Intro

ADA Operations Contact Info

Todd Grugel	ph: 651-366-3531	email: todd.grugel@state.mn.us
Joe Zilka	ph: 651-366-3311	email: joseph.zilka@state.mn.us
Harvey Unruh	ph: 651-216-2912	email: harvey.unruh@state.mn.us

http://www.dot.state.mn.us/ada/construction.html

MnDOT ADA Training

STANDARD PLANS & PAY ITEMS

Your Destination...Our Priority

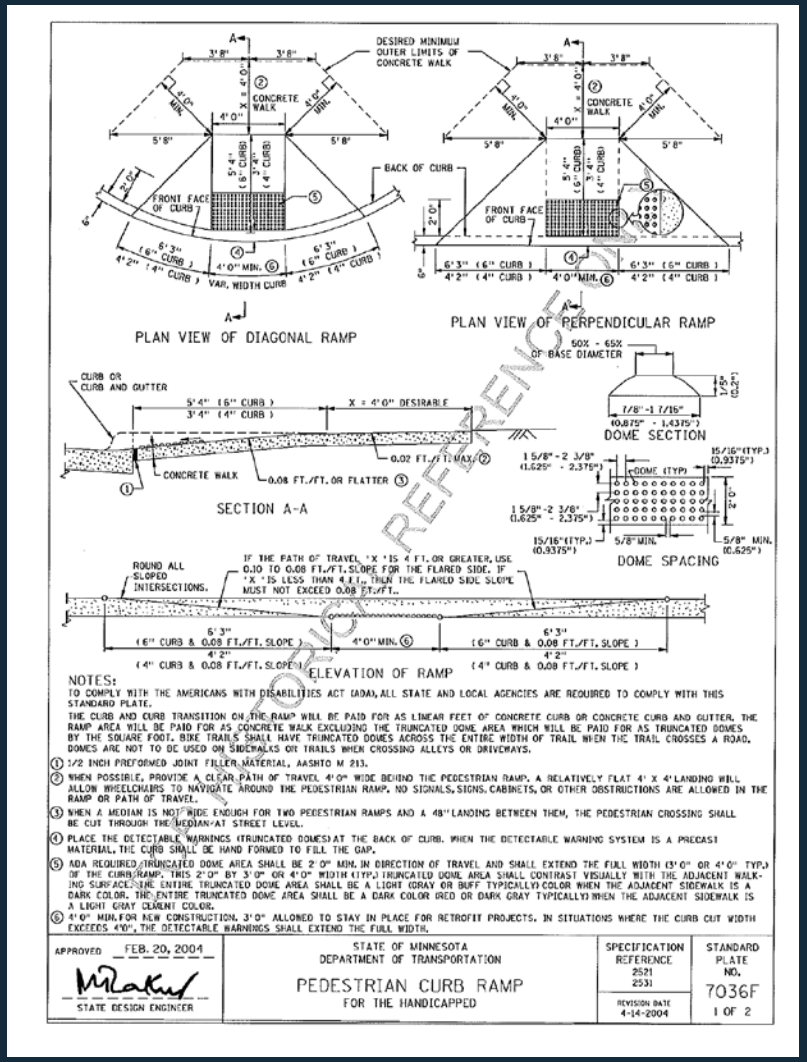
Module Overview

- PROWAG and Curb Ramp Basics
- Standard Plan Sheets
- Curb Ramp Types
- ADA Pay Items

Standard Plate 7036F

Pedestrian Curb Ramp - Discontinued

- Standard Plate 7036F Feb. 20, 2004
- Ramp are based on length.
- Landings (a relatively flat 4’x4’ landing to allow wheel chairs to navigate around pedestrian ramp).

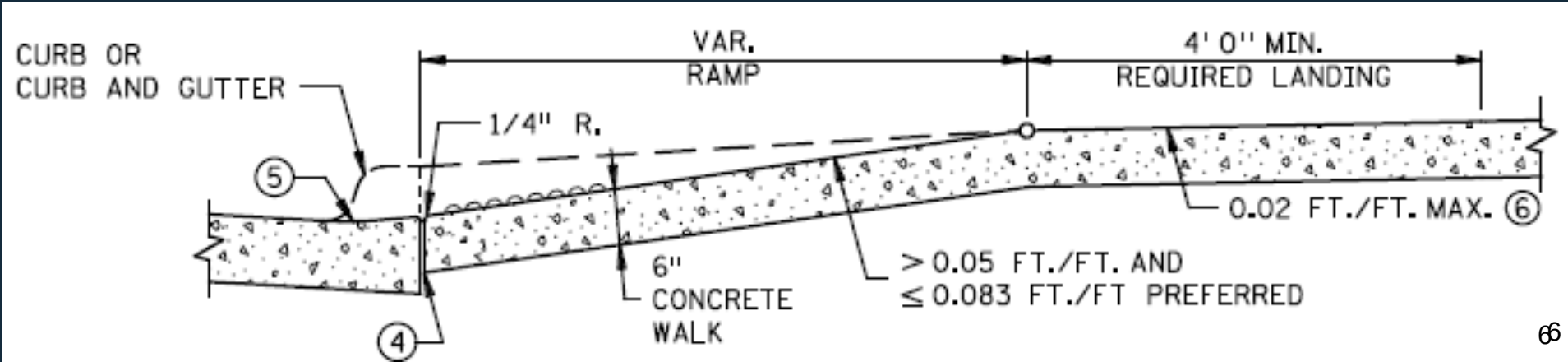


Curb Ramp/PROWAG Basics

- PROWAG requirements are based on slopes, so curb ramps cannot simply meet a certain length to be compliant.
- A 6 inch high curb does not necessarily mean that a ramp should be 6 foot long; it depends on whether the area behind the ramp slopes up, down or is flat from the top of curb.

Curb Ramp/PROWAG Basics

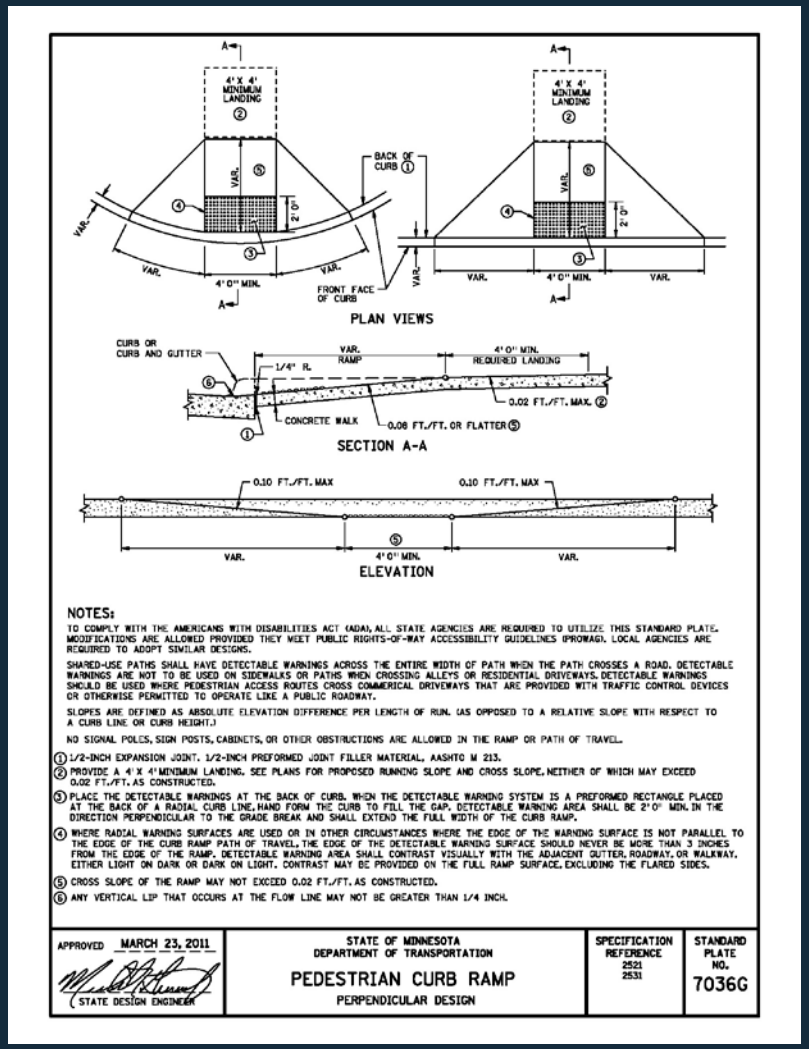
- If longitudinal slope exceeds 5 percent, or there is a change in direction, landings must be provided on any pedestrian facility.
- Maximum ramp slope is 8.3 percent.
- Maximum length of initial ramp is 15 feet.
- Slopes and dimensions are **absolute**. PROWAG allows no tolerances for exceeding these maximums.
- Minimum 4 foot wide Pedestrian Access Route (PAR) with a maximum cross slope of 2% is required.
- The PAR must be continuous and unobstructed.
- The PAR shall connect accessible elements, spaces and facilities.



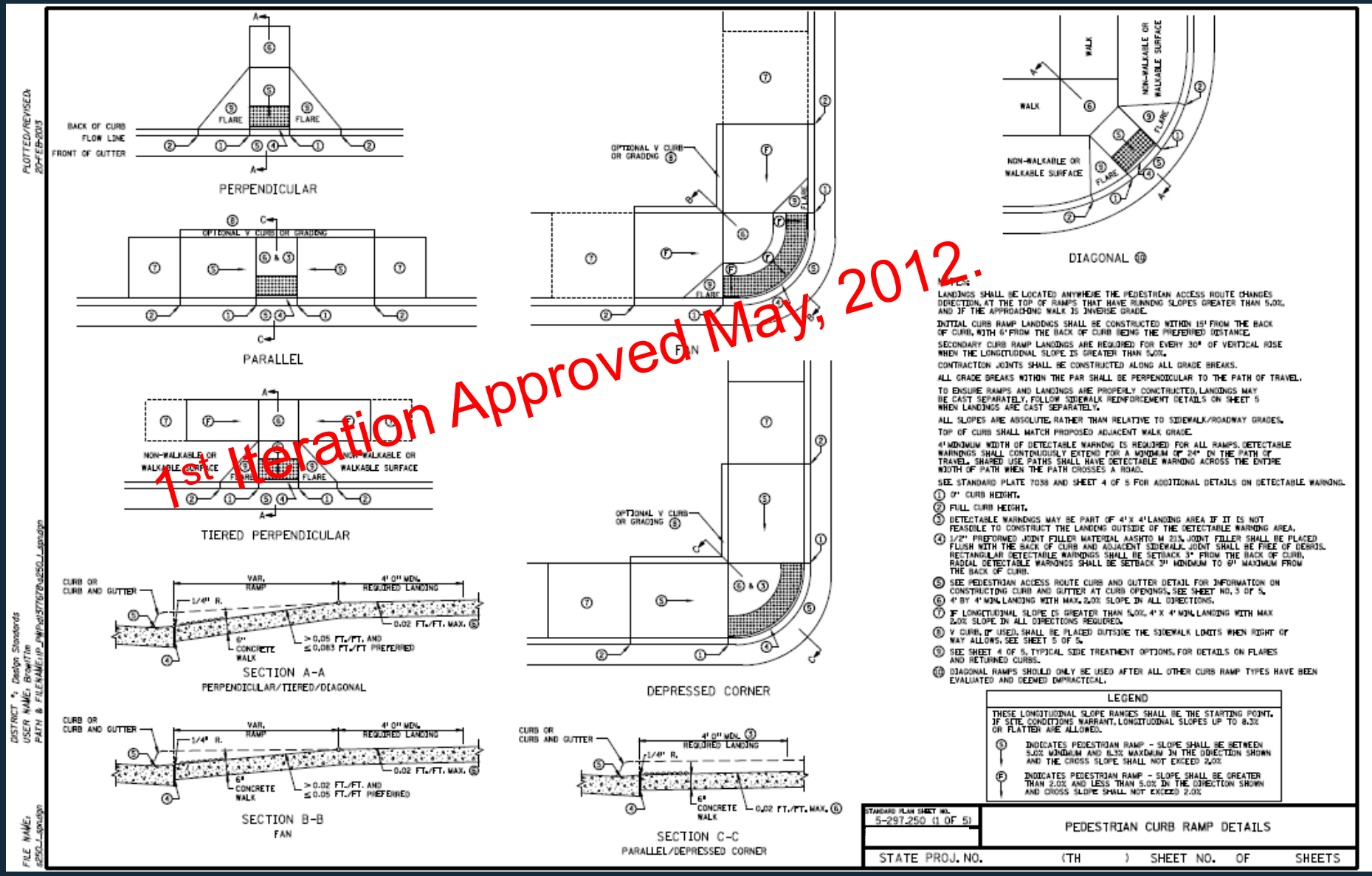
Standard Plate 7036G

Pedestrian Curb Ramp - Discontinued

- Standard Plate 7036G
- 4 ft. by 4 ft. minimum landing with maximum 2% cross slope in all directions REQUIRED
- Ramp lengths depend on grades, not dimensions
- Served as the foundation for the Curb Ramp Standard Plans



