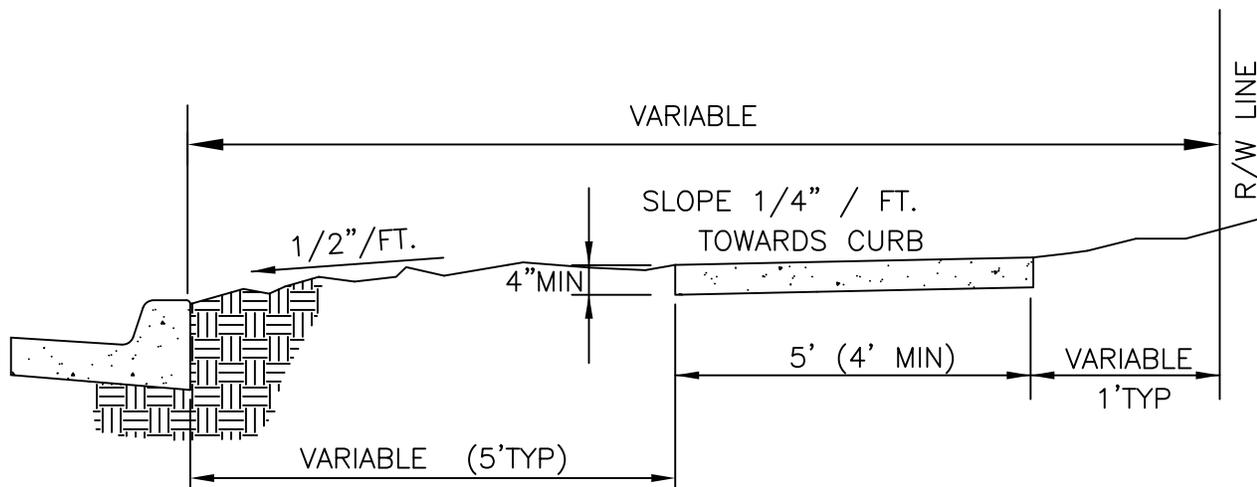


NOTES:

1. JOINTS SHALL BE FORMED AT RIGHT ANGLES TO THE ALIGNMENT OF THE SIDEWALK AND TO THE DEPTHS INDICATED BELOW.
2. THE SIDEWALK SHALL BE MARKED OFF INTO SQUARE STONES (PICTURE FRAMED) BY CONTRACTION JOINTS. CONTRACTION JOINTS SHALL BE ONE-EIGHTH (1/8) INCH WIDE BY ONE (1) INCH DEEP AND SHALL BE FORMED BY TOOLING.
3. EXPANSION JOINTS SHALL BE FORMED BY A ONE-HALF (1/2) INCH THICK PREFORMED JOINT FILLER, EXTENDING THE FULL DEPTH OF THE SLAB, AND SECURED SO THAT THEY ARE NOT MOVED BY DEPOSITING AND COMPACTING THE CONCRETE AT THESE JOINTS.
4. EXPANSION JOINTS SHALL BE PLACED WHERE SIDEWALK ABUTS OTHER STRUCTURES AND SHALL NOT BE SPACED MORE THAN 50 FEET APART ON STRAIGHT RUNS FOR HAND LAID SIDEWALK AND NOT MORE THAN 100 FEET APART ON STRAIGHT RUNS FOR MACHINE LAID SIDEWALKS.



REV 2009



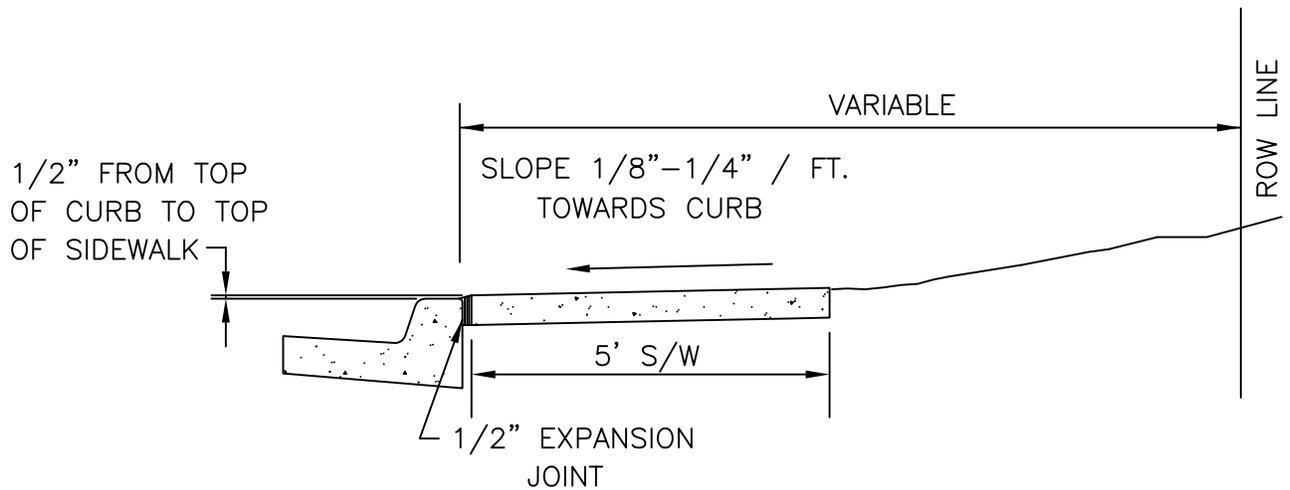
CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

CONCRETE  
SIDEWALK DETAIL

D22-1

NOTES:

1. JOINTS SHALL BE FORMED AT RIGHT ANGLES TO THE ALIGNMENT OF THE SIDEWALK AND TO THE DEPTHS INDICATED BELOW.
2. THE SIDEWALK SHALL BE MARKED OFF INTO SQUARE STONES (PICTURE FRAMED) BY CONTRACTION JOINTS. CONTRACTION JOINTS SHALL BE ONE-EIGHTH (1/8) INCH WIDE BY ONE (1) INCH DEEP AND SHALL BE FORMED BY TOOLING.
3. EXPANSION JOINTS SHALL BE FORMED BY A ONE-HALF (1/2) INCH THICK PREFORMED JOINT FILLER, EXTENDING THE FULL DEPTH OF THE SLAB, AND SECURED SO THAT THEY ARE NOT MOVED BY DEPOSITING AND COMPACTING THE CONCRETE AT THESE JOINTS.
4. EXPANSION JOINTS SHALL BE PLACED WHERE SIDEWALK ABUTS OTHER STRUCTURES AND SHALL NOT BE SPACED MORE THAN 50FT. APART ON STRAIGHT RUNS FOR HAND LAID SIDEWALK AND NOT MORE THAN 100FT. APART ON STRAIGHT RUNS FOR MACHINE LAID SIDEWALKS.



REV 2009



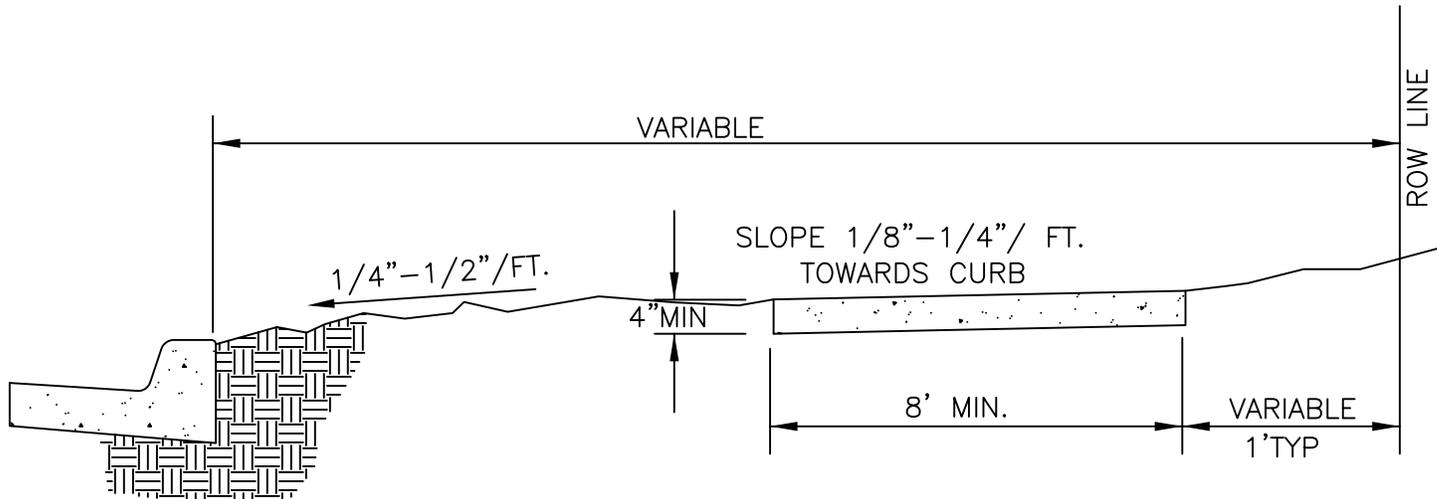
CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

