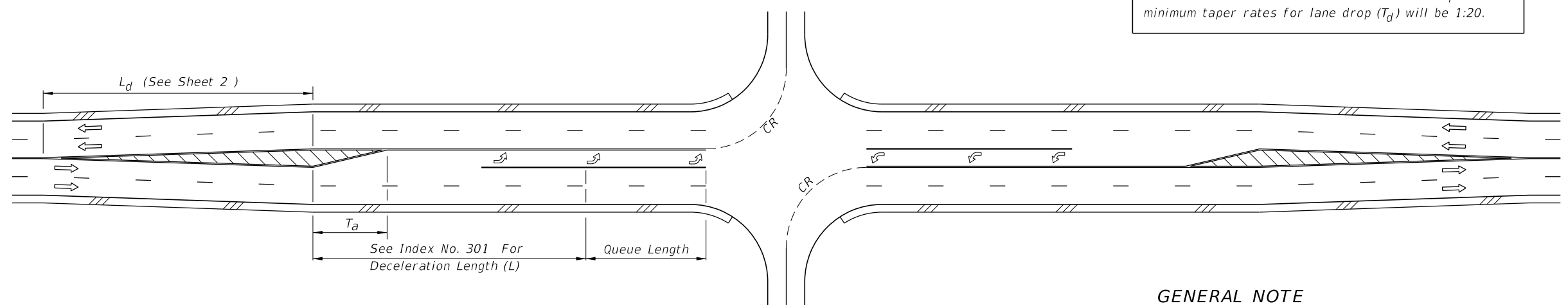


4-LANE WITH TWO-WAY LEFT-TURN LANES

DESIGN SPEED (mph)	T_a (FEET)	T_d
	ADD LANE	LANE DROP
<30	50' (± 1:4)	1:25
30-45		1:30
>45		1:40

Note: For locations with unrelocatable control points minimum taper rates for lane drop (T_d) will be 1:20.

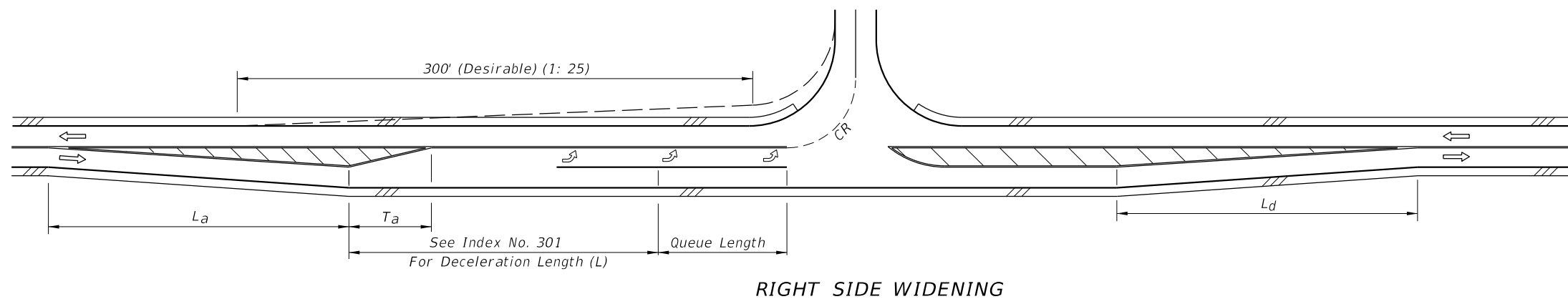
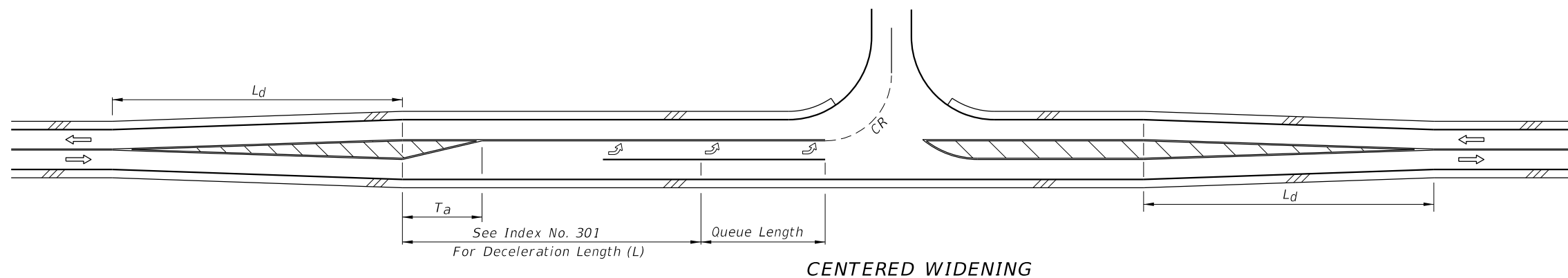
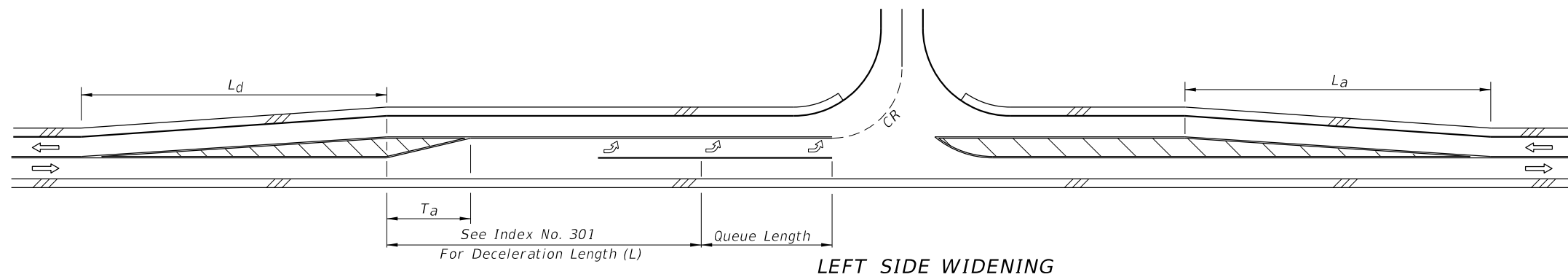


