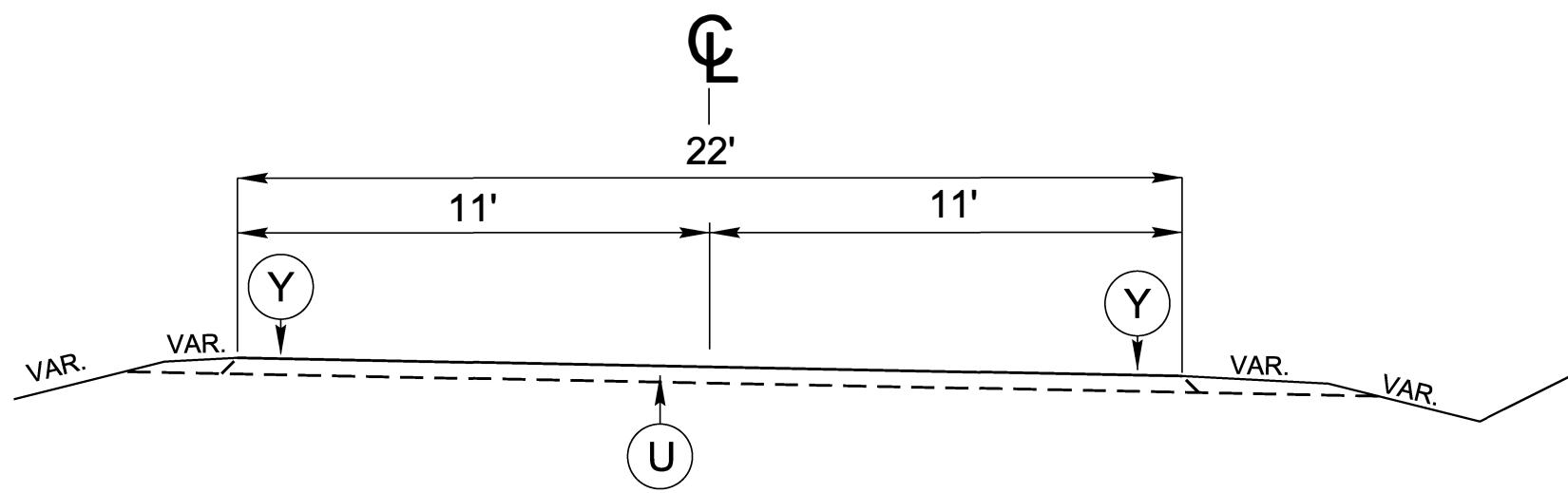


### TYPICAL SECTION NO. 1

- MAP 1 - US 221 SB FROM ASHE CO LINE TO US 421
- MAP 2 - US 221 NB FROM US 421 TO ASHE CO LINE
- MAP 3 - US 221 NB FROM WATAUGA CO LINE TO NC 163
- MAP 4 - US 221 SB FROM NC 163 TO WATAUGA CO LINE



### TYPICAL SECTION NO. 2

- MAP 5 - RMP-7115 FROM US 221 NB TO US 421 SB
- MAP 6 - RMP-7116 FROM US 421 SB TO US 221 SB
- MAP 7 - RMP-7117 FROM US 421 NB TO US 221 SB

PAVEMENT SCHEDULE	
U	EXISTING PAVEMENT
Y	MILLED SINUSOIDAL RUMBLE STRIPS

**\*\*NOTE\*\***  
 FOR TREATMENT AT ROADWAYS OR DRIVEWAYS SEE STD. NO. 665.02 -LIMITS FOR ASPHALT SHOULDER MILLED RUMBLE STRIPS.

RUMBLE STRIPS WILL NOT BE PLACED AT LOCATIONS PARALLEL TO BULB OUTS. THEY ARE TO STOP AND START AT EACH BULB OUT ENTRANCE AND EXIT.

SINUSOIDAL RUMBLE STRIP (8") TO BE USED AT THE DIRECTION OF THE ENGINEER.

