

# *ACCESSIBLE DESIGN AND CONSTRUCTION*

# *When Do I need to upgrade ramps?*

- ▣ *New Construction – Yes*
- ▣ *Alteration – Yes*
- ▣ *Maintenance - No*

# *Alteration vs. Maintenance*

## ▣ Alteration:

- Reconstruction
- Rehabilitation
- Open-Graded Surface Course
- Micro surfacing
- HMA Overlays (regardless of thickness)
- Cape Seal
- Double Chip Seal
- In-place Asphalt Recycling

## ▣ Maintenance:

- Crack Filling and Sealing
- Surface Sealing
- Chip Seals
- Slurry Seal
- Fog Seal
- Scrub Seal
- Joint Crack Seals
- Joint Repairs
- Dowel Retrofit
- Spot High Friction Treatments
- Diamond Grinding
- Pavement Patching

# *Combined Maintenance Treatments*

STILL MAINTENANCE UNLESS TWO OR MORE TREATMENTS CONTAIN AGGREGATE AND/OR FILLER.

## ▣ Maintenance

- Chip Seal + Fog Seal
- Flood Coat

## ▣ Alteration

- Chip Seal + Slurry Seal
- Double Chip Seal

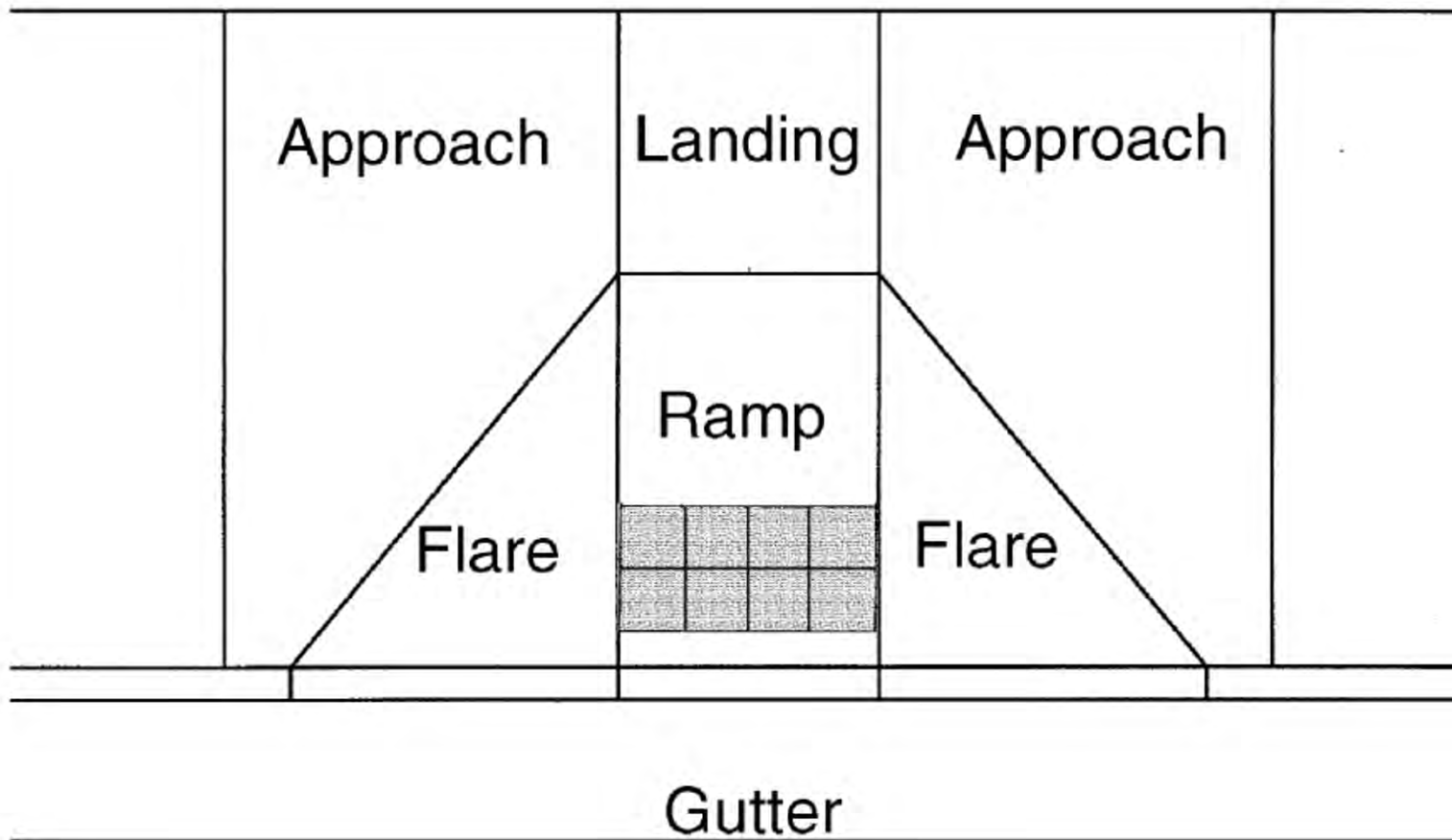


# *Ramps to Nowhere* *(Absence of Sidewalk)*



1. **Are there pedestrian signals?**
  - *Provide access to crossing and to pedestrian activated signals.*
2. **Is there evidence of travel (worn path)?**
  - *Provide curb cut only.*
3. **None of the above?**
  - *No treatment required.*

# *Sum of the Parts*



# *CAUTION:*

*NO CONSTRUCTION TOLERANCE ON MAX OR MIN.*



*Allow for finishing inconsistencies.*



# Identify Obstructions



Check Site  
Drainage



Underground Vault



# Running Slope & Counter Slope



8.33% MAXIMUM RUNNING SLOPE



5.0 % MAX. COUNTER SLOPE



# CROSS SLOPE

2% Maximum

**NO TOLERANCE**



*Minimum Ramp Width 5 ft.  
(PROWAG 4 ft.)*

5' ft. min.





