FILE LOCATION: C:\Users\payton.sterud\OneDrive - Vista\Important Civil\3D\Kindred\ADADetails_PSS.dwg

ADA REQUIREMENTS:

Pedestrian facilities on this Project must be constructed according to Public Right of Way Accessibility Guidelines (PROWAG) https://www.access-board.gov/ada/ The appropriate pedestrian ramp details are included in the Plan in addition to specific ramps in which design is shown. These details are for reference only and are not necessarily to design standards. The Engineer may provide additional details to those provided in the Plan that meet PROWAG and NDDOT ADA Standards as the need arises and field conditions dictate.

1. Designate a certified person to assess proposed sidewalk layouts at each site at the preconstruction meeting. Certification is obtained by passing MnDOT's ADA Construction Certification Course, with in the past 3 years. For class dates and locations please refer to the following link at: http://www.dot.state.mn.us/ada/training.html. Other certifications may be accepted with the pre-approval of engineer.

   A minimum of one person per project must possess a valid ADA Construction Certification card anytime ADA work is being performed on the project.

   ADA work includes: assessment of proposed sidewalk layouts at each site before work begins, determining and marking removal limits for work pertaining to pedestrian facilities, ADA related removals and grading, forming and finishing of concrete at pedestrian facilities, paving pedestrian crossings, placing bituminous pedestrian facilities, final grading, and pavement markings. Any ADA work not listed above can be added at the discretion of the Engineer.

2. Pedestrian facilities must be constructed to meet the following criteria:
   A. Pedestrian Access Routes (PAR) must be constructed to meet the following:
      i. Minimum 4 feet width.
      ii. A maximum cross slope of 2.0% and minimum cross slope of 1.0%.
      iii. Vertical discontinuities must be less than 1/4 inches.
      iv. Must provide positive drainage without allowing any ponding and maintain existing drainage flow patterns unless indicated otherwise in the Plan.
      v. All grade breaks shall be constructed perpendicular to the path of travel.
      vi. Maximum 5% running slope unless adjacent roadway profile exceeds 5%.

   B. Landings are part of the PAR and must be constructed to meet the following:
      i. 4 feet by 4 feet minimum width and shall match full width of incoming PAR.
      ii. Maximum slope of 2.1% in all directions.
      iii. Required at all locations where the PAR changes directions or inverse running slopes are greater than 2.1%.
      iv. Must be connected to the PAR.
      v. Shall be constructed as a single plane surface having no grade breaks.
      vi. Initial landings must be constructed as an independent concrete pour.

   C. Ramps are part of the PAR and must be constructed to meet either of the following criteria:
      i. Longitudinal slopes less than 5% in the direction of travel require no landing at the top of the ramp (unless the PAR changes direction).
      ii. Longitudinal slopes between 5 - 8.3% in the direction of travel require a landing at the top of the ramp.

3. The Contractor and the Engineer shall work together to construct all pedestrian facilities outlined in the plans and in the requirements listed above.

   Before any ADA construction begins, the Project Engineer will schedule and facilitate an onsite pre-activity meeting consisting of a project walk-through with the Prime Contractor and the Concrete Flatwork Contractor's ADA Construction Certified person. This pre-activity meeting should discuss and document potential issues, any known plan changes, potential discrepancies, and any modifications to the construction plan. The project team should discuss the ADA construction schedule and incorporate it into the requirements of Progress Schedules, including the 2-week look ahead meetings for ADA activities. The discussion should include the sequence of removals and grading, utility placement and relocations, concrete curb and gutter, curb ramp, sidewalk, driveway placements, signals and lighting, temporary pedestrian access including both commercial and residential access, Temporary Pedestrian Access Routes/Alternate Pedestrian Access Routes, and traffic control staging. The Contractor should discuss what equipment, formwork, and materials will be utilized on the project and how the pedestrian facilities will be constructed.

   Notify the Engineer if the plan or site conditions do not allow PROWAAG and NDDOT ADA standards to be met, the Contractor shall consult with the Engineer to determine a resolution. The Engineer shall respond to the Contractor, in a timely manner (up to 24 hours), with a solution on how to proceed. The Contractor shall mitigate any potential delays by progressing other available work on the project.

   The Engineer will, upon request of the Contractor, review the forms for general compliance. This does not indemnify the Contractor from their responsibility to ensure compliance.

   Pedestrian facilities constructed that are not in accordance with the Plan, do not meet requirements above, or do not follow the agreed upon resolution with the Engineer, will be corrected by the Contractor at no expense to the Owner.

   The following will be utilized in the construction of pedestrian facilities:

   A. Removal Limits
      i. The Contractor and the Engineer shall use the appropriate ramp, sidewalk, and driveway details in the Plan, and calculate the removal limits for the sidewalk and curb and gutter. If it is determined that the removal limits will exceed the plan removal limits by more than 10 feet and the plan removal limits are not adequate to meet PROWAG and NDDOT ADA Standards the Contractor shall consult with the Engineer to determine a solution. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may finish the removals.

   B. Curb and Gutter at Quadrants
      Prior to pouring the curb and gutter at curb ramps the Contractor and the Engineer must verify:
      i. that the curb and gutter will work with any vertical constraints (doorways, steps, bus stops, outwalks and landing areas).
      ii. zero height curb, and curb transitions will be located as shown in the Plans and will provide an adequate detectable edge as shown on Standard Drawings and ADA Details.
      iii. verify curb tapers are constructed at correct heights so that positive boulevard slopes and drainage is maintained away from landings and sidewalks, to the newly constructed curb and gutter sections.
      iv. gutter flow lines shall provide positive drainage, maintain existing drainage patterns including existing gutter inflows/outflows. The curb and gutter shall be constructed as detailed in the Plan with a defined flow line and have no vertical discontinuities over 1/4 inch. For required flow line corrections including curb line raises and curb ramp cross slope "tabling", see Standard Drawings and ADA Details. Curb shall be poured at 3 percent inflow and outflow around the radius or at a minimum distance of 10 feet from any zero height curb section when machine placed. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.
      v. Contractor to verify outflow curb is needed, with valley gutter or as shown on the Plan.

   C. Curb and Gutter at Roadway Sections
      Prior to pouring curb and gutter at roadway sections the Contractor must verify:
      i. Proposed curb and gutter heights will work with existing roadway and shoulder slopes.

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ADA NOTES
DRAWING NO. 1
CITY OF KINDRED ENGINEERING

CITY ENGINEER APPROVED:	BLO	DATE: 04.17.26
PUBLIC WORKS APPROVED:	RAS	DATE: 04.17.26
CITY COUNCIL APPROVED DATE:	05.06.26	

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ii. The Contractor shall verify prior to placing the pedestrian facilities that positive drainage is maintained within public Right of Way (RW), as well as maintaining existing drainage outside of the ROW. The Contractor shall check to ensure all top back of curb elevations will allow for adequate boulevard slopes, PAR slopes, and widths as shown on Standard Drawings and ADA details while maintaining vertically constrained match points (doorways, steps, bus stops, outwalks and landing areas).

iii. The Contractor shall check all driveway locations and widths and conform to construction plans, and Sidewalk & Driveway Standard drawings for all driveway details including curb heights and curb tapers. Driveway curb sections and aprons shall be constructed to minimize changes in the sidewalk width, alignment, and profile. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and the Contractor reach agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.

iv. When curb ramps are adjacent to bituminous roadways the concrete curb and gutter and curb ramps including concrete flares shall be tied or curb with ledge. Drill and grout tie bars in accordance with the details shown in the ADA Details.

