

2011 Year in Review

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2011
Year in Review
Of
Problems
And
Lessons Learned

A photograph of a residential street scene. In the foreground, a dark, wet asphalt road reflects the sky. A concrete curb runs across the middle of the frame, with a red-painted section. Behind the curb is a grassy area with scattered brown leaves. Several trees are visible, including a large one in the center. In the background, a white SUV is parked on a driveway next to a white garage. The text "Curb Ramps" is overlaid in white on the bottom half of the image.

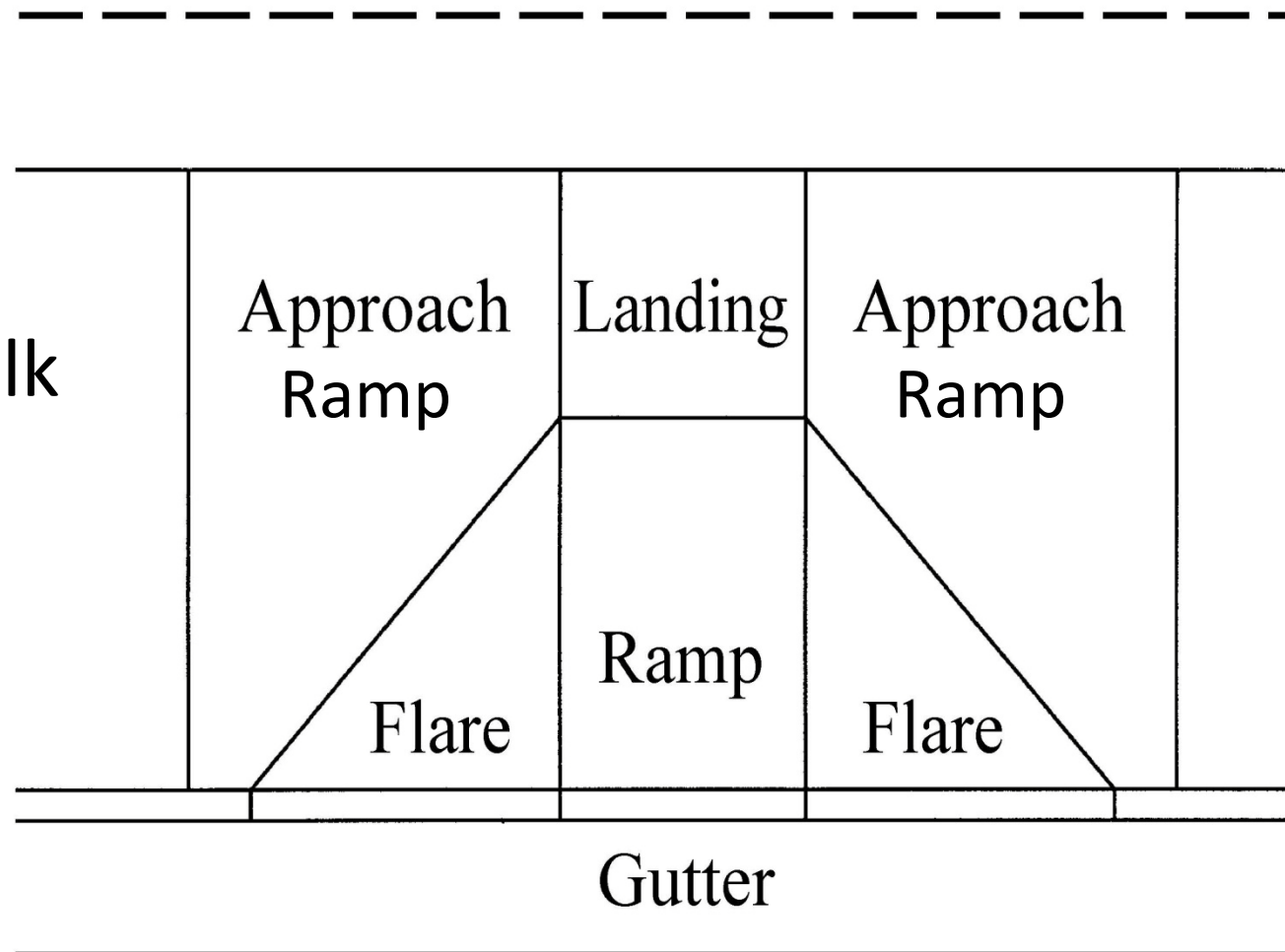
Curb Ramps

Figure 4-14:

