



MEMORANDUM

Case # 11-15

**DATE:** July 13, 2011

**TO:** MAG Specifications and Details Committee Members

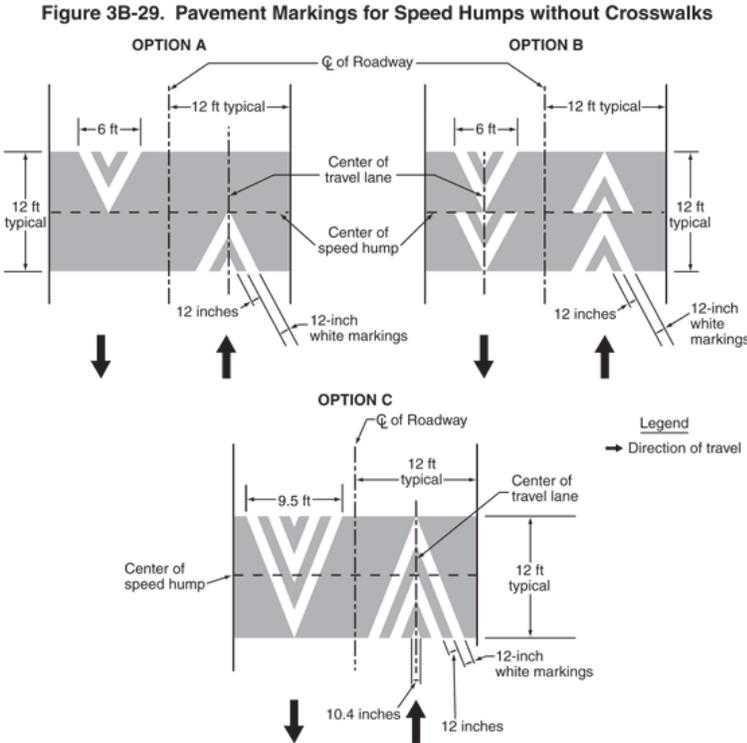
**FROM:** Warren White, City of Chandler Representative

**SUBJECT:** Modifications to Detail 210: Residential Speed Hump

The current MAG Detail 210, Residential Speed Hump has become non-compliant with MUTCD marking requirements (see below). The point of the each chevron marking should face toward oncoming traffic.

Section 3B.25 Speed Hump Markings  
**Standard:**

01 If speed hump markings are used, they shall be a series of white markings placed on a speed hump to identify its location. If markings are used for a speed hump that does not also function as a crosswalk or speed table, the markings shall comply with Option A, B, or C shown in [Figure 3B-29](#). If markings are used for a speed hump that also functions as a crosswalk or speed table, the markings shall comply with Option A or B shown in [Figure 3B-30](#).

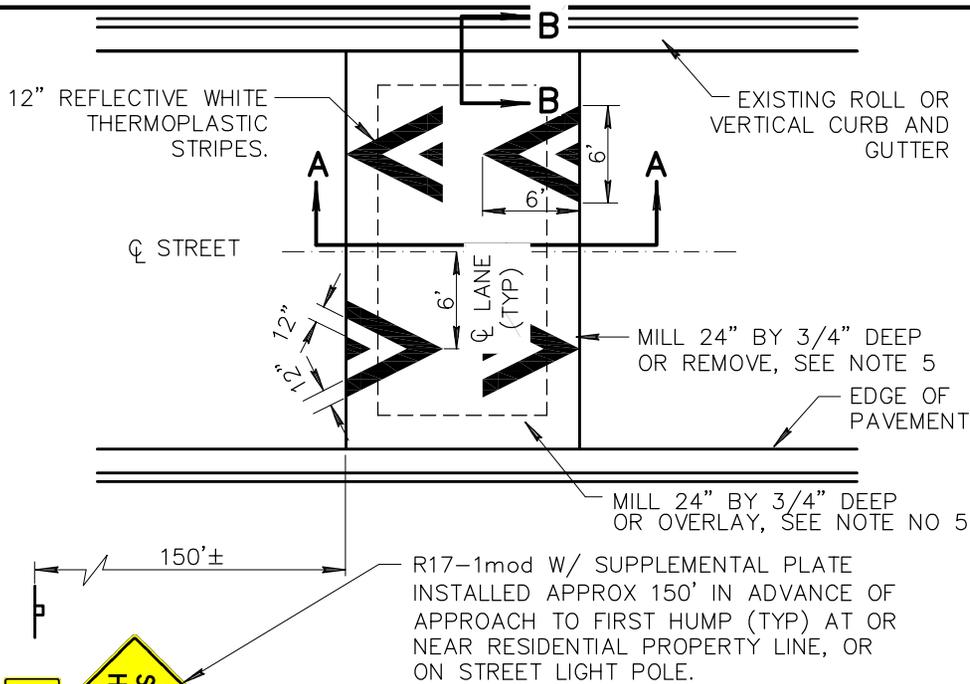


We have inventoried various Agency's speed hump details and have identified characteristics amongst the details. Please see the ledger attached.

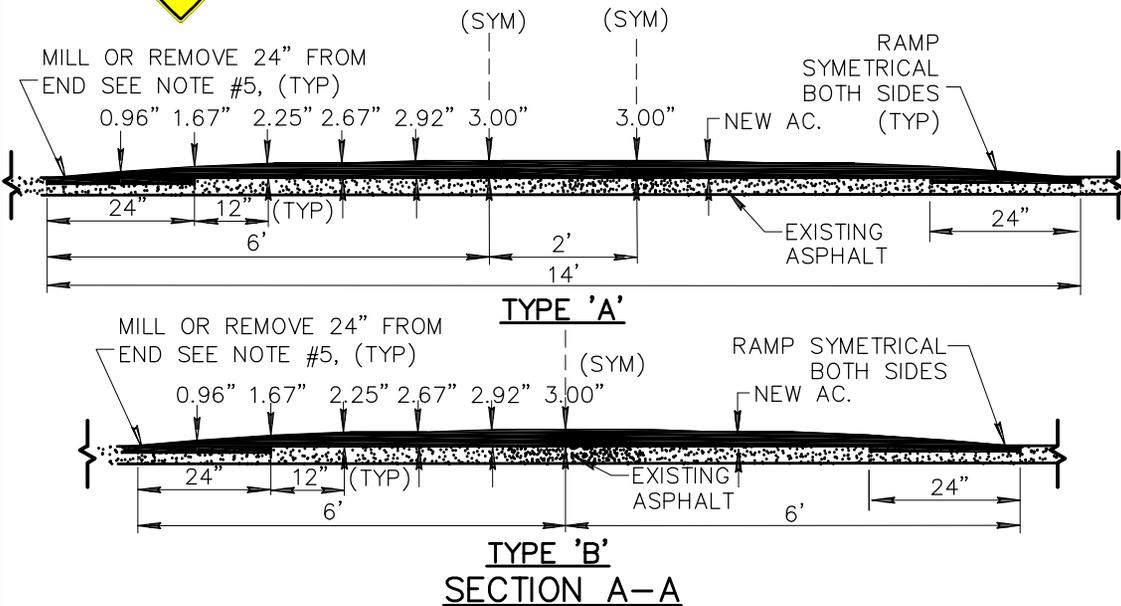
The draft changes to Detail 210 include:

- Markings in accordance with MUTCD Figure 3B-29, Option B.
- Calling out 12" thermoplastic markings.
- Calling out the use of 1/2" asphalt mix.
- Clarifying the mill surface in the section views.
- Consolidating the profile requirements into one note.
- Creating two types: Type 'A' - 14' and Type 'B' - 12'.
- Specifying advance signing for the hump series.
- Locating the chevrons close to centerline to avoid obscuration by parked cars.

Also, we'd like to note that the alternate installation longitudinal joint method consisting of tapering the AC profile may be problematic to achieve.



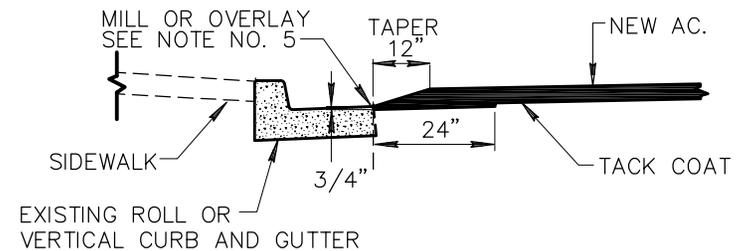
**PLAN VIEW**



**SECTION A-A**

**NOTES:**

1. HUMPS SHALL BE A MINIMUM OF 3" AND SHALL NOT EXCEED 3.25". HUMPS CONSTRUCTED OVER 3.25" OR LESS THAN 3.00" SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. CROSS-SECTION ELEVATIONS SHALL HAVE A MAXIMUM TOLERANCE OF ±0.25". CONTRACTOR SHALL PROVIDE VERIFICATION OF CROSS-SECTION DIMENSIONS.
2. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, SURVEY MONUMENTS, JUNCTION CHAMBERS, ETC. OR IN CONFLICT WITH DRIVEWAYS.
3. SPEED HUMPS SHALL BE PLACED AT LOCATIONS APPROVED BY THE AGENCY.
4. HUMP SHALL BE CONSTRUCTED WITH AN 1/2" ASPHALT MIX APPROVED BY THE AGENCY. ASPHALT COMPACTION SHALL BE PER SECTION 321. A TACK COAT PER SECTION 713 SHALL BE APPLIED PRIOR TO APPLICATION OF PAVEMENT.
5. INSTALLATION JOINTS:
  - A. STANDARD INSTALLATION:  
THE EXISTING ROADWAY SHALL BE MILLED TO A MINIMUM DEPTH OF 3/4" AROUND THE PERIMETER. CROSS SECTION DIMENSIONS DO NOT INCLUDE THE 3/4" DEPTH OF MILLING.
  - B. ALTERNATIVE INSTALLATION (ONLY WITH AGENCY APPROVAL):  
FOR TRANSVERSE JOINTS (CROSS ROADWAY), THE EXISTING ASPHALT SHALL BE SAW CUT AND REMOVED FOR A WIDTH OF 24". THE ASPHALT SHALL BE REPLACED WITH THE SAME ASPHALT AND AT THE SAME TIME AS THE HUMP ASPHALT. FOR LONGITUDINAL JOINTS, THE EXISTING ASPHALT SHALL BE OVERLAID AND TAPERED IN 12". CROSS-SECTION DIMENSIONS REFLECT DISTANCES FROM THE SURFACE OF EXISTING ASPHALT.
6. CONTACT THE AGENCY (OR INSPECTOR) ONE WEEK PRIOR TO INSTALLATION TO COORDINATE PAVEMENT MARKINGS AND SIGNING.



**SECTION B-B**

DETAIL NO.

**210**



**STANDARD DETAIL  
ENGLISH**

**RESIDENTIAL SPEED HUMP**

REVISED  
6-23-2011  
DRAFT

DETAIL NO.

**210**

<u>Municipality</u>	<u>Detail Number</u>	<u>Span</u>	<u>Height</u>	<u>Profile</u>	<u>Marking</u>	<u>Material</u>	<u>Transverse Edge Details</u>	<u>Longitudinal (gutter) Edge Details</u>	<u>Signing</u>
Avondale	A1060	12'	3", +/- 1/4" enforced	parabolic. Contractor shall verify cross section	2 -12" white thermo chevrons in direction, MUTCD Fig 3B-30 Option 'B'	D 1/2 coarse hot mix	edge milled inlay 24" x 1 - 1/2"	12" surface taper at gutter	none
Chandler	C-234	14'	3", in excess of 0.27' to be corrected	6' parabolic ramps, 2' flat center, tolerance +/- 0.02'	2 - white reflectorized tape (proprietary) chevrons in direction	EVAC A 12.5	edge milled inlay 24" x 3/4"	2" over 12" taper at gutter	R17-1(mod) 'Speed Humps' w/ 20 mph Speed Plate at property line or street light, 150' in advance of first hump
MAG	210	12'	12', nte 3.25" or less than 3.00"	Avondale similar. Each elevation nte tolerance of + 0.25" Contractor shall verify profile of milled inlay construction	for each quarter, 3 x 10" reflective white stripes angled 45d first to, then from curb	Agency choice	edge milled inlay 24" x 3/4" or transverse pavement removal and replacement	12" taper at gutter	contact agency
MCDOT	2010 w/o gutter	12'	3 - 1/4" 12 month warranty of at least 3"	parabolic. Tolerance + 0.25" enforced	2 x 12" white chevrons in direction	1/2" Marshall mix for high traffic	24" remove full depth pavement. If pavement is less than 1.5", construct thickened edge.		M-3-R delineators at mid hump and 25' upstream
	2010 w/ gutter	12'	3 - 1/4" 12 month warranty of at least 3"	parabolic. Tolerance + 0.25" enforced	2 x 12" white chevrons in direction	1/2" Marshall mix for high traffic	24" remove full depth pavement. If pavement is less than 1.5", construct thickened edge	12" mill and taper to lip plus 1/4" at gutter.	
Mesa	M-15	14'	3"	2' flat center, parabolic ramps for 6'.	2 x 12" white chevrons in direction, preformed	R 1/2" EVAC	18" x 1/2" inlay by grinding	12" feather at gutter	
Peoria	PE-210	12'	3 - 1/2" over 3.75" rejected. 24 month warranty of at least 3.25"	parabolic. (approximate +/- 1/4") Contractor shall verify	2 x 12" white thermo Hot Tape or 3M SMS-5730 chevrons in direction per latest MUTCD Chap 3	D -1/2 coarse hot mix	24" inlay	24" mill and 12" taper	
Tempe	T-356 Striping	per MAG Std Dtl 210			2 x 12" white chevrons in direction				