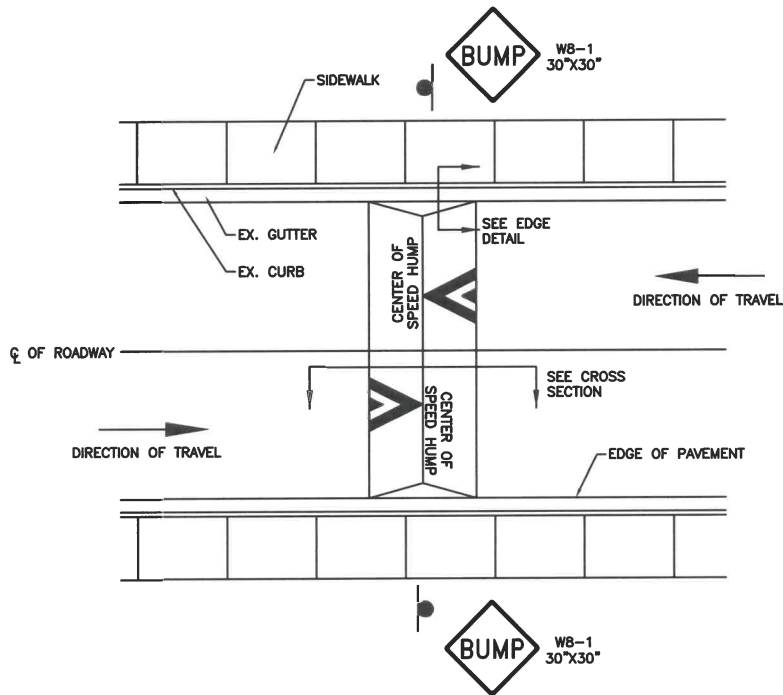
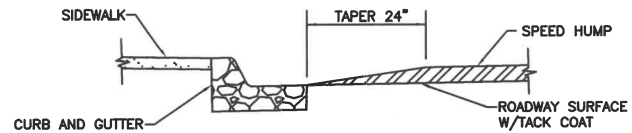


**NOTES:**

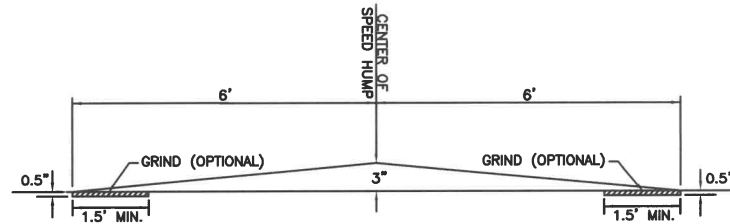
1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, SURVEY MARKERS, ETC.
2. SPEED HUMPS SHALL NOT BE INSTALLED IN A LOCATION THAT INTERFERES WITH ROADWAY DRAINAGE.
3. A TACK COAT SHALL BE APPLIED TO THE ROADWAY SURFACE PRIOR TO APPLICATION OF PAVEMENT MATERIAL.
4. SPEED HUMP MARKINGS AND SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER. MARKING INFORMATION FOR SPEED HUMPS CAN BE FOUND ON ACHD TS-1113.07.
5. "BUMPS AHEAD" SIGNS SHALL BE INSTALLED IN BOTH DIRECTIONS IN ADVANCE OF THE FIRST BUMP IN SERIES. SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER.
6. IF CURB AND GUTTER ARE NOT PRESENT ON THE ROADWAY, INSTALL SPEED HUMPS TO THE EDGE OF THE PAVED SURFACE. 4" DIA. CONCRETE BOLLARD INSTALLATION NEAR THE SPEED HUMP MAY BE NECESSARY WHERE THE POTENTIAL FOR SPEED HUMP AVOIDANCE EXISTS.



