Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

July 16, 2013

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: State Specifications and Estimates Office
Section **527**
Proposed Specification: **5270000 Detectable Warnings.**

Dear Ms. Gourdine:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

These changes were proposed by Patrick Overton of the Roadway Design Office to clarify description and modify the Method of Measurement and Basis of Payment for clarity.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965DS or daniel.scheer@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Daniel Scheer, P.E.
State Specifications Engineer

DS/cah
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

DETECTABLE WARNINGS.
(REV 5-16-13)

SECTION 527 (Page 688 -689) is deleted and the following substituted:

SECTION 527
DETECTABLE WARNINGS ~~ON WALKING SURFACES~~

527-1 Description.

Furnish and install ~~Detectable~~ *detectable* ~~Warning~~ *warnings* ~~devices~~ on newly constructed and/or existing concrete or asphalt walking surfaces (*sidewalk* curb ramps, sidewalks, shared ~~-~~use paths, etc.) constructed in accordance with the Design Standards, Index No. 304.

527-2 Materials.

527-2.1 Detectable Warning*s*: Provide ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705. Use ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic. Use ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* with size and pattern shown in the Plans comprised of truncated domes aligned in parallel rows in accordance with the Design Standards, Index No. 304. Do not use detectable warnings with a diagonal pattern.

527-2.1.1 Preformed Materials: Use ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* consisting of weather-resistant tiles or pavers that are cast into concrete, or tiles or mats that are surface-applied to concrete or asphalt surfaces with adhesives and mechanical fasteners or torch-applied preformed thermoplastic.

527-2.1.2 Field-Formed Materials: Use ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* applied as a secondary application to the substrate.

527-2.2 Material Properties: Provide ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* that meet the following minimum material property requirements when tested in accordance with the ~~indicated Standard appropriate to the material.~~ *following:*

PROPERTY	STANDARD	TEST VALUE
Slip Resistance	FM 3-C1028	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes)
Wear Resistance	FM 5-594	Average Volume Loss: no more than 0.06 cm^3
Water Absorption*	ASTM D570	Not to exceed 5%.
Adhesion/Bond Strength**	FM 5-589	150 psi min. tensile adhesion strength
Non-Hazardous Classification	Submit Material Safety Data Sheet (MSDS)	Non-Hazardous, per RCRA Subtitle C

PROPERTY	STANDARD	TEST VALUE
* Applies only to plastic materials. ** Applies only to surface-applied materials.		

527-2.3 Color/Contrast: Use safety yellow, brick red or black colored ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* on concrete walking surfaces. Use safety yellow colored ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* on asphalt walking surfaces. Acceptable ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* shall meet the following criteria for a duration of three years.

COLOR	LIGHT REFLECTANCE VALUES (LRV) CAP Y*
Safety Yellow	25 – 45
Brick Red	5 – 15
Black	0 – 5
*When measured with a spectrophotometer	

527-2.4 Qualified Products List: Methods or products used to form ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* in wet concrete will not be permitted. Use ~~Detectable~~ *detectable* ~~Warnings~~ *warnings* listed on the Department's Qualified Products List (QPL). Manufacturers seeking evaluation of products for inclusion on the QPL shall submit an application in accordance with Section 6 and include certified test reports from an independent lab showing the product meets the requirements of this Section and the Design Standards, Index No. 304 Acceptance Criteria and manufacturer's drawings, specifications and procedures for materials and installation, including touch-up and repair.

527-3 Installation Procedures.

527-3.1 Surface Preparation and Installation: Prepare the surface in accordance with the manufacturer's recommendations. Use only products and materials appropriate for the surface on which they will be applied. Install in accordance with the manufacturer's instructions, using materials and equipment recommended and approved by the manufacturer. For surface-applied tiles or mats, use adhesives applied over the entire surface and mechanical fasteners.

527-4 Method of Measurement.

