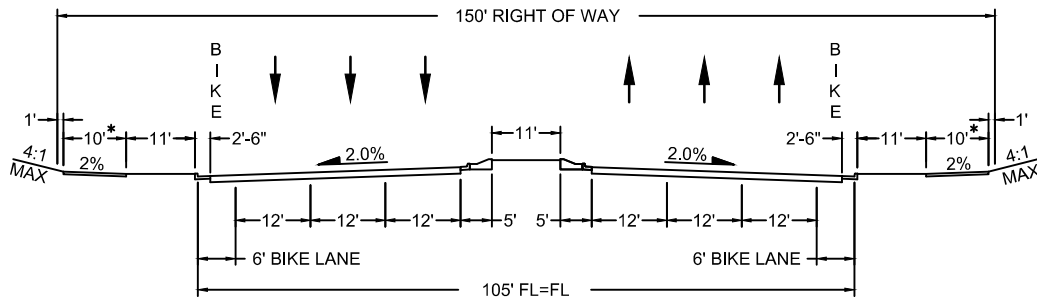


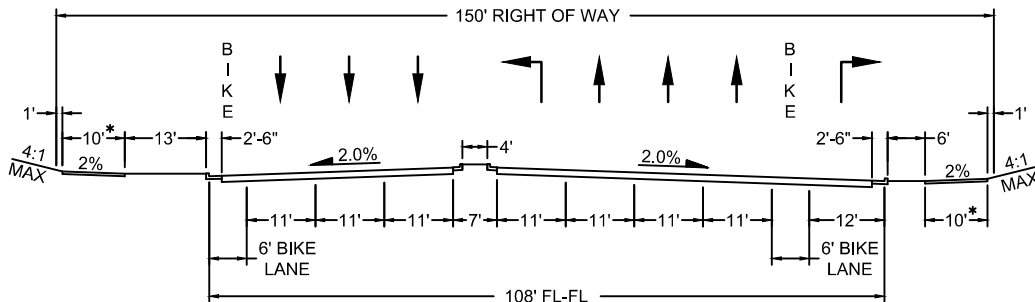
(A1) MAJOR ARTERIAL
INTERSECTION W/ MAJOR OR MINOR ARTERIAL
6 LANES W/ DUAL LEFT TURN LANES, 2 BIKE LANES, AND RIGHT TURN LANE

* ONE (1) 10 FOOT WIDE SIDEWALK IS REQUIRED ON ALL MAJOR ARTERIALS.
THE SECOND SIDEWALK MAY BE EIGHT (8) FEET WIDE.



(A2) MAJOR ARTERIAL
6 LANE STRAIGHT SECTION WITH 2 BIKE LANES

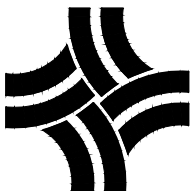
* ONE (1) 10 FOOT WIDE SIDEWALK IS REQUIRED ON ALL MAJOR ARTERIALS.
THE SECOND SIDEWALK MAY BE EIGHT (8) FEET WIDE.



(A3) MAJOR ARTERIAL
INTERSECTION W/ COLLECTOR
6 LANES W/ RT TURN, LT TURN, AND 2 BIKE LANES

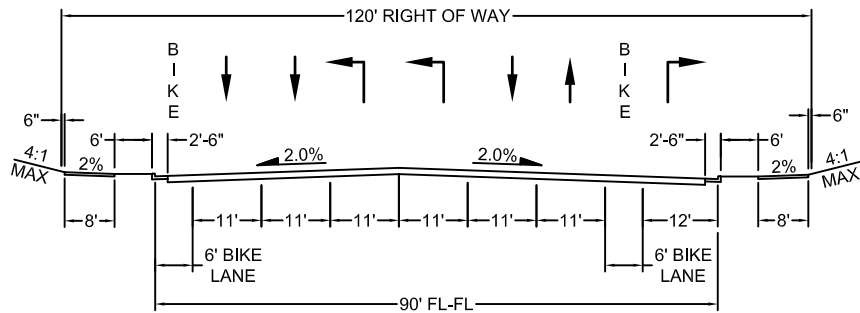
* ONE (1) 10 FOOT WIDE SIDEWALK IS REQUIRED ON ALL MAJOR ARTERIALS.
THE SECOND SIDEWALK MAY BE EIGHT (8) FEET WIDE.

N.T.S.

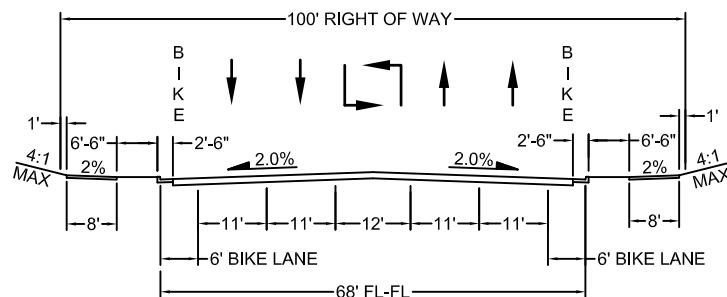


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
TYPICAL THOROUGHFARE CROSS
SECTIONS – MAJOR ARTERIAL

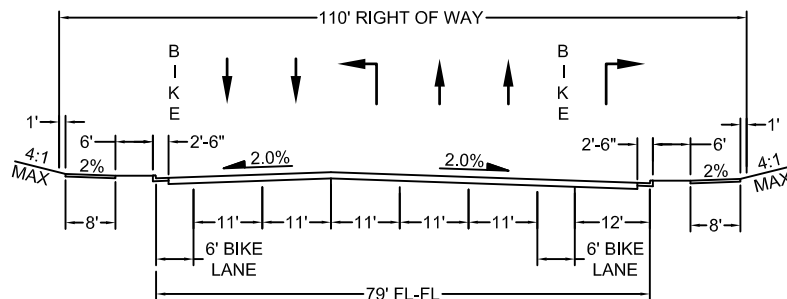
ISSUED:
APRIL 2010
REVISED:
AUG 2012
DRAWING NO.
500-1



(A4) MINOR ARTERIAL
INTERSECTION W/ MAJOR OR MINOR ARTERIAL
4 LANES W/ DUAL LEFT TURN LANES, 2 BIKE LANES, AND RIGHT TURN LANE

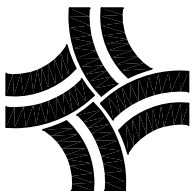


(A5) MINOR ARTERIAL
4 LANE STRAIGHT SECTION WITH 2 BIKE LANES



(A6) MINOR ARTERIAL
INTERSECTION W/ COLLECTOR
4 LANES W/ RT TURN, LT TURN, AND TWO BIKE LANES

N.T.S.



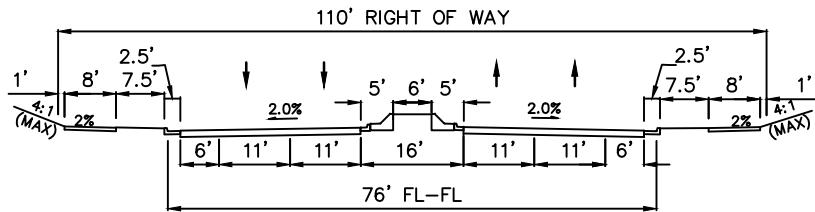
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TYPICAL THOROUGHFARE CROSS
SECTIONS – MINOR ARTERIAL

ISSUED:
APRIL 2010

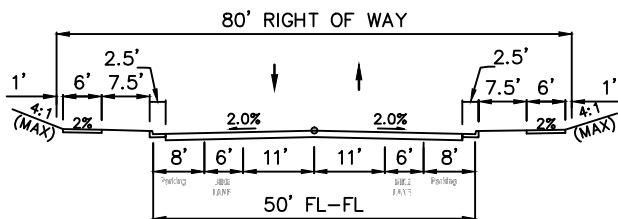
REVISED:
AUG 2012

DRAWING NO.
500-2



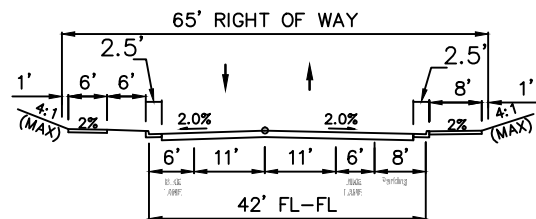
PARKWAY COLLECTOR
4 LANE STRAIGHT SECTION W/ BIKE LANES

(PC)



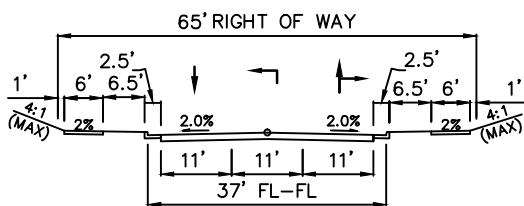
COLLECTOR
2 LANES W/ BIKE LANES
AND PARKING

(C1)



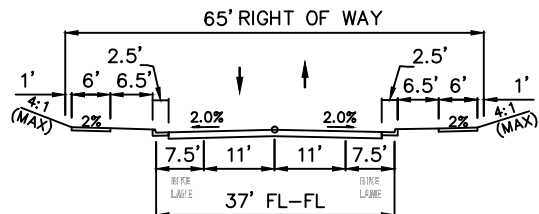
COLLECTOR
2 LANES W/ BIKE LANES
AND PARKING ALONG PARKS

(C2)



COLLECTOR
AT INTERSECTION

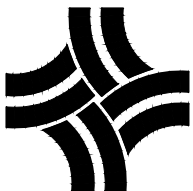
(C3)



COLLECTOR
2 LANES W/ BIKE LANES

(C4)

N.T.S.



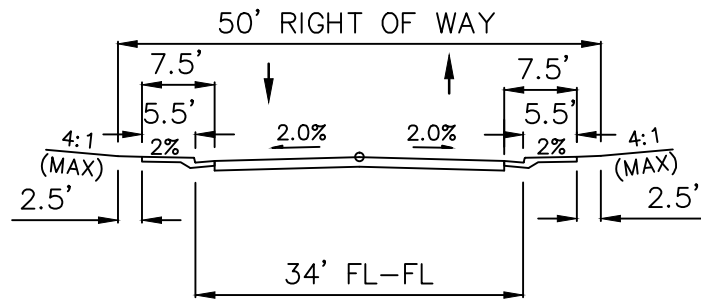
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TYPICAL THOROUGHFARE CROSS SECTIONS – COLLECTOR

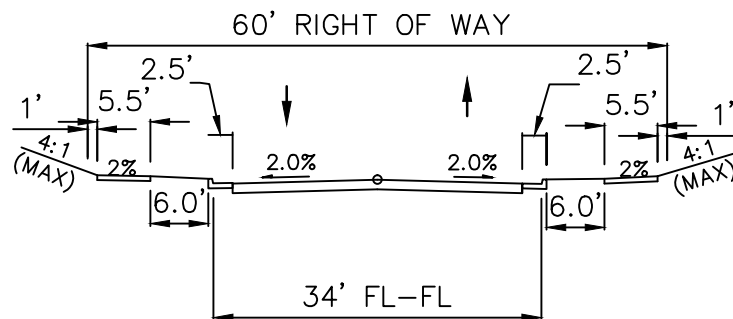
ISSUED:
APRIL 2010

REVISED:
SEPT 2012

DRAWING NO.
500-3

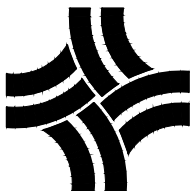


(L1) LOCAL RESIDENTIAL
2 LANE ATTACHED WALK
TYPE II INTEGRAL SIDEWALK



(L2) LOCAL RESIDENTIAL
2 LANE DETACHED WALK

N.T.S.

