CITY OF RALEIGH
Standard Details

Transportation
* USE 6.5" WHEN DRIVEWAY IS USED IN LIEU OF A WHEELCHAIR RAMP TO ACCOMMODATE 12:1 MAXIMUM SLOPE (ADA COMPLIANT), SUCH AS IN A CUL-DE-SAC.

** 2.08% (1:48) max
NOTES:

1. WHEN A DRIVEWAY IS TO BE CONSTRUCTED WHERE FINAL LAYER OF ASPHALT HAS BEEN PLACED, THE CURB CAN BE SAW CUT IN A STRAIGHT LINE AND REMOVED. IF THE FINAL LAYER HAS NOT BEEN PLACED, THE ENTIRE CURB AND GUTTER SHALL BE REMOVED AND THE DRIVEWAY SHALL BE A MONOLITHIC POUR USING 3000 PSI, MAX. 4" SLUMP CONCRETE.

2. EXPANSION MATERIAL SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.

1/2" EXPANSION JOINTS ALONG SIDEWALK SHALL BE LOCATED AT NOT MORE THAN 40' INTERVALS & DUMMY CONSTRUCTION JOINTS AT 6' INTERVALS. DUMMY JOINTS SHALL BE AT LEAST 1/3 THE SLAB THICKNESS IN DEPTH.

3. SLOPE ON UNPAVED AREAS BETWEEN BACK OF CURB & SIDEWALK SHALL BE 1/4" PER FT.

4. NO EXPOSED AGGREGATE OR OTHER SPECIAL SURFACE TREATMENTS IN ROW.

5. W-DIMENSION AS SHOWN ON PLAN VIEW SHALL BE AS FOLLOWS:
   - 10' MINIMUM, 18' MAXIMUM FOR RESIDENTIAL DRIVESWAYS
   - 36' MAXIMUM FOR COMMERCIAL DRIVEWAYS

6. THE DISTANCE FROM THE END OF A STREET CURB RADIUS TO THE BEGINNING OF THE DRIVEWAY RADIUS SHOULD BE MINIMUM OF 20 FT.

7. CURB RADIUS TO BE DISSIPATED BETWEEN LIMITS NOTED ABOVE.

8. 7' MIN. BETWEEN DRIVEWAYS ON ADJACENT LOTS.

45' MIN. BETWEEN DRIVEWAYS ON SAME LOT.

9. NO RADIUS ENCROACHMENT SHALL BE ALLOWED ACROSS AN ADJOINING PROP. FRONTAGE. THIS IS DETERMINED BY EXTENDING A LINE FROM THE PROPERTY CORNER PERPENDICULAR TO THE RW TO THE CURB AND GUTTER LOCATION.

10. ALL CONCRETE MUST BE Poured ON SAME DAY AS INSPECTION OR RE-INSPECTION IS REQUIRED.

11. FINISH THE SURFACE TO GRADE AND CROSS SECTION WITH A FLOAT, TROWEL SMOOTH AND FINISH WITH A BROOM.

12. DRIVEWAY RADIUS SHALL BE A MINIMUM OF 5' FROM ANY CATCH BASIN.

13. WHERE UTILITY BOXES/VAULTS MUST BE LOCATED IN THE SIDEWALK, THEY SHALL HAVE A MINIMUM 3" WIDE FRAME OF CONCRETE AROUND THEM.
MONOLITHIC POUR OF 3000 PSI CONCRETE

6' TYP.

5' TYP.

1/2" EXPANSION JOINT

3.5' RADIUS TYP.

EXPANSION JOINT

6' EXPANSION JOINT

7.5" 6" BIKEWAY  6" CONCRETE  6" SIDEWALK

SLOPE 1.5% **

2' 4' 5' 6' 6'

** 2.08% (1:48) max

SEE T-10.01.4 FOR ADDITIONAL NOTES
CITY OF RALEIGH
STANDARD DETAIL
T-10.01.4

NOTES:

1. WHEN A DRIVEWAY IS TO BE CONSTRUCTED WHERE FINAL LAYER OF ASPHALT HAS BEEN PLACED, THE CURB CAN BE SAW CUT IN A STRAIGHT LINE AND REMOVED. IF THE FINAL LAYER HAS NOT BEEN PLACED, THE ENTIRE CURB AND GUTTER SHALL BE REMOVED AND THE DRIVEWAY SHALL BE A MONOLITHIC POUR USING 3000 PSI, MAX. 4" SLUMP CONCRETE.