***Components of
a curb ramp.***

Sidewalk

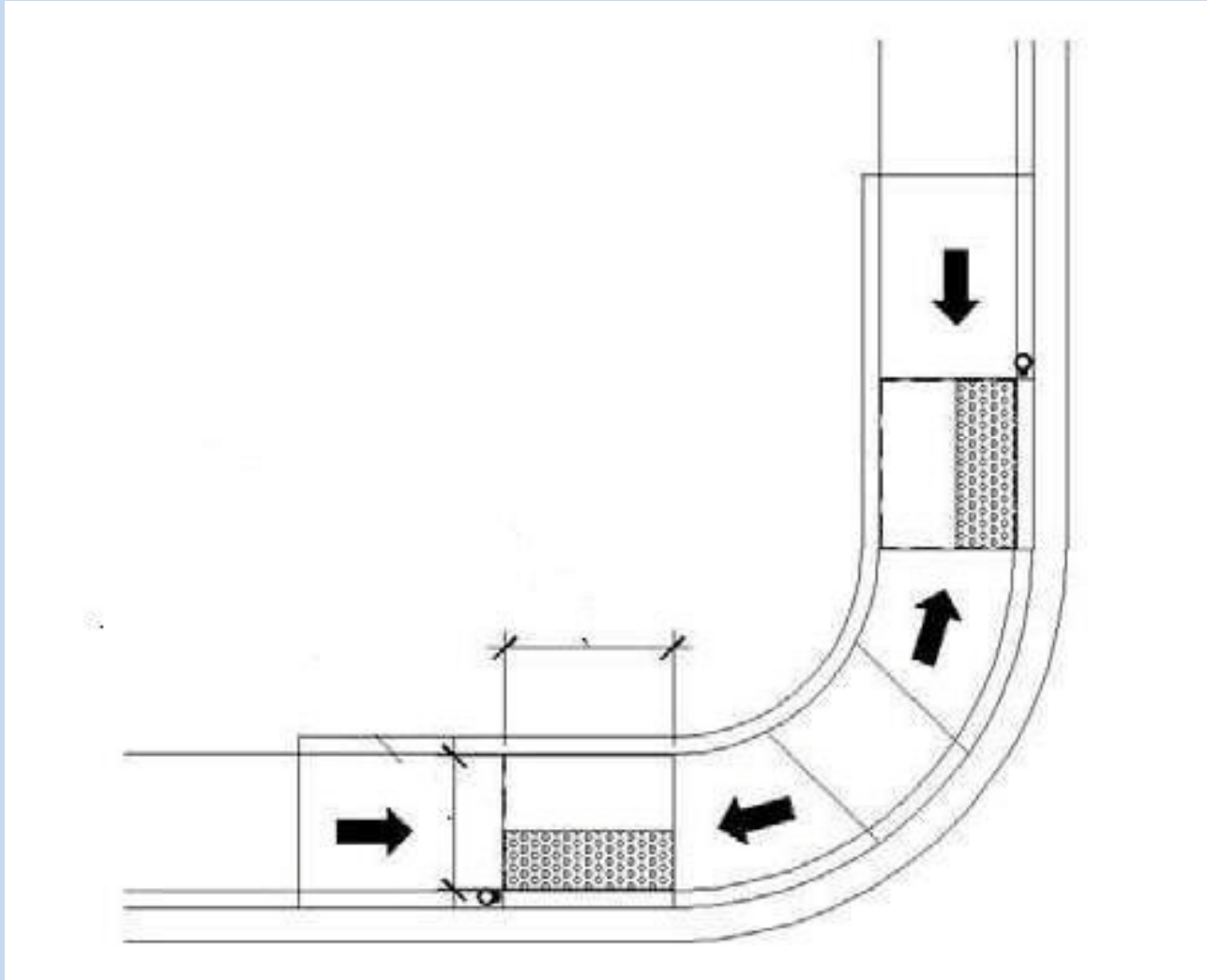
Curb



Curb Ramps



Parallel Curb Ramps



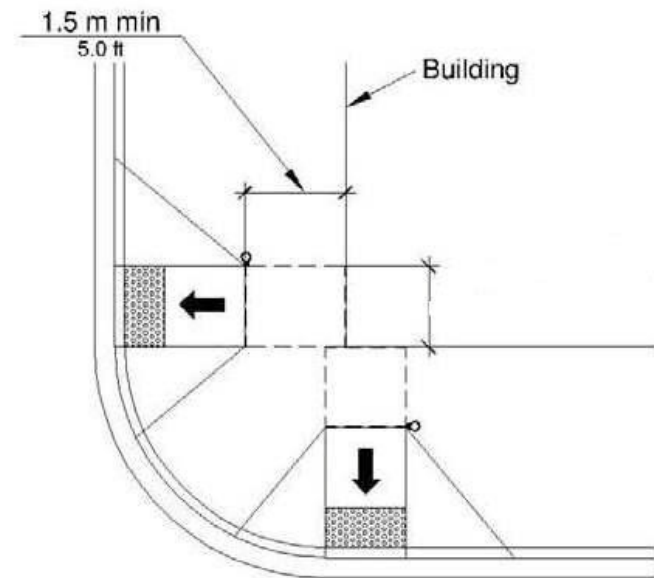
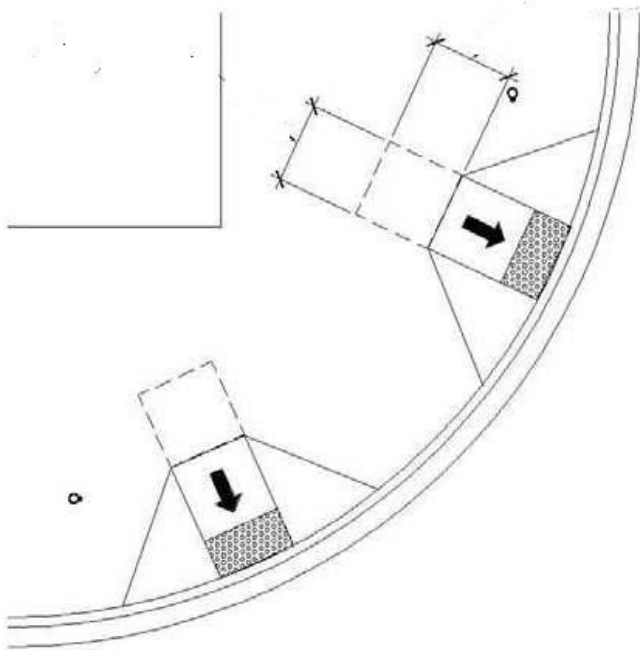
Parallel Curb Ramp