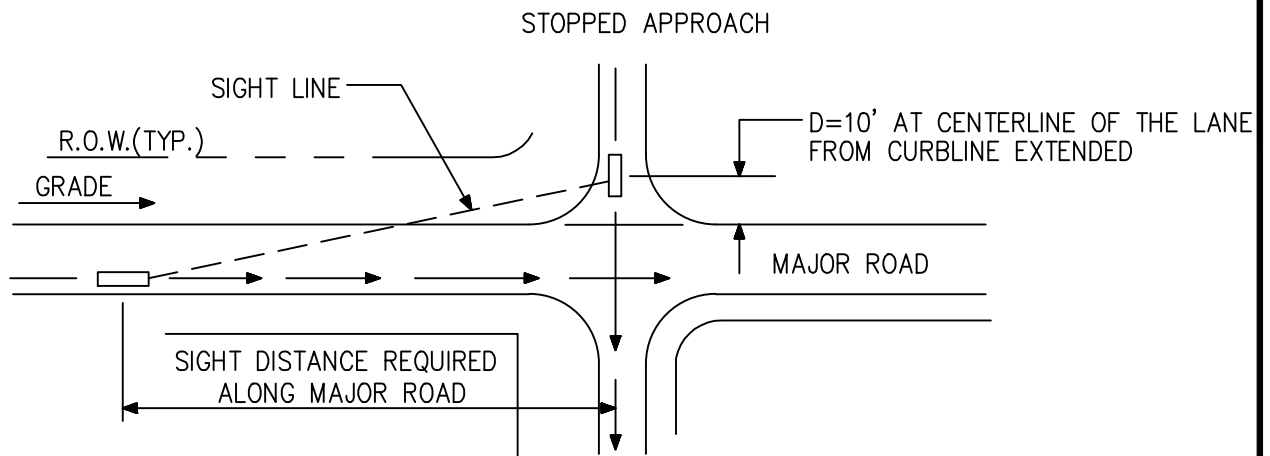


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TYPICAL THOROUGHFARE CROSS
SECTIONS – LOCAL

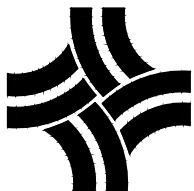
ISSUED:
APRIL 2010
REVISED:

DRAWING NO.
500-4



DESIGN SPEED OF THRU ROADWAY (MPH)	MINIMUM SIGHT DISTANCE FOR STOPPED VEHICLE (FT.)	GRADE CORRECTION DISTANCE (FT.)					
		SPEED	UPGRADE TO		FOR DOWNGRADES		
25	250		<u>3%</u>	<u>6%</u>	<u>3%</u>	<u>6%</u>	
30	300	25	0	-10	+10	+20	
		30	0	-10	+10	+20	
35	350	35	-10	-15	+10	+25	
		40	-10	-20	+10	+30	
40	400	45	-15	-25	+15	+40	
45	450						
50	500						
55	550						

N.T.S.



CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

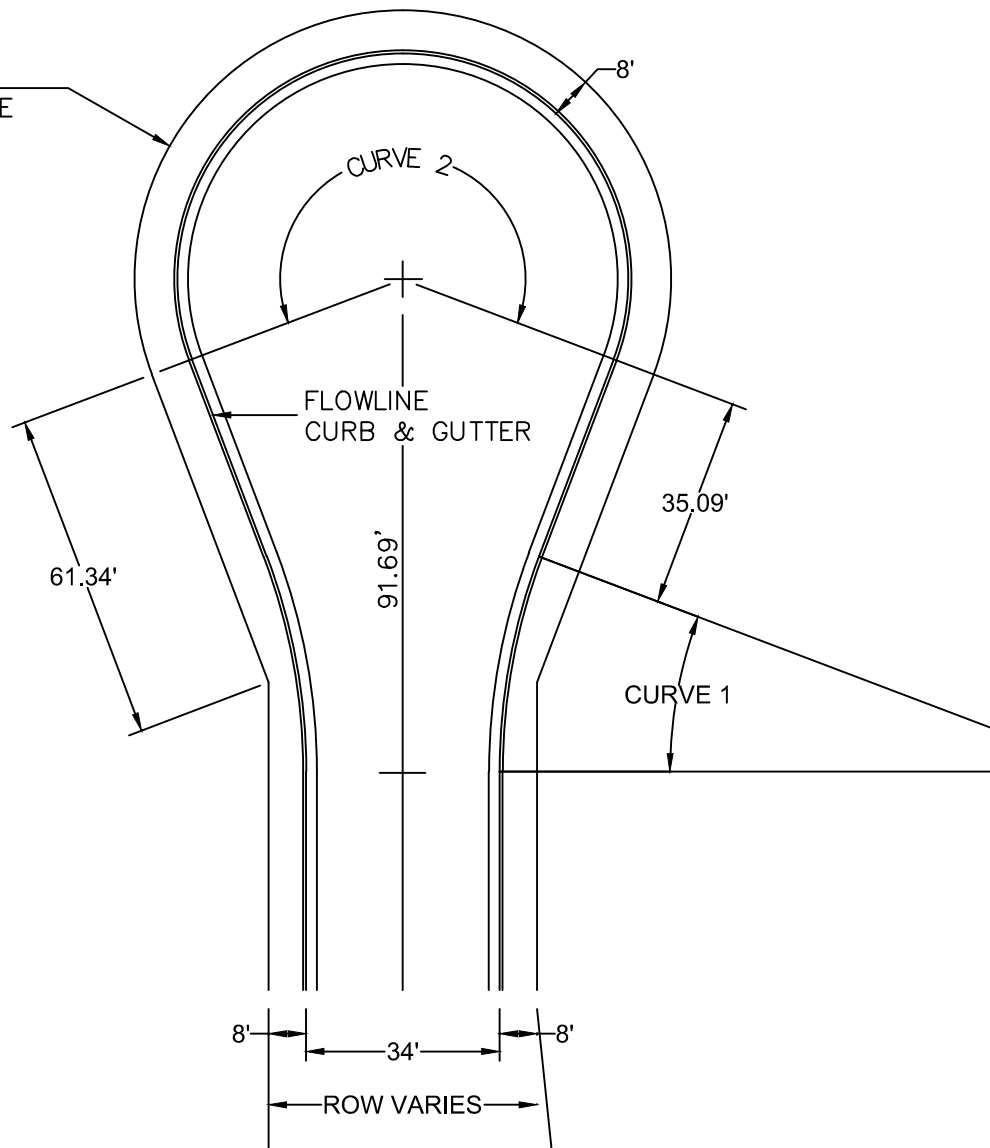
SIGHT DISTANCE

ISSUED:
APRIL 1992

REVISED:
APRIL 2010

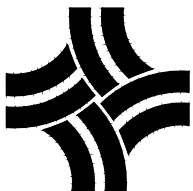
DRAWING NO.
500-5

R.O.W./
PROPERTY LINE



CURVE 1				CURVE 2				
△	CURB FLOWLINE			△	CURB FLOWLINE		R.O.W./PROP.	
	RADIUS	LENGTH	TANGENT		RADIUS	LENGTH	RADIUS	LENGTH
22° 18' 40"	113'	44.00'	22.28'	224° 37' 20"	43'	168.58'	50'	193.33'

N.T.S.



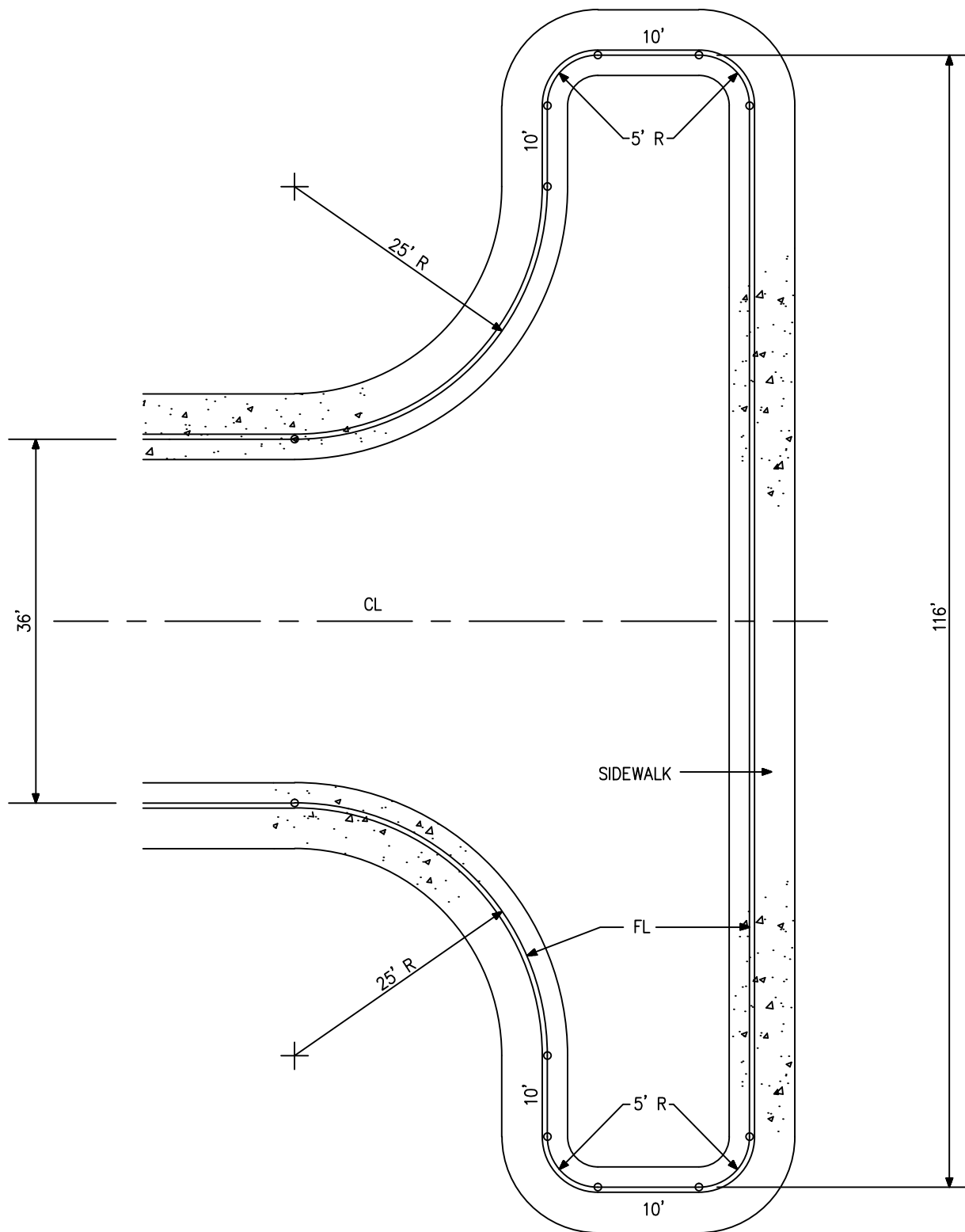
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

CUL-DE-SACS

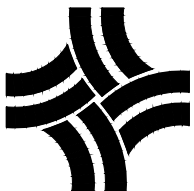
ISSUED:
APRIL 1992

REVISED:
APRIL 2010

DRAWING NO.
500-6



N.T.S.