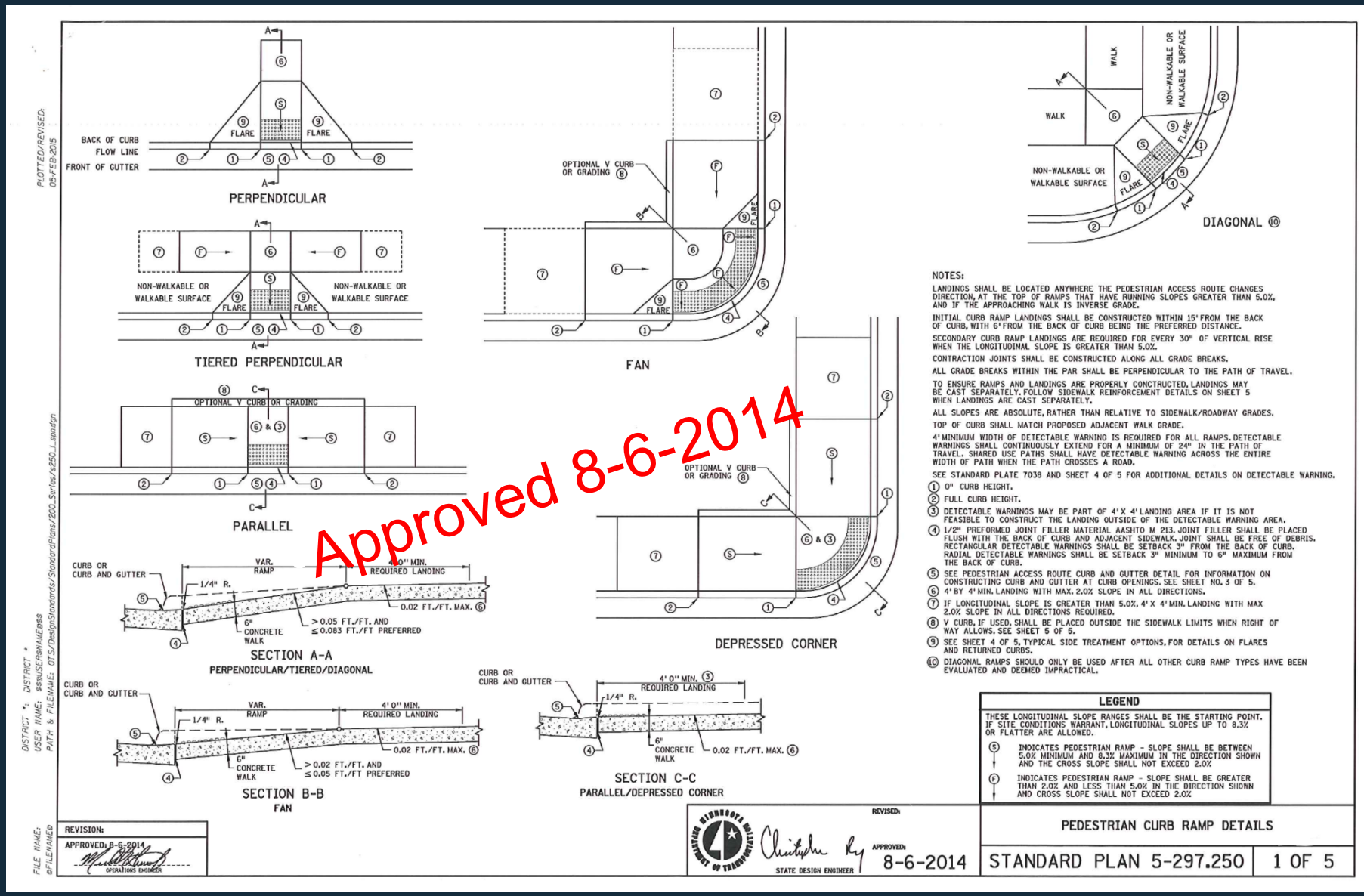
Standard Plans



1st Iteration Approved May, 2012.

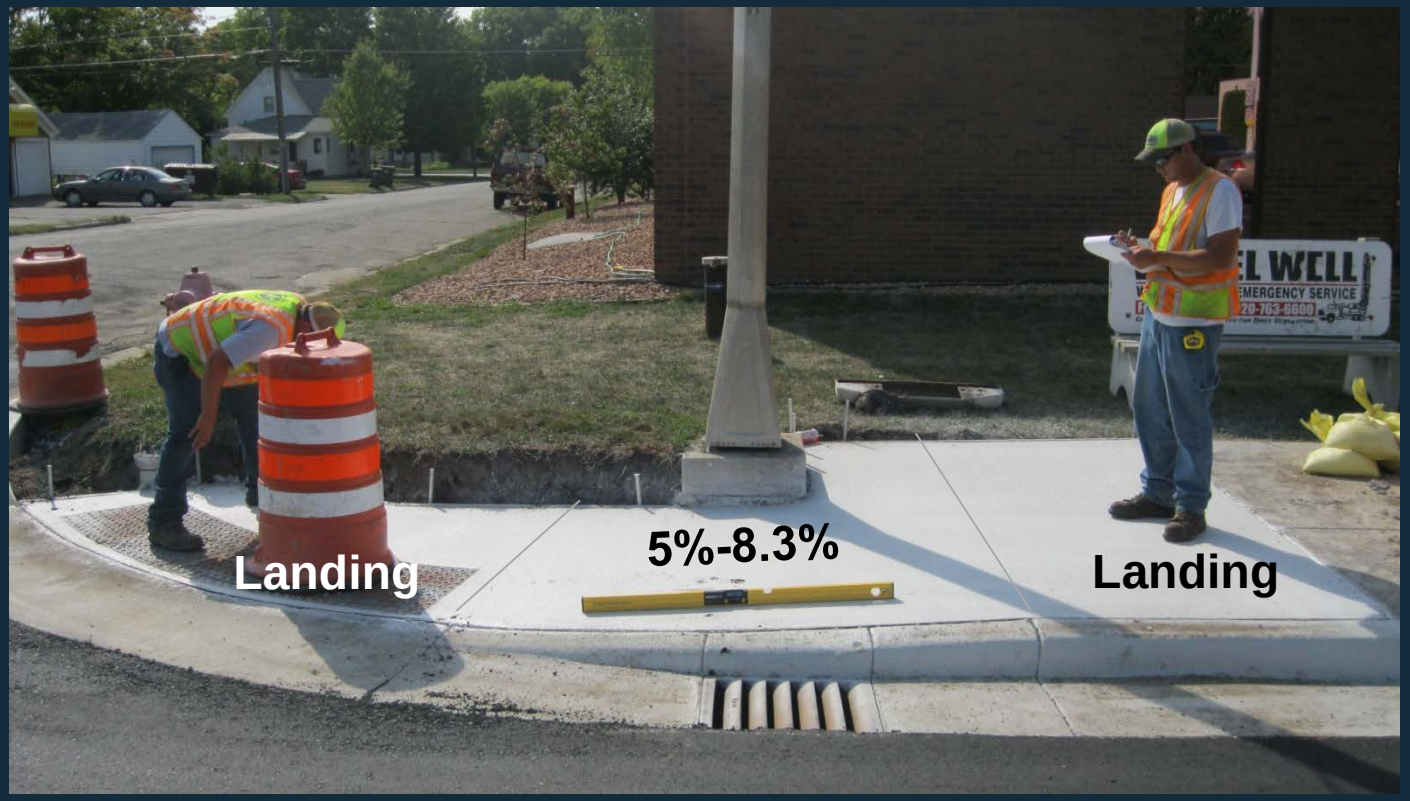
8

Standard Plans



Sheet 1 of 5

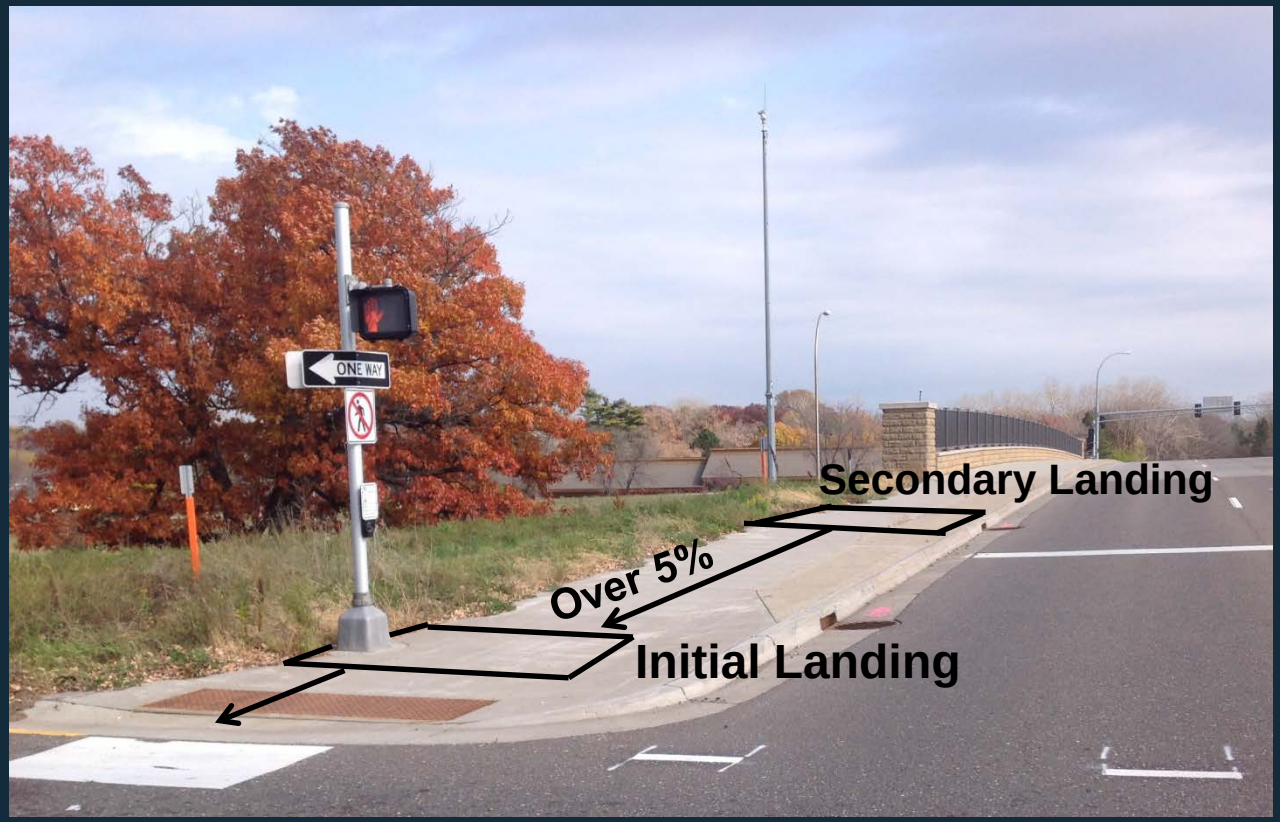
- NOTES: Landings shall be located anywhere the pedestrian access route changes direction, at the top of ramps that have running slopes greater than 5% , and if the approaching walk is inverse grade.



Sheet 1 of 5

NOTES: Initial curb ramps landings shall be constructed within 15’ from the back of curb, with 6’ from the back of curb being the preferred distance.

Secondary curb ramp landings are required for every 30” of vertical rise when longitudinal slope is greater than 5%



Sheet 1 of 5

NOTES: Contraction joints shall be constructed along all grade breaks.

All grade breaks within the PAR shall be perpendicular to the path of travel.