Parallel Curb Ramp



Perpendicular Curb Ramps



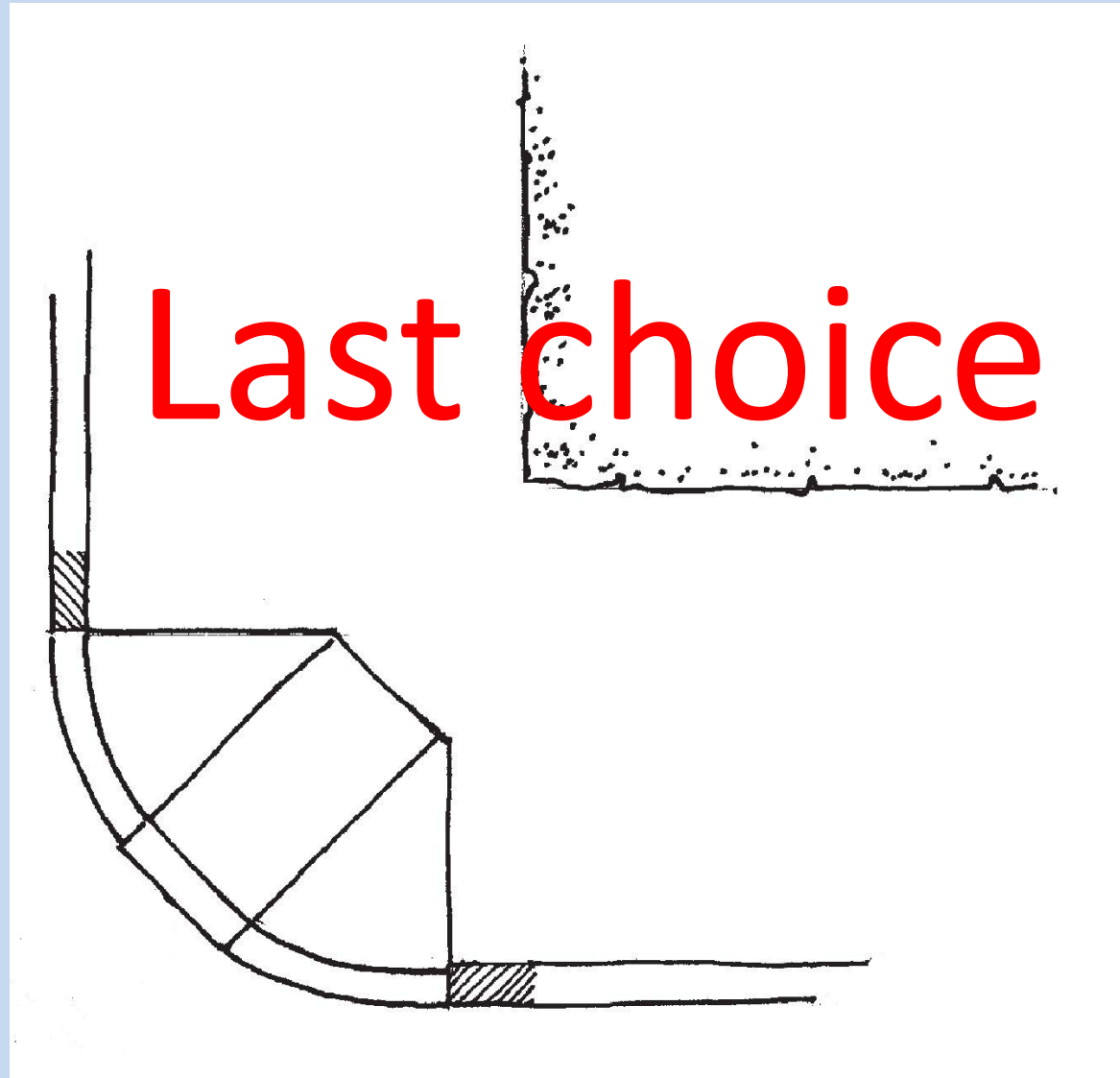


Perpendicular Curb Ramp



Perpendicular Curb Ramp

Diagonal Curb Ramps



Diagonal Curb Ramps

- R207.2 Alterations. In alterations where **existing physical constraints prevent compliance** with