D. Grading, Forming and Finishing:
Foundation preparation work shall consist of constructing all necessary Subgrade Preparation, Aggregate Base, and Grading as indicated in the Specifications and project plans. The testing for pedestrian facilities grading shall be in accordance with the Specifications.

After the curb and gutter has been correctly poured, and the Contractor has set the sidewalk forms, the Contractor shall verify prior to placing the curb ramps and sidewalks that positive drainage is maintained within public RW, as well as maintaining existing off RW drainage, and that all the requirements above will be achieved.

i. Ramps
In addition, the longitudinal slopes shown in the Construction Plans and the Standard Plan shall be utilized unless these conditions cannot be met. The starting point for setting the forms on the controlling ramp leg, landing, and sidewalk slopes should be the following:

Standard = 7.7%
Fan = 4%
Landing = 1.5%
Sidewalk Cross Slope = 1.5%

If any of these requirements cannot be met the Contractor shall meet with the Engineer to determine the best solution. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed with the curb ramp and sidewalk pour.

ii. Landings
An initial landing is the first required landing of a pedestrian ramp. The initial curb ramp landing should be constructed within 15 feet from the back of curb, only applicable when the initial ramp running slope is over 5.0%. Secondary curb ramp landings are required for every 30" of vertical rise when the longitudinal running slope is greater than 5%. All initial landings required at the top of a ramped sloped surface (greater than 5% 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. The Contractor shall verify initial landing alignments and elevations to ensure ramp slopes are correct prior to placing curb and gutter. At a minimum this must include string line verification or the setting of landing forms

iii. Driveways
The PAR shall be formed and placed independently from adjacent driveways components.

All subgrade preparation and grading for the driveways, including placement of select grading materials and aggregate base, shall be completed prior to constructing any concrete driveway flatwork including concrete walk sections, driveway crossing plate sections, and concrete apron sections.

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.

4. It shall be the responsibility of the Contractor, or Contractor's Surveyor if applicable, to lay out all proposed work at each intersection in accordance with the Plan and requirements listed herein. The Contractor may confer with the Engineer for guidance in laying out the proposed work, but it will be the Contractor's responsibility to ensure the proposed work meets all the above listed requirements, Specifications, Standard Drawings and ADA Details. This layout includes, but is not limited to placement of grade breaks, curb transitions, gutter flow lines, truncated dome placement, crosswalk marking placement, flares, landing limits, removal limits, driveway tie in limits, and ramp limits. It is important that the Contractor lay out this work properly to achieve the construction of a compliant pedestrian facility. The Owners surveyor will only stake points and elevations provided in the Plan. For custom designs, other than specific dimensions provided in the Plan, the Contractor shall be expected to scale dimensions from the Plan as needed to construct the facility. If scaled dimensions do not allow for a facility to be constructed to meet the requirements, the Contractor shall follow the process listed above. This layout work shall be incidental.

5. The Contractor shall utilize measures and methods when working near existing buildings that will avoid damaging the building's face or structure. The contractor will be responsible for any damage to the building's face or structure, both below and above ground. Any damage resulting from Contractor's operations will be repaired at the Contractor's expense to the satisfaction of the Engineer.

6. The Contractor shall sawcut all concrete curb ramp, sidewalk, and driveway contraction joints. The only exception to the saw cutting contraction joints requirements will be for tooling relief joints on large driveway placements, and long sidewalk placements to prevent random cracks, and for tooling joints on minor repairs.

The Contractor shall snap chalk lines for contraction joint layouts and discuss with the Engineer the locations of all saw cutting, tooled contraction relief joints, and any modifications to Standard Drawings and ADA Details.

The Contractor and Engineer shall coordinate and agree on all expansion joint layouts before any concrete placements.

The Contractor shall saw cut curb and gutter contraction joints within the PAR including contraction joints at zero-inch height curb locations.

7. The Contractor will round all joints and edges with a 1/4 inch radius grooving or edging tool within the PAR where minor tooling is permitted. This requirement includes all curb and gutter joints at zero inch height curb sections at curb ramps. Contraction joints shall extend to at least 30 percent of walk thickness. The Contractor shall also have the option of providing saw cuts to construct the sidewalk joints. If saw cutting, provide 1/8 inch wide contraction joints within the PAR, including all curb and gutter joints at zero inch height curb sections. When greater than 50 feet of continuous sidewalk runs are constructed the Contractor shall saw cut all joints. This work shall be incidental.

The top grade break of walkable flares needs a visual joint to indicate a change in grade. To eliminate the use of excessive contraction joints in the quadrant the visual joint depth requirement is reduced to 1/4 inch.

All saw cutting, tooling, expansion joint material, and separation joint material shall be incidental to payment of curb and gutter, sidewalks, driveways, curb ramps, and landings.

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ADA NOTES
DRAWING NO. 2
CITY OF KINDRED ENGINEERING
CITY ENGINEER APPROVED: BLO DATE: 04.17.26
PUBLIC WORKS APPROVED: RAS DATE: 04.17.26
CITY COUNCIL APPROVED DATE: 05.06.26

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The Contractor shall use an approved 1/2 inch expansion material meeting the Specifications between the outside edge of sidewalk and existing building or structures. No expansion or separation material shall not be placed in the longitudinal joint between the sidewalk and boulevard joint, unless it is necessary to provide expansion at fixed structures.

At locations where sidewalk is adjacent to existing buildings, extend walk up to the edge of building and place minimum 1/2 inch preformed joint filler 1/2 inch lower than top of walk whenever possible. If the transverse sidewalk and boulevard joint layouts cannot be aligned, use approved preformed joint filler with a maximum 1/8 inch width and place between the sidewalk and boulevard to prevent contraction joints from migrating into the adjacent concrete panels.

8. The minimum continuous and unobstructed clear width of a Pedestrian Access Route shall be 4.0 feet. All new or reconstructed sidewalk widths shall match or exceed in place sidewalk and in no case shall it be less than 4.0 feet in width except at locations where obstructions cannot be moved or at driveways where slopes exceed the maximum allowable grades. The cross slope of the sidewalk or shared use path shall not exceed 2.1%, and shall be measured perpendicular to the path of travel across the entire surface width of the sidewalk or shared use path. Curb ramps should match proposed sidewalk PAR width and shall match full shared use path widths. Whenever possible, the entire landings should be placed in a single concrete placement. If this is not possible due to construction staging, follow requirements for reinforcement bar placement and tie adjacent landings together.