NOTE: TYPICALS ARE NOT TO SCALE

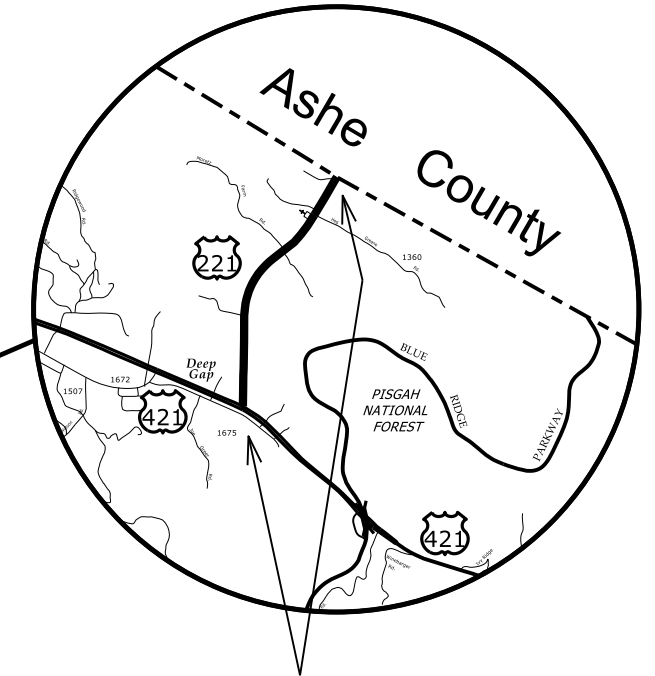
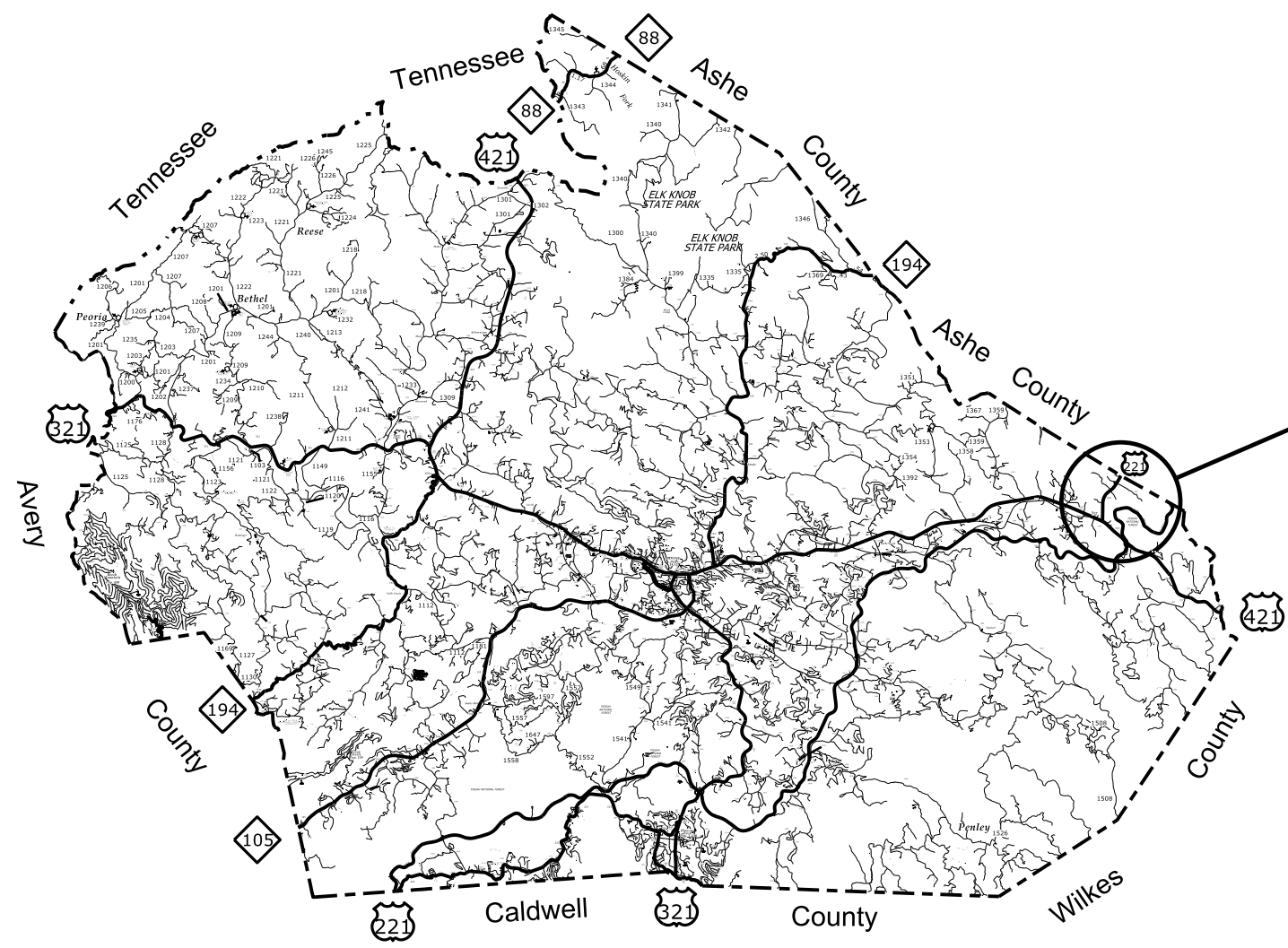
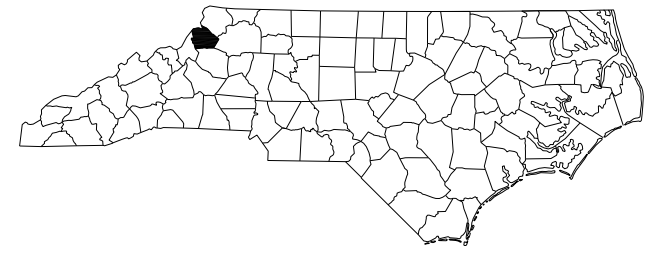
ASHE & WATAUGA COUNTIES MILLED RUMBLE STRIPS 2024			
REVISIONS	INIT.	DATE	
			SCALE: N/A DATE: 6/18/2024
N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION ELEVEN			PREPARED BY: DLH
			REVIEWED BY:
			REVIEWED BY:

8/17/99  
 19-JUN-2024 13:49  
 C:\Users\jgibson\OneDrive\Desktop\Projects\2024\Mapa Milled Rumble Strips - DK00393\DK00393-Typicals.dgn

# WATAUGA COUNTY

TYPE OF WORK: MILLED RUMBLE STRIPS  
 MAPS # 1, # 2, & #5 THRU #7

2024



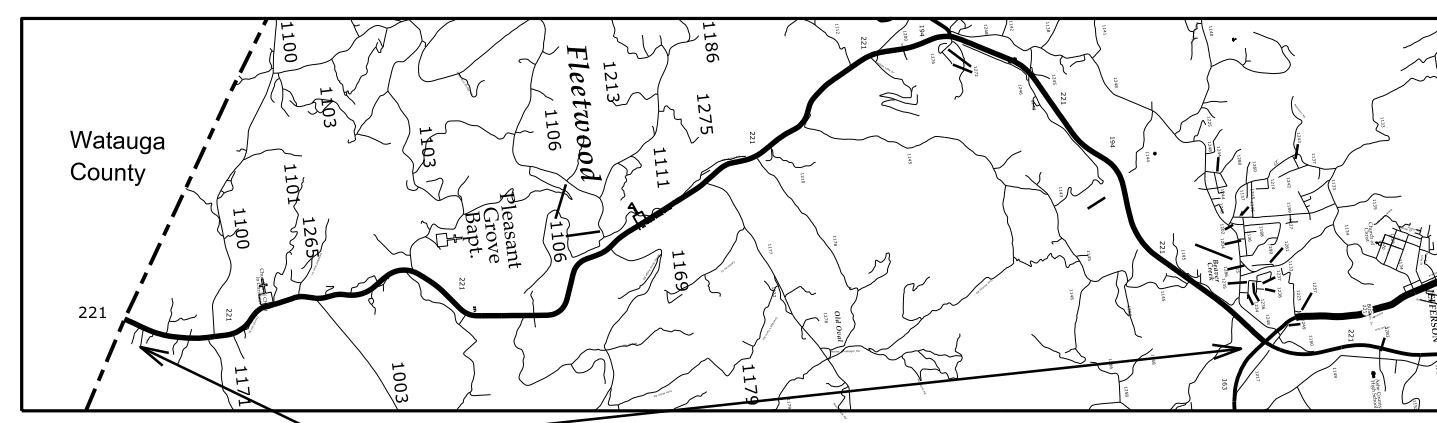
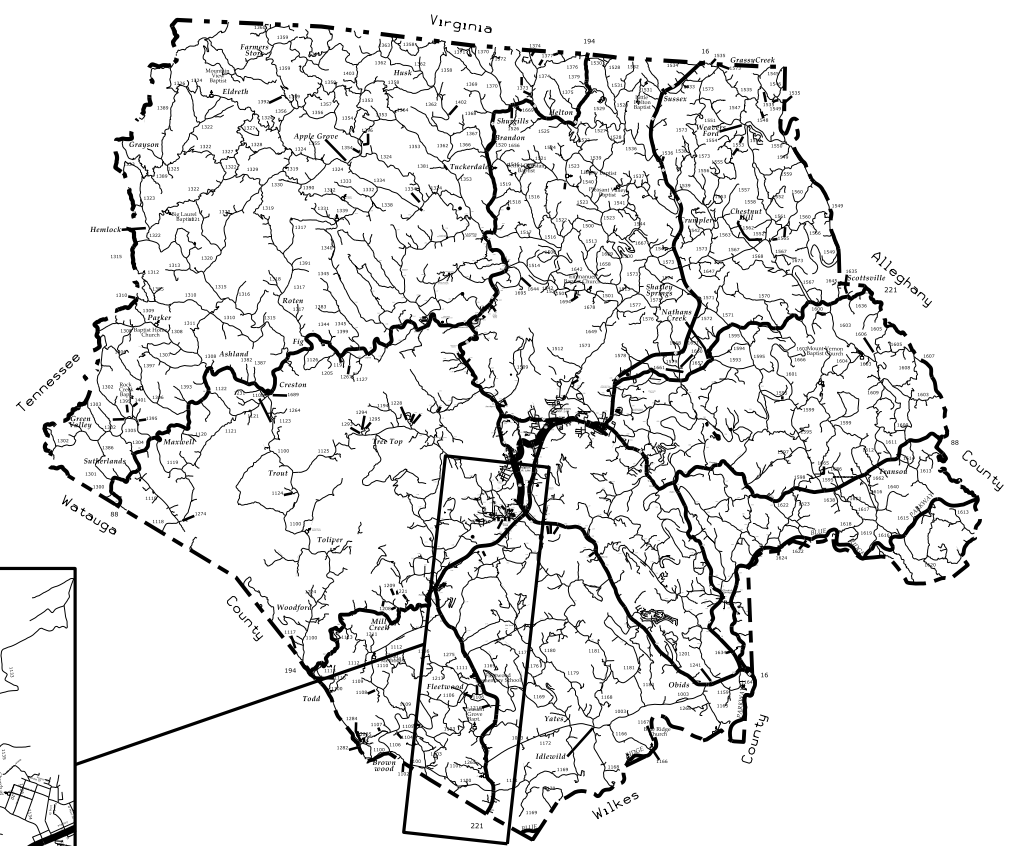
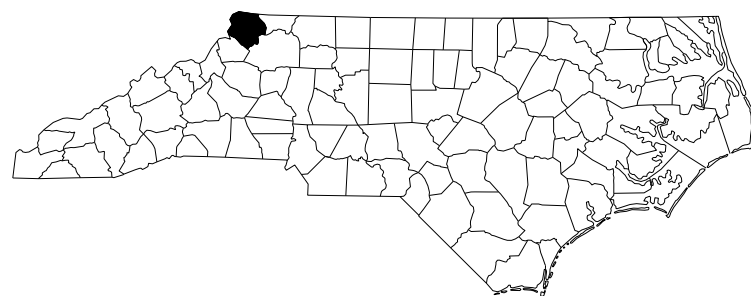
**MAPS #1, #2, & #5 - #7**

- \* US 221 SB - (1.08mi.)  
(FROM ASHE CO LINE TO US 421)
- \* US 221 NB - (1.08mi.)  
(FROM US 421 TO ASHE CO LINE)
- \* RMP-7115 - (0.48mi.)  
(FROM US 221 NB TO US 421 SB)
- \* RMP-7116 - (0.26mi.)  
(FROM US 421 SB TO US 221 SB)
- \* RMP-7117 - (0.17mi.)  
(FROM US 421 NB TO US 221 SB)