R207.1, a single diagonal curb ramp shall be permitted to serve both pedestrian street crossings.



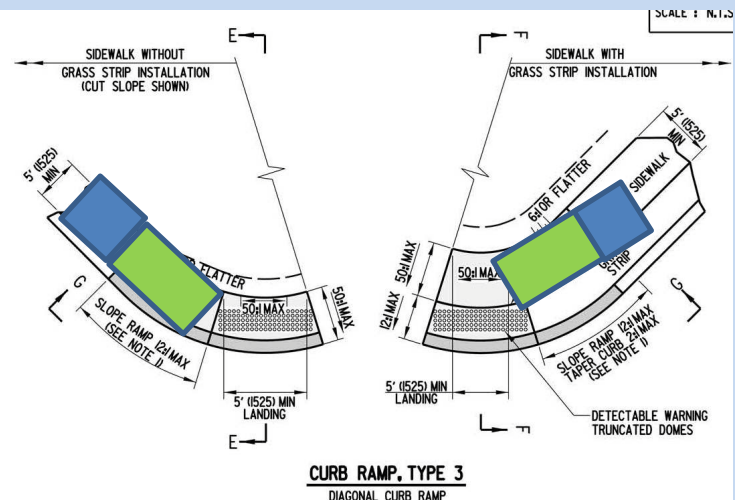
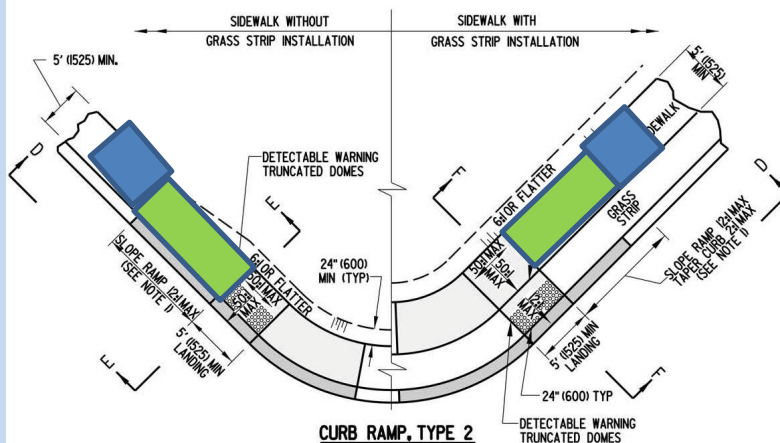
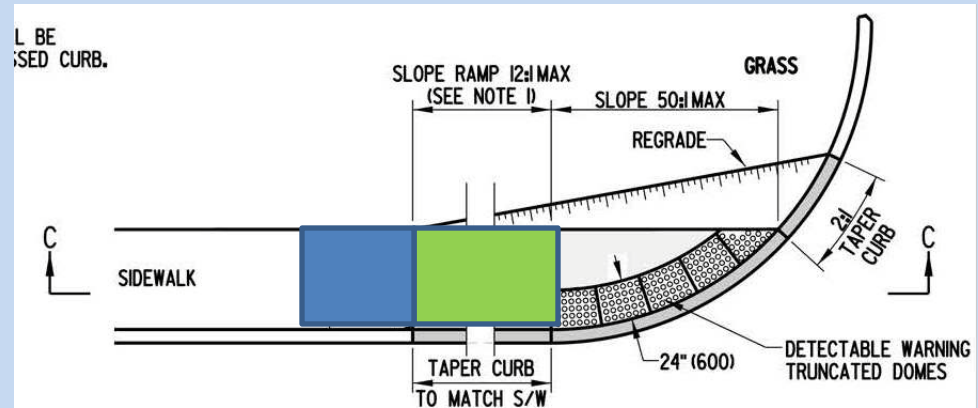
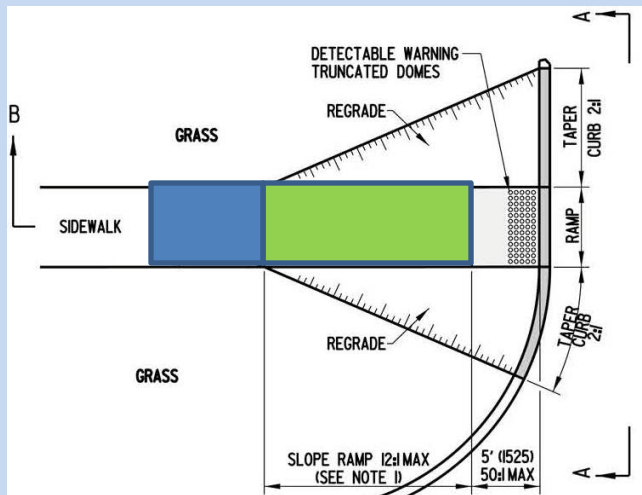
**Last
choice**