**SPEED HUMP - PLAN VIEW  
LOCAL ROAD**

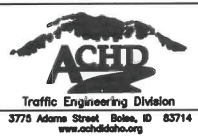


**SPEED HUMP - EDGE DETAIL  
LOCAL ROAD**



**SPEED HUMP - CROSS SECTION  
LOCAL ROAD**

NO.	DATE	BY	DESCRIPTION
• REVISIONS •			
11/2016	ZBS		Minor note clarifications
4/2018	ZBS		Made grinding roadway surface optional



• SIGNATURES •	
Scale: NTS	Drawn By: Jonathan Snook
Date: 05/30/11	Design By: Jonathan Snook
File: TS-1121.01.DWG	Approved By: Rose Oyon

• SHEET TITLE •

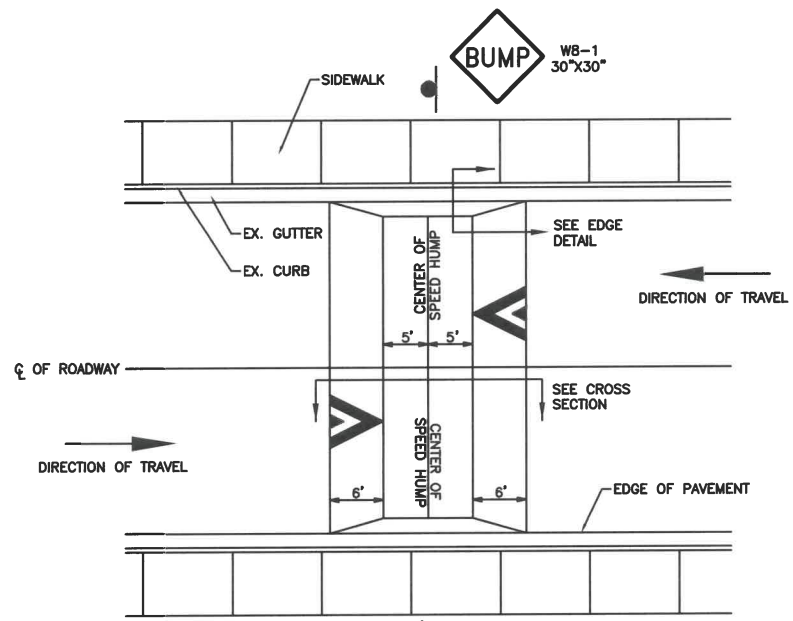
Speed Hump Details - Local Road

11/19/2018

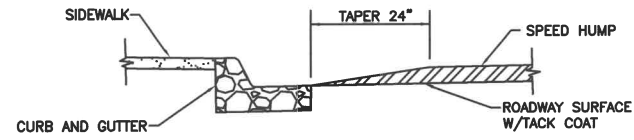
• STANDARD DETAIL NO. •  
**TS-1121.01**

**NOTES:**

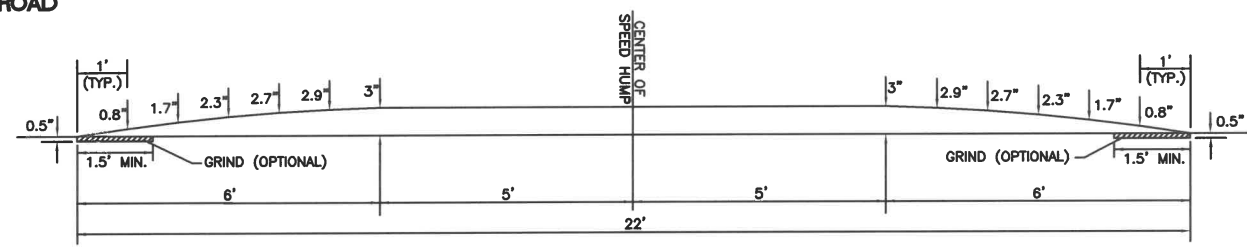
1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, SURVEY MARKERS, ETC.
2. SPEED HUMPS SHALL NOT BE INSTALLED IN A LOCATION THAT INTERFERES WITH ROADWAY DRAINAGE.
3. A TACK COAT SHALL BE APPLIED TO THE ROADWAY SURFACE PRIOR TO APPLICATION OF PAVEMENT MATERIAL.
4. SPEED HUMP MARKINGS AND SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER. MARKING INFORMATION FOR SPEED HUMPS CAN BE FOUND ON ACHD TS-1113.07.
5. "BUMPS AHEAD" SIGNS SHALL BE INSTALLED IN BOTH DIRECTIONS IN ADVANCE OF THE FIRST BUMP IN SERIES. SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER.
6. IF CURB AND GUTTER IS NOT PRESENT ON THE ROADWAY, INSTALL SPEED HUMPS TO THE EDGE OF THE PAVED SURFACE. 4" DIA. CONCRETE BOLLARD INSTALLATION NEAR THE SPEED HUMP MAY BE NECESSARY WHERE THE POTENTIAL FOR SPEED HUMP AVOIDANCE EXISTS.