4-LANE UNDIVIDED FLARED - SYMMETRICAL

INTERSECTION TURNS AND STORAGE

GENERAL NOTE
1. For pavement markings refer to Index No. 17346.

6/10/2015 12:51:07 PM



FLARED & PAINTED LEFT TURNS FOR 2-LANE 2-WAY ROADWAYS

DESIGN SPEED (mph)	L _a (Ft.)	
	STANDARD	MINIMUM UNDER CONSTRAINTS
30	180	120
40	320	150
50	500	180
60	720	240

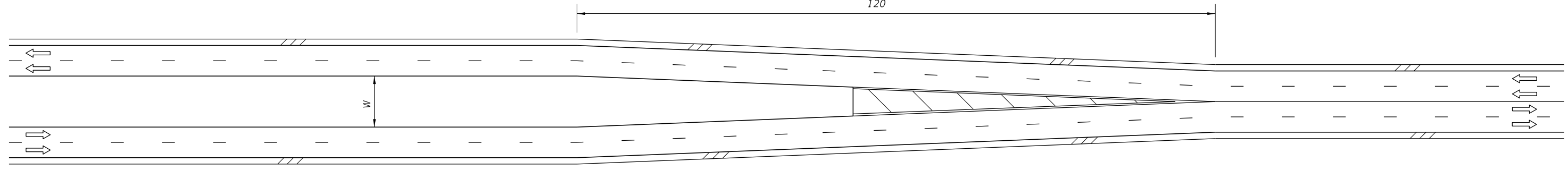
(mph)	L _d (Ft.)	
30	180	120
40	240	150
50	360	180
60	480	240

6/10/2015 12:51:07 PM

LAST REVISION 07/01/15	DESCRIPTION:
---------------------------	--------------

$$L = \frac{WS}{2} \geq 45 \text{ mph}$$

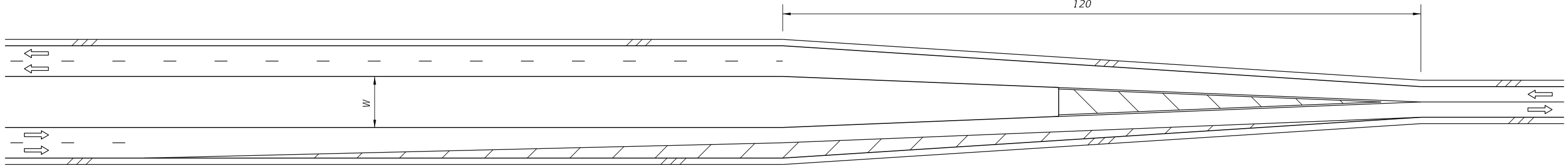
$$L = \frac{WS^2}{120} < 45 \text{ mph}$$