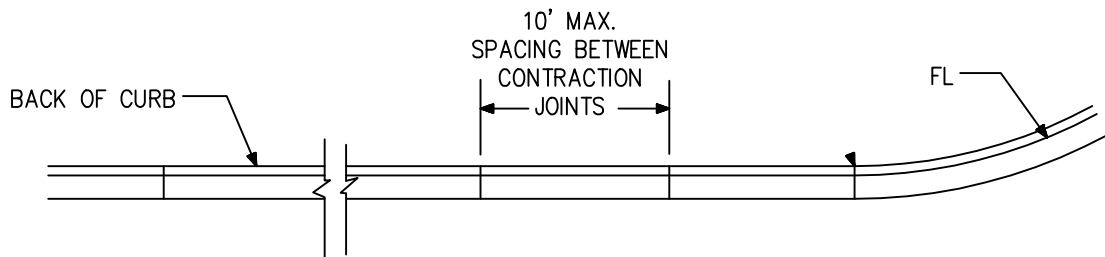
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

CUL-DE-SACS
HAMMERHEAD (PRIVATE)

ISSUED:
APRIL 1992

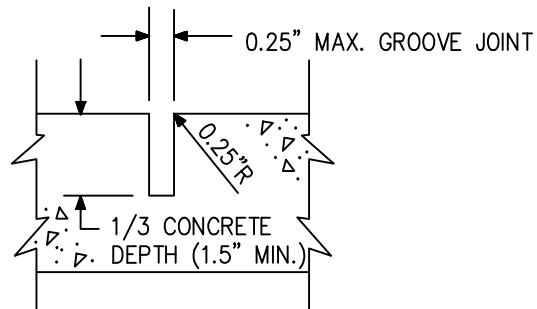
REVISED:
APRIL 2010

DRAWING NO.
500-7

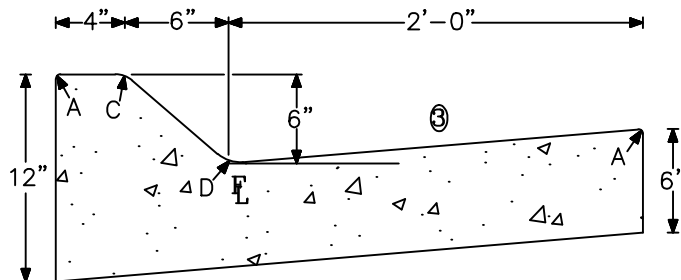


LAYOUT

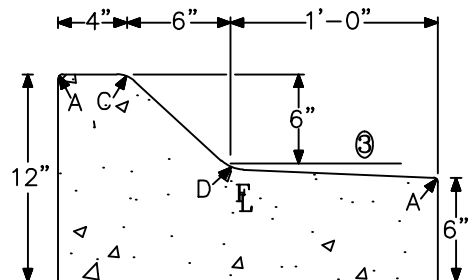
LEGEND FOR RADII	
A	= 1/8" TO 1/4"
B	= 1"
C	= 1-1/2"
D	= 1-1/2" TO 2"



CONTRACTION JOINT



TYPE 2 CURB & GUTTER
(SECTION IIM)

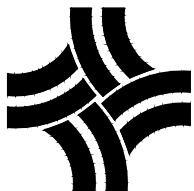


TYPE 2 CURB & GUTTER
(SECTION IM)

NOTES:

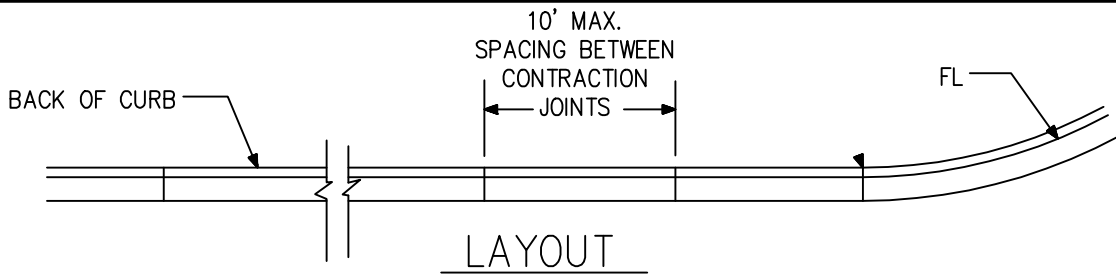
1. ANY OVER-EXCAVATION SHALL BE REPLACED WITH GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.
2. TYPE 2 SPILL CURB MAY BE REQUIRED FOR SPECIAL CONDITIONS.
- ③ GUTTER CROSS SLOPES SHALL BE 1/2"/FT. WHEN DRAINING AWAY FROM CURB AND 1"/FT. WHEN DRAINING TOWARD CURB.
4. CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

N.T.S.

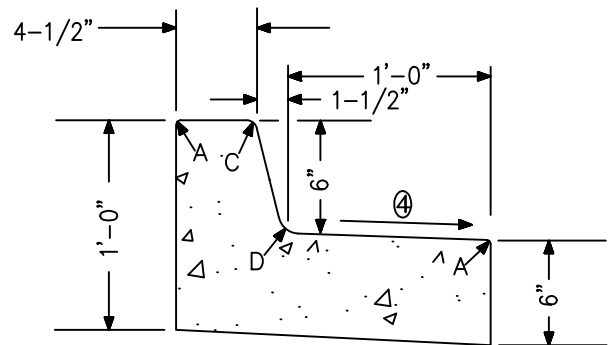
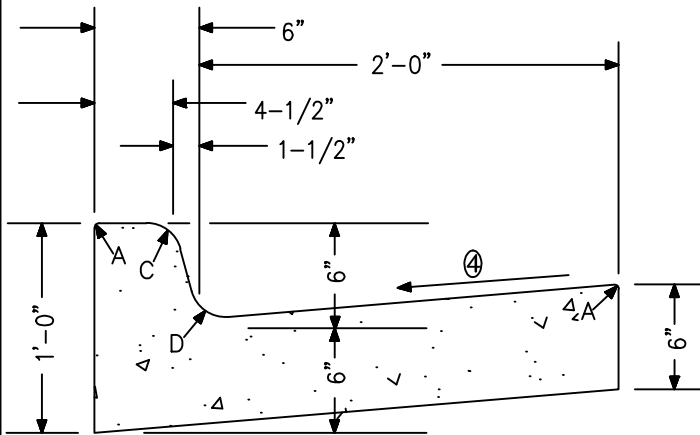
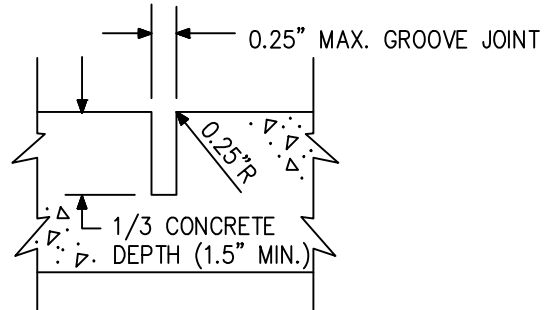


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
CURB AND GUTTER
TYPE 2 (SECTION IM)
TYPE 2 (SECTION IIM)

ISSUED:
DECEMBER 1998
REVISED:
APRIL 2010
DRAWING NO.
500-8



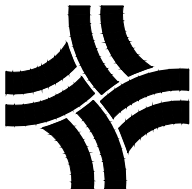
LEGEND FOR RADII	
A	= 1/8" TO 1/4"
B	= 1"
C	= 1-1/2"
D	= 1-1/2" TO 2"



NOTES:

1. TYPE 2 CURB & GUTTER IS FOR USE IN COMMERCIAL, ARTERIALS AND COLLECTOR STREETS.
2. ANY OVER-EXCAVATION SHALL BE REPLACED WITH GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.
3. TYPE 2 SPILL CURB MAY BE REQUIRED FOR SPECIAL CONDITIONS.
- ④ GUTTER CROSS SLOPE SHALL BE 1/2" /FT. WHEN DRAINING AWAY FROM CURB AND 1" /FT. WHEN DRAINING TOWARD CURB.
5. CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE.
4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

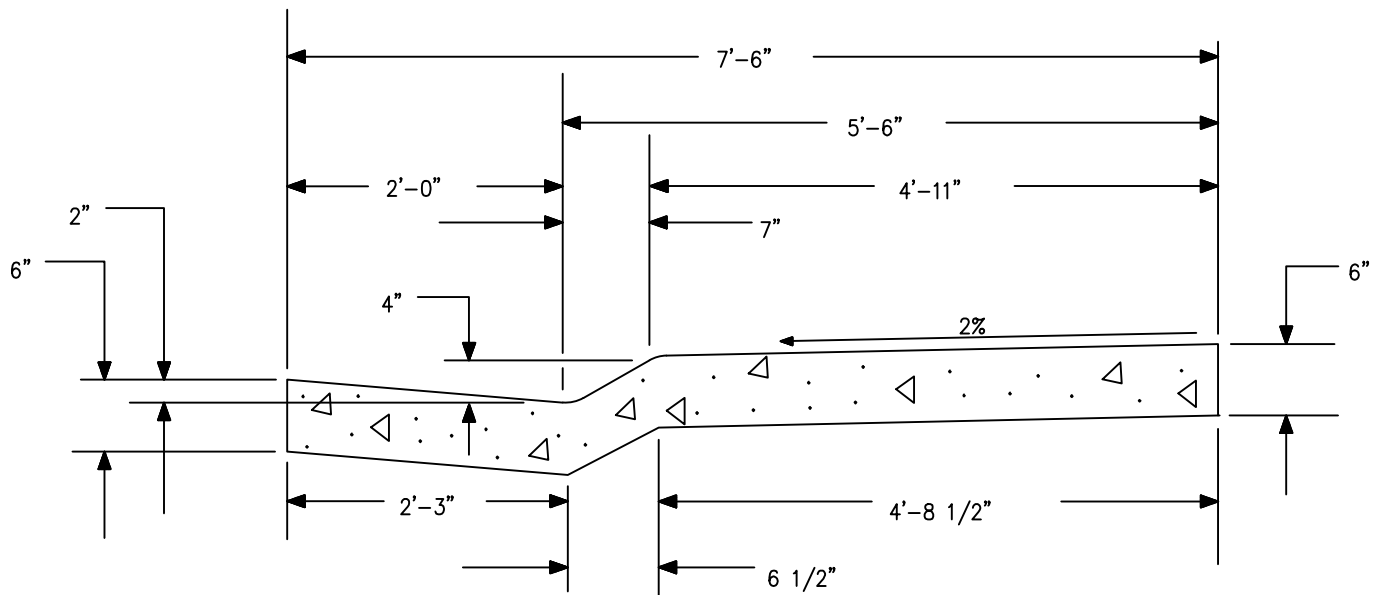
N.T.S.



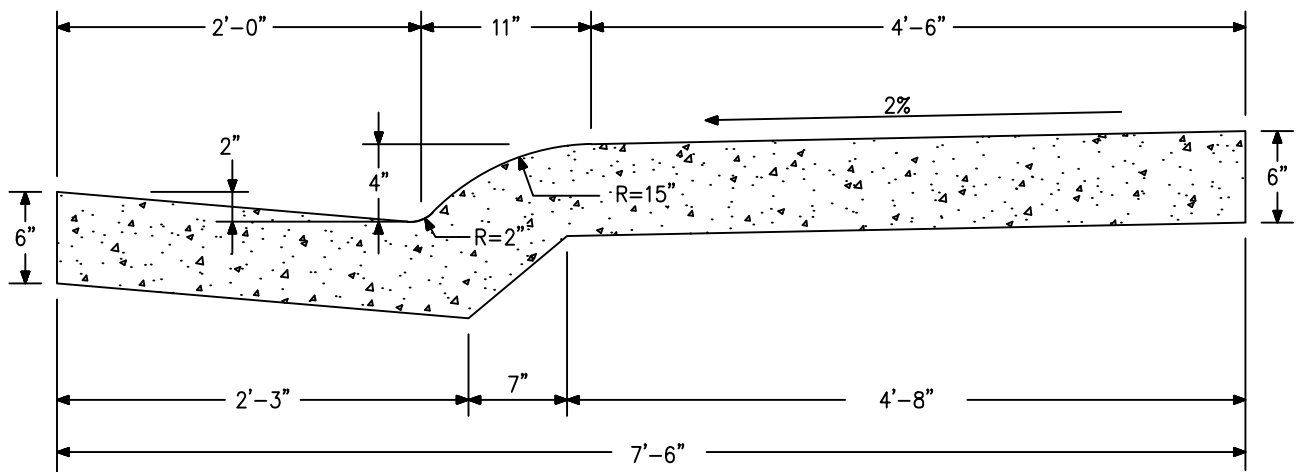
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
CURB AND GUTTER
TYPE 2 (SECTION IB)
TYPE 2 (SECTION IIB)

ISSUED:
DECEMBER 1998
REVISED:
APRIL 2010
DRAWING NO.
500-8A

NOTE:
 CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE.
 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

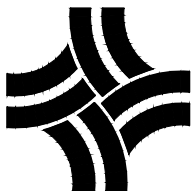


LOCAL ATTACHED SECTION 1



LOCAL ATTACHED SECTION 2

N.T.S.