**SPEED HUMP - PLAN VIEW  
COLLECTOR ROAD**



**SPEED HUMP - EDGE DETAIL  
COLLECTOR ROAD**



**SPEED HUMP - CROSS SECTION  
COLLECTOR ROAD**

11/19/2018

NO.	DATE	BY	DESCRIPTION
11/20/18	JES		Minor note clarifications
4/20/18	JES		Made grinding roadway surface optional.



Scale: NTS		Drawn By: Joshua Shank	
Date: 07/05/11		Design By: Joshua Shank	
File: TS-1121.08.DWG		Approved By: Ross Gyron	

SIGNATURES		SHEET TITLE	
Speed Hump Details - Collector Road		Speed Hump Details - Collector Road	



STANDARD DETAIL NO. TS-1121.02

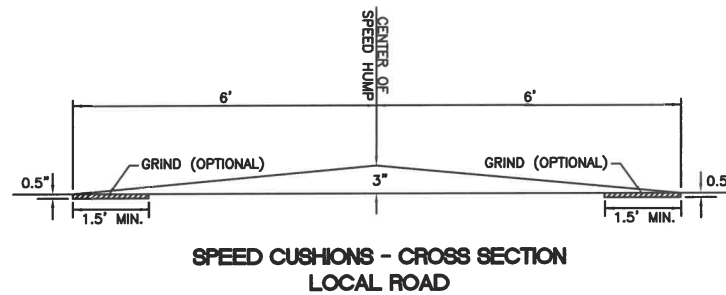
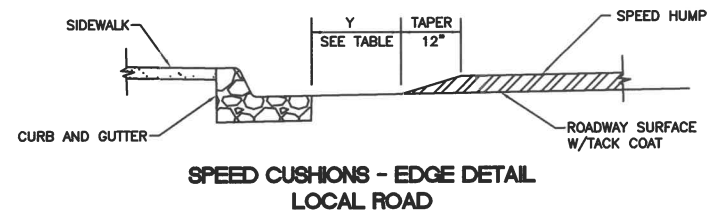
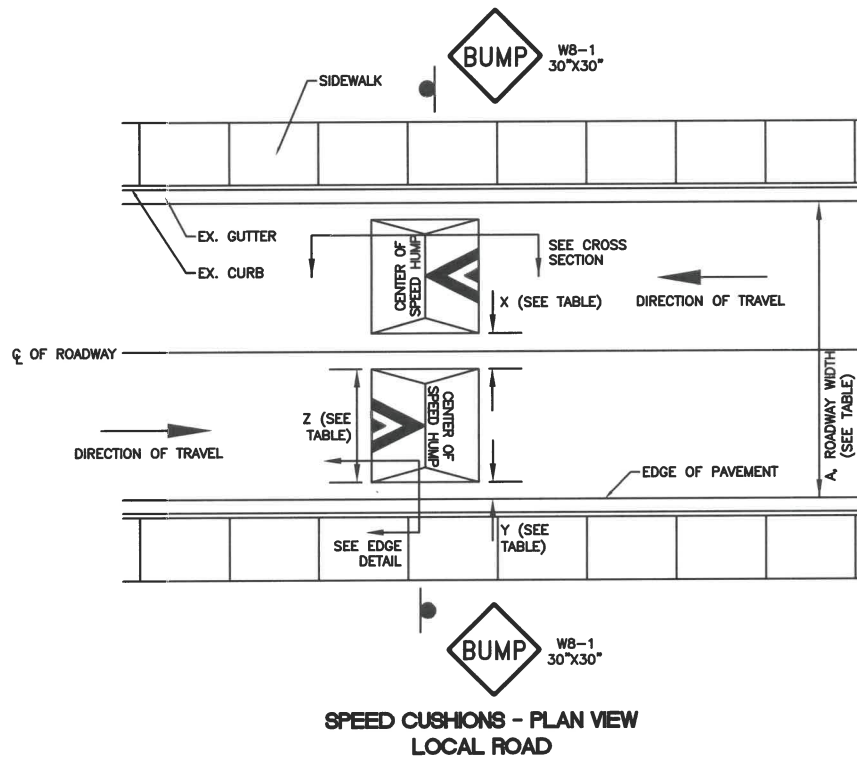
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**SPEED HUMP DIMENSION SCHEDULE**

