



381-2010 ADDENDUM 3

2010 ACTIVE TRANSPORTATION INFRASTRUCTURE STIMULUS PROGRAM ALEXANDER AVENUE / PACIFIC AVENUE BIKEWAY, EUGENIE STREET / RUE DES MEURONS BIKEWAY

ISSUED: June 15, 2010
BY: Wayne Byczek, P. Eng.
TELEPHONE NO. (204) 981-2779

URGENT

PLEASE FORWARD THIS DOCUMENT TO WHOEVER IS IN POSSESSION OF THE BID OPPORTUNITY

THIS ADDENDUM SHALL BE INCORPORATED INTO THE BID OPPORTUNITY AND SHALL FORM A PART OF THE CONTRACT DOCUMENTS

Template Version: A20070419

Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 10 of Form A: Bid may render your Bid non-responsive.

PART A – BID SUBMISSION

Replace: 381-2010 Bid Submission with 381-2010 Addendum #3 - Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission:

Form B(R1): Deletion of two intersections (Lismore at Oddy, Elgin at Oddy), addition of *Detectable Warning Surface Tiles*, addition of concrete sidewalk renewals.

Page numbering on some forms may be changed as a result.

PART E – SPECIFICATIONS

ADD: E19 DETECTABLE WARNING SURFACE TILES

DESCRIPTION

E19.1 This specification covers the supply and installation of detectable warning surface tiles in sidewalk ramps and multi-use path ramps.

SPECIFICATIONS AND DRAWINGS

E19.2 Referenced Standard Construction Specifications and Standard Details

- (a) CW 3235 - Renewal of Existing Miscellaneous Concrete Slabs
- (b) CW 3240 - Renewal of Existing Curbs
- (c) CW 3310 - Portland Cement Concrete Pavement Works
- (d) CW 3325 - Portland Cement Concrete Sidewalk
- (e) SD-229C - Curb Ramp for Concrete Pavement
- (f) SD-229D - Curb Ramp for Asphalt Overlay

E19.3 Attached; SDE Drawings and Installation Manual

- (a) SDE-229A - Curb Ramp Layout for Intersections
- (b) SDE-229AA - Detectable Warning Surface in Curb Ramps for Intersections
- (c) SDE-229AB - Curb Ramp Layout for Offset Intersections

- (d) SDE-229BB - Detectable Warning Surface in Curb Ramps for Medians
- (e) SDE-229E - Curb Ramp Depressed Curb
- (f) Manufacturer's Installation Manual – Armor-Tile Cast in Place Inline Dome Detectable/Tactile Warning Surface Tile.

MATERIALS

E19.4 Acceptable Detectable Warning Surface Tile product is:

2'x 4' (610 x 1220mm) Armor-Tile Cast in Place (yellow).

Available from:

Engineered Plastics Inc.
1400 Cornwall Road Unit 6
Oakville, Ontario L6J 7W5

Attention: Manny Burgio
Ph: 800-682-2525
Fax: 800-769-4463

or

Alsip's Building Products
1 Cole Avenue
Winnipeg, Manitoba

Attention: Jason Alsip
Ph. 204-667-3330

- E19.4.1 Detectable warning surface tiles shall be Highway Yellow (USA) or Safety Yellow (Canada).
- E19.4.2 Detectable warning surface tiles shall be cast in place type.
- E19.4.3 Truncated domes on detectable warning surface tiles shall be in accordance with ADA Accessibility Guidelines (ADAAG).

CONSTRUCTION METHODS

E19.5 General

- E19.5.1 Construct curb ramps, sidewalk ramps and multi-use path in accordance with referenced Standard Construction Specifications, Standard Details, and SDE drawings (attached).
- E19.5.2 Construct the lip of the depressed curb in accordance with SDE – 229E.
- E19.5.3 Construct sidewalk ramp grades in accordance with SD-229C and SD-229D.
- E19.5.4 Install the detectable warning surface tile in accordance with the amended Manufacturer's Installation Manual (attached). Drill additional 6mm air vent holes in ribs under the tile as required and use vibration to help seat the tile, to facilitate the installation process.
- E19.5.5 Trim the corner of the tile at radii in accordance with SDE-229A, SDE-229AA and SDE-228AB
- E19.5.6 Install and orient the detectable warning surface tiles as shown on the referenced drawings or as directed by the Contract Administrator.