2. EXPANSION MATERIAL SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.

3. Expansion joints along sidewalk shall be located at not more than 40' intervals & dummy construction joints at 6' intervals. Dummy joints shall be at least 1/3 the slab thickness in depth.

4. SLOPE ON UNPAVED AREAS BETWEEN BACK OF CURB & SIDEWALK SHALL BE 1/4" PER FT.

5. NO EXPOSED AGGREGATE OR OTHER SPECIAL SURFACE TREATMENTS IN ROW.

6. W-DIMENSION AS SHOWN ON PLAN VIEW SHALL BE AS FOLLOWS:
   10' MINIMUM, 18' MAXIMUM FOR RESIDENTIAL DRIVEWAYS
   36' MAXIMUM FOR COMMERCIAL DRIVEWAYS

7. CURB RADIUS TO BE DISSIPATED BETWEEN LIMITS NOTED ABOVE.

8. 7' MIN. BETWEEN DRIVEWAYS ON ADJACENT LOTS.
   45' MIN. BETWEEN DRIVEWAYS ON SAME LOT.

9. NO RADIUS ENCROACHMENT SHALL BE ALLOWED ACROSS AN ADJOINING PROP. FRONTAGE. THIS IS DETERMINED BY EXTENDING A LINE FROM THE PROPERTY CORNER PERPENDICULAR TO THE R/W TO THE CURB AND GUTTER LOCATION.

10. ALL CONCRETE MUST BE POURED ON SAME DAY AS INSPECTION OR RE-INSPECTION IS REQUIRED.

11. FINISH THE SURFACE TO GRADE AND CROSS SECTION WITH A FLOAT, TROWEL SMOOTH AND FINISH WITH A BROOM

12. DRIVEWAY RADIUS SHALL BE A MINIMUM OF 5' FROM ANY CATCH BASIN.

13. WHERE UTILITY BOXES/VAULTS MUST BE LOCATED IN THE SIDEWALK, THEY SHALL HAVE A MINIMUM 3" WIDE FRAME OF CONCRETE AROUND THEM.
1. SEE STANDARD DETAIL T-10.26.1 FOR CURB AND GUTTER DETAILS.
2. EXPANSION MATERIAL SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.
3. ALL CONCRETE SHALL BE 3000 PSI (MIN.).
CITY OF RALEIGH
STANDARD DETAIL

RESIDENTIAL DRIVEWAY INSTALLATION ON NON CURB & GUTTERED STREETS

T-10.03

NOTES:
1. PIPE TO BE RCP OR HDPE AND Sized TO CARRY THE DESIGN FLOW OF THE DITCH FOR A 10-YEAR, 24-HOUR STORM EVENT; THE MINIMUM ACCEPTABLE PIPE SIZE IS 15" IF THE DESIGN FLOW WOULD REQUIRE A SMALLER PIPE. PIPE TO BE EXTENDED TO ALLOW ACCEPTABLE COVER AND SLOPES.
2. 12" MINIMUM COVER OVER PIPE MEASURED FROM TOP OF PAVEMENT.
3. STEEPER SLOPES CAN BE ALLOWED WHERE SPECIAL STABILIZATION IS PROVIDED IN ACCORDANCE WITH EROSION AND SEDIMENTATION CONTROL ORDINANCE.
4. USE 5' VERTICAL CURVE FOR TRANSITION.
5. SEE CITY OF RALEIGH STREET DESIGN MANUAL FOR COMMERCIAL DRIVEWAYS.
6. NO EXPOSED AGGREGATE OR OTHER SPECIAL SURFACE TREATMENTS IN RIGHT OF WAY.
7. W-DIMENSION AS SHOWN ON PLANS SHALL BE AS FOLLOWS; 10' MINIMUM, 18' MAXIMUM FOR RESIDENTIAL DRIVEWAYS.
DRIVEWAY GRADES

A. CURB & GUTTER, SIDEWALK SECTION

B. SHOULDER SECTION

NOTES:
If the slope between the top of curb and gutter and a point 30 feet from the curb and gutter exceeds 20%, this slope shall be adjusted to a maximum of 8.33% (1/12") up or 4.17% (1/2") down.
NOTES:
1. THE PAVEMENT EDGE SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT. BITUMINOUS BASE OR BINDER MAY BE SUBSTITUTED IF APPROVED BY TRANSPORTATION DIRECTOR OR DESIGNEE.
4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY ANDROLLED WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH, LEVEL PATCH.
NOTES:
1. THE PAVEMENT EDGES SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT OR MILLING MACHINE.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
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6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED, COMPACTED THOROUGHLY AND ROLLED WITH A SMOOTH DRUM ROLLER TO LEVEL PATCH.

