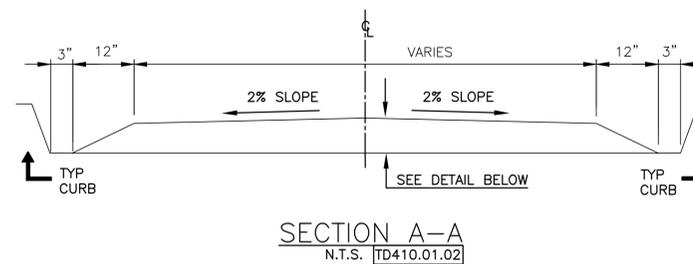
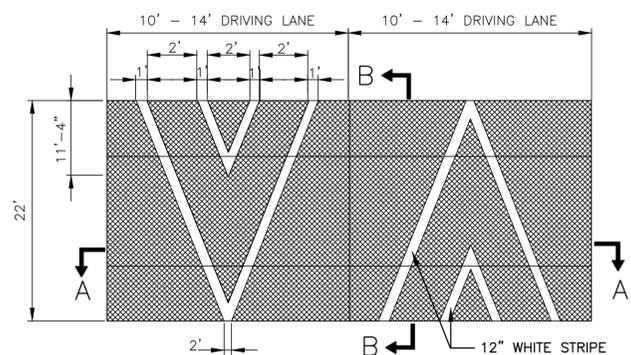
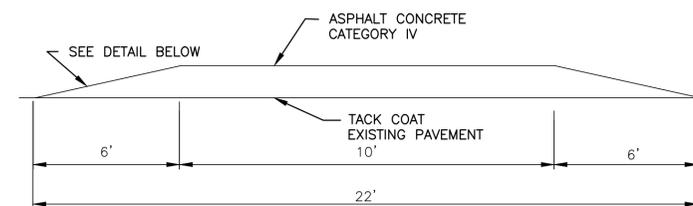
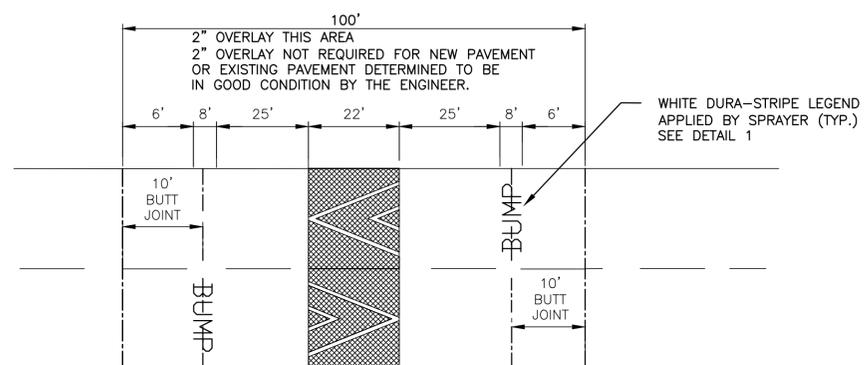


