LOCAL W/ ATTACHED WALK

TO BE USED ONLY WITH WRITTEN PERMISSION FROM THE CITY ENGINEER

LOCAL W/ DETACHED WALK

PARKING ALLOWED ON BOTH SIDES OF STREET
UTILIZED IN SINGLE FAMILY RESIDENTIAL AREAS
- PROVIDE WIDENING AT INTERSECTIONS FOR LEFT TURN Lanes AND DECEL LANes RIGHT-OF-WAY WIDTH TO BE INCREASED TO 105' IN THESE AREAS.

- NO PARKING ALLOWED

- UTILIZED IN AREAS WHERE THERE IS LIMITED ACCESS AND PROJECTED TRAFFIC VOLUMES ARE GREATER THAN 7,000 VEHICLES PER DAY.

MAJOR COLLECTOR

- PARKING ALLOWED

- UTILIZED IN INDUSTRIAL, COMMERCIAL, MULTI-FAMILY, AND SINGLE-FAMILY RESIDENTIAL AREAS WHERE ON-STREET PARKING IS REQUIRED.

MINOR COLLECTOR

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

MAJOR & MINOR COLLECTORS TYPICAL SECTIONS

DATE: JUNE 2019 R2
**NO PARKING ALLOWED.**

- PROVIDE ACCEL/DECEL LANES AT INTERSECTIONS.
- PROVIDE ACCEL/DECEL LANES AND DOUBLE TURN LANES AT MAJOR INTERSECTIONS AS NECESSARY.

**AT MAJOR INTERSECTIONS THE R.O.W. WIDTH SHALL BE 186'.**

**10' OR 12' PATH WHEN DIRECTED BY THE CITY ENGINEER.**

---

**MAJOR ARTERIAL**

---

**MINOR ARTERIAL**

- MEDIAN MAY BE PAINTED OR CURBED.
- AT MAJOR INTERSECTIONS THE R.O.W. WIDTH SHALL BE 163'.
- 10' OR 12' PATH WHEN DIRECTED BY THE CITY ENGINEER.
ONE-WAY STREET WITH PARKING ON ONE SIDE

R.O.W.

18'

PAVEMENT

1'

5'

6'

6'-6"

2'-6"

6'-6"

5'

1'

6" VERTICAL C&G
47' R.O.W.

ONE-WAY STREET WITH PARKING ON BOTH SIDES OR TWO-WAY STREET WITH PARKING ON ONE SIDE

R.O.W.

24'

PAVEMENT

11

5'

6'

2'-6"

6'-6"

5'

1'

6" VERTICAL C&G
53' R.O.W.

30' DOOR-TO-DOOR

FACE OF GARAGE

FACE OF GARAGE

CENTER GUTTERLINE

ALLEY

NOTE: THESE CROSS SECTIONS MAY ONLY BE USED IN COMBINATION WITH ALLEY LOADED GARAGES AND REQUIRES 10' SEPARATION OF SEWER OF WATER. UTILITY EASEMENT REQUIREMENTS MAY CONTROL R.O.W. DIMENSIONS. IF NECESSARY THE SANITARY SEWER SHALL BE LOCATED IN THE ALLEY.
TWO-WAY STREET WITH PARKING ON BOTH SIDES

MINOR COLLECTOR

NOTE: THESE CROSS SECTIONS MAY ONLY BE USED IN COMBINATION WITH ALLEY LOADED GARAGES AND REQUIRES 10' SEPARATION OF SEWER OF WATER. UTILITY EASEMENT REQUIREMENTS MAY CONTROL R.O.W. DIMENSIONS. IF NECESSARY THE SANITARY SEWER SHALL BE LOCATED IN THE ALLEY.
CURVE 2
FLOW LINE
CURB & GUTTER
D2
D1
D
34'
R=40'

CURVE 1

<table>
<thead>
<tr>
<th></th>
<th>CURB</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th></th>
<th>CURB</th>
<th>R</th>
<th>L</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>20'00'00&quot;</td>
<td>60.0'</td>
<td>20.94'</td>
<td>10.58'</td>
<td>220'00'00&quot;</td>
<td>40.0'</td>
<td>153.59'</td>
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<tr>
<td>STREET WIDTH</td>
<td></td>
<td>D1</td>
<td></td>
<td></td>
<td></td>
<td>D2</td>
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<tr>
<td>34</td>
<td></td>
<td>49.61'</td>
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<td></td>
<td></td>
<td>80.82'</td>
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</tbody>
</table>