A, ROADWAY WIDTH (FT.)	Y, EDGE (FT.)	Z, HUMP (FT.)	X, CENTER GAP (FT.)	Z, HUMP (FT.)	Y, EDGE (FT.)
20'	1.5'	7'	3'	7'	1.5'
21'	2'	7'	3'	7'	2'
22'	2.5'	7'	3'	7'	2.5'
23'	3'	7'	3'	7'	3'
24'	3'	7'	4'	7'	3'

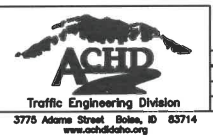
**NOTES:**

1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, SURVEY MARKERS, ETC.
2. SPEED HUMPS SHALL NOT BE INSTALLED IN A LOCATION THAT INTERFERES WITH ROADWAY DRAINAGE.
3. A TACK COAT SHALL BE APPLIED TO THE ROADWAY SURFACE PRIOR TO APPLICATION OF PAVEMENT MATERIAL.
4. SPEED HUMP MARKINGS AND SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER. MARKING INFORMATION FOR SPEED HUMPS CAN BE FOUND ON ACHD TS-1113.07.
5. "BUMPS AHEAD" SIGNS SHALL BE INSTALLED IN BOTH DIRECTIONS IN ADVANCE OF THE FIRST BUMP IN SERIES. SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER.
6. IF CURB AND GUTTER IS NOT PRESENT OR A SIGNIFICANT DRIVABLE SHOULDER EXISTS ON THE ROADWAY, 4" DIA. CONCRETE BOLLARD INSTALLATION NEAR EACH SPEED HUMP MAY BE NECESSARY WHERE THE POTENTIAL FOR SPEED HUMP AVOIDANCE EXISTS.



11/19/2018

NO.	DATE	BY	DESCRIPTION



- SIGNATURES -		- SHEET TITLE -	
Scale: NTS	Drawn By: Jonathan Steak	Speed Hump Details - Local Road, Speed Cushions Roadway Cross Sections, 20' - 24'	
Date: 4/9/18	Design By: Jonathan Steak		
File: TS-1181.05.DWG	Approved By: Ross Cyren		



