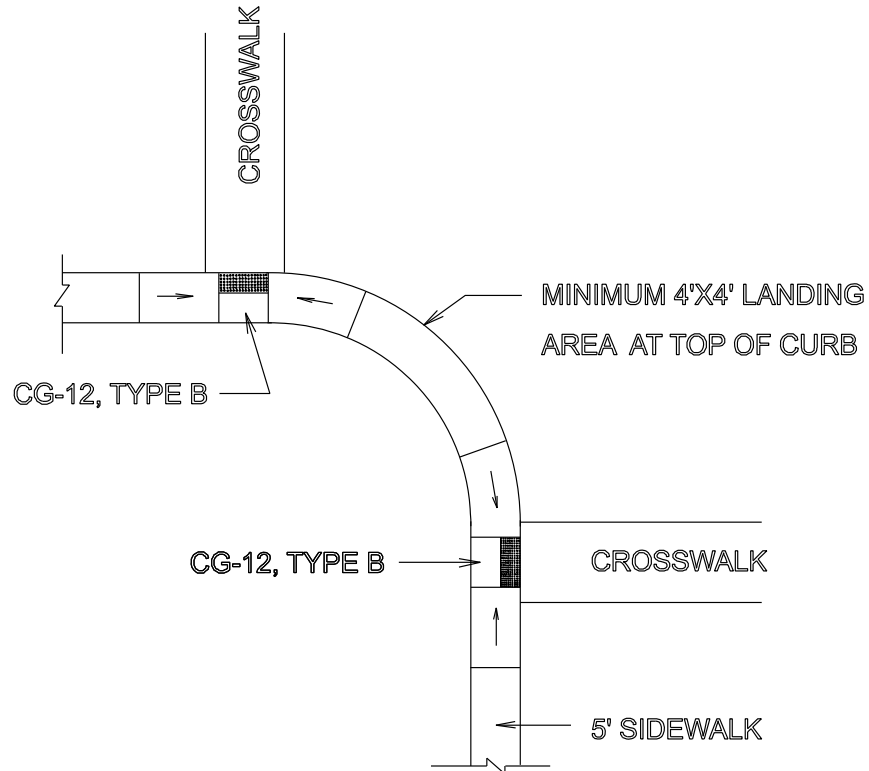
**PARALLEL
CG-12, TYPE B**



**PARALLEL AND PERPENDICULAR
CG-12, TYPE C**

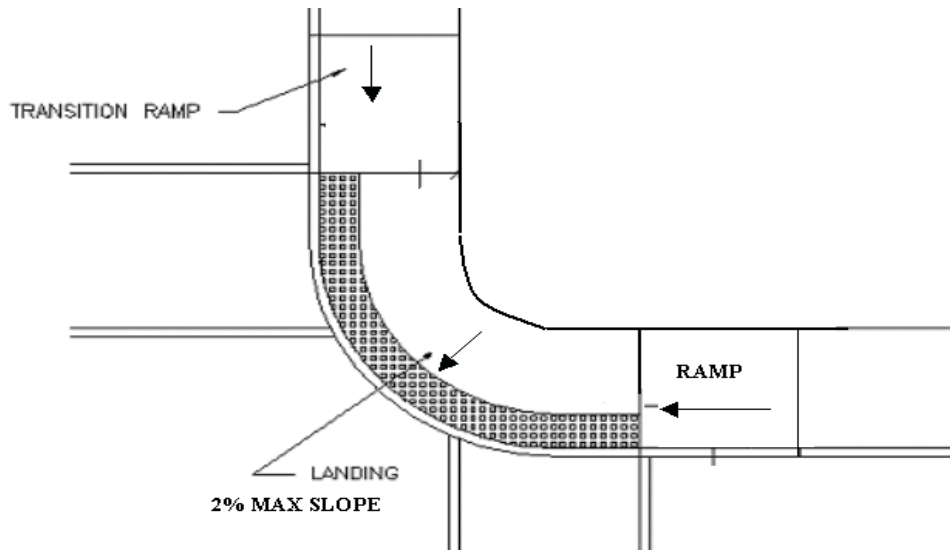
CURB RAMP APPLICATION DETAILS

Two CG-12, Type B's



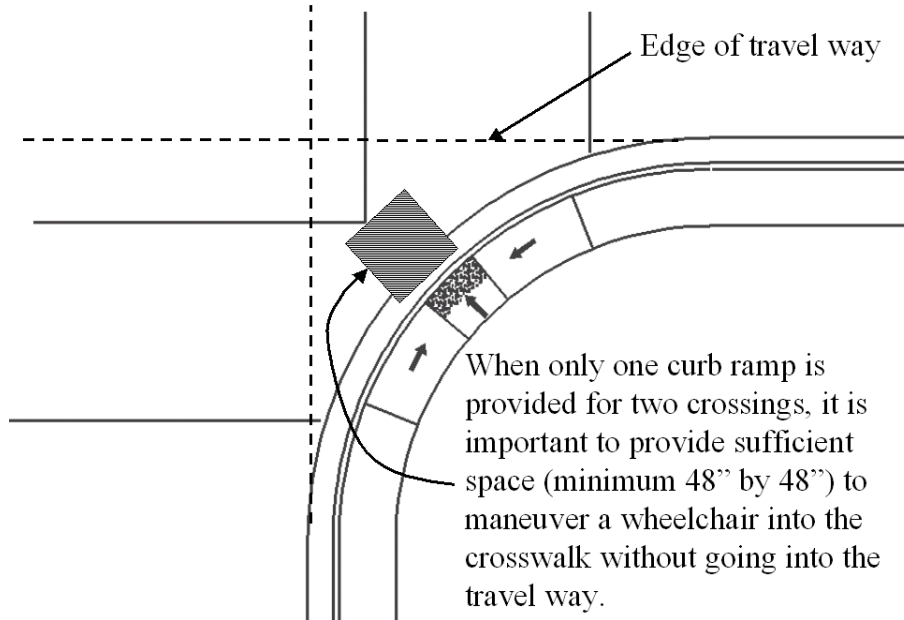
Ramps (with arrows) are 12:1 maximum slope

A Single Parallel Curb Ramp, CG-12, Type B, with an Enlarged Landing Area



Provide Sufficient Maneuvering Space for Wheelchairs

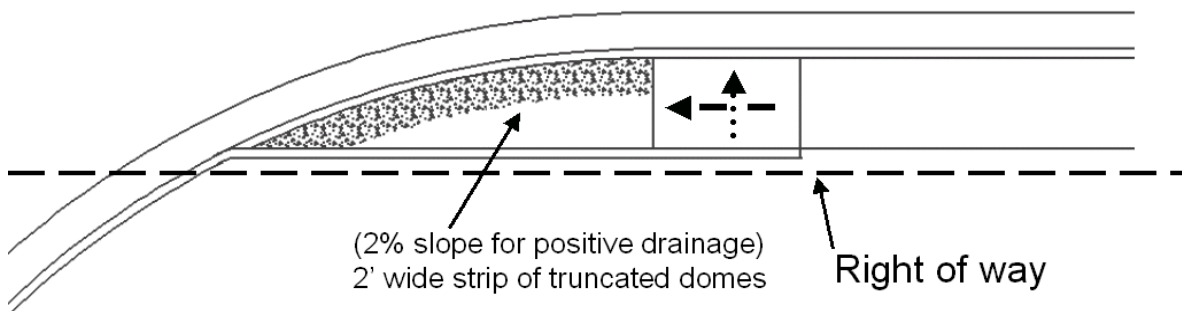
