

City of Bridgeport

Connecticut

Department of Public Facilities

SIDEWALK - CURBS & DRIVEWAYS

SPECIFICATIONS & STANDARD DETAILS



Adopted 2007

Revised 2016

TABLE OF CONTENTS

1.	SIDEWALKS	3
	A. GENERAL	3
	B. SUBBASE	3
	C. FORMS	3
	D. EXPANSION JOINTS.....	4
	E. PLACING	4
	F. FINISHING	4
	G. CURING.....	4
	H. PROTECTION.....	5
	I. TEMPERATURE	5
	J. METHOD OF PAYMENT	5
2.	CONCRETE CURBS	5
	A. GENERAL	5
	B. SUB-GRADES.....	5
	C. FORMS	5
	D. PLACING	6
	E. FINISHING	6
	F. JOINTS.....	6
	G. EXPANSION JOINTS.....	6
	H. CURING.....	6
	I. PROTECTION	6
3.	STONE CURB	7
4.	MATERIAL FOR CONCRETE WORK	7
	A. COARSE AGGREGATE.....	7
	B. FINE AGGREGATE.....	7
	C. CEMENT	7
	D. WATER.....	8
	E. JOINT FILLER.....	8
5.	CONCRETE WORK	8
	A. PROPORTION	8
	B. AIR ENTRAINMENT.....	8
	C. TRANSIT MIX CONCRETE.....	8
6.	ORDINANCES	9
7.	AN ACT CONCERNING CURB CUTS	10
8.	STANDARD DETAILS INDEX	11

SPECIFICATIONS FOR CONCRETE WALKS AND CURBS

1. SIDEWALKS

A. GENERAL - All concrete walks referred to herein shall mean all pavement designated on drawings as "Concrete Walks", "Conc. Walks". All concrete walks are to be one course constructed to the width and thickness designated on the drawings. See Sidewalk Standard Details.

B. SUB-BASE

(a) Preparation - The surface shall be stripped of all loam, muck, old pavement, organic and other objectionable material. All soft and spongy places shall be removed and shall meet CT DOT Form 817 Article M.02 requirement. Sub-base shall be thoroughly compacted in layers not exceeding six (6) inches in thickness. Material for sidewalk sub-grade shall meet the requirement of section M.03.02 for Class C Concrete.

(b) Deep Fills - Fills exceeding foot shall be considered deep fills. Deep Fills shall be made with clean fill material free of muck, loam, clay, spongy or perishable material. Fill material shall be spread in layers not exceeding one foot in thickness and each layer thoroughly compacted. The top of all fills shall extend beyond the walk on each side at least one and one-half (1 1/2) feet. Fill material shall be brought to within one (1) foot of finish sub-grade. The final foot of fill shall be made with bank gravel spread in two (2) layers. Each shall be compacted to a six (6) inch depth. Rolling shall be done by a self-propelled roller weighing not less than four (4) ton. Any areas inaccessible to the roller shall be hand-rolled and tamped. The gravel base is to be smooth and true to grade, as shown on the drawings.

(c) Wetting - While compacting the sub-base, the material shall be thoroughly wet, and shall be damp when the concrete is deposited but shall show no pools of water.

C. FORMS

(a) Materials - Forms shall be free from warp and of sufficient strength to resist springing out of shape.

(b) Setting - The forms shall be well staked or otherwise hold to the established lines and grades and their upper edges shall conform to the established grade of the walk and shall extend to the bottom of the concrete and shall be banked with earth or supported and sealed by some other approved method to prevent leakage unless otherwise noted.

(c) Treatment - All wood forms shall be thoroughly wetted and metal forms oiled with non staining oil before depositing any material against them. All mortar and dirt shall be removed from forms that have been previously used.

(d) Removal - Forms shall remain in place until the concrete has thoroughly hardened but the dividing plates shall be removed promptly after the concrete is of sufficient hardness to prevent slabs from flowing together.

D. EXPANSION JOINTS - A one-half (1/2) inch joint shall be provided once every twenty (20) feet, which shall be filled up to one-half (1/2) inch below the surface of the walk with suitable material. All construction and expansion jointing shall extend to the bottom of the concrete and radial joints shall be installed on curved walks. A similar joint shall be provided at each intersection of sidewalk and street curb and each intersection of sidewalk with concrete driveway. Sidewalks shall be separated from abutting buildings by a one-half (1/2) inch joint.

E PLACING - After mixing, the concrete shall be handled rapidly and the successive batches deposited in a continuous operation completing individual sections to the required depth and width. Under no circumstances shall concrete that has partly hardened be used. The forms shall be filled and the concrete brought to the established grade by means of strike board or straight-edge. The method of placing the various sections shall be such as to produce a straight clean-cut joint between them, so as to make each section an independent unit. Any concrete in excess of that needed to complete a section at the stopping of work shall not be used. In no case shall concrete be deposited upon a frozen sub-grade or sub-base.

F.FINISHING

(a) After the concrete has been brought to the established grade by means of a strike-board, it shall be worked with a wood float to the desired surfaces hereinafter specified. In no case shall dry cement or a mixture of dry cement and sand be sprinkled on the surface to absorb moisture or to hasten hardening. The entire sidewalk shall be jointed or flagged in sections equal to the width of the work or as otherwise directed by the Director of Public Facilities. The surface edges of all slabs shall be rounded to a radius of one-half (1/2) inch, unless otherwise specified by the Director of Public Facilities.

(b) **SURFACE** - The surface shall be floated with a wooden float only, producing an even, gritty finish. On wide sidewalks the finishing may be done with two applications of a canvas belt, not less than six (6) inches wide, and about two (2) feet longer than the width of the sidewalk. For the first application, the belt shall be drawn across the surface with vigorous strokes at least twelve (12) inches long, and moved ahead very slightly at each stroke. The second application shall be given immediately after the water glaze or sheen disappears, and the stroke of the belt shall be no more than four (4) inches, while the longitudinal motion shall be greater than during the first application.

G. CURING - Curing of concrete shall be by use of colorless membrane type curing material which shall not permanently discolor the surface or by moisture retaining covers of burlap, cotton, or watertight paper. Where curing compounds are used it shall be suitable to seal the surface of the concrete in one application and shall harden within 60 minutes after application. Curing material shall be applied to all exposed surfaces by means of approved spraying equipment. It shall be sprayed uniformly to the surface as soon as possible after free surface water has disappeared from the concrete surface at a rate of one gallon per 200 square feet. Where moisture retaining covers are used, care shall be taken to cover the entire concrete surface including exposed sides of members. The covers shall be kept constantly moist and have sufficient strength to withstand wind and abrasive action. Covers shall be placed as soon as possible after free surface water has disappeared and the surface is hard enough to resist marring from the covers. Covers shall remain in place for seven (7) days.

H. PROTECTION - The freshly finished curb shall be protected from hot sun and drying winds until it can be sprinkled and covered as above specified. The concrete surface must not be damaged or pitted by rain drops, and the contractor shall provide and use, when necessary, sufficient covering to completely protect all sections that have been placed within the preceding twelve (12) hours. The contractor shall erect and maintain suitable barriers to protect the curb from traffic and any section damaged from traffic or other causes, shall be repaired or replaced by the contractor at his own expense in a manner satisfactory to the Director of Public Facilities.

I. TEMPERATURE - If, at any time during the progress of work, the temperature is 40 degrees Fahrenheit and falling, concrete will not be placed unless specifically permitted by the Director of Public Facilities. Cold Weather curing of sidewalk must be approved by the Department of Public Facilities.

J. METHOD OF PAYMENT - Compensation for concrete sidewalks shall be made at the unit price bid per square foot in the Proposal. Said price shall include all materials, equipment and labor necessary for grading, preparation of the sub-base, forming, placing, curing and protection of the completed work.

2. CONCRETE CURBS

A. GENERAL - Concrete curbs shall be of the size and shape as shown on the Drawings. The top corner of the face shall be rounded to the radius of at least one (1) inch and the top corner on the back of the curb shall also be neatly rounded with special tools.
See Standard Details for Concrete Curbs.

B. SUB-GRADES - The material underlying the concrete curbs shall be satisfactory and thoroughly compacted to an even bearing sub-grade. Any unsuitable material, in the opinion of the Director of Public Facilities shall be removed and replaced with acceptable material and compacted.

C. FORMS

(a) **MATERIALS** - Forms shall be free from warp and of sufficient strength to resist to springing out of shape.

(b) **SETTING** - The forms shall be well staked or otherwise held to the established lines and grades and their upper edges shall conform to the established grade of the curb and shall extend to the bottom of the concrete, and shall be banked with earth or supported by some other approved method to prevent leakage.

(c) **TREATMENT** - All wood forms shall be thoroughly wetted and metal forms oiled with a non-staining oil before depositing any material against them. All mortar and dirt shall be removed from forms that have been previously used.

(d) **REMOVAL** - Forms shall remain in place until the concrete has thoroughly hardened but in no case less than eighteen (18) hours after pouring.

D. PLACING - Concrete shall be placed carefully so as not to disturb the alignment and position of forms. Sufficient spading or vibrating shall be done along the forms to ensure smooth, dense surfaces.

E. FINISHING -The top of the curb shall be finished by troweling; all joints shall be tooled with approved edging tool. Immediately upon removal of the forms all exposed surfaces shall be rubbed to a smooth, uniform and even surface by means of a soft rubbing brick or carborunrum stone. Plastering with mortar to finish or build up will not be permitted. Should any portion of the surface or face of the curb depart more than one-fourth (1/4) of an inch from a straight edge ten (10) feet in length placed on the line of the curb, or should any part of the exposed surface present a wavy appearance, the same will be sufficient cause for rejection of that portion of the work.

F. JOINTS - All concrete curbs shall be jointed or flagged in sections approximately six (6) feet in length. Where walks and curbs are combined, jointing or flagging shall be at the same spacing and locations as specified for walks.

G. EXPANSION JOINTS - A one-half (1/2") inch joint shall be provided at least every twenty-five (25) feet, which shall be filled up to one-half (1/2") inch below the surface of the curb with suitable material. All construction and expansion jointing shall extend to the bottom of the concrete. A similar joint shall be provided at each intersection of sidewalk and street curb. Where walks and curbs are combined, expansion joints shall be placed at the same spacing and location as specified for walks.

H. CURING - Curing of concrete shall be by use of colorless membrane type curing material which shall not permanently discolor the surface or by moisture retaining covers of burlap, cotton, or watertight paper. Where curing compounds are used it shall be suitable to seal the surface of the concrete in one application and shall harden within 60 minutes after application. Curing material shall be applied to all exposed surfaces by means of approved spraying equipment. It shall be sprayed uniformly to the surface as soon as possible after free surface water has disappeared from the concrete surface at a rate of one gallon per 200 square feet. Where moisture retaining covers are used, care shall be taken to cover the entire concrete surface including exposed sides of members. The covers shall be kept constantly moist and have sufficient strength to withstand wind and abrasive action. Covers shall be placed as soon as possible after free surface water has disappeared and the surface is hard enough to resist marring from the covers. Covers shall remain in place for seven (7) days.

I. PROTECTION - The freshly finished curb shall be protected from hot sun and drying winds until it can be sprinkled and covered as above specified. The concrete surface must not be damaged or pitted by rain drops, and the contractor shall provide and use, when necessary, sufficient covering to completely protect all sections that have been placed within the preceding twelve (12) hours. The contractor shall erect and maintain suitable barriers to protect the curb from traffic and any section damaged from traffic or other causes, shall be repaired or replaced by the contractor at his own expense in a manner satisfactory to the Director of Public Facilities.

3. STONE CURB

Stone curb may be either of granite or concrete.

Stones must be at least four (4) inches thick by eighteen (18) inches long and shall be deep throughout by at least throughout by three (3) feet-six (6) inches long and shall be at least the best hard gray granite.

The exposed face of the curb shall be smoothly dressed, bush hammered or axed; and where the sidewalk extends to the curb, the back also shall be smoothly dressed so the sidewalk may fit closely against the curb.

The upper face shall be cut at a level of about one (1) inch to a foot, so that when the face of the curb is set with a little inclination backward, the top face will be level or slope downward and to the front. The ends of the sections shall be smoothly dressed to the exposed depth, and truly squared from top to bottom so as to permit the dressed ends to come into close contact.

4. MATERIALS FOR CONCRETE WORK

A. COARSE AGGREGATE - Stone for aggregate shall, except by permission of the Engineer, be obtained from one source.

The material shall be gravel or crushed stone having clean, hard, strong, durable, uncoated particles free from injurious amount of soft, friable elongated or laminated pieces. Coarse aggregate shall be uniformly graded from fine to coarse and with the following limits.

Retained on the 1" screen, not more than 10% by weight.

Retained on the 1/2" screen, 40% to 70% by weight.

Retained on No.4 screen, not less than 90% by weight.

B. FINE AGGREGATE - Sand for aggregate shall, except by permission of the Director of Public Works, be obtained from one source. Sand shall consist of natural sand having clean, hard, uncoated grains, free from injurious amounts of dust lumps, soft and flaky particles, shale, alkali, organic matter, loam, or deleterious matter. Sand shall be of such sizes that it shall all pass a 3/8 inch sieve, and shall be graded from coarse to fine so as to produce the minimum percentage of voils

Grading shall be within the following limits..

Retained on No.4 sieve, not more than 5% by weight.

Retained on No. 16 sieve, 20% to 55% by weight.

Retained on No. 50 70% to 95% by weight.

Retained on No.100 90% to 100% by weight.

With respect to organic A.S.T.M. Method Designation C 40-48 shall give a color lighter than the standard.

C. CEMENT - All cement used shall be American Portland Cement, I or II and shall conform to A.S.T.M. Standards, Designation C 150-53. Methods of sampling and testing shall be in accordance therewith.

D. WATER - Water shall be clean, free from acid, alkali, vegetable or other organic matter.

E. JOINT FILLER -The joint filler shall be of a suitable elastic waterproof material that will not become soft and run out in hot weather, nor hard and brittle and chip out in cold weather, or prepared strips of fiber matrix and bitumen as approved by the Director of Public Facilities. The strips shall be one-half (1/2) inch in thickness, their width shall be at least equal the full thickness of the slab and their length shall be at least equal the width of the slab at joint.

5. CONCRETE WORK

A. PROPORTION - Concrete shall be proportioned by weight, dry mixed, of cement, sand and coarse aggregate. The normal size of the coarse aggregate shall be 3/4 inch. The minimum strength of the concrete after 28 days shall be 4,000 pounds per square inch.

B. AIR ENTRAINMENT

A. General: All concrete shall contain air through the use of either air entrained Portland Cement or by use of an air entrainment admixture added at the time of mixing or by a combination of both. The percent of entrained air in the concrete mix shall be 3 to 6 percent. If, during the course of construction, the air content is found to be slightly beyond these limits, the Contractor will be to alter the mix by varying the quantity of air entraining agent or by adjusting the sand content or by adding plain cement, subject to approval.

b. Tests: The method of testing for air content of freshly mixed concrete shall be the standard of the A.S.T.M. Designation C-138.

c. The Contractor shall have test cylinders cast prior to approval of the mix and tested at 7 days and 28 days at his expense. No concrete will be accepted until return of the 7 day tests and approval of the results by the Director of Public Facilities. Thereafter, cylinders will be required for every 25 cubic yards or as Director of Public Facilities. Cylinders shall be standard 6"x12". Compression tests will be made in accordance with A.S.T.M. Designation C 31-57.

C. TRANSIT MIX CONCRETE - Transit Mix Concrete shall conform to the A.S.T.M. Specifications C-94-58. The central plant producing the concrete and the equipment transporting it shall be subject to approval. Certificates shall be furnished by the plant producing the concrete for each batch of concrete, certifying that the material conforms to specifications requirements and stating the gallons of water per bag of cement. No changes shall be permitted in the quantity of water per bag of cement unless a receipt is given the driver by the purchase or the Director of Public Facilities.

ORDINANCES

Section 12.08.190 - *Permit for the Construction of Curbs, Gutters or Walks.* No person shall construct in any street any new curb or walk, or combined curb and gutter, or driveway approach without first obtaining, from the Director of Public Facilities, a permit in writing so to do. Permits shall be upon blank forms furnished by said Director and shall specify the ownership and location of the property where the work is to be done and the nature and dimensions of such work. All permits must be on the ground during the continuance of the work and must be shown to all authorized persons, when required. All permits shall expire ninety days after the date of issuance unless sooner revoked. The provisions of this ordinance shall not prevent the making without such permit of minor repairs to any existing curb or walk, driveway, or combined curb and gutter, or by the agent of such owner.

Section 12.08.220—*City Engineer to Furnish Line and Grade.* Before commencing work under the permit provided in Section 12.08.190, such permit shall be exhibited to the city engineer, who shall furnish the permittee with appropriate line and grade stakes for the work therein contemplated. No work shall be done under said permit until said line and grade shall have been furnished.

Section 12.08.230 -*Supervisory Power of Director of Public Facilities.* All work performed under the permit provided in Section] 2.08.190 shall be subject to the supervision and inspection of the Director of Public Facilities or his authorized agent, who shall have full power to halt all work being done in violation thereof and to require all work to be completed in conformance therewith. In the event of the neglect or refusal of the permit tee or his agent to conform to such requirements, the Director of Public Facilities shall have the power to revoke such permit and to complete such work at the expense of the permit tee. Such supervision and inspection shall not relieve the contractor from any obligation to perform the work strictly in accordance with the provisions of this chapter, and with such rules, regulations, and specifications as may be adopted hereunder, or from full responsibility for the proper performance and quality of such construction.

Section 12.08.240 -*Rules and Regulations, Power to Adopt.* The Director of Public Facilities and the city engineer shall jointly adopt from time to time, such rules, regulations, and specifications for the conduct of the work to be performed under the permits provided in Section 12.08.190 as they may deem necessary. Such specifications shall incorporate approved standards and practices regarding dimensions and quality of curbs, walks, approaches and combined curbs and gutters, and shall state the proportions and quality of materials to be used in various types of construction. otherwise ordered by the City Council, the rear line of all correspond and be co-extensive with the outer line of the highway along which such walks are constructed.

Section 12.08.040 -*Regulations as to Curb Corners.* All curb corners shall be maintained as safety zones for pedestrians. A curb corner shall constitute the area lying within line drawn from the point of intersection two street lines forty-five to a line, produced, bisecting the included angle of such intersecting street lines, except where such included angle is less than ninety degrees, in which case the curb corner shall constitute the area lines drawn from such point of intersection to the respective street lines. There shall be no lowering of the curb within the bounds of any curb corner.