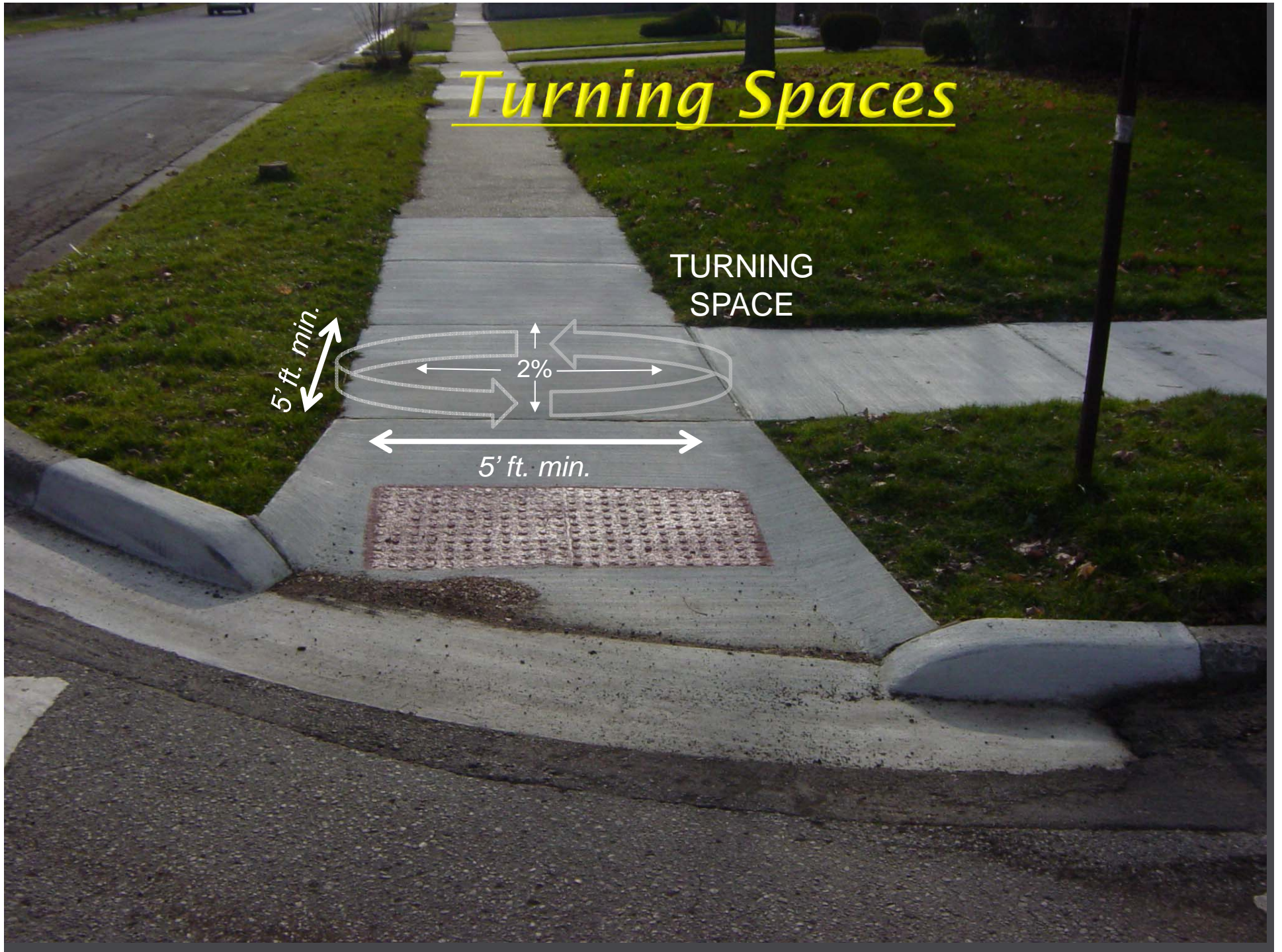
# Turning Spaces

TURNING  
SPACE

5' ft. min.

2%

5' ft. min.







## *Detectable Warnings*

### *Why do we need them?*

- ▣ Advises of a change from pedestrian path to vehicular path.
- ▣ It is not a way finding device.