E19.6 Medians and Refuge Islands:

- E19.6.1 Where the distance from back of curb to back of curb is 1.32m or greater, install one detectable warning surface tile 50mm from the back of each curb.
- E19.6.2 Where the distance from back of curb to back of curb is less than 1.32m, leaving 50mm between the back of curb and the tile, cut the tile(s) to fill the remaining area between the curbs.

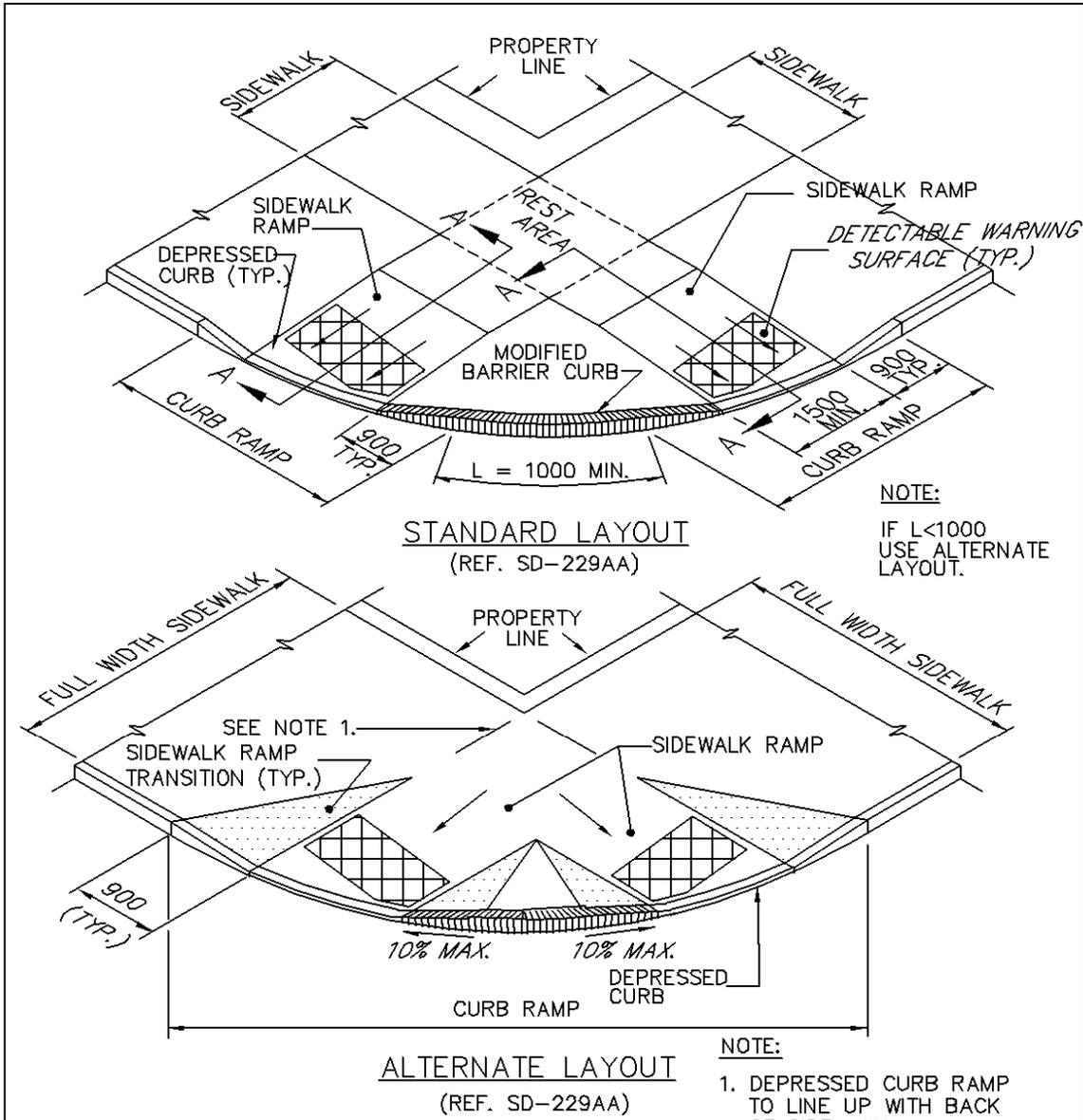
E19.7 Multi-use Paths

- E19.7.1 Construct a curb ramp with a depressed curb to the full width of the multi-use path in accordance with SDE-229E.
- E19.7.2 Construct a concrete ramp the width of the multi-use path and a minimum of 1.50m deep from back of curb in accordance with SD-229C and SD-229D.
- E19.7.3 Install two (2) tiles in each concrete ramp, one (1) on each side for each direction. Place the short edge of each tile 150mm from the edge of the concrete ramp, with both tiles in line with each other transversely across the concrete ramp. The tile(s) nearest the curb must be 50mm from back of curb similar to tile placement in SDE-229A.