4-LANE DIVIDED TO 4-LANE UNDIVIDED

$$L = \frac{WS}{2} \geq 45 \text{ mph}$$

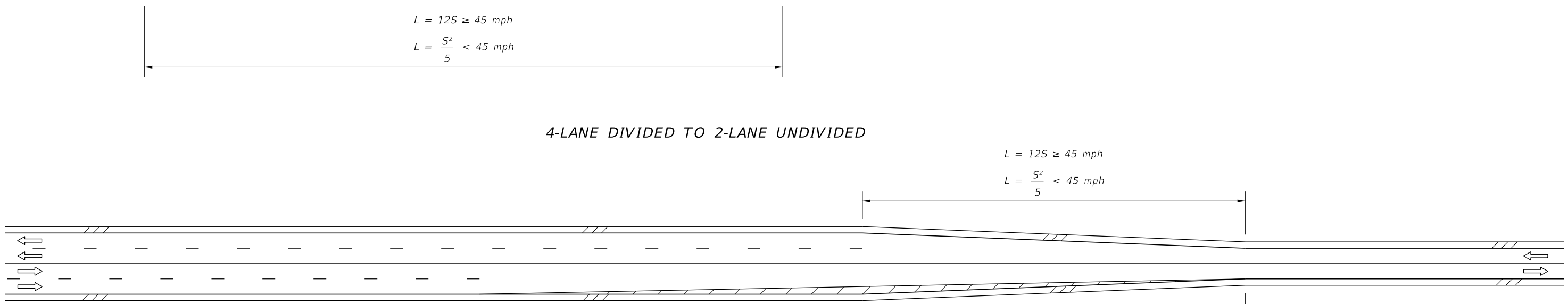
$$L = \frac{WS^2}{120} < 45 \text{ mph}$$



4-LANE DIVIDED TO 2-LANE UNDIVIDED

$$L = 12S \geq 45 \text{ mph}$$

$$L = \frac{S^2}{5} < 45 \text{ mph}$$



4-LANE UNDIVIDED TO 2-LANE UNDIVIDED

LANE DIVERGENCE AND CONVERGENCE FOR CENTERED ROADWAYS



6/10/2015 12:51:07 PM

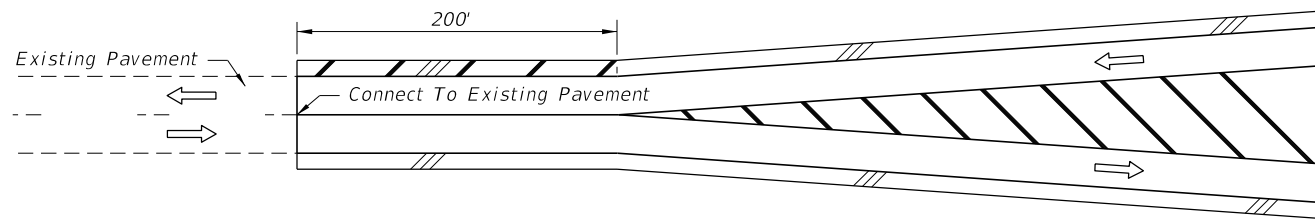
LAST REVISION 07/01/00	DESCRIPTION:
---------------------------	--------------