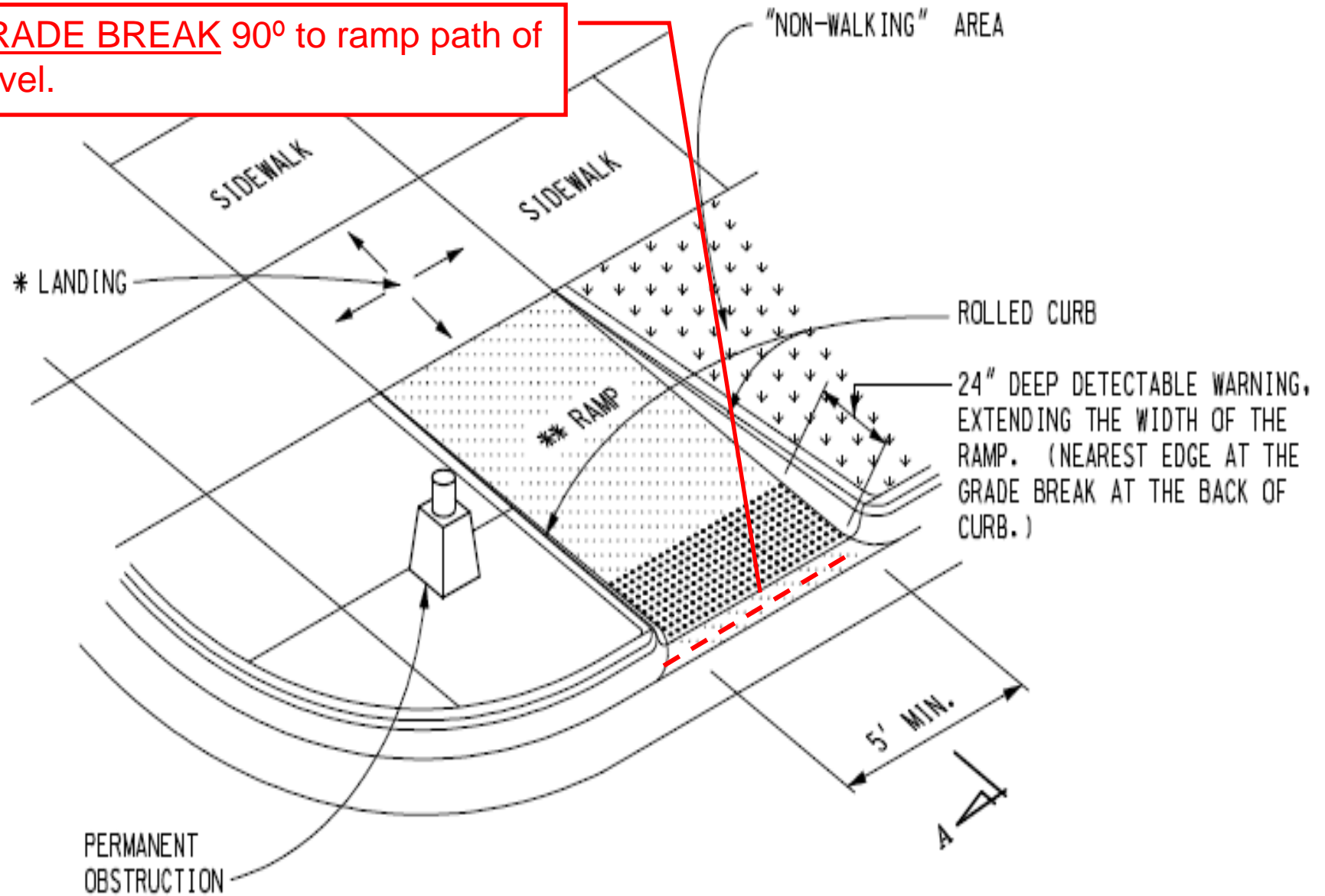


# ***DETECTABLE WARNING PLACEMENT***

## **▣ GRADE BREAK LOCATION**

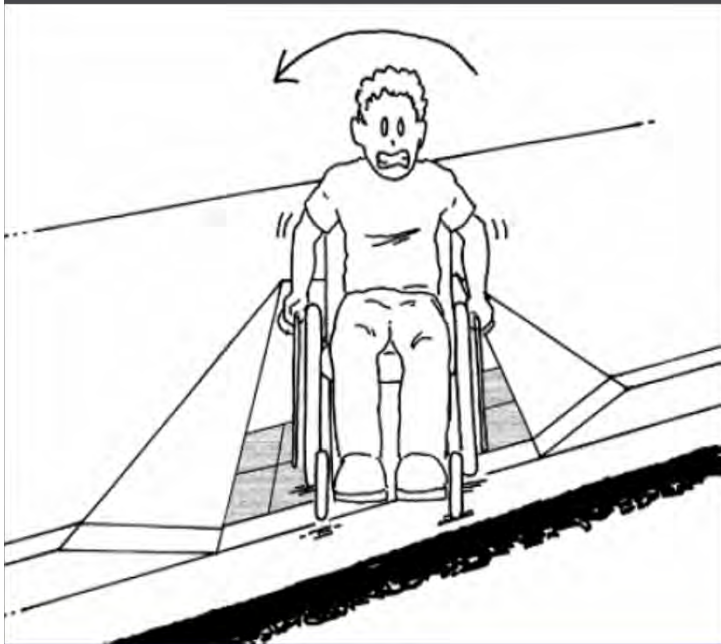
- ***DISTANCE TO STREET***
- ***ORIENTATION***

GRADE BREAK 90° to ramp path of travel.

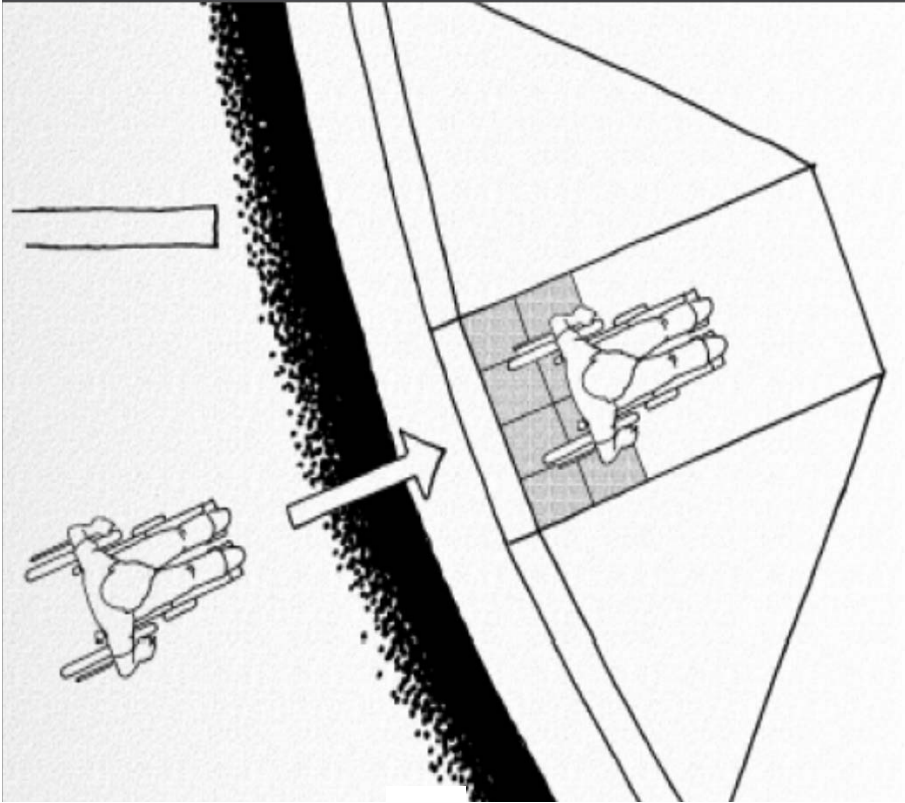




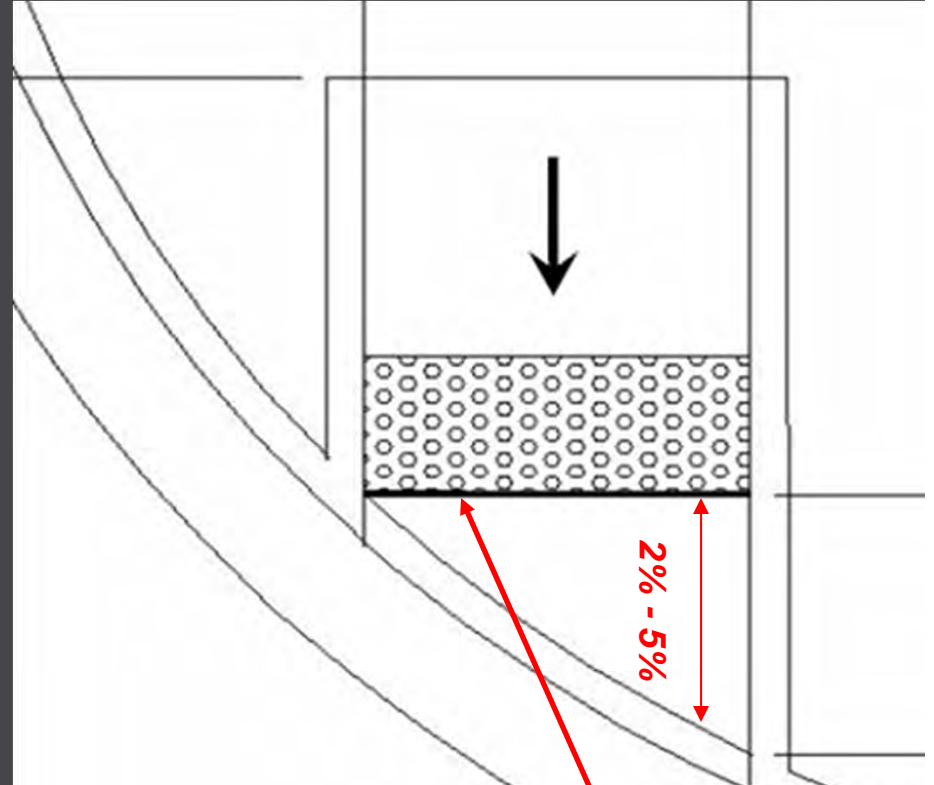
## ***SKEWED GRADE BREAKS ARE A PROBLEM***