- E19.7.4 Saw cut the middle of the concrete slab, perpendicular to the curb and to a depth of D/4. Cut additional sawcuts as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E19.8 Supply and installation of detectable warning surface tiles will be measured on a unit basis and paid for at the Contract Unit Price for "Detectable Warning Surface Tiles". The number of units to be paid for will be the total number of full or trimmed tiles supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E19.8.1 The area under the detectable warning surface tile is part of the concrete sidewalk ramp and will be paid in accordance with CW 3235 and CW 3325.
- E19.8.2 The concrete sidewalk ramp and the concrete ramp for multi-use paths will be paid as 100mm sidewalk in accordance with CW 3235 or CW 3325.
- E19.8.3 Curb ramp will be paid in accordance with CW 3240 or CW 3310.

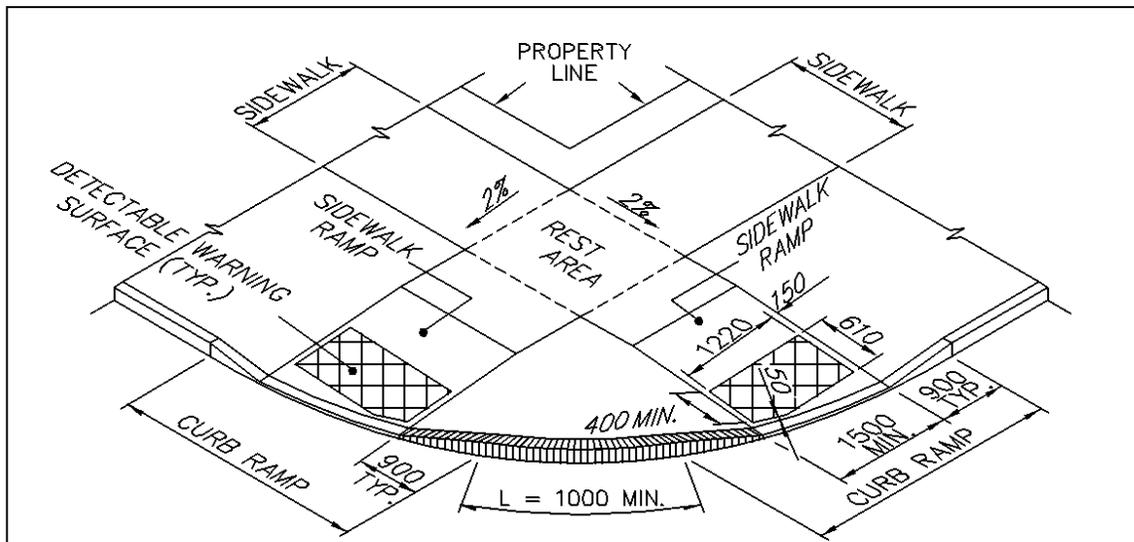
DRAWINGS AND INSTALLATION MANUAL



- NOTE:**
1. DEPRESSED CURB RAMP TO LINE UP WITH BACK OF SIDEWALK.
 2. FOR SECTION A-A SEE SD-229C & SD-229D
 3. SEE SDE-229AA, SDE-229BB & SDE-229E FOR DETECTABLE WARNING SURFACES.
- DIMENSIONS ARE IN MILLIMETRES