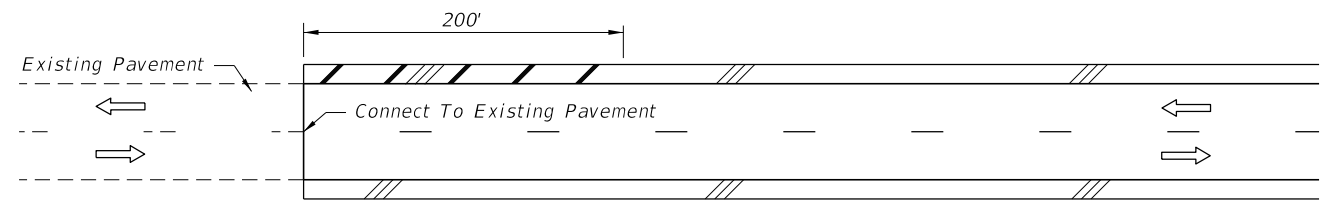
ROADWAY TRANSITIONS

INDEX NO.
526

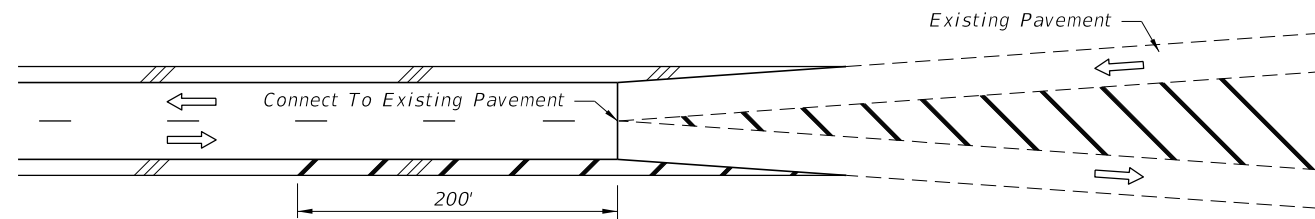
SHEET NO.
3 of 8



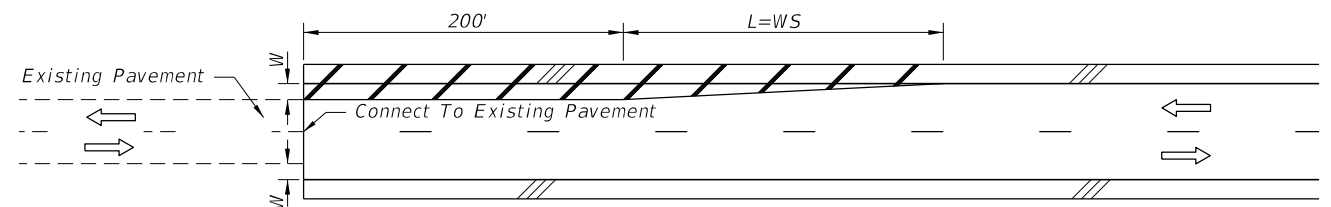
CONNECTING FLARE WITH PAVED SHOULDERS TO EXISTING ROADWAY WITHOUT PAVED SHOULDERS



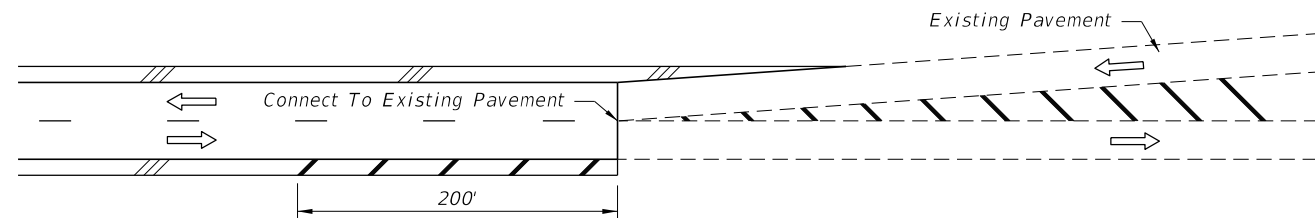
CONNECTING SIMILAR WIDTH PAVEMENTS



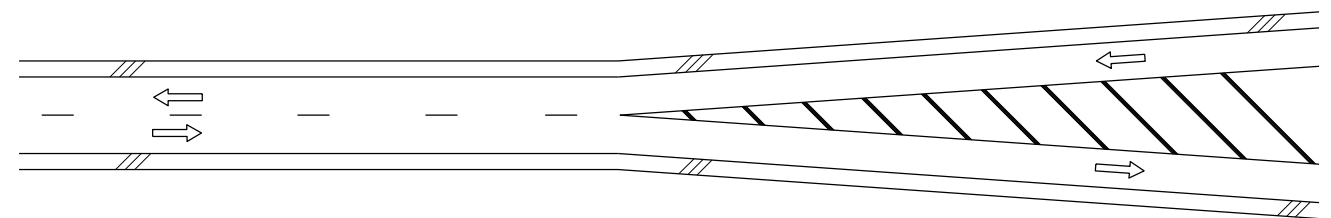
CONNECTING ROADWAY WITH PAVED SHOULDERS TO EXISTING SYMMETRICAL FLARE WITHOUT PAVED SHOULDERS



