


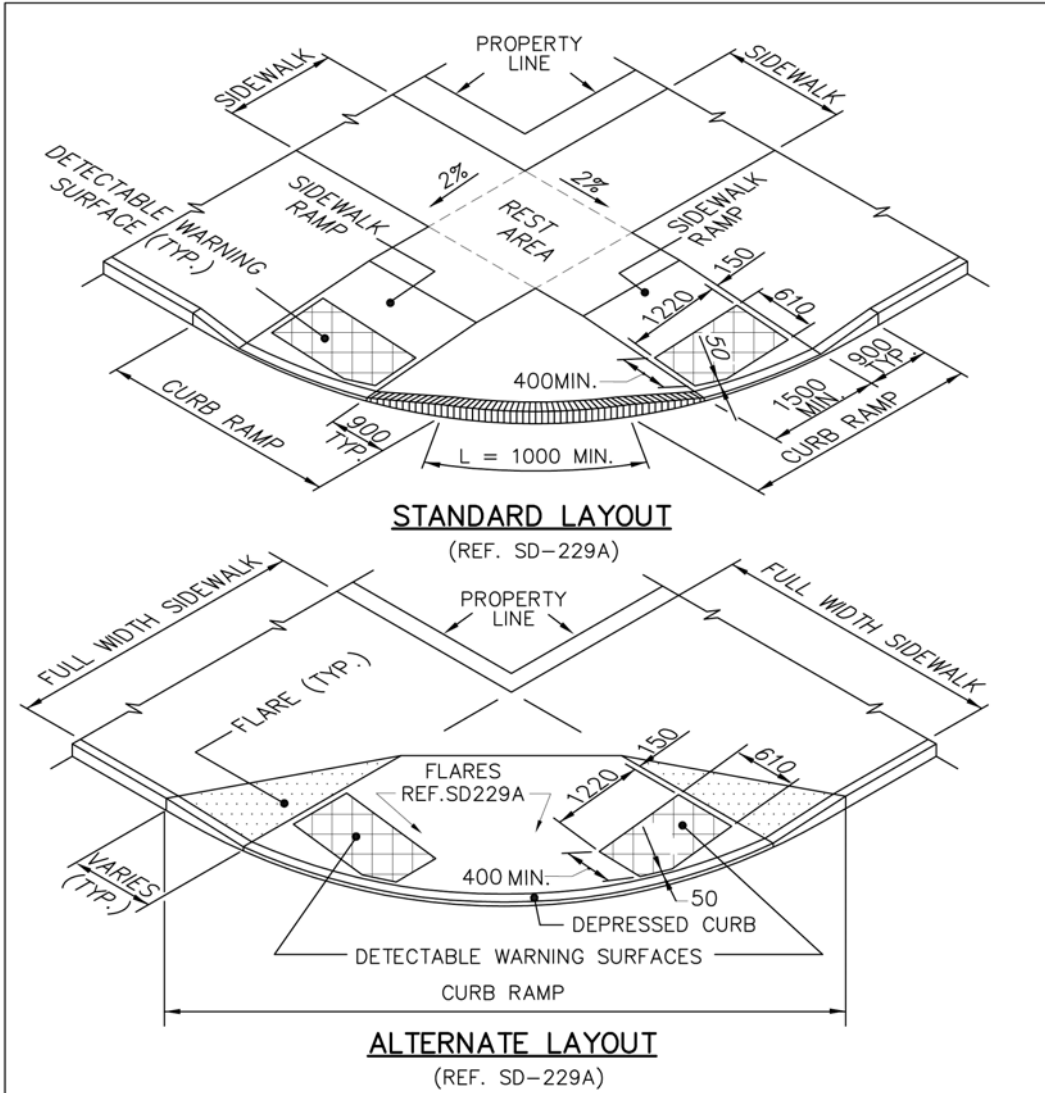
NOTE:
IF L < 1000
USE ALTERNATE
LAYOUT.