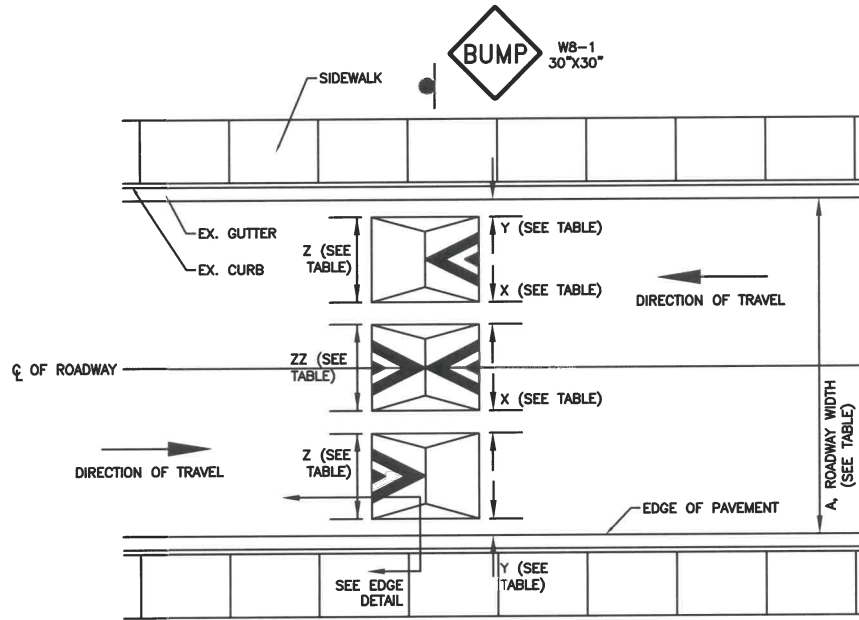
STANDARD SHEET NO. TS-1121.03

**NOTES:**

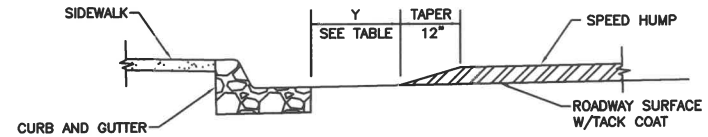
1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, SURVEY MARKERS, ETC.
2. SPEED HUMPS SHALL NOT BE INSTALLED IN A LOCATION THAT INTERFERES WITH ROADWAY DRAINAGE.
3. A TACK COAT SHALL BE APPLIED TO THE ROADWAY SURFACE PRIOR TO APPLICATION OF PAVEMENT MATERIAL.
4. SPEED HUMP MARKINGS AND SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER. MARKING INFORMATION FOR SPEED HUMPS CAN BE FOUND ON ACHD TS-1113.07.
5. "BUMPS AHEAD" SIGNS SHALL BE INSTALLED IN BOTH DIRECTIONS IN ADVANCE OF THE FIRST BUMP IN SERIES. SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER.
6. IF CURB AND GUTTER IS NOT PRESENT OR A SIGNIFICANT DRIVABLE SHOULDER EXISTS ON THE ROADWAY, 4" DIA. CONCRETE BOLLARD INSTALLATION NEAR EACH SPEED HUMP MAY BE NECESSARY WHERE THE POTENTIAL FOR SPEED HUMP AVOIDANCE EXISTS.

**SPEED HUMP DIMENSION SCHEDULE**

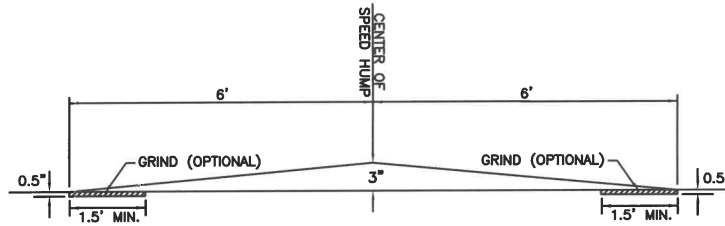
A, ROADWAY WIDTH (FT.)	Y, EDGE (FT.)	Z, HUMP (FT.)	X, GAP (FT.)	ZZ, HUMP (FT.)	X, GAP (FT.)	Z, HUMP (FT.)	Y, EDGE (FT.)
25'	1.5'	6'	2'	6'	2'	6'	1.5'
26'	2'	6'	2'	6'	2'	6'	2'
27'	2.5'	6'	2'	6'	2'	6'	2.5'
28'	3'	6'	2'	6'	2'	6'	3'
29'	2.5'	7'	2'	6'	2'	7'	2.5'
30'	2.5'	7'	2'	7'	2'	7'	2.5'
31'	3'	7'	2'	7'	2'	7'	3'
32'	3'	7'	2'	8'	2'	7'	3'
33'	3'	7.5'	2'	8'	2'	7.5'	3'
34'	3'	7.5'	2.5'	8'	2.5'	7.5'	3'
35'	3'	8'	2.5'	8'	2.5'	8'	3'
36'	3.5'	8'	2.5'	8'	2.5'	8'	3.5'
37'	4'	8'	2.5'	8'	2.5'	8'	4'
38'	4'	8'	3'	8'	3'	8'	4'
39'	4'	8'	3'	9'	3'	8'	4'
40'	4'	8'	3'	10'	3'	8'	4'