(space may include gutter pan)



These layouts may be considered for new construction when the radius is less than 25 feet and for alterations when the distance between two CG-12, Type B's is insufficient to install a separate landing with each.

Note: Designer should consider the intersection skew and on-street parking when using this layout.

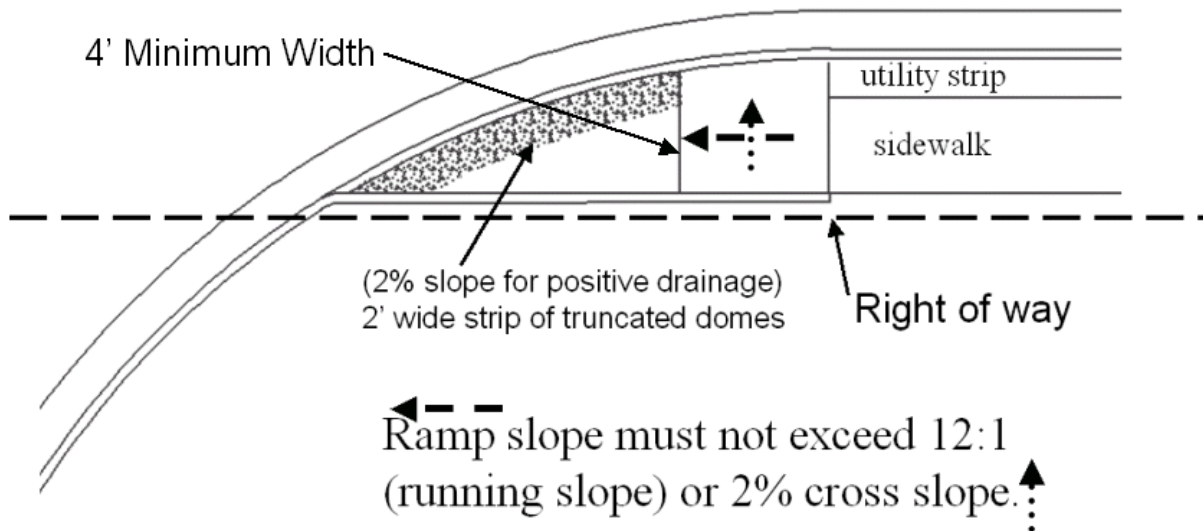
Another CG12, Type B Layout



Ramp slope must not exceed 12:1
(running slope) or 2% cross slope.