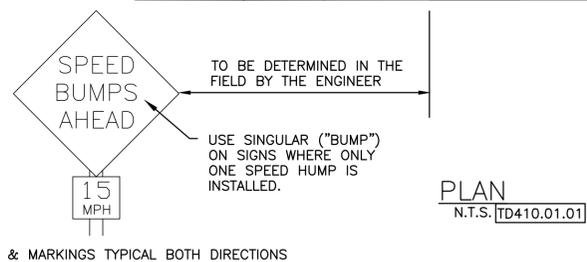
CHIEF



SECTION A-A
N.T.S. TD410.01.02

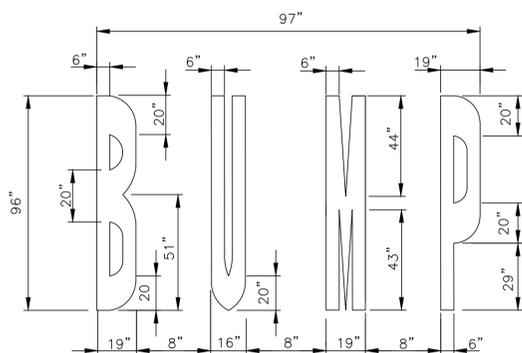


SECTION B-B
N.T.S. TD410.01.03

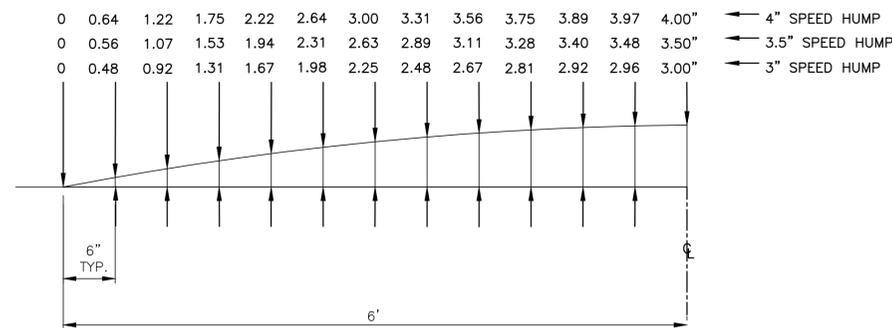


SIGNS & MARKINGS TYPICAL BOTH DIRECTIONS

PLAN
N.T.S. TD410.01.01



DETAIL 1
N.T.S. TD410.01.04



COMPACTED DEPTHS
N.T.S. TD410.01.05

No.	Date	Revision	Approved

ENGINEERING DEPARTMENT

PANYNJ
Traffic Standard
Details

TRAFFIC

Title
TRAFFIC CALMING DEVICES

SPEED HUMP

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Date _____ 11/01/2010

Contract Number _____

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ENGINEERING DEPARTMENT

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Title
TRAFFIC CALMING DEVICES

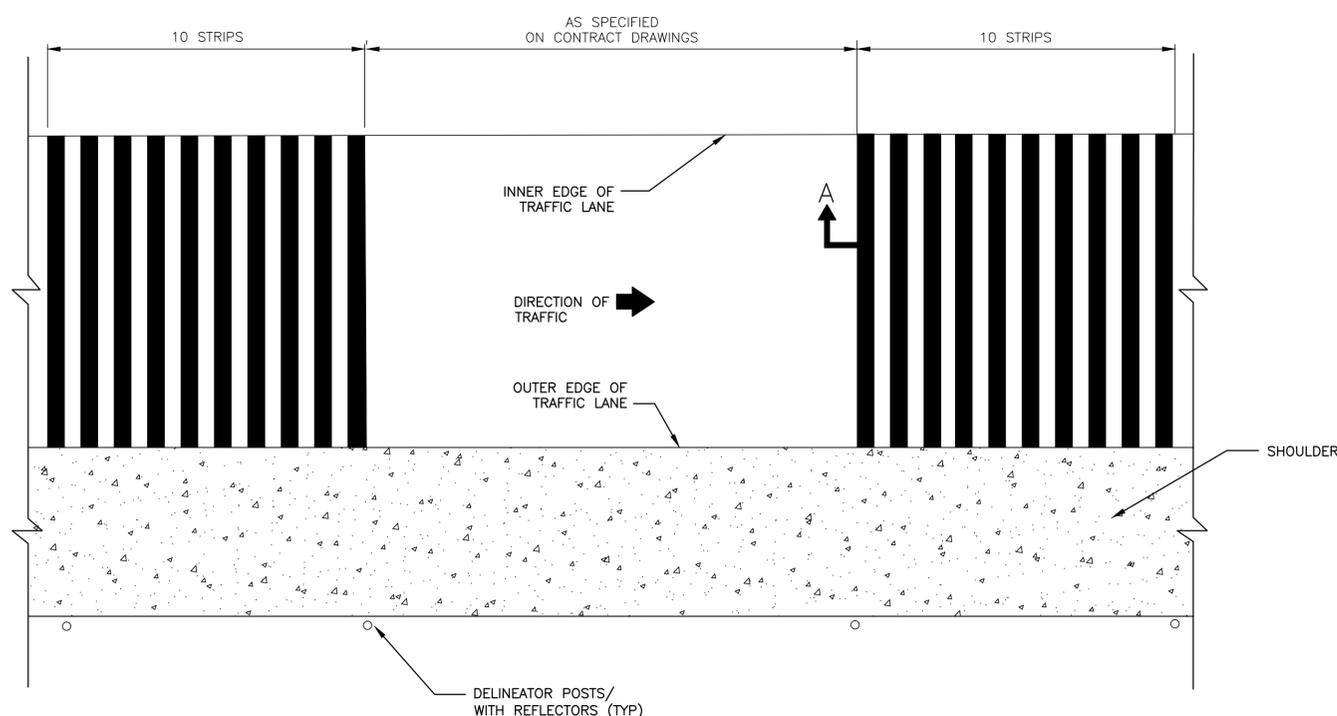
RUMBLE STRIPS AND TOLL PLAZA APPROACH RUMBLE STRIPS

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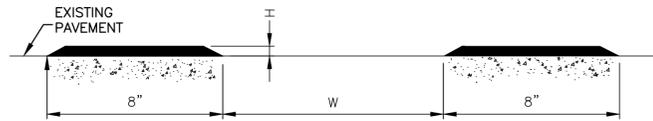
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Date _____ 11/01/2010

Contract Number _____

Drawing Number **TD410.02**
PID# _____



PLAN VIEW
N.T.S.