3 to 2

NOTES:

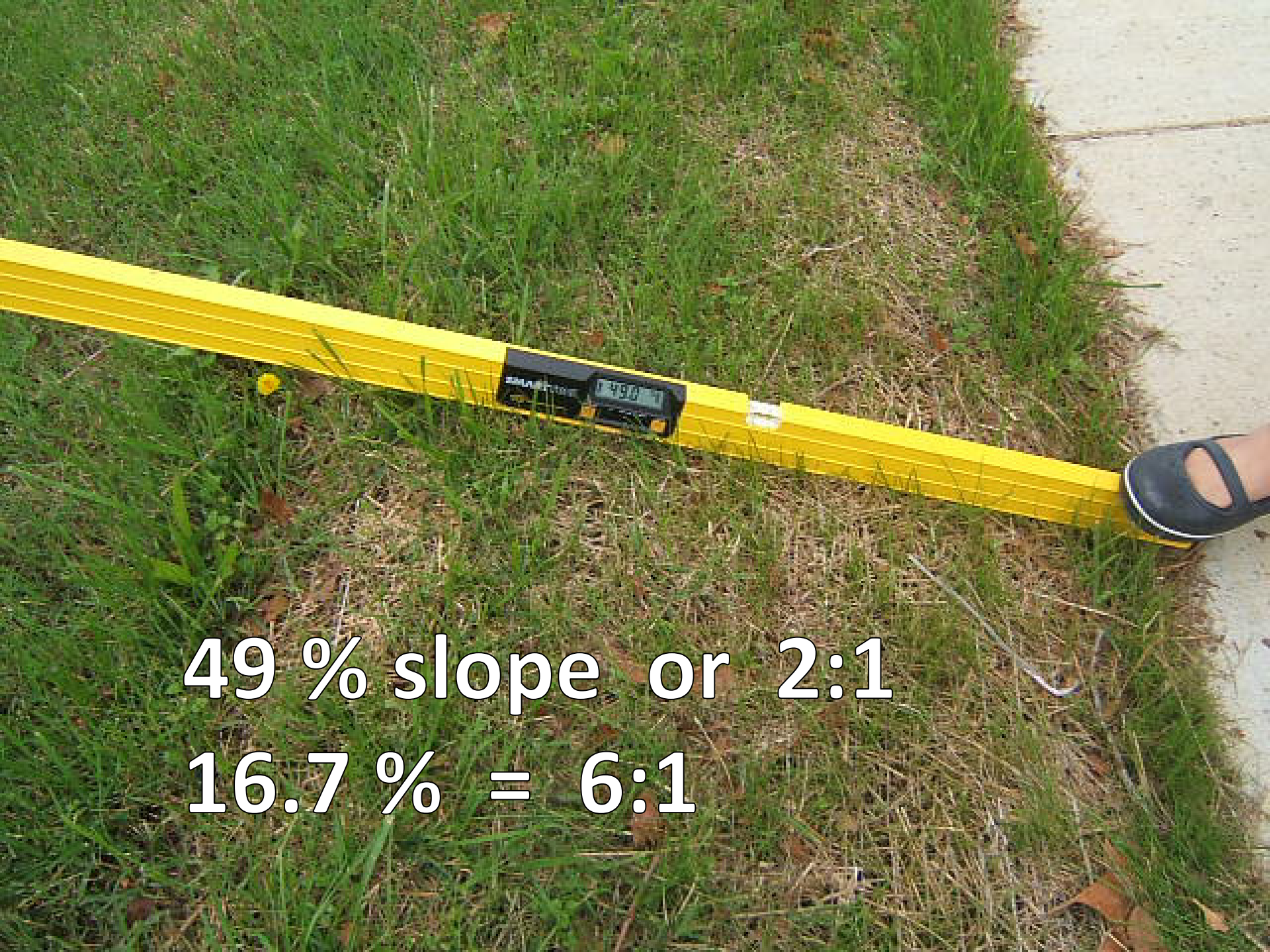
- 1). WHERE A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15' (4570) DUE TO STEEP ADJACENT ROADWAY, THE RAMP LENGTH MAY BE LIMITED TO 15' (4570), AND ALLOWED TO EXCEED 12:1.