LATERAL PAVEMENT CUTS FOR UTILITY SERVICE

PARALLEL PAVEMENT CUTS FOR UTILITY SERVICE
NOTES:
1. IF DRIVEWAY IS WITHIN CLOSE PROXIMITY OF ACCESS RAMP, TIE SIDEWALK INTO DRIVEWAY.
2. REFER TO STANDARD DETAIL T-10.01.2, DRIVE WAY AND SIDEWALK DETAIL, SHEET 1 OF 2.
PARKING VARIANCE: PARALLEL 8', HEAD-IN 18', 60° ANGLE 20'

* PARKING DIMENSION VARY: PARALLEL 8', HEAD-IN 18', 60° ANGLE 20'

** 2.08% (1.48) max

= 2.08% (1.48) max

CITY OF RALEIGH
STANDARD DETAIL

DATE: 8/2020

DATE: 12/2022

REVISIONS

NOT TO SCALE

MULTIFAMILY STREET

T-10.13
NOTE
1. THE BIKE LANE MATERIAL SHALL BE BLACK-DYED CONCRETE, SEE T-30.01.2.
2. THE BUFFER WIDTH BETWEEN THE SIDEWALK AND BIKE LANE IS A MAXIMUM AND MAY BE REDUCED AS LONG AS
   A) NOTE 3 IS MET AND B) THE TOTAL WIDTH OF THE SIDEWALK, BUFFER AND BIKEWAY IS 12.5.
3. THE BUFFER BETWEEN THE BIKE LANE AND THE SIDEWALK MUST BE DETECTABLE BY PEOPLE WITH VISION
   DISABILITIES. OPTIONS INCLUDE A ROLLED OR BEVELED CURB WHERE THE HEIGHT DIFFERENTIAL BETWEEN THE
   SIDEWALK AND BIKE LANE IS BETWEEN 2" AND 3" OR A DETECTABLE GUIDANCE SURFACE SET 1' OFF THE EDGE OF
   THE BIKEWAY IF THE SIDEWALK AND BIKEWAY ARE FLUSH
4. WHERE A CURB IS USED, THE CURB HEIGHT SHALL BE BETWEEN 8" AND 12" AND THE CURB WIDTH SHALL BE
   BETWEEN 6" AND 9". AN EXPANSION JOINT SHALL BE PROVIDED ON EACH SIDE OF THE CURB.
5. IN CONTEXTS WITH A LOW VOLUME OF PEDESTRIANS, THE SIDEWALK, BUFFER AND BIKE LANE CAN BE
   COMBINED INTO A 12.5' WIDE MULTI-USE PATH, PENDING THE APPROVAL OF THE OFFICE OF TRANSPORTATION
   PLANNING

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<th>GENERAL</th>
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STREET PAVEMENT DESIGN
3" S9.5B
3" I19.0B
8" ABC
NOTE
1. THE BIKE LANE MATERIAL SHALL BE BLACK-DYED CONCRETE, SEE T-30.01.2.
NOTE
1. THE BIKE LANE MATERIAL SHALL BE BLACK-DYED CONCRETE, SEE T-30.01.2.
1. CURB AND GUTTER SECTION SHALL BE REMOVED IN ACCORDANCE WITH DRIVEWAY WIDTH APPROVED BY THE CITY.

2. IF PERPENDICULAR CUT IS LESS THAN 5' FROM NEXT JOINT, THEN THE PARALLEL CUT SHALL BE MADE TO THAT JOINT.

3. THIS METHOD IS NOT ALLOWED IN NEW ROADWAY CONSTRUCTION.

NOTES:

IF THE FINAL LIFT OF ASPHALT HAS BEEN INSTALLED AND IS DAMAGED DURING CURB REMOVAL, A ONE FOOT WIDE SECTION OF ASPHALT SHOULD BE SAWCUT AND REMOVED FOR FORMS TO BE USED TO KEEP A STRAIGHT EDGE ON THE DRIVEWAY APRON. REINSTALL HOT MIX SURFACE ASPHALT PATCH S9.5B.