Standard Plans

New in 2013: Ramp slope ranges

INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

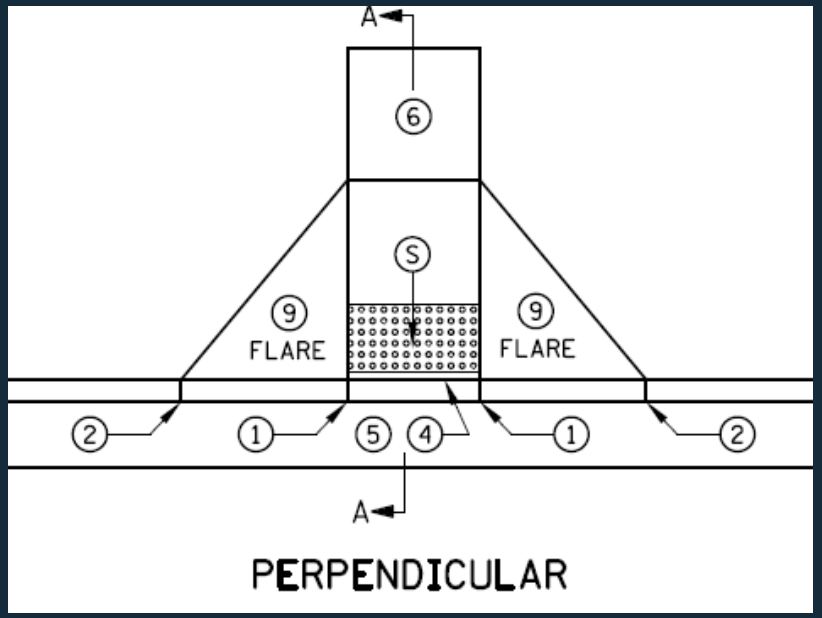
INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

Curb Ramp Types

- Perpendicular ramp
- Parallel ramp
- One-way directional ramp
- Combined directional ramp
- Depressed corner
- Tiered perpendicular ramp
- Fan ramp
- Diagonal ramp (not recommended)

Perpendicular

- Ramp is perpendicular to the curb line.



Tiered Perpendicular

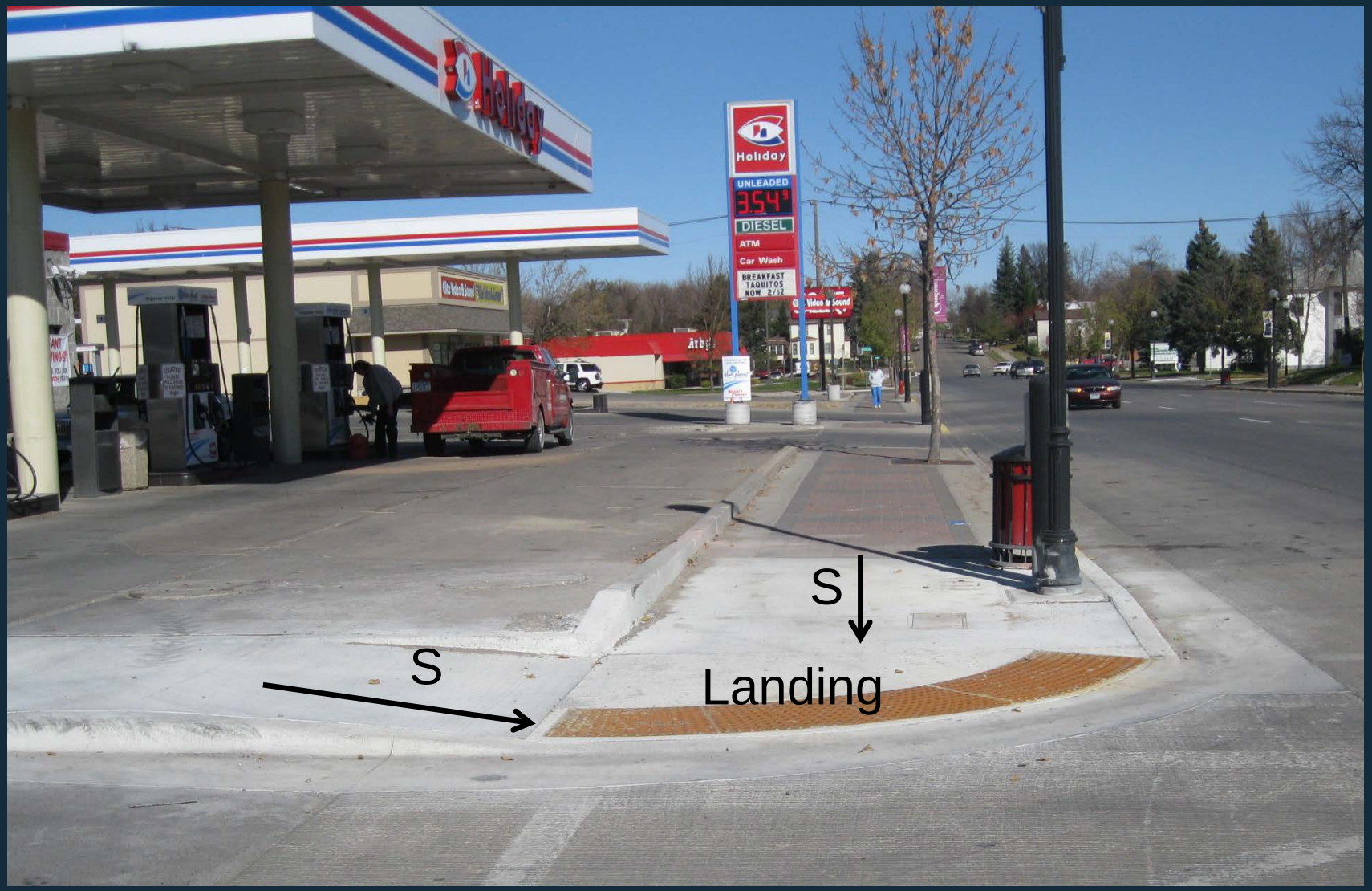
- Used where the initial curb ramp cannot make up the elevation difference, so a secondary ramp is needed

Parallel

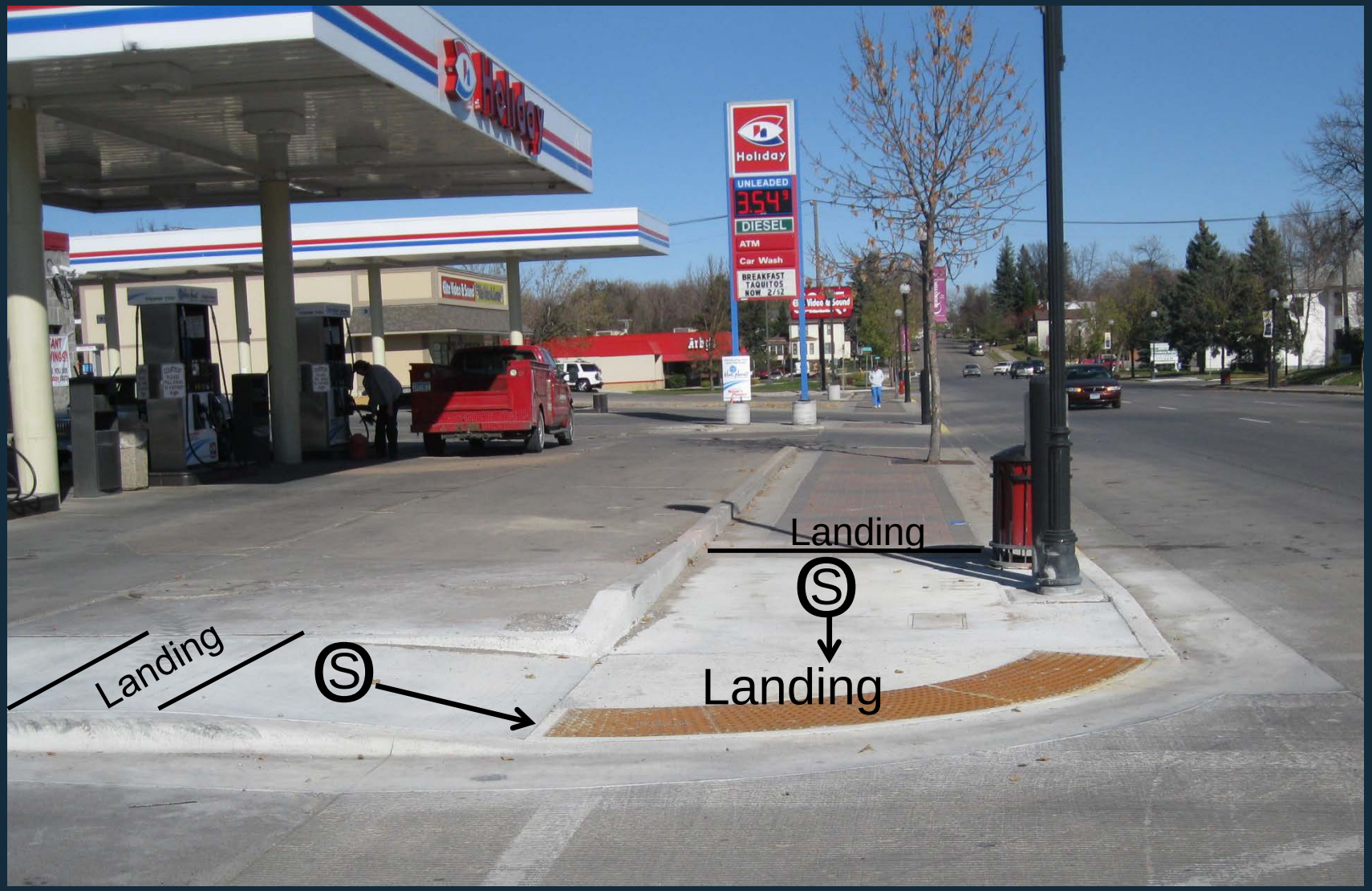
- Ramp is parallel to the curb line.
- Landing occurs at the bottom of the ramp.