**SPEED CUSHIONS - PLAN VIEW LOCAL ROAD**



**SPEED CUSHIONS - EDGE DETAIL LOCAL ROAD**



**SPEED CUSHIONS - CROSS SECTION LOCAL ROAD**

NO.	DATE	BY	DESCRIPTION
- REVISIONS -			

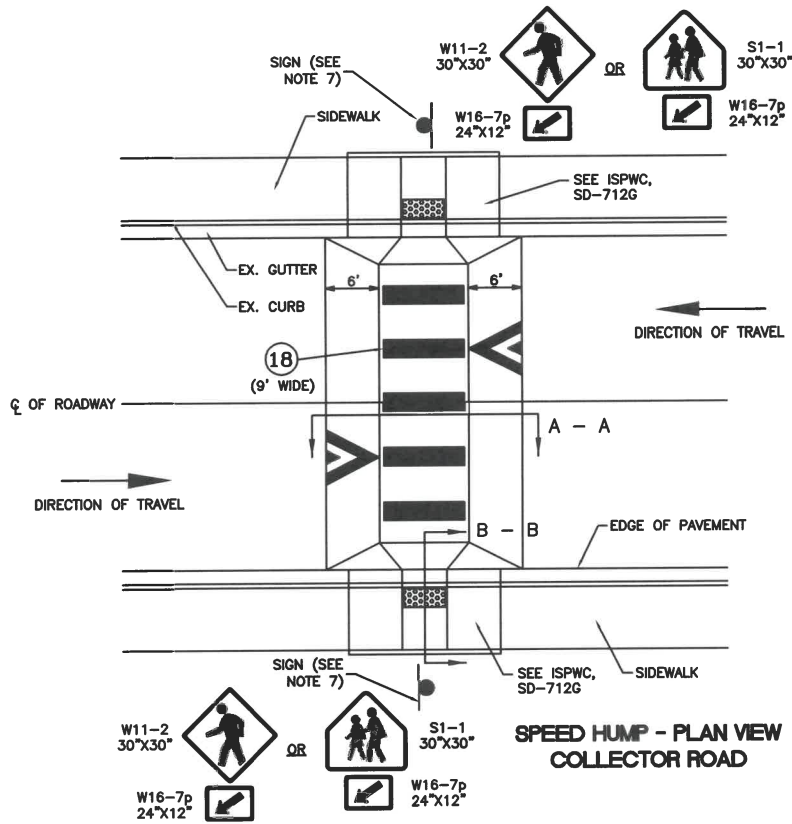


- SIGNATURES -		- SHEET TITLE -	
Scale: NTS	Drawn By: Jonathan Shank	Speed Hump Details - Local Road, Speed Cushions Roadway Cross Sections, 25' - 40'	
Date: 4/19/18	Design By: Jonathan Shank		
File: TS-1181.04.DWG	Approved By: Ross Gyun		