IF THE FINAL LIFT OF ASPHALT HAS NOT BEEN INSTALLED, THE ASPHALT IN FRONT OF THE APRON CAN REMAIN IN PLACE.
SCORE FULL WIDTH OF CURB AND GUTTER

PLAN

2'-0"
6"
1'-6"

EDGE OF PAVEMENT

FRONT

BACK OF CURB

1/2"

EDGE OF PAVEMENT

END

CITY OF RALEIGH
STANDARD DETAIL

T-10.25
NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS.
   15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01 THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT STANDARD & SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.
NOTES:
TRANSITION NOT TO BE LOCATED WITHIN THE CURB RADIUS.

CITY OF RALEIGH
STANDARD DETAIL
CURB TRANSITION TO 2'-6" VALLEY GUTTER
T-10.26.2
NOTES:
A. BOTTOM EDGE OF DELINEATOR SHALL BE 4 FEET ABOVE ROADWAY.
B. THE DELINEATOR STRIPES SHALL SLOPE UPWARD AND OUTWARD FROM TRAFFIC.
C. DELINEATORS TO BE SPACED ON CENTERS AT 1/3 OF THE DISTANCE 'X', SHOWN BELOW, FOR NEW ASPHALT WIDTHS ≤ 15 FEET OR AT 1/4 OF 'X' FOR NEW ASPHALT WIDTHS > 15 FEET.
D. DELINEATORS SHALL BE MOUNTED ON BREAKAWAY POSTS.
E. DELINEATORS SHALL BE REFLECTORIZED.
F. CALL 811 FOR UNDERGROUND UTILITY LOCATE PRIOR TO INSTALLATION.

NOTES:
1. TAPER ON BOTH ENDS OF ROADWAY WIDENING SHALL BE A MINIMUM 2:1. THE TRANSPORTATION DIRECTOR OR DESIGNEE AND/OR NCDOT RESERVES THE RIGHT TO REQUIRE A LONGER TAPER IF DEEMED NECESSARY FOR THE SAFETY OF THE PUBLIC.
2. A SOLID WHITE EDGE MARKING SHALL BE EXTENDED ALONG WIDENING AT EXISTING PAVEMENT.
3. DELINEATORS SHALL ONLY BE REQUIRED AT TAPER FROM CURB TO EXISTING PAVEMENT IN DIRECTION OF TRAVEL.
4. DELINEATORS SHALL BE ORIENTED SUCH THAT THE FACE OF THE SIGN IS PERPENDICULAR TO TRAVEL LANE.

NOTE C
SEE NOTE C
1. BARRICADE(S) TO BE ERECTED ACROSS ENTIRE ROADWAY INCLUDING CURB & GUTTER.
2. ADVANCE WARNING SIGN W14-1 (DEAD END) SHALL BE PLACED JUST AFTER LAST INTERSECTING STREET.
3. MARKINGS FOR BARRICADE RAILS SHALL BE REFLECTIVE AND ALTERNATE RED & WHITE STRIPS.
5. CALL 811 FOR UNDERGROUND UTILITY LOCATE PRIOR TO INSTALLATION.
NOTES:
1. WATER AND/OR SANITARY SEWER LINES SHALL BE A MINIMUM OF TWO FEET FROM THE EDGE OF THE CURB AND GUTTER.
2. ENCROachment ON CITY MAINTAINED RIGHT OF WAY SHALL FOLLOW CONDITIONS OF THE APPLICABLE ENCROACHMENT AGREEMENT OR FRANCHISE AGREEMENT.
3. FOR HYDRANT LOCATION SEE PUBLIC UTILITIES STANDARD DETAIL W-4.
4. PUE TO BE EXPANDED ON A CASE-BY-CASE BASIS AS NEEDED TO ACCOMMODATE PRIVATE UTILITIES APPURTENANT FACILITIES AND EQUIPMENT.