House Bill No. 7527

Public Act 77-385

AN ACT CONCERNING CURB CUTS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 7 -118a of the general statutes is repealed and the following is substituted in lieu thereof:

(a) All curbs constructed or replaced by the state or any political subdivision thereof, on or after [July 1, 1975] October 1, 1977, shall be designed with cuts at all reasonable access for the safe and convenient movement of handicapped persons.

Such cuts shall meet the following specifications:

- (1) The cut shall have a surface that is textured and nonslip
- (2) The cut shall be at least thirty-six inches wide
- (3) The cut shall have a slope not greater than four degrees fifty minutes and shall be beveled at the bottom.

(b) ANY CURB NOT CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SUBSECTION (a) OF THIS ACT SHALL BE BROUGHT INTO COMPLIANCE WITH THE PROVISIONS OF SUCH SUBSECTION BY THE PERSON, PARTNERSHIP OR CORPORATION WHICH CONSTRUCTED SUCH CURB WITHIN NINETY DAYS FROM THE TIME SUCH PERSON, PARTNERSHIP OR CORPORATION KNOWS OF SUCH NONCOMPLIANCE. IN THE EVENT SUCH PERSON, PARTNERSHIP OR CORPORATION FAILS TO ACT IN ACCORDANCE WITH THE PROVISIONS OF THIS SUBSECTION, THE STATE OR ANY POLITICAL SUBDIVISION THEREOF WHEREIN SUCH CURB IS LOCATED OR RESPONSIBLE FOR THE CONSTRUCTION OR REPLACEMENT OF SUCH CURB, SHALL BRING SUCH CURB INTO COMPLIANCE WITH THE PROVISIONS OF SUBSECTION (a) OF THIS ACT WITHIN NINETY DAYS FROM THE TERMINATION OF THE PERIOD OF TIME PROVIDED HEREIN FOR SUCH PERSON, PARTNERSHIP OR CORPORATION TO BRING SUCH CURB INTO COMPLIANCE WITH THE PROVISIONS OF SUBSECTION OF THIS ACT.

STANDARD DETAILS

INDEX

SIDEWALK DETAILS

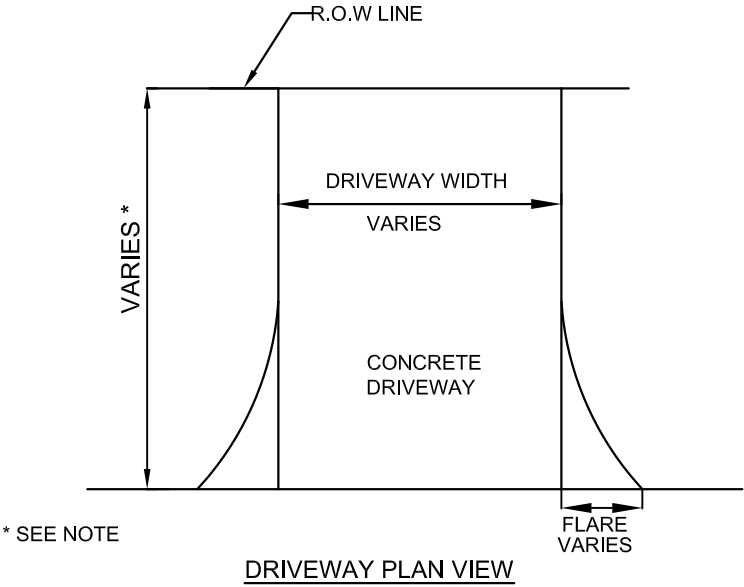
1. CONCRETE DRIVEWAY WITHOUT SIDEWALK	SHEET 01
2. NARROW SIDEWALK WITH NO LEVEL LANDING.....	SHEET 02
3. WIDER SIDEWALK DRIVEWAY CROSSING	SHEET 03
4. DRIVEWAY CROSSING WITH SIDEWALK ADJACENT TO GRASS PLOT	SHEET 04
5. CONCRETE & STONE CURB.....	SHEET 05
6. LOCAL RESIDENTIAL STREET.....	SHEET 06

CT DOT SIDEWALK RAMP DETAILS

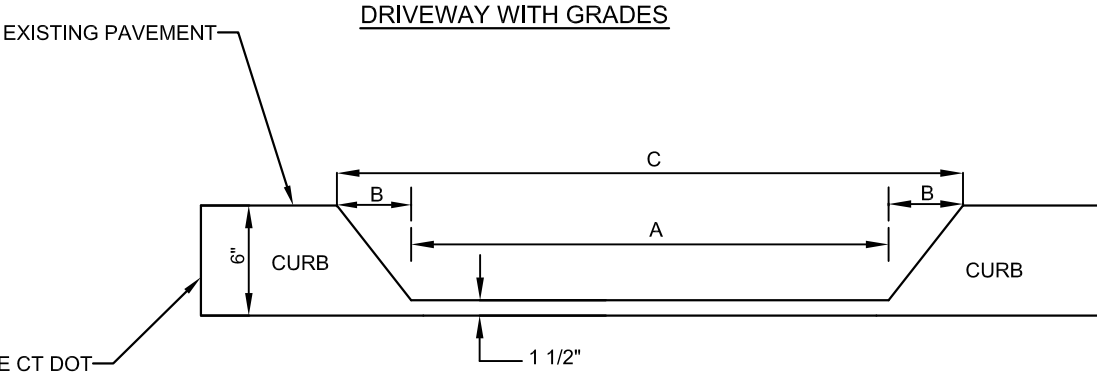
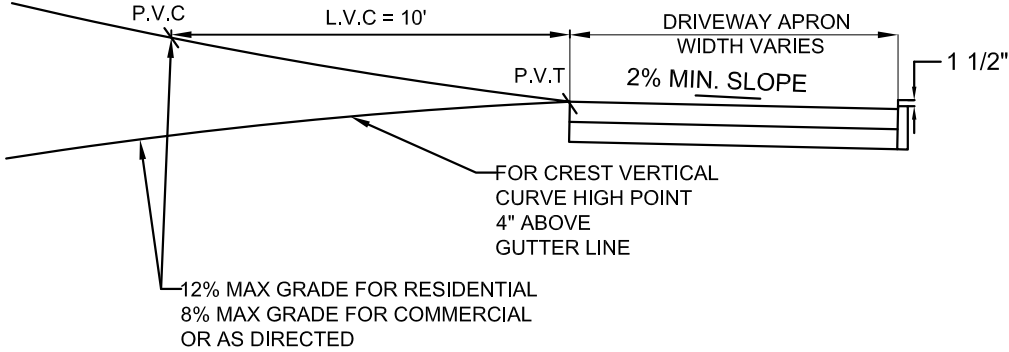
1. SIDEWALK RAMP	SHEET 1
2. SIDEWALK RAMP	SHEET 2
3. SIDEWALK RAMP	SHEET 3
4. SIDEWALK RAMP	SHEET 4

NOTES:

- 1. DRIVEWAY LENGTH VARIES WITH R.O.W LENGTH.



* SEE NOTE



SEE CT DOT CURBING DETAILS

TYPE	WIDTH(A)	FLARE(B)	TOTAL(C)
ONE, TWO & THREE RESIDENTIAL	20'	2'	24'
MULTI-RESIDENTIAL	24'	3'	30'
COMMERCIAL	30'	3'	36'

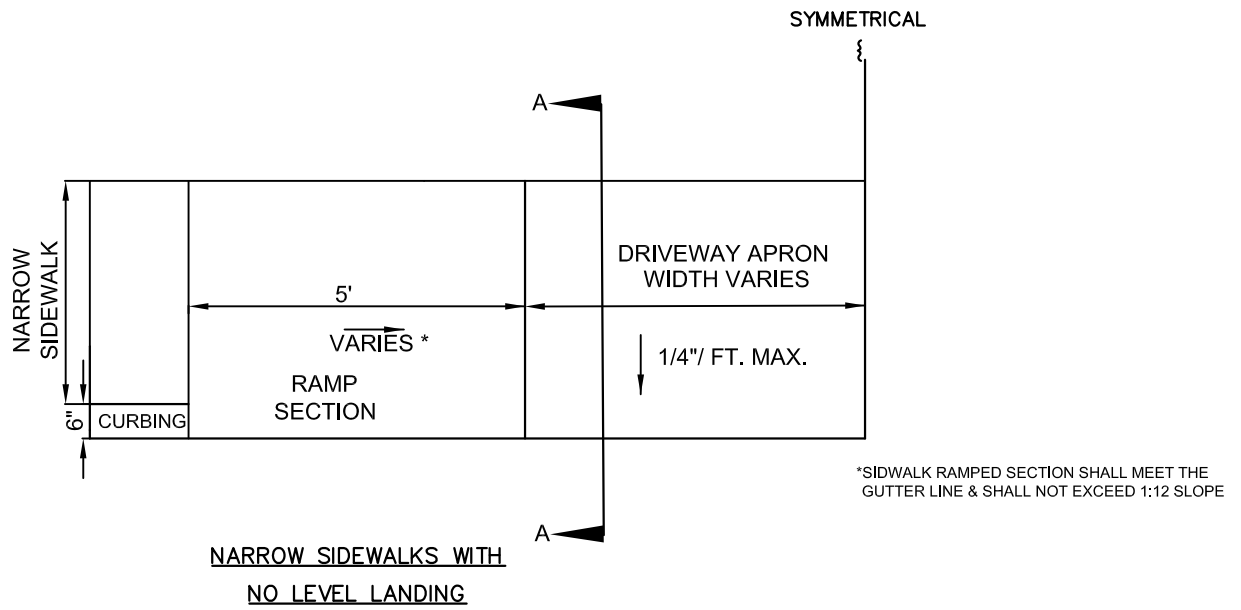
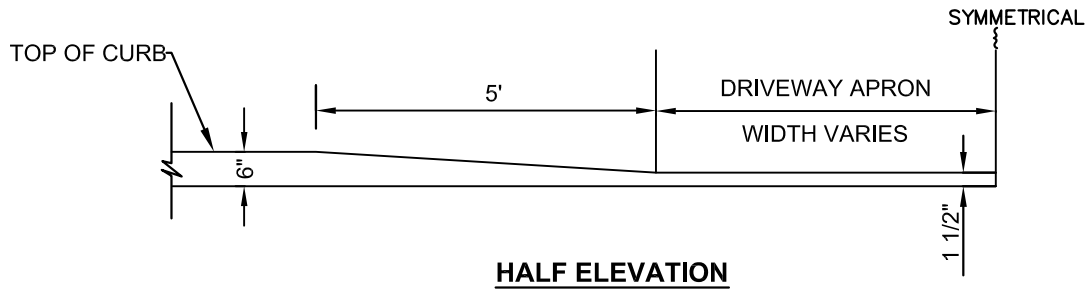
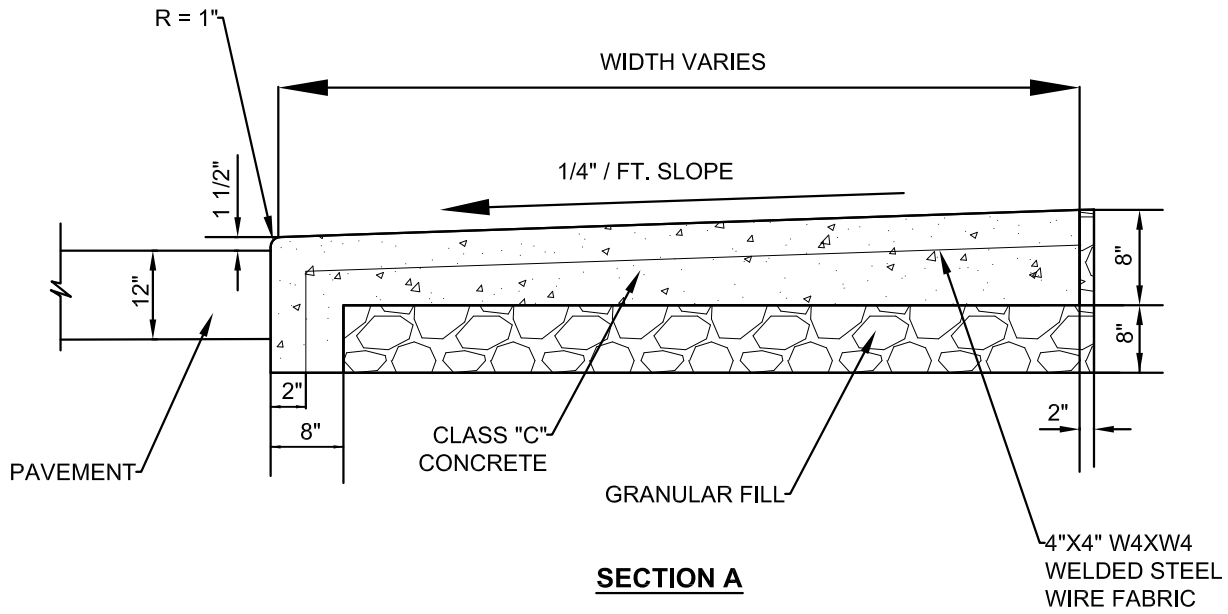


CITY OF BRIDGEPORT

REV.	DATE	REVISION DESCRIPTION

ENGINEERING DEPARTMENT
CONCRETE DRIVEWAY
WITHOUT SIDEWALK

SHEET - 01
SCALE: N.T.S
DRAWN BY: MJ
CHECKED BY : JPU & PDP



DETAILS ADOPTED FROM FHWA
ALL SPECS FROM CT DOT FORM 817



CITY OF BRIDGEPORT

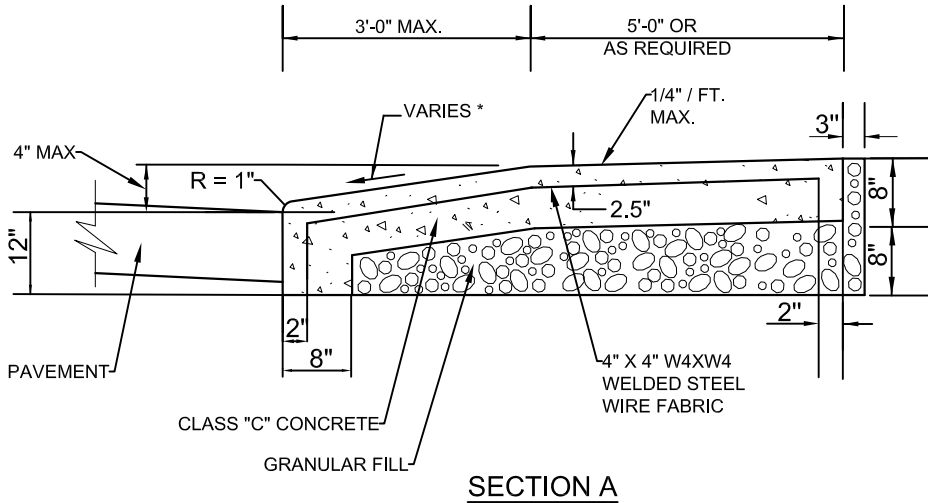
REV.	DATE	REVISION DESCRIPTION

ENGINEERING DEPARTMENT
NARROW SIDEWALK
WITH NO LEVEL LANDING

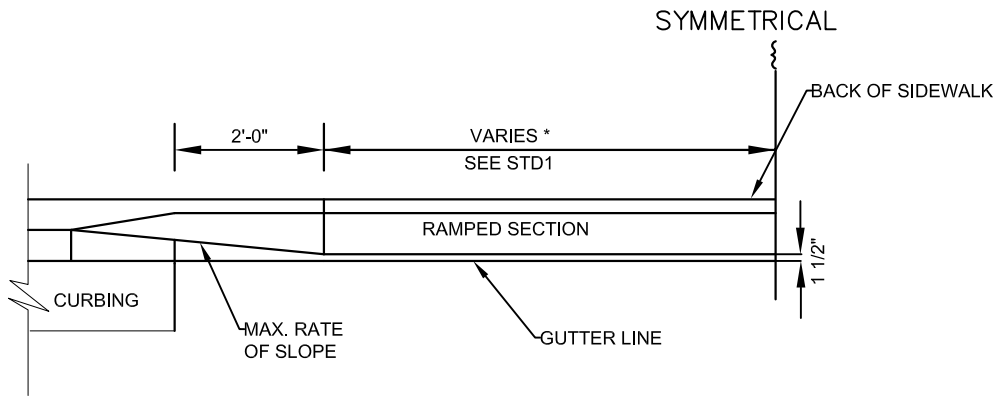
SHEET - 02
SCALE: N.T.S
DRAWN BY: MJ

NOTES:

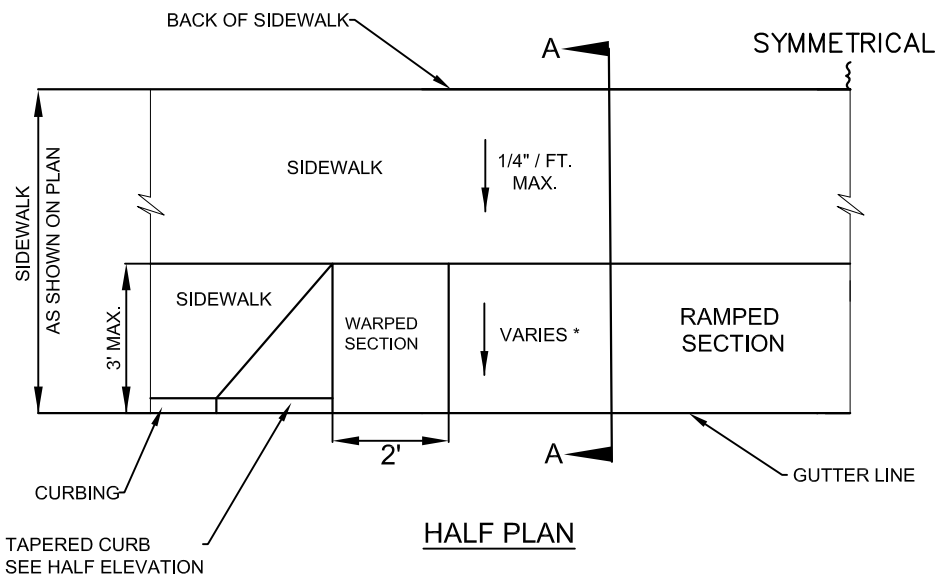
1. Driveway Apron ramped section cross slope shall be designed to meet the existing roadway edge of pavement. Maximum Cross Slope shall meet SHEET-01
2. There shall be no lip at Driveway Sidewalk interface.