# *ACHIEVING 90°*

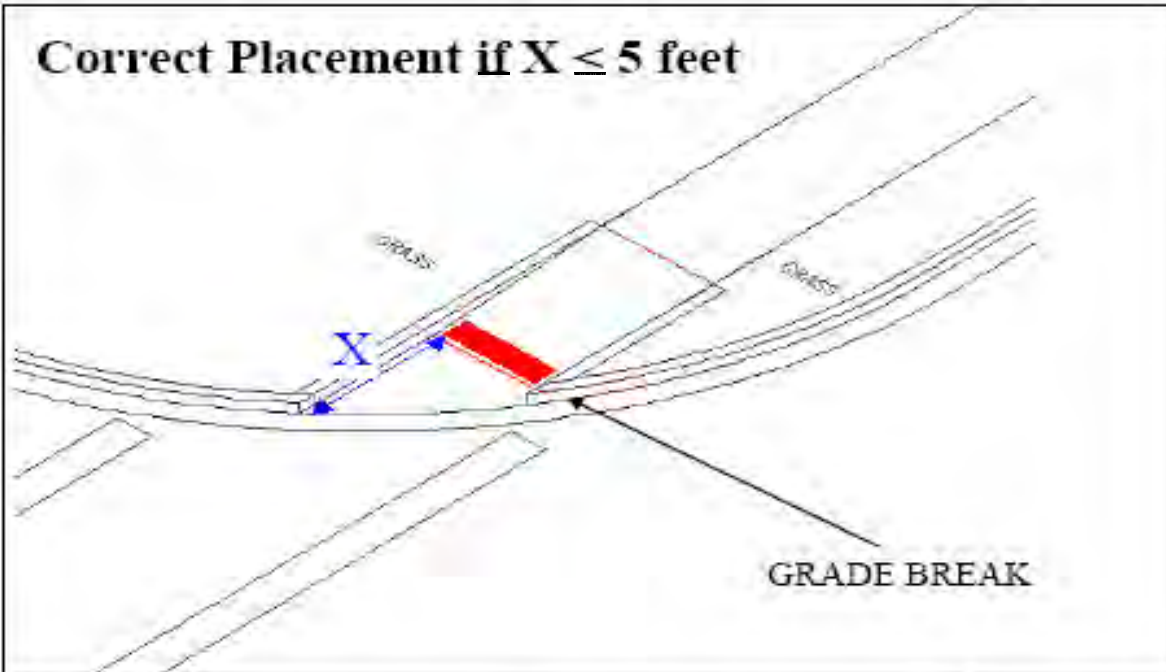


Orient The Ramp

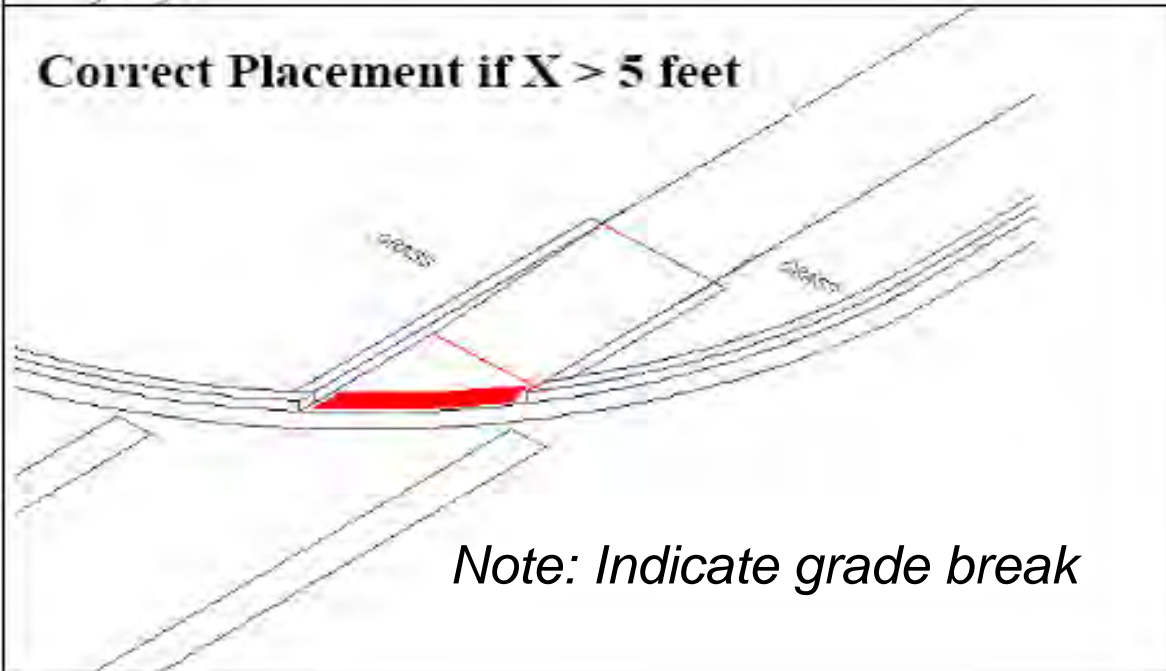


Move the Grade Break

**Correct Placement if  $X \leq 5$  feet**



**Correct Placement if  $X > 5$  feet**

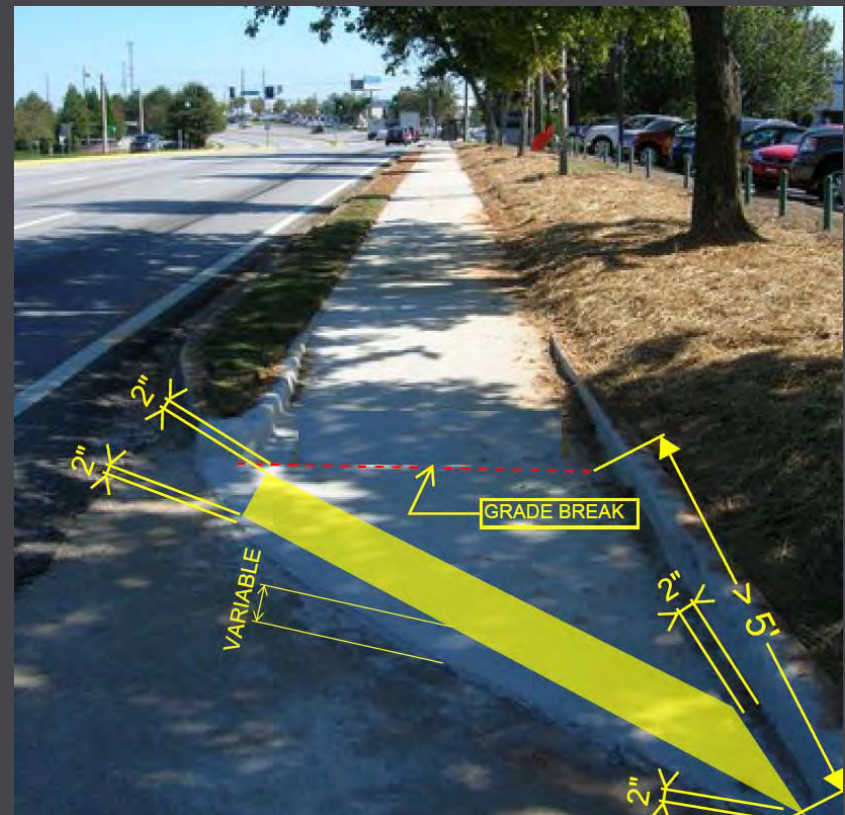


*Note: Indicate grade break*