5' BACK OF CURB  
CONCRETE  
SIDEWALK DETAIL

D22-2

NOTES:

1. JOINTS SHALL BE SAWED AT RIGHT ANGLES TO THE ALIGNMENT OF THE SIDEWALK AND TO THE DEPTHS INDICATED BELOW.
2. THE SIDEWALK SHALL BE MARKED OFF INTO SQUARE STONES (PICTURE FRAMED) BY CONTRACTION JOINTS. CONTRACTION JOINTS SHALL BE ONE-EIGHT (1/8) INCH WIDE BY ONE (1) INCH DEEP AND SHALL BE FORMED BY TOOLING.
3. EXPANSION JOINTS SHALL BE FORMED BY A ONE-HALF (1/2) INCH THICK PREFORMED JOINT FILLER, EXTENDING THE FULL DEPTH OF THE SLAB, AND SECURED SO THAT THEY ARE NOT MOVED BY DEPOSITING AND COMPACTING THE CONCRETE AT THESE JOINTS.
4. EXPANSION JOINTS SHALL BE PLACED WHERE SIDEWALK ABUTS OTHER STRUCTURES AND SHALL NOT BE SPACED MORE THAN 50 FEET APART ON STRAIGHT RUNS FOR HAND LAID SIDEWALK AND NOT MORE THAN 100 FEET APART ON STRAIGHT RUNS FOR MACHINE LAID SIDEWALKS.
5. CONCRETE SHALL BE USED FOR THE CONSTRUCTION OF THE BICYCLE TRAILS LOCATED WITHIN CITY STREET R-O-W. AT THE DISCRETION OF THE CITY ENGINEER A 4" THICK ASPHALT SIDEWALK 8 FEET WIDE ON A 4" THICK AB-3 BASE MAY BE CONSTRUCTED ON CITY R-O-W NOT ADJACENT TO A STREET.



REV 2009

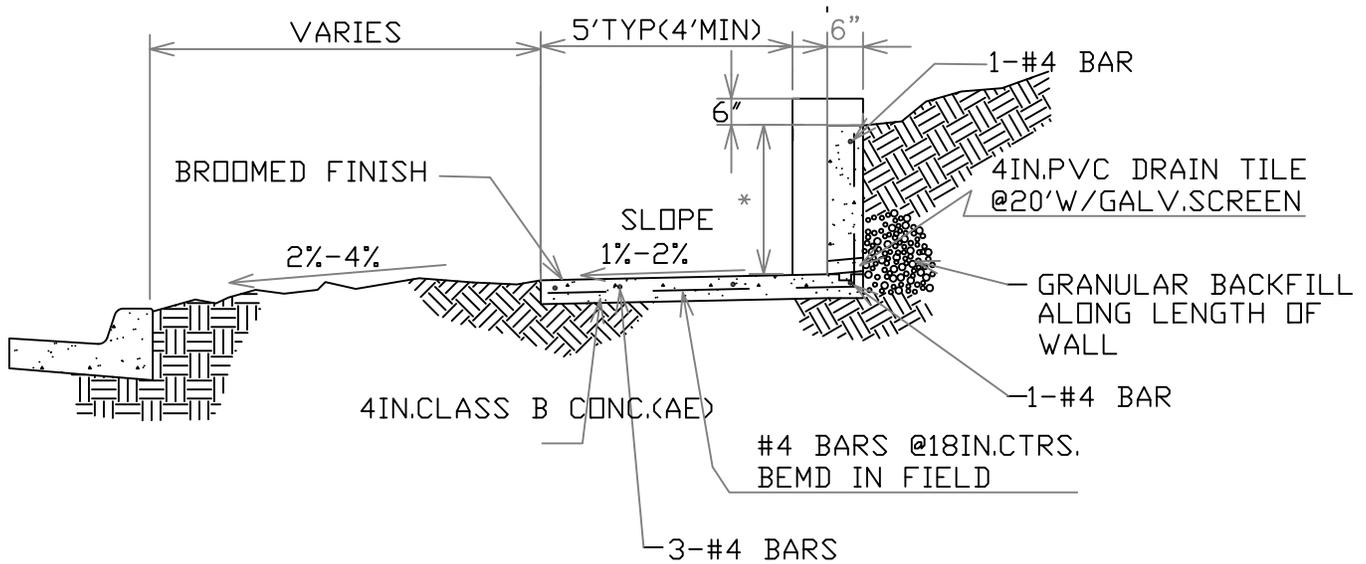


CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

8' BICYCLE TRAIL

D22-3

\*=VARIES 6" TO 24"



## SECTION

### NOTE:

FOR HEIGHTS GREATER THAN 48IN., DESIGN CALCS. MUST BE SUBMITTED

### NOTES:

1. PROVIDE 4" DIA. PVC DRAIN TILE AT 20' INTERVALS ALONG LENGTH OF RETAINING WALL WITH GALVANIZED SCREEN AND GRANULAR BACKFILL WHEN WALL HEIGHT IS GREATER THAN OR EQUAL TO 18" FROM TOP SURFACE OF SIDEWALK.
2. ALL EXPOSED CORNERS OF WALL SHALL BE CHAMFERED.
3. ALL BAR SPACING ARE FROM CENTER TO CENTER, UNLESS OTHERWISE SHOWN. THE CLEARANCE FROM FACE OF CONCRETE TO BAR SHALL BE 2" UNLESS OTHERWISE NOTED
3. THE SIDEWALK SHALL BE MARKED OFF INTO SQUARE STONES (PICTURE FRAMED) BY CONTRACTION JOINTS. CONTRACTION JOINTS SHALL BE ONE-EIGHTH (1/8) INCH WIDE BY ONE (1) INCH DEEP AND SHALL BE FORMED BY TOOLING.
4. RETAINING WALLS AT LEAST 4' IN HEIGHT SHALL HAVE A HANDRAIL OR DENSE LANDSCAPING AS APPROVED BY THE CITY ENGINEER.

Drawn By: Don Hurlbert, P.E.