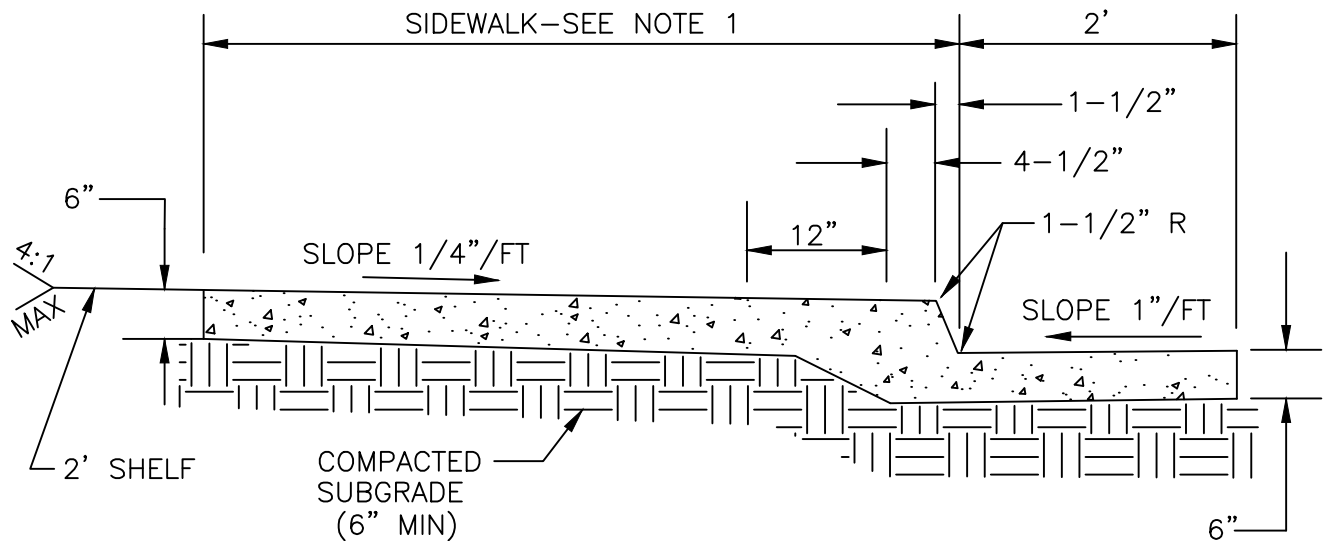
CITY OF THORNTON, COLORADO
 STANDARDS & SPECIFICATIONS

TYPE 1 COMBINATION CURB,
 GUTTER AND SIDEWALK

ISSUED:
 APRIL 1992

REVISED:
 APRIL 2010

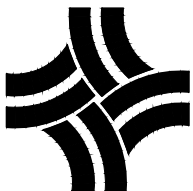
DRAWING NO.
 500-9



NOTES

1. WIDTHS ARE TO BE 5'-6" IF STREET CLASSIFICATION IS LOCAL, 6'-6" IF STREET IS A COLLECTOR, 8'-6" IF STREET IS AN ARTERIAL OR 10'-6" IF SIDEWALK IS TO FUNCTION AS A BIKE TRAIL. DIMENSIONS ARE TO BE INCLUDED IN DETAILED CONSTRUCTION PLANS.
2. CONCRETE SHALL INCLUDE FIBER MESH.
3. SIDEWALK, CURB AND GUTTER SHALL BE POURED MONOLITHICALLY.
4. SEE DETAIL 500-8 FOR JOINT DETAILS AND COMPACTION NOTES.
5. CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

N.T.S.



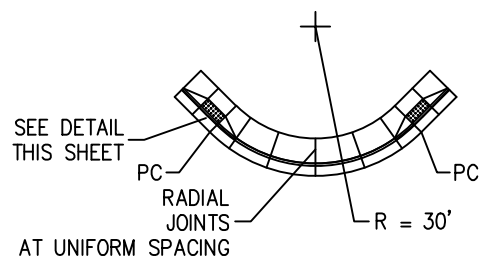
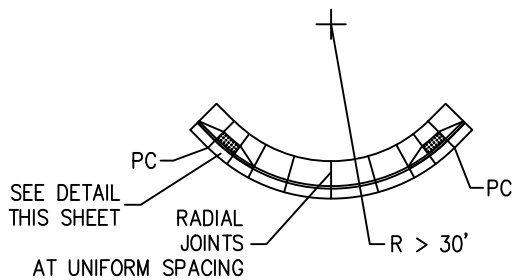
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TYPE IIB INTEGRAL SIDEWALK AND
BIKE PATH

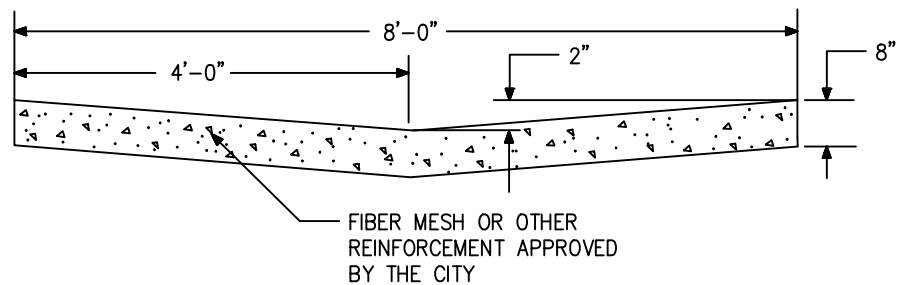
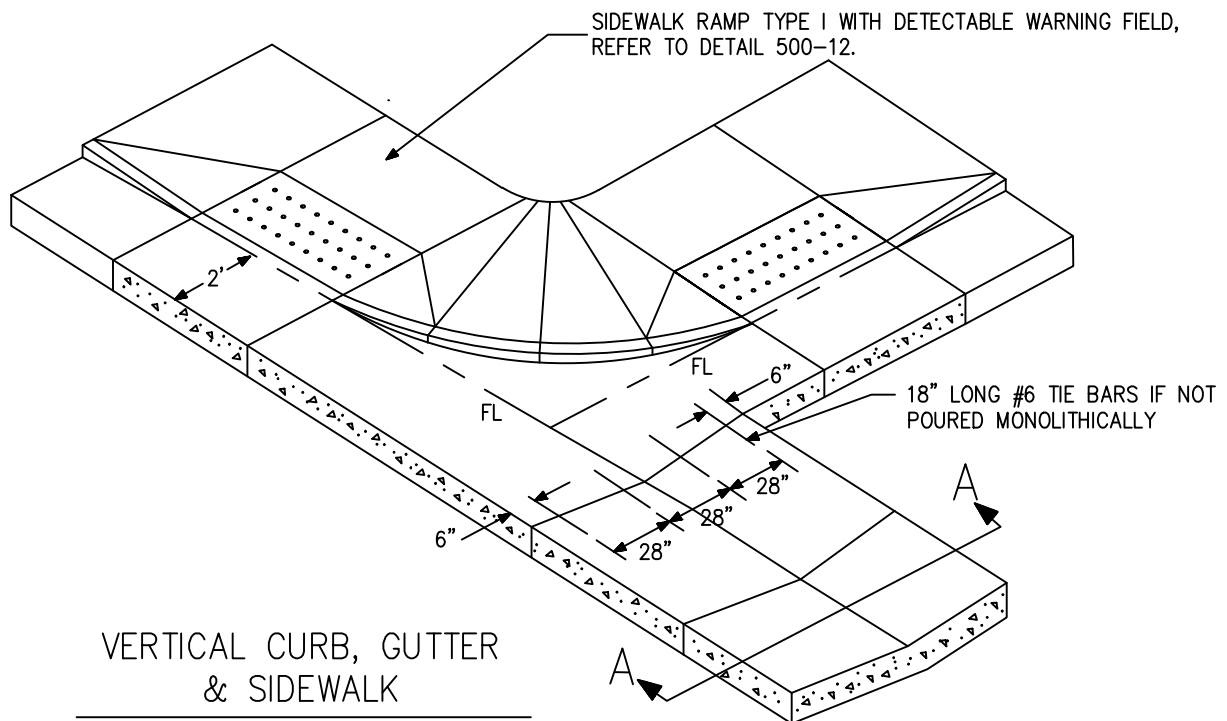
ISSUED:
JUNE 1995

REVISED:
APRIL 2010

DRAWING NO.
500-9A



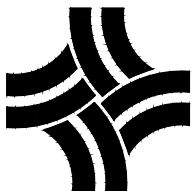
DIRECTIONAL RAMP LOCATIONS WITH ATTACHED SIDEWALK



SECTION A-A

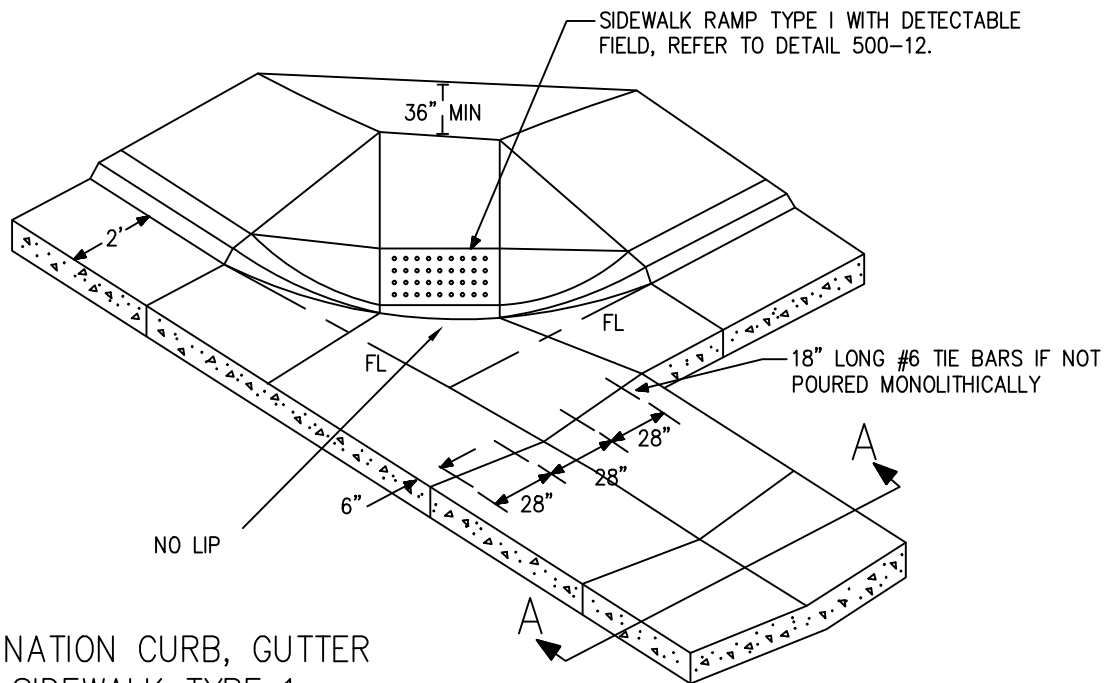
NOTE:
CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE.
4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

N.T.S.

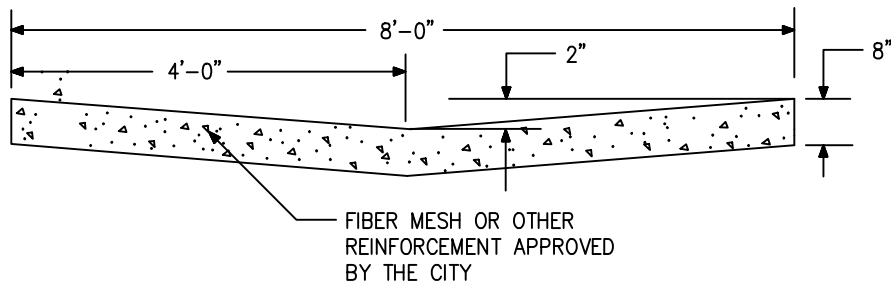


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
SQUARED RADIUS WITH CROSS
PAN FOR ARTERIALS AND
COLLECTORS

ISSUED:
APRIL 1992
REVISED:
APRIL 2010
DRAWING NO.
500-10



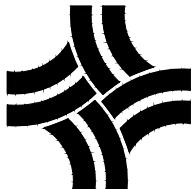
COMBINATION CURB, GUTTER
& SIDEWALK TYPE 1



SECTION A-A

NOTE:
CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE.
4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

N.T.S.