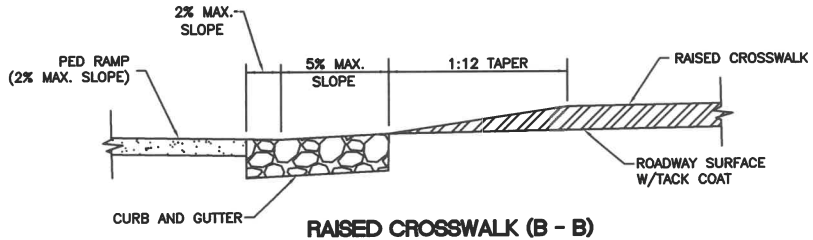
11/19/2018



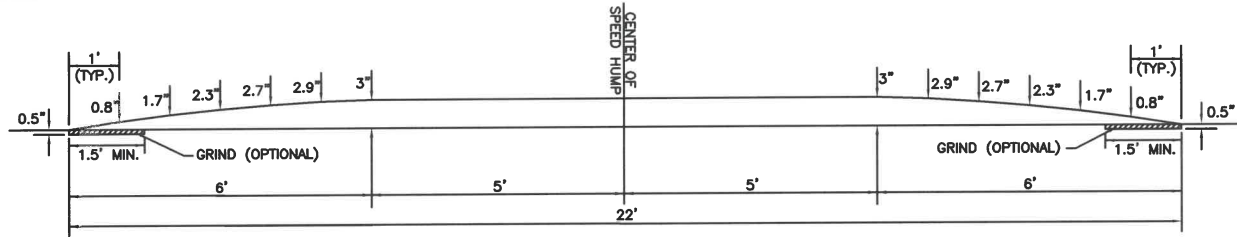
STANDARD DETAIL NO. TS-1121.04



**SPEED HUMP - PLAN VIEW  
COLLECTOR ROAD**



**RAISED CROSSWALK (B - B)**



**RAISED CROSSWALK (A - A)**

**NOTES:**

1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, SURVEY MARKERS, ETC.
2. SPEED HUMPS SHALL NOT BE INSTALLED IN A LOCATION THAT INTERFERES WITH ROADWAY DRAINAGE.
3. A TACK COAT SHALL BE APPLIED TO THE ROADWAY SURFACE PRIOR TO APPLICATION OF PAVEMENT MATERIAL.
4. SPEED HUMP MARKINGS AND SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER. MARKING INFORMATION FOR SPEED HUMPS CAN BE FOUND ON ACHD TS-1113.07.
5. "BUMPS AHEAD" SIGNS SHALL BE INSTALLED IN BOTH DIRECTIONS IN ADVANCE OF THE FIRST BUMP IN SERIES. SIGNS SHALL BE INSTALLED BY ACHD, UNLESS OTHERWISE SPECIFIED BY THE ACHD TRAFFIC ENGINEER.
6. ALL PEDESTRIAN RAMPS SHALL CONFORM TO THE MOST RECENT VERSION OF THE ISPCW.
7. SIGNS ADJACENT TO THE RAISED CROSSWALK SHALL BE INSTALLED ACCORDING TO ACHD TS-1114.01. REFER TO THE PLAN SHEETS OR CONTACT THE ACHD TRAFFIC ENGINEER FOR THE TYPE OF SIGN TO BE INSTALLED.