REV 2009

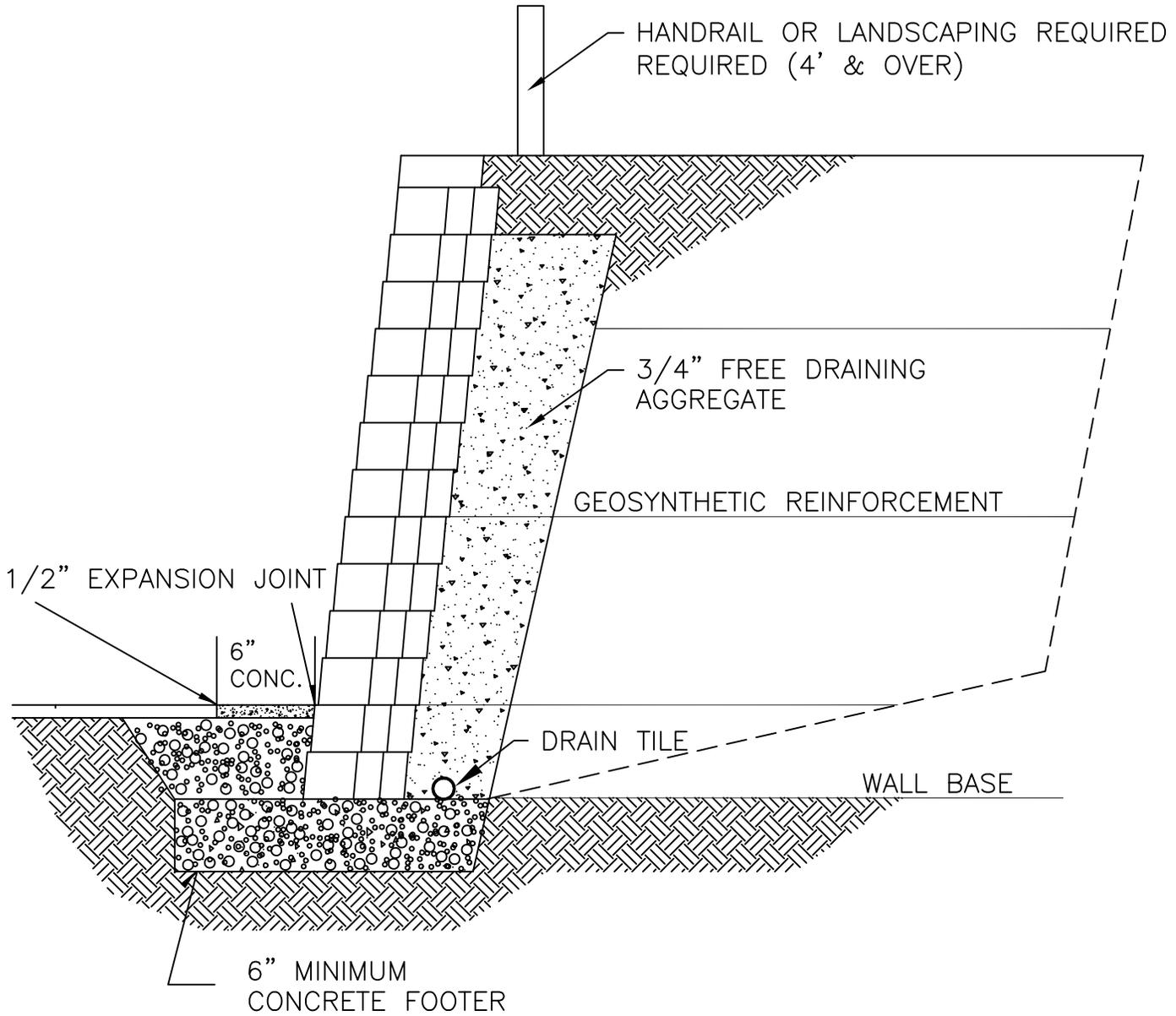


CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

SIDEWALK\_DETAIL\_WITH  
ABUTTING\_CONCRETE  
RETAINING\_WALL

D22-4A

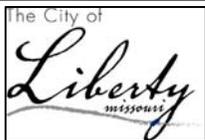




NOTE:

1. RETAINING WALLS AT LEAST 4' IN HEIGHT SHALL HAVE A HANDRAIL OR DENSE LANDSCAPING AS APPROVED BY THE CITY ENGINEER.

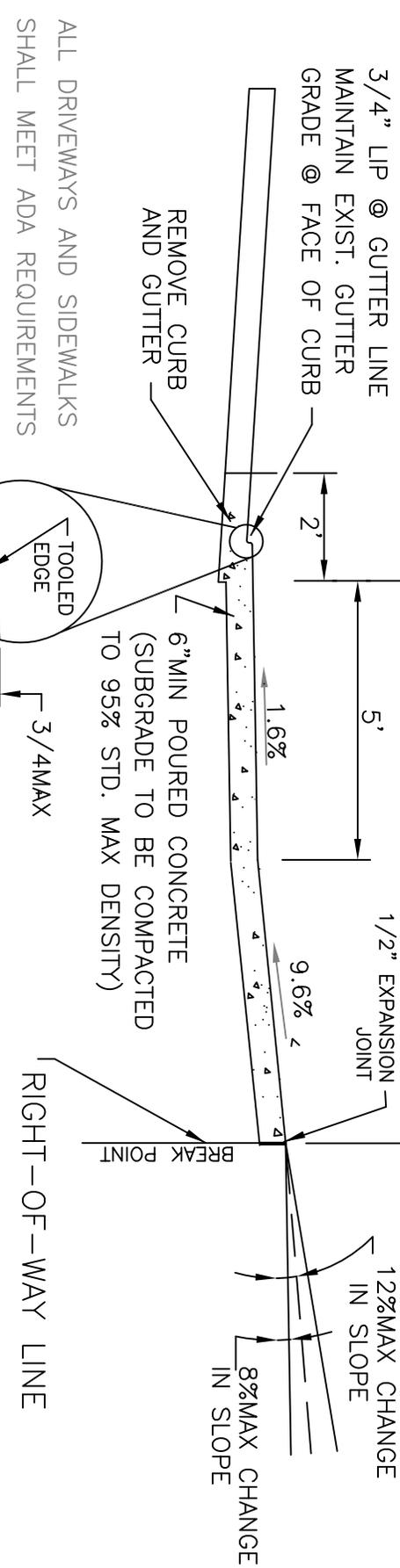
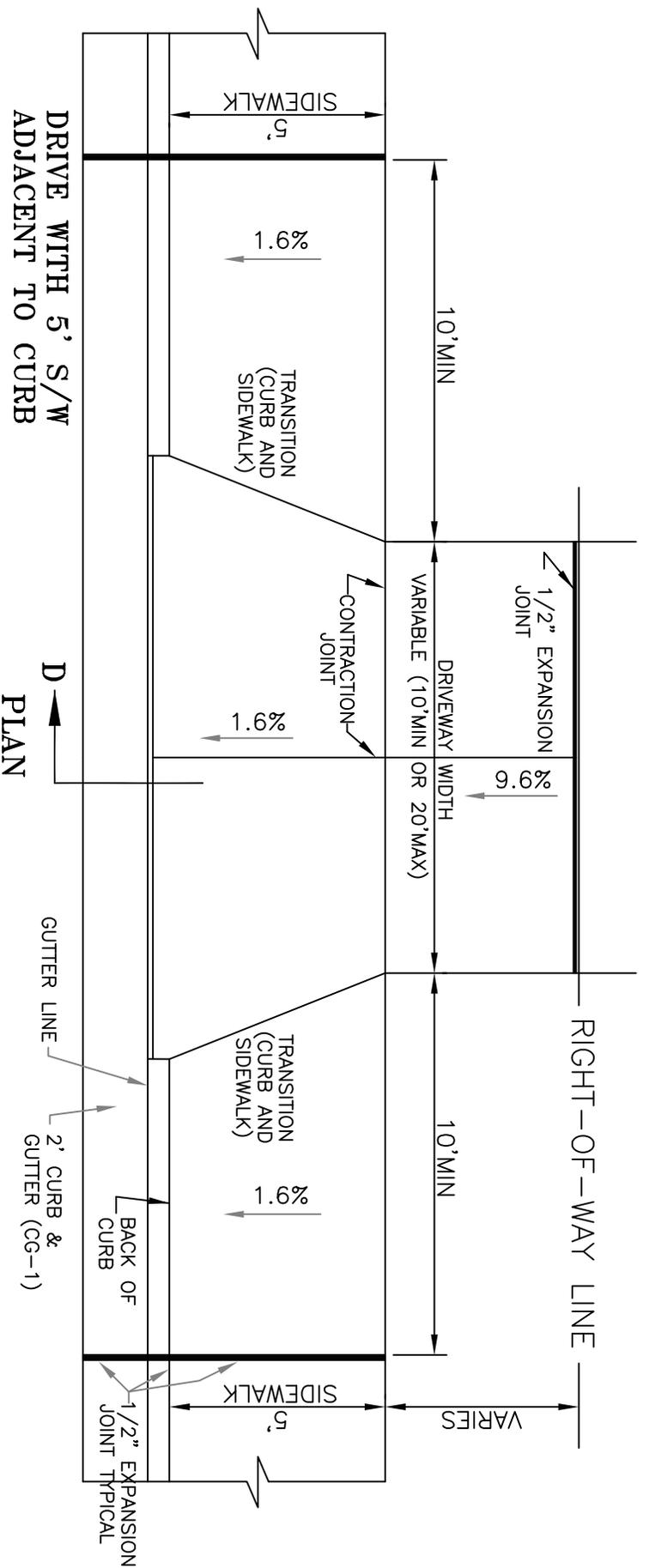
REV 2009



CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

MODULAR WALL  
SIDEWALK OPTIONAL

D22-6

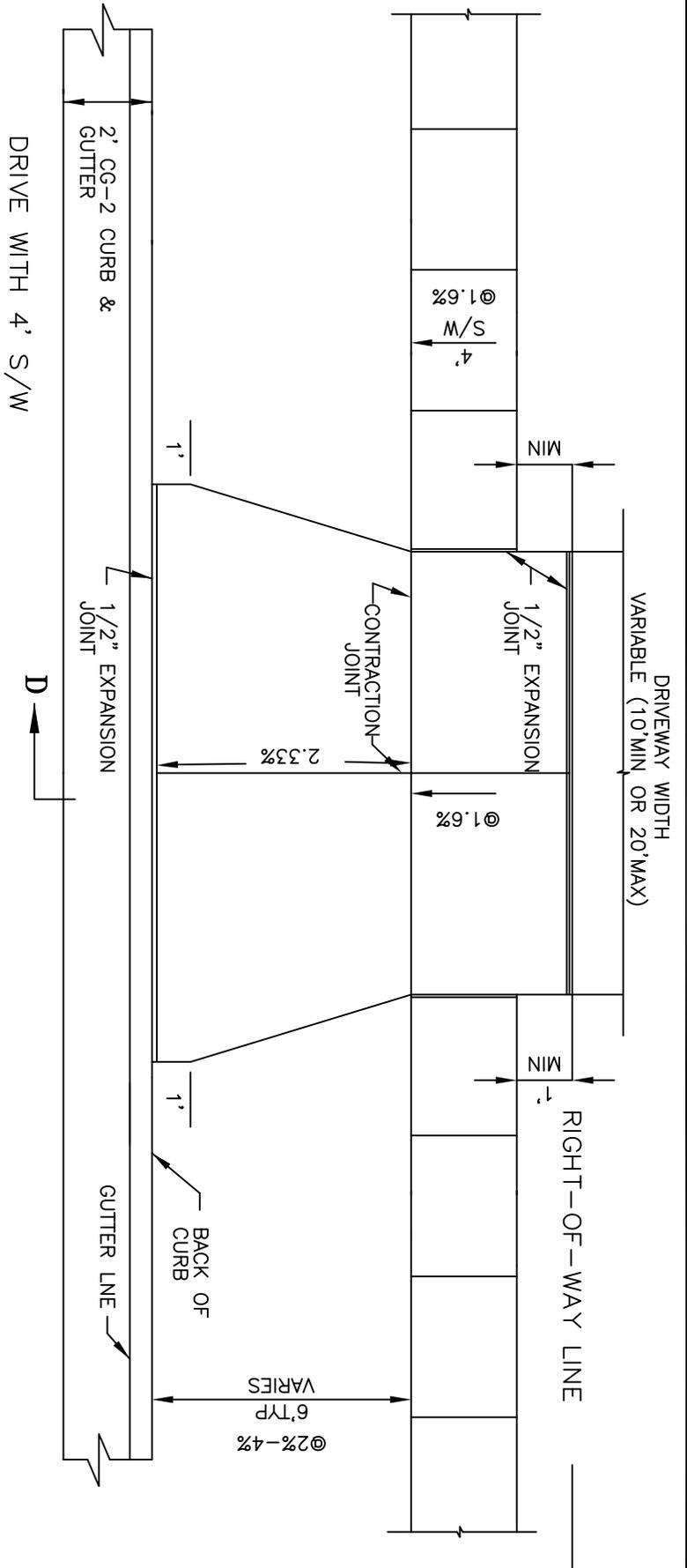


SECTION D-D

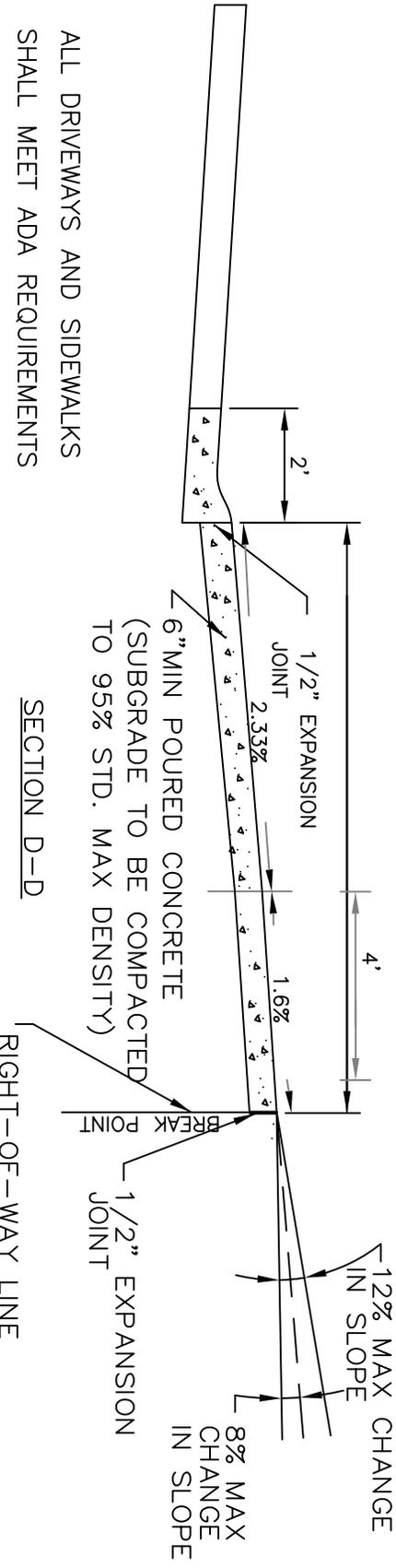




REV 2009



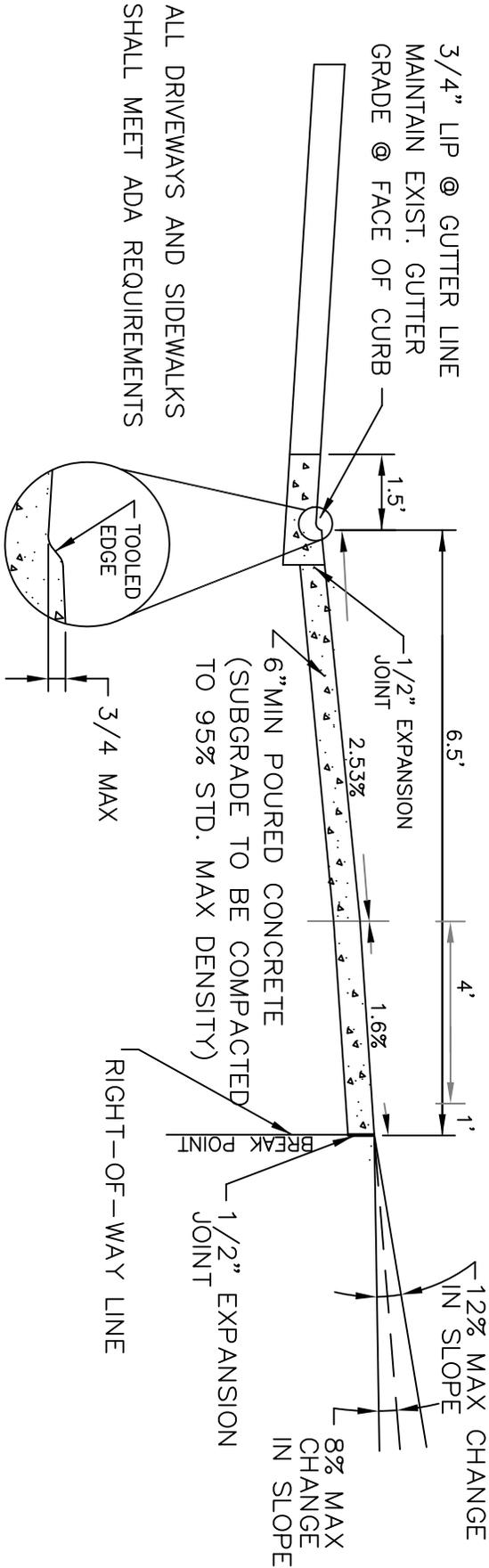
NOTE: CENTER CONTRACTION JOINT  
REQUIRED ON DRIVES 12' & WIDER