# ASHE COUNTY

TYPE OF WORK: MILLED RUMBLE STRIPS  
MAPS # 3 THROUGH # 4

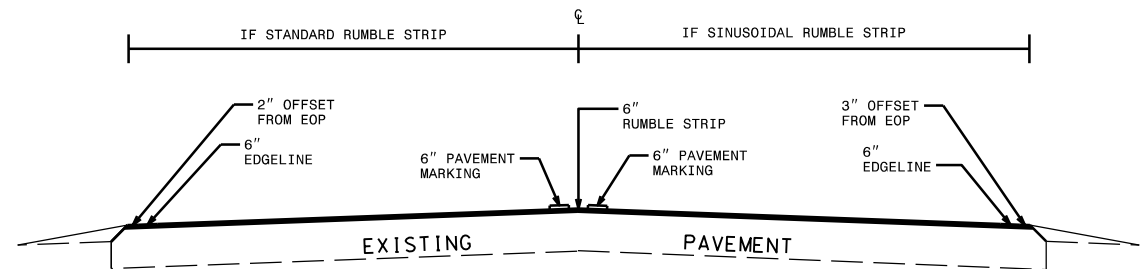
2024



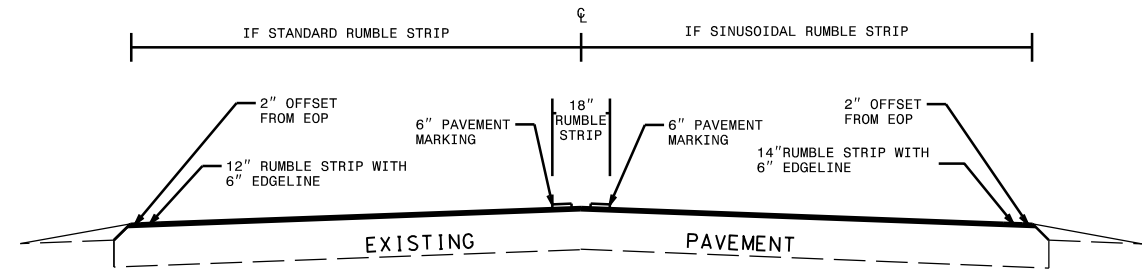
## MAPS #3-4

- \* US 221 NB - (11.33mi) FROM WATAUGA CO LINE TO NC 163
- \* US 221 SB - (11.33mi) FROM NC 163 TO WATAUGA CO LINE

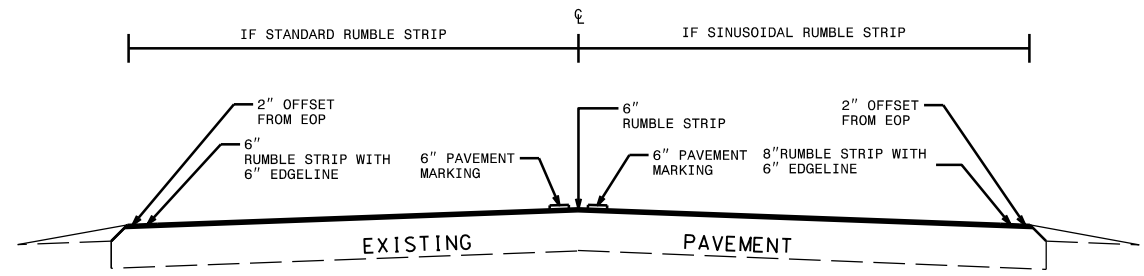
											PROJECT NO.	SHEET NO.	
											DK00393	4	
<b>SUMMARY OF QUANTITIES</b>													
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1881000000-E	1881000000-E
								MI	FT			GENERIC PAVING ITEM, SINUSOIDAL RUMBLE STRIP (8") LF	GENERIC PAVING ITEM, SINUSOIDAL RUMBLE STRIP (14") LF
51353	Watauga	1	US 221 SOUTHBOUND	ASHE COUNTY LINE TO US 421	1	2	MD	1.08	24	0	1.08	200	6,300
51353	Watauga	2	US 221 NORTHBOUND	US 421 TO ASHE COUNTY LINE		2	MD	1.08	24	25.63	26.71	200	6,300
51353	Ashe	3	US 221 NORTHBOUND	FROM WATAUGA COUNTY LINE TO NC 163		2	MD	11.33	24	0	11.33	400	66,000
51353	Ashe	4	US 221 SOUTHBOUND	NC 163 TO WATAUGA COUNTY LINE		2	MD	11.36	24	15.47	26.83	400	66,000
51353	Watauga	5	RMP-7115	FROM US 221 NORTHBOUND TO US 421 SOUTHBOUND		1	MU	0.48	22	0	0.48	100	2,000
51353	Watauga	6	RMP-7116	FROM US 421 SOUTHBOUND TO US 221 SOUTHBOUND		1	MU	0.26	22	0	0.26	100	1,500
51353	Watauga	7	RMP-7117	FROM US 421 NORTHBOUND TO US 221 SOUTHBOUND		1	MU	0.17	22	0	0.17	100	1,500
<b>TOTAL FOR PROJ NO. 51353</b>								<b>25.76</b>				<b>1,500</b>	<b>149,600</b>
<b>GRAND TOTAL</b>								<b>25.76</b>				<b>1,500</b>	<b>149,600</b>