   In areas where the sidewalk is to be constructed around fixed structures and the grade has been changed, the sidewalk shall be finished around these structures to the satisfaction of the Engineer at no additional cost.

   The Ramp thickness shall be 6” reinforced, all 4” sidewalk and landings shall be reinforced. Reinforcement to follow Sidewalk Detail. Tie to existing sidewalk and curb per details.

   Architectural elements such as brick pavers, concrete stamping, and multiple colored concrete placements shall be kept outside the curb ramps and landing areas. Any architectural elements that do not maintain a consistent flat smooth surface shall not be used within the PAR.

9. Any contradictions between these notes, the NDDOT Standard Drawings or specifications, and the ADA Details shall be resolved by the Engineer.

10. LANDSCAPE CURB: Grade adjacent grassed areas to sidewalk at a maximum 10% slope. Field Engineer will coordinate with property owners of adjacent private property in need of grading improvements. If property owner will not allow grading improvements within private property, Landscape Curb will be installed per the drawings to avoid disruption to private property. Landscape Curb will also be required in areas where grading is not feasible due to constraints such as an existing fence, pavement, or landscaping. Field Engineer and Contractor to confirm if Landscape Curb is required at all ADA ramp improvement locations. Include all costs to install Landscape Curb as indicated on the drawings in the price bid for “Landscape Curb”.

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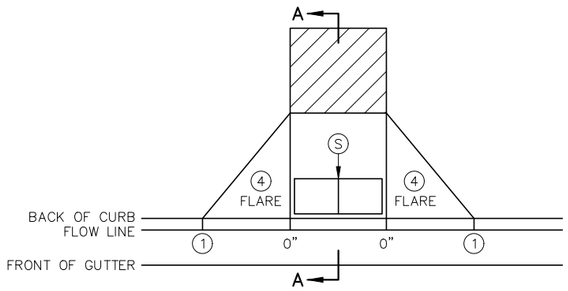
ADA NOTES

DRAWING NO. 3

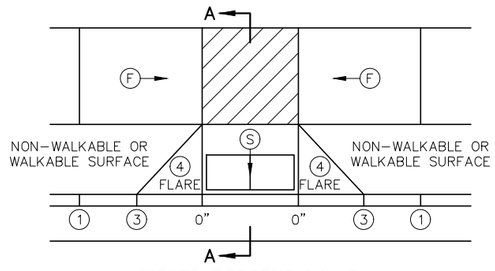
CITY OF KINDRED ENGINEERING

CITY ENGINEER APPROVED:	BLO	DATE: 04.17.26
PUBLIC WORKS APPROVED:	RAS	DATE: 04.17.26
CITY COUNCIL APPROVED DATE:		05.06.26

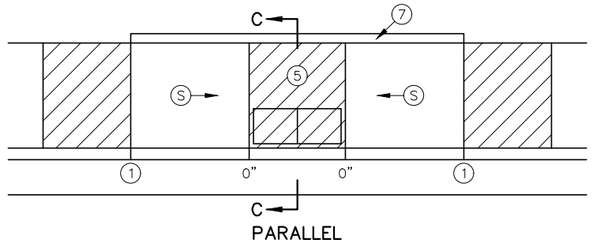
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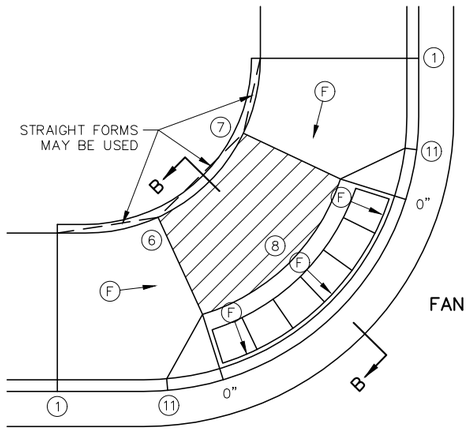
PERPENDICULAR



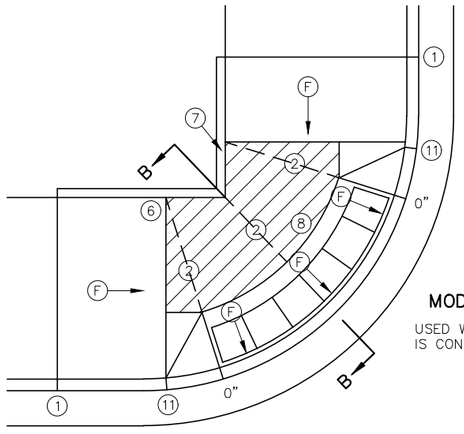
TIERED PERPENDICULAR



PARALLEL

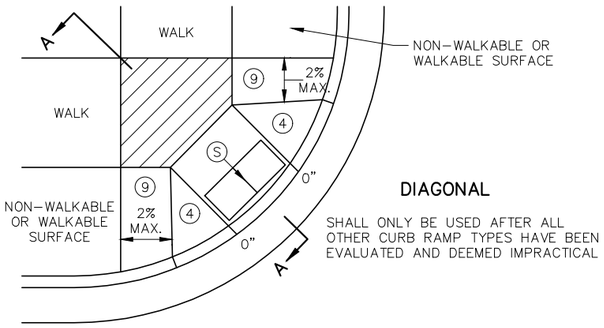


FAN (10)



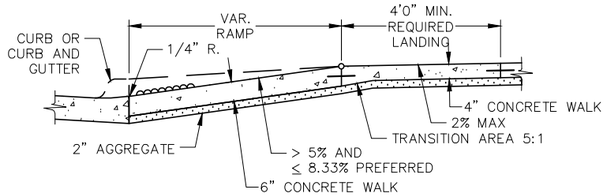
MODIFIED FAN (10)

USED WHEN RIGHT–OF–WAY IS CONSTRAINED

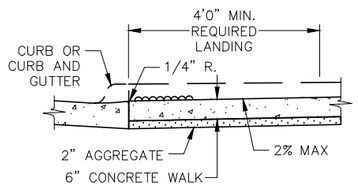


DIAGONAL

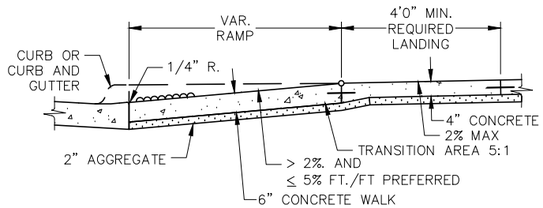
SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL



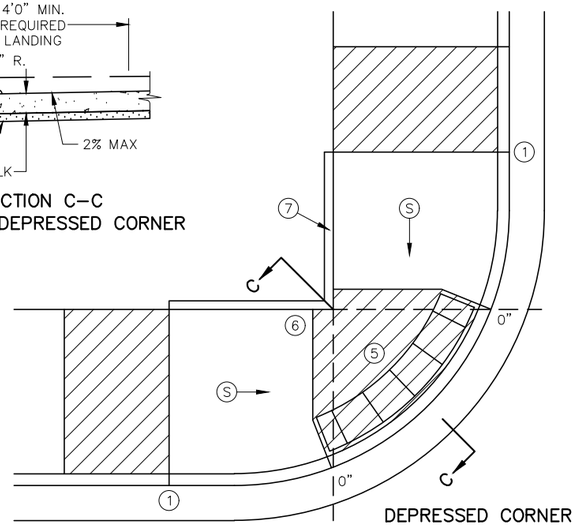
SECTION A–A
PERPENDICULAR/TIERED/DIAGONAL



SECTION C–C
PARALLEL/DEPRESSED CORNER



SECTION B–B
FAN



DEPRESSED CORNER

GENERAL NOTES:

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. ¼" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO THE WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN 6. BELOW).