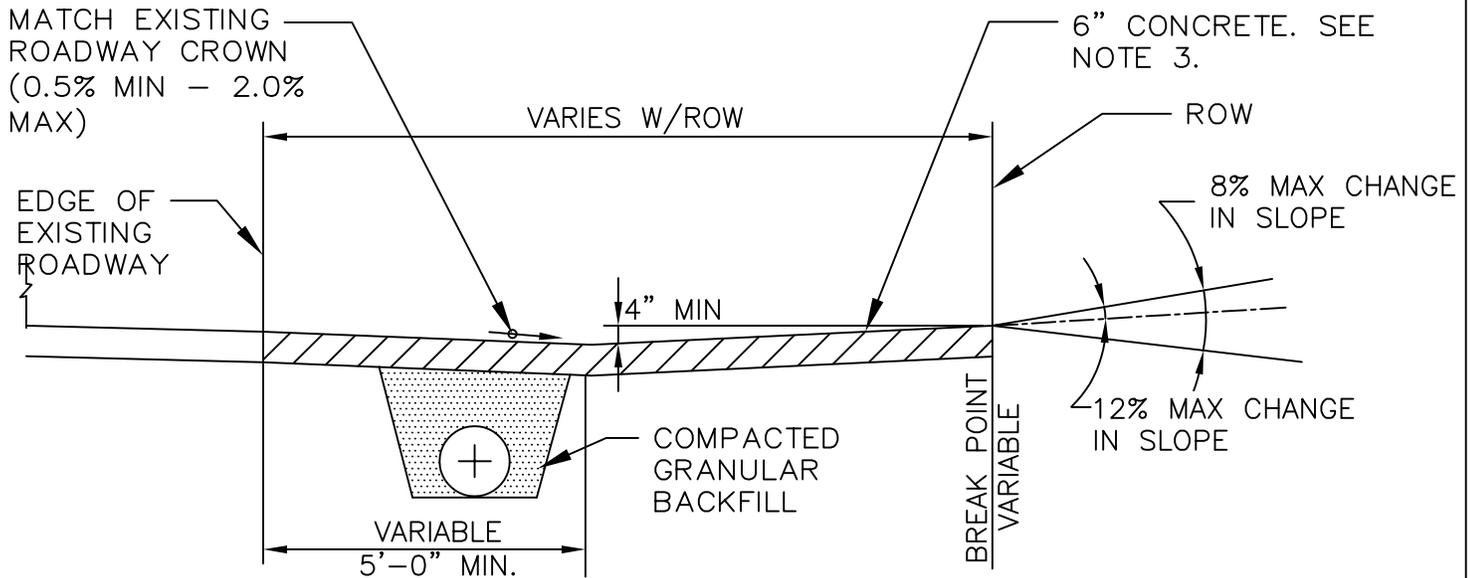
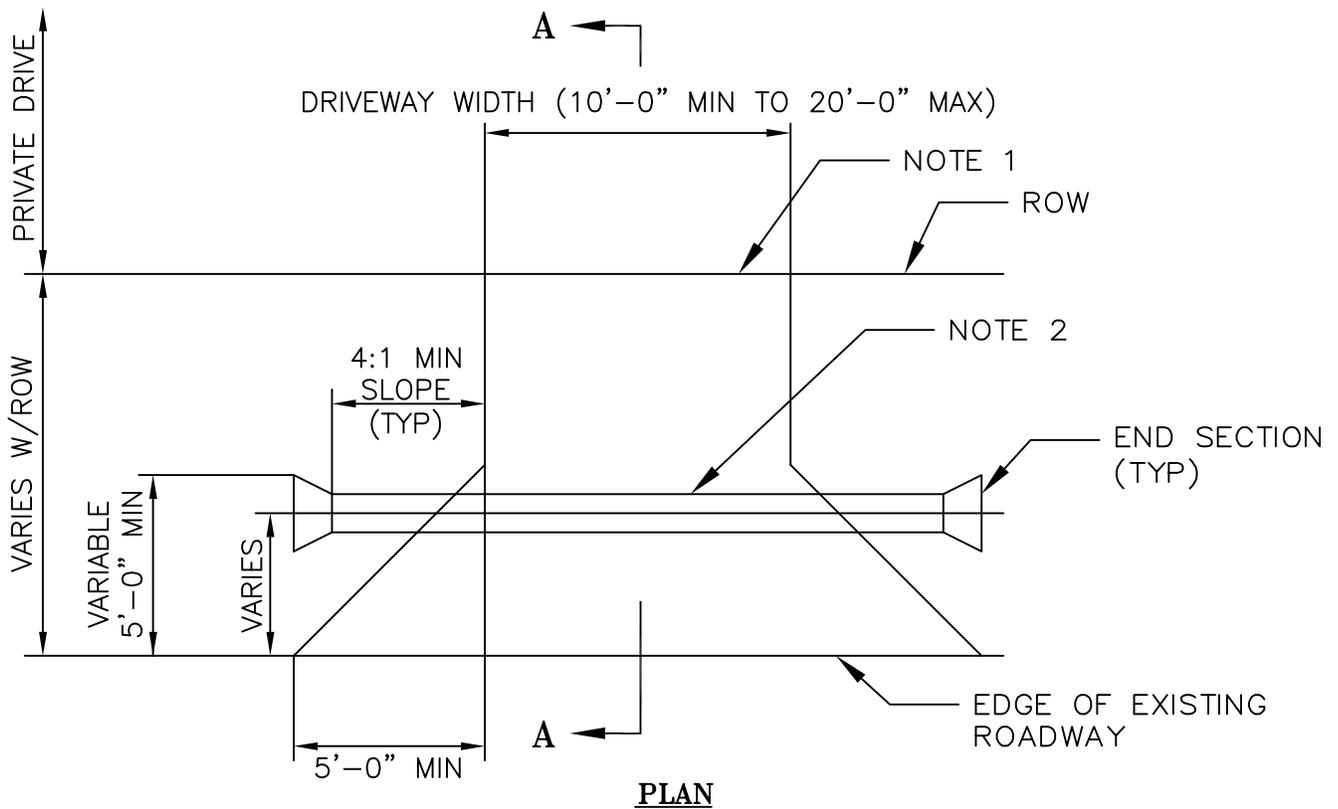
ALL DRIVEWAYS AND SIDEWALKS  
SHALL MEET ADA REQUIREMENTS



REV 2009



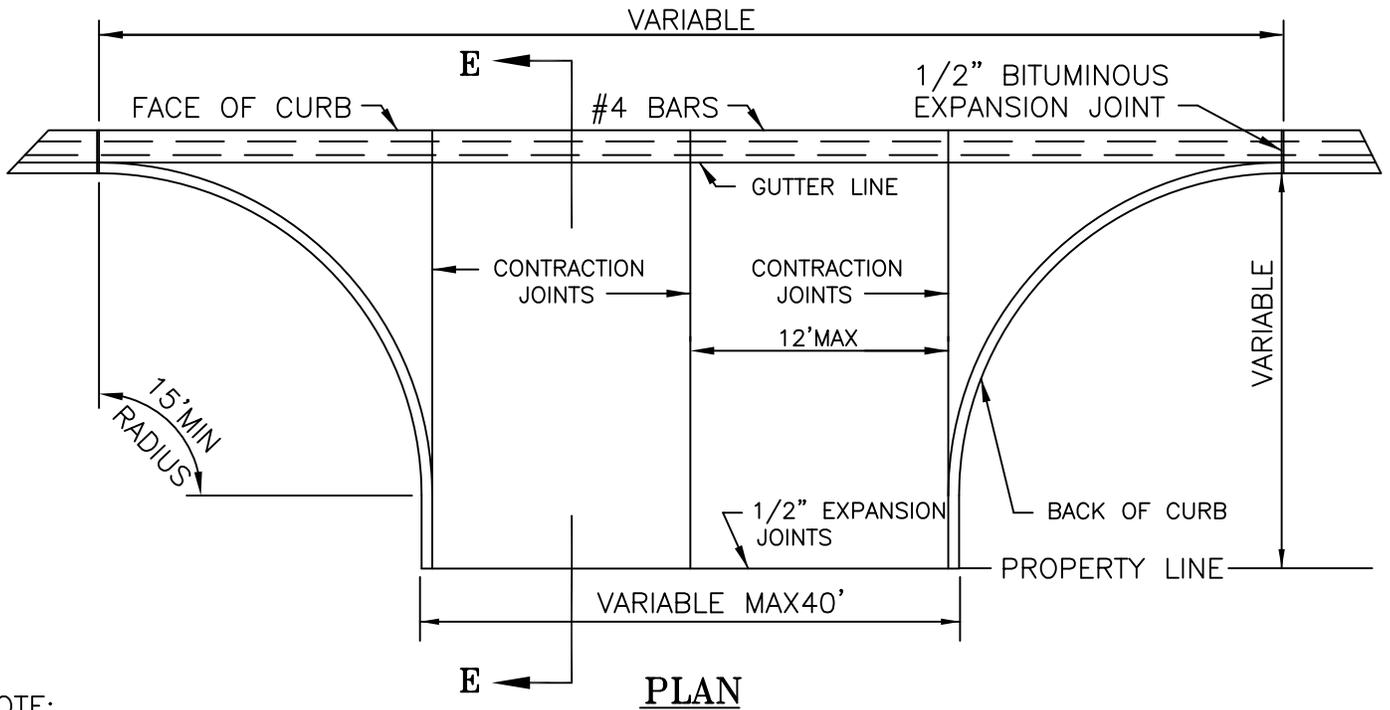
SECTION D-D



NOTES:

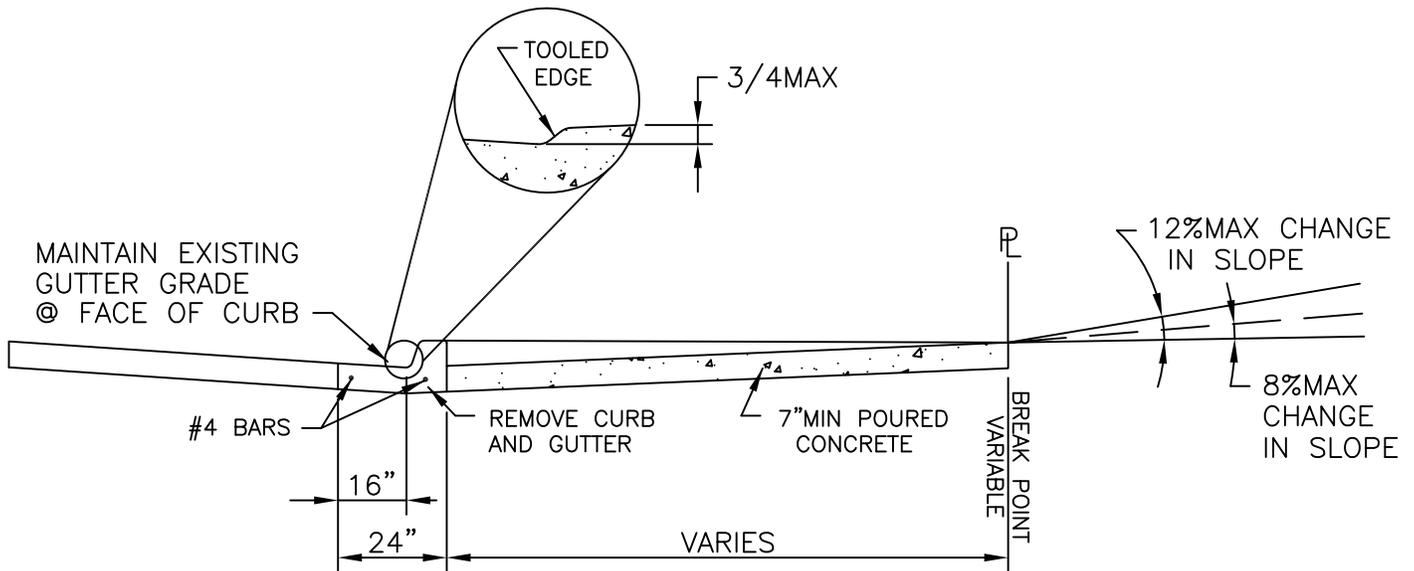
**SECTION A-A**

1. A 1/2" EXPANSION JOINT IS REQUIRED WITH CONCRETE DRIVEWAY CONSTRUCTION.
2. PROVIDE STORM DRAINAGE PIPE W/END SECTIONS. SIZE TO BE APPROVED BY THE CITY ENGINEER BUT SHALL BE NO LESS THAN 15" IN DIA.. THE PIPE MATERIAL MAY BE RCP, CMP OR HDPE, ALL PIPE SHALL MEET THE CITY OF LIBERTY'S TECHNICAL SPECIFICATIONS SECTION 4000.
3. OTHER PAVEMENT MATERIALS MAY BE USED ONLY AS ALLOWED BY THE CITY ENGINEER.



NOTE:

1. ENTRANCE TO DRIVE TO BE POURED MONOLITHICALLY.



\*\* SLOPE AS PER STREET CROSS SECTION

**SECTION E-E**

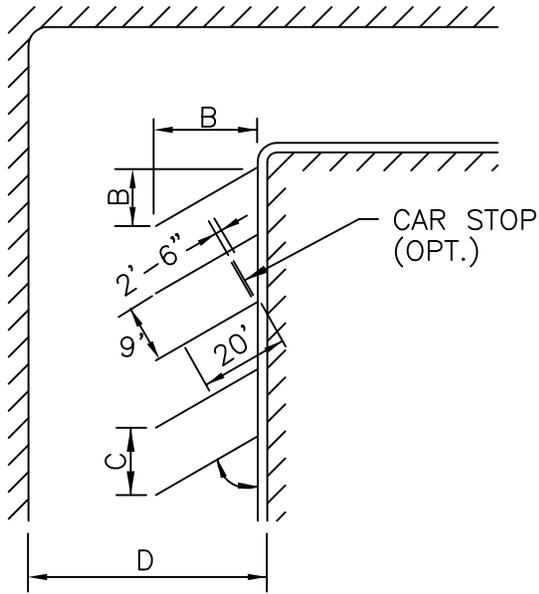
REV 2009



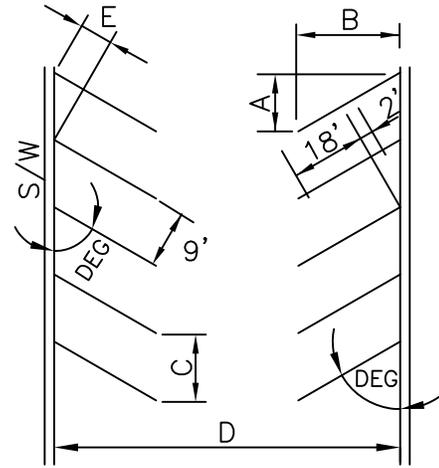
CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

COMMERCIAL &  
INDUSTRIAL ENTRANCE  
DRIVE DETAIL

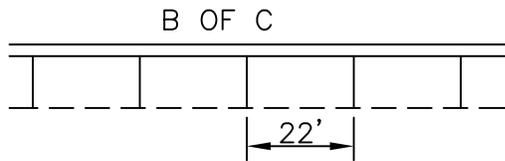
D22-10



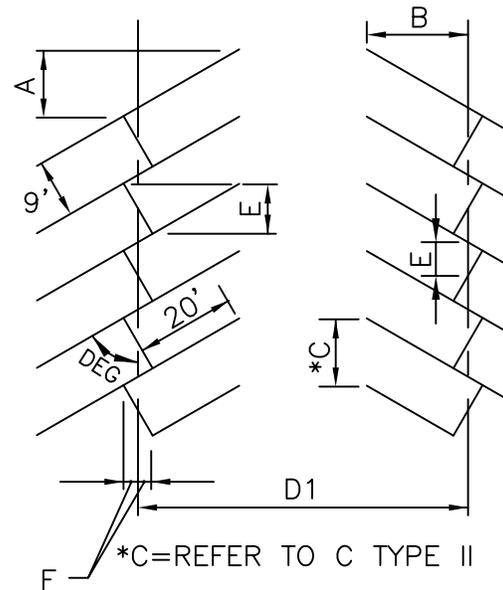
**TYPE I**



**TYPE II**



**PARALLEL PARKING STALL**

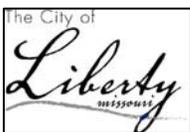


**TYPE III**

NOTE: DIMENSIONS BELOW ARE GIVEN IN FEET

	TYPE I				TYPE II					TYPE III				
DEG	A	B	C	D	A	B	C	D	E	A	B	D	E	F
45	20.5	20.5	12.7	34	19.1	19.1	12.7	47	9.0	20.5	17.3	50.6	6.4	3.2
60	12.6	21.8	10.4	40	11.6	20.1	10.4	56	5.2	12.6	19.6	55	7.8	2.3
90	0.0	20.0	9.0	42	0.0	18.0	9.0	60	0.0	0.0	20.0	60	9.0	0.0

REV 2009



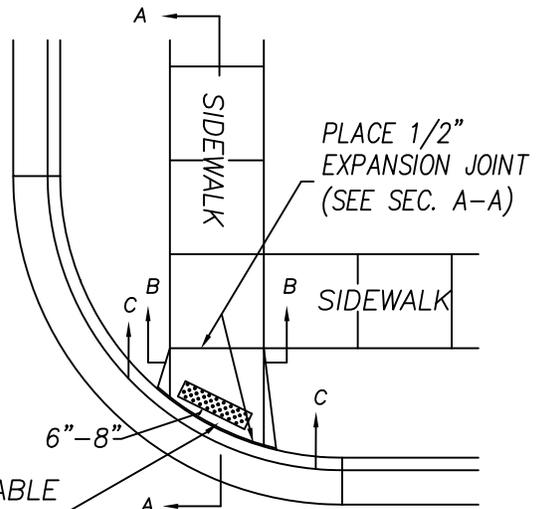
CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