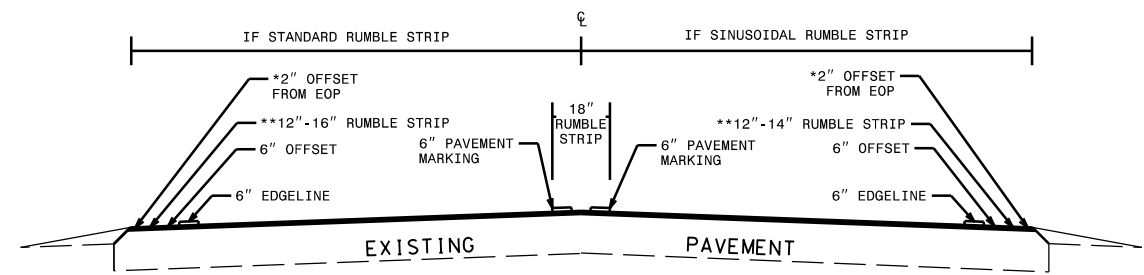
TYPICAL SECTION NO. 1  
 $20' \leq \text{PAVEMENT WIDTH} < 22'$



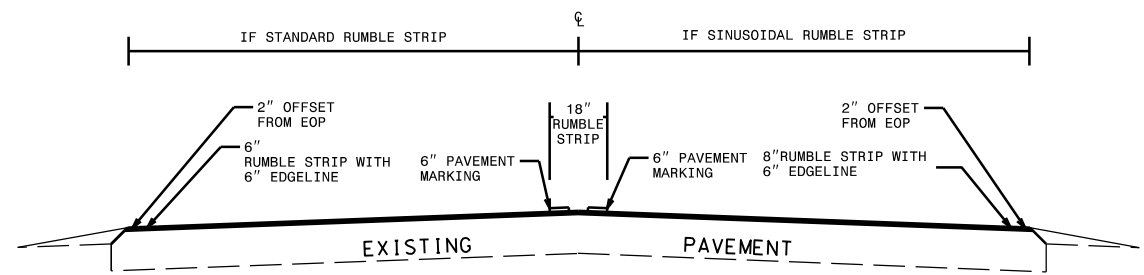
TYPICAL SECTION NO. 4  
 $24' \leq \text{PAVEMENT WIDTH} < 26'$



TYPICAL SECTION NO. 2  
 $22' \leq \text{PAVEMENT WIDTH} < 23'$



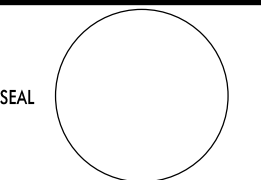
TYPICAL SECTION NO. 5  
 $\text{PAVEMENT WIDTH} \geq 26'$