Fan

Depressed Corner



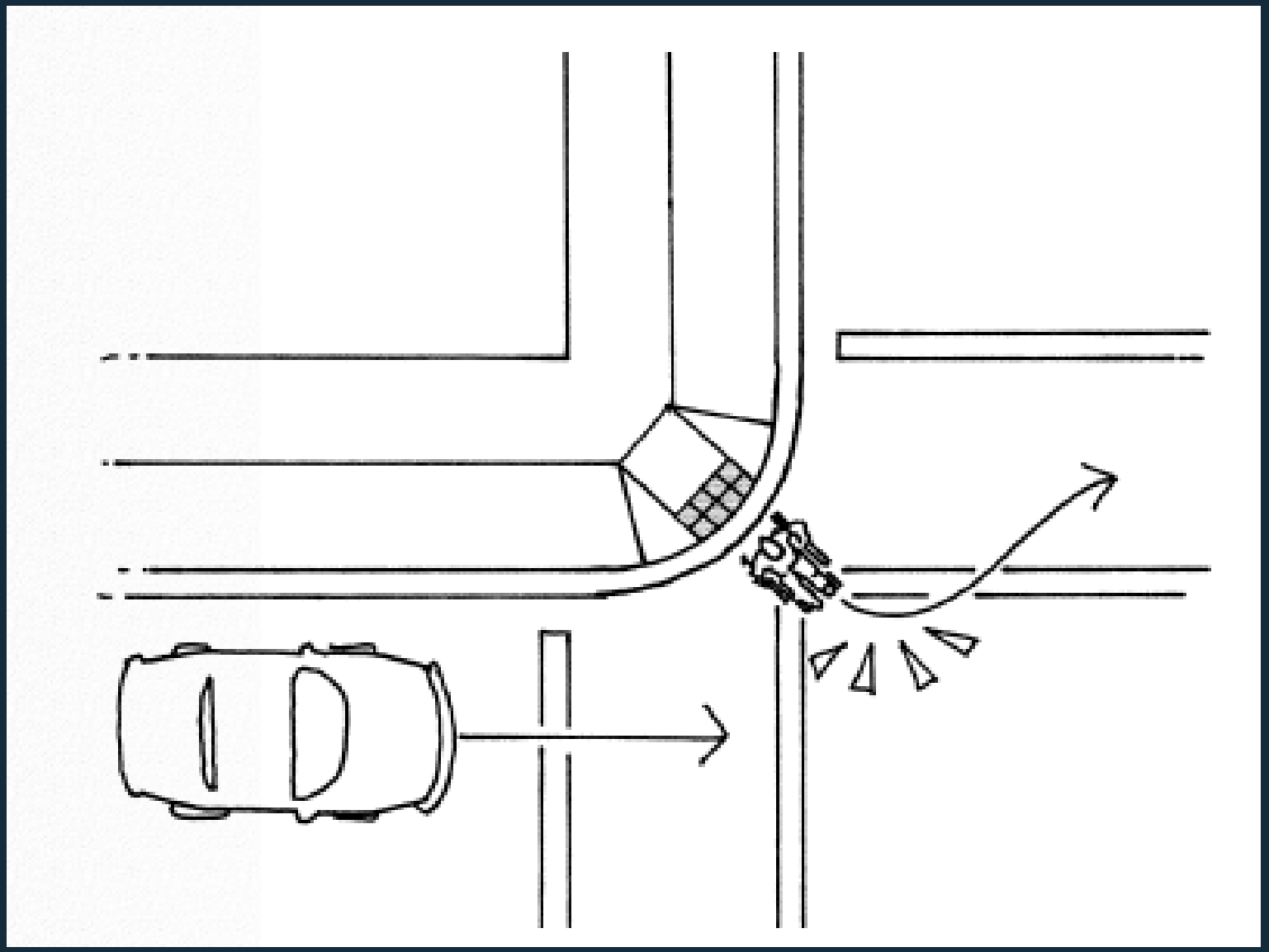
Depressed Corner



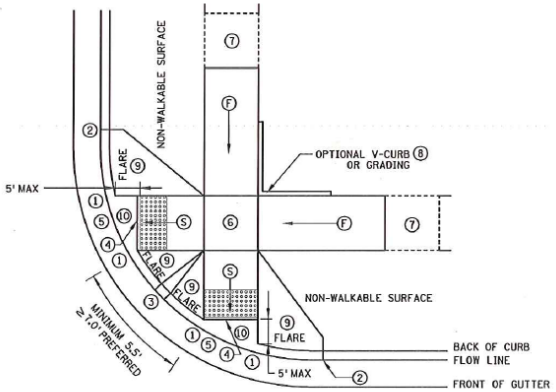
Diagonal Ramp

- Should only be used after all other curb ramp types have been evaluated and deemed impractical

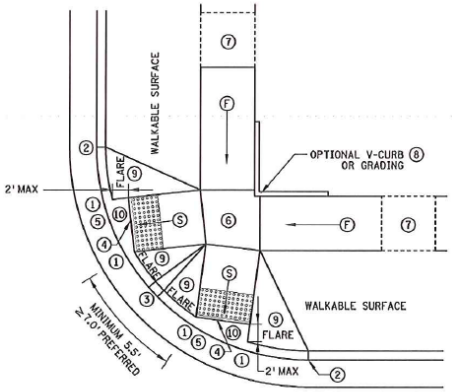
Diagonal Ramp – Least Preferred



Standard Plans

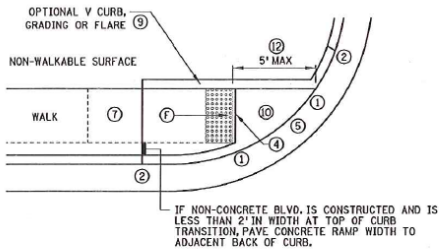


ADJACENT TO NON-WALKABLE SURFACE

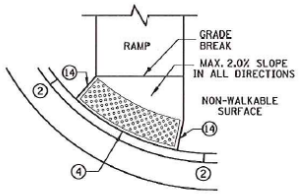


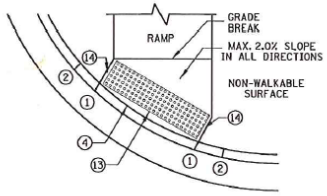
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL ⑮

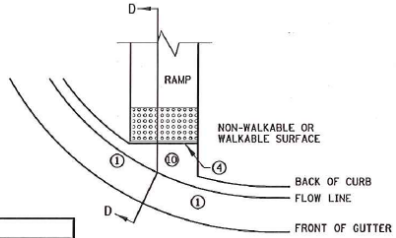


ONE-WAY DIRECTIONAL

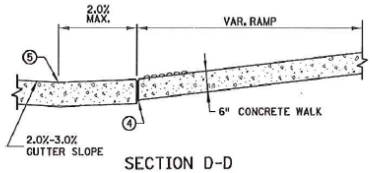




DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED



CURB FOR DIRECTIONAL RAMPS ⑪



SECTION D-D

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONCTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7033 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

① 0" CURB HEIGHT.
② FULL CURB HEIGHT.
③ 3" MINIMUM CURB HEIGHT, 4" PREFERRED.
④ 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.
⑤ SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
⑥ 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
⑦ IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
⑧ V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
⑨ SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
⑩ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
⑪ TO BE USED FOR ALL DIRECTIONAL RAMPS.
⑫ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
⑬ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
⑭ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑮ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

REVISION:
APPROVED: 8-6-2014
OPERATIONS ENGINEER

REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 2 OF 5

PLOTTED/REVISED: 05-FEB-2015
DISTRICT *: DISTRICT *
USER NAME: $$$USERNAME$$$
PATH & FILENAME: DTS/DesignStandards/StandardPlans/200_Series/s250_2_sendgn
FILE NAME: c:FILENAME:c

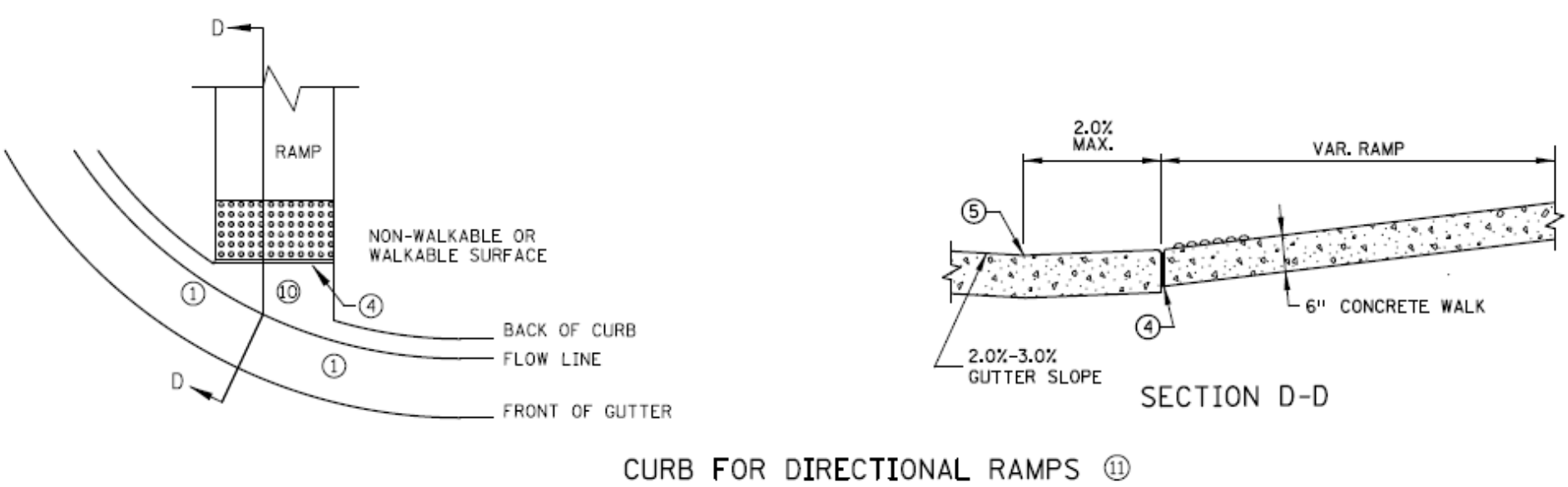
Combined Directional

One Way Directional

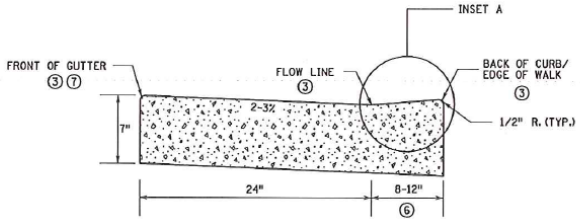
LESS THAN 5% RAMP SLOPE,
LANDING NOT REQUIRED

Standard Plans

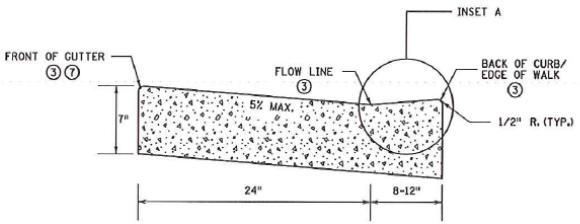
- Note: 10) When constructing directional ramps, the “triangular” concrete piece shall be poured integral with the curb and gutter (Directional Curb).



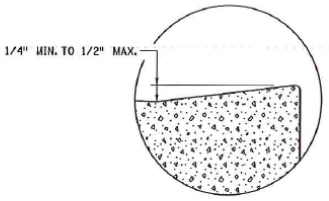
Standard Plans



NON PERPENDICULAR ①

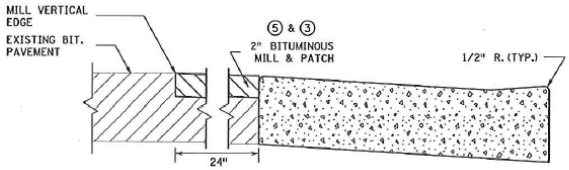


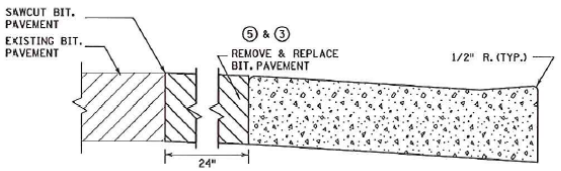
PERPENDICULAR ②

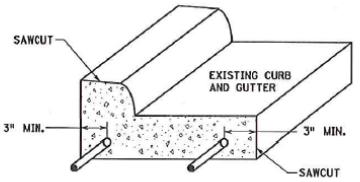


INSET A

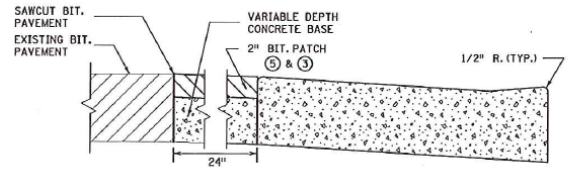
PEDESTRIAN ACCESS ROUTE
CURB & GUTTER DETAIL

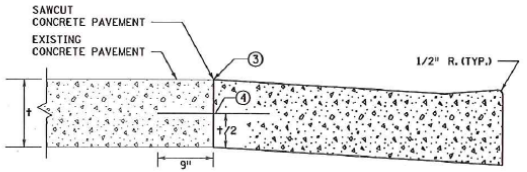






CURB AND GUTTER ⑧
REINFORCEMENT
FOR USE ON CURB RAMP RETROFITS





PAVEMENT TREATMENT OPTIONS
IN FRONT OF CURB & GUTTER
FOR USE ON CURB RAMP RETROFITS

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.

② FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

③ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

④ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT.

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED).