CONNECTING DIFFERENT WIDTH PAVEMENTS



CONNECTING ROADWAY WITH PAVED SHOULDERS TO EXISTING ASYMMETRICAL FLARE WITHOUT PAVED SHOULDERS




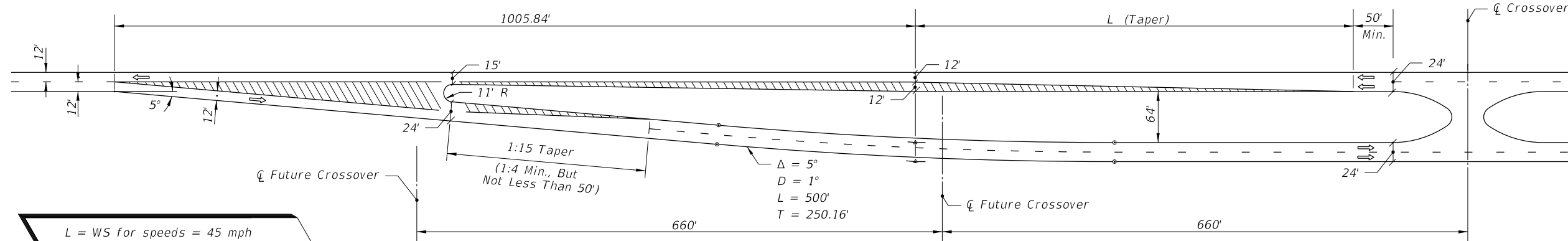
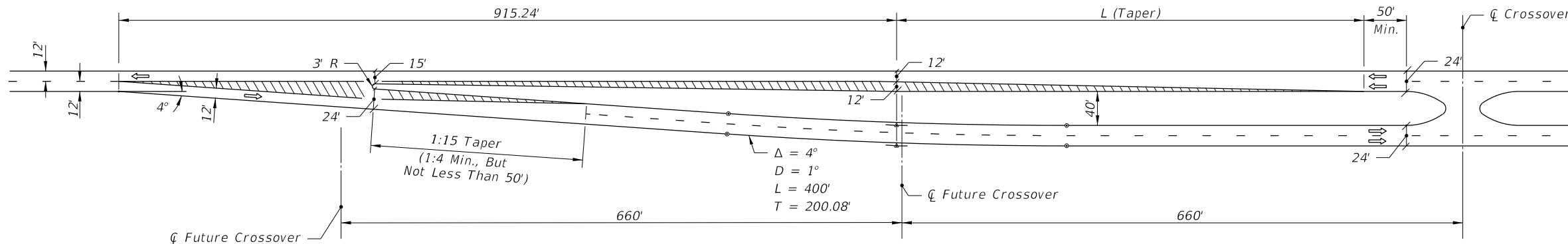
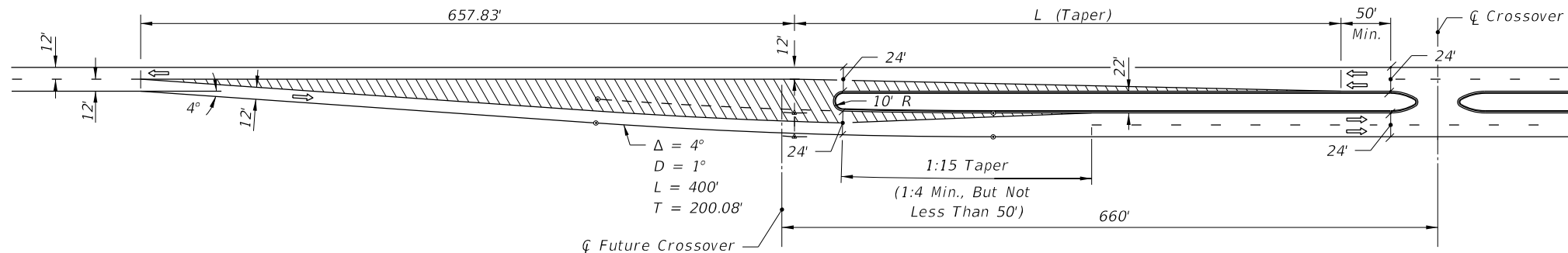
FLARED - PAVED SHOULDERS



PAVED SHOULDER TREATMENT AT TRANSITIONS AND CONNECTIONS

6/10/2015 12:51:08 PM

LAST REVISION 07/01/00	REVISION	DESCRIPTION:	 2016 DESIGN STANDARDS	ROADWAY TRANSITIONS	INDEX NO. 526	SHEET NO. 4 of 8
---------------------------	----------	--------------	--	---------------------	------------------	---------------------



$L = WS$ for speeds = 45 mph
 $L = \frac{WS^2}{60}$ for speeds ≤ 40 mph
 Where:
 W=Width of lateral transition in feet.
 S=Design speed.