CITY OF RALEIGH
STANDARD DETAIL

STANDARD UTILITY LOCATIONS IN STREET

T-10.29
1. Water and/or sanitary sewer lines shall be a minimum of two feet from the edge of the curb and gutter.

2. Encroachment onto city maintained right of way shall follow conditions of the applicable encroachment agreement or franchise agreement.

3. For hydrant location see Public Utilities standard detail W-4.

4. PUE to be expanded on a case-by-case basis as needed to accommodate private utilities appurtenant facilities and equipment.

NOTES:

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS: DATED: 12/2022

STANDARD UTILITY LOCATIONS IN STREET WITH CURB-LEVEL BIKEWAY

T-10.30
Curb-level bikeway to shared-lane bikeway with curb & gutter

Curb-level bikeway to shared-lane bikeway without curb & gutter

Curb-level bikeway to on-street bikeway

* See City of Raleigh Standard Detail T-20.01.1 to determine appropriate ramp type
CURB-LEVEL BIKEWAY TO SHARED-LANE BIKEWAY WITH CURB & GUTTER

CURB-LEVEL BIKEWAY TO SHARED-LANE BIKEWAY WITHOUT CURB & GUTTER

CURB-LEVEL BIKEWAY TO ON-STREET BIKEWAY

* SEE CITY OF RALEIGH STANDARD DETAIL T-20.01.1 TO DETERMINE APPROPRIATE RAMP TYPE
CITY OF RALEIGH

STANDARD DETAIL

CURB RAMPS

(NEW DEVELOPMENT)

T-20.01.2
NOTE: * USE SMALL FLARE ONLY WHEN A CURB WOULD DIRECTLY CONFLICT WITH APPROACHING VEHICLE TURNING MOVEMENTS.

**TYPE N-3**

1. 7.5%; 8.33% (1:12) MAX RAMP SLOPE
2. 1.5%; 2.08% (1:48) MAX CROSS SLOPE
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
4. RAMPS AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.

**TYPE N-3A**

(COMMERCIAL/RETAIL USE)
CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

RAMP AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.

IF LENGTH EXCEEDS 5', TRUNCATED DOMES SHALL BE INSTALLED ALONG THE BACK OF THE CURB COVERING THE FULL WIDTH OF THE RAMP.

CONCRETE DEPTH

| TYPE N-4 | RAMP | 6" |
| TYPE N-4A | LANDING | 4" |

CROSS SLOPE NOT TO EXCEED 1.5% (2.08% MAX) ON ANY PORTION OF RAMP OR TRANSITION TO STREET.
CURB RAMPS (RETROFIT)

TYPE R-1

1. 7.5%; 8.33% (1:12) MAX RAMP SLOPE
2. 1.5%; 2.08% (1:48) MAX CROSS SLOPE
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
4. RAMPS AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.

TYPE R-2

(USE ONLY WHERE WATER WILL NOT POND WITHIN LANDING)

1/2" EXPANSION JOINT (TYP)

TYPE R-2A

1/2" EXPANSION JOINT (TYP)

TYPE R-2B

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS
DATE: 8/2020
NOT TO SCALE

DATE: 12/2022

CURB RAMPS
(RETROFIT)

T-20.01.5
CITY OF RALEIGH
STANDARD DETAIL

PAY LIMITS FOR CURB RAMPS

CONCRETE DEPTH
SIDE RAMPS 4"
LANDING & OPENINGS 6"

R=1' (TYP)
1/2" EXPANSION JOIN (TYP)
6"W X 12"D CONCRETE CURB

CROSS SLOPE NOT TO EXCEED 1.5% (2.08% MAX)
ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING
WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL
SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS
PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

Ramps and domes shall be installed the same width as the sidewalk.

1/2" EXPANSION JOIN (TYP)
6"W X 12"D CONCRETE CURB

CITY OF RALEIGH
STANDARD DETAIL

PAY LIMITS FOR CURB RAMPS

CONCRETE DEPTH
SIDE RAMPS 4"
LANDING & OPENINGS 6"

R=1' (TYP)
1/2" EXPANSION JOIN (TYP)
6"W X 12"D CONCRETE CURB

DEPRESSED 2'-6" CURB & GUTTER

DEPRESSED 2'-6" CURB & GUTTER
(HEIGHT VARIES, CURB REVEAL DETERMINED
BY FLARE SLOPE).