SECTION A

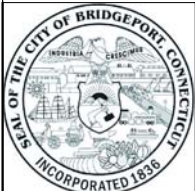


HALF ELEVATION



HALF PLAN

ALL SPECS FROM CT DOT FORM 817
DETAILS ADOPTED FROM CT DOT



CITY OF BRIDGEPORT

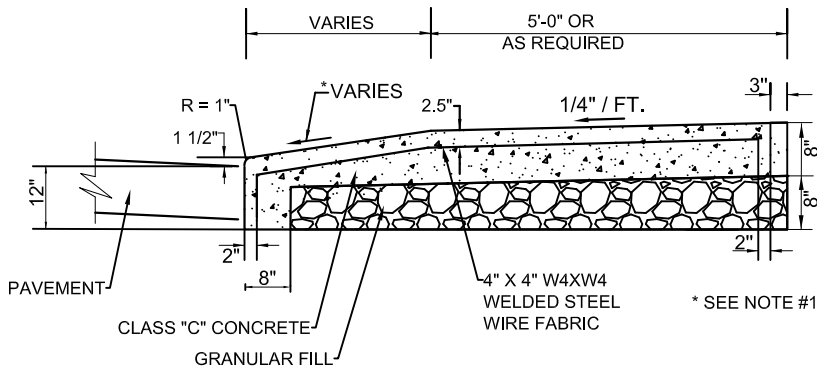
REV.	DATE	REVISION DESCRIPTION

ENGINEERING DEPARTMENT
WIDER SIDEWALK DRIVEWAY
CROSSING
STANDARD DETAIL

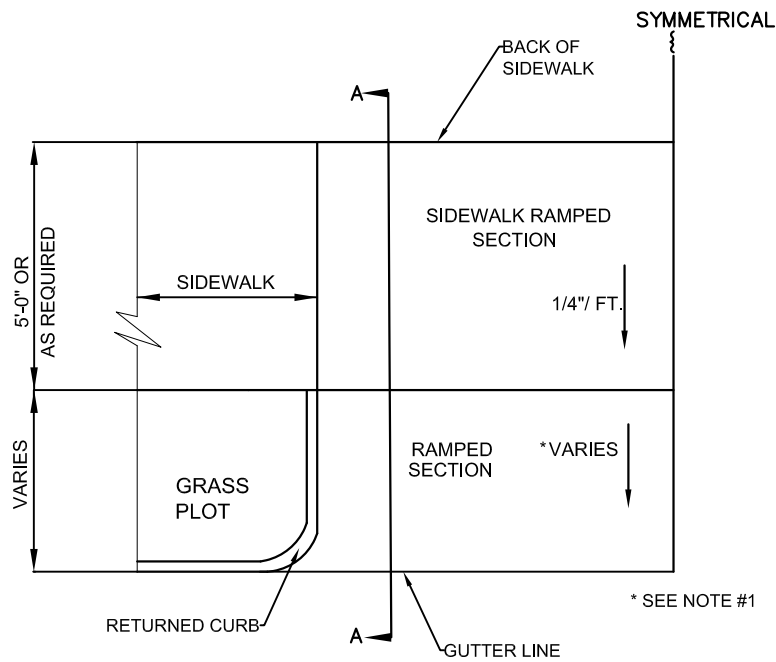
SHEET - 03
SCALE: N.T.S
DRAWN BY: MJ

NOTES:

Driveway Apron ramped section cross slope shall be designed to meet the existing roadway edge of pavement. See SHEET - 01 for maximum slopes for commercial and residential properties.



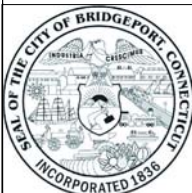
SECTION A



HALF PLAN

DRIVEWAY CROSSING WHERE SIDEWALK ADJACENT TO GRASS PLOT

ALL SPECS FROM CT DOT FORM 817

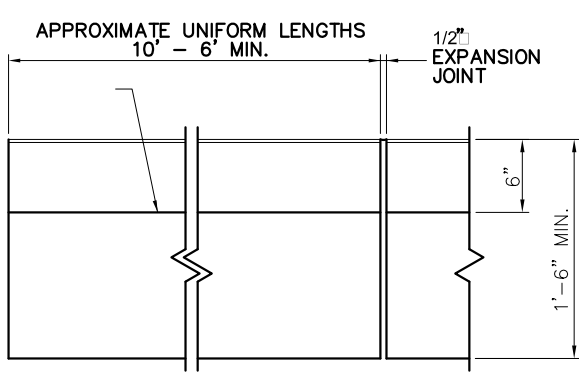


CITY OF BRIDGEPORT

REV.	DATE	REVISION DESCRIPTION

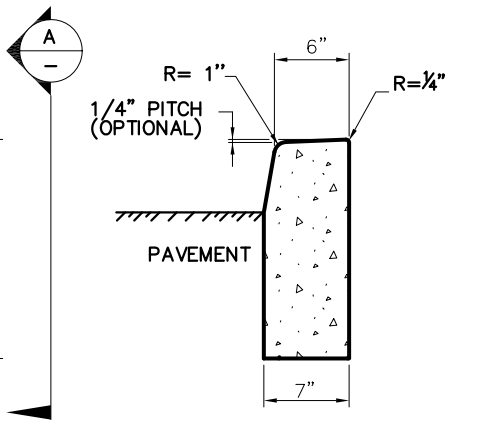
ENGINEERING DEPARTMENT
 DRIVEWAY CROSSING WITH
 SIDEWALK ADJACENT TO
 GRASS PLOT

SHEET - 04
 SCALE: N.T.S
 DRAWN BY: MJ
 CHECKED BY: JU & PP

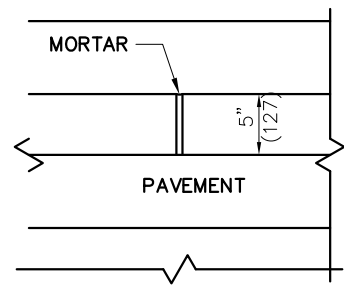
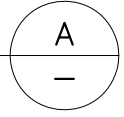


ELEVATION

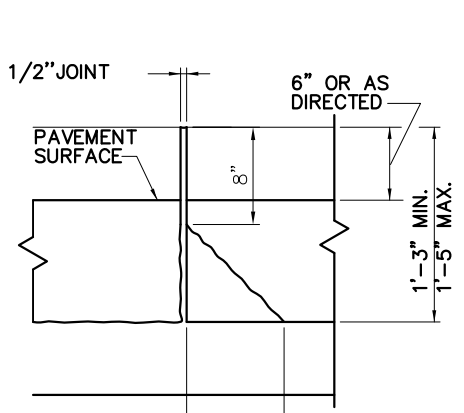
6" CONCRETE CURBING



SECTION

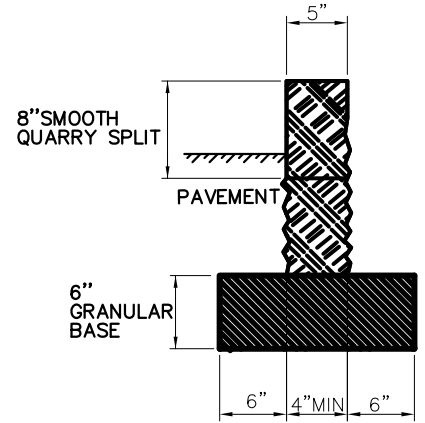
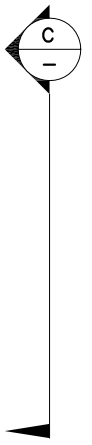


PLAN

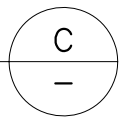


MAXIMUM ALLOWABLE
BREAK BACK IS
9" FOR CURB LENGTHS OF 6' OR MORE,
6" FOR CURB LENGTHS LESS THAN 6'

ELEVATION



SECTION



STONE CURBING

DETAILS ADOPTED FROM CTDOT



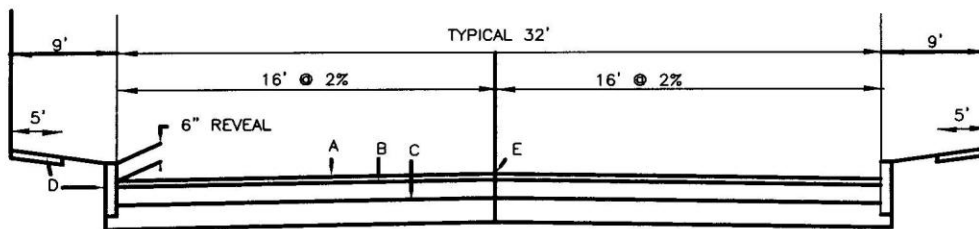
CITY OF BRIDGEPORT

REV.	DATE	REVISION DESCRIPTION

ENGINEERING DEPARTMENT
STONE & CONCRETE CURB
DETAILS

SHEET - 05
SCALE: N.T.S.

LOCAL RESIDENTIAL STREET TYPICAL SECTIONS
STANDARD CROSS SLOPE FROM CROWN TO GUTTERLINE



NOTES:

- A TWO COURSE HOT MIXED ASPHALT PAVEMENT
 2" HMA S0.5
 2" HMA S0.5
- B 6" PROCESSED AGGREGATE BASE
- C 6" PROCESSED AGGREGATE SUBBASE
- D CONCRETE OR GRANITE STONE CURBING
 AND SIDEWALK TO CITY SPECIFICATION
- E POINT OF APPLICATION - CROWN

TYPICAL ROADWAY SECTION

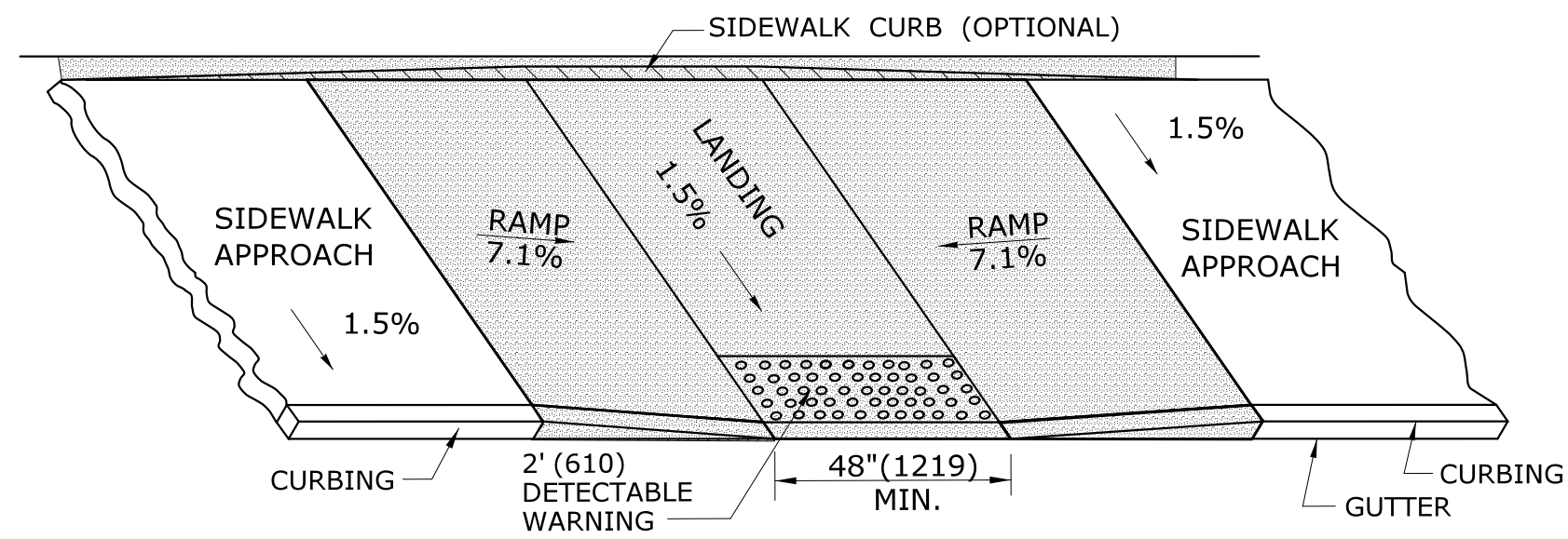
RES.

SHEET - 06

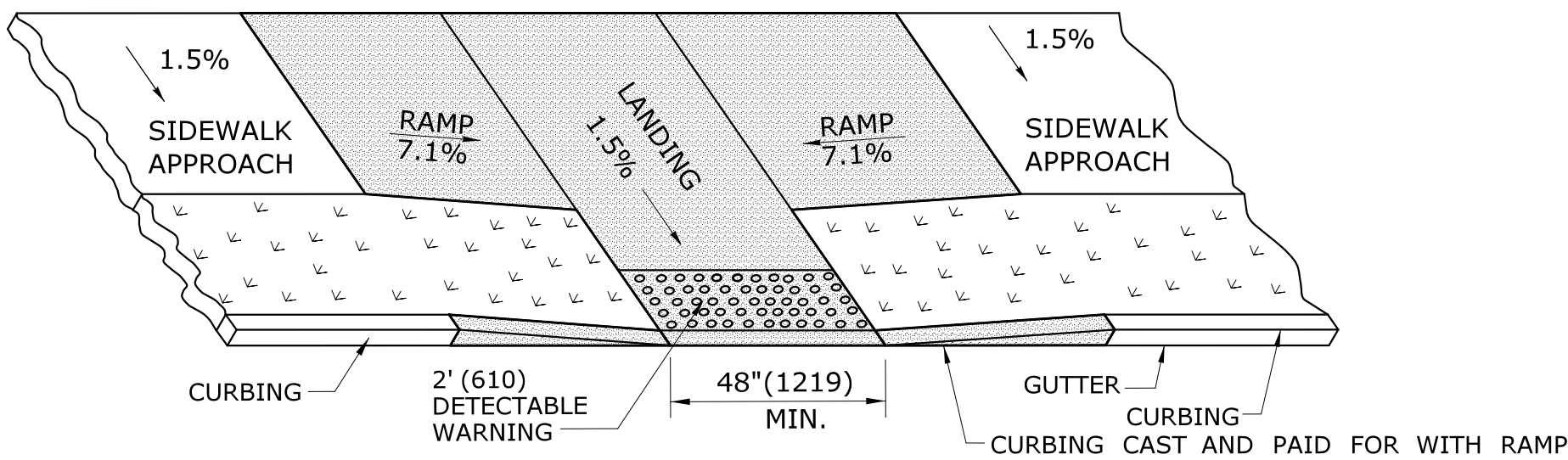
CITY OF BRIDGEPORT ENGINEERING OFFICE

Drawing Title:

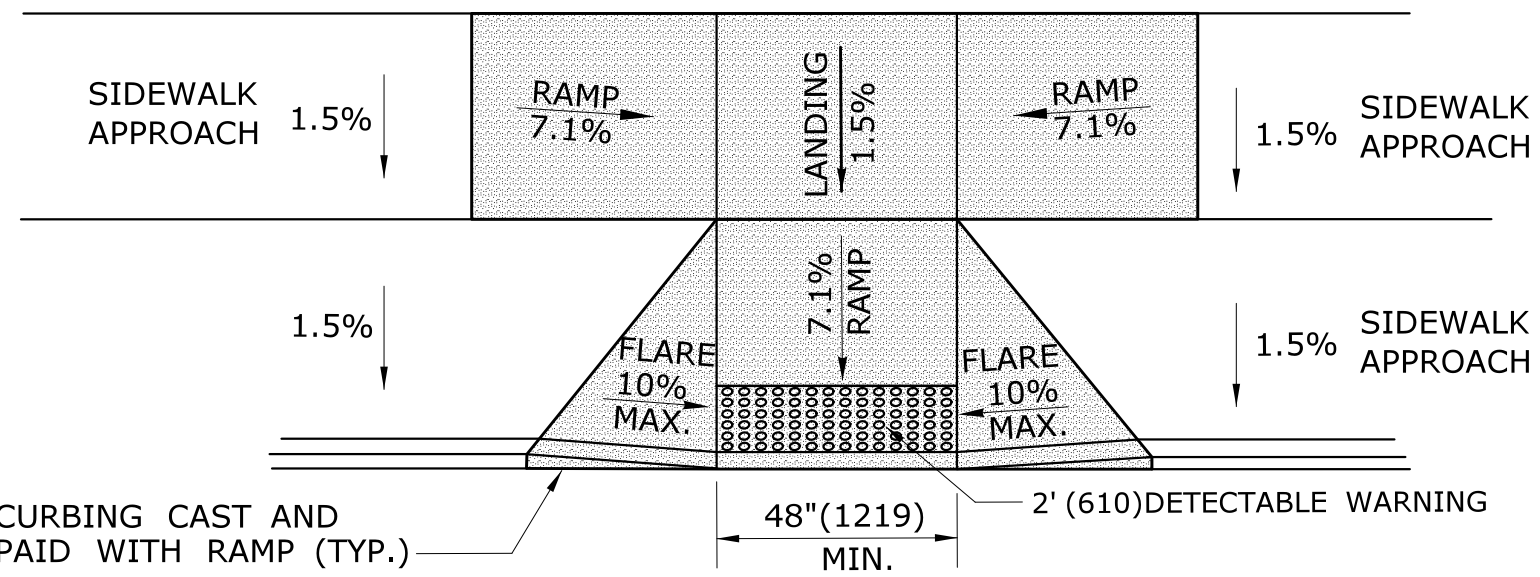
TYPICAL ROADWAY SECTION



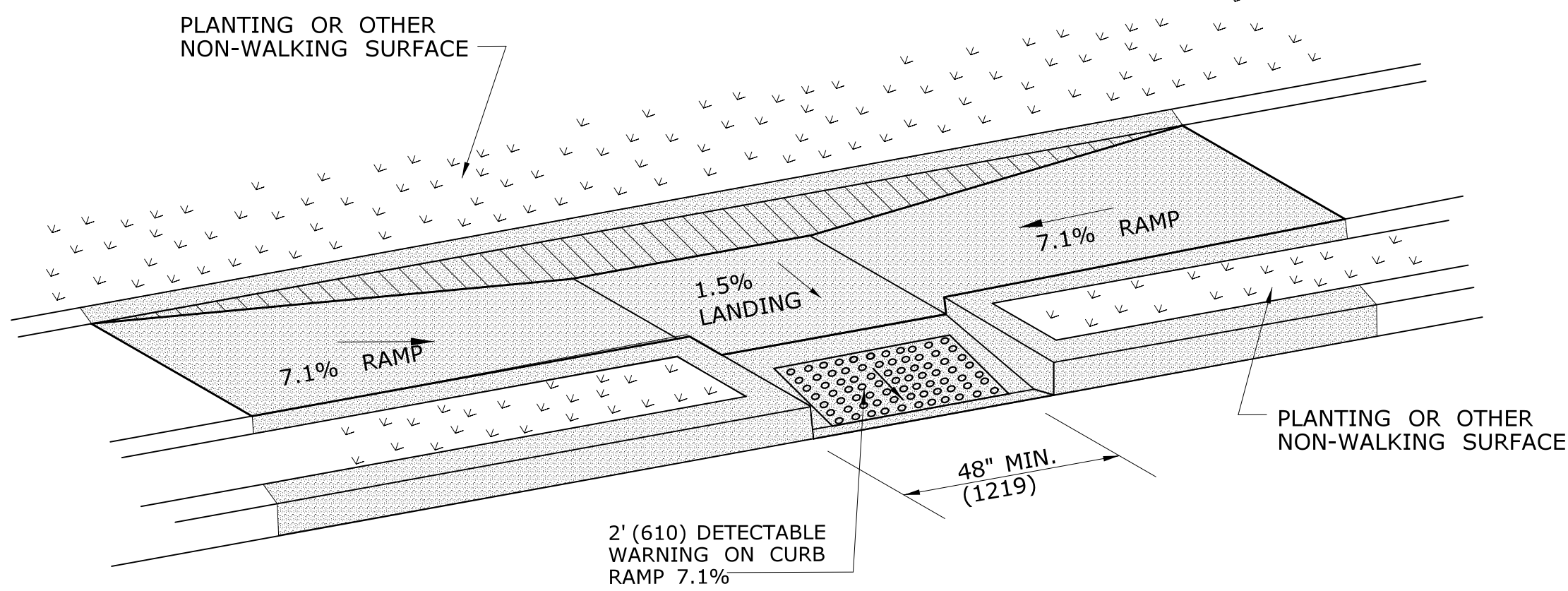
PARALLEL SIDEWALK RAMP (TYPE 1) NO UTILITY STRIP