Applied to the Approach Ramp to tie into existing





**Soldier or sailor course required to
isolate each plane**



49 % slope or 2:1

16.7 % = 6:1

Curb Retaining Walls

A photograph showing a concrete curb retaining wall. The wall is a simple, light-colored concrete structure that runs along the edge of a grassy area. To the left of the wall is a grassy slope with some dry leaves. To the right of the wall is a concrete sidewalk. In the background, there are trees and a white building under a clear blue sky.

**Maximum reveal without structural design
2 feet**



Steps

- IBC (International Building Code)
- Local building codes





Positive Drainage



Seal Joints



**Trench drain
orientation**





Bridge Expansion Joints









Pedestrian
MOT









Bus Stops



- 2% cross slope
- Nearby access
- Coordinate location & design with Dart



Think before acting.



Concrete Scaling



Common Causes of Concrete Scaling

- Low quality mix
- Improper installation
 - Too much water in the mix
 - Bleed water on the surface
 - Adding water to the surface to aid in finishing (blessing the concrete)
 - Too much rain on surface before covering

Common Causes of Concrete Scaling

- Contaminated mix
- Rebar corrosion
- Extreme heat – fire
- Extreme cold - freeze



Guardrail









3.25 ft







4" max

Cable Anchor Bearing Plate



Speed Humps









Bridge Parapet Walls





Pavement Markings









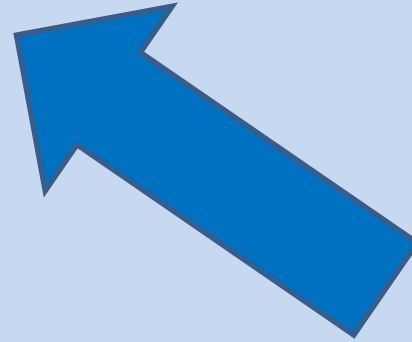


Markings

- Hot-mix
 - Temporary
 - Paint, Tape and Blackout Tape
 - Thermoplastic Symbols, Legends and Stop Bars
 - Epoxy Edge Lines
- Concrete
 - Temporary
 - Paint or Tape
 - Tape Symbols, Legends and Stop Bars
 - Epoxy Edge Lines

Thermoplastic paint

- Pavement Markings
- Minimum temperatures



Try Preformed





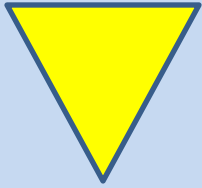




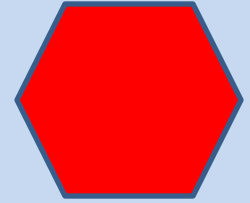
Microsurface patch

Epoxy on
concrete





Sign Installation



- Contractor installation
- Contractor orders at least 4 weeks in advance
- Signing schedule
- MUTCD
- Post height

Sign Height

- Residential / business 7' min
- Rural roads 5' min
- Shared use path 4' min
- Exemption multiple sign panels