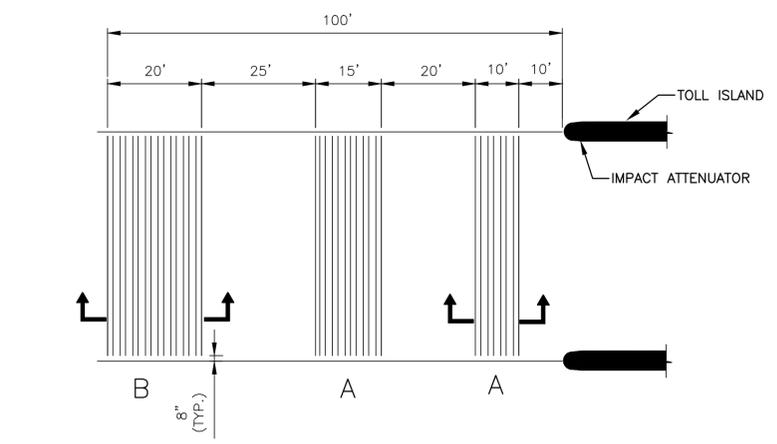
MPH	H	W
0-40	1/4" - 3/8"	12"
OVER 40	3/8" - 1/2"	24"

SECTION A-A
N.T.S.