TYPICAL SECTION NO. 3  
 $23' \leq \text{PAVEMENT WIDTH} < 24'$

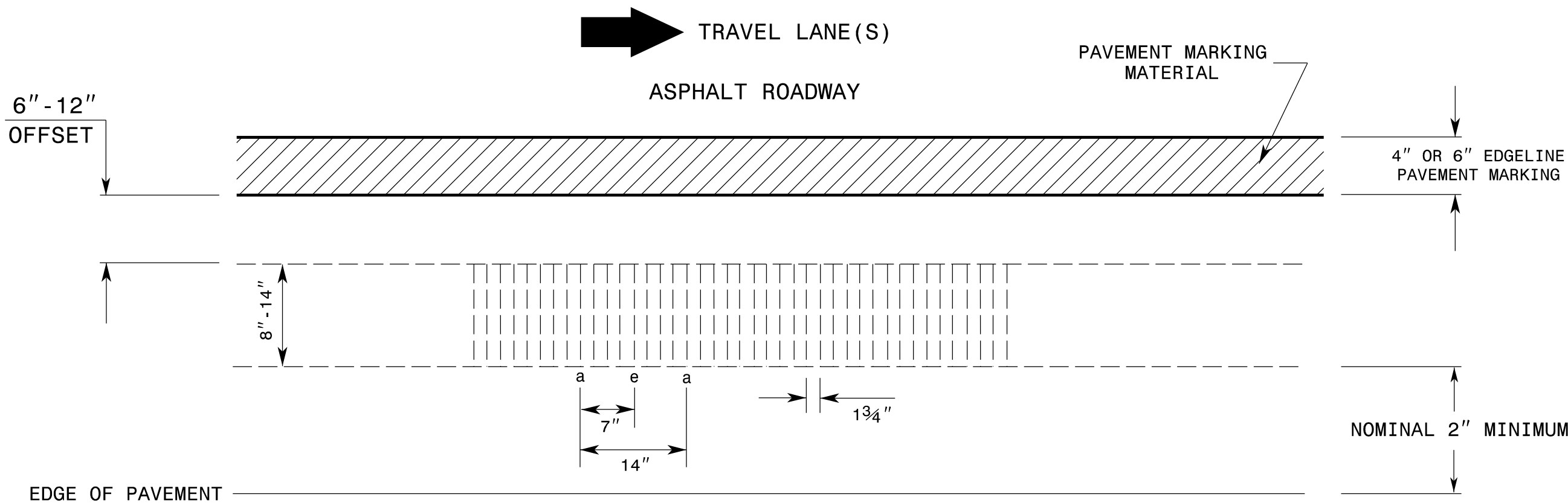
\* INCREASE THIS DISTANCE FOR PAVEMENT WIDTHS > 30' BASED ON A LANE WIDTH OF 12'  
 \*\* WIDTH OF RUMBLE STRIP IS BASED ON A LANE WIDTH OF 10'-12'

15-NOV-2023 11:22  
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 \*\*\*USER NAME\*\*\*

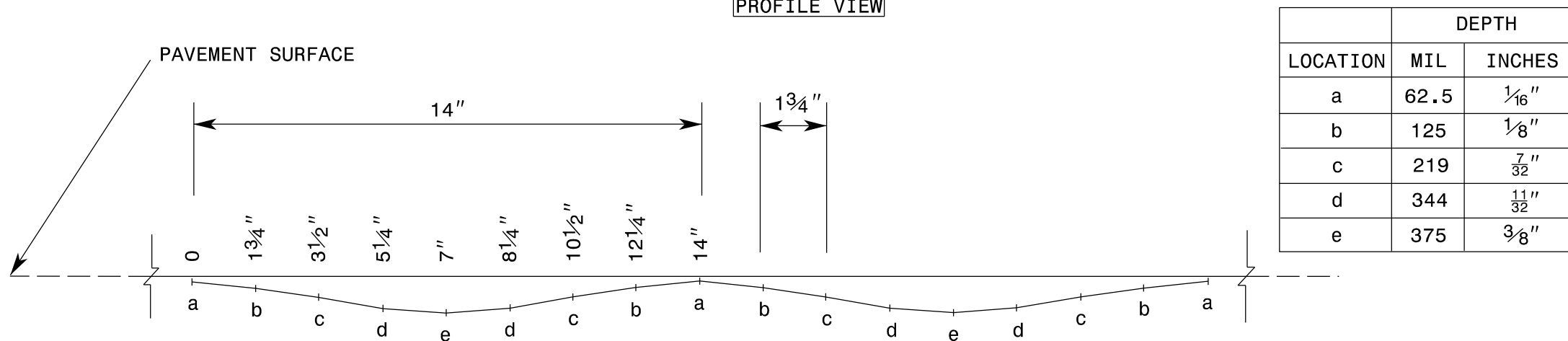
APPROVED: _____	DATE: _____	<b>MILLED/SINUSOIDAL RUMBLE STRIP DETAIL</b>	
			
		DATE: OCT 2023	REVISIONS
DWG. BY: JCB			
DESIGN BY: WAT			
REVIEWED BY:			

See Table 1 within Rumble Strip  
Policy for Design Guidance

PLAN VIEW



PROFILE VIEW



REFERENCE DRAWING ID: Sin.Strip

NOTES:

- 1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By: Terhaar et. al, June 2016*