**Detectable  
Warning  
Placement  
and  
Orientation**



# *Location, Location, Location*





# *Transition Gutter Slope*



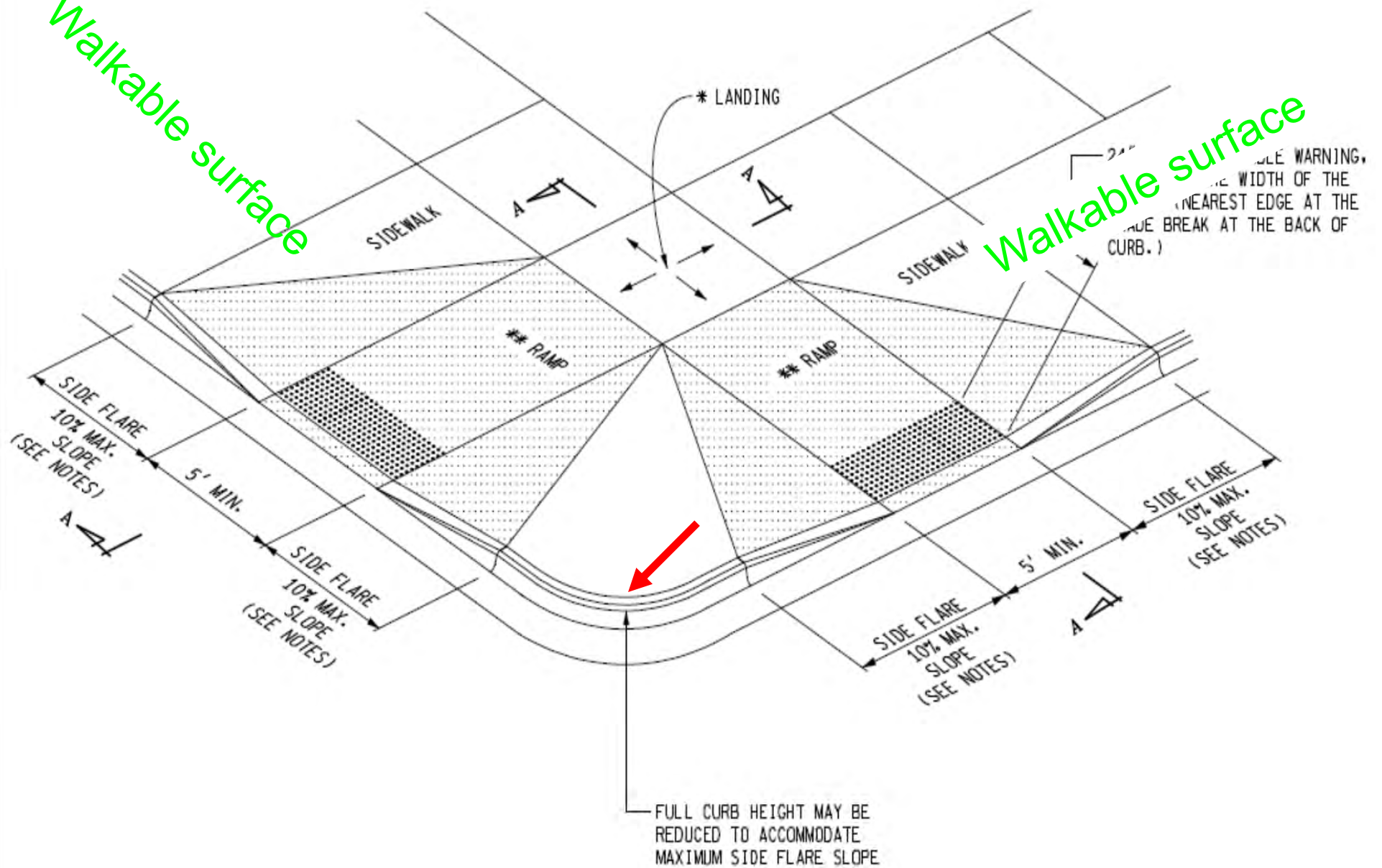
# Flush Transitions





Walkable surface

Walkable surface



**SIDEWALK RAMP TYPE F**  
(FLARED SIDES, TWO RAMPS SHOWN)



