

SECTION 02523
Detectable Warnings

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

This Work shall consist of installing detectable warnings by surface application or by cast in place on a prepared surface in accordance with TDOT Standard Specifications Section 701 and this Section and in reasonably close conformity with the lines and grades shown in the plans or established by the Engineer.

1.2 RELATED WORK SPECIFIED ELSEWHERE

Section 01710 - Cleanup and Restoration
Section 02520 - Cement Concrete Curb, Gutter, and Combined Curb and Gutter
Section 02522 - Concrete Walks, Driveways, and Ramps

1.3 APPLICABLE SPECIFICATIONS

"STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", Latest Revision, Tennessee Department of Transportation (TDOT)

"SUBDIVISION SPECIFICATIONS FOR STREETS AND ROADS", Latest Revision, Metropolitan Government of Nashville and Davidson County

1.4 APPLICABLE REFERENCES

"American Association of State Highway and Transportation Officials" (AASHTO), Latest Revision

"Americans with Disabilities Act" (ADA), Latest Revision

"Americans with Disabilities Act Accessibility Guidelines" (ADAAG), Latest Revision

"Architectural Barriers Act" (ABA), Latest Revision

"Draft Public Rights-of-Way Accessibility Guidelines", June 17, 2002, ADAAG

Public Works policy and procedure for detectable warnings installation, Latest Revision

1.5 APPROVED LIST

Company
Flint Trading, Inc.
115 Todd Court
P.O. Box 160
Thomasville, NC 27361-0160
336-475-6600

Product
Top Mark Preformed Thermoplastic
Detectable Warning for surface applied
construction.

Company

Engineering Plastics, Inc.
300 International Drive
Suite 100
Williamsville, NY 14221
916-549-9700

Product

Armor-Tile Detectable Warning Strips for
cast-in place and surface applied
construction.

Detectable Warning Systems, Inc.
6435 Joshua Tree Avenue
Orange, CA 92867
866-999-7452

E-Z Set Warning Panels for cast-in-place
construction

Transpo Industries, Inc.
20 Jones Street
Rochelle, NY 10801
914-636-1000

Step-Safe Precast Polymer Concrete Tactile
Dome Safety Tile for cast-in-place
construction

Or approved equal

PART 2 - MATERIALS

2.1 GENERAL REQUIREMENTS

Layout of the detectable warnings shall meet the requirements in the "Draft Public Rights-of-Way Accessibility Guidelines", June 17, 2002, ADAAG.

2.2 MATERIAL

The material used for the detectable warnings shall be an integral part of the walking surface and shall contrast visually with adjoining surfaces. The materials for the detectable warnings shall meet the manufacturer's requirements of section 1.5.

2.3 DOME SIZE AND DIMENSIONS

- A. Size. The truncated domes in a detectable warning surface shall have a base diameter of 0.9 inches minimum to 1.4 inches maximum, a top diameter of 50% of the base diameter minimum to 65% of the base diameter maximum, and a height of 0.2 inches.
- B. Alignment. Domes shall be aligned on a square grid in the predominant direction of travel to permit wheels to roll between domes.
- C. Spacing. Truncated domes in a detectable warning surface shall have a center-to-center spacing of 1.6 inches minimum and 2.4 inches maximum, and a base-to-base spacing of 0.65 inches minimum, measured between the most adjacent domes on square grid.

2.4 VISUAL CONTRAST

The visual contrast between the detectable warning and an adjoining surface will be either light-on-dark or dark-on-light. The material used to provide visual contrast shall be

an integral part of the detectable warning surface.

2.5 PLACEMENT

- A. Detectable warnings will be built in or applied on the ramp that is from the landing to the roadway.
- B. The detectable warning surface shall be located so that the edge nearest the curb line or other potential hazard is 6 inches minimum to 8 inches maximum from the curb line or other potential hazard.
- C. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp, blended transition, or depressed curb. A depressed curb is a curb that has a height less than or equal to $\frac{1}{4}$ ".

2.6 LOCATION

- A. Detectable warnings shall be installed where a sidewalk crosses a vehicular way, excluding unsignalized driveway crossings.
- B. Detectable warnings shall be installed where a rail system crosses pedestrian facilities that are not shared with vehicular ways.
- C. Detectable warnings shall be installed at islands and medians that are within the roadway.
- D. Detectable warnings shall be installed where required by proposed Chapter 11 of the "Draft Public Rights-of-Way Accessibility Guidelines", June 17, 2002, ADAAG, by the Access Board.

PART 3 - EQUIPMENT

The equipment used for the installation of the detectable warnings is to be as specified by the manufacture's recommendations as listed in Section 1.5.

PART 4 – EXECUTION

4.1 GENERAL REQUIREMENTS

The installation of the detectable warnings is to be as specified by the manufacture's recommendations as listed in Section 1.5.

4.2 SURFACE APPLIED PROCESS

Surface applied detectable warnings occur after the surface that is to receive the detectable warnings has cured. The surface will be prepared as per the manufacture's recommendations.

4.3 CAST-IN-PLACE PROCESS

Cast-in-place applied detectable warnings occur during the installation of the surface that is to receive the detectable warnings.

4.4 FINISHING

The detectable warnings shall be installed in reasonably close conformity with the lines and grades shown in the plans or established by the Engineer.

4.5 FINAL CLEANUP

Final cleanup shall be performed in accordance with the requirements in TDOT Standard Specifications Subsection 104.11 and in Section 01710 - Cleanup and Restoration. The detectable warnings shall be cleaned of all excess materials and debris.

PART 5 - MEASUREMENT AND PAYMENT

5.1 METHOD OF MEASUREMENT

- A. Detectable warnings will be measured by the square foot complete in place. The area shall be obtained by surface measurements. Where standard widths are constructed the measurements shall not exceed the standard widths shown in the plans unless on written direction of the Engineer.
- B. No measurement for payment will be made for preparing the surface to receive the detectable warnings unless otherwise indicated in the plans.

5.2 BASIS OF PAYMENT

The accepted quantities of detectable warnings will be paid for at the Contract Unit Bid Price per square foot complete in place.

END OF SECTION – 02523