PLOTTED/REVISED: 05-FEB-2015

DISTRICT *: DISTRICT *
USER NAME: $$oUSER$$NAME$$$$
PATH & FILENAME: OTS/DesignStandards/StandardPlans/200_Series/s250_3_spndgn

FILE NAME: @FILENAME@

REVISION:
APPROVED: 8-6-2014
OPERATIONS ENGINEER

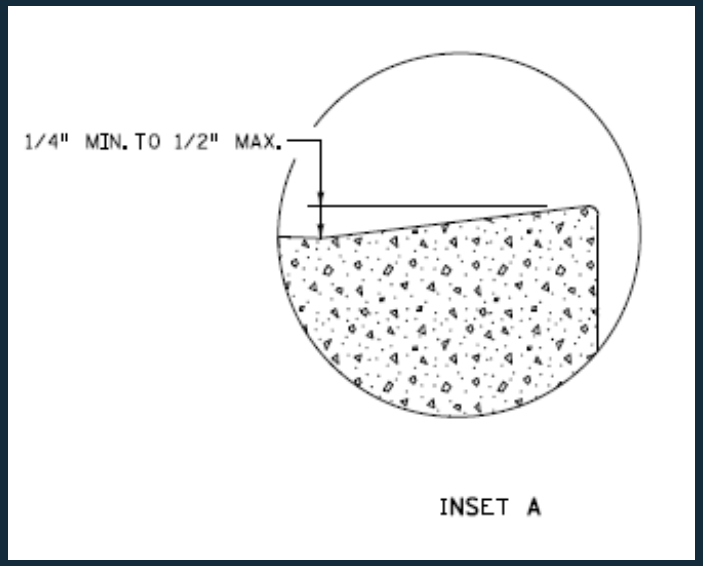
REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

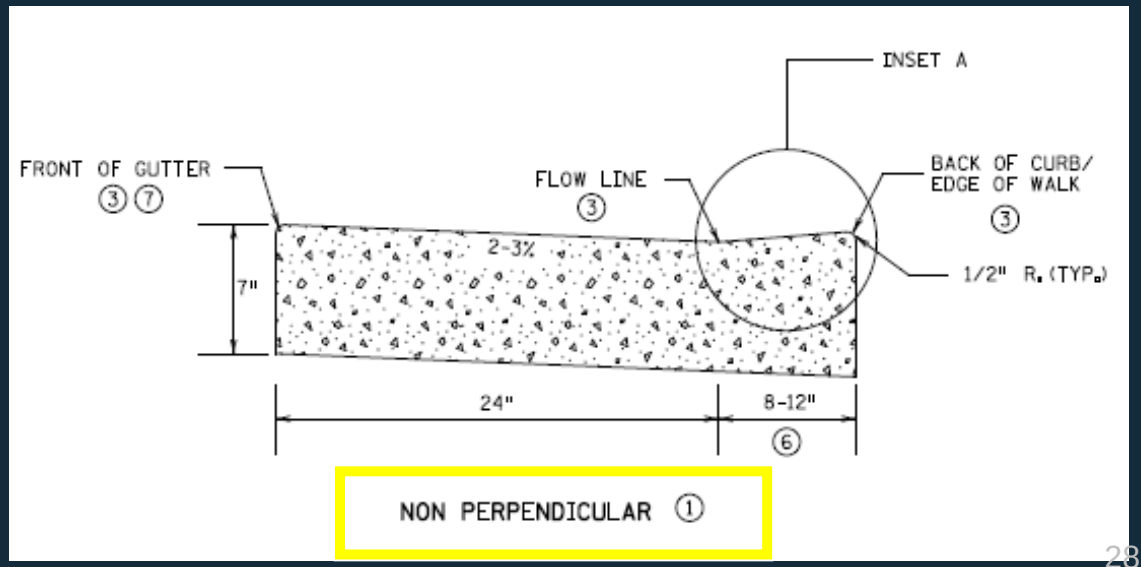
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 3 OF 5

Curb and Gutter Details

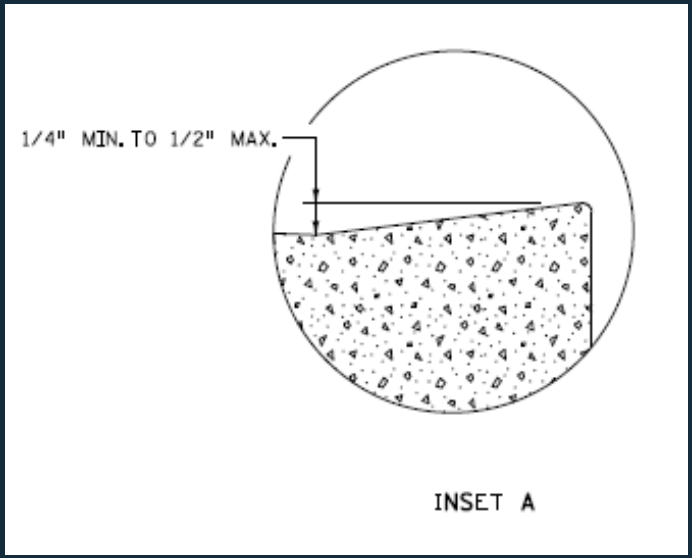
- Positive flow line drainage shall be maintained through the PAR at 2% maximum. No ponding shall be present in the PAR
- Curb ramp types where the pedestrian's travel is not perpendicular to the gutter flow line (i.e. directional, depressed corners and fan ramps) shall have a flattened gutter slope of 2% to 3%.

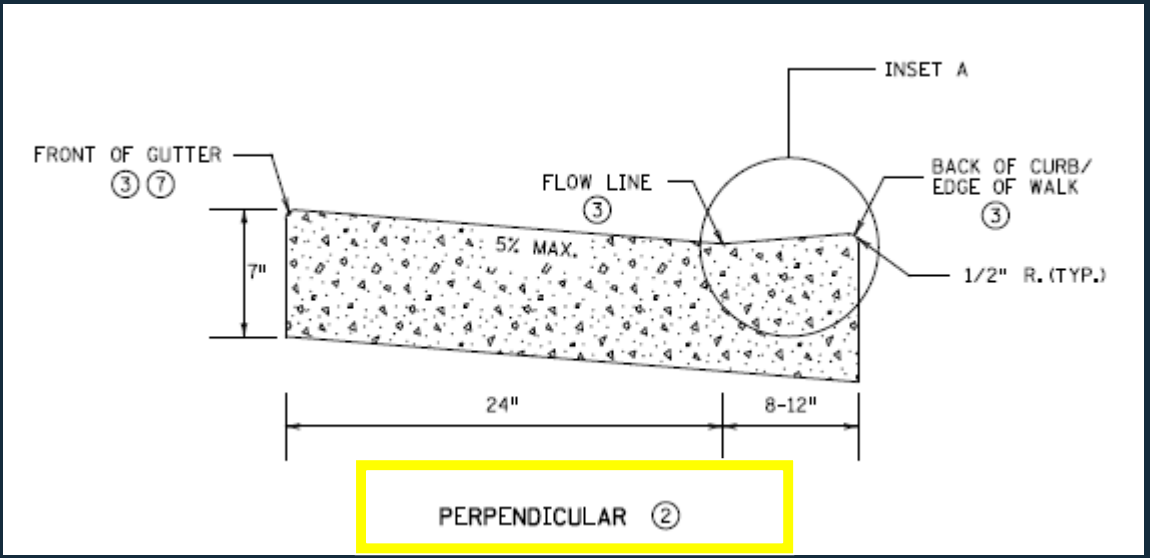




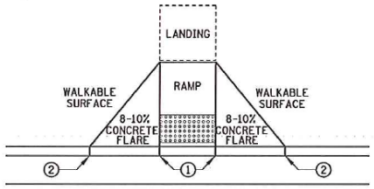
Curb and Gutter Details

- Any vertical lip that occurs at the flow line shall not be greater than ¼”
- Perpendicular and parallel ramps can have a maximum 5% gutter slope because the pedestrian’s path of travel is perpendicular to the gutter flow line.

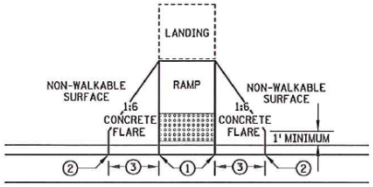




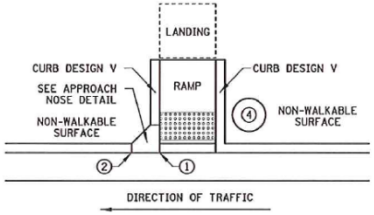
Standard Plans



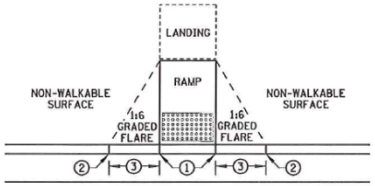
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

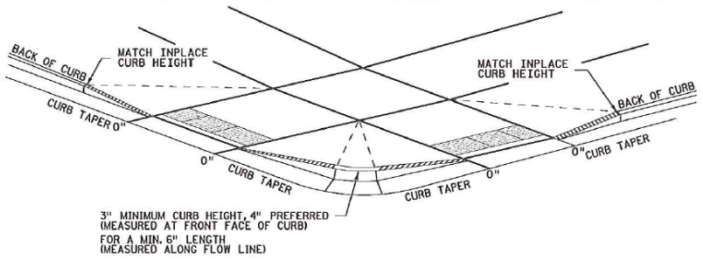


RETURNED CURB

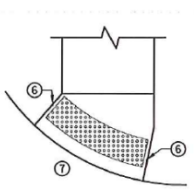


GRADED FLARES

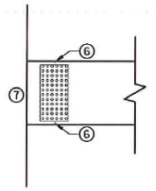
TYPICAL SIDE TREATMENT OPTIONS ⑤



DETECTABLE EDGE WITH CURB AND GUTTER ⑧

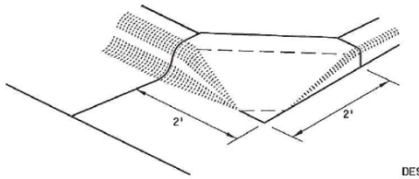


RADIAL DETECTABLE WARNING



RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER



APPROACH NOSE DETAIL
FOR DOWNSTREAM SIDE OF TRAFFIC

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.
② FULL CURB HEIGHT.
③ 2' - 3' FLARE.
④ IMMOVABLE OBJECT OR OBSTRUCTION.
⑤ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED ON ALL RAMPS AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF ROADWAY TO PROVIDE VISUAL CONTRAST.
⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

PLOTTED/REVISED: 05-FEB-2015
DISTRICT *: DISTRICT *
USER NAME: $$$USERNAME$$$
PATH & FILENAME: OTS/DesignStandards/StandardPlans/200_Series/s250_4.sprdgn
FILE NAME: @FILENAME@

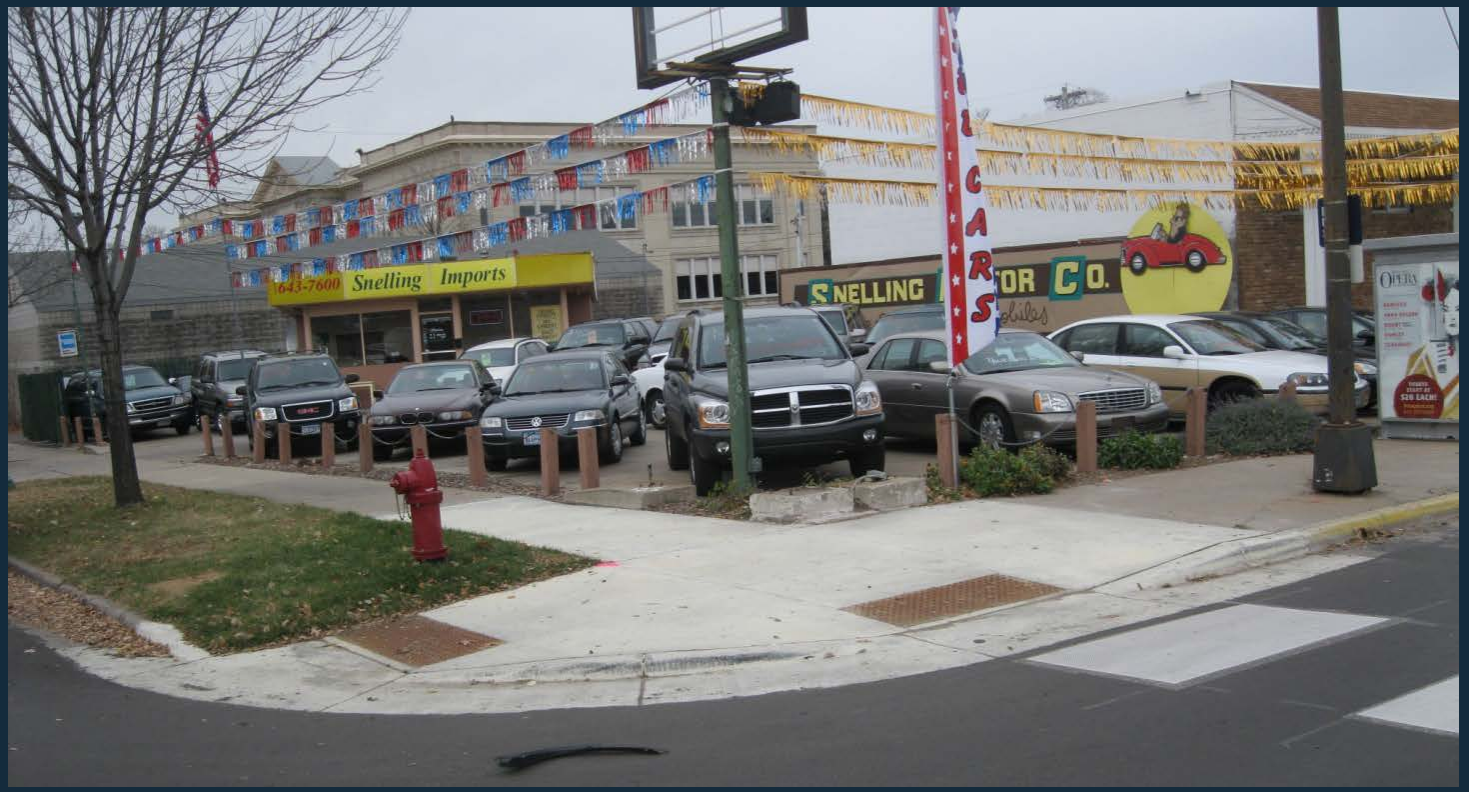
REVISION:
APPROVED: 8-6-2014
OPERATIONS ENGINEER

REVISED:
STATE DESIGN ENGINEER
APPROVED: 8-6-2014

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 4 OF 5

Side Treatments

- When adjacent to pavement, flares shall be constructed at 8-10% max slope.
- When adjacent to turf, 1:6 graded flare is generally preferred.