1/2" EXPANSION JOIN (TYP)
6"W X 12"D CONCRETE CURB

1/2" EXPANSION JOIN (TYP)
6"W X 12"D CONCRETE CURB

DEPRESSED 2'-6" CURB & GUTTER

DETECTABLE WARNING
SURFACE (TYP)

DEPRESSED 2'-6" CURB & GUTTER

REVISIONS
DATE: 12/2022
CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

RAMP AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.

CONCRETE DEPTH

| SIDE RAMPS | 4" |
| LANDING & CURB RAMPS | 6" |

CROSS SLOPE NOT TO EXCEED 1.5% (2.08% MAX) ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

LARGER RADIUS
15' OR GREATER

ONLY TO BE USED WITH CITY OF RALEIGH APPROVAL.
1. CITY OF RALEIGH STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).

2. CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH THE CITY OF RALEIGH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.

3. DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALK IS REQUIRED.

4. THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.

5. NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 1”/FT (12:1) IN RELATIONSHIP TO THE GRADE OF THE STREET.

6. IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48” ALL RAMPS SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.

7. USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.

8. A 1/2” EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.

9. CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.
MEDIAN ISLAND
CURB RAMPS
(MEDIAN ISLANDS WIDER THAN 20')

CONCRETE PEDESTRIAN REFUGE

5' MONOLITHIC CONCRETE ISLAND

PRECAST MONOLITHIC...

5' MONOLITHIC CONCRETE ISLAND

PAVEMENT

5' MONOLITHIC CONCRETE ISLAND

PAVEMENT

5' MONOLITHIC CONCRETE ISLAND

MEDIAN ISLAND
WITH CUT THROUGH
(MEDIANS ≤ 20')
ISOMETRIC VIEW

USE 12" X 12" PAVERS
DETECTABLE WARNING
SURFACE (YELLOW)

1/2" EXPANSION
JOINT (TYP)

1.5 SLOPE

VARIABLE (SEE PLANS)

CROSS SECTION VIEW

10'-0" MIN AT SHARED PEDESTRIAN
AND BICYCLE CROSSINGS (TYP)

PROFILE VIEW

CITY OF RALEIGH
STANDARD DETAIL

PEDESTRIAN REFUGE

T-20.03
1. Cross slope not to exceed 1.5% (2.08% max) on any portion of ramp of transition to street.
2. Running slope not to exceed 7.5% (8.33% max)

1. Cross slope not to exceed 1.5% (2.08% max) on any portion of ramp of transition to street.
2. Running slope not to exceed 7.5% (8.33% max)

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2. Running slope not to exceed 7.5% (8.33% max)

1. Cross slope not to exceed 1.5% (2.08% max) on any portion of ramp of transition to street.
2. Running slope not to exceed 7.5% (8.33% max)

2' Strip if cut through is greater than 4' in length. Otherwise place detectable warning on the entire surface of cut through.

Align curb parallel with crosswalk.

Detectable warning surface shall extend full width of sidewalk or ramp.
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL. SIZE OF PAVER SHALL BE 1' X 1'.

2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
* 8.33% (1:12) max
** 2.08% (1:48) max

** SECTION "A-A"**
WITH DETECTABLE WARNING PAVERS

EXISTING CONCRETE
SURFACE APPLIED/RETROFIT
DETECTABLE WARNING SURFACE SYSTEM
4" CONCRETE FOUNDATION
DEPRESSED CURB
STANDARD 2'-6" CURB & GUTTER

**NOTE:**
THIS APPLICATION ONLY TO BE USED WHEN RETRO FITTING EXISTING BARRIER FREE Ramps

**NOTES:**
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL.
2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL.

2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
24" W H I T E  C R O S S W A L K  L I N E

1. HI-VISIBILITY CROSSWALKS SHOULD ONLY BE USED AT CROSSINGS WHERE THE INTERSECTION IS SIGNALIZED OR UN-CONTROLLED BY ANY TRAFFIC CONTROL DEVICE (E.G. STOP SIGN).