Permanent object

Non-walking surface



# *Directional Ramps*

## *Preferred for Optimal Way finding*





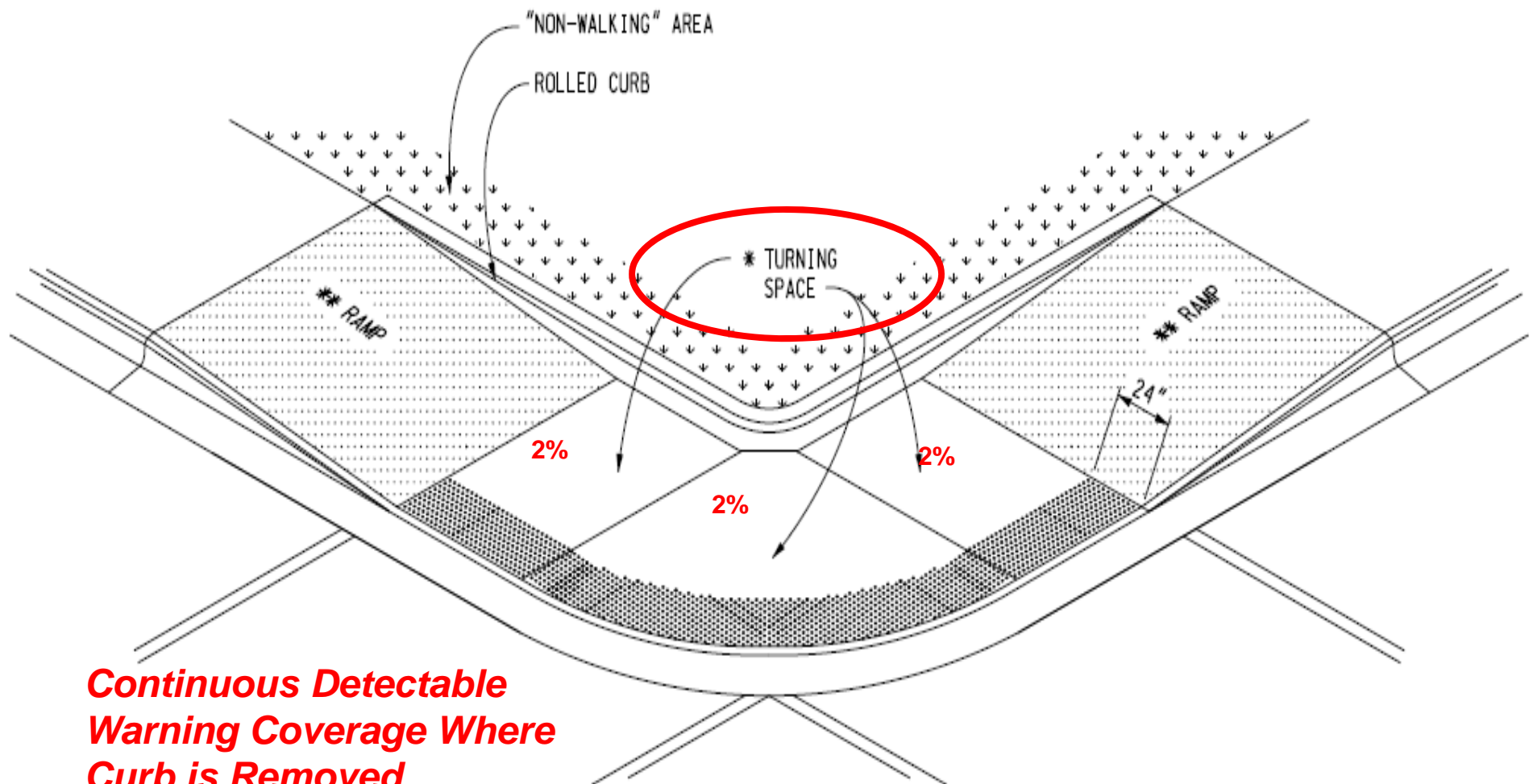
# *Blended Transition*

## *When Directional Ramps Don't Fit*



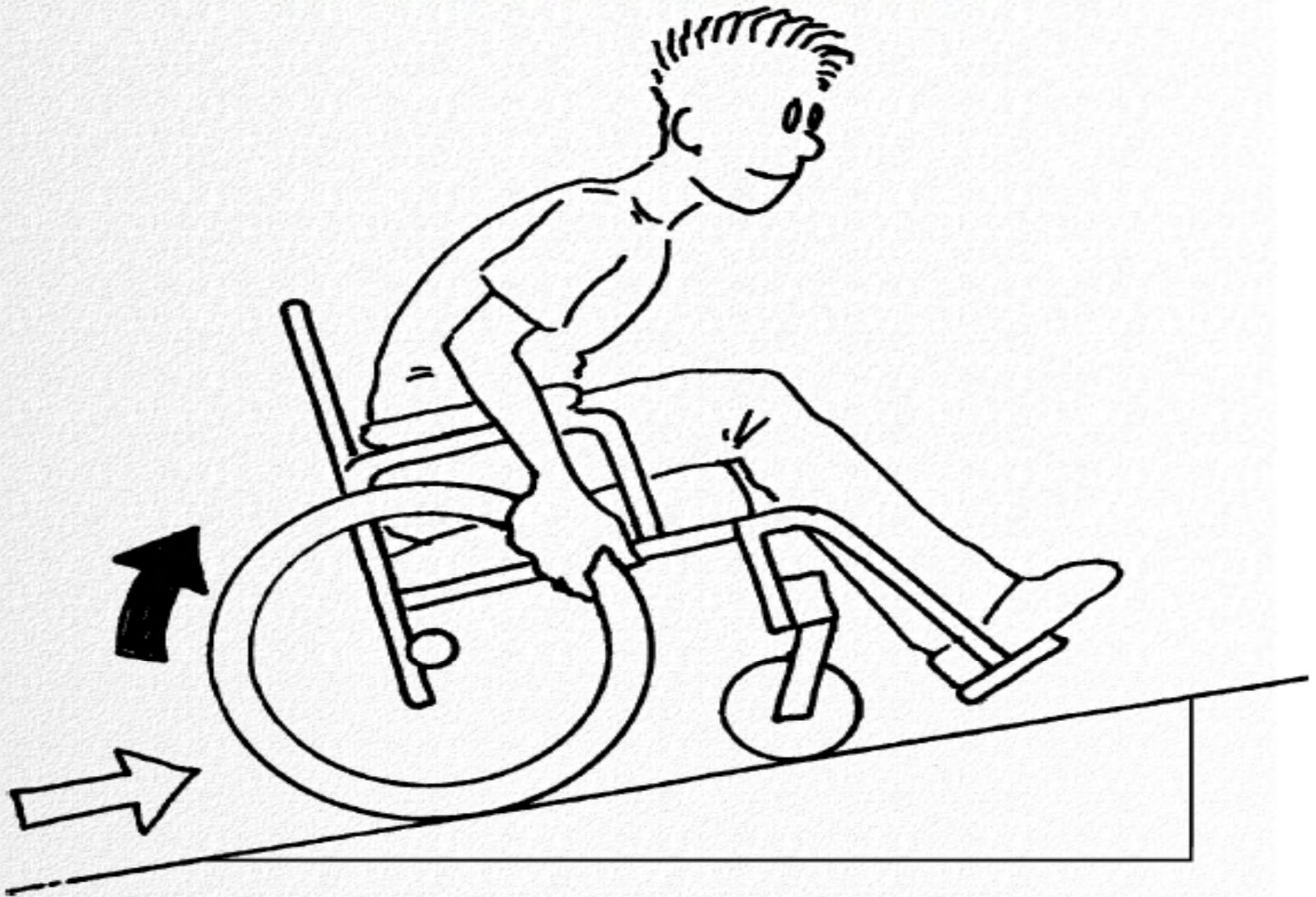
# MDOT Depressed Corner (Type D)