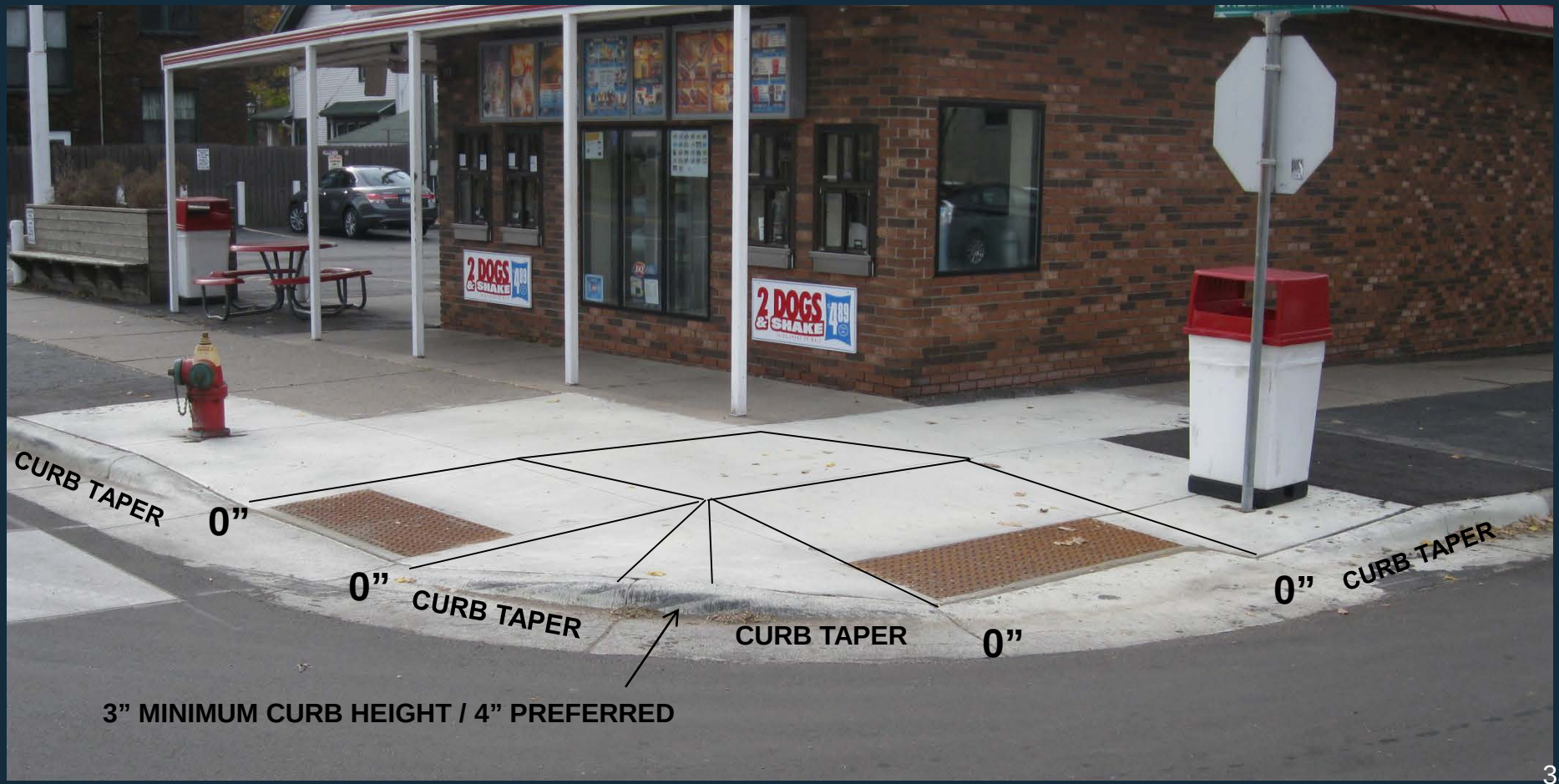


Detectable Edge at quadrant

- All constructed curbs must have continuous detectable edge for the visually impaired.

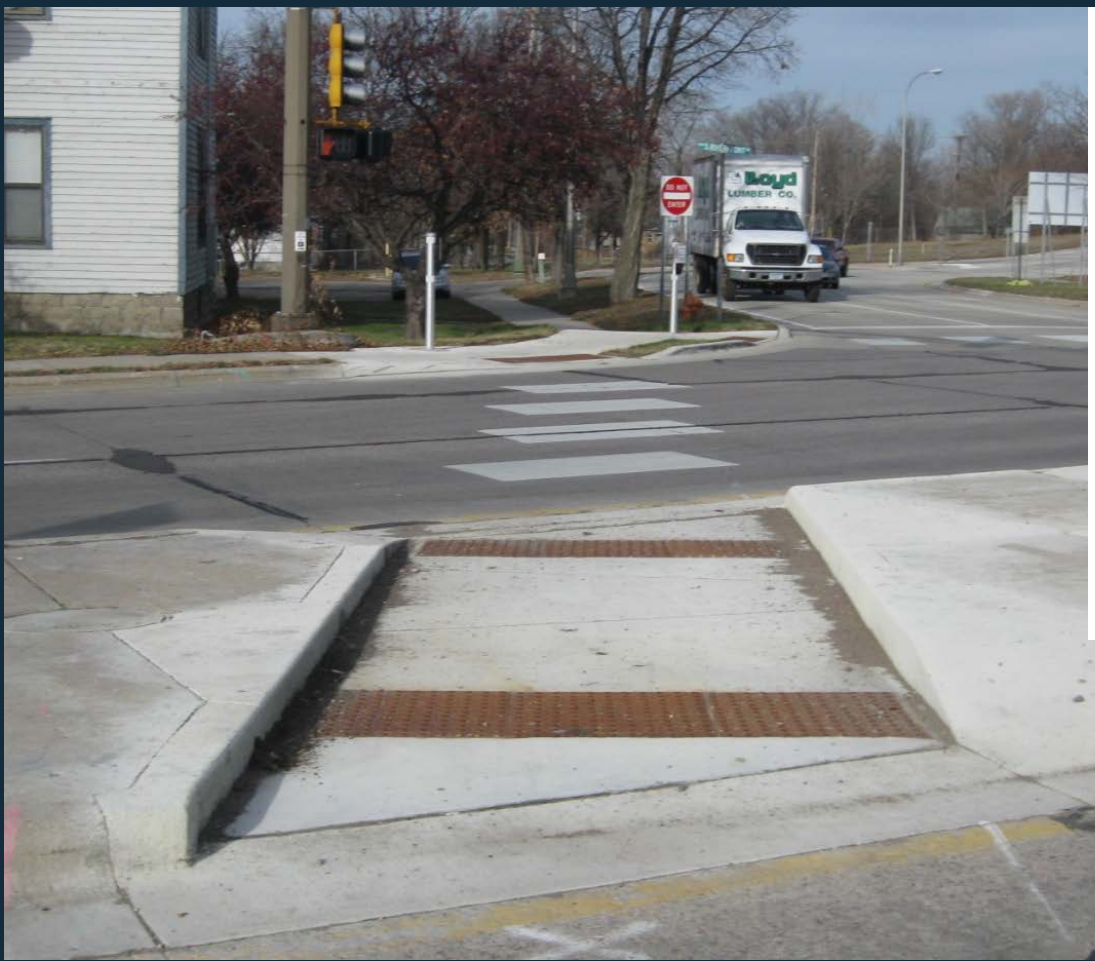
Detectable edge at quadrant

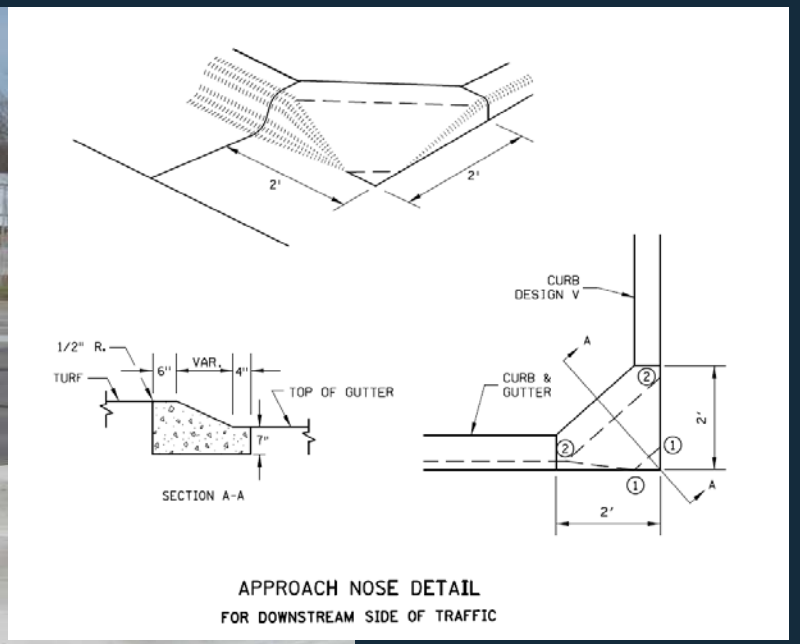
- Curb transitions are considered a detectable edge when the taper starts within 3” of the edge of truncated domes.