DIMENSIONS ARE IN MILLIMETRES

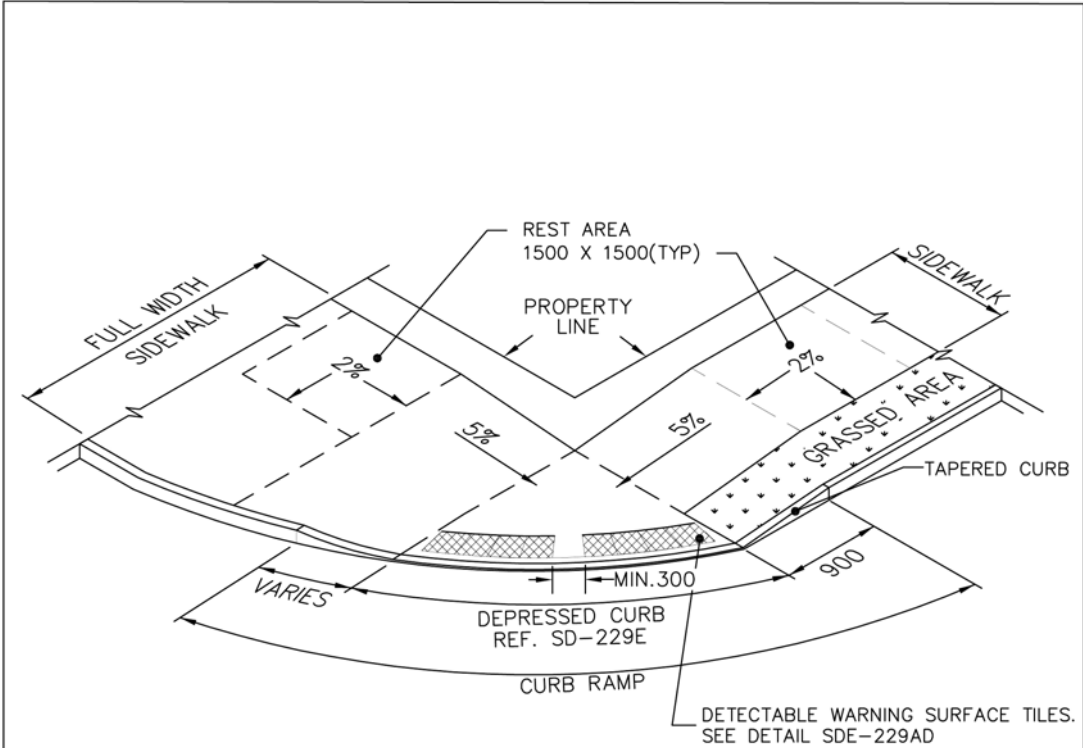
 THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT	
	Reference Spec. No. E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE
CURB RAMP LAYOUT FOR INTERSECTIONS	

- NOTE:**
1. LINEUP DEPRESSED CURB WITH BACK OF SIDEWALK.
 2. FOR SECTION A-A SEE SD-229C & SD-229D
 3. CONSTRUCT FLARE AND CURB TAPER SLOPE IN ACCORDANCE WITH SECTION 1.6 OF THIS SPECIFICATION
 4. REST AREA MINIMUM 1500 X 1500

Designed By: B.P.	Drawn By: T.G.A..	Scale : N.T.S.
Checked By: F.W.C.	Date: 11-02-10	Drawing No.
Approved:		SDE-229A