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT THE TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2.0%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON DRAWING NO. 9 FOR ALL SEPARATELY POURED INITIAL LANDINGS.

WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING PANELS IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 2" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0"–2" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE NO MORE THAN 6" LESS THAT THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 2" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 2" MINIMUM TO 6" MAXIMUM FROM BACK OF CURB.

(#) NOTES:

1. MATCH FULL HEIGHT CURB.
2. 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
3. 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
4. SEE DRAWING NO. 7, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
5. DETECTABLE WARNINGS MAY BE PART OF THE 4'x4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
6. THE GRADE BREAK SHALL BE PERPENDICULAR TO BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
7. WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. TYPE I CURB IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER TYPE I CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW AND ICE REMOVAL.
8. A 7' MIN. TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
9. PAVE FULL WIDTH OF WALK.
10. "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
11. INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE 8–10% TO A MINIMUM OF 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT 2"+ IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

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% (1.5% PREFERRED)

(F) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0% (1.5% PREFERRED)

LANDING AREA – 4'x4' MIN. (5'x5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS (1.5% PREFERRED). LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

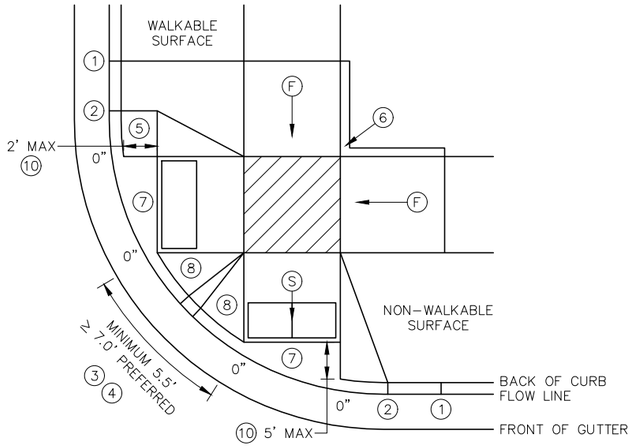
X" CURB HEIGHT

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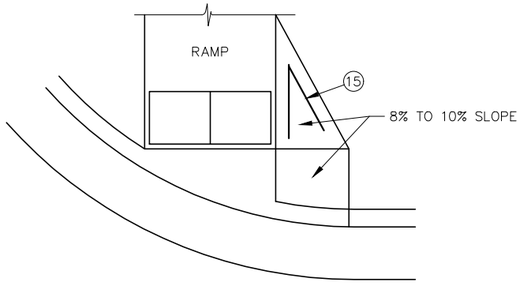
K ND

ADA DETAILS
DRAWING NO. 4
CITY OF KINDRED ENGINEERING
CITY ENGINEER APPROVED: BLO DATE: 04.17.26
PUBLIC WORKS APPROVED: RAS DATE: 04.17.26
CITY COUNCIL APPROVED DATE: 05.06.26

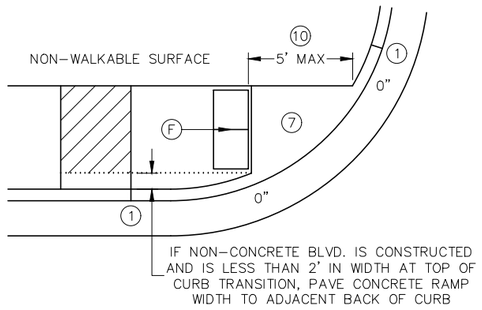
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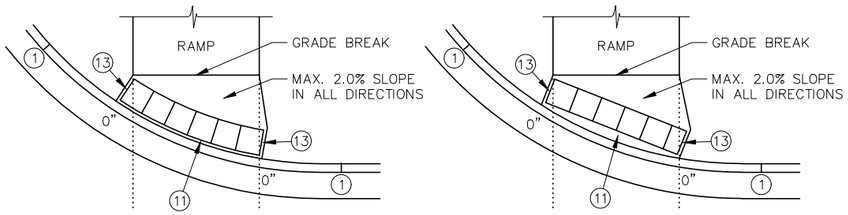
COMBINED DIRECTIONAL



DIRECTIONAL RAMP WALKABLE FLARE

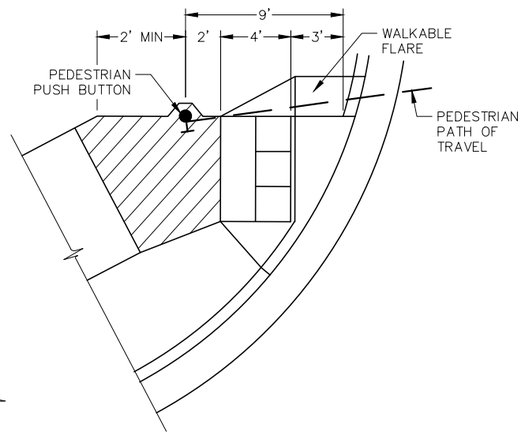


STANDARD ONE-WAY DIRECTIONAL (9)



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED (12)

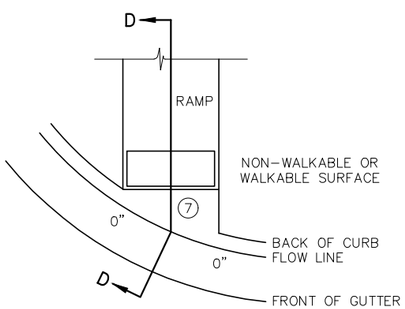
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

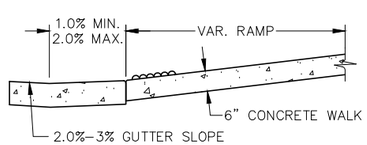


SEMI-DIRECTIONAL RAMP (3)(4)(9)

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)





SECTION D-D

CURB FOR DIRECTIONAL RAMPS (14)

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% (1.5% PREFERRED)

(F) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0% (1.5% PREFERRED)

LANDING AREA – 4'x4' MIN. (5'x5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS (1.5% PREFERRED). LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

GENERAL NOTES:

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. ¼" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO THE WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

FOLLOW SIDEWALK REINFORCEMENT DETAILS ON DRAWING NO. 9 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURD TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING PANELS IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 2" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0"-2" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE NO MORE THAN 6" LESS THAT THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 2" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES 10 & 11 FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