PARKING LOT DETAIL

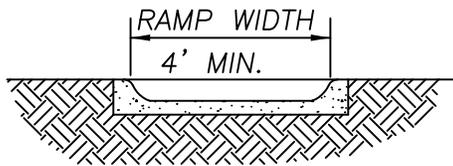
D22-11



SIDEWALK RAMP TYPE 1

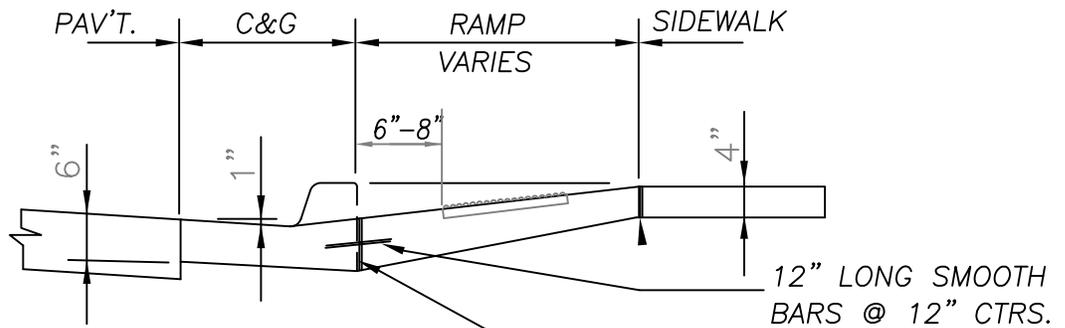


PLAN VIEW



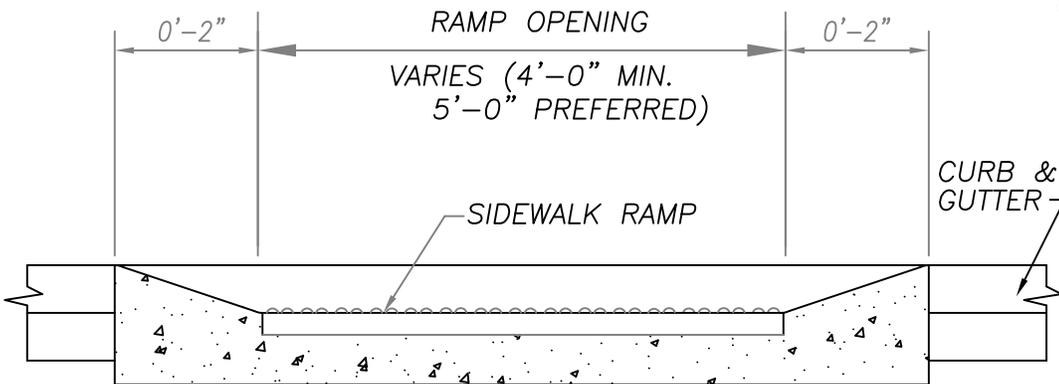
SECTION B-B

MAXIMUM DESIRABLE  
RAMP SLOPE = 1"/FT.  
(MAXIMUM = 1 1/2"/FT.)



SECTION A-A

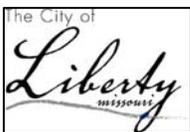
12" LONG SMOOTH  
BARS @ 12" CTRS.  
  
1/2" EXPANSION JOINT  
(MATERIAL FULL DEPTH  
OF SIDEWALK)



SECTION C-C  
TYPE A & B SIDEWALK RAMP  
NOT TO SCALE

SIDEWALK RAMP  
NOT TO SCALE

REV 2009

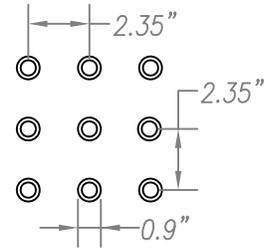
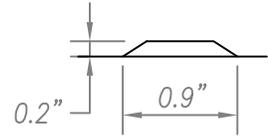


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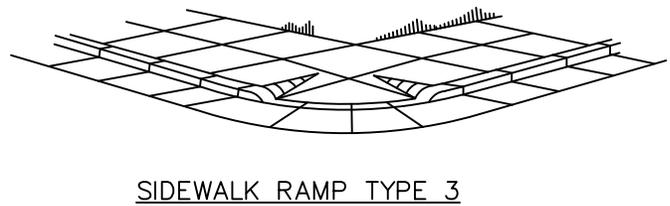
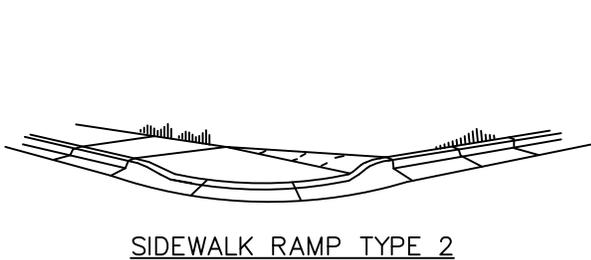
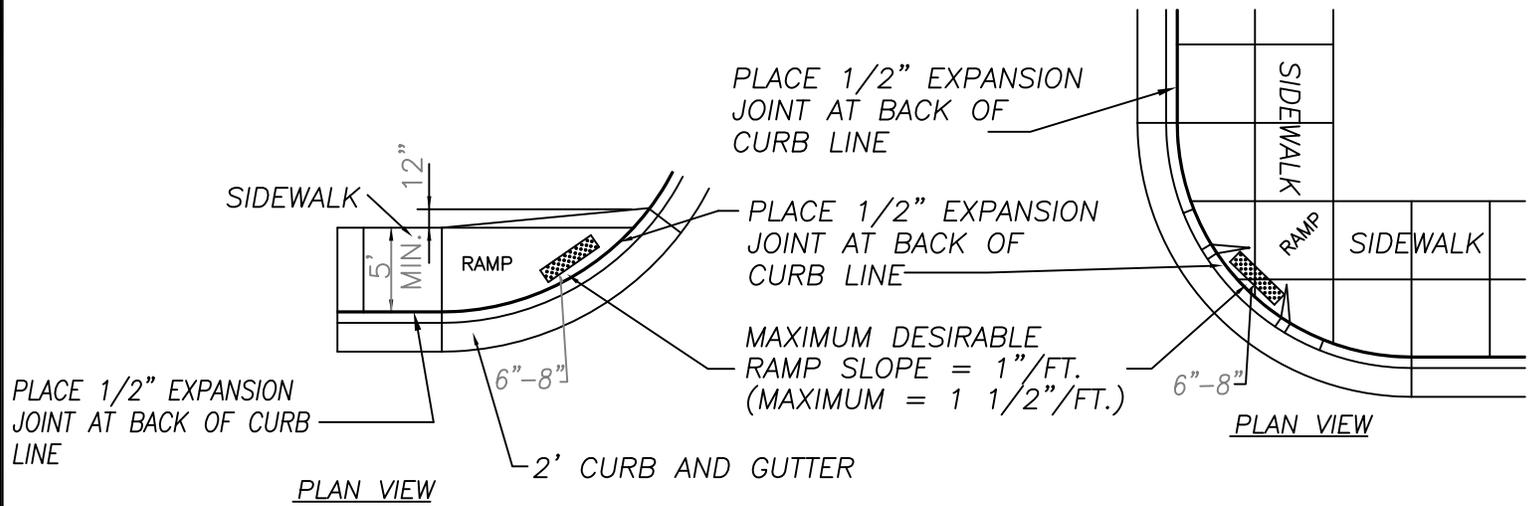
SIDEWALK RAMP DETAIL D22-12a

# Sidewalk & Sidewalk Ramp Notes:

1. Sidewalk ramp location determined from the intersection of the extension of back of sidewalk and back of curb & gutter.
2. Key all construction joints or use tie bars #4 epoxy coated @ 12" o.c.
3. Longitudinal joint spacing to match width of sidewalk.
4. Sidewalk Ramp shall be lengthened to provide ADA compliance slope but need not exceed 15'.
5. ADA maximum ramp slope = 1"/Ft.  
ADA maximum cross slope = 2%.
6. Detectable warnings to comply with ADA requirements.
7. Cast in Tact Warning Panel (Part # MA TP22 or MA TP12 or approved equal).
- \*8. All Concrete in ramp insert area shall be removed prior to placement of insert.
9. All edges shall be neat and tooled.
10. Access tile replacement cast in place color #22144 (Brick Red)



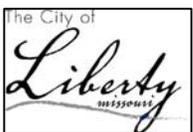
Detectable Warning  
Dome Spacing and Section  
Not to Scale



NOTE: TO BE USED WHERE SIDEWALK OCCUPIES ENTIRE AREA BETWEEN CURB AND PROPERTY LINE.