*Use when directional ramps don't fit*



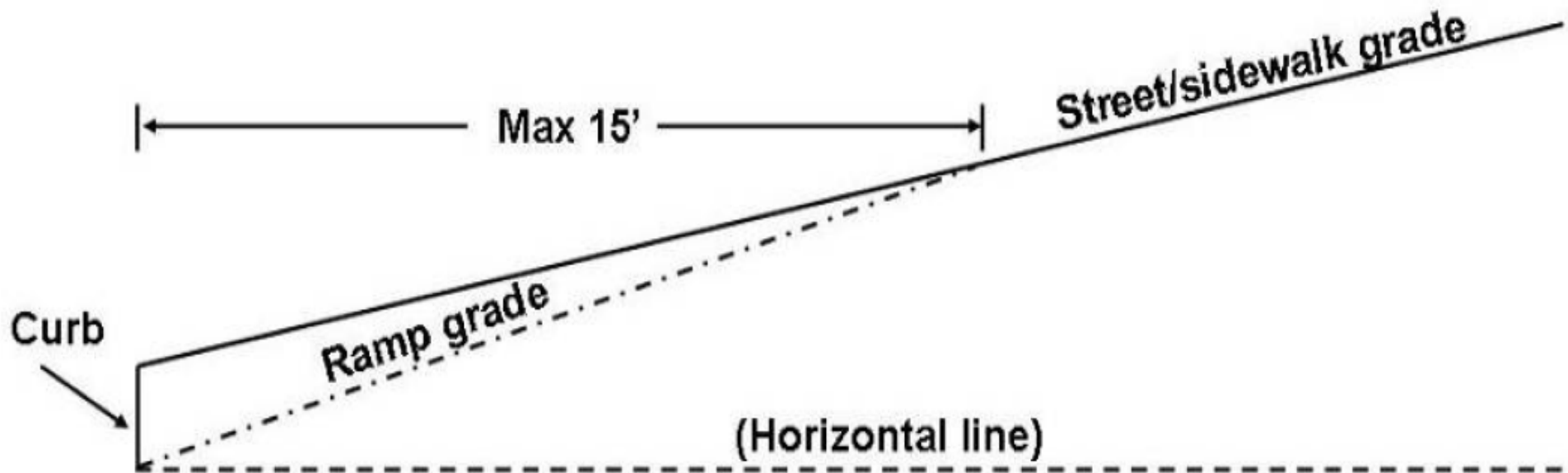


# CHASING GRADES





# *THE 15 FT. RULE*



- ▣ Maximum ramp slope is 8.3%. However, it shall not require the ramp length to exceed 15 feet.
- ▣ You may exceed 8.3% if it would otherwise take more than 15 ft. to match existing sidewalk.

# Matching Cross Slopes to Road Grades

- ▣ *NEW ROADWAY*

- *Requires crosswalk adjustment in most cases.*

- ▣ *EXISTING ROADS*

- *Transition to meet existing road grade. Adjust crosswalk if feasible to reduce cross slope.*