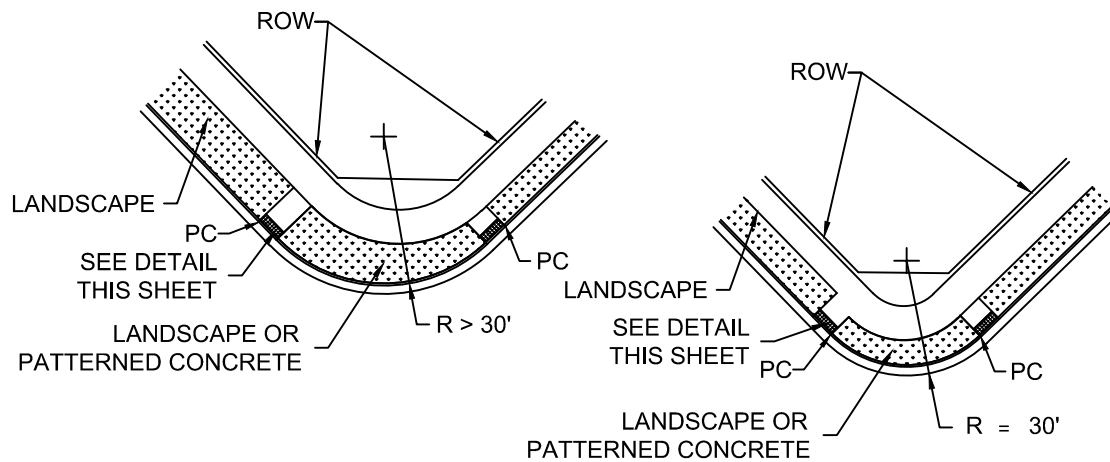
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

SQUARED RADIUS WITH CROSS
PAN FOR LOCAL STREETS

ISSUED:
APRIL 1992

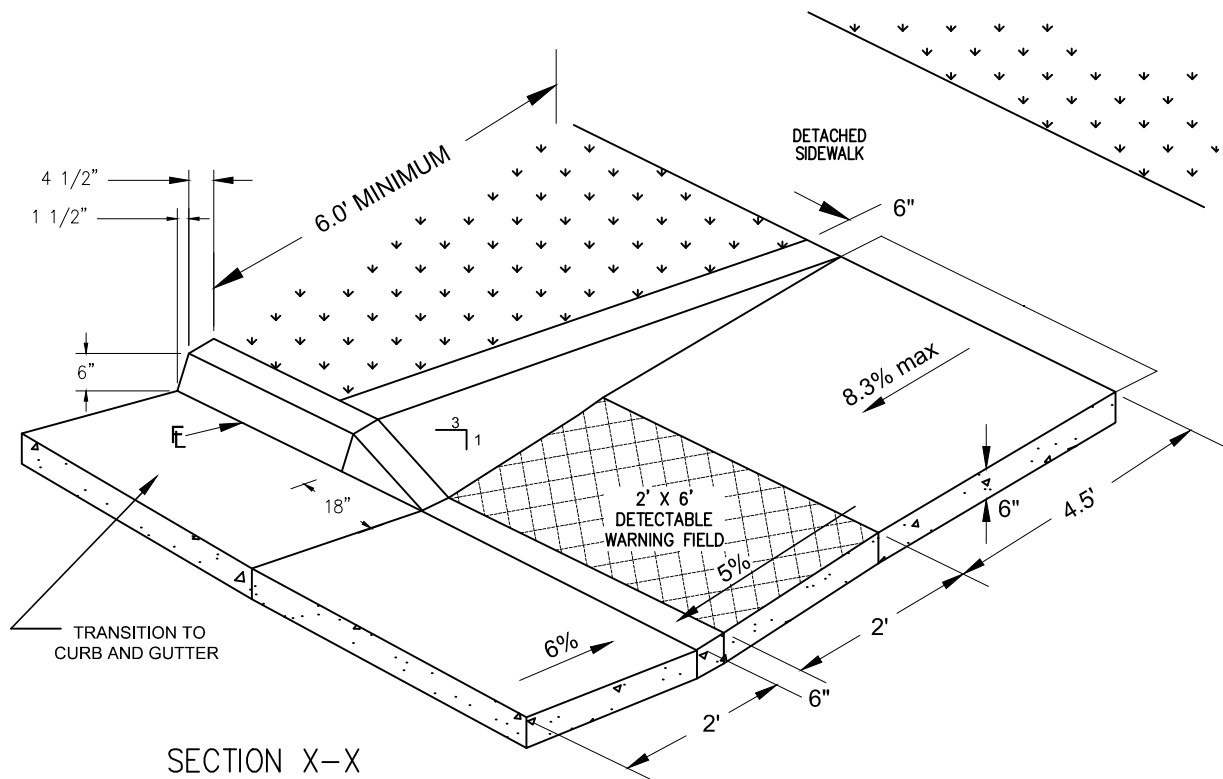
REVISED:
APRIL 2010

DRAWING NO.
500-11

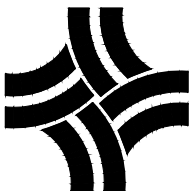


NOTES

1. DETECTABLE WARNING FIELD SHALL BE CAST-IN-PLACE RED EAST JORDAN IRON WORKS OR APPROVED EQUAL.
2. CONCRETE SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS SECTION 600-CONCRETE WORK. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT
3. CHANGES IN GRADE SHALL NOT EXCEED 11%.



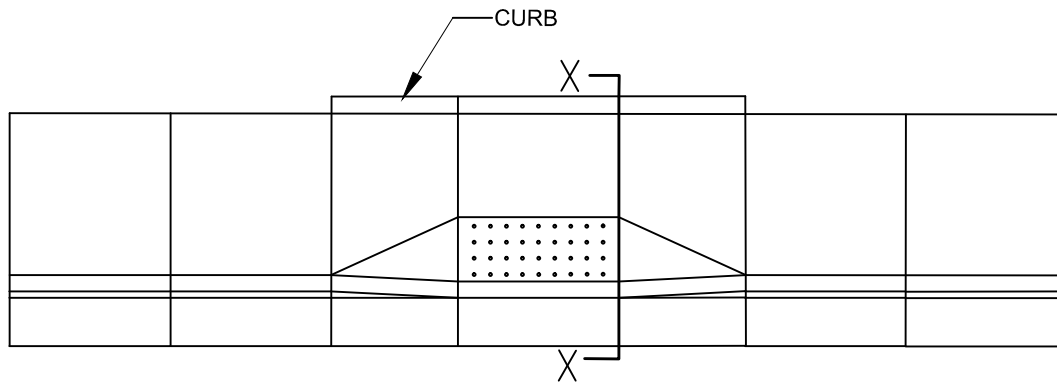
N.T.S.



CITY OF THORNTON, COLORADO STANDARDS & SPECIFICATIONS TYPE II SIDEWALK RAMP — COLLECTOR/ARTERIAL (DIRECTIONAL)

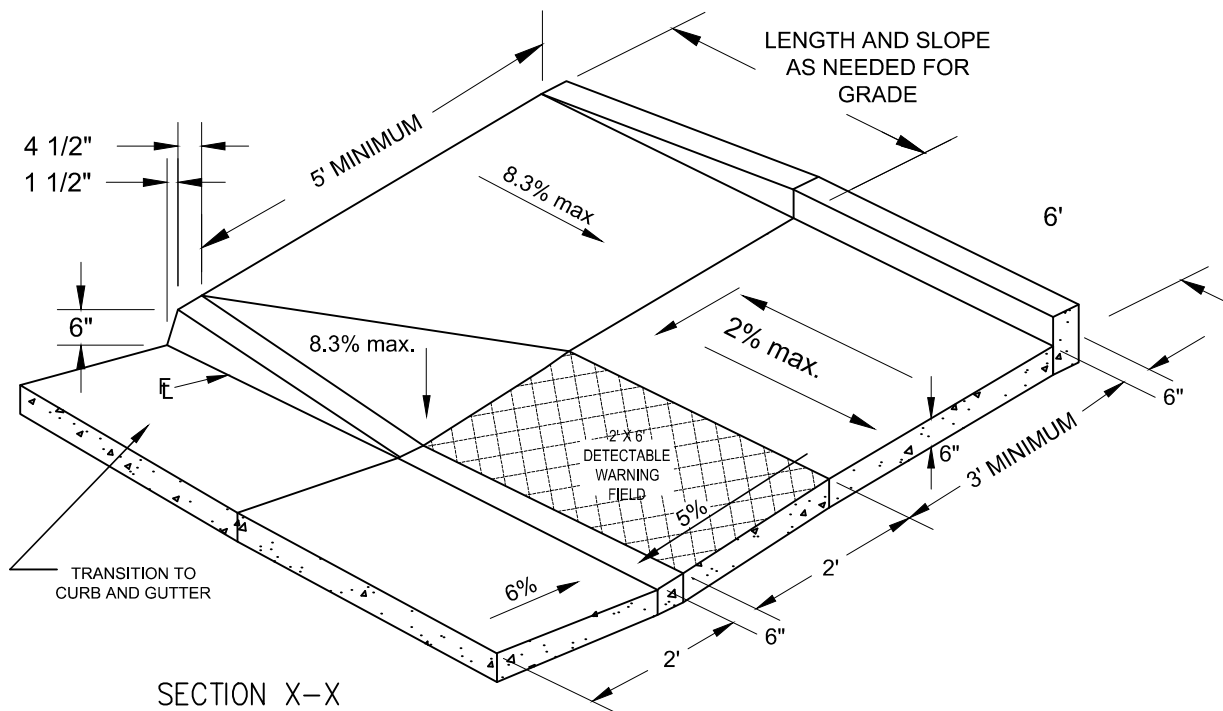
ISSUED:
APRIL 2010
REVISED:

DRAWING NO.
500-13

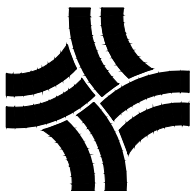


NOTES

1. DETECTABLE WARNING FIELD SHALL BE CAST-IN-PLACE RED EAST JORDAN IRON WORKS OR APPROVED EQUAL.
2. CONCRETE SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS SECTION 600-CONCRETE WORK. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT
3. CHANGES IN GRADE SHALL NOT EXCEED 11%.



N.T.S.