Street Blade Signs



4" letters = 25 MPH



>25 MPH = 6" Upper Case and
4 ½" Lower Case Letters



Multi Lane Devided Highway > 40 mph
= 8" Upper + 6" lower case letters



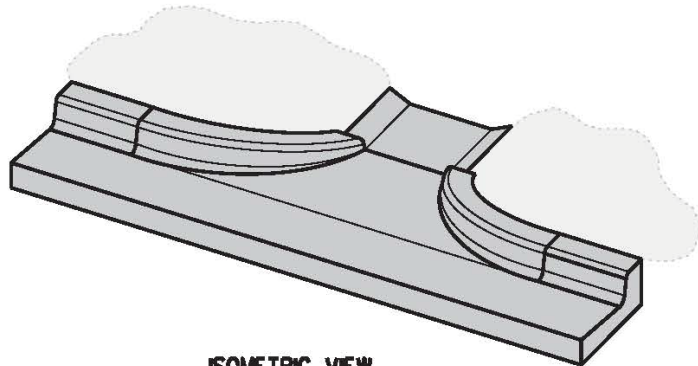
Drainage

Curb Openings



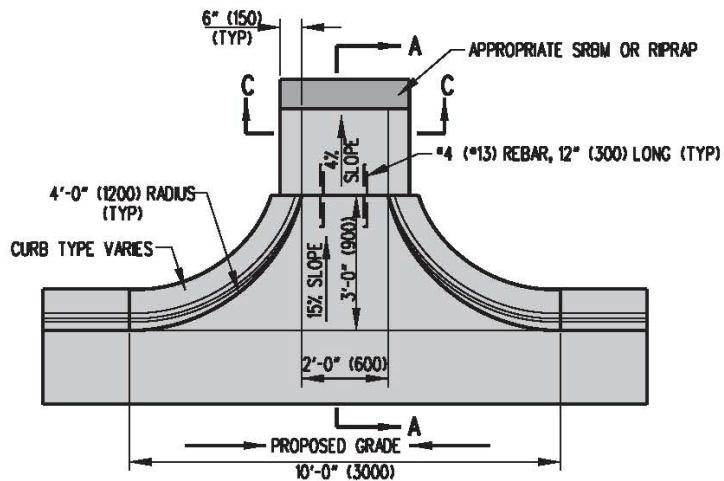


Curb Opening – C-4



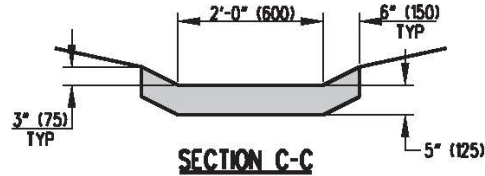
ISOMETRIC VIEW

SHOWN WITH INTEGRAL CURB & GUTTER, TYPE 1

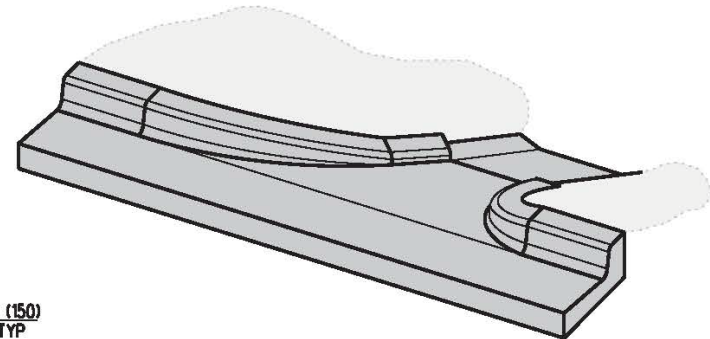


PLAN VIEW

IN SUMP LOCATION

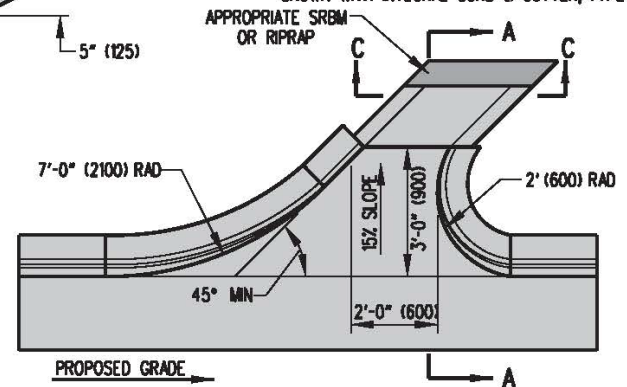


SECTION C-C



ISOMETRIC VIEW

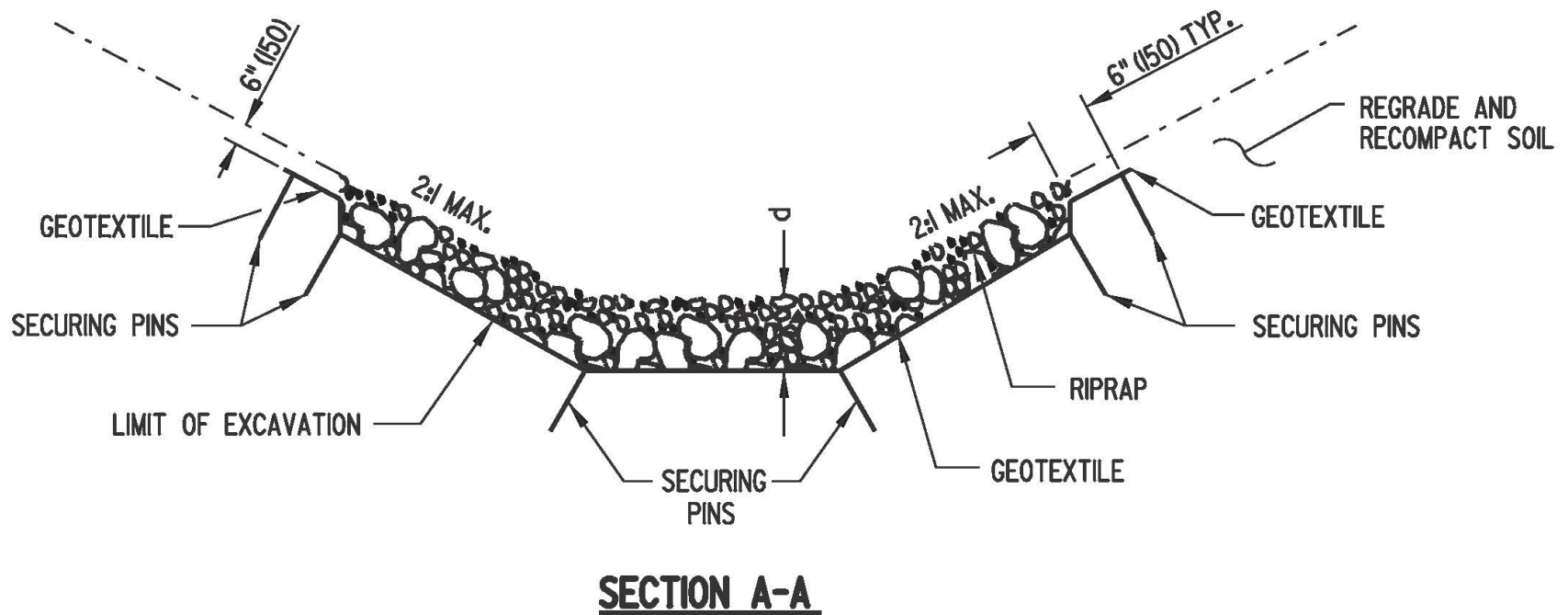
SHOWN WITH INTEGRAL CURB & GUTTER, TYPE 1



PLAN VIEW

ON GRADE OR SLOPE

Riprap Ditch - E-10







Curb Opening with Sidewalk







Vane Grates





Vane Grates

- Directional