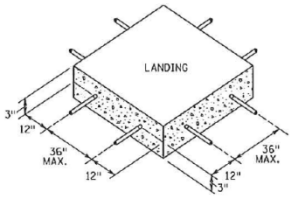
Side Treatments

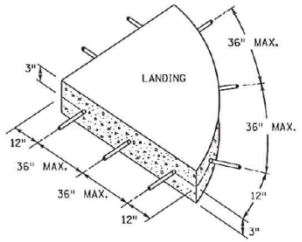
- Approach nose detail for downstream side of traffic.
- Can be used for both sides of ramp openings



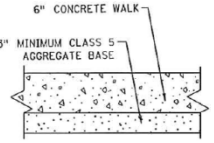


Standard Plans

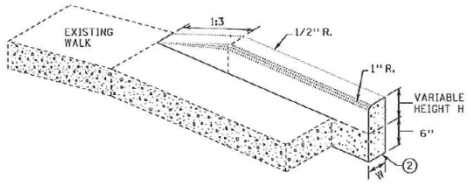




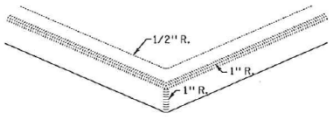
SIDEWALK REINFORCEMENT ⑥ ⑦



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

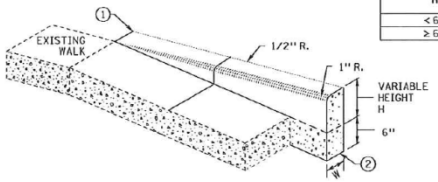


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

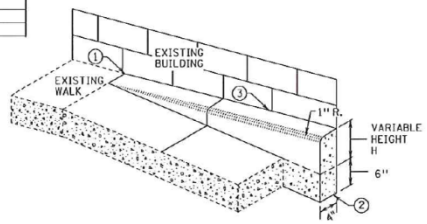


V CURB INTERSECTION

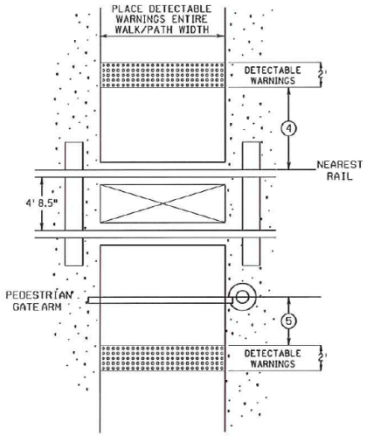
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
≤ 6"	4"
≥ 6"	6"



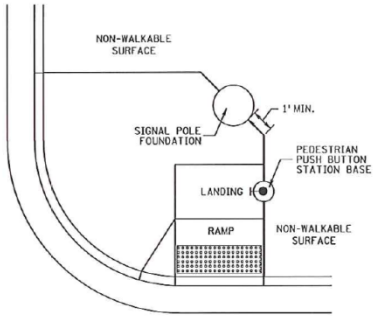
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



V CURB ADJACENT TO BUILDING OR BARRIER



RAILROAD CROSSING
PLAN VIEW



CONCRETE WALK EDGES ADJACENT
TO CONCRETE STRUCTURES

NOTES:

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

④ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑤ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM.

⑥ WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).

⑦ TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

REVISION:
APPROVED: 2-9-2015
OPERATIONS ENGINEER

REVISED:
APPROVED: 2-9-2015
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 5 OF 5

Vertical Face Curb

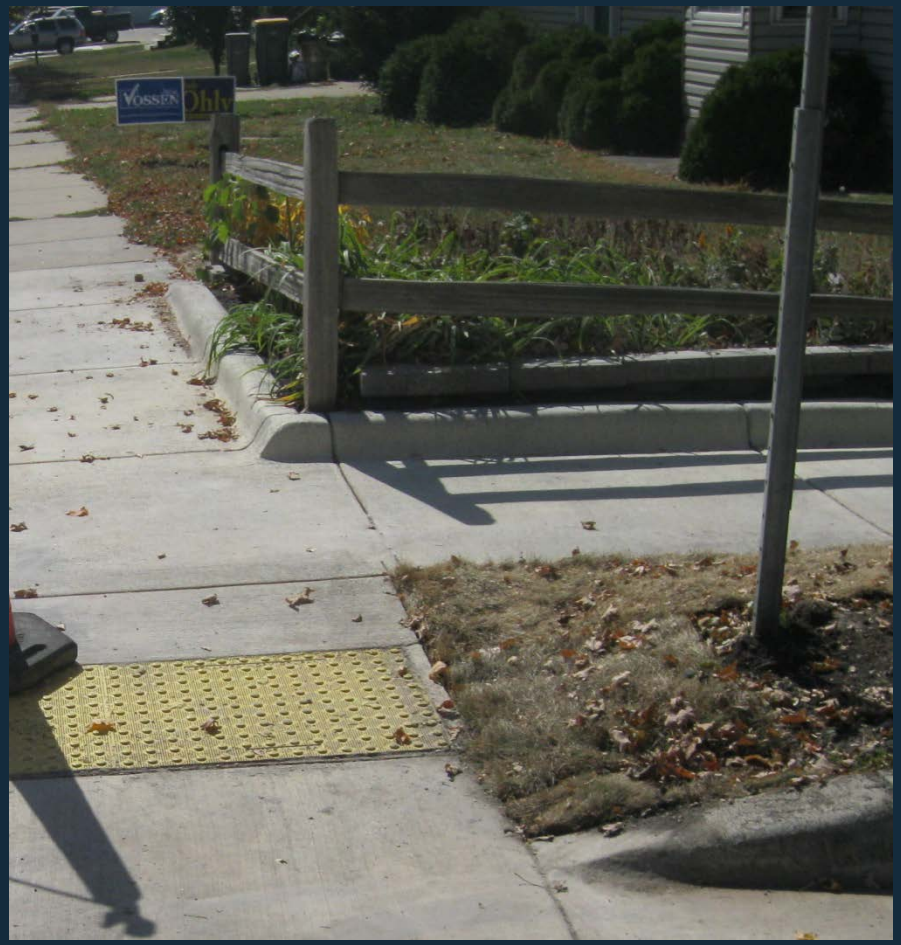
- V-curb adjacent to building

V-Curb

- V-curb adjacent to landscape and outside sidewalk limits (preferred)

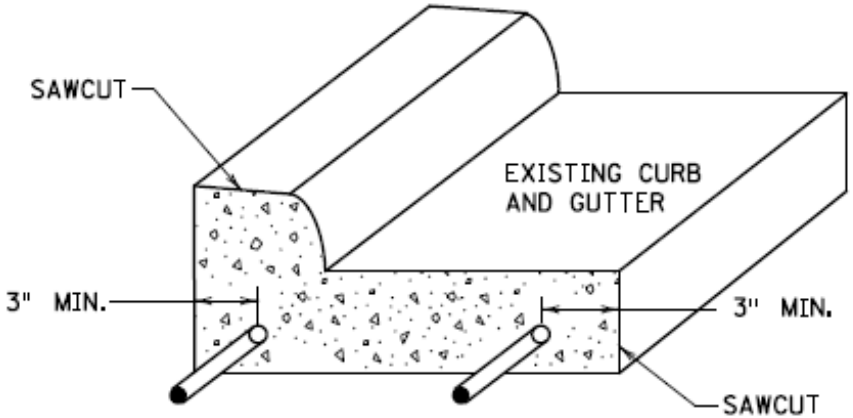
V-Curb

- V-curb adjacent to landscape and inside sidewalk limits

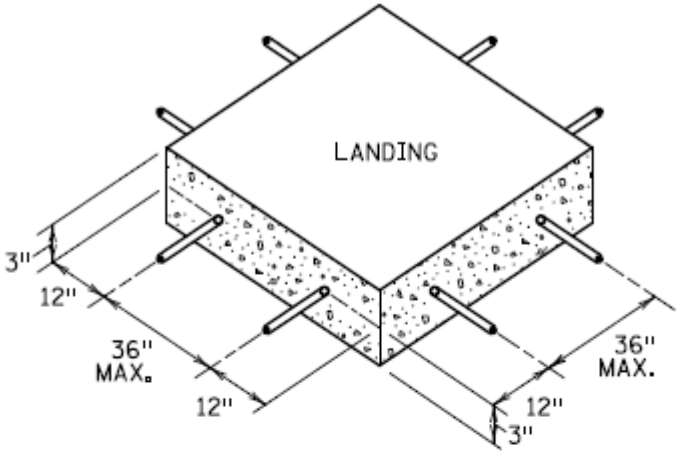


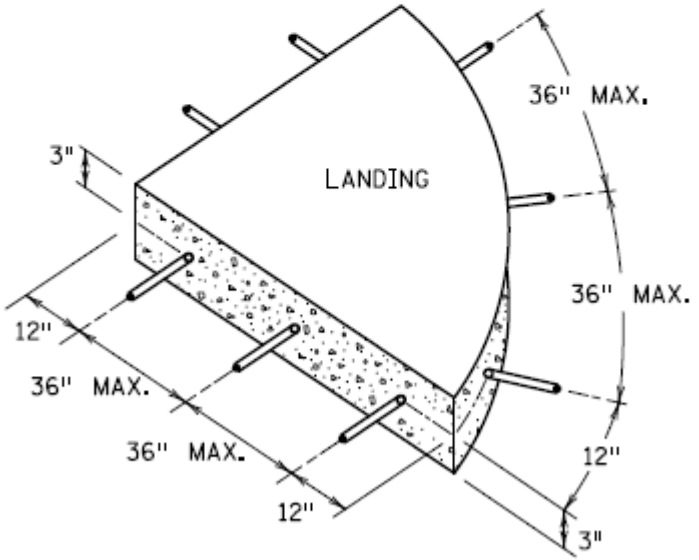
Standard Plan Sheets

New in 2013:
Reinforcement Details



CURB AND GUTTER REINFORCEMENT ⑧
FOR USE ON CURB RAMP RETROFITS





SIDEWALK REINFORCEMENT ⑤ ⑥

RR Crossing Revised in 2015

• RR Crossings Standard Plans Sheet 5 of 5 Nearest edge of detectable warning surface shall be placed 12 ft. Minimum to 15 ft. Maximum from the nearest rail. For skewed railways in no instance shall the detectable warning be closer than 12’ measured perpendicular to the nearest rail.

Traditional Vs. ADA Pay Items

TRADITIONAL PAY ITEMS
REMOVE CURB AND GUTTER
REMOVE BITUMINOUS PAVEMENT
REMOVE CONCRETE WALK
SAWING BITUMINOUS PAVEMENT
SAWING CONCRETE WALK
BITUMINOUS PATCHING MIXTURE
CONCRETE CURB & GUTTER B624
CONCRETE CURB & GUTTER B424
AGGREGATE SURFACING CLASS 5
CONCRETE CURB DESIGN V4
CONCRETE CURB DESIGN V6
4" CONCRETE WALK
6" CONCRETE WALK
COMMON EXCAVATION
COMMON BORROW
SUBGRADE PREPARATION
SELECT TOPSOIL BORROW
SODDING TYPE LAWN

ADA PAY ITEMS
REMOVE AND REPLACE BITUMINOUS PAVEMENT
MILL AND PATCH BITUMINOUS PAVEMENT
REMOVE CONCRETE WALK
CONCRETE CURB AND GUTTER
CONCRETE WALK
CONCRETE CURB DESIGN V
SITE RESTORATION

- **ADA pay items allow less time tracking quantities in the field and more time ensuring a quality product**

Remove and Replace Bit. Pavement

- **(2104) Remove & Replace Bit. Pavement – Lin Ft**
  - **Compacted bit surface to be finished flush with gutter face (¼” tolerance)**

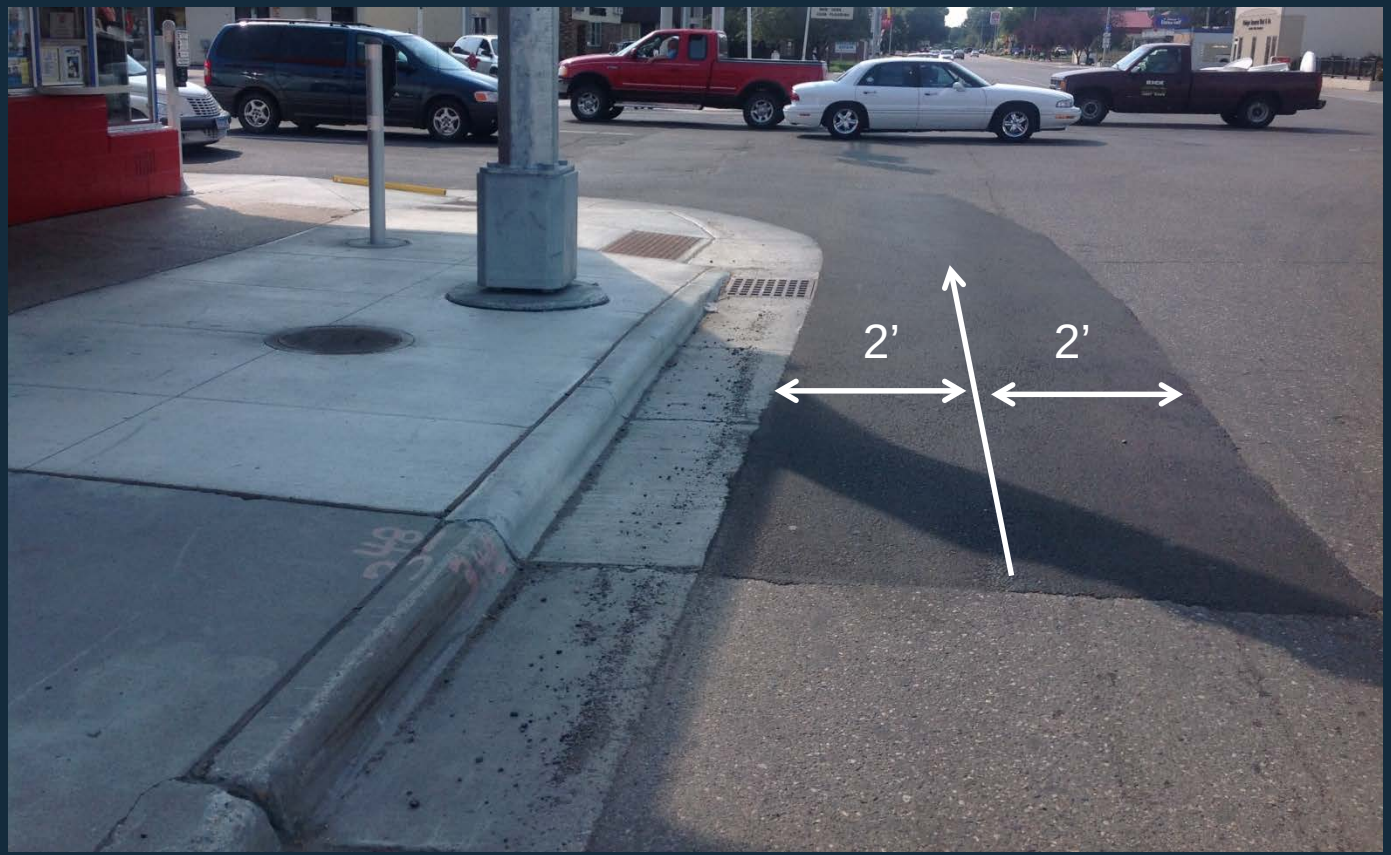
Additional Minor Pavement Removal

- **New in 2014:**

•(2104) Additional Minor Pavement Removal and Replacement: to complete work beyond the initial 2ft. width… used for replacing damage pavement or minor curb alignment changes.