There may be situations where right of way restrictions dictate the above ramp configuration. It should not be used where right of way or a pedestrian access route continues around the curve. The bottom of the ramp may be located to the left of the curb return in the above example; however the ramp width shall not be less than 4' at the bottom.

Another CG12, Type B Layout, with Utility Strip



This is similar to the previous drawing except with a utility strip. It should not be used where right of way or a pedestrian access route continues around the curve.

REFERENCES

Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations, dated August 31, 2007: www.access-board.gov/prowac/alterations/guide.htm

U.S. Department of Justice ADA Best Practices Tool Kit for State and Local Government issued December 5, 2006: <http://www.usdoj.gov/crt/ada/pcatoolkit/toolkitmain.htm>;
<http://www.usdoj.gov/crt/ada/pcatoolkit/abouttoolkit.htm>

FHWA Office of Civil Rights Memorandum dated September 12, 2006:
www.fhwa.dot.gov/civilrights/ada_memo_clarificationa.htm

U.S. DOT FHWA Memorandum dated January 23, 2006:
www.fhwa.dot.gov/environment/bikeped/prwaa.htm

The United States Access Board Home Page: <http://www.access-board.gov/index.htm>.

The Access Board current status of Draft Guidelines for Accessible Public Rights-of-Way: Background (November 23, 2005): www.access-board.gov/prowac/status.htm.

The Access Board Revised Draft Guidelines for Accessible Public Rights-of-Way dated November 23, 2005: <http://www.access-board.gov/prowac/draft.htm>

The Access Board news release concerning Guidelines for Accessible Public Rights-of-Way (Revised Draft Guidelines dated November 23, 2005 and Draft Guidelines dated June 17, 2002): www.access-board.gov/prowac/index.htm .

Supplemental Information to the ADA and ABA Accessibility Guidelines for Buildings and Facilities dated March 23, 2007: <http://www.access-board.gov/ada-aba/supplement.htm>

ADA and ABA Accessibility Guidelines for Buildings and Facilities dated July 23, 2004 and amended August 5, 2005: <http://www.access-board.gov/ada-aba/final.cfm>The Access Board Notice of Availability of Draft Guidelines dated June 17, 2002: www.access-board.gov/prow-notice.htm.

The Access Board Draft Guidelines for Accessible Public Rights-of-Way dated June 17, 2002: www.access-board.gov/rowdraft.htm.

The Draft Guidelines for Accessible Public Rights-of-Way dated June 17, 2002. Section 1108 for information concerning new guidelines on truncated domes: <http://www.access-board.gov/rowdraft.htm#1108>.

Publication FHWA-EP-01-027: Designing Sidewalks and Trails for Access Part II (Best Practices Design Guide dated September 2001) at <http://www.fhwa.dot.gov/environment/sidewalk2/index.htm>. See this guide for crossing refuge islands and median crossings.

The Access Board's "Accessible Rights-of-Way, A Design Guide" dated November 1999. Section 3.4 concerns Curb Ramps and Section 3.5 concerns Pedestrian Street Crossings Numerous relevant Figures are available at this web site: [http://www.access-board.gov/PROWAC/guide/PROWGuide.htm #2-4](http://www.access-board.gov/PROWAC/guide/PROWGuide.htm#2-4).

Publication FHWA-HEP-99-006: Designing Sidewalks and Trails for Access Part I (Review of Existing Guidelines and Practices dated July 1999): www.fhwa.dot.gov/environment/sidewalks/index.htm. Please see this publication for information on ramp orientation.

Department of Justice: Architectural and Transportation Barriers Compliance Board (Access Board) Joint final rule concerning detectable warnings: www.usdoj.gov/crt/ada/detwarn.htm.

The current Manual of Uniform Traffic Control Devices (MUTCD) provides design guidance and recommendations with respect to pedestrian crosswalk markings <http://mutcd.fhwa.dot.gov/>.

SPECIAL PROVISIONS

- Please refer to the Special Provision for “CG-12 Detectable Warning Surface” on all projects using Standard CG-12, Type A, CG-12, Type B or CG-12, Type C and/or Standard CG-13.

Specification and Special Provisions are available for applicable projects as follows:
<http://www.virginiadot.org/business/const/spec-default.asp>

STANDARD CG-9A, CG-9B, CG-9D and CG-13 ENTRANCES

- Standards for CG-9A, CG-9B, CG-9D and CG-13 entrances incorporate pedestrian access route treatment within the design.
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INSERTABLE SHEETS (FOR METRIC PROJECT ONLY)

- Insertable sheets (drawings MA59, MA76, MA78, and MA108) are available on the Falcon DMS, under the UPC#: eng-ser, minsert for insertion into applicable metric plan assemblies.
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DESIGN DETAILS FOR SIDEWALKS, CURB RAMPS AND BUFFER STRIPS

- Design details for sidewalks, curb ramps and buffer strips are available in Appendix A, Section A-5, of the VDOT Road Design Manual, available at:
<http://www.virginiadot.org/business/locdes/rdmanual-index.asp> .