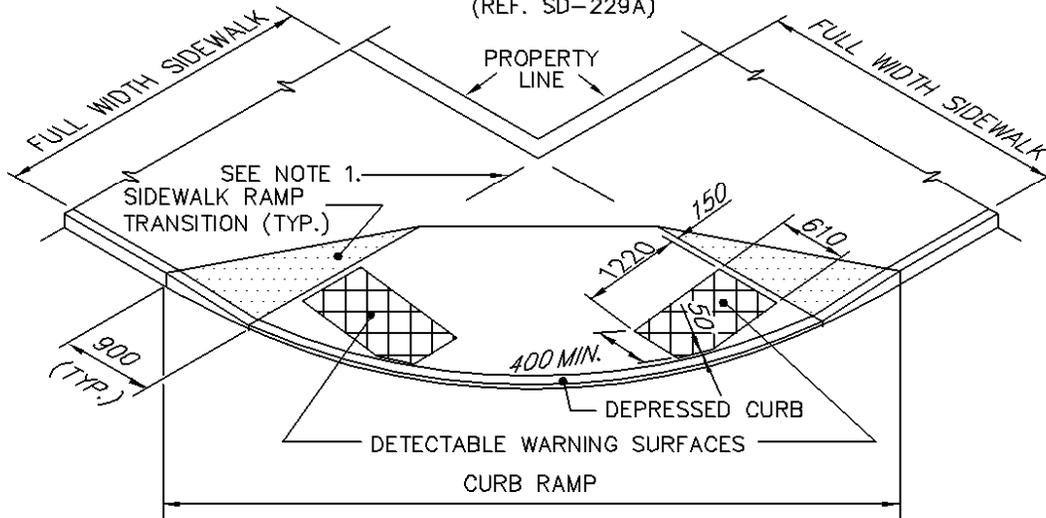
 <p>THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT</p>	Reference Spec. No. CW 3235, CW 3310, CW 3325 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE
	<p>CURB RAMP LAYOUT FOR INTERSECTIONS</p>

Designed By: B.P.	Drawn By: T.G.A.	Scale: N.T.S.
Checked By: F.W.C.	Date: 10-02-18	Drawing No.
Approved:		SDE-229A



STANDARD LAYOUT

(REF. SD-229A)



ALTERNATE LAYOUT

(REF. SD-229A)

NOTE:

1. DEPRESSED CURB RAMP TO LINE UP WITH BACK OF SIDEWALK.
2. FOR A 1.83m WIDE SIDEWALK USE A DETECTABLE WARNING SURFACE MEASURING 610 X 1520