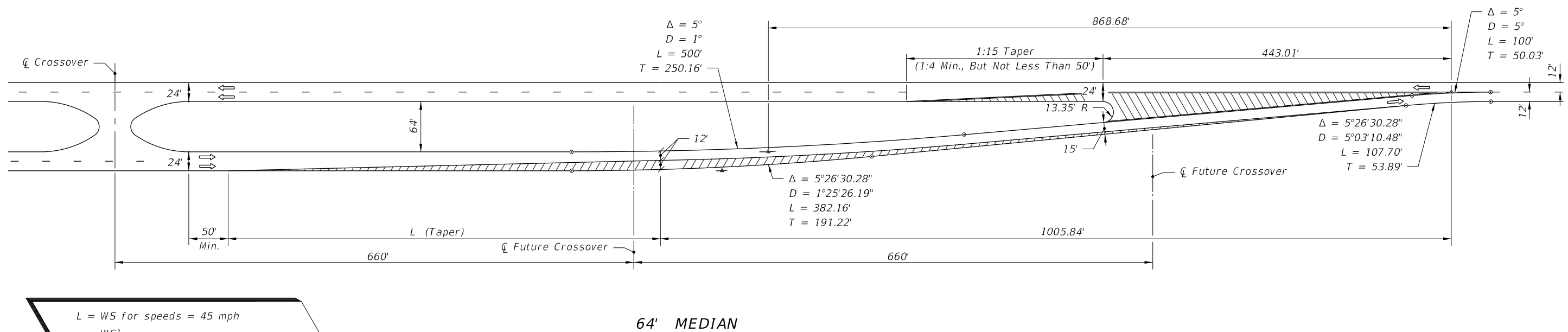
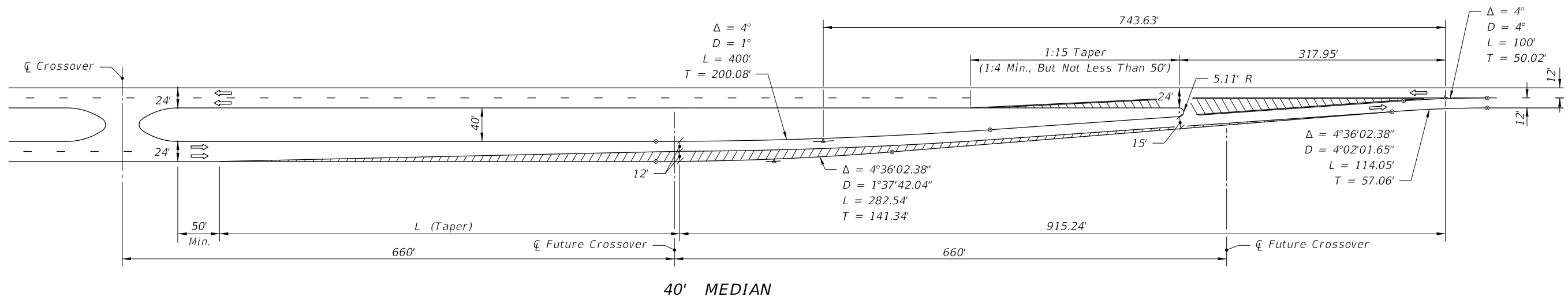
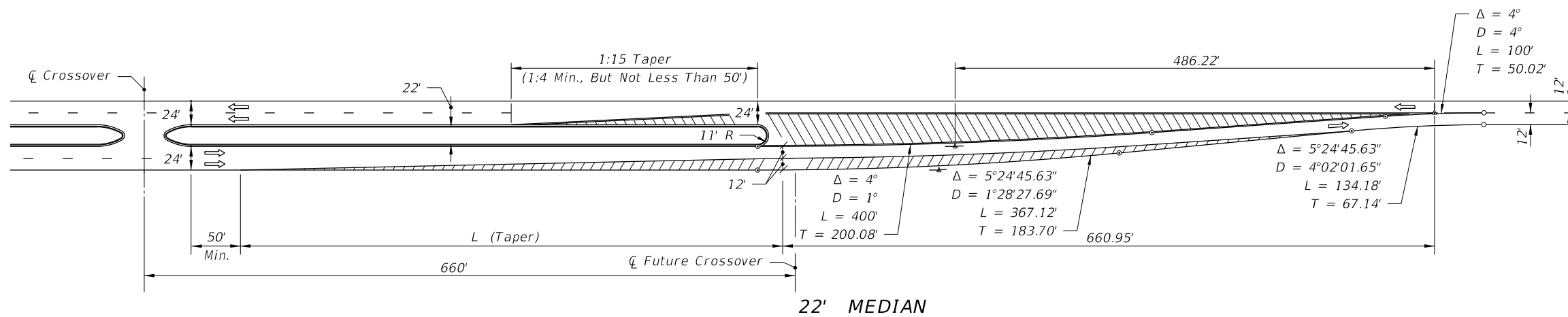
NOTES FOR SHEETS 5 THRU 8

- The transition details as represented on sheets 5 thru 8 are intended as guidelines only. The transition lengths, curve data, nose radii and offsets are valid only for tangent alignment, design speeds ≤ 45 mph, the median widths and lane widths shown.
- Approach lane departures ($\Delta = 5^\circ$) are suitable for design speeds up to 60 mph. Interior curves ($D = 1^\circ$) are suitable for normal crown for design speeds up to 50 mph. Merging curves ($D \geq 5^\circ$) will require superelevation.
- The geometrics of these schemes are associated with the standard subsectional spacing for side roads, but in any case will require modification to accommodate side road location, multilane and/or divided side roads, oblique side roads, crossover widths, storage and speed change lane requirements, and, other related features.

LEFT ROADWAY CENTERED ON APPROACH ROADWAY
 TWO LANE TO FOUR LANE TRANSITION

6/10/2015 12:51:08 PM

LAST REVISION 07/01/00	REVISION	DESCRIPTION:	 2016 DESIGN STANDARDS	ROADWAY TRANSITIONS	INDEX NO. 526	SHEET NO. 5 of 8
---------------------------	----------	--------------	--	----------------------------	-------------------------	----------------------------