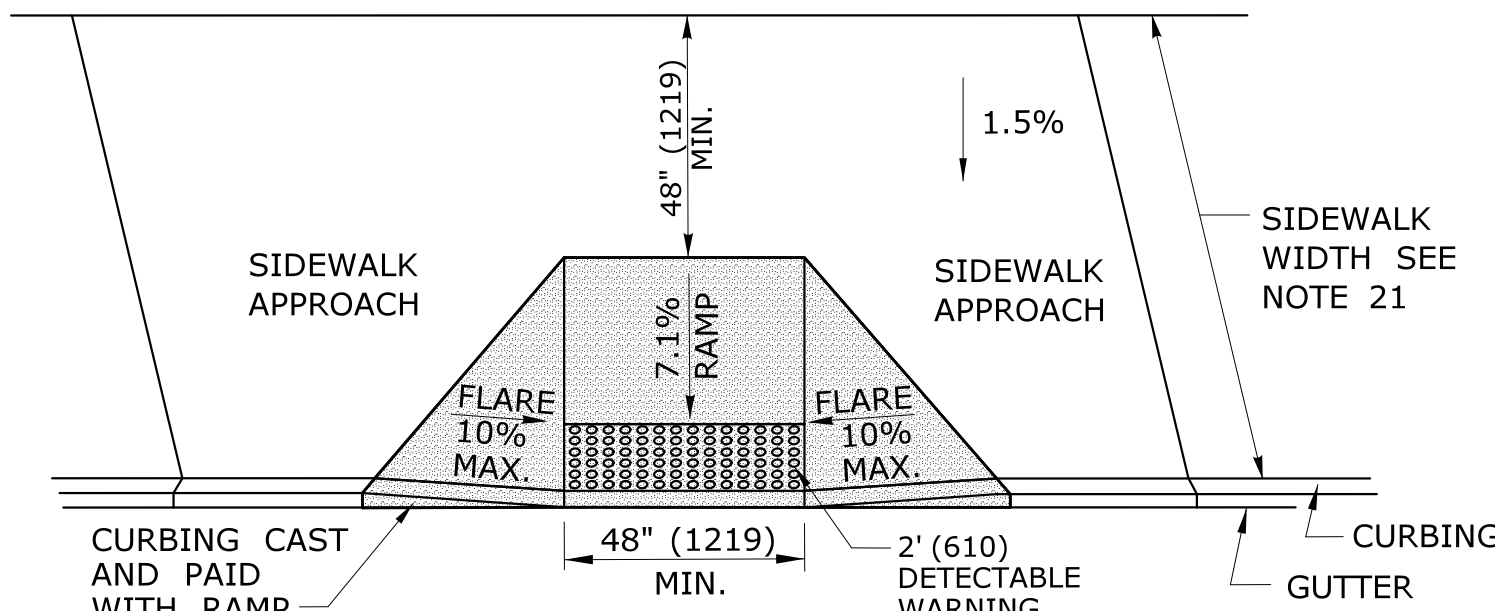
**PARALLEL SIDEWALK RAMP (TYPE 1a)
WITH UTILITY / GRASS STRIP**



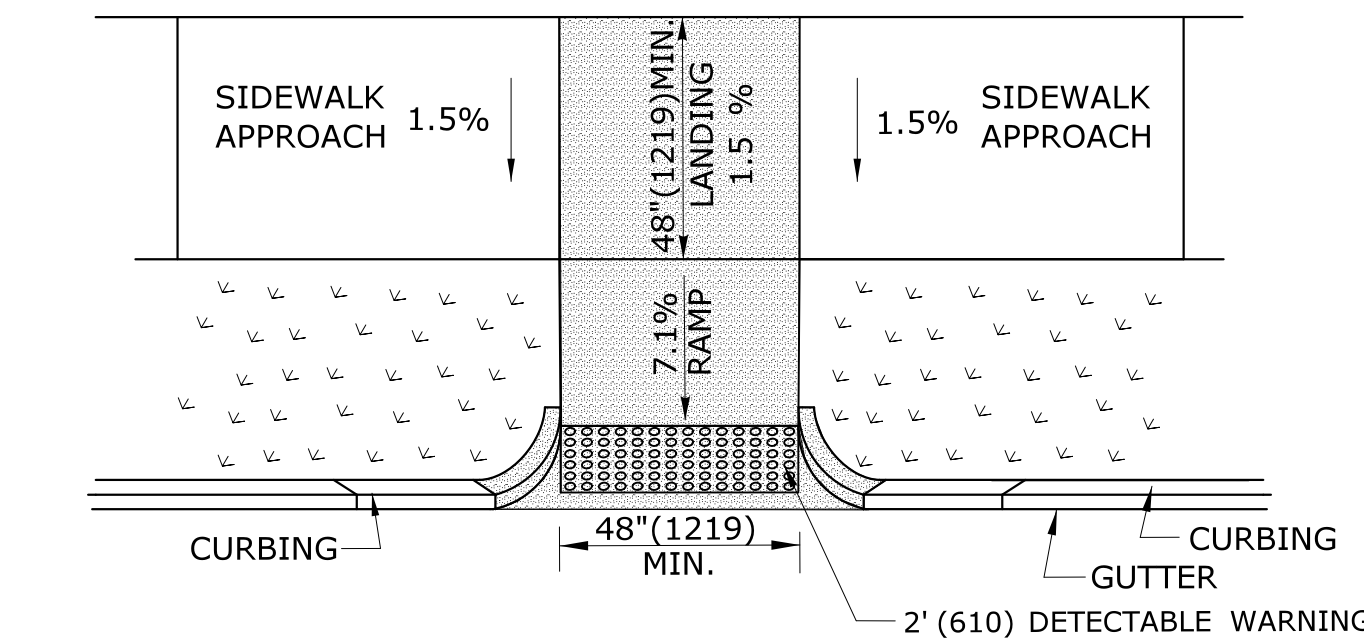
**PARALLEL/PERPENDICULAR SIDEWALK RAMP
NO UTILITY/GRASS STRIP (TYPE 1b)**



**PARALLEL SIDEWALK RAMP (TYPE 1c)
WITH UTILITY / GRASS STRIP**

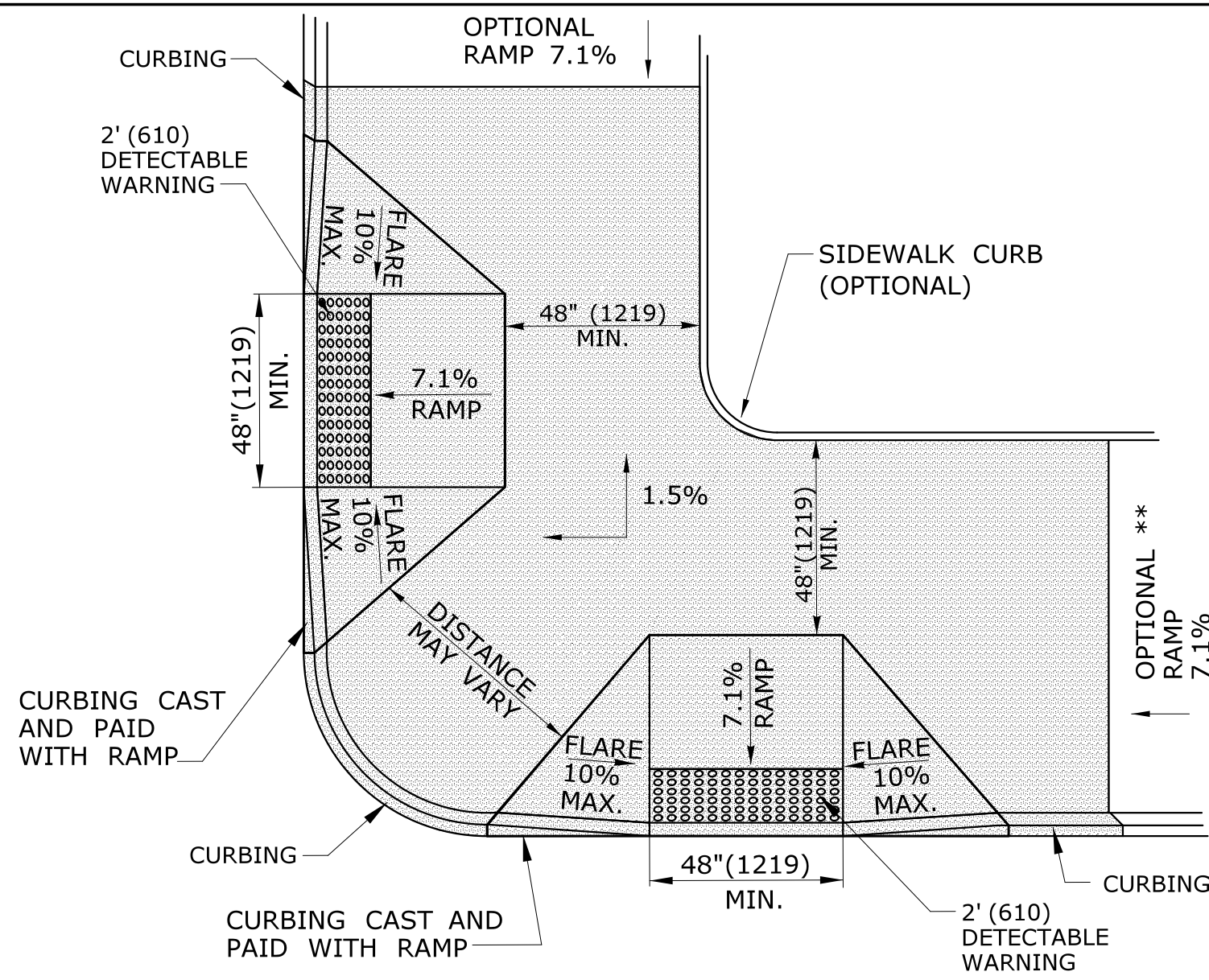


**PERPENDICULAR SIDEWALK RAMP
W/ 48" (1219) MIN. BY PASS LANDING (TYPE 2)**



**PERPENDICULAR SIDEWALK RAMP
W/CURB RETURNS / UTILITY GRASS STRIP (TYPE 2a)**

* OPTIONAL FLARE ONE SIDE OF RAMP



**DUAL PERPENDICULAR
SIDEWALK RAMPS (TYPE 3)**

SEE NOTES 19
* OPTIONAL CURB RETURN ON ONE SIDE OF RAMP
** SEE NOTE 23

GENERAL NOTES:

1. MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE SIDEWALK RAMP SHOULD NOT EXCEED 5%. THE MAXIMUM GRADE DIFFERENCE BETWEEN THE GUTTER AND CURB RAMP SHALL NOT EXCEED 13%. SEE DETAIL 1 ON SHEET 4.
2. RAMP GRADE SHALL BE UNIFORM, FREE OF SAGS AND ABRUPT GRADE CHANGES. RUNNING SLOPES OF RAMPS SHALL NOT EXCEED 8.33% AND SHALL NOT EXCEED 15' (4.5m) WITHOUT PROVIDING A LANDING.
3. ALL RAMPS SHALL BE CONSTRUCTED OF CLASS "F" CONCRETE IN ACCORDANCE WITH CONNECTICUT STANDARD SPECIFICATIONS.
4. SIDEWALK RAMPS SHALL HAVE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP. THE SURFACE OF ALL SIDEWALK RAMPS SHALL BE STABLE, FIRM AND SLIP RESISTANT. SURFACE DISCONTINUITIES SHALL NOT EXCEED 1/2" (13) MAX. VERTICAL DISCONTINUITIES BETWEEN 1/4" (6.4) AND 1/2" (13) MAX. SHALL BE BEVELED 1:2 MINIMUM APPLIED ACROSS THE ENTIRE LEVEL CHANGE.
5. DIAGONAL SIDEWALK RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES. DIAGONAL AND PERPENDICULAR RAMPS SHALL HAVE THE RAMP CUT PERPENDICULAR TO THE TANGENT OF THE CURB RADIUS FOR THE DESIGNATED ACCESSIBLE ROUTE. BOTH LONGITUDINAL SIDES OF THE RAMP SHOULD BE THE SAME LENGTH. SKEWED RAMPS SHOULD BE AVOIDED. FLARES ARE NOT CONSIDERED PART OF PEDESTRIAN ACCESS ROUTE. DIAGONAL RAMPS SHOULD NOT BE INSTALLED WHERE CURB RADII IS LESS THAN 20'(6096).
6. REMOVAL OF EXISTING SIDEWALK FOR NEW RAMP INSTALLATIONS SHALL BE TO THE NEAREST EXPANSION OR CONTRACTION JOINT. 8.3% MAXIMUM SLOPE MAY NOT BE ACHIEVABLE DUE TO EXISTING SIDEWALK GRADE. IN RECOGNITION OF THIS, A LIMIT OF 15' (4572) FOR REMOVAL SHALL BE USED UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. SAW CUT REQUIRED FOR DUMMY JOINTS SHALL BE INCLUDED IN THE COST OF "CONCRETE SIDEWALK RAMP" OR "CONCRETE SIDEWALK".
7. EXPANSION JOINTS IN CONCRETE SHALL MATCH THOSE IN ADJACENT SIDEWALKS BUT IN NO CASE SHALL THE SPACING BETWEEN EXPANSION JOINTS EXCEED 12' (3658) UNLESS OTHERWISE NOTED.
8. CONCRETE SIDEWALK RAMPS, SHALL BE PAID FOR UNDER THE ITEM "CONCRETE SIDEWALK RAMP", AS DEFINED BY THE CONSTRUCTION LIMITS ON THE PLANS AND SHALL BE FIELD VERIFIED.
9. SIDEWALK RAMPS SHALL BE CONSTRUCTED WITH THE TOE AT THE GUTTER CAST INTEGRALLY WITH RAMP UNLESS DIRECTED OTHERWISE BY THE ENGINEER (SEE TYPICAL SECTION ON SHEET 3). CURB REMOVAL AND CAST IN PLACE CURBING REQUIRED FOR THE RAMP, SHALL BE INCLUDED WITH PAY ITEM "CONCRETE SIDEWALK RAMP". CURBING OUTSIDE LIMITS OF RAMP OR LANDING SHOWN ON SHEET 3 SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH CONNECTICUT STANDARD SPECIFICATIONS.
10. PREFERRED LOCATION TO INSTALL DETECTABLE WARNING STRIP SHALL BE 6" (152) FROM THE EDGE OF ROAD ALONG THE FULL WIDTH OF THE RAMP. FOR ALTERNATE LOCATIONS, REFER TO DETECTABLE WARNING PLACEMENT DETAILS ON SHEET 4.
11. TO PERMIT WHEELCHAIR WHEELS TO ROLL BETWEEN DOMES, ALIGN DOMES ON A SQUARE GRID IN THE DIRECTION OF RUNNING SLOPE (PERPENDICULAR TO CURB OR SLOPE BREAK). THE TRANSITION FROM RAMP TO GUTTER SHALL BE FLUSH WITHOUT A LIP.
12. WHERE COMMERCIAL DRIVEWAYS ARE PROVIDED WITH TRAFFIC SIGNALS AND THE SIDEWALK IS CONTINUOUS THROUGH DRIVEWAY, DETECTABLE WARNINGS ARE REQUIRED AT THE JUNCTION BETWEEN THE PEDESTRIAN ROUTE AND DRIVEWAY.
13. CONSTRUCT A SIDEWALK CURB WHEN THERE IS INSUFFICIENT BUFFER AVAILABLE TO GRADE OR WHEN CALLED FOR IN PLANS. PAID FOR WITH SIDEWALK RAMP WHEN REQUIRED FOR RAMP.
14. THE TOP AND BOTTOM OF RAMPS SHOULD BE PROVIDED WITH A 4' x 4' (1219 x 1219) MINIMUM LEVEL LANDING AREA WITH A CROSS SLOPE LESS THAN OR EQUAL TO 2% IN ANY DIRECTION.
15. UTILITY POLES, LUMINAIRE, PEDESTRIAN OR SIGNAL POLES, GRATES, ACCESS COVERS, AND OTHER APPURTENANCES SHALL NOT BE LOCATED ON RAMPS, LANDINGS, BLENDED TRANSITIONS, AND @ GUTTERS WITHIN THE PEDESTRIAN ACCESS ROUTE.
16. APPROACH SIDEWALK WIDTHS, GRASS STRIP OR UTILITY STRIP WIDTHS MAY VARY.
17. APPROACH SIDEWALK AND LANDING CROSS SLOPE SHALL NOT EXCEED 2%.
18. THE RUNNING OR CROSS SLOPES ON LANDINGS AT MID BLOCK CROSSING MAY BE WARPED TO MEET STREET OR HIGHWAY GRADE.
19. FOR PERPENDICULAR CURB RAMPS A MIN. 4'(1.2m) x 4'(1.2m) LEVEL LANDING SHALL BE PROVIDED AT THE TOP OF CURB RAMP. WHERE THE LEVEL LANDING IS RESTRICTED AT THE BACK OF SIDEWALK THE LEVEL LANDING SHALL BE 4'(1.2m) x 5'(1.5m) WITH THE 5'(1.5m) DIMENSION PROVIDED IN THE DIRECTION OF THE RAMP RUN.
20. FOR PARALLEL CURB RAMPS, A MIN. 4'(1.2m) x 4'(1.2m) LEVEL LANDING SHALL BE PROVIDED AT THE BOTTOM OF CURB RAMP. IF THE LEVEL LANDING IS RESTRICTED ON 2 OR MORE SIDES, THE LEVEL LANDING SHALL BE 4'(1.2m) x 5'(1.5m) WITH THE 5' (1.5m) DIMENSION PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
21. WHEN WIDTH OF SIDEWALK IS >=48" AND A PERPENDICULAR SIDEWALK RAMP IS INSTALLED, THE FLARED SIDES SHALL BE 10% MAX. IF WIDTH OF SIDEWALK IS <48" THE FLARED SIDES MUST NOT EXCEED 8.33% (12:1).
22. SHADED AREAS ARE TYPICAL PAY LIMITS FOR CONCRETE SIDEWALK RAMP BUT, MAY VARY AS DIRECTED BY THE ENGINEER.
23. OPTIONAL RAMP, WHEN REQUIRED, SHALL BE PAID FOR AS PART OF CONCRETE SIDEWALK RAMP.