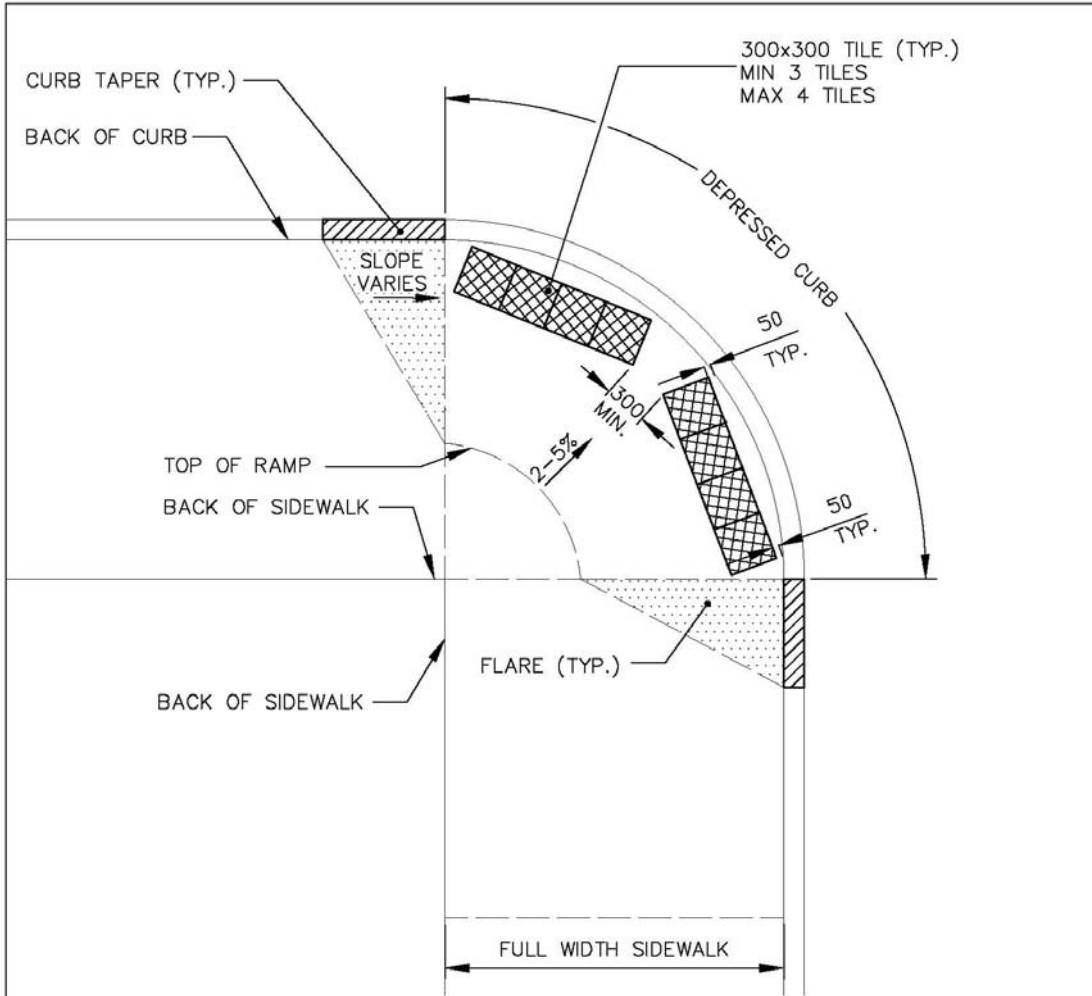
 THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT	DIMENSIONS ARE IN MILLIMETRES		
	Reference Spec. No. CW 3235, CW 3310, CW 3325 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE	Designed By: B.P.	Drawn By: T.G.A.
DETECTABLE WARNING SURFACE TILE SURFACE IN CURB RAMPS FOR INTERSECTIONS. LAYOUT OPTION 1	Checked By: F.W.C.	Date: 11-02-10	Drawing No.
	Approved:		SDE-229AA



NOTES:

1. PLACE 300x300 DETECTABLE WARNING SURFACE TILES IN ACCORDANCE WITH "SELECTION OF LAYOUT OPTIONS" IN THIS SPECIFICATION.

 THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT				
Reference Spec. No. E-SUPPLY AND INSTALL DETECTABLE WARNING SURFACE TILES		DIMENSIONS ARE IN MILLIMETRES		
300 X 300 mm DETECTABLE WARNING SURFACE TILE LAYOUT OPTION 3		Designed By: B.P.	Drawn By: R.R.	Scale : N.T.S.
		Checked By:	Date: 11-02-10	Drawing No.
		Approved:		SDE-229AC



NOTES:
 1. WHEN THE SIDEWALK AREA AT THE TOP OF THE RAMP IS $\geq 1500\text{mm}$ OR $< 1500\text{mm}$ IN WIDTH, CONSTRUCT THE SLOPE OF THE CURB RAMP AND THE CURB TAPER IN ACCORDANCE WITH SECTION 1.6 OF THIS SPECIFICATION.