NOTES:
1. ADDITIONAL CURB RAMPS MAY BE REQUIRED AT THE DIRECTION OF THE CITY ENGINEER.
2. THE STREET GRADE SHALL NOT DRAIN TOWARDS THE CUL-DE-SAC. DRAINAGE SHALL BE AWAY FROM THE CUL-DE-SAC.
NOTE:
1. ADDITIONAL CURB RAMPS MAY BE REQUIRED AT THE DIRECTION OF THE CITY ENGINEER.
2. THE STREET GRADE SHALL NOT DRAIN TOWARD THE CUL-DE-SAC. DRAINAGE SHALL BE AWAY FROM THE CUL-DE-SAC.
COMBINATION CURB, GUTTER & WALK
STANDARD SECTION

4" MOUNTABLE CURB & GUTTER
CURB RAMP GENERAL NOTES:

1. THE DETECTABLE WARNINGS SHALL BE INSTALLED AT SIDEWALK TO STREET TRANSITIONS. THEY SHALL HAVE A TRUNCATED DOME SURFACE. THE DOMES SHALL BE IN A SQUARE GRID PATTERN AND ALIGNED WITH PEDESTRIAN TRAFFIC.

2. ALL DETECTABLE WARNING SURFACES SHALL START A MINIMUM OF 6 INCHES FROM THE FLOWLINE OF THE CURB AND NOT BE MORE THAN A MAXIMUM OF 8 INCHES FROM ANY POINT ON THE FLOWLINE OF THE CURB, WITH EXCEPTION FOR TYPES 1B MODIFIED, 3B MODIFIED AND 4B MODIFIED CURB RAMPS AS THIS DIMENSION MAY BE GREATER THAN 8 INCHES ON ONE SIDE OF THE RADIUS.

3. THE RAMP SLOPE AND DETECTABLE WARNING SURFACE SHALL BE 8.3% OR FLATTER.

4. TOLERANCE LIMITS ON THE RAMP RUNNING SLOPE AND FLARED SIDE SLOPES SHALL BE +0.5% MAXIMUM. THOSE EXCEEDING THE MAXIMUM TOLERANCE WILL NOT BE ACCEPTED.

5. THE MINIMUM WIDTH FOR SIDEWALK IS 5 FEET. TURNING SPACE AREAS REQUIRED ON TYPE 1A AND 1B CURB RAMPS MAY BE REDUCED TO 4’ ON RETROFIT RAMPS IF SITE CONDITIONS DO NOT ALLOW 5’.

6. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED IN THE CURB RAMP OR TURNING SPACE AREAS.

7. IF THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTON ON A TRAFFIC SIGNAL POLE WILL NOT BE WITHIN EASY REACH (10 INCHES OR LESS AND UNOBSTRUCTED) OF ALL PEDESTRIANS (IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT), THEN A SEPARATE PEDESTRIAN PUSH BUTTON POST ASSEMBLY (PPBPA) SHALL BE INSTALLED WITHIN ADA REACH RANGES. THE PPBPA SHALL MEET THE PROVISIONS FOUND IN THE "PEDESTRIAN DETECTORS" SECTION OF THE MUTCD.

8. DIAGONAL CURB RAMPS (ON THE APEX) ARE NOT PREFERRED IN NEW CONSTRUCTION. A SINGLE DIAGONAL CURB RAMP (ON THE APEX) WILL ONLY BE PERMITTED DURING RECONSTRUCTION OR ALTERATION WHERE PHYSICAL OR SITE CONSTRAINTS PREVENT TWO CURB RAMPS FROM BEING INSTALLED.

9. CURB RAMPS (EXCLUDING FLARED SIDES OR BLENDED TRANSITIONS) SHALL BE WHOLLY CONTAINED WITHIN THE WIDTH OF THE CROSSWALK AND/OR THE PEDESTRIAN STREET CROSSING THEY SERVE.

10. ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH (0” ± 1”). THE JOINT BETWEEN THE ROADWAY SURFACE AND GUTTER PAN SHALL BE FLUSH.

11. THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS, AND AVOID PONDING IN THE FINAL CONFIGURATION.

12. TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSIING THE HEIGHT OF THE CURB, THE RAMP LENGTH SHALL NOT EXCEED 15 FEET. ADJUST THE RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT TECHNICALLY FEASIBLE.

13. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.33%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, TURNING SPACE, OR BLENDED TRANSITION SHALL NOT EXCEED 5.0%.

14. FLARED SIDE SLOPES MAY EXCEED 10% ONLY WHERE THEY ABUT A NON-WALKABLE SURFACE OR THE ADJACENT CIRCULATION PATH IS BLOCKED.
Curb Ramp Type 1A

5' Typical Turning Space

Ramp

2'

6'' to 8''

8.3% Max.