**DUAL PERPENDICULAR SIDEWALK RAMPS (TYPE 3a)
WITH UTILITY / GRASS STRIP**

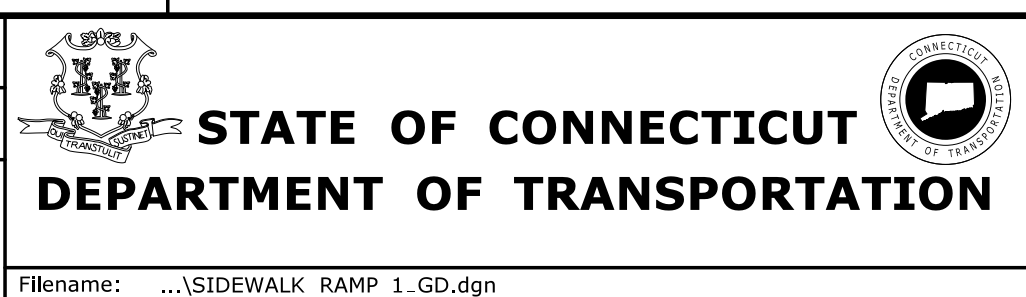
SEE NOTE 20

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

1	7/13	Created new sheets (4 total).	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 6/17/2014

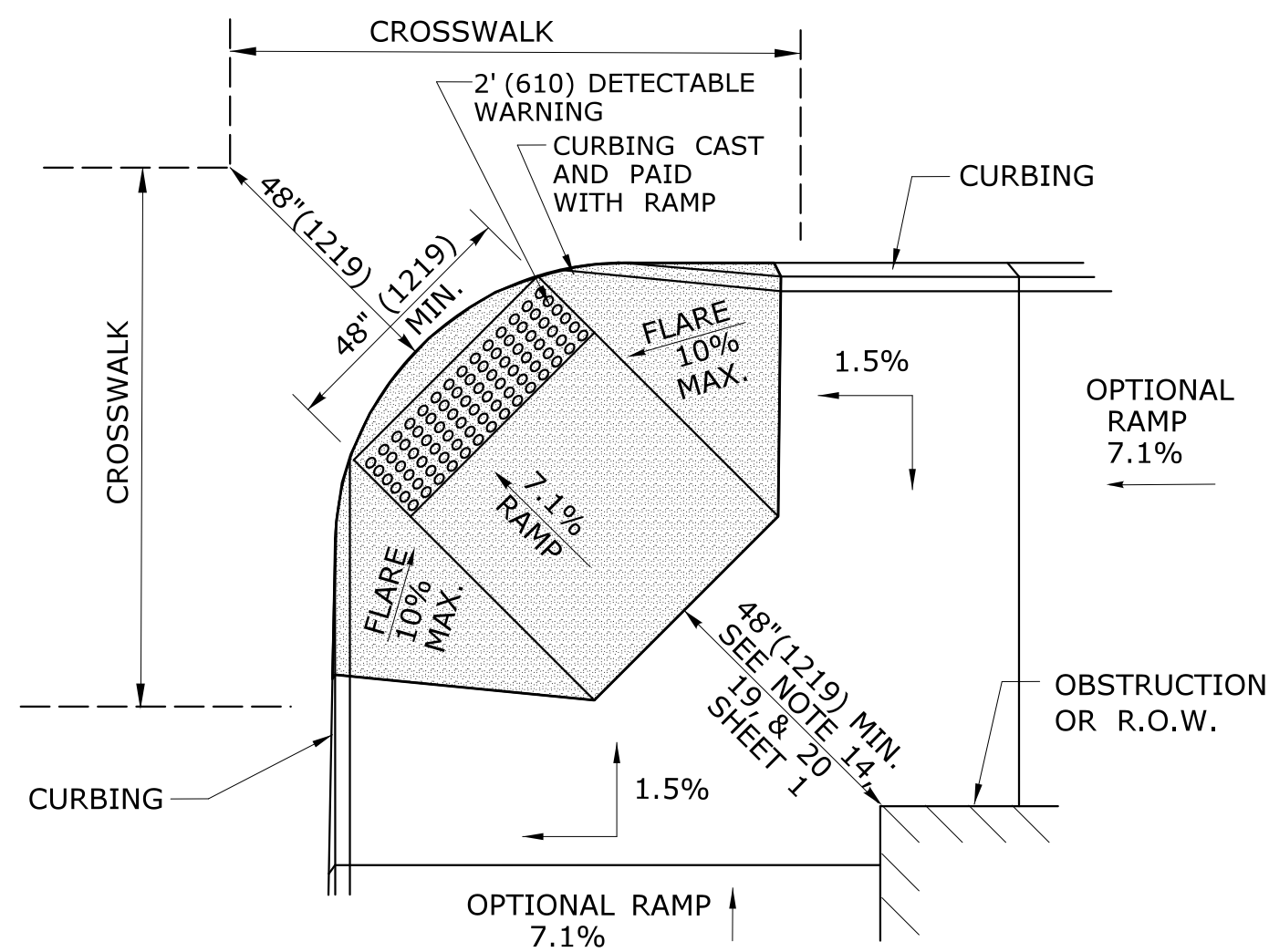
DESIGNER/DRAFTER:
MGB/EMK
CHECKED BY:
LLF



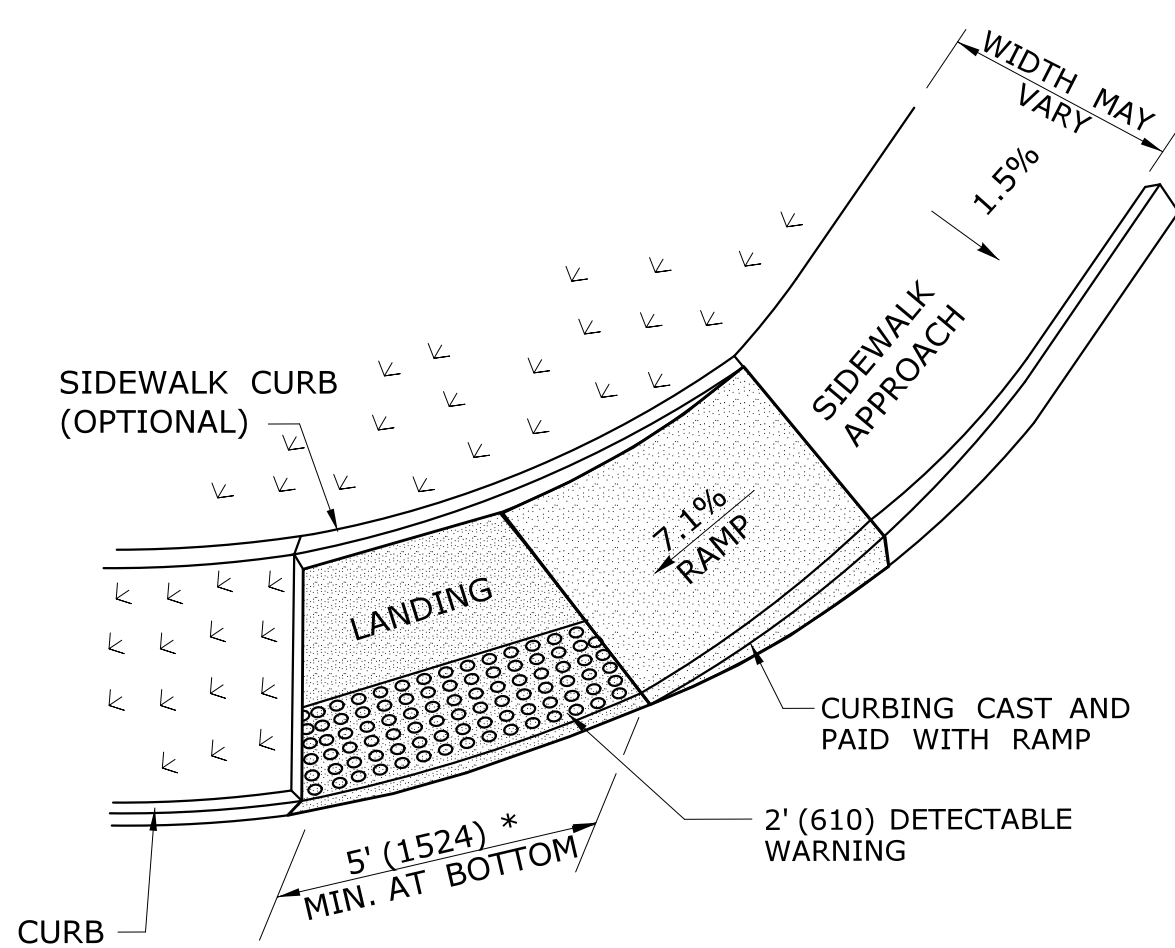
SIGNATURE/
BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
SIDEWALK RAMPS SHEET 1

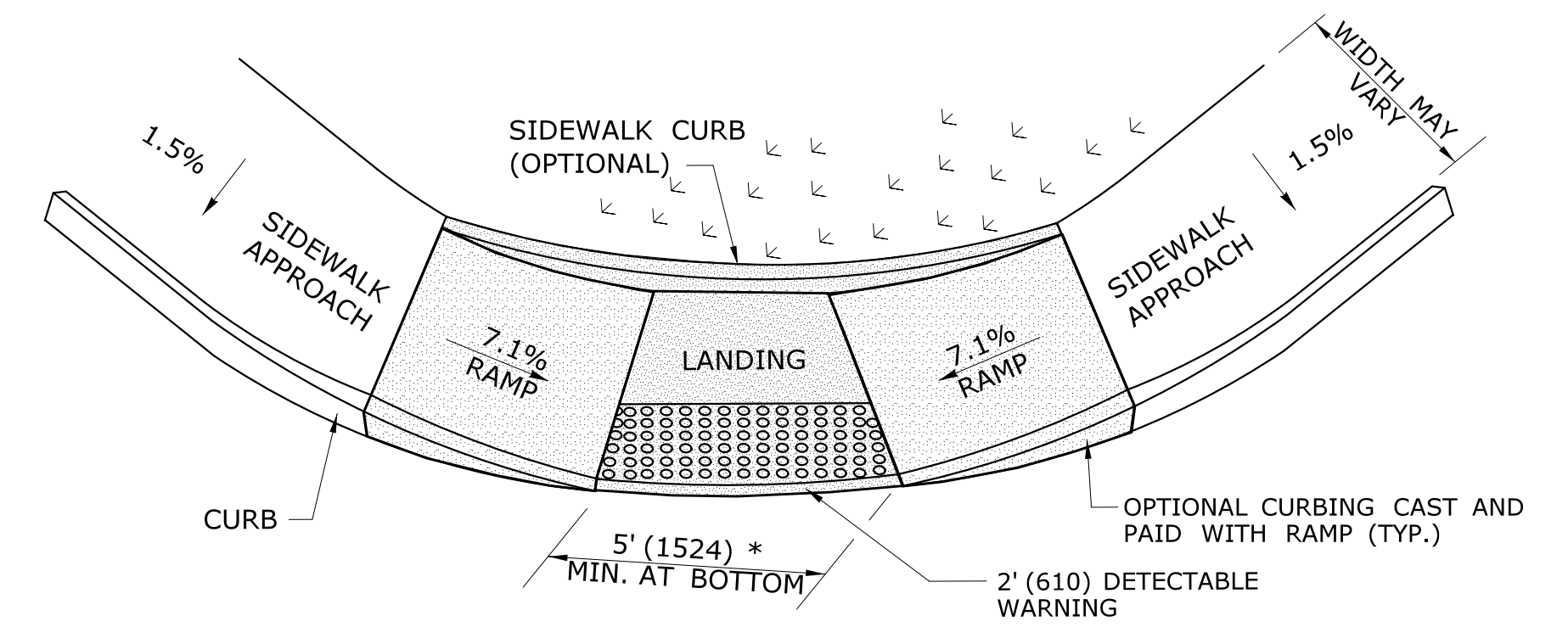
TOWN:
PROJECT NO.
DRAWING NO.
SHEET NO.



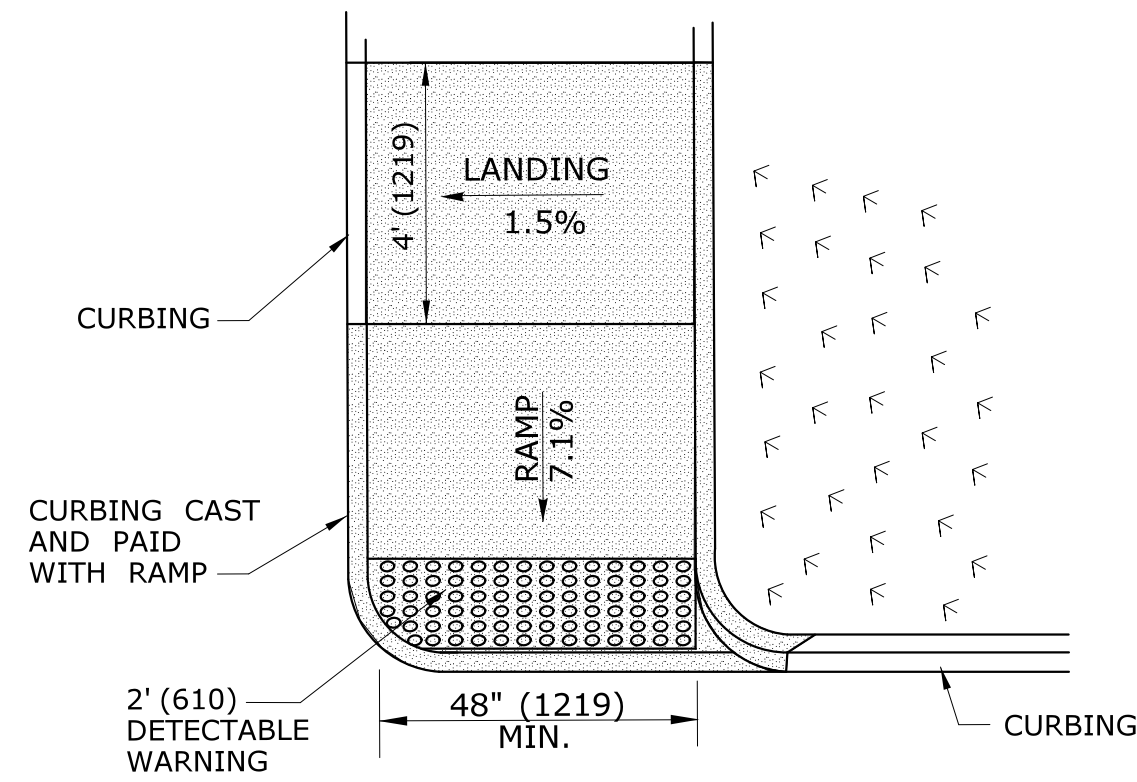
**DIAGONAL SIDEWALK RAMP (TYPE 4)
W/LANDING AT TOP**



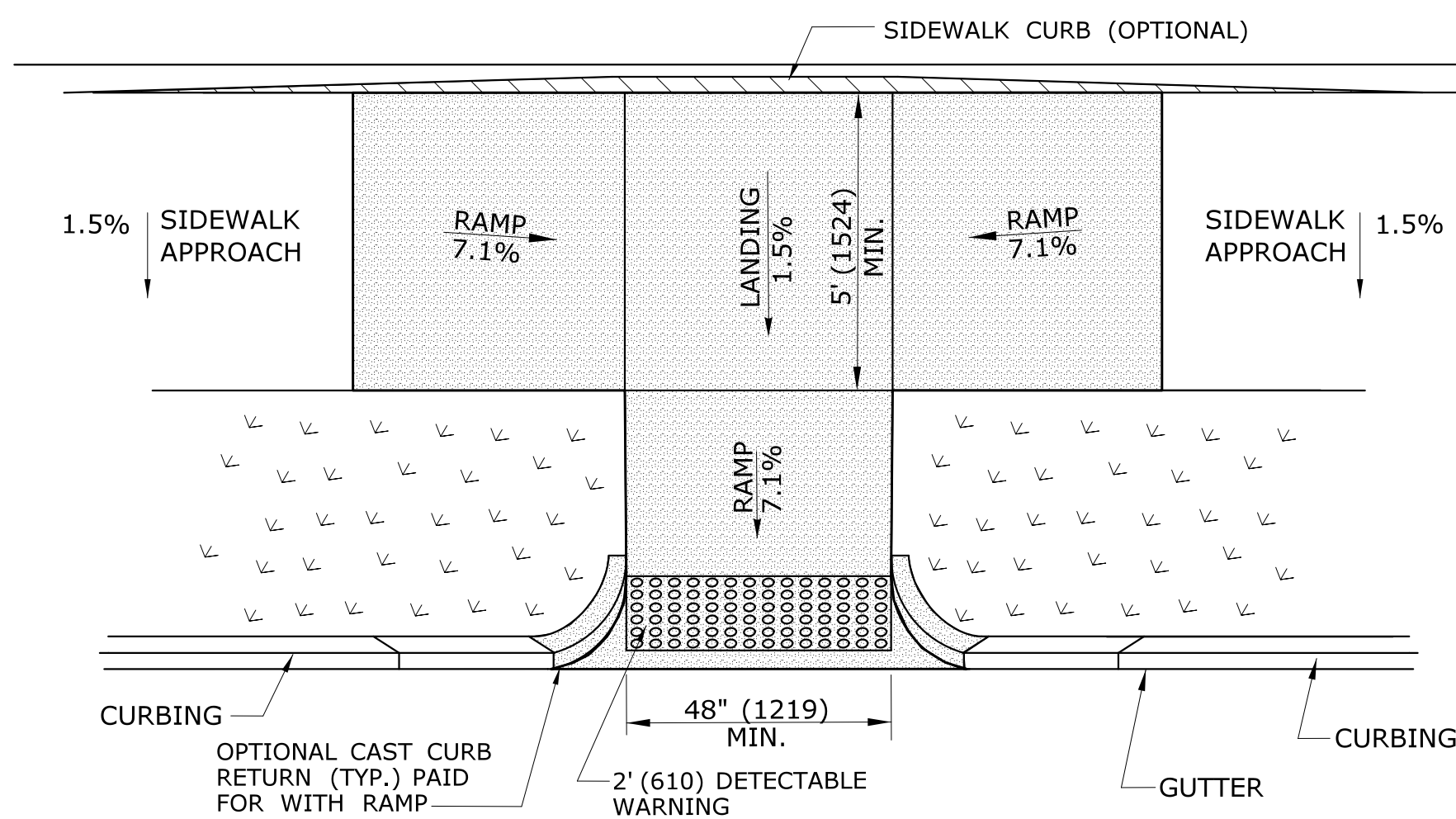
**SINGLE PARALLEL SIDEWALK RAMP
W/LANDING AT BOTTOM ON
CORNER (TYPE 4c)**
* SEE NOTE 20 SHEET 1