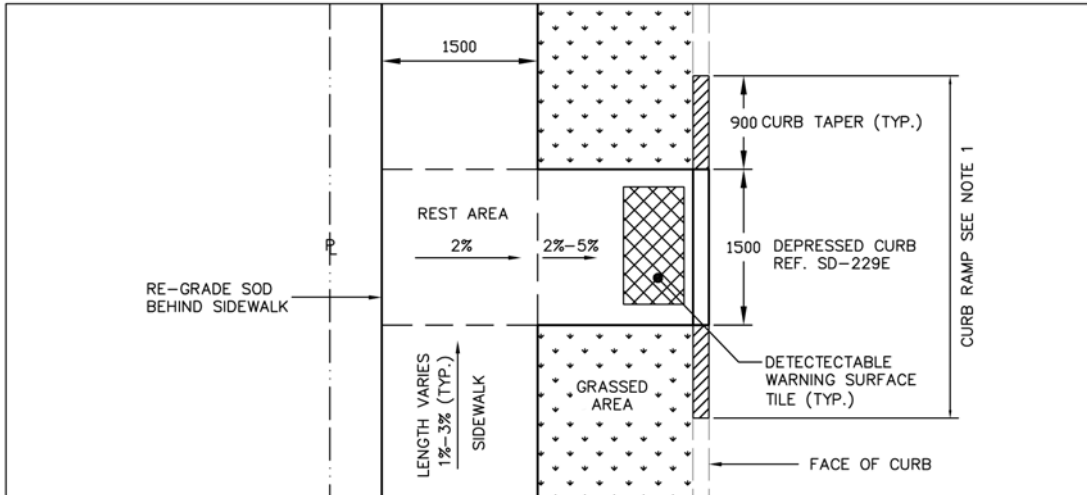

THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION
 TECHNOLOGY SERVICES BRANCH
 100 - 1155 PACIFIC AVE

Reference Spec. No.
 E—SUPPLY AND INSTALL DETECTABLE WARNING SURFACE TILES

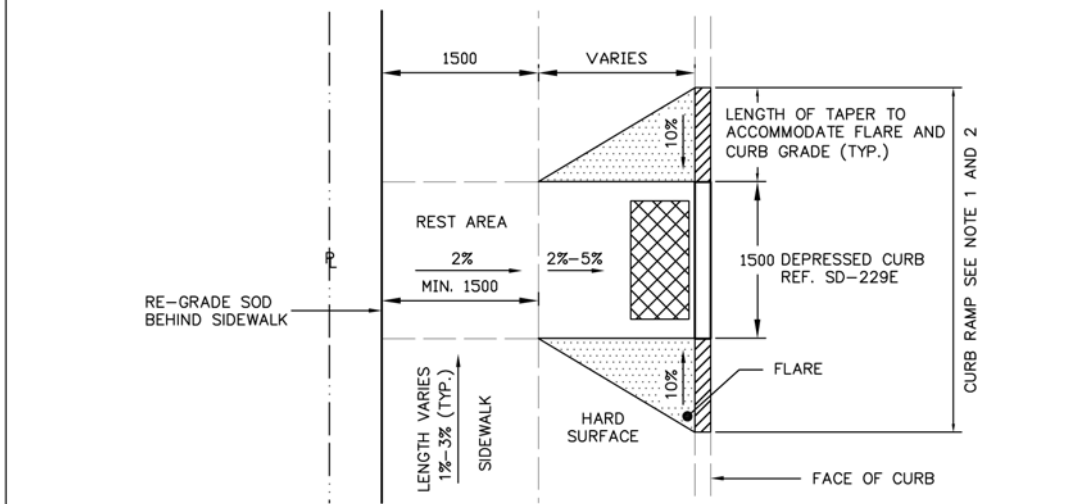
300x300mm DETECTABLE WARNING SURFACE TILE LAYOUT OPTION 3 DETAIL

DIMENSIONS ARE IN MILLIMETRES

Designed By: B.P.	Drawn By: R.R.	Scale : N.T.S.
Checked By:	Date: 11-02-10	Drawing No.
Approved:		SDE-229AD




1500 WIDE SIDEWALK



FULL WIDTH SIDEWALK

- NOTES:**
1. FULL DEPTH SAWCUT REQUIRED THROUGH THE STREET SLAB ALONG THE CURB RAMP. REF. SD-229C, SD-229D
 2. IF THE LENGTH OF THE SIDEWALK RAMP DOES NOT LEAVE SPACE FOR THE REST AREA, CONSTRUCT THE FLARE AND CURB TAPER IN ACCORDANCE WITH SECTION 1.6 OF THIS SPECIFICATION