LEVEL LANDING

2%

5%

8%

11%

14%

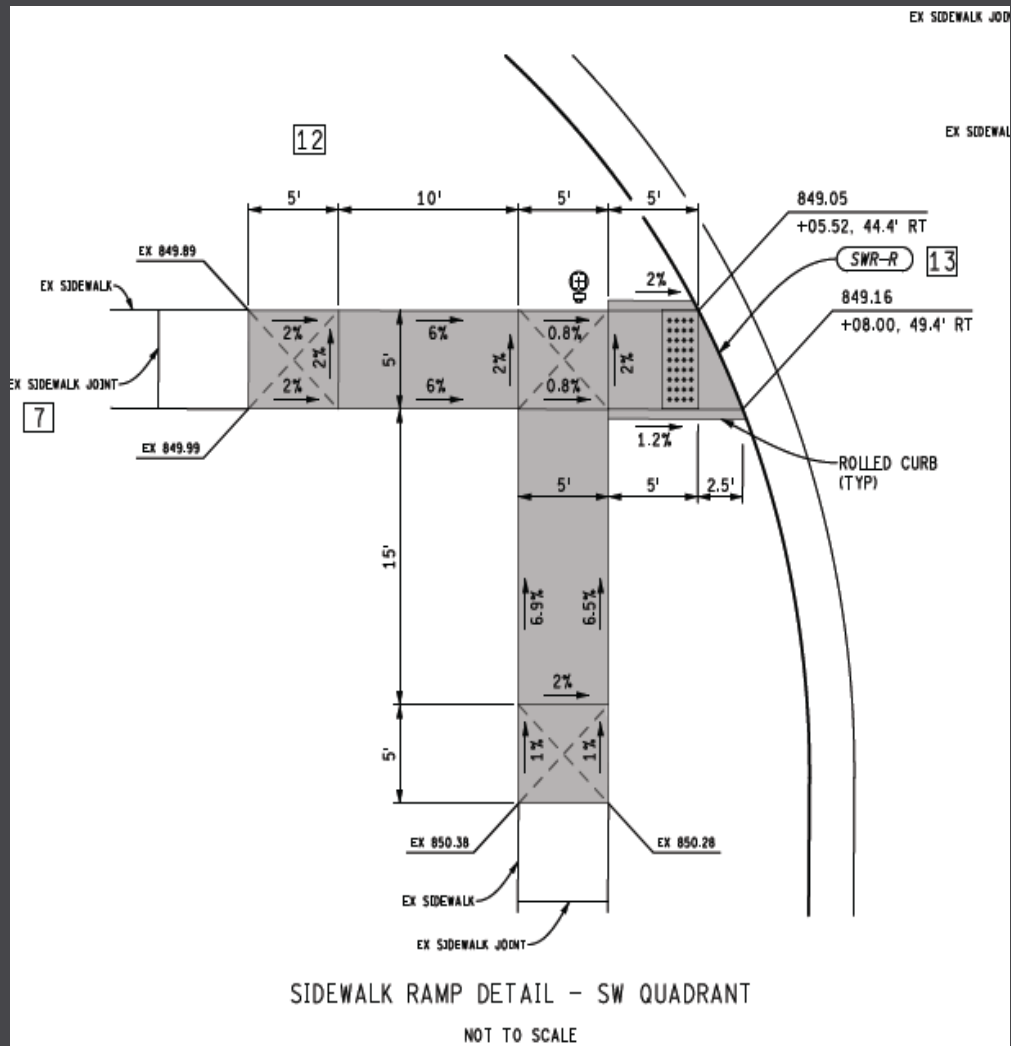
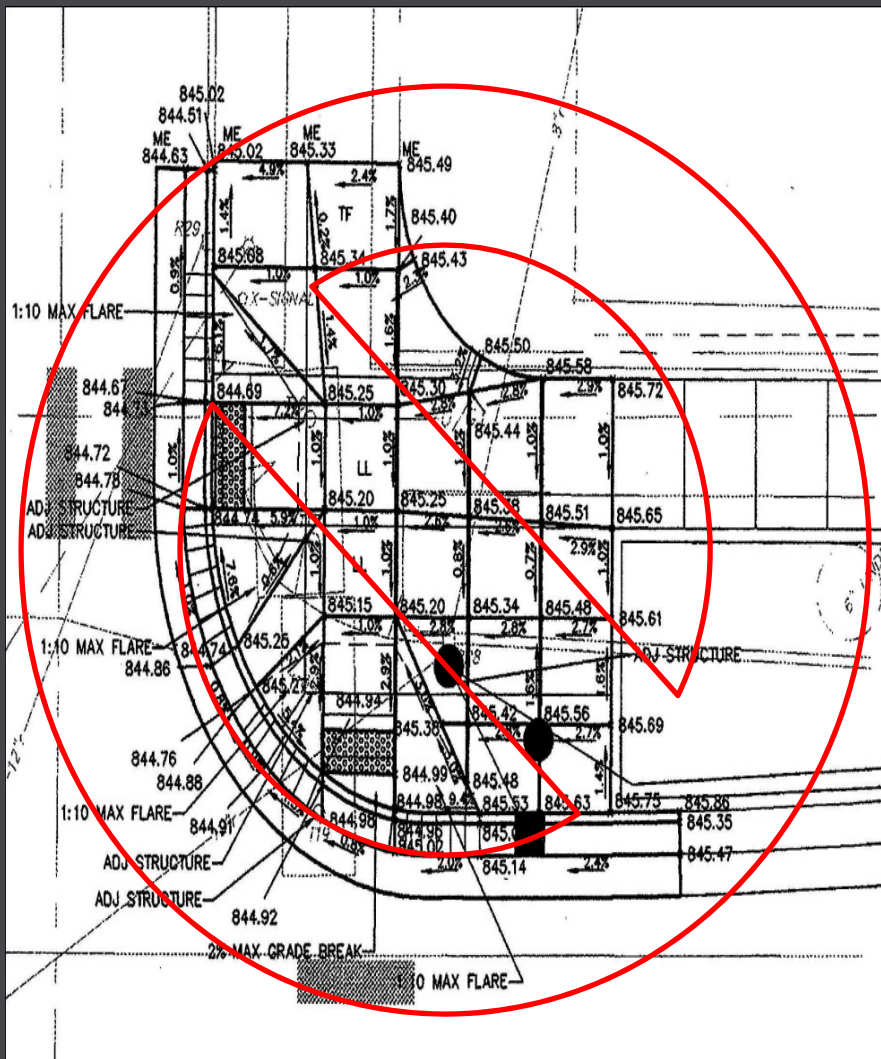
17%

TRANSITION THE CROSS SLOPE OVER  
THE FULL LENGTH OF THE RAMP.

17% ROAD →



## Level of Detail



# *PHYSICAL CONSTRAINTS*

**R202.3.1 Existing Physical Constraints.** Where existing physical constraints make it impracticable for altered elements, spaces, or facilities to fully comply with the requirements for new construction, compliance is required to the extent practicable within the scope of the project. Existing physical constraints include, but are not limited to, underlying terrain, right-of-way availability, underground structures, adjacent developed facilities, drainage, or the presence of a notable natural or historic feature.

**Must be Documented**

## ADA STATEMENT OF TECHNICAL INFEASIBILITY

ROUTE	CS/PRN	JOB NUMBER
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INTERSECTION & QUADRANT

DESCRIBE REASON FULL COMPLIANCE IS INFEASIBLE:

- ☐ Structural (Bridge beams, buildings, basements, foundations, etc).
- ☐ Utilities (Project scope would not otherwise require utility relocation).
- ☐ Historic Preservation (Historic buildings, districts, monuments, etc.).
- ☐ Steep Existing Grades (Maximum ramp slope requires runs to exceed 15 ft., road grade exceeds ramp cross slope maximum, etc.)
- ☐ Right of Way (Project scope would not otherwise require R.O.W.)
- ☐ Other

CURB RAMP ELEMENT(S)	STANDARD	MAXIMUM OBTAINABLE COMPLIANCE
<input type="checkbox"/> Ramp Slope	8.3% max	
<input type="checkbox"/> Ramp Width	5 ft (4 ft. min)	
<input type="checkbox"/> Ramp Cross Slope	2% max.	
<input type="checkbox"/> Ramp Flares	10% max. (where pedestrian path crosses ramp)	
<input type="checkbox"/> Landing Dimensions	5'x5' (4'x4' min)	
<input type="checkbox"/> Counter Slope (gutter pan)	5% max. with flush transition	
<input type="checkbox"/> Landing Slope	2% max (parallel and perpendicular to path of travel)	
<input type="checkbox"/> Grade Break	Flush & 90° to direction of ramp travel	
<input type="checkbox"/> Detectable Warning	Required per standard	
<input type="checkbox"/> Other:		

COMMENTS (Continue on next page if needed)

COMPLETED BY	DATE
REVIEWED BY	DATE



*Reality*











↓ 26.4%

*Don't sacrifice overall accessibility just to copy a standard.*





# *The Balancing Act*







*QUESTIONS ?*