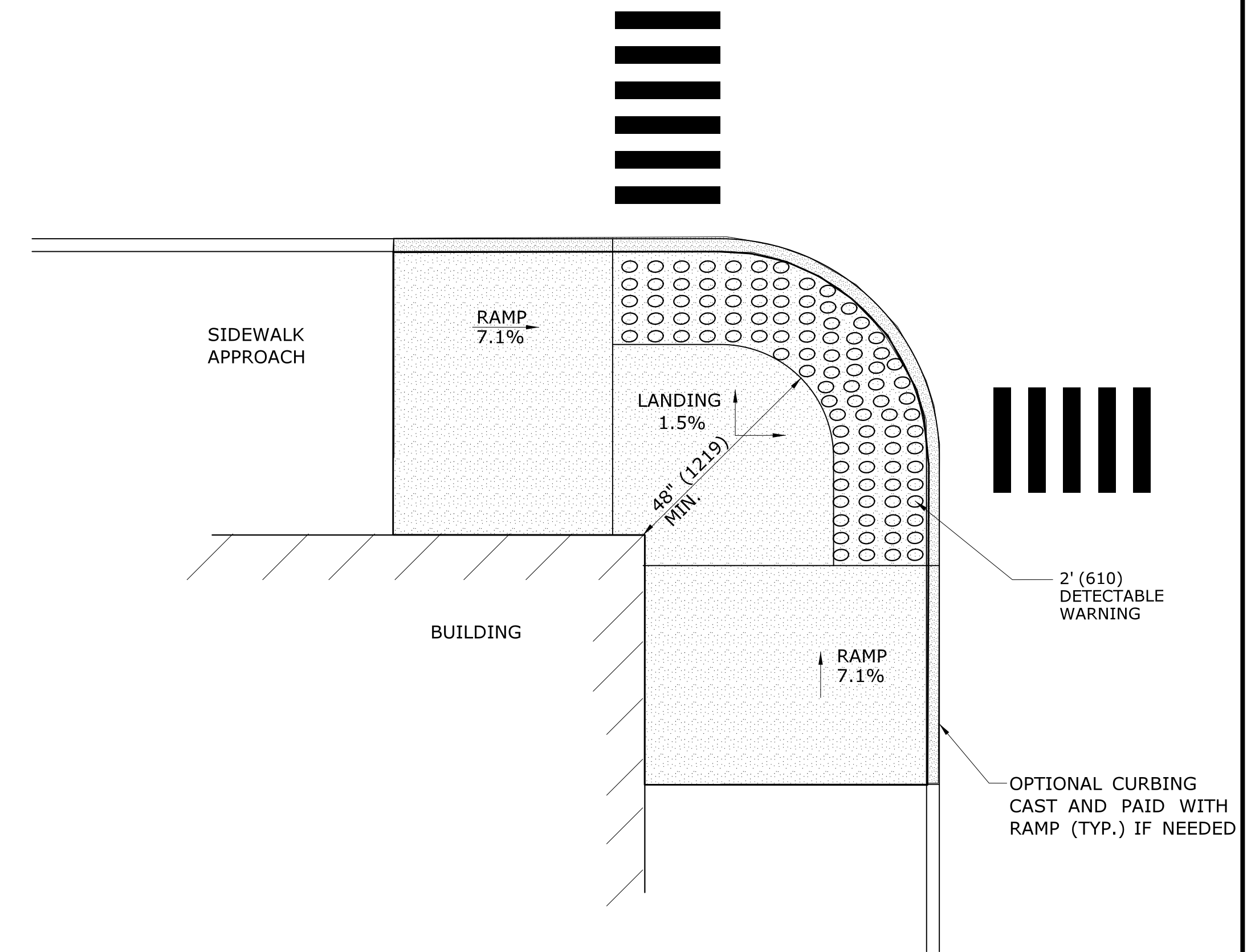
**DOUBLE PARALLEL SIDEWALK RAMP
W/LANDING AT BOTTOM ON CORNER (TYPE 4f)**
* SEE NOTE 20 SHEET 1



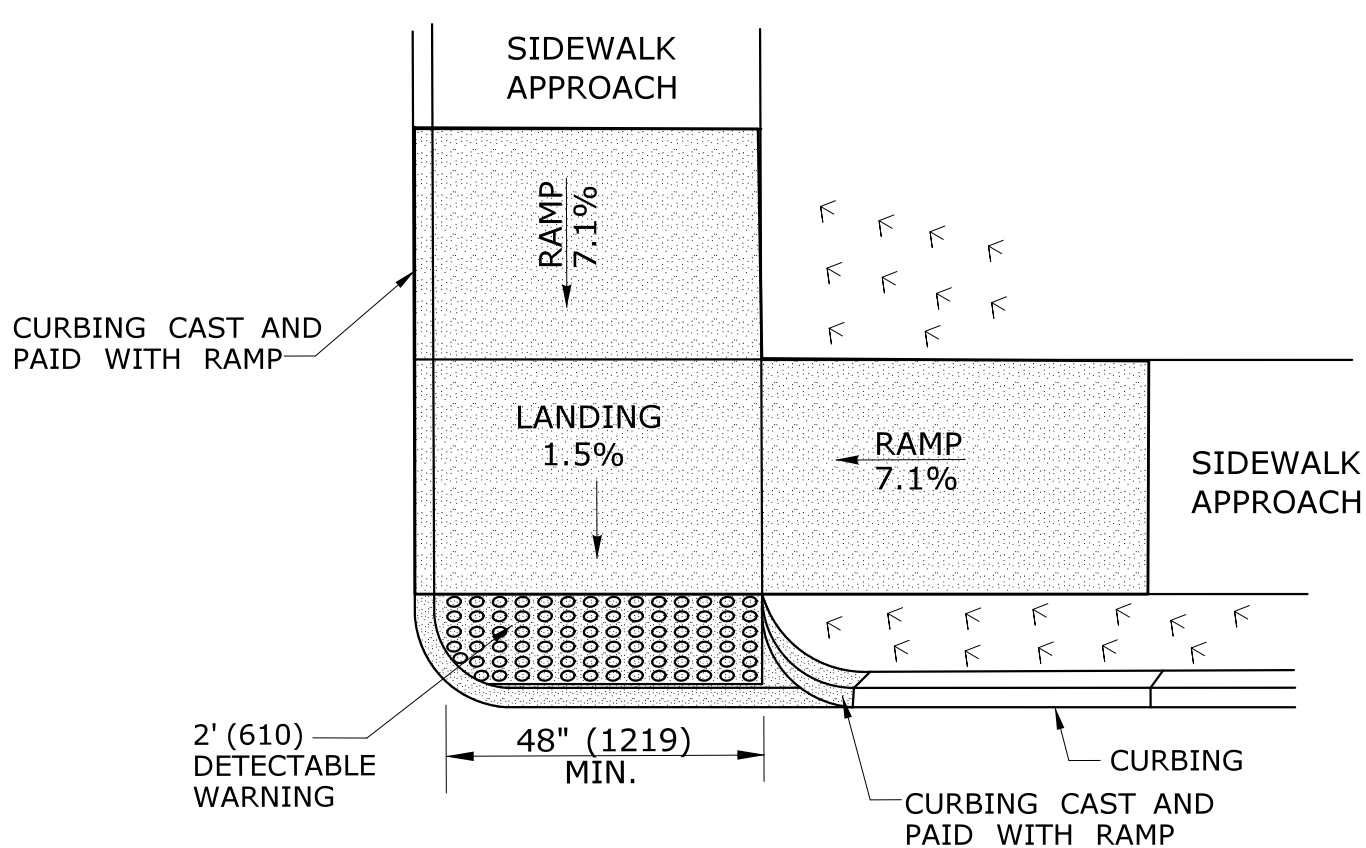
**SINGLE DIRECTION
PERPENDICULAR SIDEWALK RAMP
NO / UTILITY GRASS STRIP
(TYPE 4a)**



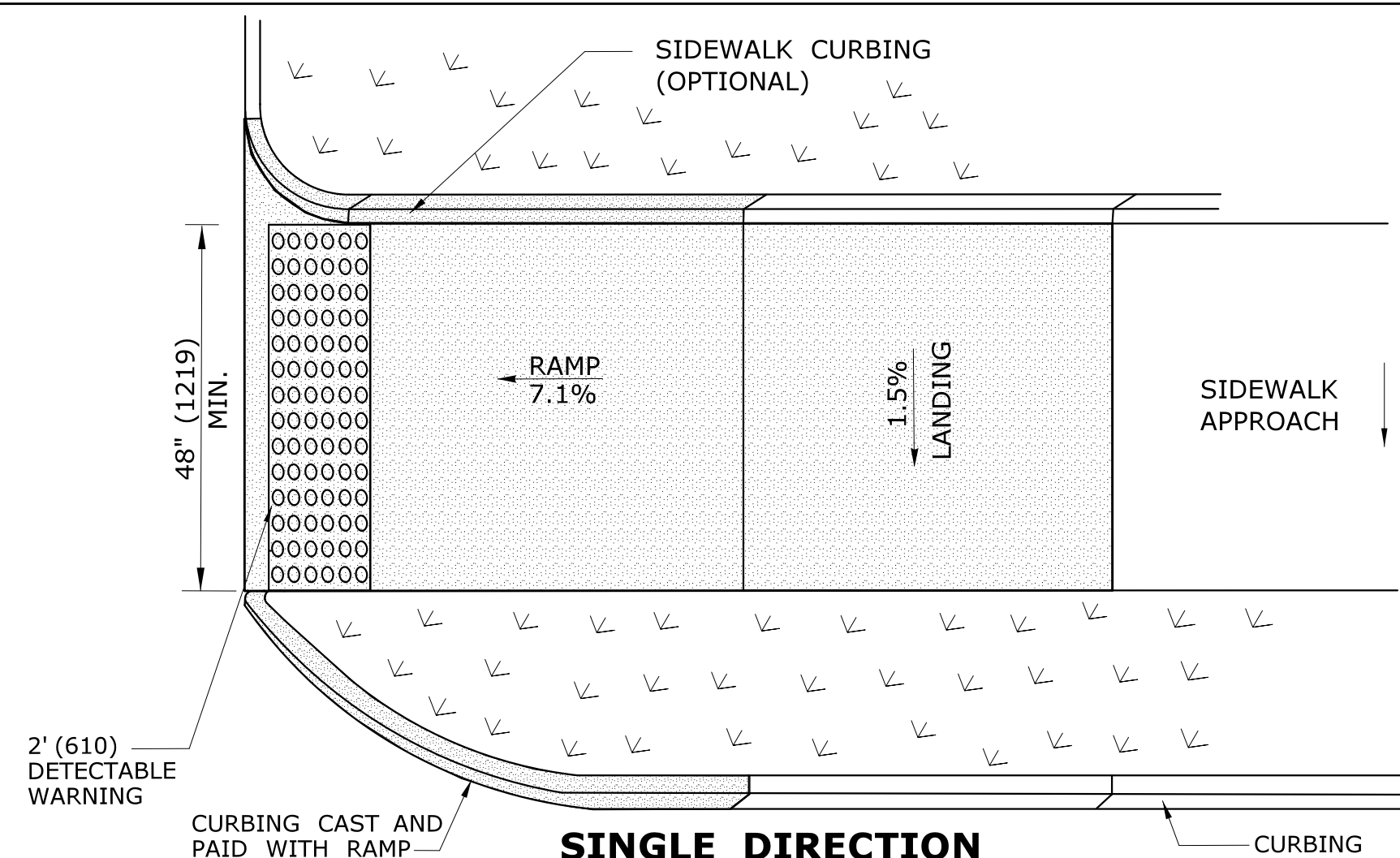
**PARALLEL/PERPENDICULAR SIDEWALK RAMP
COMBINATION W/ CURB RETURNS (TYPE 4d)**
* OPTIONAL FLARE ONE SIDE



**RESTRICTED CONDITION
DIAGONAL SIDEWALK RAMP
(TYPE 4g)**



**DOUBLE DIRECTION
PARALLEL SIDEWALK RAMP
NO / UTILITY GRASS STRIP
(TYPE 4b)**
SEE NOTE 20 SHEET 1

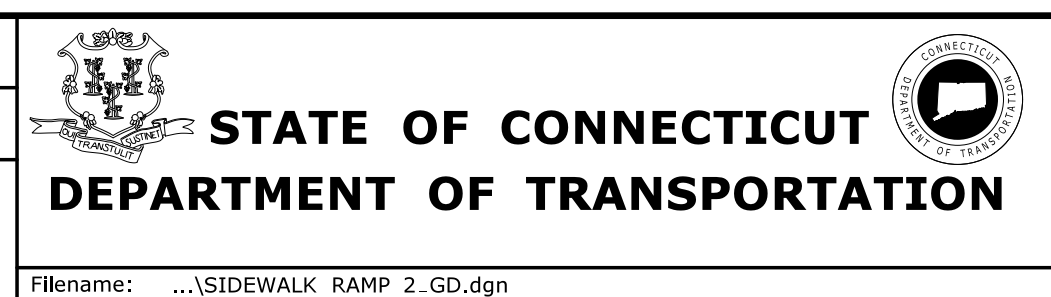


**SINGLE DIRECTION
PERPENDICULAR SIDEWALK RAMP
W/ UTILITY GRASS STRIP (TYPE 4e)**
REFER TO DETECTABLE WARNING PLACEMENT ON SHEET 4

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/27/2014

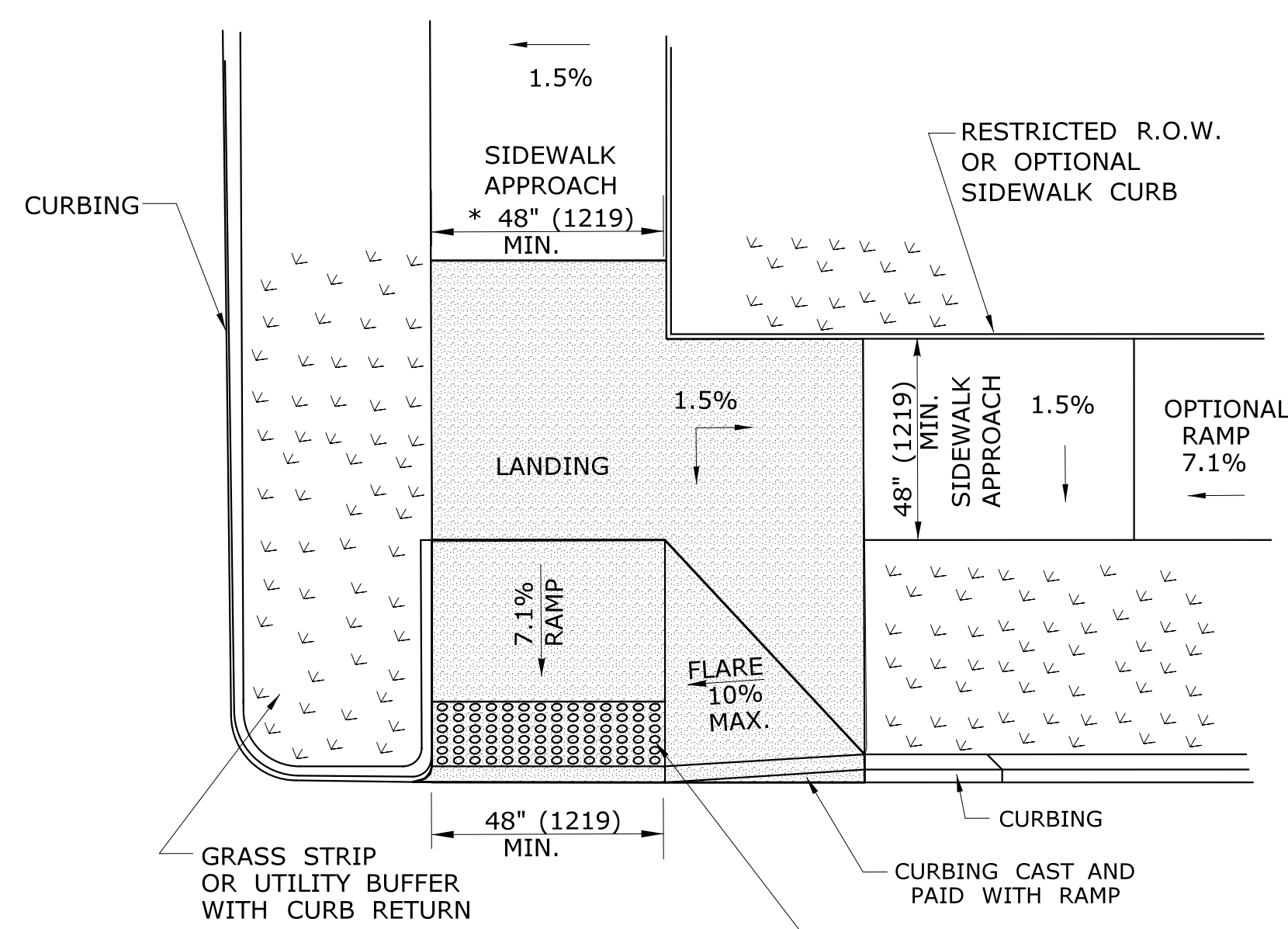
DESIGNER/DRAFTER:
MGB/EMK
CHECKED BY:
LLF