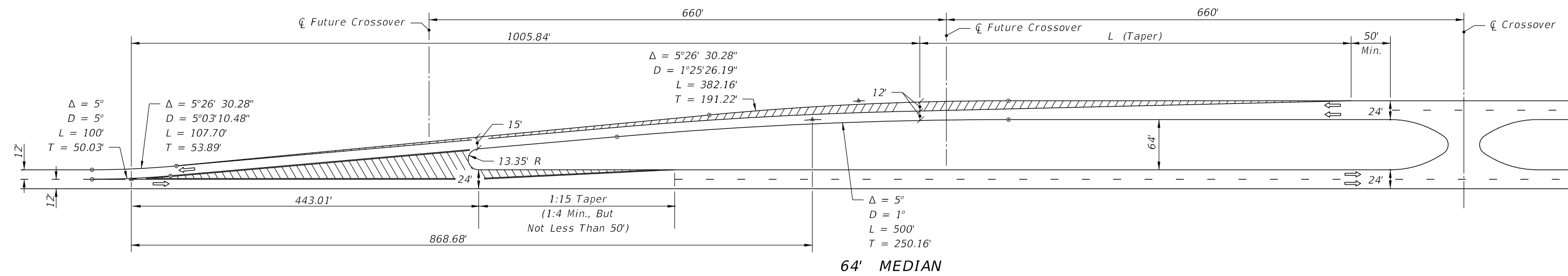
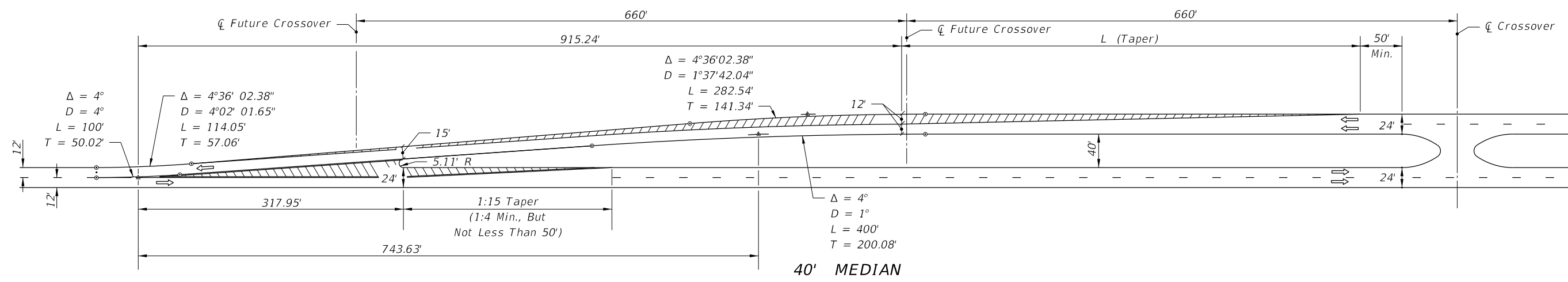
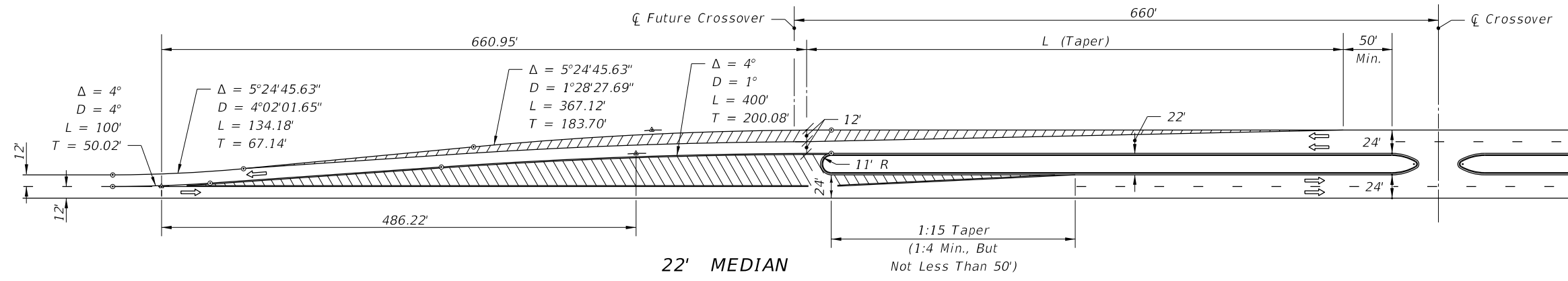


$L = WS$ for speeds = 45 mph
 $L = \frac{WS^2}{60}$ for speeds ≤ 40 mph
 Where:
 W = Width of lateral transition in feet.
 S = Design speed.