DIMENSIONS ARE IN MILLIMETRES

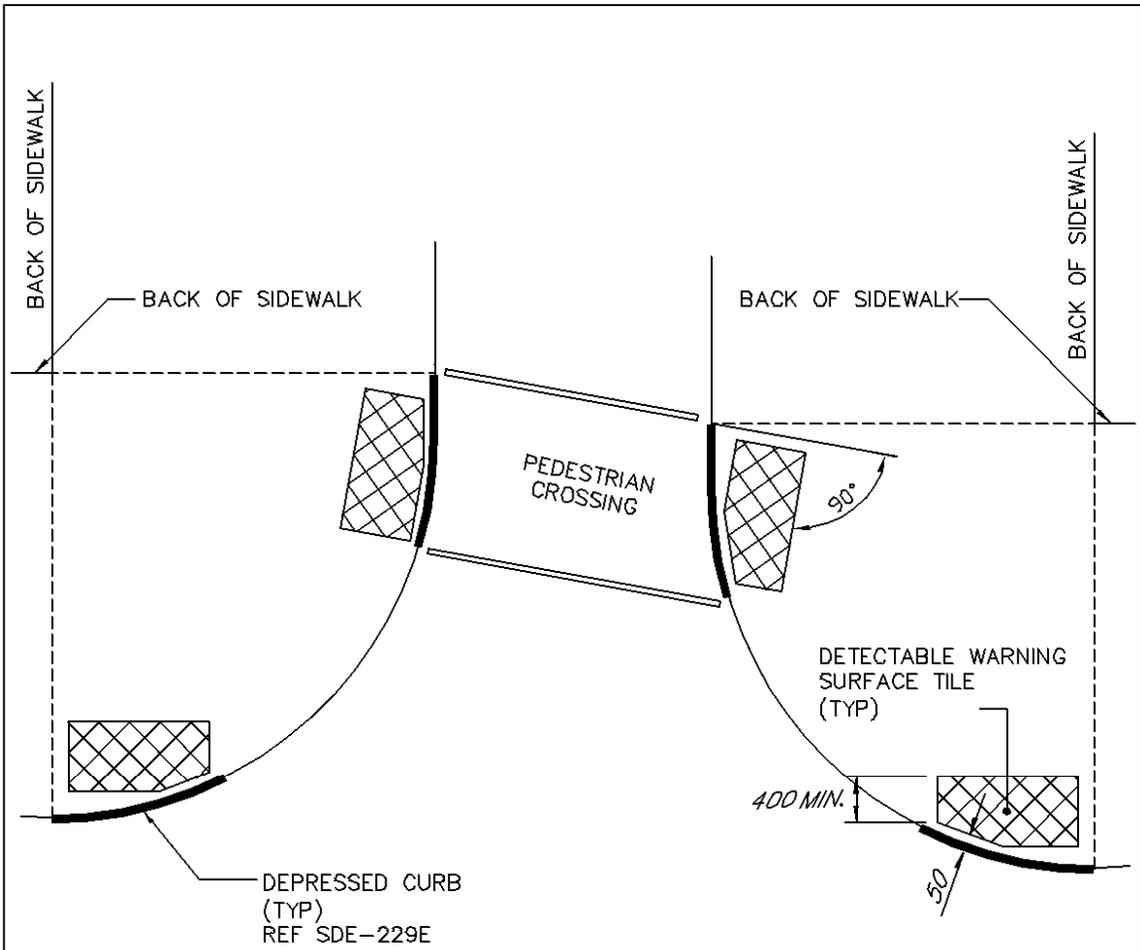


THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT

Reference Spec. No.
 CW 3235, CW 3310, CW 3325
 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE

DETECTABLE WARNING SURFACE
 IN CURB RAMPS FOR
 INTERSECTIONS

Designed By: B.P.	Drawn By: T.G.A.	Scale : N.T.S.
Checked By: F.W.C.	Date: 10-02-18	Drawing No.
Approved:	SDE-229AA	



NOTES:

1. LOCATE GRATINGS, ACCESS COVERS AND OTHER APPURTENANCES OUTSIDE OF CURB RAMPS, DEPRESSED CURBS, CLEAR SPACE LANDINGS AND GUTTERS AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
2. LOCATE END OF DEPRESSED CURB IN LINE WITH PROJECTED BACK OF SIDEWALK.



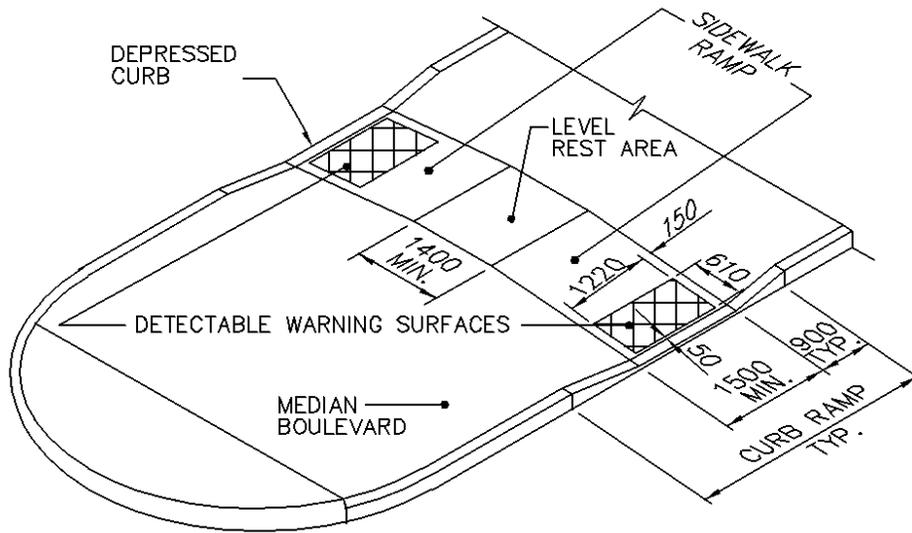
THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT

Reference Spec. No.
 CW 3235, CW 3310, CW 3325
 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE

DIMENSIONS ARE IN MILLIMETRES

**CURB RAMP LAYOUT
 FOR OFFSET INTERSECTIONS**

Designed By: B.P.	Drawn By: T.G.A.	Scale : N.T.S.
Checked By: F.W.C.	Date: 10-02-18	Drawing No.
Approved:	SDE-229AB	



MEDIAN SIDEWALK CROSSING
 (REF. SD-229B)

NOTE:

1. FOR NARROW MEDIANS AND REFUGE ISLANDS < 1.32m IN WIDTH, PLACE DETECTABLE WARNING SURFACE FULL WIDTH, MAINTAINING 50mm SPACING FROM BACK OF CURB.
2. DETECTABLE WARNING SURFACE SHALL NOT BE PLACED AT PRIVATE APPROACHES OR ALLEYS.



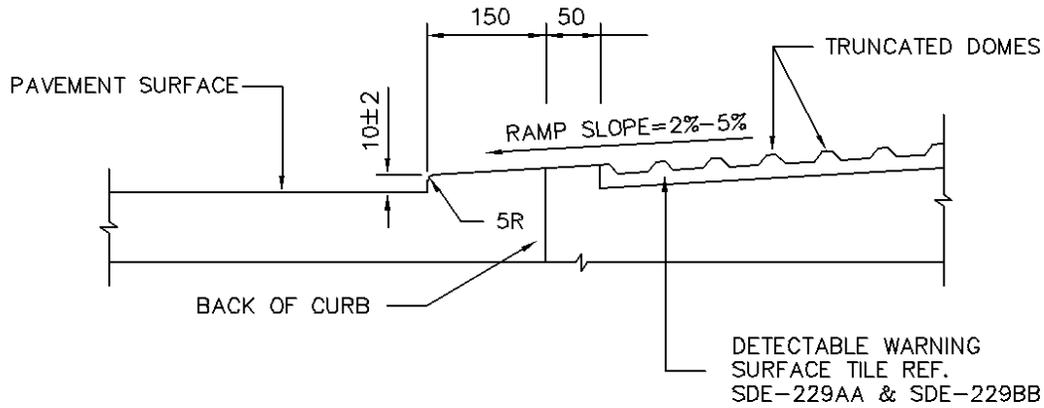
THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT

Reference Spec. No.
 CW 3235, CW 3310, CW 3325
 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE

DIMENSIONS ARE IN MILLIMETRES

DETECTABLE WARNING SURFACE
 IN CURB RAMPS FOR
 MEDIANS

Designed By: B.P.	Drawn By: T.G.A.	Scale : N.T.S.
Checked By: F.W.C.	Date: 10-12-18	Drawing No. SDE-229BB
Approved:		



DEPRESSED CURB

NOTES:

- 1) SIDEWALK RAMP SURFACE SHALL BE GIVEN A PARALLEL TEXTURED BROOM FINISH.
- 2) INSTALL DETECTABLE WARNING SURFACE SO THAT THE TOP OF THE TRUNCATED DOMES ARE FLUSH WITH THE SURFACE FO THE ADJACENT SIDEWALK.



THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT

Reference Spec. No.
 CW 3235, CW 3310, CW 3325
 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE

DIMENSIONS ARE IN MILLIMETRES

CURB RAMP
 DEPRESSED CURB

Designed By: B.P.	Drawn By: T.G.A.	Scale : N.T.S.
Checked By: F.W.C.	Date: 10-02-18	Drawing No.
Approved:		SDE-229E

Manufacturer's Installation Manual
Armor-Tile Cast In Place
Inline Dome Detectable/Tactile Warning Surface Tile