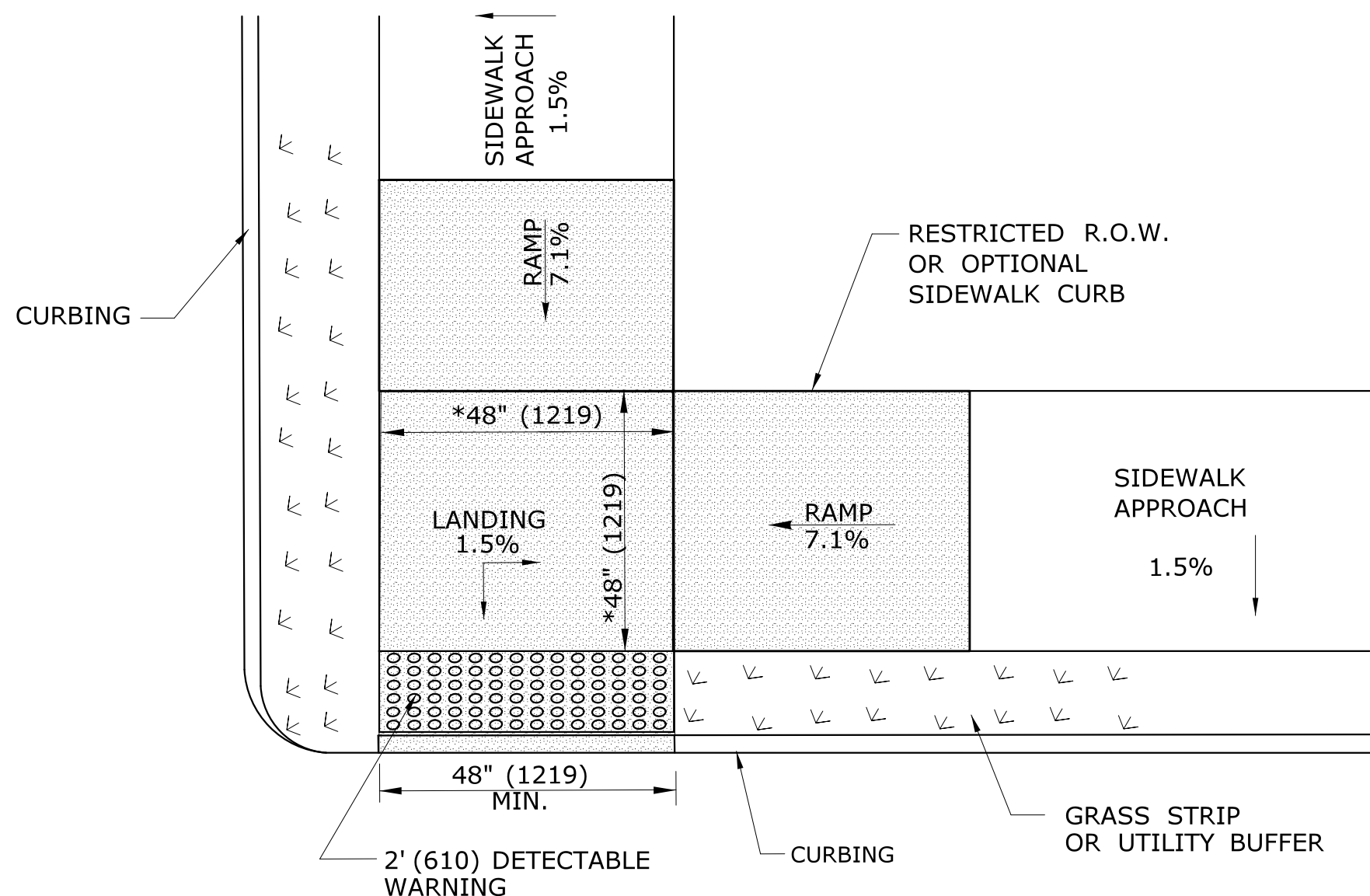
SIGNATURE/
BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
SIDEWALK RAMP SHEET 2

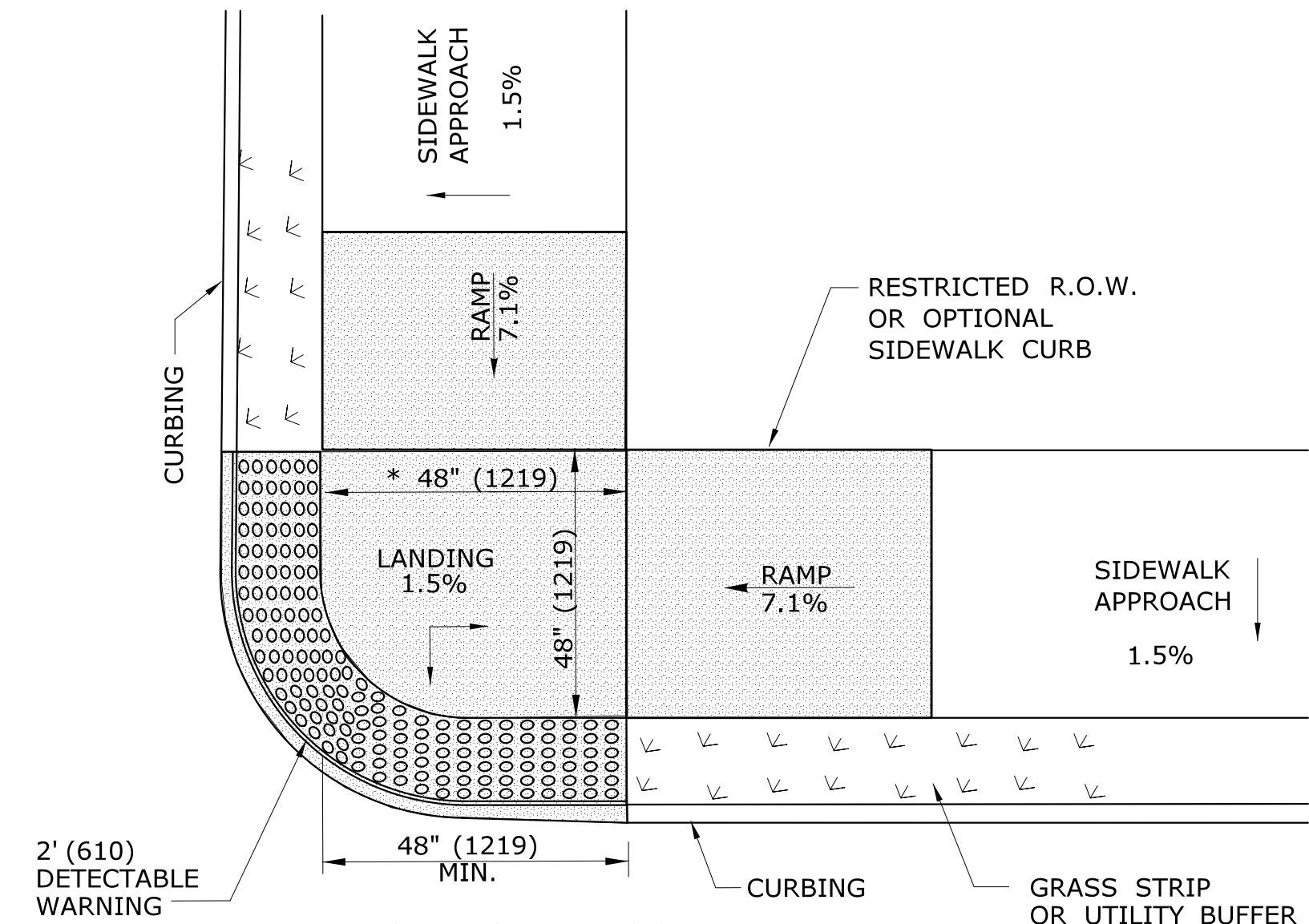
TOWN:
PROJECT NO.
DRAWING NO.
SHEET NO.



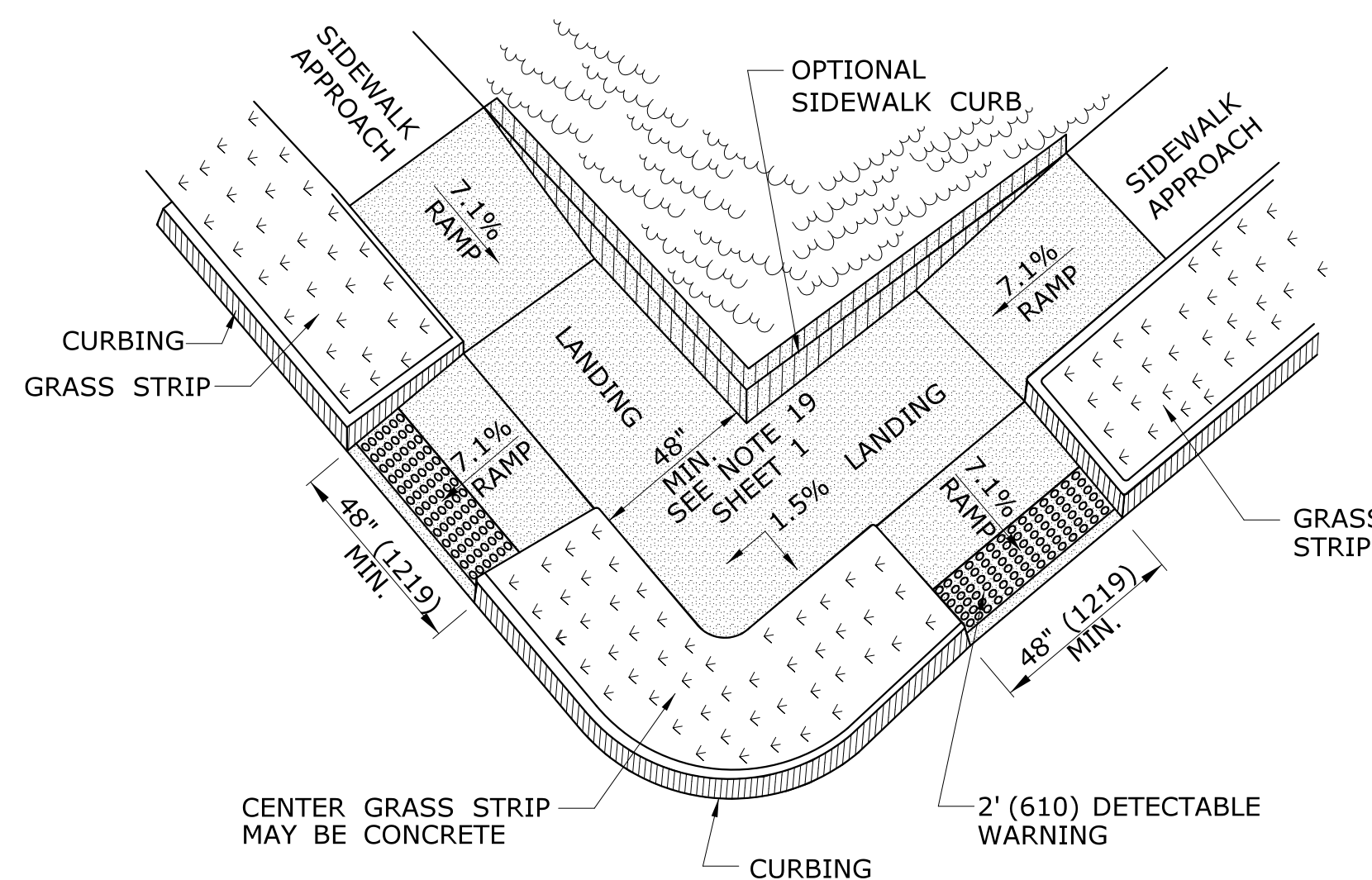
RESTRICTED CORNER PERPENDICULAR SIDEWALK RAMP (TYPE 5)
* SEE NOTE 19 SHEET 1



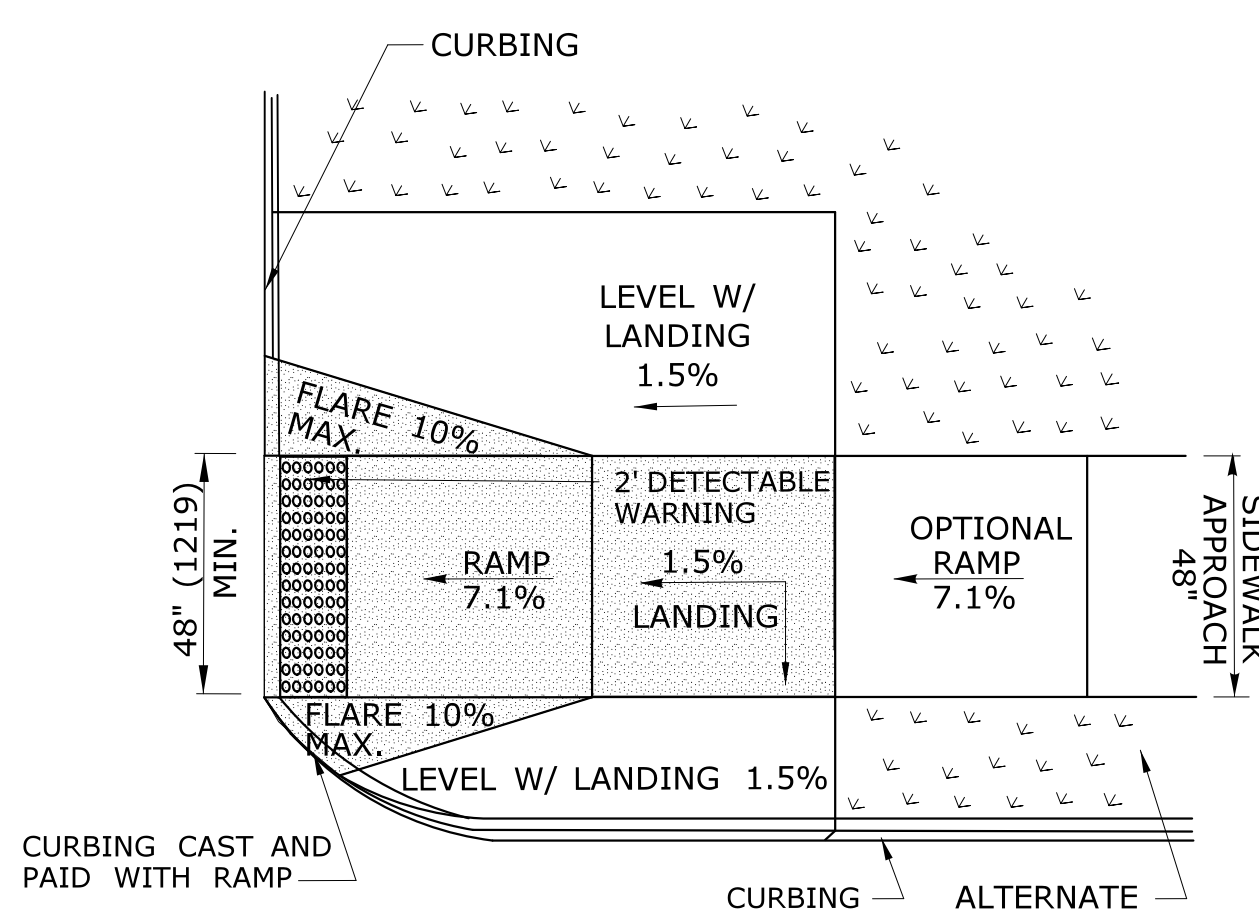
RESTRICTED CORNER PARALLEL DOUBLE SIDEWALK RAMP W/CENTER LANDING AND UTILITY GRASS STRIP (TYPE 5a)
* SEE NOTE 20 SHEET 1



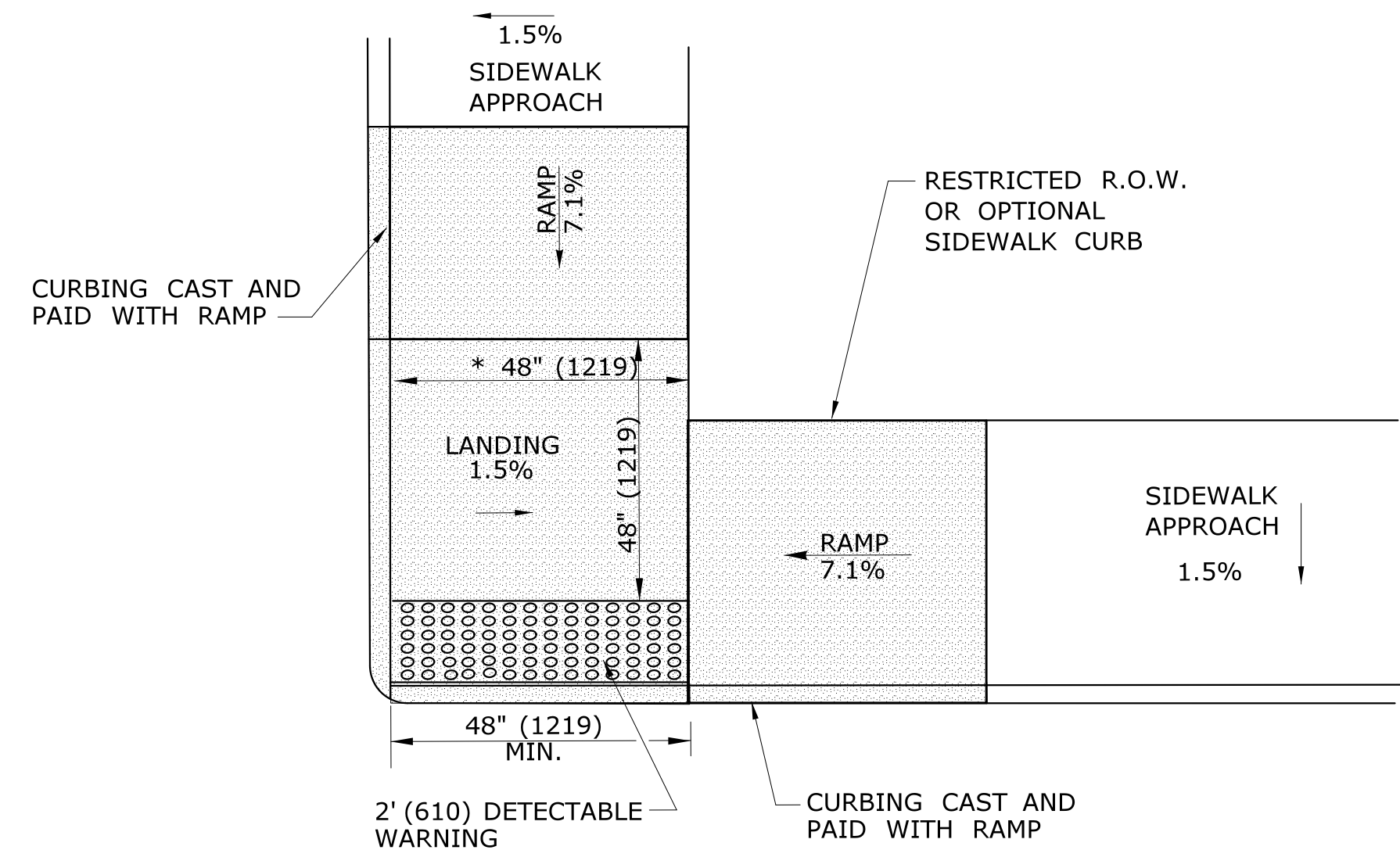
RESTRICTED CORNER PARALLEL SIDEWALK RAMP W/ CENTER LANDING TWO DIRECTION AND UTILITY GRASS STRIP (TYPE 5b)
* SEE NOTE 20 SHEET 1