Additional Minor Pavement Removal

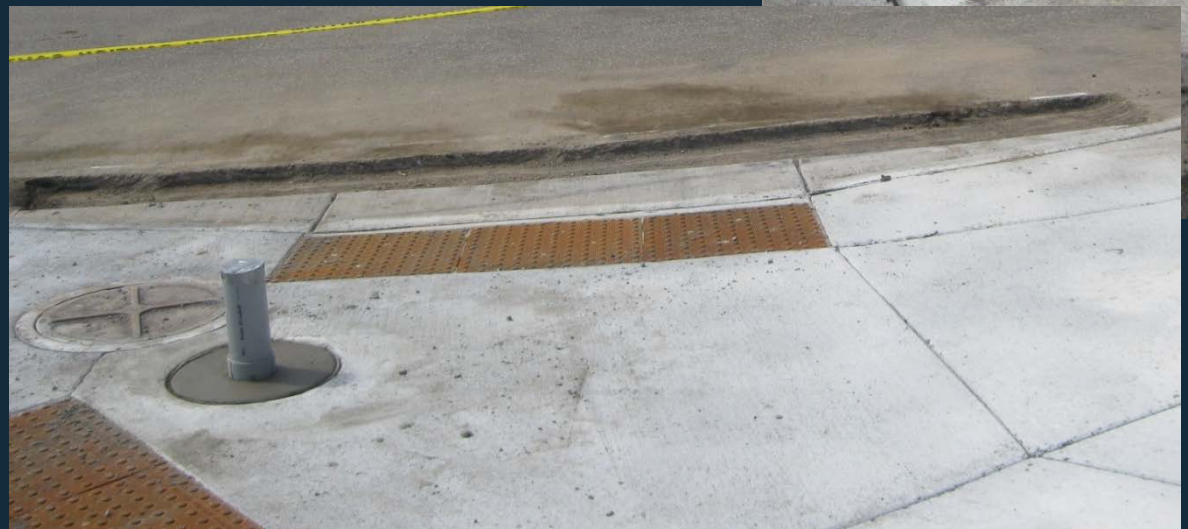
- **New in 2014:**
- **For the area beyond the 2 foot width, the basis of payment will be 1 Linear Foot of removal and replacement for every 2 Square Feet of additional affected roadway area.**



Mill and Patch Bit. Pavement

- (2232) Mill and patch bit. pavement – Lin Ft

All milling must occur before the new curb and gutter is placed.



Surface Correction

- New in 2014
- (2232) Surface Correction: If the Engineer determines that additional milling and patching is necessary this pay item can be used to complete additional minor roadway work beyond initial 2 foot width.

Surface Correction

- (2232) Surface Correction

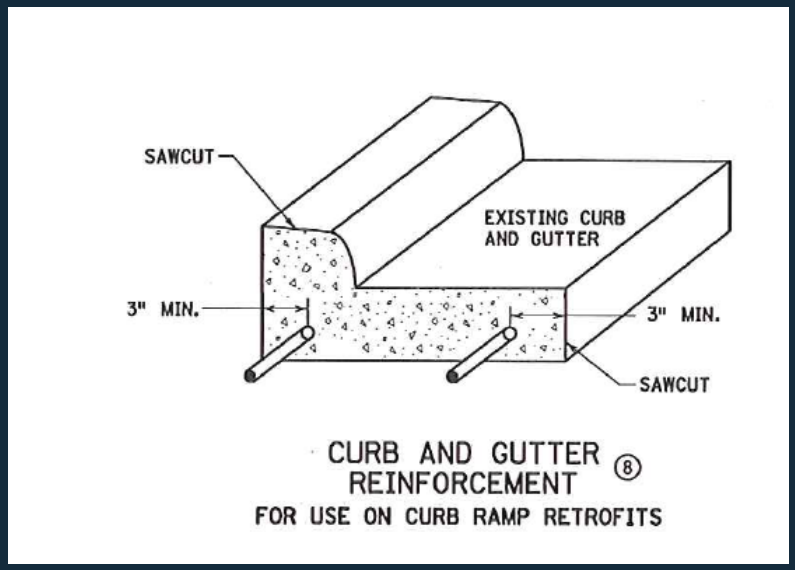
- This work could consist of correcting surface deterioration, vertical discrepancies, drainage, or similar activities in order to provide an ADA compliant street crossing.

Concrete Curb & Gutter

- **(2531) Concrete Curb and Gutter – Lin Ft**
  - This work shall consist of constructing concrete curb and gutter and the necessary aggregate base.
  - No specific curb height pay items are specified in the plan. Simply match existing curb height at removal limit and transition into PAR curb and gutter at the pedestrian ramps.

Concrete Curb & Gutter

- **(2531) Concrete Curb and Gutter – Lin Ft**
  - The transition from the existing curb and gutter section to the new curb and gutter section should occur within 5-10 feet of the point where the curb and gutter construction begins.
  - At all locations where new curb and gutter meets existing curb and gutter, place a saw cut to leave a minimum 3 feet of in place concrete curb and gutter .



- At this saw cut location the contractor shall drill and grout 2 No.4 x 12 inch long reinforcement bars.
- When not accounted for in the plan payment will be $10.00 each.

2521 Concrete Walk ADA Landings

S-3.1 CONSTRUCTION REQUIREMENTS

(A) **Concrete Walk** – The walk shall be constructed as detailed in the Plan and conform to the requirements of MnDOT 2521, Walks.

To avoid corner breaks, all walk edges shall be formed and constructed perpendicular to the back of curb and gutter sections and concrete structures for a one foot minimum distance.

All existing signs shall be salvaged and reinstalled as directed by the Engineer or as indicated in the Plan.

(B) **Grading** – If not otherwise detailed in the Plan, all fill sections shall be graded flush with the top of walk for a minimum 18 inches from the edge of walk and then down at a maximum 1:3 slope to existing terrain. The Contractor shall blend in the toe of fill slope and adjacent areas so as not to adversely affect drainage.

(C) **Landings** – An initial landing is the first required landing of a pedestrian ramp. All initial landings required at the top of a ramped sloped surface (>2% longitudinal slope), shall be formed and placed separately in an independent concrete pour. This does not include initial landings placed at roadway grade such as depressed corners, parallel ramps, rural flat landings, or flat cut-throughs. Secondary landings consist of all landings beyond the initial landing. These secondary landings do not require a separate landing pour.

Wet casting or drill and grouting of dowel bars will be required in accordance with the details shown in Standard Plan 5-297.250 Sheet 5 of 5. These bars may be either smooth or deformed and shall be installed with 2" minimum concrete cover.

When not accounted for in the Plan, payment for these bars will be made under Item 2301.602 (Drill & Grout Reinforcement Bar (Epoxy Coated)) by the Each at the Predetermined Price of $ 10.00 per bar furnished and installed. All necessary subgrade preparation and aggregate base placement for the entire ramp construction limit shall be done before the initial landing is constructed at each location.

S-3.2 METHOD OF MEASUREMENT

2521 Concrete Walk ADA Landings

An initial landing is the first required landing of a pedestrian ramp. All initial landings required at the top of a ramped sloped surface (>2% longitudinal slope), shall be formed and place separately in an independent concrete pour.

2521 Concrete Walk ADA Landings

Standard Plans Sheet 1 of 1 states :

To ensure ramps and landings are properly constructed, *landings may be cast separately*. Follow sidewalk reinforcement details on sheet 5 when landings are cast separately.

-See Standard Specifications (1504) Order of Precedence-

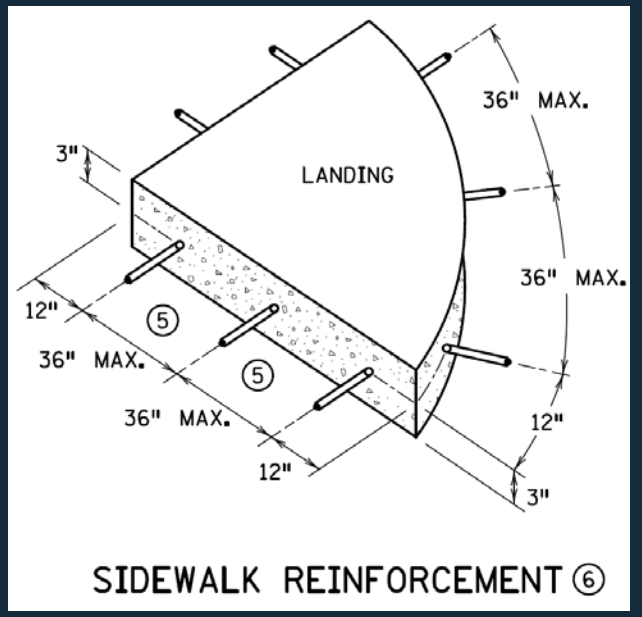
Coordination of Contract Documents

(1504) A requirement appearing in one of the contract documents is as binding as though the requirement appears in all. If discrepancies exist between the contract documents, the following Order of Precedence applies.

- Addenda
- Special Provisions
- Project Specific Plan Sheets
- Supplemental Specifications
- Standard Plan Sheets and Standard Plates
- Standard Specifications

Reinforcement Details

Wet casting or drill and grouting of dowel bars will be required in accordance with the details shown in the Standard Plans sheet 5 of 5 .



These bars may be either smooth or deformed and shall be installed with 2” minimum concrete cover.

(2521) Concrete Walk ADA

Payment will be made at the contract bid price per square foot ,including the area of walk under the truncated domes…In areas where Directional curb is constructed, the triangular area that is behind the projected back of curb line will be paid for as concrete walk.

Detectable Warning Surface

- **(2531) Truncated Domes**

  This work consists of furnishing and installing Truncated Domes System (Detectable Warning Surfaces). Rectangular Domes are measured by the S.F. / Radials are measured along the long cord and multiplied by 2 feet to compute S.F.

Concrete Curb Design V

- **(2531) Concrete Curb Design V – Lin Ft**

  This work consists of constructing Concrete Curb Design V of varying heights up to 8” as detailed in the plan.

Site Restoration

- **(2575) Site Restoration - Each**

If not otherwise detailed in the Plan, all cut section side slopes shall be finished graded flush from the top of concrete surface at a maximum 1:6 slope up to 5 feet from the edge of walk, or straight graded to the existing ground elevation 5 feet from the edge of the walk.

Site Restoration

- **(2575) Site Restoration - Each**

  Any topsoil borrow that is required and not accounted for in the Plan shall be Select Topsoil Borrow paid at $40/CY (LV).

Questions?

ADA Training Module: Standard Plans & Pay Items

Your Destination...Our Priority