Detectable ~~Warnings~~ *warnings* applied to ~~newly constructed~~*all* walking surfaces will be ~~included in the cost of the walking surface. Detectable Warnings applied to existing walking surfaces will be~~ paid per ~~each location where Detectable Warnings are~~*square foot,* furnished, installed and accepted.

527-5 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section, including all labor, surface preparation, materials and incidentals necessary to complete the work ~~for Detectable Warnings installed on existing walking surfaces.~~

Payment will be made under:

~~Item No. 527- 1- Detectable Warnings on Existing Walking Surfaces - each.~~

Item No. 527- 2- Detectable Warnings– square foot.

DETECTABLE WARNINGS.
(REV 7-11-13)

SECTION 527 (Page 688 -689) is deleted and the following substituted:

SECTION 527
DETECTABLE WARNINGS

527-1 Description.

Furnish and install detectable warnings on newly constructed and/or existing concrete or asphalt walking surfaces (sidewalk curb ramps, sidewalks, shared use paths, etc.) constructed in accordance with the Design Standards, Index No. 304.

527-2 Materials.

527-2.1 Detectable Warnings: Provide detectable warnings in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705. Use detectable warnings consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic. Use detectable warnings with size and pattern shown in the Plans comprised of truncated domes aligned in parallel rows in accordance with the Design Standards, Index No. 304. Do not use detectable warnings with a diagonal pattern.

527-2.1.1 Preformed Materials: Use detectable warnings consisting of weather-resistant tiles or pavers that are cast into concrete, or tiles or mats that are surface-applied to concrete or asphalt surfaces with adhesives and mechanical fasteners or torch-applied preformed thermoplastic.

527-2.1.2 Field-Formed Materials: Use detectable warnings applied as a secondary application to the substrate.

527-2.2 Material Properties: Provide detectable warnings that meet the following minimum material property requirements when tested in accordance with the following:

PROPERTY	STANDARD	TEST VALUE
Slip Resistance	FM 3-C1028	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes)
Wear Resistance	FM 5-594	Average Volume Loss: no more than 0.06 cm^3
Water Absorption*	ASTM D570	Not to exceed 5%.
Adhesion/Bond Strength**	FM 5-589	150 psi min. tensile adhesion strength
Non-Hazardous Classification	Submit Material Safety Data Sheet (MSDS)	Non-Hazardous, per RCRA Subtitle C

* Applies only to plastic materials.
** Applies only to surface-applied materials.

527-2.3 Color/Contrast: Use safety yellow, brick red or black colored detectable warnings on concrete walking surfaces. Use safety yellow colored detectable warnings on asphalt walking surfaces. Acceptable detectable warnings shall meet the following criteria for a duration of three years.

COLOR	LIGHT REFLECTANCE VALUES (LRV) CAP Y*
Safety Yellow	25 – 45
Brick Red	5 – 15
Black	0 – 5
*When measured with a spectrophotometer	

527-2.4 Qualified Products List: Methods or products used to form detectable warnings in wet concrete will not be permitted. Use detectable warnings listed on the Department's Qualified Products List (QPL). Manufacturers seeking evaluation of products for inclusion on the QPL shall submit an application in accordance with Section 6 and include certified test reports from an independent lab showing the product meets the requirements of this Section and the Design Standards, Index No. 304 Acceptance Criteria and manufacturer's drawings, specifications and procedures for materials and installation, including touch-up and repair.

527-3 Installation Procedures.

527-3.1 Surface Preparation and Installation: Prepare the surface in accordance with the manufacturer's recommendations. Use only products and materials appropriate for the surface on which they will be applied. Install in accordance with the manufacturer's instructions, using materials and equipment recommended and approved by the manufacturer. For surface-applied tiles or mats, use adhesives applied over the entire surface and mechanical fasteners.

527-4 Method of Measurement.

Detectable warnings will be paid by plan quantity square foot, furnished, installed and accepted.

527-5 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section, including all labor, surface preparation, materials and incidentals necessary to complete the work Payment will be made under:

Item No. 527- 2- Detectable Warnings– square foot.