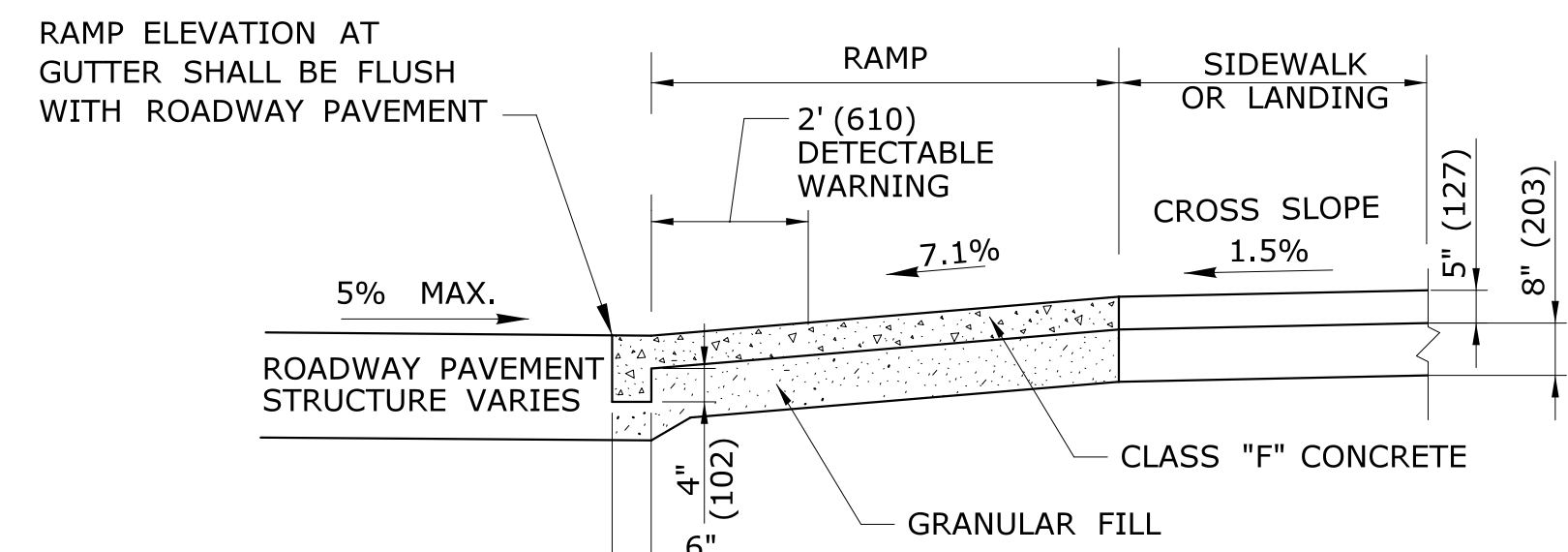
COMBINATION SIDEWALK RAMP (TYPE 6)
* SEE NOTE 19 SHEET 1



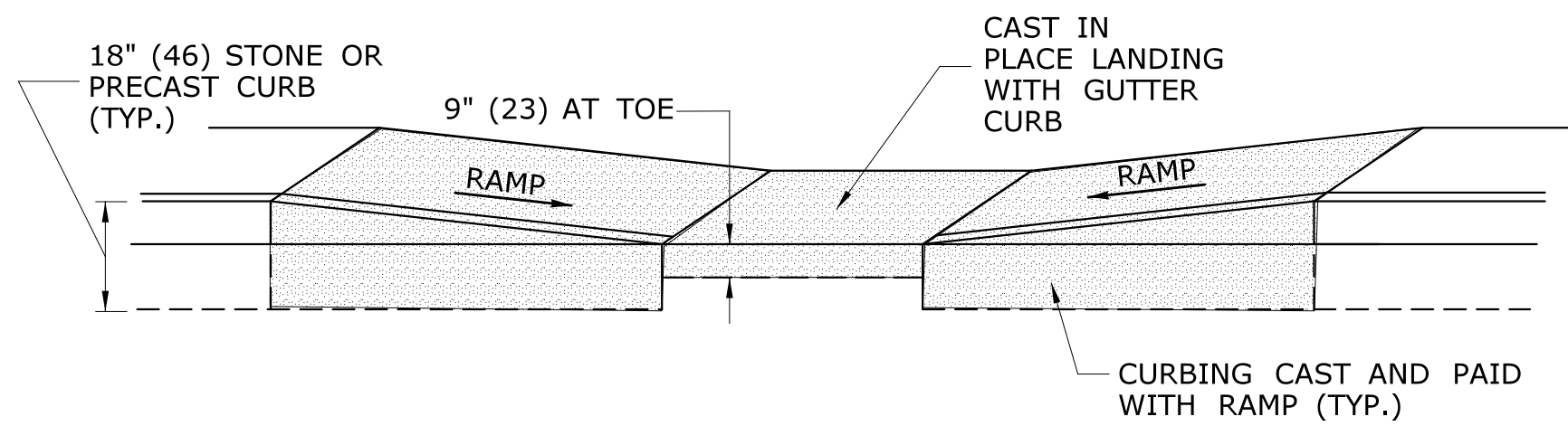
PERPENDICULAR SIDEWALK RAMP ONE DIRECTION ON CORNER (TYPE 6a)



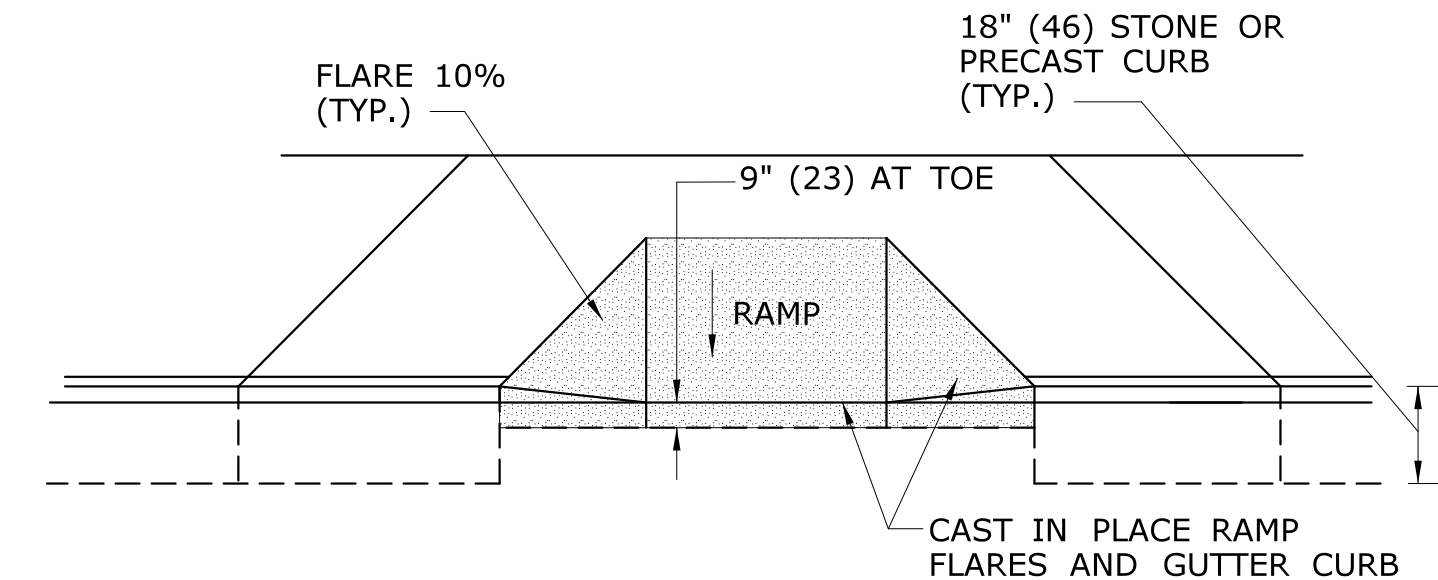
RESTRICTED CORNER PARALLEL SIDEWALK RAMP W/CENTER LANDING NO GRASS STRIP (TYPE 5c)
* SEE NOTE 20 SHEET 1



TYPICAL SECTION THRU SIDEWALK RAMP
SEE NOTE 2 AND 17 SHEET 1



TYPICAL ELEVATION PARALLEL SIDEWALK RAMP WITH CAST IN PLACE GUTTER

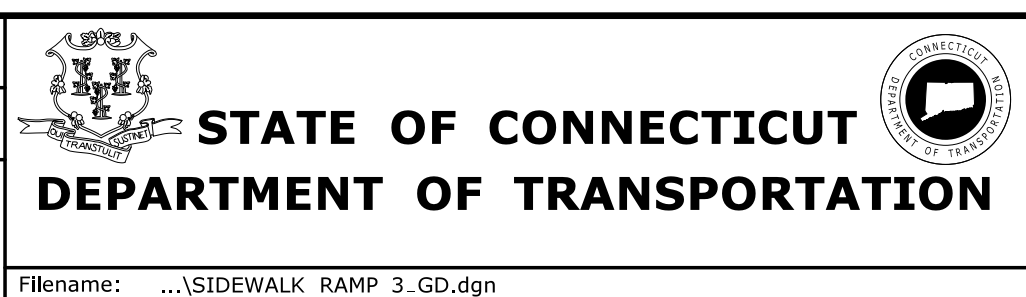


TYPICAL ELEVATION PERPENDICULAR SIDEWALK RAMP WITH CAST IN PLACE GUTTER

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/27/2014

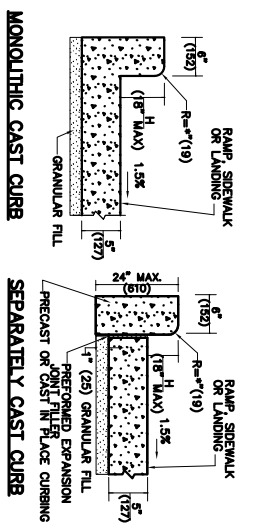
DESIGNER/DRAFTER:
MGB/EMK
CHECKED BY:
LLF



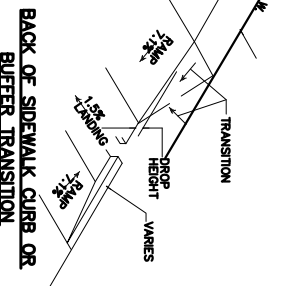
SIGNATURE/BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
TOWN:
DRAWING TITLE:
SIDEWALK RAMP SHEET 3

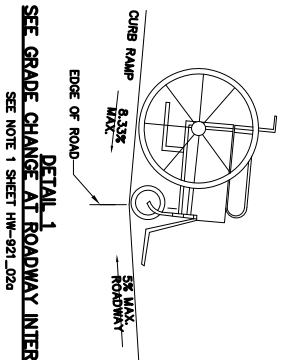
PROJECT NO.
DRAWING NO.
SHEET NO.



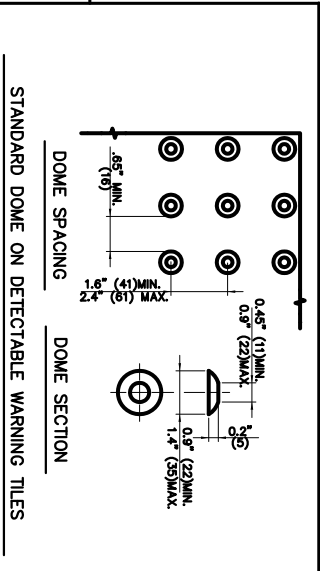
MONOLITHIC CAST CURB
SEPARATELY CAST CURB



BACK OF SIDEWALK CURB OR BUFFER TRANSITION

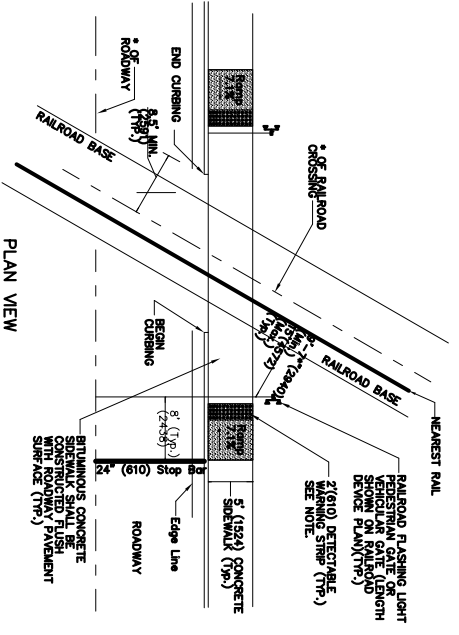


DETAIL 1
CURB RAMP AT ROADWAY INTERFACE
SEE NOTE 1 SHEET HW-921.024

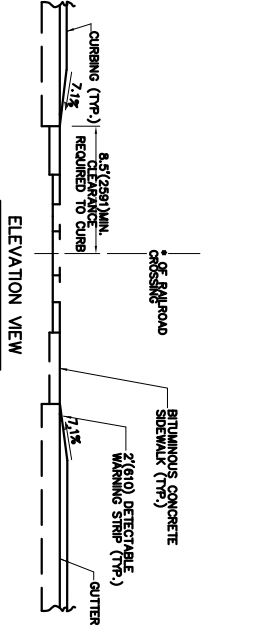


STANDARD DOME ON DETECTABLE WARNING TILES
UPDATED AS PER CITY OF BRIDGEPORT STANDARDS

GENERAL NOTES:
1. RAISED MEDIANS SHALL HAVE A CURB RAMP AT EITHER END AND LEVEL WARNING SIGNATURE OF 4" x 6" (103mm x 152mm) IN BETWEEN CUT-THROUGH MEDIANS SHALL BE A MINIMUM OF 6' (1830mm) LONG AND 6" (152mm) WIDE FOR ALL MEDIANS, CUT-THROUGH OR RAISED. THE ENTRANCE AND EXIT DETECTABLE WARNINGS SHALL BE INSTALLED AT 2. SEE GENERAL NOTES ON SHEET 1.

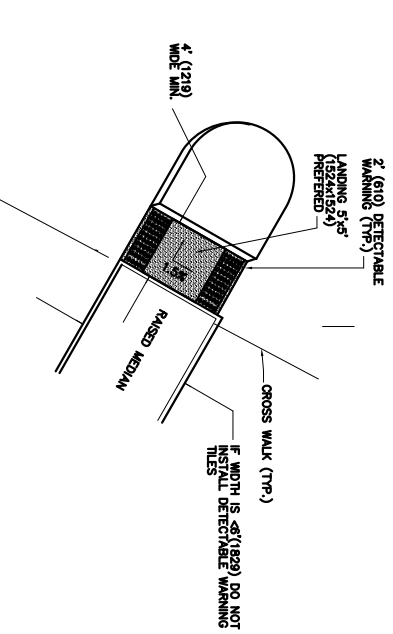


PLAN VIEW

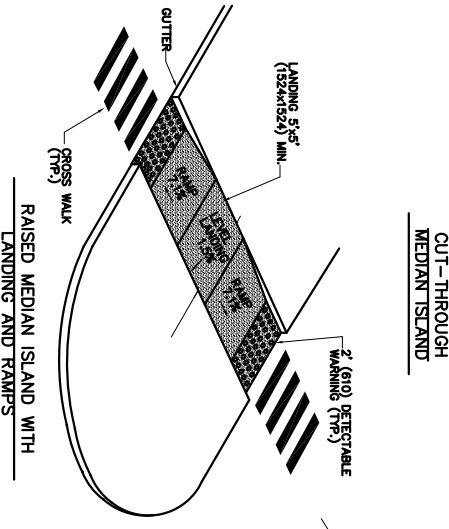


ELEVATION VIEW

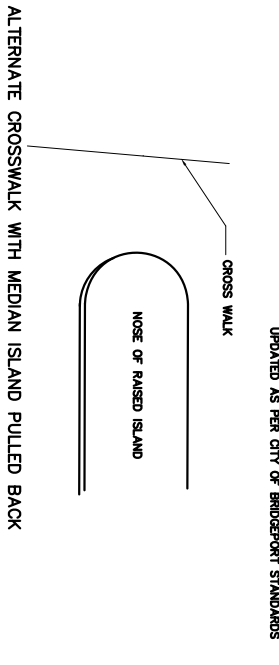
NOTE: WHEN NO GATE IS PRESENT, INSTALL DETECTABLE WARNING SURFACE 12\"/>



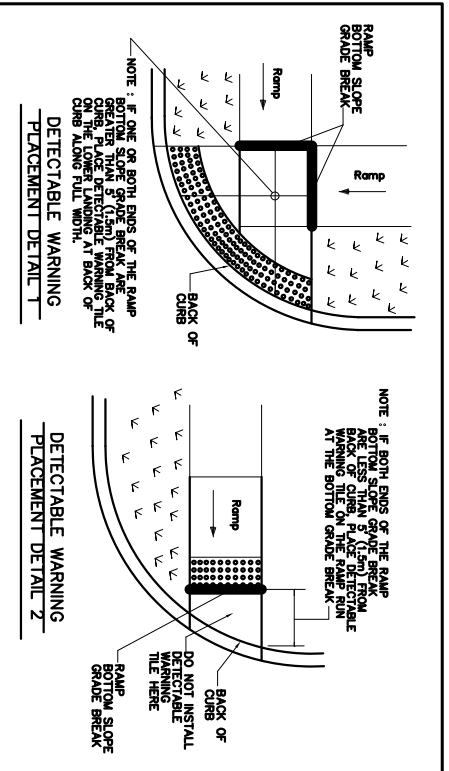
CUT-THROUGH MEDIAN ISLAND



RAISED MEDIAN ISLAND WITH LANDING AND RAMP



ALTERNATE CROSSWALK WITH MEDIAN ISLAND PULLED BACK



DETECTABLE WARNING PLACEMENT DETAIL 1
DETECTABLE WARNING PLACEMENT DETAIL 2

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED