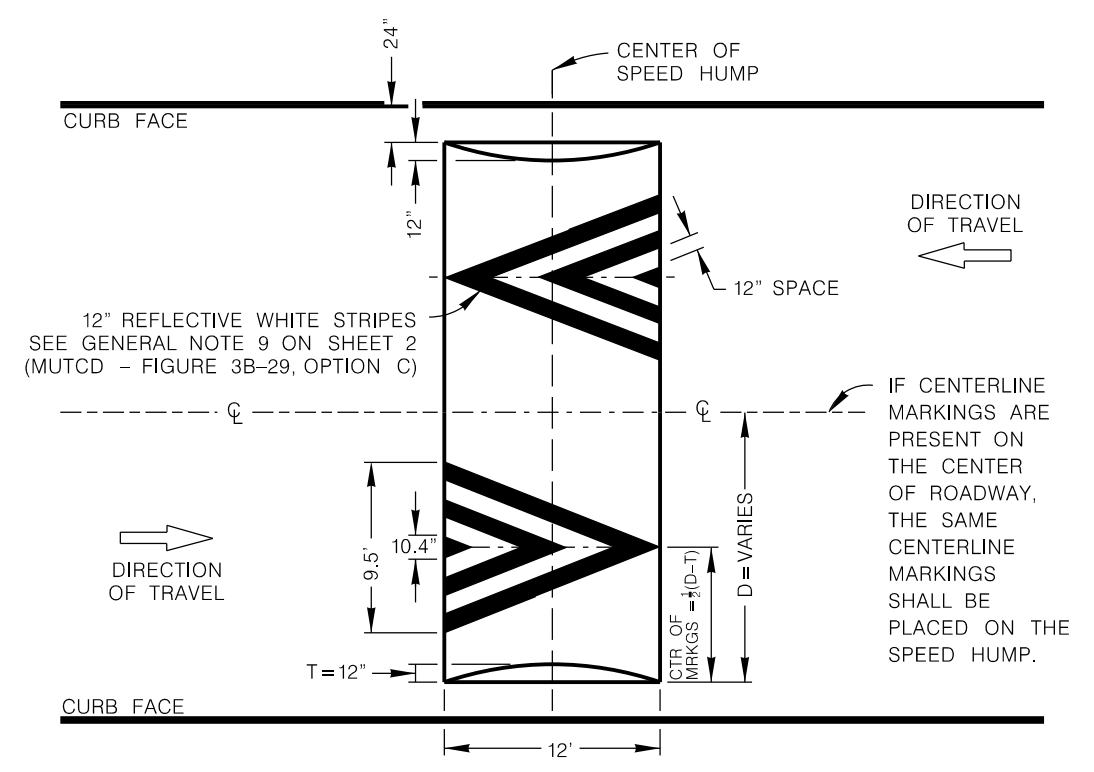
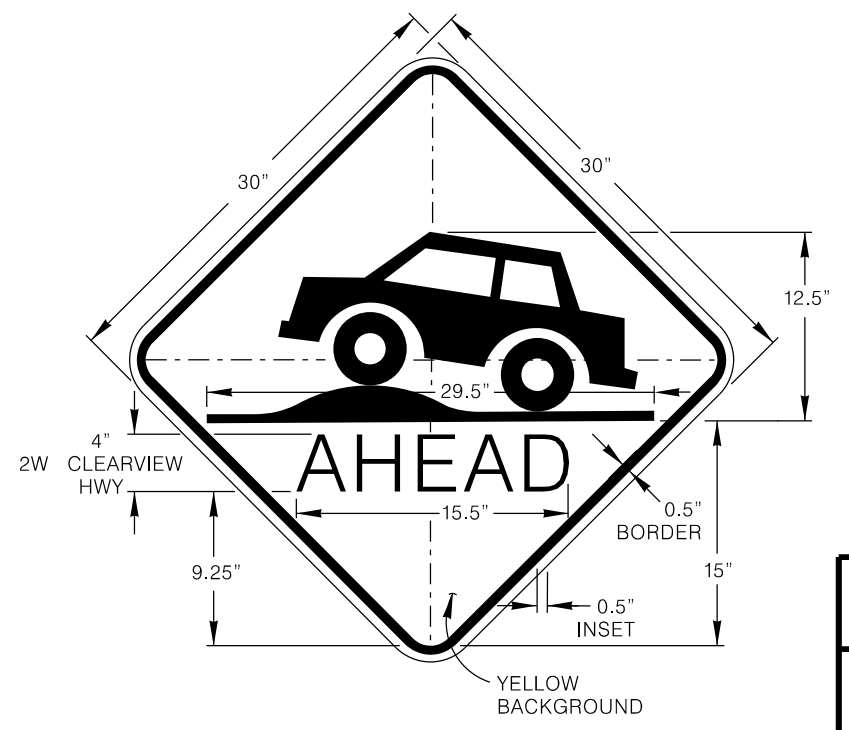


12-FOOT PARABOLIC ASPHALT CONCRETE SPEED HUMP (TYPICAL)



PAVEMENT MARKINGS DETAIL



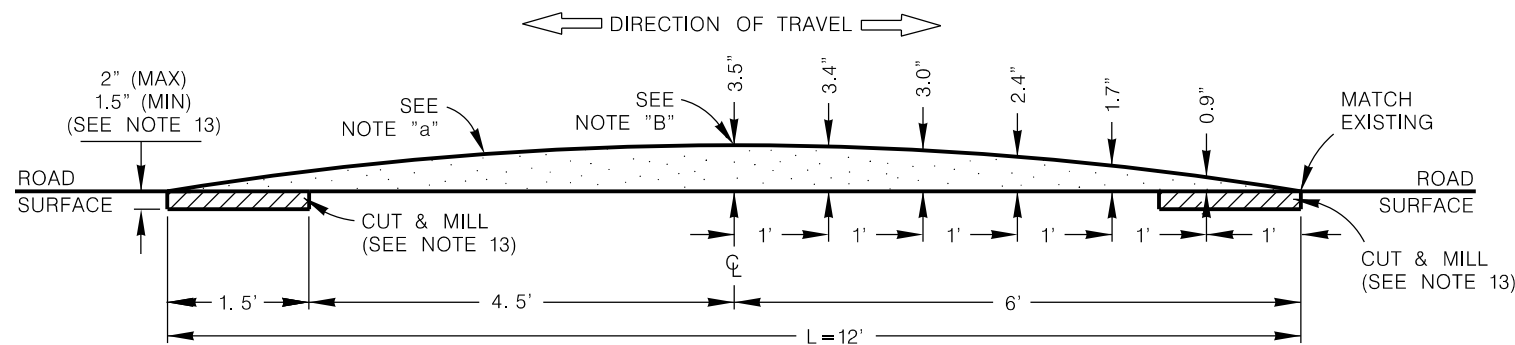
TRAFFIC SIGN DETAIL

W17-1SAa (WITHOUT "AHEAD")
W17-1SAb (WITH "AHEAD")

PLATE SIZE: 30" x 30"
BACKGROUND COLOR: YELLOW HIGH INTENSITY PRISMATIC (HIP) SHEETING
LEGEND COLOR: BLACK ELECTRIC CUTTABLE (EC) FILM OVERLAY

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CITY OF SAN ANTONIO		
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT		
TRANSPORTATION SERVICES CONSTRUCTION STANDARDS		
12-FOOT PARABOLIC ASPHALT CONCRETE SPEED HUMP		
100% SUBMITTAL	PROJECT NO.: 2017_DTL_SHT_RVSNS	DATE: 8.15.17
DRWN. BY: VV	RVSD. BY: AF	CHKD. BY: KMB, PE
		SHEET NO.: 1 OF 2



a) TYPE D HOT MIX ASPHALTIC CONCRETE PAVEMENT AS PER ITEM (205).

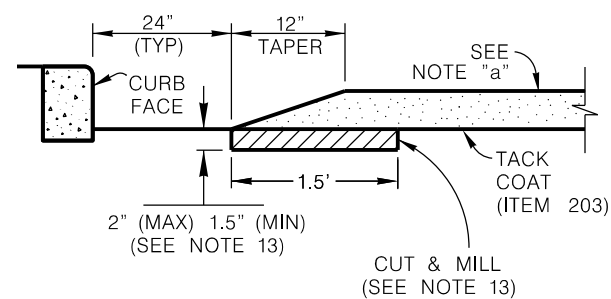
A) TO GAIN MAXIMUM EFFECT, SPEED HUMPS MUST BE CONSTRUCTED AT THE FULL 3.5" IN HEIGHT BASED ON CONSIDERATIONS FOR SAFETY AND EFFECTIVENESS. ANY SPEED HUMPS CONSTRUCTED OVER THE ESTABLISHED MAXIMUM HEIGHT OF 3.5" MUST BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

B) CROSS-SECTION SHOWS APPROXIMATE ELEVATIONS FOR THE 3.5" (MAXIMUM ALLOWABLE) SPEED HUMP, WITHIN 0.5" TOLERANCE, NOT TO EXCEED 3.5".

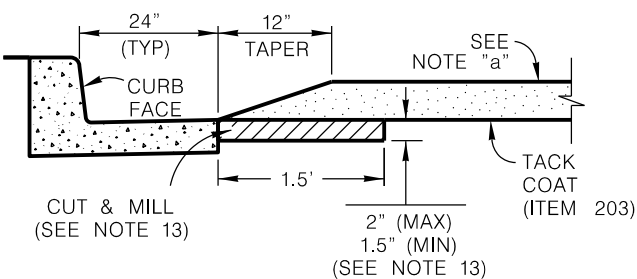
ESTIMATED QUANTITIES

HMAC TYPE "D" FOR CONTRACTOR'S INFO ONLY	STREET PAVEMENT WIDTH (FT)							
	22	24	26	27	30	36	40	44
CY	2.0	2.2	2.3	2.4	2.7	3.3	3.6	4.0

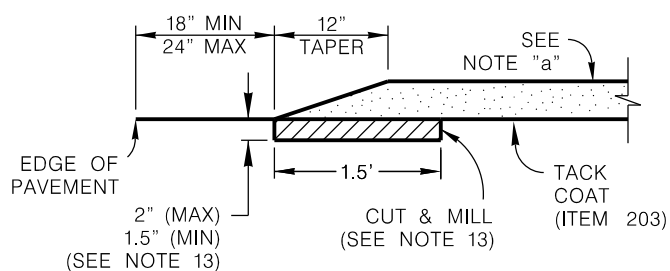
SECTION A-A
PARABOLIC CROWN PROFILE



(STANDARD CURB)

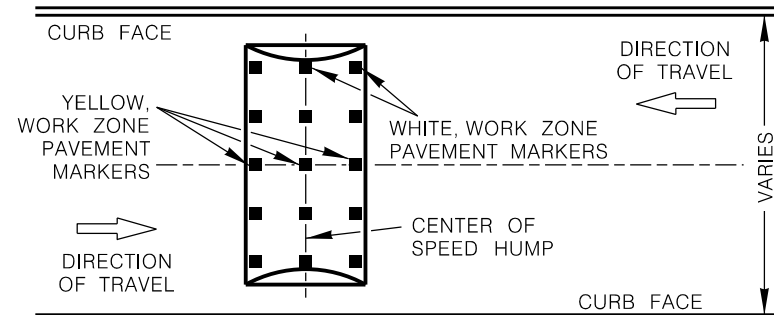


(CURB & GUTTER)



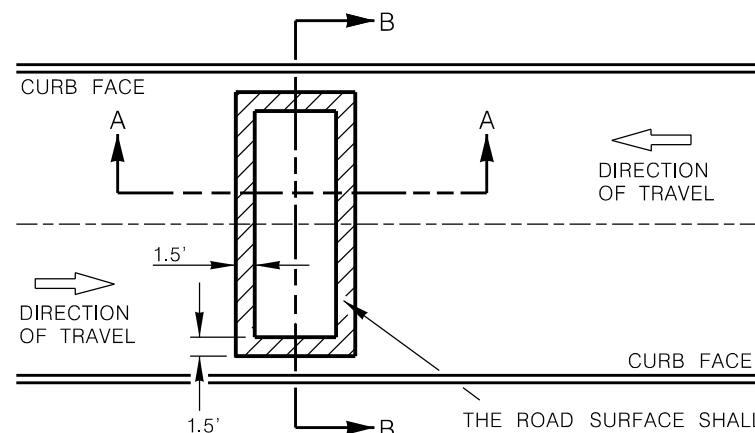
(NO CURB)

SECTION B-B
EDGE DETAIL



NOTE: ALL TEMPORARY WORK ZONE PAVEMENT MARKERS SHALL BE WHITE. YELLOW TEMPORARY WORK ZONE PAVEMENT MARKERS SHALL BE PLACED ALONG THE CENTERLINE OF THE ROADWAY OR ALIGNED WITH ANY EXISTING CENTERLINE MARKINGS.

TEMPORARY MARKINGS DETAIL - TAB PLACEMENT



THE ROAD SURFACE SHALL BE CUT AND MILLED AT TAPERED EDGES AROUND THE PERIMETER OF THE SPEED HUMP. SEE GENERAL NOTE 13 ON THIS SHEET.

CUT & MILL DETAIL

GENERAL NOTES

- 1) SPEED HUMPS WILL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT (TCI).
- 2) 12-FOOT PARABOLIC ASPHALT CONCRETE SPEED HUMP SHALL BE COMPRISED OF ASPHALT AS OUTLINED IN SPECIAL SPECIFICATION ITEM 800.
- 3) CONTRACTOR SHALL CONTACT THE RIGHT-OF-WAY DIVISION AT 210-207-6949 BEFORE ANY STREET IS TEMPORARILY CLOSED FOR CONSTRUCTION.
- 4) THE 12-FOOT LONG VERTICAL CROSS-SECTION OF THE 12-FOOT SPEED HUMP, MEASURED THE DIRECTION OF TRAFFIC FLOW, SHALL BE A PARABOLIC CURVE WITH A MAXIMUM HEIGHT OF 3.5 INCHES AT THE MID-POINT, AND 12-FEET IN LENGTH AS DETAILED IN SECTION A-A OF THIS SHEET.
- 5) TCI WILL IDENTIFY THE LOCATIONS OF ALL TRAFFIC SIGNS RELATED TO THE SPEED HUMPS BY MARKING THE LOCATIONS IN THE FIELD.
- 6) NO PART OF A SPEED HUMP SHALL BE LOCATED IN FRONT OF A DRIVEWAY APPROACH. SPEED HUMP SHOULD BE A MINIMUM OF 6 FEET FROM THE EDGE OF DRIVEWAY, WHERE PRACTICAL.
- 7) SPEED HUMPS AND TRAFFIC SIGNS SHOULD BE PLACED AS CLOSE AS POSSIBLE TO PROPERTY LINES INSTEAD OF MID-LOT, WHEN PRACTICAL.
- 8) SPEED HUMPS SHOULD BE INSTALLED AS A RIGHT ANGLE TO THE CENTERLINE TANGENT OF THE ROADWAY.
- 9) TRAFFIC CONTROL CONSISTING OF TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE PROVIDED TO ADVISE ROADWAY USERS OF A SPEED HUMP'S PRESENCE AND TO GUIDE THEIR SUBSEQUENT ACTION. TRAFFIC SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD). PAVEMENT MARKINGS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FIGURE 3B-29, OPTION C.
- 10) ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS PER ITEM 531, 533, 535, AND 536.
- 11) A TEMPLATE SHALL BE CONSTRUCTED TO VERIFY ACCURACY OF THE HUMP PROFILE AND TO ENSURE THAT THE DESIRED VERTICAL DIMENSIONS ARE ATTAINED WITHIN A 0.5 INCH TOLERANCE, PROVIDED THAT THE HUMP DOES NOT EXCEED 3.5 INCHES IN HEIGHT. CONTRACTOR SHALL PROVIDE VERIFICATION OF CROSS-SECTION DIMENSIONS BOTH THROUGH ELEVATION MEASUREMENTS AND PROFILE COMPLIANCE.
- 12) A PNEUMATIC ROLLER FIRST, THEN A VIBRATORY STEEL DOUBLE-DRUM ROLLER, MINIMUM 10 TON, SHALL BE USED FOR FINAL MATERIAL COMPACTION.
- 13) THE ROAD SURFACE SHALL BE CUT-MILLED AT TAPERED EDGES AROUND THE PERIMETER OF THE SPEED HUMP, A MAXIMUM OF 2 INCHES AND MINIMUM OF 1.5 INCHES AS ILLUSTRATED IN SECTION A-A AND B-B OF THIS SHEET.
- 14) ONCE THE FINAL INSPECTION BY THE STREETS DIVISION HAS BEEN MADE ON COMPLETED STREET WORK, THE CITY OF SAN ANTONIO WILL ACCEPT SUCH APPROVED WORK FOR ALL PERPETUAL MAINTENANCE COSTS.
- 15) CONTRACTOR SHALL NOT OPEN SPEED HUMP TO TRAFFIC UNTIL ALL REQUIRED WARNING SIGNS AND PAVEMENT MARKINGS ARE COMPLETE. TEMPORARY MARKINGS SHALL BE WORK ZONE PAVEMENT MARKERS, SHORT-TERM TABS AND PLACED AS SHOWN IN TEMPORARY MARKINGS DETAIL - TAB PLACEMENT ON SHEET 2 OF 2. TEMPORARY FLEXIBLE REFLECTIVE ROADWAY MARKER TABS PROVIDED SHALL MEET TxDOT'S DMS-8242.
- 16) CONTRACTOR WILL ALSO MAINTAIN TEMPORARY PAVEMENT MARKINGS UNTIL PERMANENT PAVEMENT MARKINGS ARE INSTALLED. THE SHORT-TERM TABS SHALL BE REPLACED EVERY 14 CALENDAR DAYS UNTIL PERMANENT MARKINGS ARE PLACED.
- 17) CONTRACTOR SHALL INSTALL PERMANENT PAVEMENT MARKINGS NO SOONER THAN 7 CALENDAR DAYS AND NO LATER THAN 14 CALENDAR DAYS AFTER SPEED HUMP CONSTRUCTION. WHEN INCLEMENT WEATHER PROHIBITS PLACEMENT OF PERMANENT MARKINGS, THE 14-DAY PERIOD MAY BE EXTENDED UNTIL WEATHER PERMITS PROPER APPLICATION.

AUG 2017

CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT

TRANSPORTATION SERVICES CONSTRUCTION STANDARDS

12-FOOT PARABOLIC ASPHALT CONCRETE SPEED HUMP

100% SUBMITTAL	PROJECT NO.: 2017_DTL_SHT_RVSNS	DATE: 8.15.17
DRWN. BY: VV	RVSD. BY: AF	CHKD. BY: KMB, PE
		SHEET NO.: 2 OF 2