LEFT ROADWAY CENTERED ON THRU ROADWAY
 FOUR LANE TO TWO LANE TRANSITION

6/10/2015 12:51:09 PM


LAST REVISION 07/01/00	REVISION	DESCRIPTION:	 2016 DESIGN STANDARDS	ROADWAY TRANSITIONS	INDEX NO. 526	SHEET NO. 6 of 8
---------------------------	----------	--------------	------------------------------	---------------------	------------------	---------------------

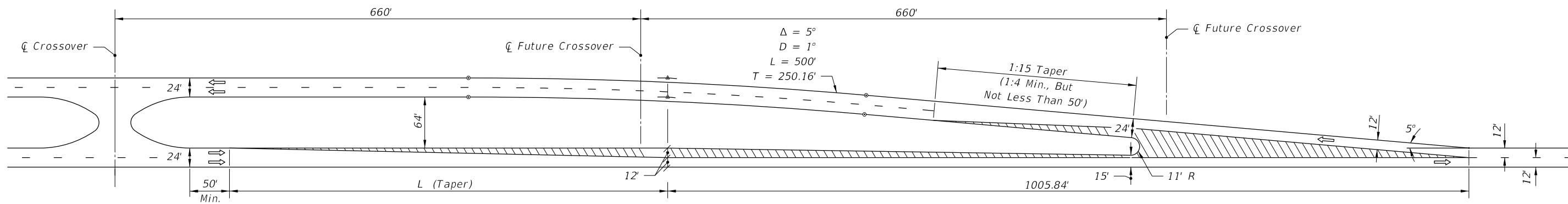
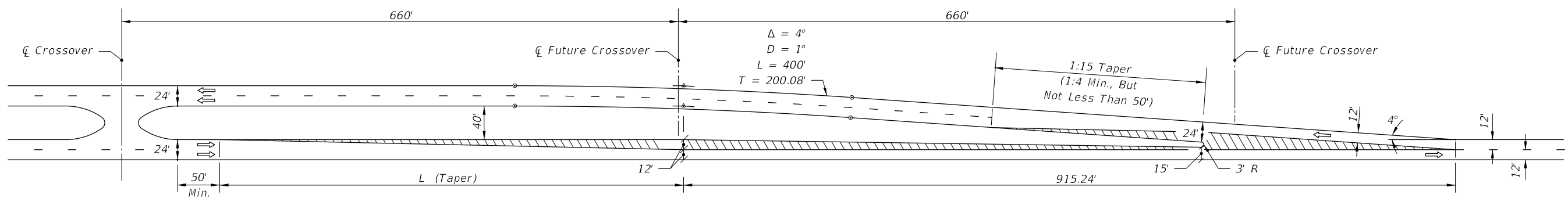
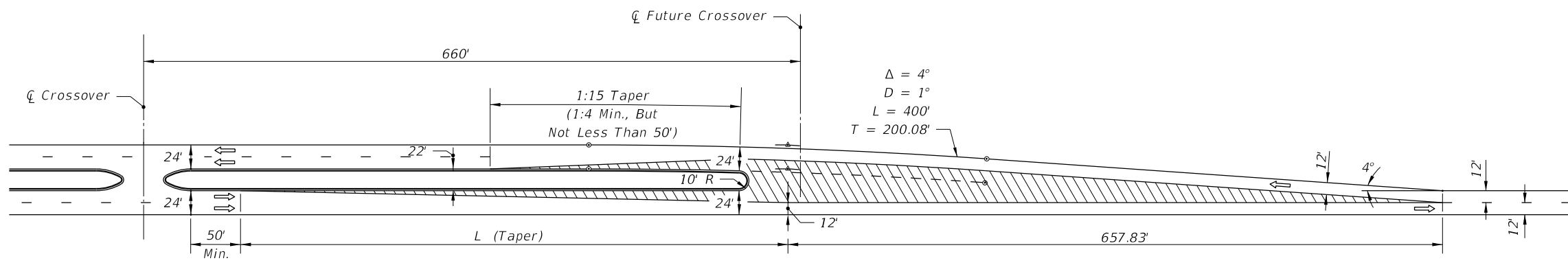


$L = WS$ for speeds = 45 mph
 $L = \frac{WS^2}{60}$ for speeds ≤ 40 mph
 Where:
 W = Width of lateral transition in feet.
 S = Design speed.

RIGHT ROADWAY CENTERED ON APPROACH ROADWAY
 TWO LANE TO FOUR LANE TRANSITION

6/30/2015 10:36:00 AM

LAST REVISION 07/01/00	REVISION	DESCRIPTION:	 2016 DESIGN STANDARDS	ROADWAY TRANSITIONS	INDEX NO. 526	SHEET NO. 7 of 8
---------------------------	----------	--------------	--	---------------------	------------------	---------------------



$L = WS$ for speeds = 45 mph
 $L = \frac{WS^2}{60}$ for speeds ≤ 40 mph
 Where:
 W = Width of lateral transition in feet.
 S = Design speed.

RIGHT ROADWAY CENTERED ON THRU ROADWAY
 FOUR LANE TO TWO LANE TRANSITION

6/10/2015 12:51:10 PM

LAST REVISION	REVISION	DESCRIPTION:	 2016 DESIGN STANDARDS	ROADWAY TRANSITIONS	INDEX NO. 526	SHEET NO. 8 of 8
07/01/00						