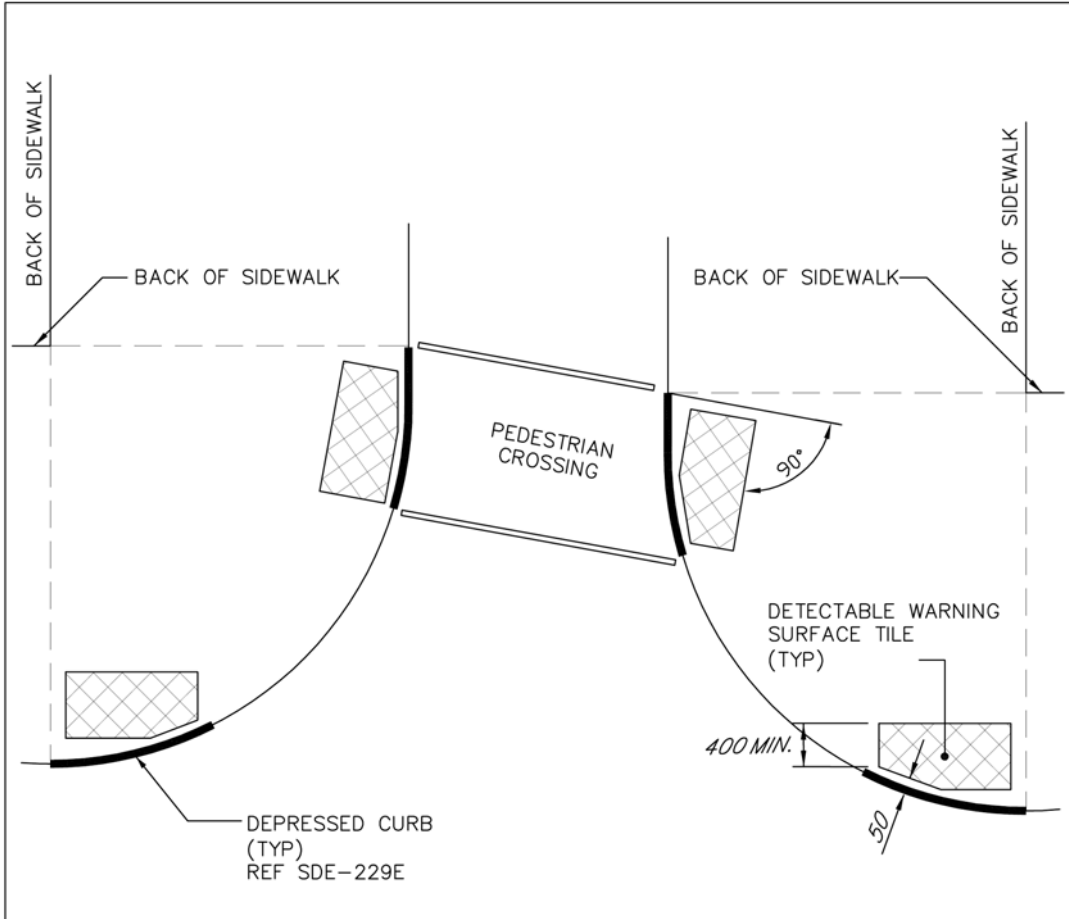

THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION
 TECHNOLOGY SERVICES BRANCH
 106 - 1155 PACIFIC AVE

Reference Spec. No.
E-SUPPLY AND INSTALL DETECTABLE WARNING SURFACE TILES


CURB RAMP FOR
PEDESTRIAN CORRIDOR
WITH A TRAFFIC
CONTROL DEVICE

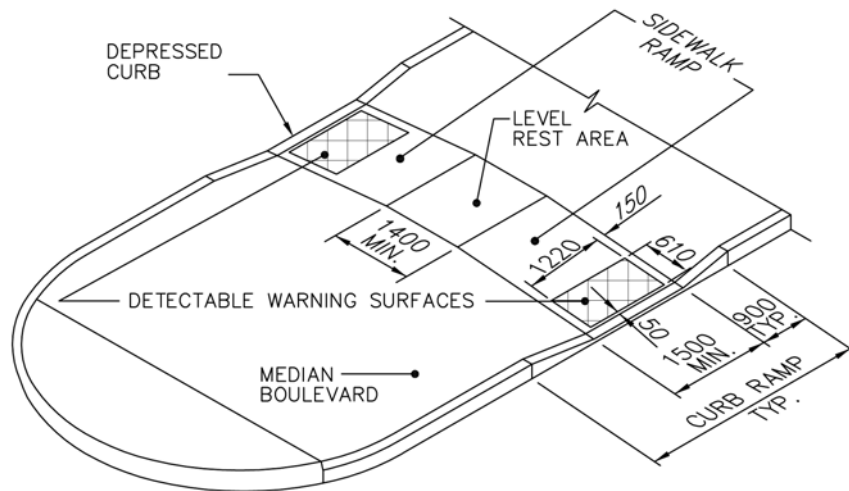
DIMENSIONS ARE IN MILLIMETRES

Designed By: B.P.	Drawn By: R.R.	Scale : N.T.S.
Checked By:	Date: 11-02-10	Drawing No.
Approved:		SDE-229AE