2. THE CROSSWALK LINE SHOULD BE PLACED AT THE ANGLE OF THE TRAVEL LINES AND TRAVERSE THE PEDESTRIAN CROSSING.

3. A CROSSWALK LINE SHOULD BE PLACED TO AVOID WHEEL PATHS. THIS IS IDEALLY DONE BY CENTERING THE LINES AT THE EDGE OF EACH TRAVEL LANE AND IN THE CENTER OF EACH TRAVEL LANE. DUE TO VARYING LANE WIDTHS THIS IS SOMETIMES NOT POSSIBLE.

4. PLACE STOP BARS A MINIMUM OF 4 FEET FROM NEAREST CROSSWALK LINE. STOP BARS AT SIGNALIZED INTERSECTIONS SHOULD BE COORDINATED WITH THE CITY OF RALEIGH TRANSPORTATION OPERATIONS DIVISION OR AS DIRECTED BY THE ENGINEER.

5. CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST CITY OF RALEIGH STANDARD DRAWINGS.

NOTES:

PAVEMENT MARKINGS
HI-VISIBILITY
PEDESTRIAN CROSSWALK

CITY OF RALEIGH
STANDARD DETAIL

T-20.05

DATE: 8/2020

REVISIONS

NOT TO SCALE
**NOT TO SCALE**

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**TRANSVERSE EXPANSION JOINT**

**TYPICAL SECTION**

**PLANTING STRIP**

**SIDEWALK SURFACE**

**JOINT FILLER**

**PROPOSED SIDEWALK**

**RIGHT OF WAY LINE**

**UTILITY EASEMENT**

**SAW CUT JOINTS @ 6' MAXIMUM**

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**CITY OF RALEIGH
STANDARD DETAIL**

**CONCRETE SIDEWALK**

**T-30.01.1**

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**NOTES:**

1. **TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.**
2. **ALL CONCRETE TO BE 3000 PSI AND FINISHED WITH CURING COMPOUND.**
3. **A 1 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS.**
4. **AT STREET INTERSECTIONS (ALONG THE LENGTH OF Radius CURB RETURNS),**
5. **COMPACTED ABC STONE MAY BE REQUIRED AS SUBGRADE AT THE DISCRETION**
6. **OF THE INSPECTOR.**