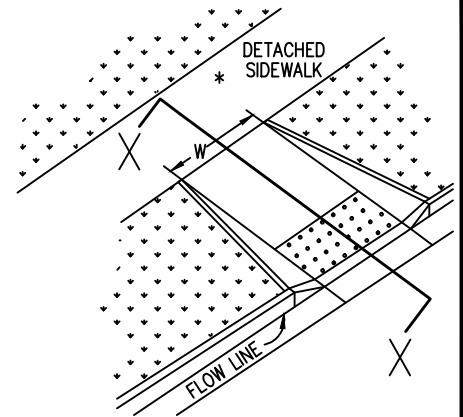
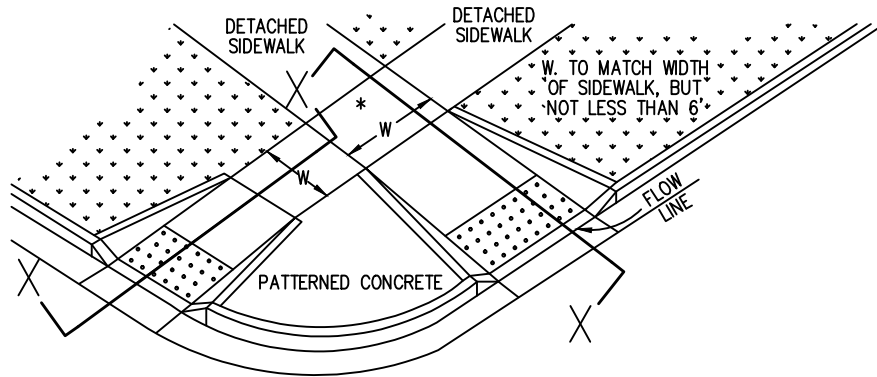


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TYPE III SIDEWALK RAMP (TEE)

ISSUED:
APRIL 2010
REVISED:

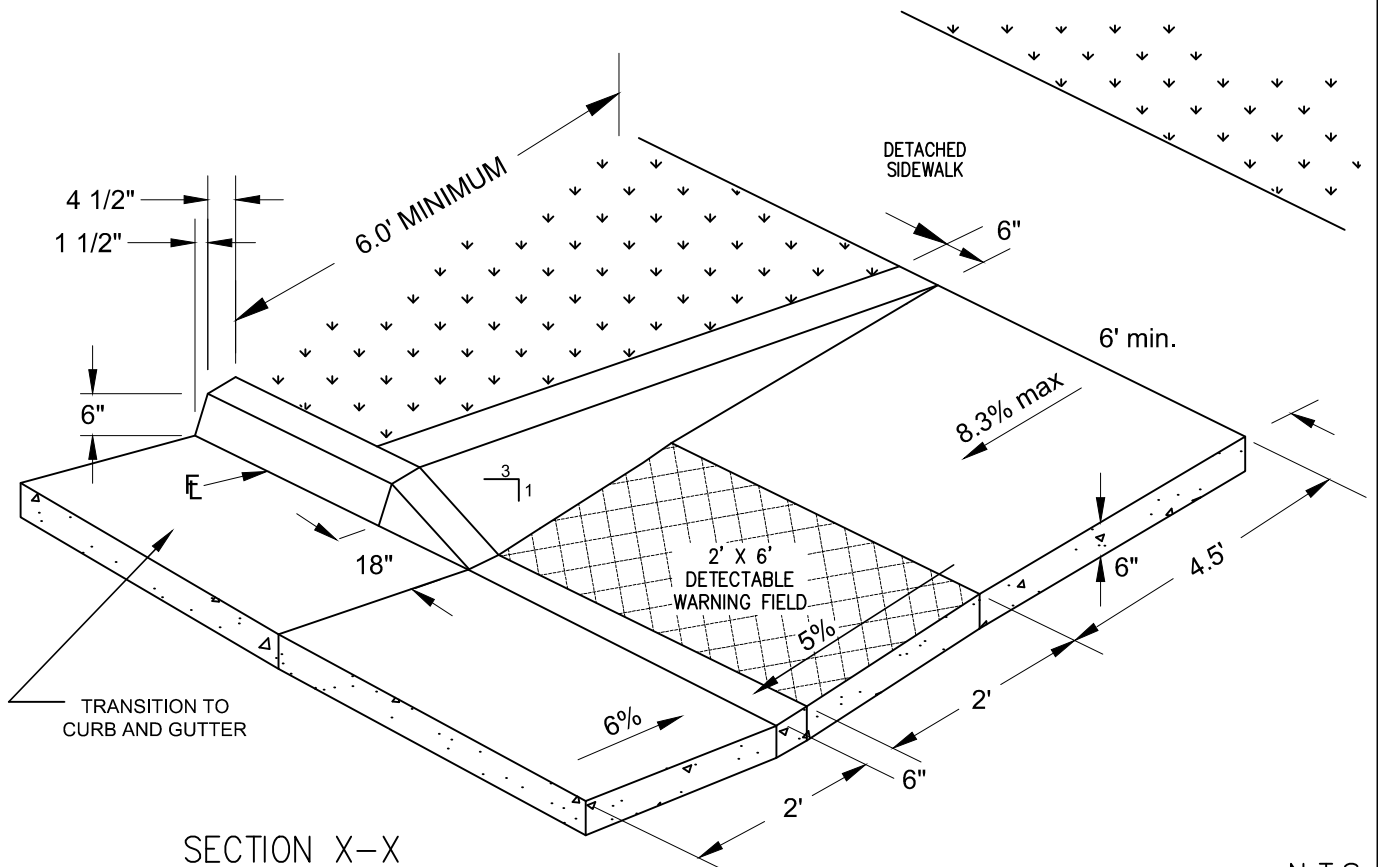
DRAWING NO.
500-14



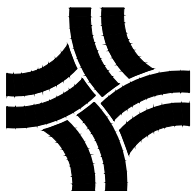
* SLOPE MUST BE < 2.0% IN BOTH DIRECTIONS

NOTES

1. DETECTABLE WARNING FIELD SHALL BE CAST-IN-PLACE RED EAST JORDAN IRON WORKS OR APPROVED EQUAL.
2. CONCRETE SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS SECTION 600-CONCRETE WORK. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT
3. CHANGES IN GRADE SHALL NOT EXCEED 11%.



N.T.S.

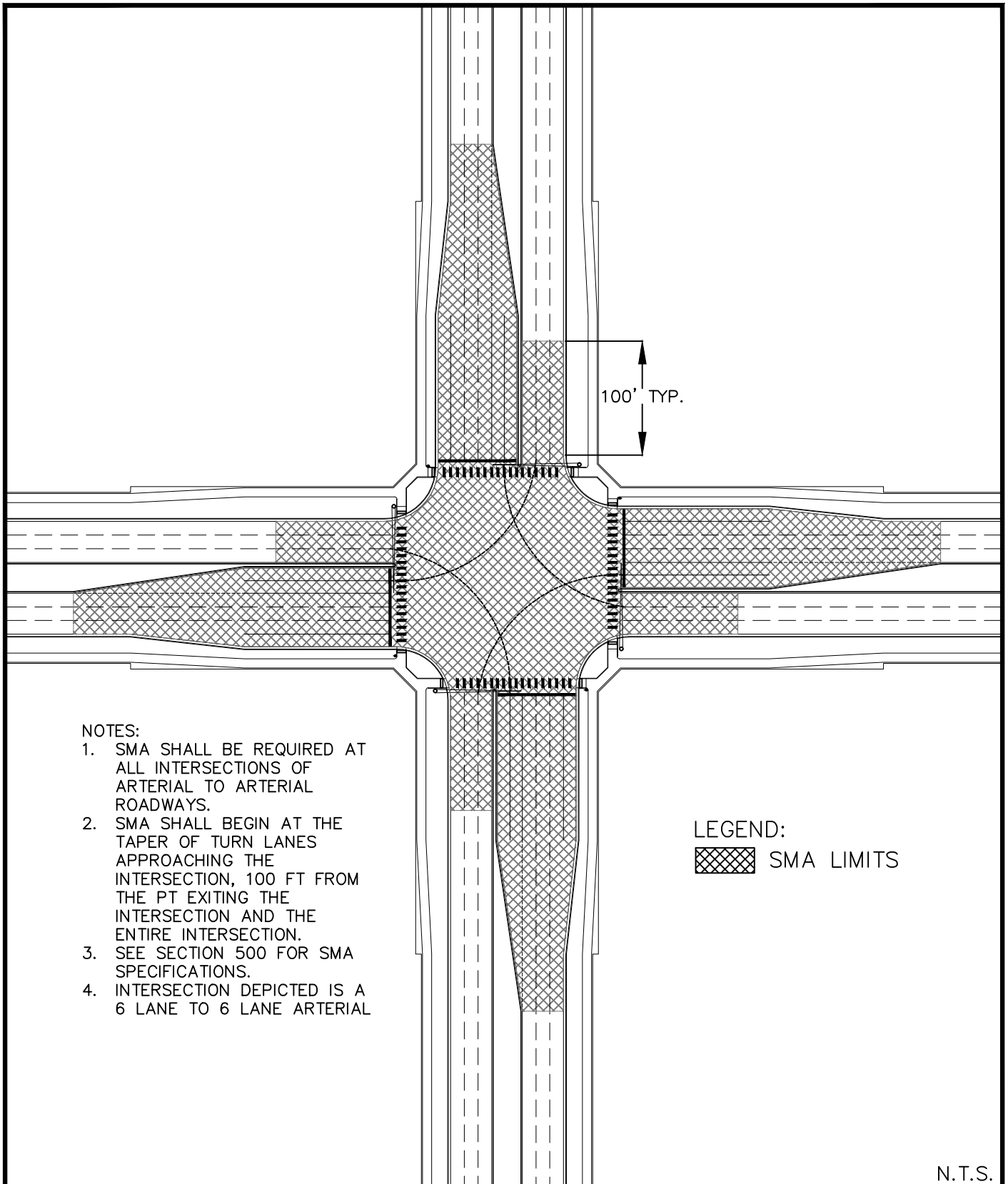


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

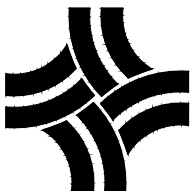
DIRECTIONAL SIDEWALK RAMP —
DETACHED SIDEWALK

ISSUED:
APRIL 2010
REVISED:

DRAWING NO.
500-15



N.T.S.

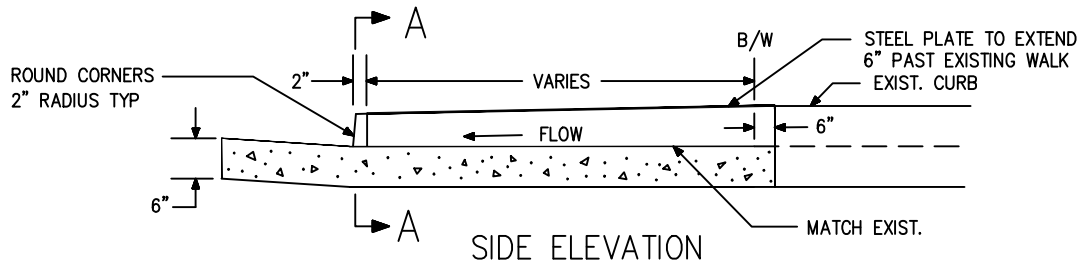
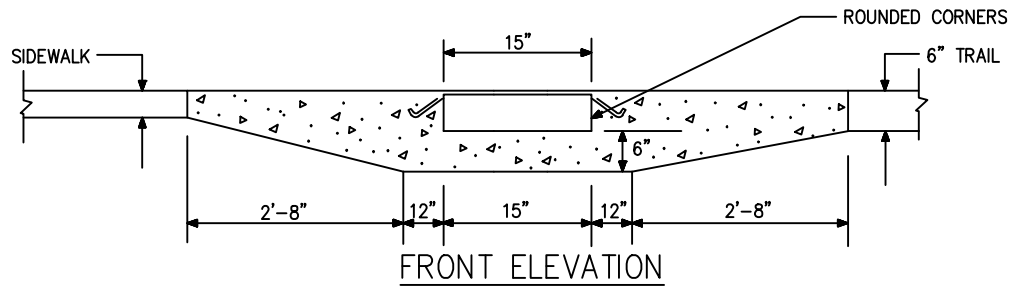