- NOTES:**
 1. LOCATE END OF DEPRESSED CURB IN LINE WITH PROJECTED BACK OF SIDEWALK.
 2. CONSTRUCT FLARES IN ACCORDANCE WITH SDE-229A

 THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT	DIMENSIONS ARE IN MILLIMETRES		
	Reference Spec. No. CW 3235, CW 3310, CW 3325 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE TILES	Designed By: B.P.	Drawn By: T.G.A.
DETECTABLE WARNING SURFACE TILE ORIENTATION FOR OFFSET INTERSECTIONS	Checked By: F.W.C.	Date: 11-02-10	Drawing No. SDE-229AF
	Approved:		



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.



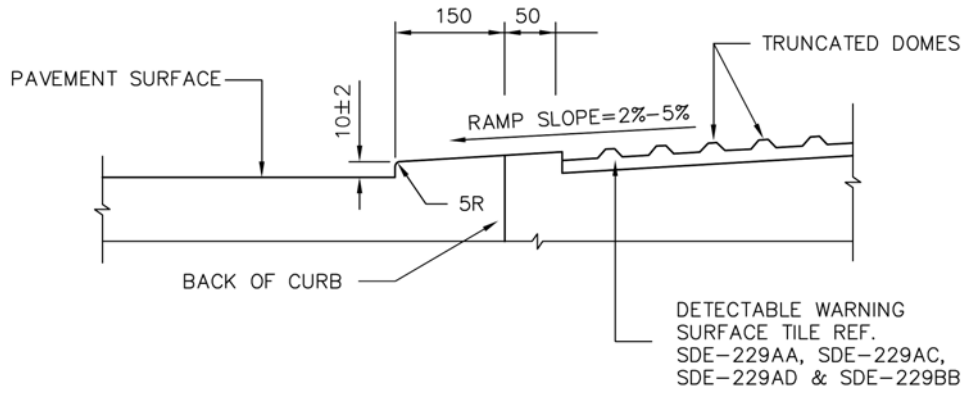
THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

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

DIMENSIONS ARE IN MILLIMETRES

DETECTABLE WARNING SURFACE TILE
IN CURB RAMPS FOR
MEDIANS


Designed By: B.P.	Drawn By: T.G.A.	Scale : N.T.S.
Checked By: F.W.C.	Date: 11-02-10	Drawing No.
Approved:	SDE-229BB	



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	DIMENSIONS ARE IN MILLIMETRES		
	Reference Spec. No. CW 3235, CW 3310, CW 3325 E-SUPPLY & INSTALL DETECTABLE WARNING SURFACE	Designed By: B.P.	Drawn By: T.G.A.
CURB RAMP DEPRESSED CURB	Checked By: F.W.C.	Date: 11-02-10	Drawing No. SDE-229E
	Approved:		

INSTALLATION INSTRUCTIONS FOR 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. Do not set Cast In Place tiles in asphaltic concrete.
- (c) The physical characteristics of the concrete shall be consistent with the contract specifications. An overly wet mix will cause the tile to float. Under these conditions, suitable weights such as 2 concrete blocks or sandbags (12 kg) 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, 12 kg 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 can be employed, if desired. The vibrating unit should be fixed to a soft base such as wood, at least 0.3m 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. The tile shall be placed in accordance with the contract drawings.
- (i) The Cast In Place Detectable/Tactile Warning Surface Tiles shall be tamped (or vibrated) into the fresh concrete to ensure that the surface of the truncated domes are flush to the adjacent concrete surface. Embedment of the tile so the top of the truncated domes are flush with the adjacent concrete will reduce the possibility of damage due to snow clearing operations. 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.
- (j) While concrete is workable, a 3/8" radius edging tool shall be used to create a finished edge of concrete, a steel trowel shall then be used to finish the concrete around the tile's perimeter.
- (k) 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.
- (l) Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets. Two suitable weights of 12kg each shall be placed on each tile as necessary to ensure solid contact of the underside of tile to concrete.
- (m) 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.

- (n) If required, individual tiles can be bolted together using $\frac{1}{4}$ 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.
- (o) Tiles can be cut 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.