(#) NOTES:

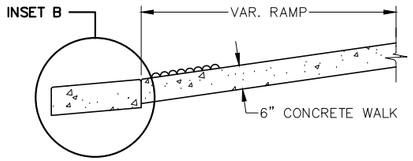
1. MATCH FULL HEIGHT CURB.
2. 3" HIGH CURB WHEN USING A 3' LONG RAMP
   4" HIGH CURB WHEN USING A 4' LONG RAMP.
3. 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
   4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4. THE "BUMP" IN BETWEEN RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
5. WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE DETAIL ON THIS SHEET.
6. GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. TYPE I CURB IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER TYPE I CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW AND ICE REMOVAL.
7. 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.
8. 8% TO 10% WALKABLE FLARE.
9. PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
10. 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 2" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BE A USER WHO IS VISUALLY IMPAIRED.
11. RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 2" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
12. FOR DIRECTIONAL RAMPS WITH DETECTABLE WARNINGS PLACED AT BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
13. THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 2" BETWEEN THE EDGE OF DOMES AND EDGE OF CONCRETE.
14. TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
15. PLACE 2 NO. 4 BARS 4" FROM SIDE OF FORMS WITH A MINIMUM 2" OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

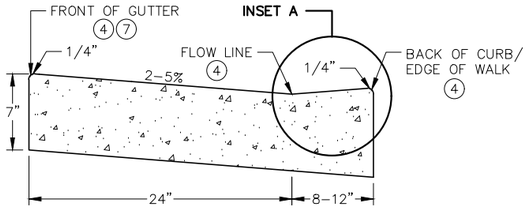
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K ND

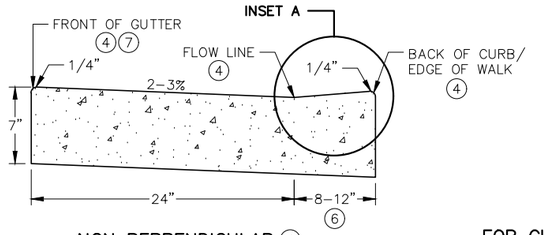
ADA DETAILS
DRAWING NO. 5
CITY OF KINDRED ENGINEERING
CITY ENGINEER APPROVED: BLO DATE: 04.17.26
PUBLIC WORKS APPROVED: RAS DATE: 04.17.26
CITY COUNCIL APPROVED DATE: 05.06.26

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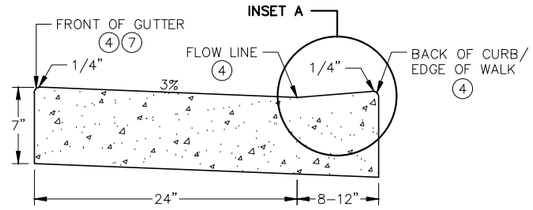


PERPENDICULAR (1)

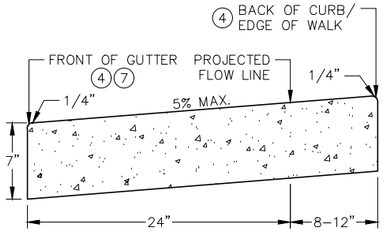


NON PERPENDICULAR (1)

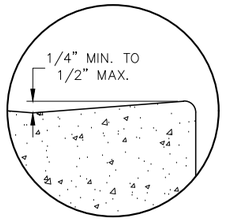
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



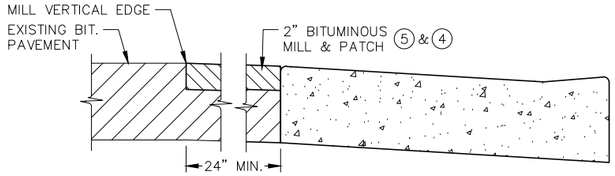
FOR CURB MACHINE PLACEMENT AROUND RADIUS (3)
(REGARDLESS OF RAMP TYPE)

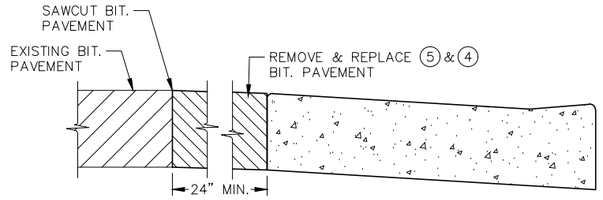


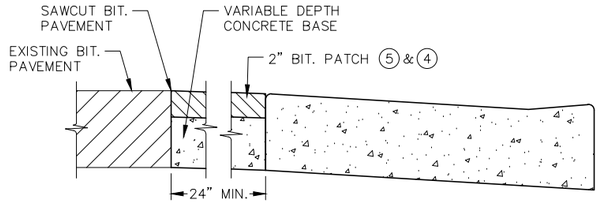
INSET B
OUTFLOW GUTTER (8)



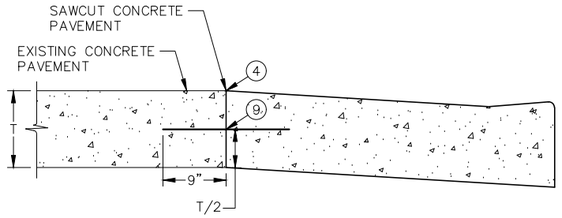
INSET A



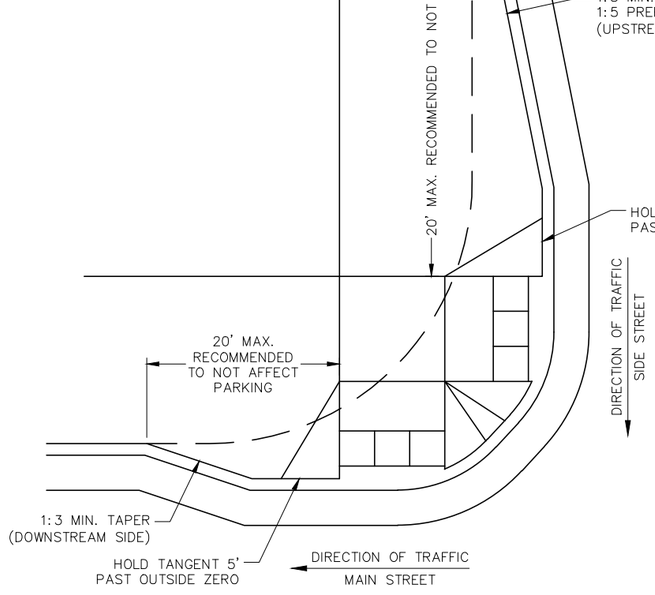




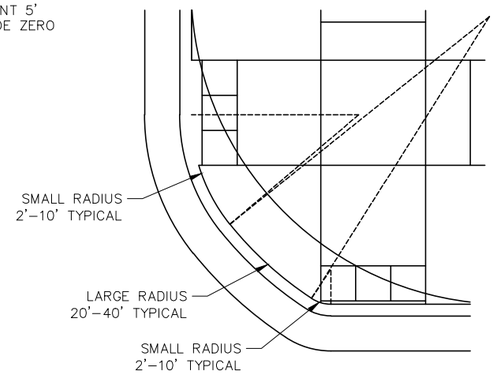
ONLY ALLOWED PER ENGINEER'S APPROVAL



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



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT)



COMBINED DIRECTIONAL (10)
(COMPOUND RADIUS)

GENERAL NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR). NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN ¼".