- A. During Cast In Place Detectable/Tactile Warning Surface Tile installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.
- B. The specifications of the structural embedment flange system and related materials shall be in strict accordance with the contract documents and the guidelines set by their respective manufacturers. Not recommended for asphalt applications.
- C. The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 4 – 7 to permit solid placement of the Cast In Place Detectable/Tactile Warning Surface Tile system. An overly wet mix will cause the tile to float. Under these conditions, suitable weights such as 2 concrete blocks or sandbags (25 lb) shall be placed on each tile.
- D. Prior to placement of the Cast In Place Detectable/Tactile Warning Surface Tile system, the contract drawings shall be reviewed.
- E. The concrete pouring and finishing operations require typical mason's tools, however, a 4' long level with electronic slope readout, 25 lb. weights, and a large non-marring rubber mallet are specific to the installation of the Cast In Place Detectable/Tactile Warning Surface Tile system. A vibrating mechanism such as that manufactured by Vibco can be employed, if desired. The vibrating unit should be fixed to a soft base such as wood, at least 1 foot square.
- F. The factory-installed plastic sheeting must remain in place during the entire installation process to prevent the splashing of concrete onto the finished surface of the tile.
- G. When preparing to set the tile, it is important that NO concrete be removed in the area to accept the tile. It is imperative that the installation technique eliminates any air voids under the tile. Holes in the tile perimeter allow air to escape during the installation process. Concrete will flow through the large holes in each embedment flange on the underside of the tile. This will lock the tile solidly into the cured concrete.
- H. The concrete shall be poured and finished true and smooth to the required dimensions and slope prior to the tile placement. Immediately after finishing concrete, the electronic level should be used to check that the required slope is achieved. The tile shall be placed in accordance with the contract drawings. The Cast In Place Detectable/Tactile Warning Surface Tiles shall be tamped (or vibrated) into the fresh concrete to ensure that the field level of the tile is flush to the adjacent concrete surface. The embedment process should not be accomplished by stepping on the tile as this may cause uneven setting which can result in air voids under the tile surface. ~~The contract drawings indicate that the tile field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes.~~
- I. In cold weather climates it is recommended that the Cast In Place Detectable/Tactile Warning Surface Tiles be set deeper such that the top of domes are level to the adjacent concrete on the top and sides of ramp and that the base of domes to allow water drainage. This installation will reduce the possibility of damage due to snow clearing operations.
- J. Immediately after placement, the tile elevation is to be checked to adjacent concrete. The elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates.
- K. While concrete is workable, a 3/8" radius edging tool shall be used to create a finished edge of concrete, then a steel trowel shall be used to finish the concrete around the tile's perimeter, flush to the field level of the tile.
- L. During and after the tile installation and the concrete curing stage, it is imperative that there is no walking, leaning or external force placed on the tile that may rock the tile causing a void between the underside of tile and concrete.
- M. Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets. Two suitable weights of 25 lb each shall be placed on each tile as necessary to ensure solid contact of the underside of tile to concrete.
- N. Following the concrete curing stage, protective plastic wrap is to be removed from the tile surface by cutting the plastic with a sharp knife, tight to the concrete/tile interface. If concrete bled under the plastic, a soft brass wire brush will clean the residue without damage to the tile surface.
- O. If desired, individual tiles can be bolted together using ¼ inch or equivalent hardware. This can help to ensure that adjacent tiles are flush to each other during the installation process. Tape or caulking can be placed on the underside of the bolted butt joint to ensure that concrete does not rise up between the tiles during installation. Any protective plastic wrap which was peeled back to facilitate bolting or cutting, should be replaced and taped to ensure that the tile surface remains free of concrete during the installation process.
- P. Tiles can be cut to custom sizes, or to make a radius, using a continuous rim diamond blade in a circular saw or mini-grinder. Use of a straightedge to guide the cut is advisable where appropriate.
- Q. ~~Any sound-amplifying plates on the underside of the tile, which are dislodged during handling or cutting, should be replaced and secured with construction adhesive. The air gap created between these plates and the bottom of the tile is important in preserving the detectability properties of the Armor-Tile system as required in various jurisdictions.~~

DRAWINGS

Replace: 381-2010_Drawing_Cover_Page with 381-2010 _Addendum_3 Drawing_Cover_Page

381-2010_Drawing_W-375-02 with 381-2010 _Addendum_3 Drawing W-375-02

381-2010_Drawing_W-375-03 with 381-2010 _Addendum_3 Drawing W-375-03

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