Concrete Sidewalk

Flared Side

Detectable Warning Tile

Top of Pavement

Gutter

Flowline and Breakpoint

Notes:

1. Curb Ramp Type 1A (Apex Ramp) is not allowed in new construction. See Note 8 on Sheet R10.

2. P.J. = Permissible Joint with Epoxy-Coated Deformed No. 4 by 18 Inch Bars Conforming to AASHTO M 284 at 18 Inch Spacing.

Steep Flared Side Slopes

Not to Scale
THE TURNING SPACE SHALL BE 5' WIDE TYPICAL. IT MAY BE REDUCED TO 4' MIN. ON RETROFIT RAMPS WHEN LIMITED BY SITE CONDITIONS.

BACK EDGE OF SIDEWALK IS PARALLEL TO APPROACH ROADWAY (TYP.)

CURB RAMP TYPE 1B

CURB RAMP TYPE 1B MODIFIED

CURB RAMP TYPE 1B DETAIL

MAY BE USED IN MID-BLOCK CROSSINGS

CURB RAMP TYPE 1B OR 3B

REDUCED CURB HEIGHT

SEE DETECTABLE WARNING PLACEMENT GUIDE DETAIL ON SHEET R19.

SEE SHEET R11 FOR SECTION A–A

NOT TO SCALE

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

DATE: JUNE 2019

CURB RAMP
TYPE 1B
CONCRETE PEDESTRIAN CURB (SEE NOTE 2 THIS SHEET)

Curb Ramp Type 2A

Notes:
1. Curb Ramp Type 2A (Apex Ramp) is not allowed in new construction. See Note 8 on Sheet R10.
2. The pedestrian curb may be omitted if the ground surface at the back of the curb ramp or landing is the same elevation as the curb ramp or landing and there is no material to retain.

Section B-B

Section C-C

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

DATE: JUNE 2019
CURB RAMP TYPE 2A
R13
NOTE: CURB RAMP TYPE 3A (APEX RAMP) IS NOT ALLOWED IN NEW CONSTRUCTION. SEE NOTE 8 ON SHEET R10.

CURB RAMP TYPE 3A

SECTION F–F

SECTION E–E

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

DATE: JUNE 2019
CURB RAMP
TYPE 3A
R15
CURB RAMP TYPE 3C (COMBINATION)

SEE SHEET R15 FOR
SECTION F–F

SECTION G–G

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

DATE: JUNE 2019
R17

NOT TO SCALE
NOT TO SCALE

NOTES:
1. CURB RAMP TYPE 4B IS FOR USE WHERE PEDESTRIAN CROSSING IS IN ONE DIRECTION ONLY.
2. THE PEDESTRIAN CURB MAY BE OMITTED IF THE GROUND SURFACE AT THE BACK OF THE CURB RAMP OR LANDING IS THE SAME ELEVATION AS THE CURB RAMP OR LANDING AND THERE IS NO MATERIAL TO RETAIN.
3. RAMP GRADE BREAKS SHALL BE PERPENDICULAR TO THE RUNNING SLOPE.

SECTION H–H

SECTION J–J

SECTION K–K

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

DATE: JUNE 2019
R18
NOTES:

1. The detectable warning tile shall be embedded in the concrete curb ramp while concrete is plastic.

2. The detectable warning tile to be used shall meet requirement of Westminster standards and specifications.

3. When the detectable warning tile is cut, grind off the remaining portion of any cut domes. Seal all cut panel edges with a sealant to prevent water damage.

4. The detectable warning surface shall span the entire width of the ramp. If conditions do not allow the entire span, the detectable warning surface shall not be more than 2 inches away from each side of ramp.

DETECTABLE WARNING PLACEMENT GUIDE

RAMP CROSS SLOPE TRANSITION TO ROADWAY PROFILE
(APPLICABLE TO ALL CURB RAMP TYPES)

Curb ramp cross slopes and turning spaces shall be:

A. 2% max. when a yield or stop control is present.

B. Permitted to equal the roadway grade when there is no yield or stop control, when a traffic signal is present, or at a midblock crossing location.

NOT TO SCALE
Curb Ramps Per Detail Drawings

Toole Joint Spacing to Be 10'-0"

Fiber Mesh Concrete

Curb, Gutter & Walk

Section A-A

Fiber Mesh Concrete or Other Reinforcement Approved by City Engineer

N.T.S.

City of Westminster
4800 West 92nd Avenue
Westminster, Colo. 80031

Curb Ramp
With Cross Pan
Barrier Curb

Date: June 2019
R20
NOTE:
CONTRACTION JOINTS ARE REQUIRED AT EACH SIDE OF WARPED SECTION AND EVERY TO" (MAX) ALONG THE DRIVEWAY.
CHASE DRAIN

SECTION A-A

THIS SECT. REQD. W/DETACHED SIDEWALK OR BICYCLE PATH

VARIATES

MIN. 2%

SEE TYPICAL SECTIONS

VARIATES

2'-6"

N.T.S.

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

STANDARD SIDEWALK
CHASE DETAIL

DATE: JUNE 2019
R23
PLACE BOND BREAKER AND JOINT SEALANT IN JOINT BETWEEN PATTERED CONCRETE AND ABUTTING CURB. BOND BREAKER SHALL BE 4-MIL TO 6-MIL PLASTIC SHEETING AND SHALL BE INCLUDED IN THE COST OF THE MEDIAN COVER.

CONTROL JOINT, MIN. 1" DEPTH AT MAX. 10' SPACING. MATCH JOINTS ON ADJACENT CURB AND GUTTER WHEN POSSIBLE.

PATTERNED CONCRETE SHALL HAVE A RUNNING BOND BRICK PATTERN. CONCRETE SHALL INCLUDE INTEGRAL DAVIS "SPANISH GOLD" OR "BRICK RED" COLOR (AS DIRECTED) WITH CLEAR CURING COMPOUND.
PLACE BOND BREAKER AND JOINT SEALANT IN JOINT BETWEEN MEDIAN EDGING AND ABUTTING CURB. BOND BREAKER SHALL BE 4-MIL TO 6-MIL PLASTIC SHEETING AND SHALL BE INCLUDED IN THE COST OF THE MEDIAN EDGING.

MEDIAN EDGING SHALL HAVE A RUNNING BOND BRICK PATTERN AS SHOWN ON THE MEDIAN COVER MATERIAL DRAWING. MEDIAN EDGING SHALL INCLUDE INTEGRAL DAMS "SPANISH GOLD" OR "BRICK RED" COLOR (AS DIRECTED) WITH CLEAR CURING COMPOUND.

TOPSOIL, 4" MINIMUM DEPTH TO WITHIN 3" OF TOP OF MEDIAN EDGE.

UNDERDRAIN SYSTEM MAY BE REQUIRED WHEN MEDIAN INCLUDES LANDSCAPE IRRIGATION. USE 4" PERFORATED PIPE UNDERDRAIN PER CDOT M-605-1, CONNECT TO STORM SEWER SYSTEM.

CITY of WESTMINSTER
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WESTMINSTER, COLO. 80031

MEDIAN EDGING
(PATTERNED CONCRETE)

DATE: JUNE 2019
R27
NOTES:
1. IF STORM SEWER IS PRESENT, INLETS MAY BE INSTALLED IF REQUIRED FOR DRAINAGE ON THE UPHILL SIDE OF THE RAISED CROSSWALK.

2. RAISED CROSSWALK SHALL UTILIZE SIGNAGE, SPEED HUMP MARKINGS AND CROSSWALK MARKINGS PER THE MUTCD.

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

RAISED PEDESTRIAN CROSSWALK

DATE: JUNE 2019  R29

NOT TO SCALE
NOTES:

1. IF STORM SEWER IS NOT PRESENT, CHASE DRAINS MAY BE UTILIZED IF REQUIRED FOR DRAINAGE.

2. RAISED CROSSWALK SHALL UTILIZE SIGNAGE, SPEED HUMP MARKINGS AND CROSSWALK MARKINGS PER THE MUTCD.

CITY of WESTMINSTER
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WESTMINSTER, COLO. 80031

RAISED PEDESTRIAN CROSSWALK WITH CHASE

DATE: JUNE 2019

NOT TO SCALE
CRUSHER FINES TRAIL TYPICAL SECTION

CRUSHER FINES SIDEPATH TYPICAL SECTION

NOT TO SCALE
NOTES:
1. MANHOLE COVERS SHALL BE ADJUSTED TO BE 1/8" MAX. BELOW FINAL GRADE OF ROAD.
2. FINAL MANHOLE ADJUSTMENTS SHALL MATCH GRADE AND CROSS SLOPE OF ROAD AND NO PART OF THE MANHOLE SHALL BE HIGHER THAN THE ROAD SURFACE.
3. VALVE BOXES SHALL BE ADJUSTED WITH EACH LAYER OF PAVING.

CITY of WESTMINSTER
4800 WEST 92ND AVENUE
WESTMINSTER, COLO. 80031

MANHOLE ADJUSTMENT

DATE: JUNE 2019