(#) NOTES:

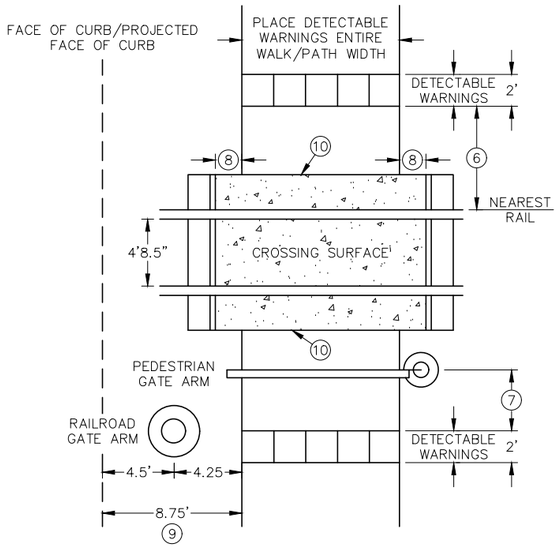
1. FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
2. FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
3. BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
4. THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN ¼".
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. SEE DRAWING NO. 5 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
7. TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
8. SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENT.
9. DRILL AND GROUT NO. 4 EPOXY COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
10. HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
11. CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

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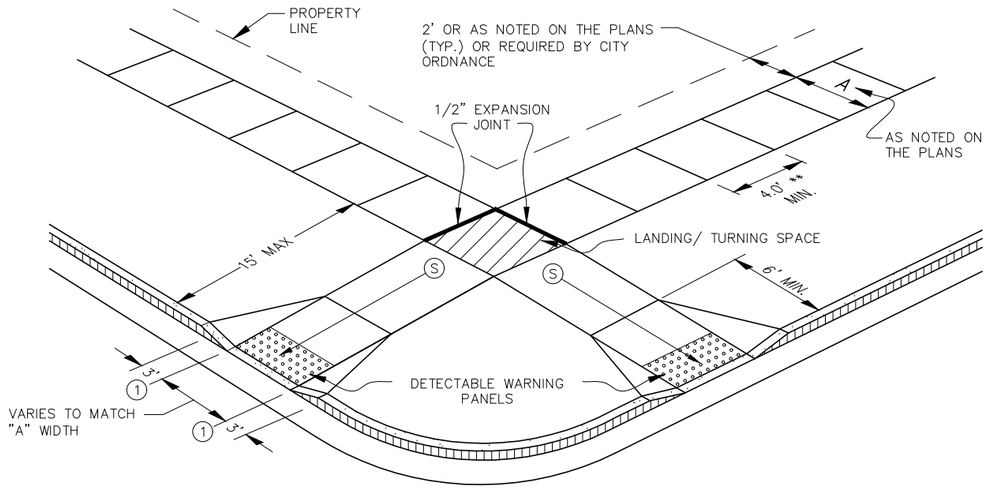
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ADA DETAILS
DRAWING NO. 6
CITY OF KINDRED ENGINEERING
CITY ENGINEER APPROVED: BLO DATE: 04.17.26
PUBLIC WORKS APPROVED: RAS DATE: 04.17.26
CITY COUNCIL APPROVED DATE: 05.06.26

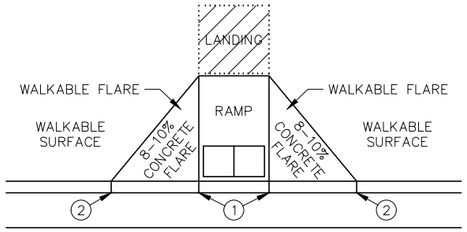
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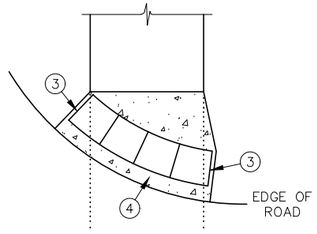
RAILROAD CROSSING PLAN VIEW



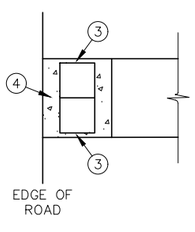
DETECTABLE EDGE WITH CURB AND GUTTER (5)



PAVED FLARES
ADJACENT TO WALKABLE SURFACE

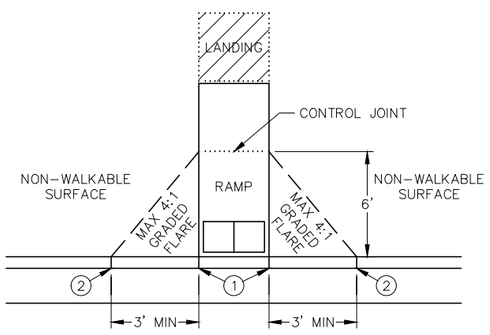


RADIAL DETECTABLE WARNING



RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

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% (1.5% PREFERRED)

(F) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0% (1.5% PREFERRED)

LANDING AREA – 4'x4' MIN. (5'x5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS (1.5% PREFERRED). LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

GENERAL NOTES:

INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8–10% TO A MINIMUM 3 INCH CURB HEIGHT INCREASE CURB TAPER LENGTH AT LESS THAN 8% OF REDUCE INTERMEDIATE CURB TO 2"+ IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

SEE SPECIFICATION AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

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

(#) NOTES:

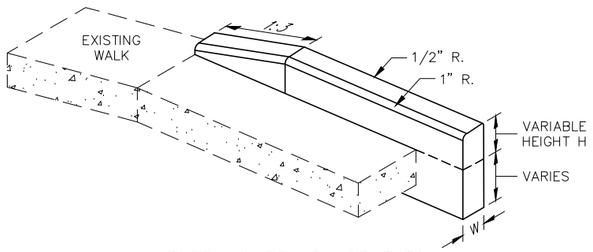
1. 0" CURB HEIGHT. SEE INSET A ON DRAWING NO. 6.
2. FULL CURB HEIGHT.
3. WHEN NO CONCRETE FLARES ARE PROPOSED. THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 2" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
4. IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED USE PATH TO PROVIDE VISUAL CONTRAST.
5. 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" MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3" IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
6. 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.
7. 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. THIS CRITERIA GOVERNS OVER NOTE 11.
8. CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED USE PATH.
9. SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
10. CONSTRUCT WITH EXPANSION MATERIAL PER SPECIFICATION. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