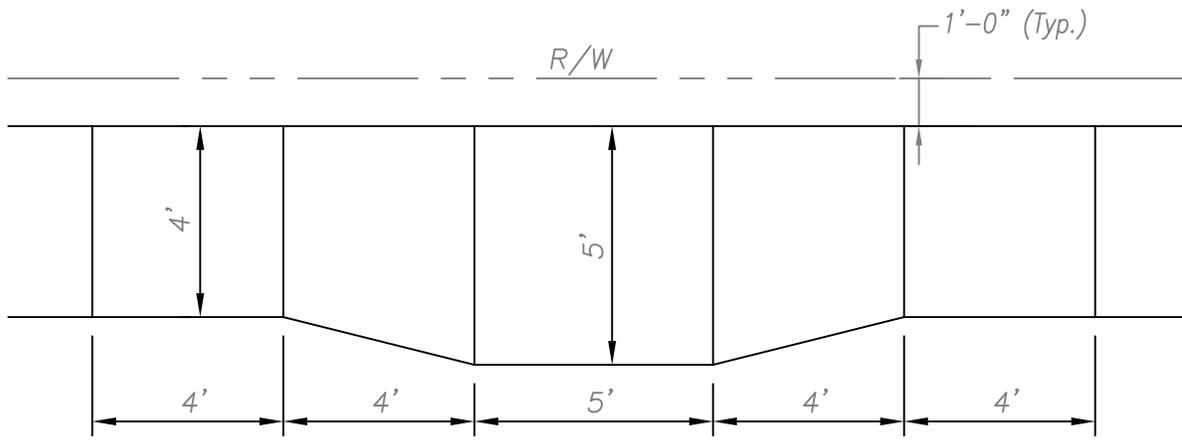
\* Use of template for concrete removal is recommended.

REV 2009



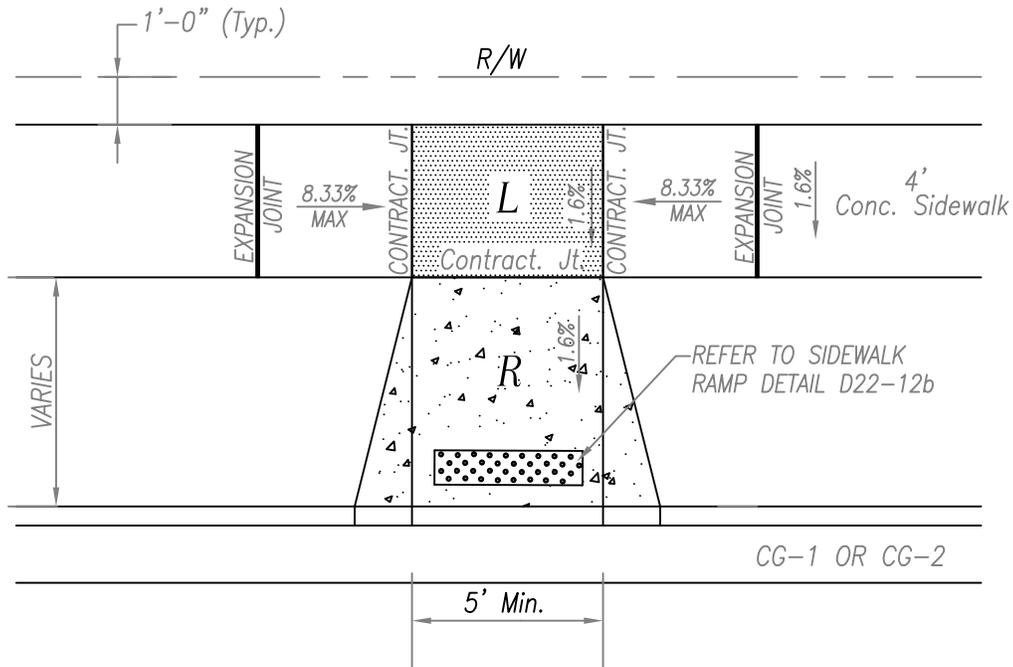
CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

SIDEWALK RAMP DETAIL D22-12b



Wheelchair Passing Space

Wheelchair Passing Space to be Constructed where Length of 4' Wide Sidewalk Exceeds 200'.

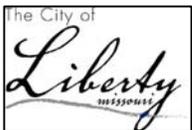


Notes:

1. Ramp cross slope will transition from street slope to landing.
2. Landing will be set to limit maximum ramp slope 8.33%.
3. If sidewalk running slope is 6% or less, use 1 square on either side of landing to transition from running slope to landing slope.

Mid-block Ramp Detail  
NOT TO SCALE

REV 2009

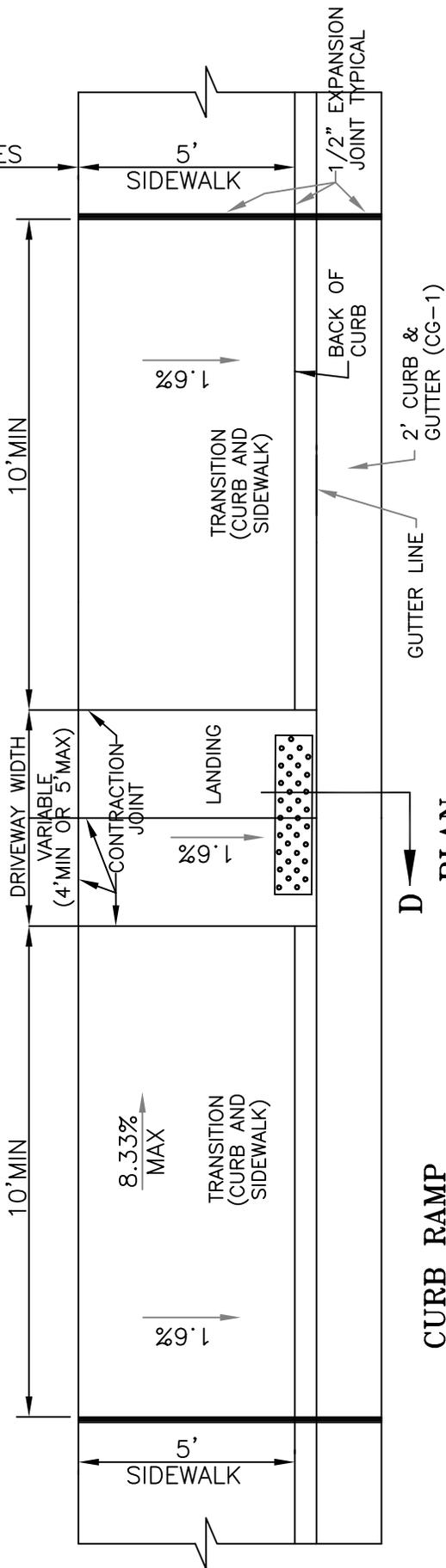


CITY OF LIBERTY, MO  
DEPARTMENT OF  
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MIDBLOCK  
SIDEWALK RAMP DETAIL

D22-12c

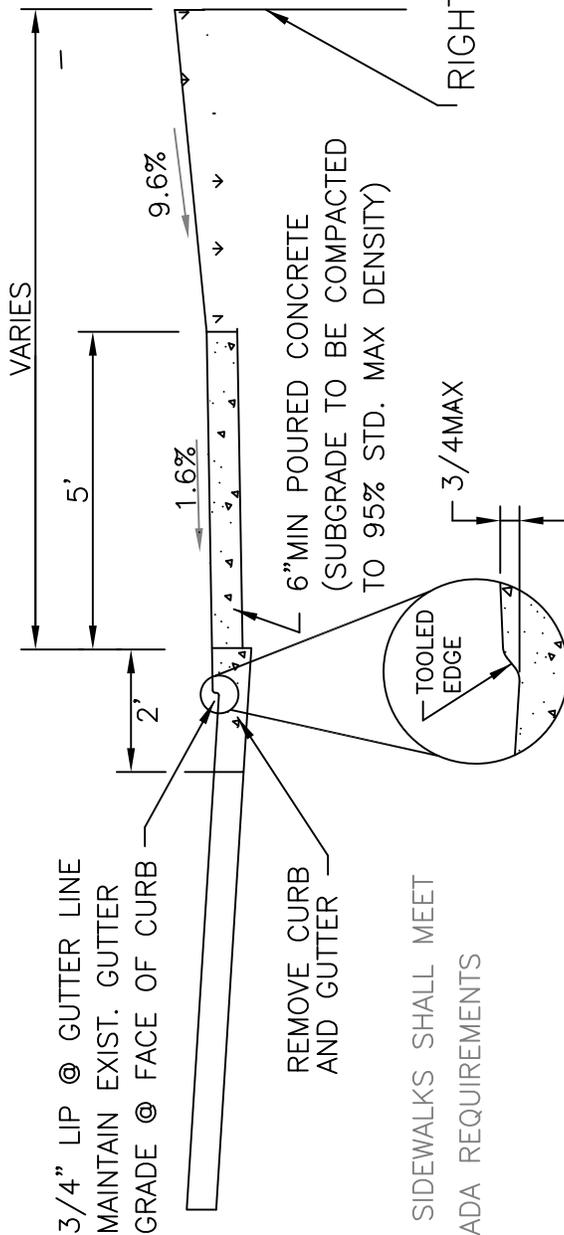
RIGHT-OF-WAY LINE



D

PLAN

CURB RAMP



SECTION D-D

REV 2009



CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

PARALLEL CURB RAMPS  
DETAIL CG-1  
CURB & GUTTER

D22-12d