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**DATE: 8/2023**

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**CONCRETE SIDEWALK**

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**DATE: 12/2022**

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**DATE: 8/2020**
NOTES:
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.
2. ALL CONCRETE TO BE 3000 PSI AND FINISHED WITH CURING COMPOUND.
3. A 6 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS, AT STREET INTERSECTIONS (ALONG THE LENGTH OF RADIUS CURB RETURNS) AND IN THE HANDICAP RAMPS.
4. BIKEWAY MATERIAL SHALL BE INTEGRALLY COLORED CONCRETE, COLORED BLACK, USING NON-FADING PIGMENTS.
5. CONCRETE BIKEWAY:
   - JOINTS SHALL BE SAWCUT A MINIMUM OF 1/4 INCH DEPTH, BUT NO MORE THAN 1/2 DEPTH.
   - JOINTS SHALL BE SAWCUT A MINIMUM OF 1/4 INCH DEPTH, BUT NO MORE THAN 1/2 DEPTH.
6. JOINTS SHALL BE SAWCUT A MINIMUM OF 1/4 DEPTH, BUT NO MORE THAN 1/2 DEPTH.
NOTES:
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET APART.
2. ALL CONCRETE TO BE FINISHED WITH CURING COMPOUND.
3. A 6 INCH DEPTH IS REQUIRED.
4. SAW CUT JOINTS EVERY 10 FEET OR SAME AS WIDTH, WHICHEVER IS LESS.
5. NO UTILITY SURFACE COVERS/PLATES/MANHOLES (i.e. WATERLINE VALVE COVERS, ETC.) SHALL BE LOCATED WITHIN PATH AND SHALL BE MINIMUM 1 FOOT FROM THE EDGE OF PATH.
6. ALL PATHS SHALL BE LOCATED MINIMUM 6 FEET FROM THE BACK OF CURB.
7. MULTI-USE PATH WIDTH TO BE DETERMINED BY CITY OF RALEIGH BASED ON ROADWAY TYPE, LOCATION AND PEDESTRIAN VOLUMES.
NOTES:
1. BRICK OR CONCRETE PAVERS ALLOWED ONLY UNDER SPECIAL CONDITIONS.
2. THICKNESS OF BASE MAY VARY WITH SUBGRADE/TRAFFIC CONDITIONS.
3. SCATTER SAND OR SCREENINGS OVER COMPLETE WORK AND SWEEP INTO CRACKS.
4. CONCRETE PAVERS SHOULD CONFORM TO REQUIREMENTS OF ASTM C-1319.
   BRICK PAVERS SHOULD CONFORM TO REQUIREMENTS OF ASTM C902-95
5. SEE CITY OF RALEIGH CODE SECTION 10-7001 (D) FOR CONDITIONS UNDER WHICH CONCRETE / BRICK PAVERS ARE ALLOWED.
NOTES:
1. ALL ROAD PLATES MUST BE ACCOMPANIED BY A VALID RIGHT-OF-WAY PERMIT.
2. TYPE 1 INSTALLATIONS ARE FOR USE ON ROADWAYS WITH A POSTED SPEED LIMIT UNDER 35 MPH.
3. TYPE 2 INSTALLATIONS ARE FOR USE ON ROADWAYS WITH A POSTED SPEED LIMIT ABOVE 35 MPH.
4. ALL ROAD PLATE INSTALLATIONS SHALL BE APPROVED BY THE INSPECTOR PRIOR TO ALLOWING PUBLIC TRAFFIC.
5. ALL ROAD PLATE INSTALLATIONS, LIABILITY AND MAINTENANCE ARE THE RESPONSIBILITY OF THE CONTRACTOR.
6. METAL PLATES SHALL BE IDENTIFIED WITH A 24" HIGH STENCILED TEXT OF THE CONTRACTOR NAME OR DESIGNATED ABBREVIATION AND A 6" HIGH STENCILED TEXT OF THE CONTRACTORS AFTER-HOURS 24/7 CONTACT PHONE NUMBER. ANY MARKING DEEMED UNREADABLE MUST BE REPAINTED. SEE DETAIL T-40.01.2.
7. METAL PLATES WILL HAVE WHITE REFLECTIVE MARKING TAPE ON ALL FOUR CORNERS OF EACH END OF A TRENCH. THESE PLATES DESIGNATE THE BEGINNING AND END OF THE EXCAVATION. THE REFLECTIVE TAPE WILL BE DURABLE ENOUGH TO WITHSTAND TRAFFIC. ANY PEELING TAPE DEEMED UNREADABLE MUST BE REPLACED IMMEDIATELY. SEE DETAIL T-40.01.2.
8. WARNING SIGNS ADVISING MOTORISTS THAT THEY SHOULD EXPECT TO ENCOUNTER METAL PLATES SHALL BE PLACED AT APPROXIMATELY 100 FEET, IN ADVANCE OF THE METAL PLATE LOCATION THE "BUMP" OR "STEEL PLATE AHEAD" SHALL BE USED. SEE DETAIL T-40.01.2.
9. PLATES THAT ARE LEFT OVERNIGHT WILL REQUIRE THAT THE WARNING SIGN BE SUPPLEMENTED WITH A LOW-INTENSITY-FLASHING WARNING LIGHT MOUNTED ON OR ADJACENT TO THE ADVANCE WARNING SIGNAGE.
10. FAILURE TO FOLLOW THE STEPS OUTLINED ABOVE WILL RESULT IN STOP WORK ORDERS, CITATIONS AND FINES TO THE PERMITTEE OR CONTRACTOR WORKING WITHOUT A VALID PERMIT. ROAD PLATES REMOVED OR REPAIRED BY THE CITY WILL RESULT IN STOP WORK ORDERS, CITATIONS AND FINES.
11. PAVEMENT MUST BE RESTORED TO THE PREVIOUS OR BETTER CONDITION ONCE THE PLATE HAS BEEN REMOVED.
ADVANCED WARNING SIGNAGE

BUMP
W8-1
48'' X 48''

OR

STEEL PLATE AHEAD

METAL PLATE MARKING EXAMPLES

RALEIGH CONTRACTING
919-555-5555

EB
984-555-5555

METAL PLATE REFLECTIVE TAPE DETAILS

4" WHITE REFLECTIVE TAPE OR PAINT

2.5'

< 6.0'

1.0'

3.0" (APPROX.)

1.0'

3.0" (APPROX.)

SHEET 2 OF 2

CITY OF RALEIGH
STANDARD DETAIL

STEEL ROAD PLATE

T-40.01.2