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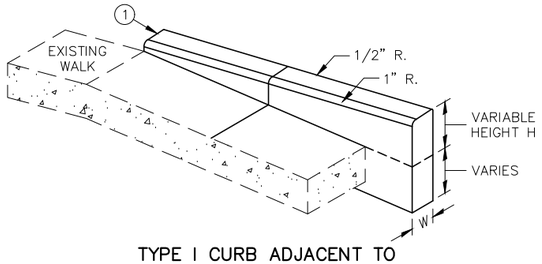
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ADA DETAILS
DRAWING NO. 7
CITY OF KINDRED ENGINEERING
CITY ENGINEER APPROVED: BLO DATE: 04.17.26
PUBLIC WORKS APPROVED: RAS DATE: 04.17.26
CITY COUNCIL APPROVED DATE: 05.06.26

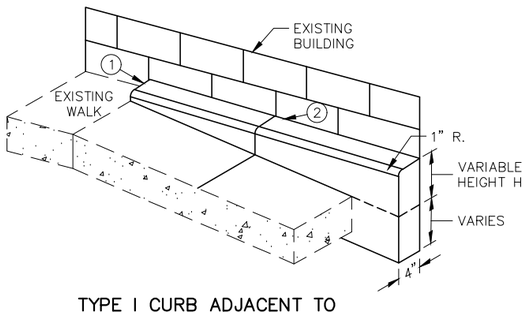
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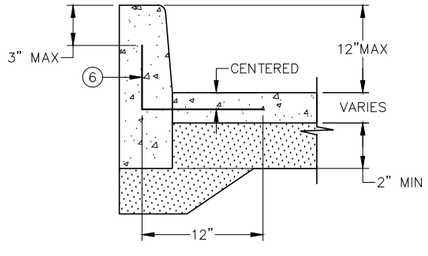
TYPE I CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



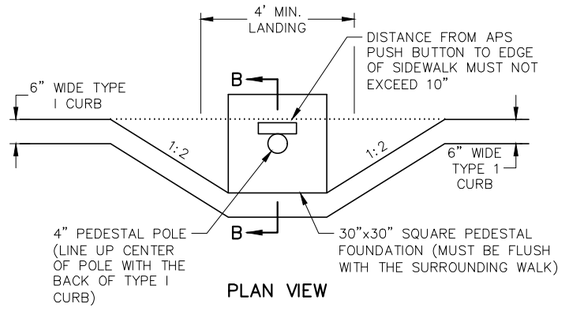
TYPE I CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



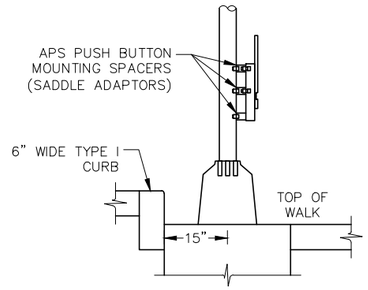
TYPE I CURB ADJACENT TO BUILDING OR BARRIER



TYPE I CURB REINFORCEMENT

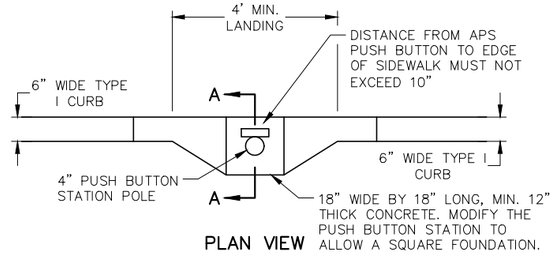


PLAN VIEW

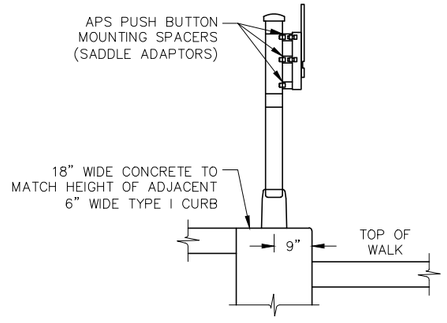


SECTION B–B

SIGNAL PEDESTAL & PUSH BUTTON (TYPE I CURB)

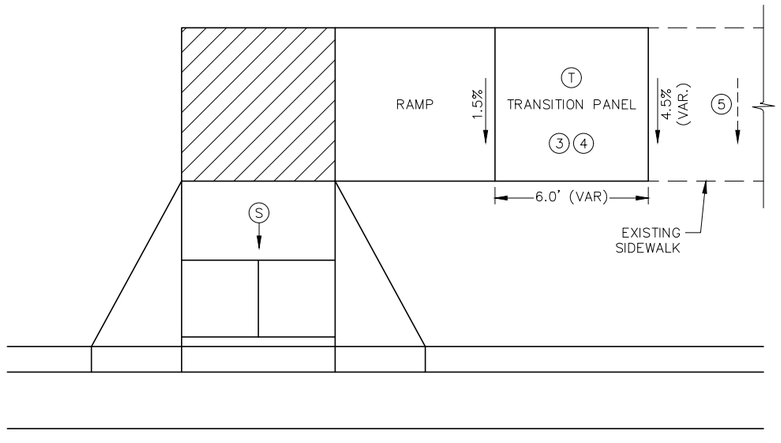


PLAN VIEW

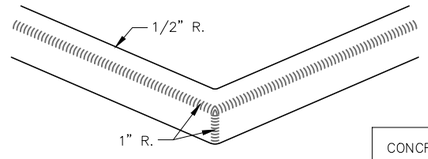


SECTION A–A

PUSH BUTTON STATION (TYPE I CURB)



TRANSITION PANEL 3 4



TYPE I CURB INTERSECTION

CONCRETE CURB DESIGN TYPE I	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≤6"	6"

GENERAL NOTES:

A WALKABLE FLARE IS AN 8–10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL TYPE I CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

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

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

TYPE I CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL BE 1" ABOVE PREVIOUS TOP OF SIDEWALK ELEVATIONS.

(#) NOTES:

1. END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
2. CONSTRUCT USING APPROVED EXPANSION MATERIAL PER SPECIFICATIONS. LEAVE A MAXIMUM ½" TOP GAP.
3. THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1 LINEAR FOOT OF SIDEWALK PER 1 PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OF THE RUNNING SLOPE IS GREATER THAN 5% DOUBLE THE CALCULATED TRANSITION LENGTH.
4. TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
5. EXISTING CROSS SLOPE GREATER THAN 2.0%.
6. #3 "L" BAR AT 48" O/C (H)<6"
   #3 "L" BAR AT 24" O/C (H)>6"