NO.	DATE	BY	DESCRIPTION
11/20/18	ZES		Minor signage modifications



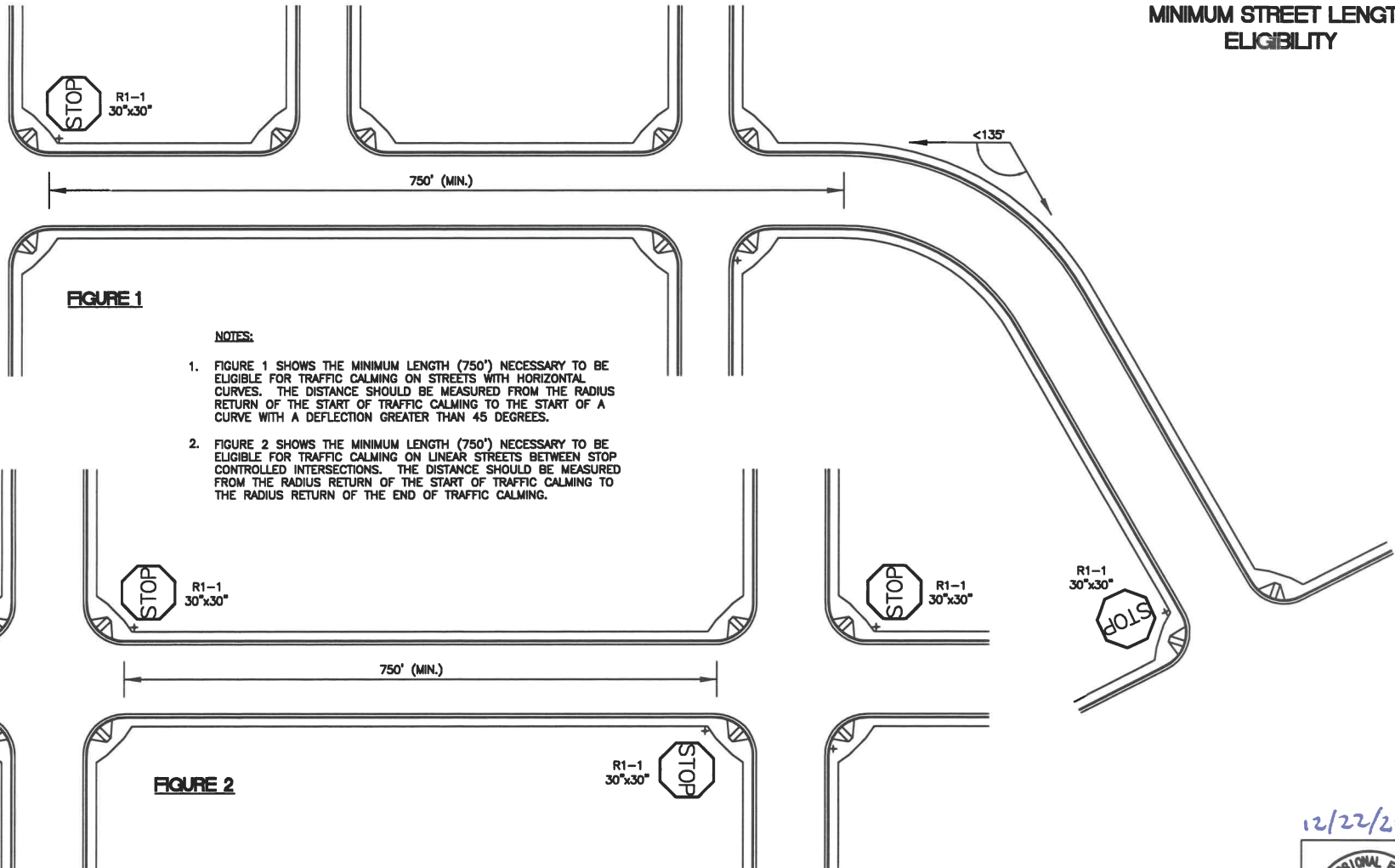
SIGNATURES		SHEET TITLE	
Scale: NTS	Drawn By: Jonathan Shank	Raised Crosswalk Details	
Date: 11/01/18	Design By: Jonathan Shank		
File: TS-1113.06.DWG	Approved By: Ross Oyam		

11/19/2018



STANDARD DETAIL NO. TS-1121.05

# TRAFFIC CALMING MINIMUM STREET LENGTH ELIGIBILITY



**FIGURE 1**

**NOTES:**

- FIGURE 1 SHOWS THE MINIMUM LENGTH (750') NECESSARY TO BE ELIGIBLE FOR TRAFFIC CALMING ON STREETS WITH HORIZONTAL CURVES. THE DISTANCE SHOULD BE MEASURED FROM THE RADIUS RETURN OF THE START OF TRAFFIC CALMING TO THE START OF A CURVE WITH A DEFLECTION GREATER THAN 45 DEGREES.
- FIGURE 2 SHOWS THE MINIMUM LENGTH (750') NECESSARY TO BE ELIGIBLE FOR TRAFFIC CALMING ON LINEAR STREETS BETWEEN STOP CONTROLLED INTERSECTIONS. THE DISTANCE SHOULD BE MEASURED FROM THE RADIUS RETURN OF THE START OF TRAFFIC CALMING TO THE RADIUS RETURN OF THE END OF TRAFFIC CALMING.

**FIGURE 2**

12/22/2016

NO.	DATE	BY	DESCRIPTION
- REVISIONS -			



- SIGNATURES -	
Scale: NTS	Drawn By: Jonathan Seak
Date: 12/17/18	Design By: Jonathan Seak
File: TS-1121.06.DWG	Approved By: Russ Oyam

- SHEET TITLE -
Traffic Calming - Minimum Street Length

12/22/2016

- STANDARD DETAIL NO. -  
**TS-1121.06**