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

STONE MASTIC ASPHALT (SMA)
TOP LIFTS

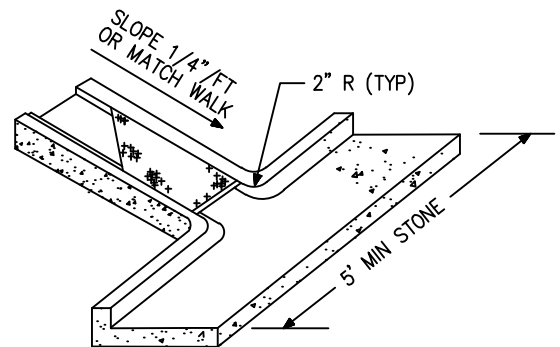
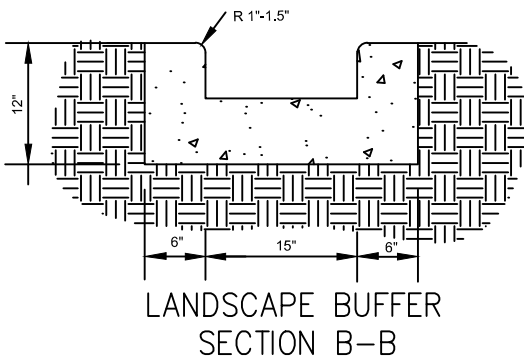
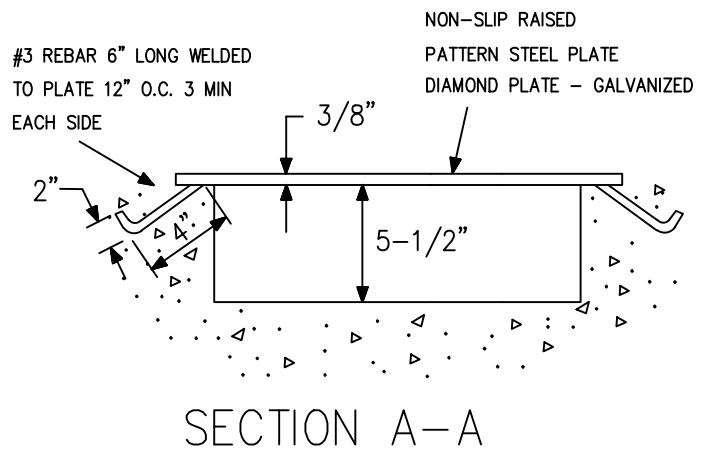
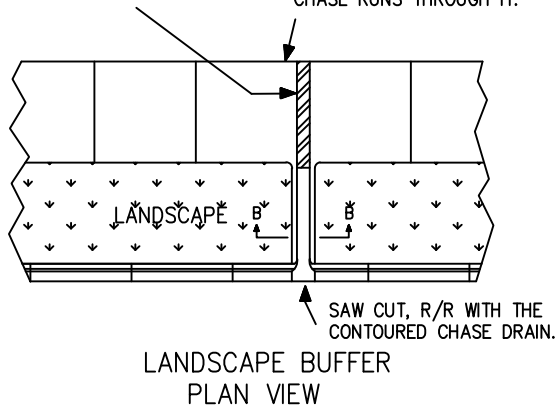
ISSUED:
APRIL 2010
REVISED:

DRAWING NO.
500-16



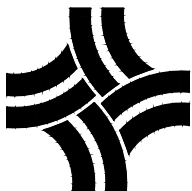
DIAMOND PLATED NON-SLIP
PLATE EXTENDS 6" PAST THE
END OF THE SIDEWALK.

INSTALL A MONOLITHIC SLAB
AND CHASE DRAIN. REPLACE
ENTIRE STONE WHEN THE
CHASE RUNS THROUGH IT.



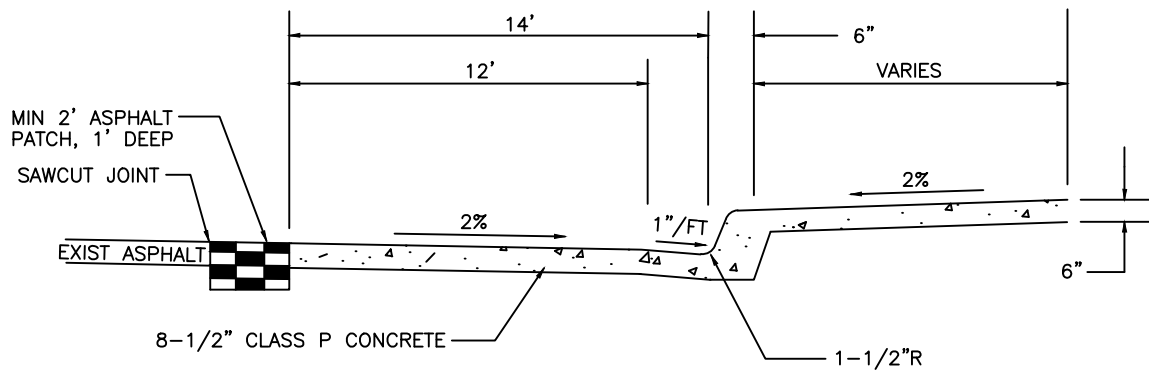
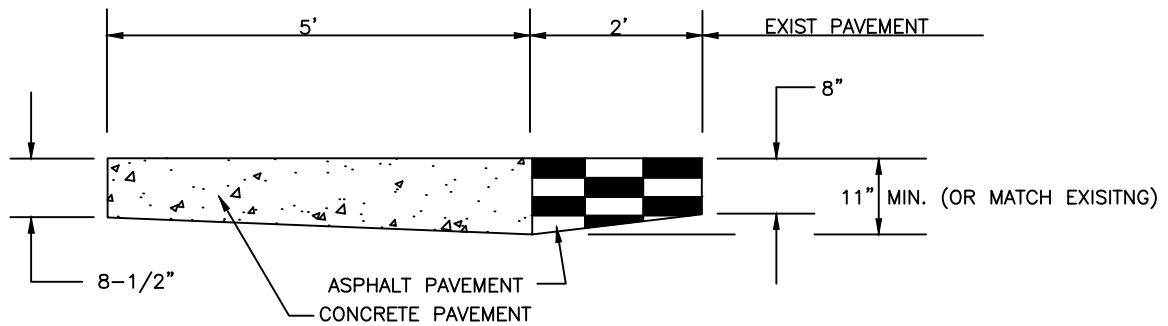
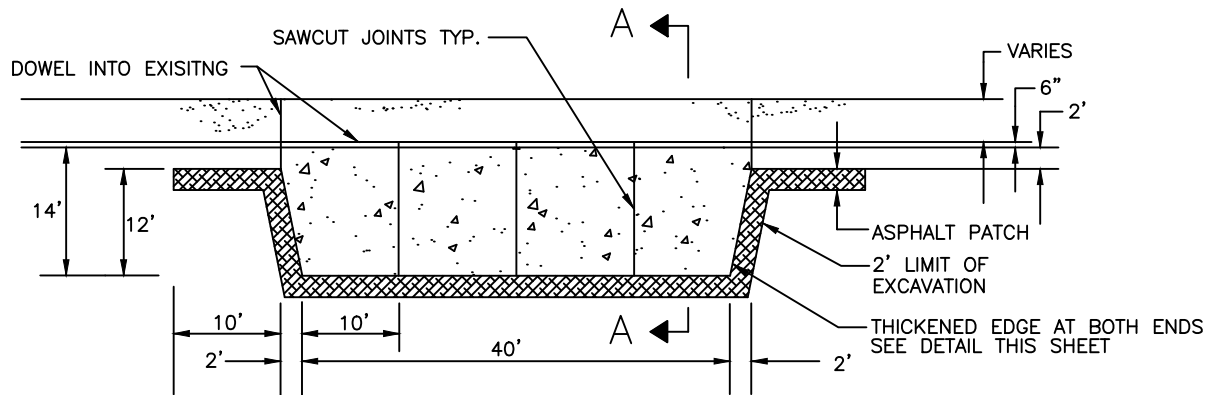
NOTE:
CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE.
4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

N.T.S.



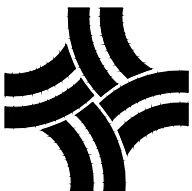
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
CONCRETE SIDEWALK CHASE
DRAIN (FOR COMMERCIAL,
COMMON AREAS, AND DETACHED)

ISSUED:
APRIL 1992
REVISED:
MAY 2010
DRAWING NO.
500-17



NOTE:
CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE.
4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT

N.T.S.



CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

CONCRETE BUS PAD

ISSUED:
MAY 1995

REVISED:
APRIL 2010

DRAWING NO.
500-18

Form 500-19**• Mixture Design Requirements for
Hot Mix Asphalt Pavements (HMA)**

Developer/Owner: _____

Paving Contractor: _____

Date: _____

Subdivision/Project Name: _____

• Project Special Provision Sheet for Hot Mix Asphalt Pavements (HMA)

Roadway Classification: _____

(examples: Local, Collector, Arterial, Parking Lot or actual name for Project)

Construction Application: _____

☐ Top Lift ☐ Intermediate Lift(s) ☐ Bottom Lift
☐ Patching ☐ Other _____

Aggregate Gradation: _____

☐ Grading SX (2.0" to 2.5" lifts)
☐ Grading S (2.5" to 3.5" lifts)
☐ Grading SG (3.5" to 5.0" lifts) - for lower lift(s) only, may need
approval of surface texture by Agency
☐ SMA (2.5" to 3.5") - Top Lift Only
The SMA gradation for this project shall be _____RAP Quantity, Maximum: ☐ 0% ☐ 15% ☐ 20% ☐ 25%Notes: A quality control plan for RAP will be required when RAP is used
Top lift Maximum RAP content allowed is 20%

Superpave Gyratory Mix Design Compaction Level usage and binder(s):

Design Level☐ N_{design}=50☐ N_{design}=75☐ N_{design}=100**Traffic Levels**

Low volume

0 to <3 million ESALs

3 million to <30 million ESALs

PG Binder(s)☐ PG 58-28☐ PG 64-22☐ PG 64-22☐ PG 58-28☐ PG 64-22☐ PG 76-28

Notes: - The binders are shown in order they should be considered.

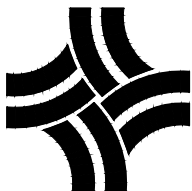
- PG 76-28 polymer modified PG Binders are required in the top lift only on arterial roadways

- PG 58-28 Binder recommended for residential developments with less than 100,000 ESAL's

- Target Job Mix Optimum Binder Content for HMA gradings as close to 4.0% air voids as possible (3.5% to 4.5% air voids)
- Target Job Mix Optimum Binder content for SMA gradings at 3.0% to 4.0% air voids

A completed Form 500-19 shall supplement the City of Thornton Standards and Specifications for the Design of Public and Private Improvements defining the project specific requirements of Hot Mix Asphalt Pavement (HMA) and Stone Matrix Asphalt (SMA). Refer to the Standards and Specifications Section 504 for details.

N.T.S.

CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONSHOT MIX ASPHALT (HMA)
PAVEMENT MIX DESIGNISSUED:
APRIL 2010
REVISED:DRAWING NO.
500-19

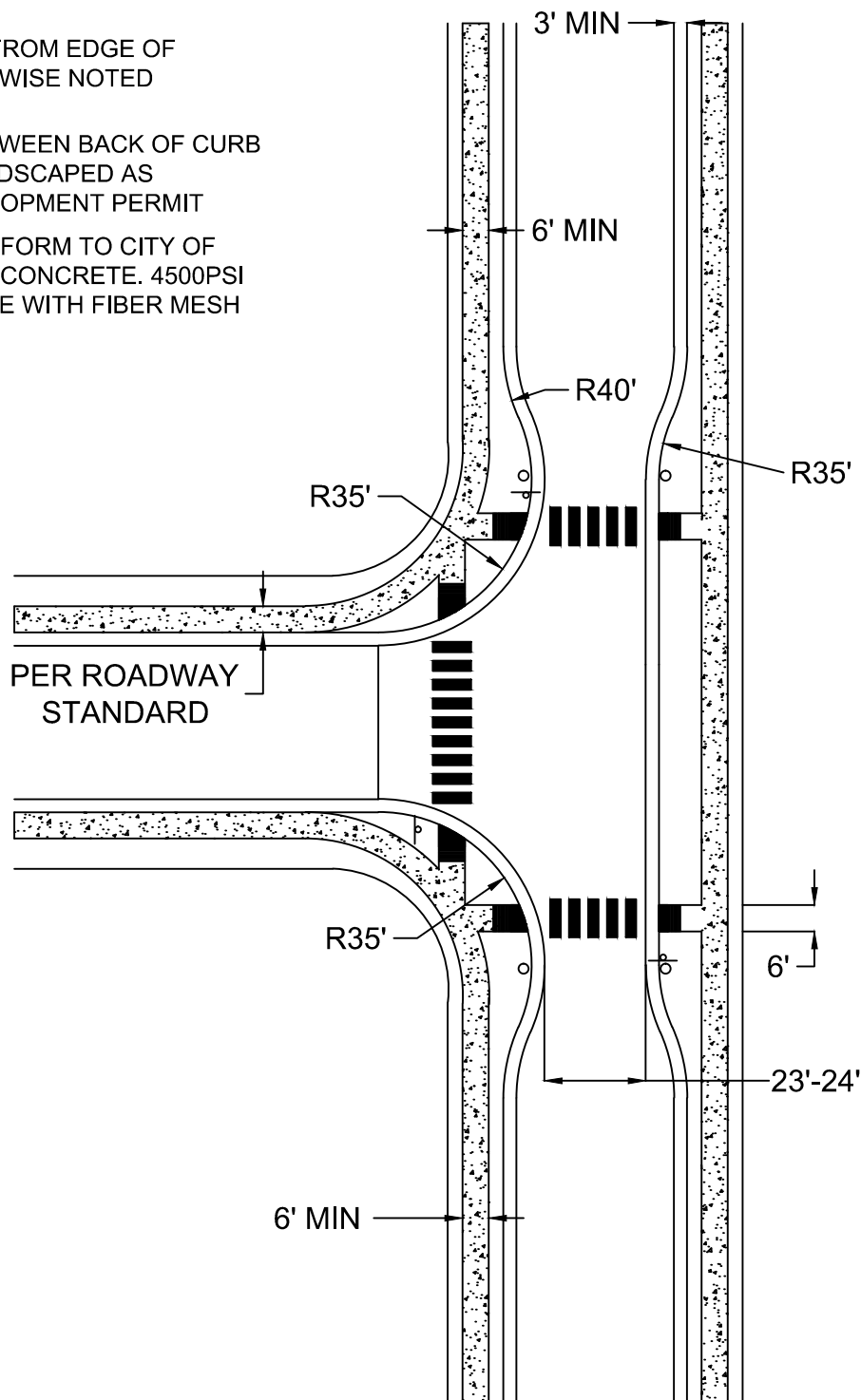
NOTES:

1. RADIUSSES ARE MEASURED TO FLOW LINE

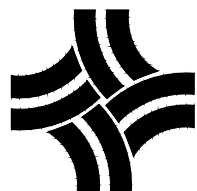
2. MEASUREMENTS ARE FROM EDGE OF ASPHALT UNLESS OTHERWISE NOTED

3. MEDIAN AND AREA BETWEEN BACK OF CURB AND WALK SHALL BE LANDSCAPED AS APPROVED IN THE DEVELOPMENT PERMIT

4. CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT



N.T.S.



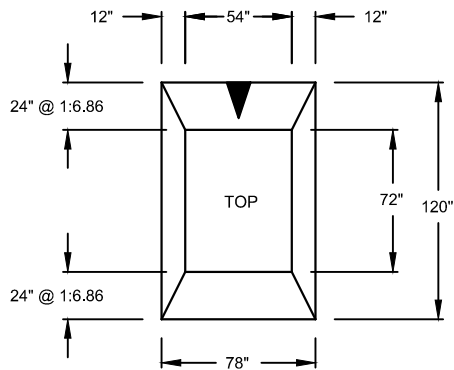
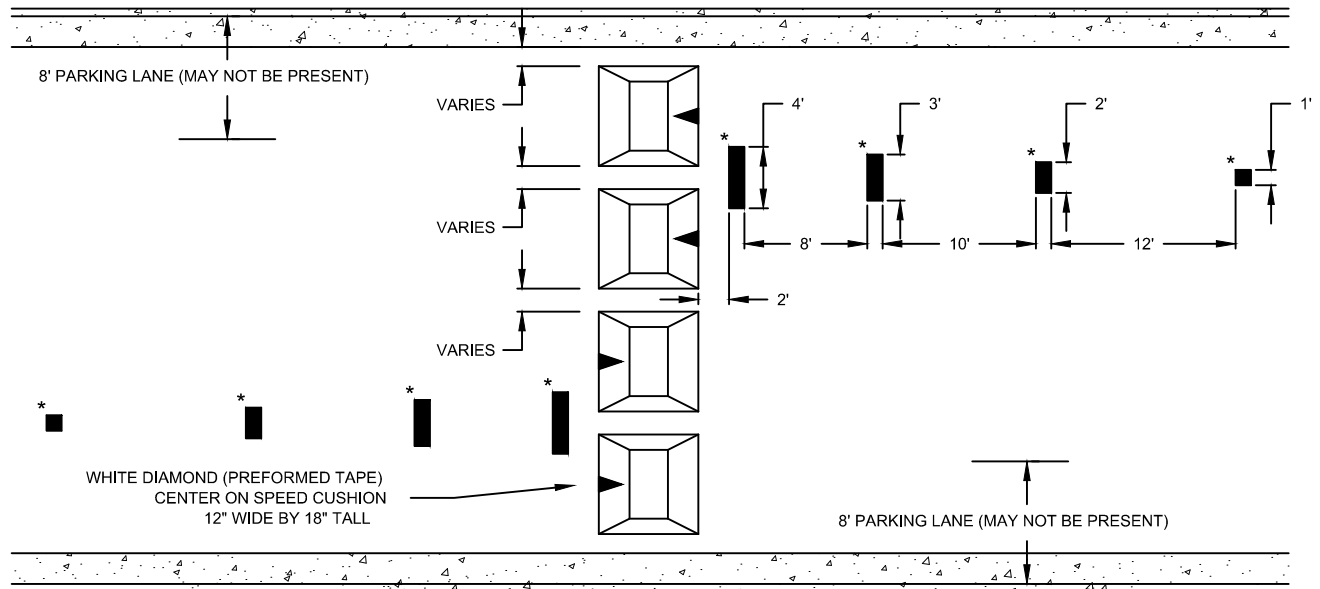
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TRAFFIC CALMING
CURB EXT. @ T-INTERSECTION

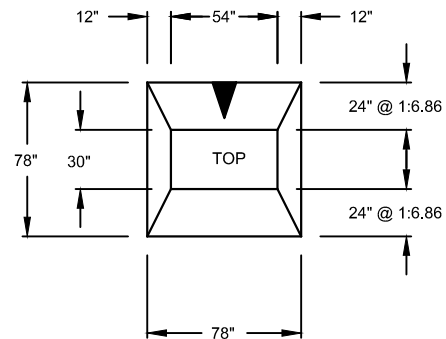
ISSUED:
AUG 2012
REVISED:

DRAWING NO.
500-20

- * 12" WHITE STRIPE (PREFORMED PLASTIC TAPE)
CENTER ON SPACE BETWEEN SPEED CUSHIONS (4 CUSHION LOCATIONS)
CENTER ON OUTSIDE SPEED CUSHION (3 CUSHION LOCATIONS)

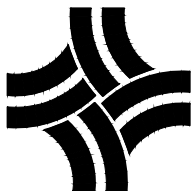


TYPICAL EXTENDED SPEED CUSHION
(3.5" HIGH)



TYPICAL SPEED CUSHION
(3.5" HIGH)

N.T.S.



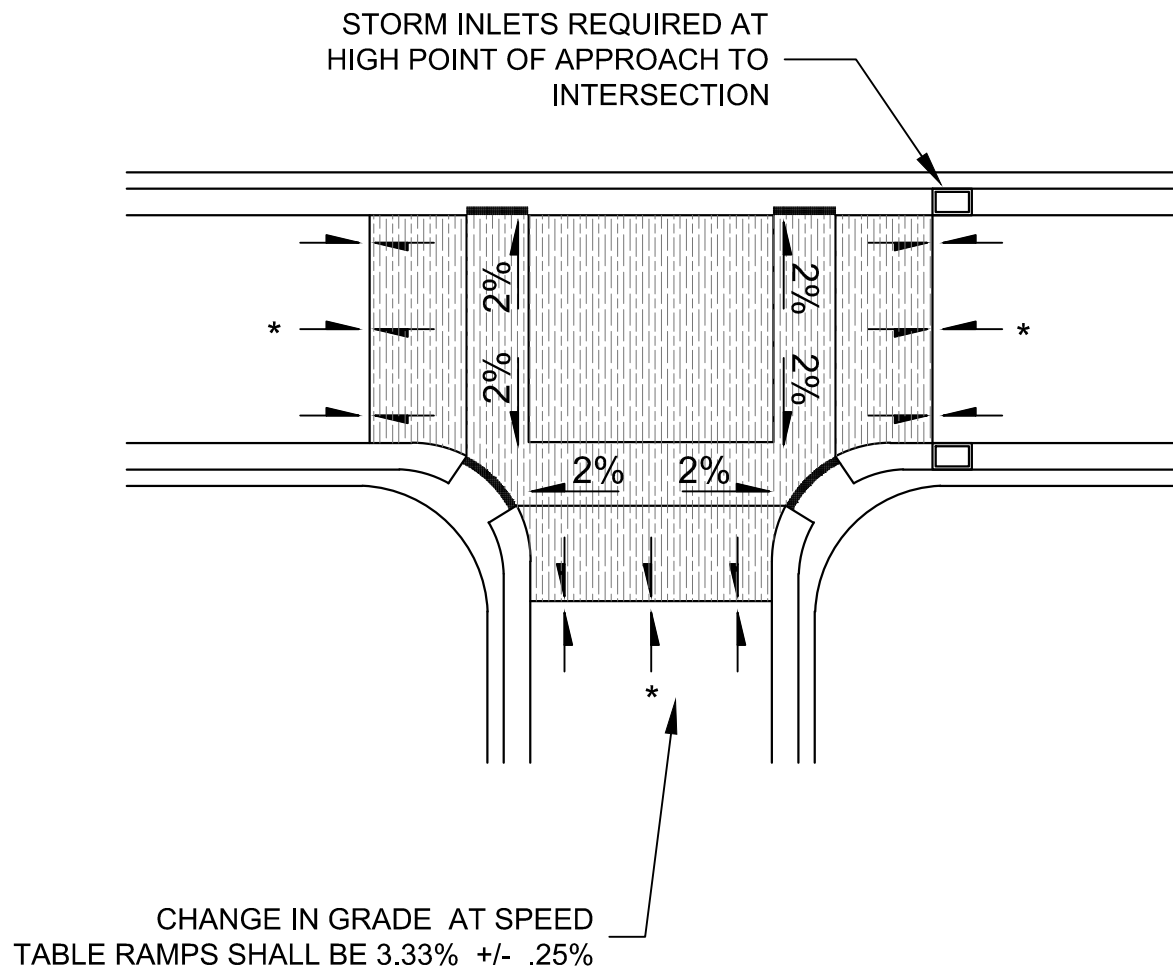
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

SPEED CUSHION AND PAVEMENT MARKINGS LAYOUT

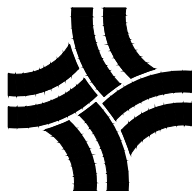
ISSUED:
AUG 2012
REVISED:

DRAWING NO.
500-21

1. COLORADO PATTERN CONCRETE SHALL BE DAVIS FLAGSTAFF BROWN.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING FINAL JOINTING AND REINFORCEMENT LAYOUT TO CITY FOR APPROVAL.
3. INLETS SHALL BE CONSTRUCTED WITH A 4" OPENING INSTEAD OF THE TYPICAL 6" OPENING DEPTH.
4. THE INSPECTION OF FORMS IS REQUIRED BY THE CITY PRIOR TO POURING / PLACEMENT OF CONCRETE.
5. CONCRETE SHALL CONFORM TO CITY OF THORNTON SECTION 600-CONCRETE. 4500PSI CDOT CLASS D CONCRETE WITH FIBER MESH REINFORCEMENT



N.T.S.



CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

TRAFFIC CALMING
SPEED TABLE

ISSUED:
AUG 2012
REVISED:

DRAWING NO.
500-22