LEGEND

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

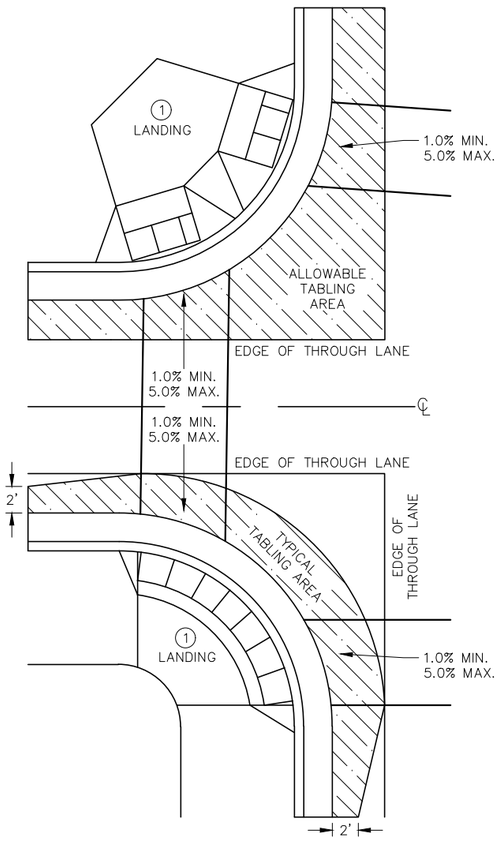
- (S) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0% (1.5% PREFERRED)
- (F) INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0% (1.5% PREFERRED)
- LANDING AREA – 4'x4' MIN. (5'x5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS (1.5% PREFERRED). LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

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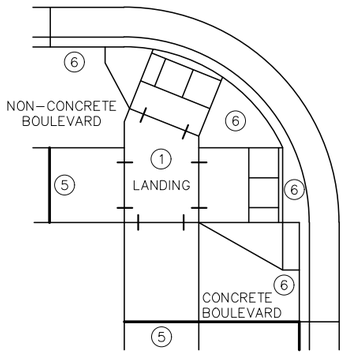
K ND

ADA DETAILS
DRAWING NO. 8
CITY OF KINDRED ENGINEERING
CITY ENGINEER APPROVED: BLO DATE: 04.17.26
PUBLIC WORKS APPROVED: RAS DATE: 04.17.26
CITY COUNCIL APPROVED DATE: 05.06.26

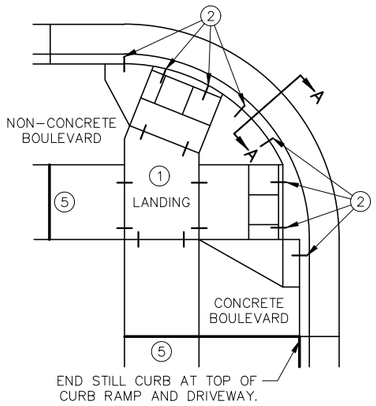
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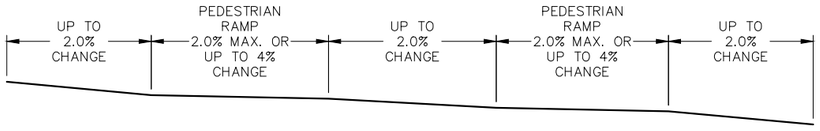
CURB LINE AND ROAD CROSSING ADJUSTMENTS



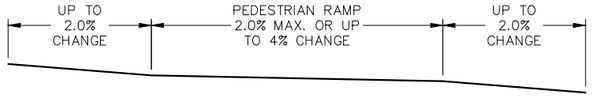
EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS



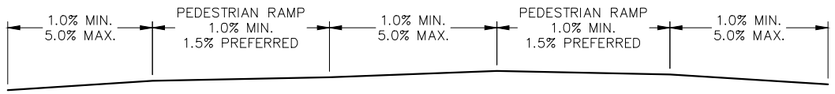
CURB LINE REINFORCEMENT PLACEMENT ④
ON BITUMINOUS ROADWAYS



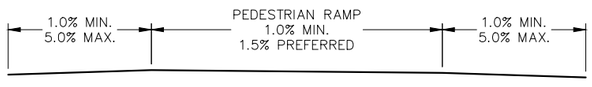
FLOW LINE PROFILE "TABLE" – TWIN PERPENDICULARS



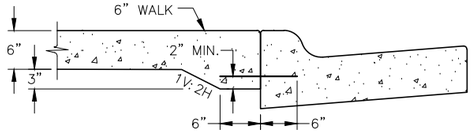
FLOW LINE PROFILE "TABLE" – FAN



FLOW LINE PROFILE RAISE – TWIN PERPENDICULARS

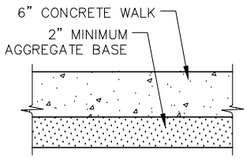


FLOW LINE PROFILE RAISE – FAN

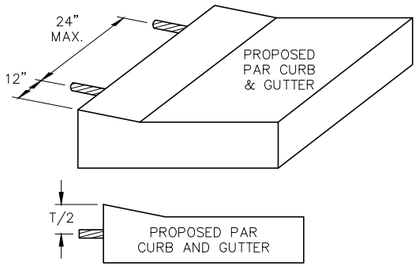


SECTION A–A

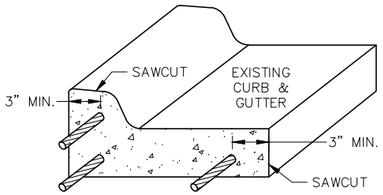
THICKENED SECTION
THROUGH CURB RAMP FLARES



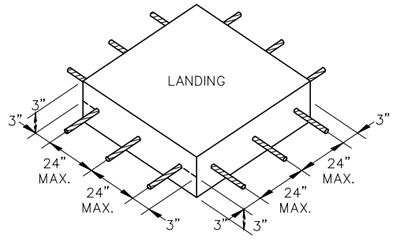
TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

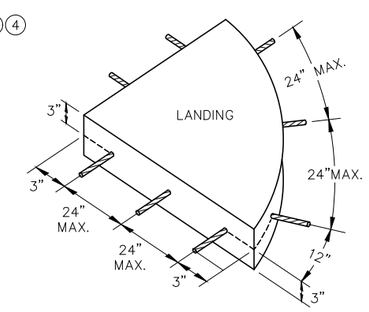


CURB RAMP REINFORCEMENT DETAILS ②④



CURB AND GUTTER REINFORCEMENT ③





SEPARATE LANDING POUR REINFORCEMENT ①②

GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2.0% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WRAPPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

1. 1.0% MIN. CROSS–SLOPE OF THE ROAD
2. 5.0% MAX. CROSS–SLOPE OF THE ROAD
3. "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4. UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND–ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL–DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

1. 1.0% MIN. AND 5.0% MAXIMUM CROSS–SLOPE OF THE ROAD
2. 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3. 5.0% RECOMMENDED MAX. FLOW LINE
4. LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

(#) NOTES:

1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 24" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
3. DRILL AND GROUT 3 – NO. 4 x 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED).
4. THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS, FOR CONCRETE ROADWAYS SEE NOTE 6.
5. CONSTRUCT WITH EXPANSION MATERIAL PER SPECIFICATION. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
6. USE AN APPROVED TYPE F (½ INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FILL HEIGHT DIMENSION OF ADJACENT CONCRETE.

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K ND

ADA DETAILS			
DRAWING NO. 9			
CITY OF KINDRED ENGINEERING			
CITY ENGINEER APPROVED:	BLO	DATE:	04.17.26
PUBLIC WORKS APPROVED:	RAS	DATE:	04.17.26
CITY COUNCIL APPROVED DATE:			05.06.26