- High Efficiency



Eliminate
throat for 2",
4" and 6" curb

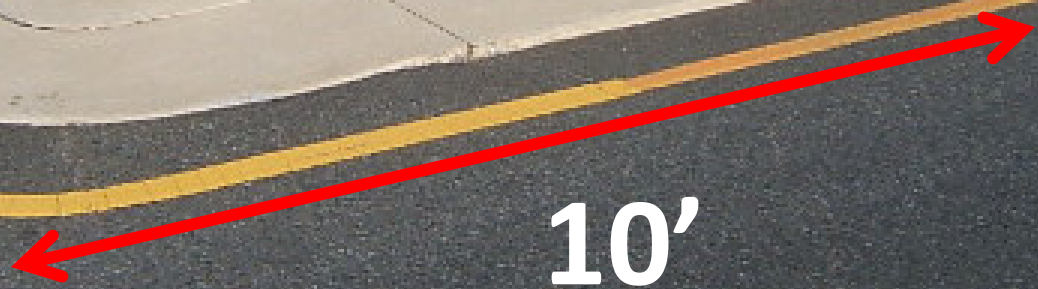


Median Islands





12:1



10'



Mailboxes



DEL. HAVEN FARMS
J. J. WALKER JR
L. C. WALKER
102

B BROTHERS
S SINGELTON

F J
MANCARI

D MCULLEN
B BRUNI

W TODD
DEPAU
E LESSARD

DD

102 B
HALLS
NEMIC



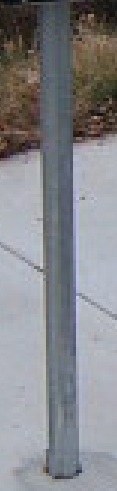
102 B
WALLS
NEMIC

W. TODD
LOGAN
RIESSARD
MARS

F. J.
MANCARE

D. MCULLEN
B. BRUNI















Change Orders

- Send all CO's to Joe Ellis
 - Include remarks sheets
- Time extension must be considered at the time of the change order

As-Built Drawings

- Needed for all projects
- Send to Billy Sweeney
 - If no changes send only the title sheet and memo stating “built per plan”

Compaction

Compaction

Compaction



Compaction