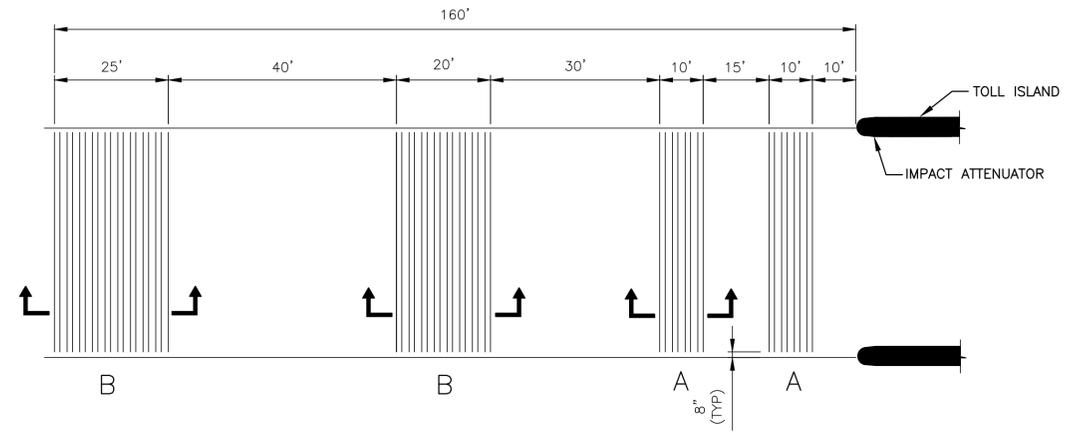
NOTES

1. THE BITUMINOUS MATERIAL SHALL BE EITHER CLASS I SURFACE OR SAND ASPHALT SURFACE EXCEPT THAT ALL THE AGGREGATE RETAINED ON THE NO. 4 SIEVE SHALL BE REMOVED PRIOR TO MIXING THE MATERIAL. NO. 11 STONE MAY BE USED IN CLASS I SURFACE FOR COARSE AGGREGATE IN LIEU OF NO. 9 STONE.
2. TWO 7' LONG, TYPE I DELINEATOR POSTS SHALL BE INSTALLED AT EACH LOCATION.
3. TWO 2 1/2" DIAMETER TYPE III A SILVER WHITE DELINEATOR UNITS SHALL BE INSTALLED AT THE TOP OF EACH DELINEATOR POST WITH A M5 ALUMINUM OR STAINLESS STEEL SLOTTED ROUND HEAD MACHINE SCREW, WASHER AND VANDAL PROOF NUT.
4. THE TACK COAT SHALL BE APPLIED FULL STRENGTH WITH A LIBERAL COAT.
5. SIDE FORMS OR OTHER APPROVED METHODS SHALL BE USED TO ACCOMPLISH THE DESIRED 10 UNIT STRIP SYSTEM. A SUFFICIENT AMOUNT OF BITUMINOUS MIXTURE SHALL BE PLACED IN THE FORMS AND COMPACTED WITH A LIGHT ROLLER SO AS TO PROVIDE A COMPACTED THICKNESS OF 1/4" TO 1/2" AS APPLICABLE.
6. THE DELINEATOR UNIT SHALL BE CONSTRUCTED IN SUCH A MANNER THAT THE TOP OF THE DELINEATOR UNIT IS 4' ABOVE TOP OF PAVEMENT.
7. THE REFLECTIVE SURFACE OF THE DELINEATOR UNIT SHALL FACE TRAFFIC AND POINTS TOWARD THE CENTER LINE OF THE ROADWAY APPROXIMATELY 1300' AWAY.
8. WHEN APPLIED TO RIGID PAVEMENTS THE ENGINEER MAY REQUIRE THE RUMBLESTRIPS TO BE SKEWED PARALLEL TO OTHER SKEWED TRANSVERSE JOINTS.

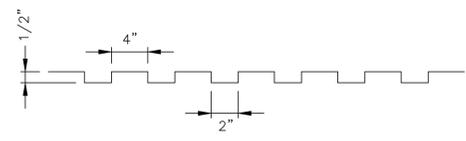
RUMBLE STRIPS



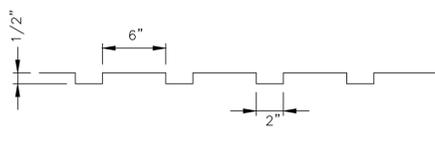
RUMBLE STRIP PATTERN FOR LINCOLN TUNNEL
N.T.S.



RUMBLE STRIP PATTERN FOR GWB, OBX, GB, BB, AND HT
N.T.S.

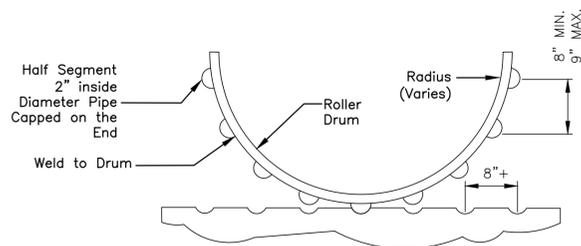


HIGH PITCH - TYPE A
N.T.S.

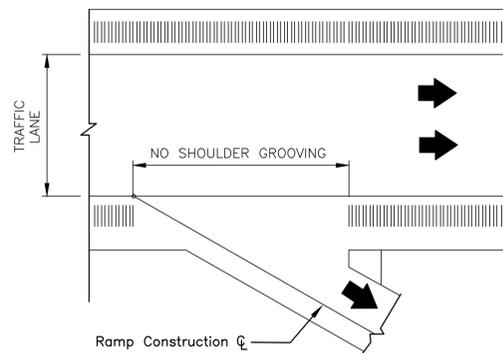


MEDIUM PITCH - TYPE B
N.T.S.

TOLL PLAZA APPROACH RUMBLE STRIPS



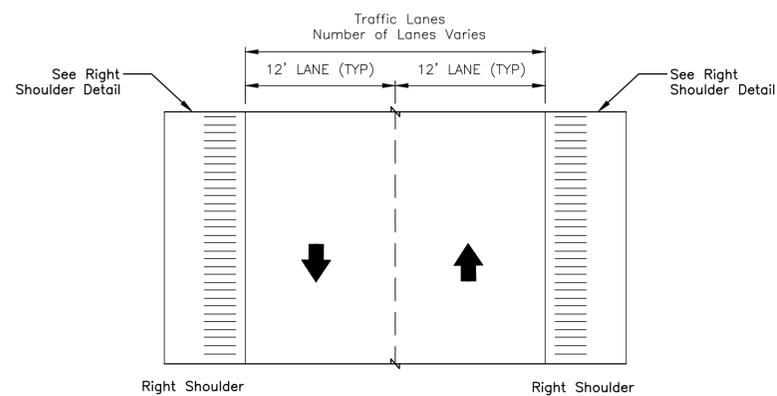
STEEL DRUM DETAIL
(SEE NOTE 3.)
TD410.03.02



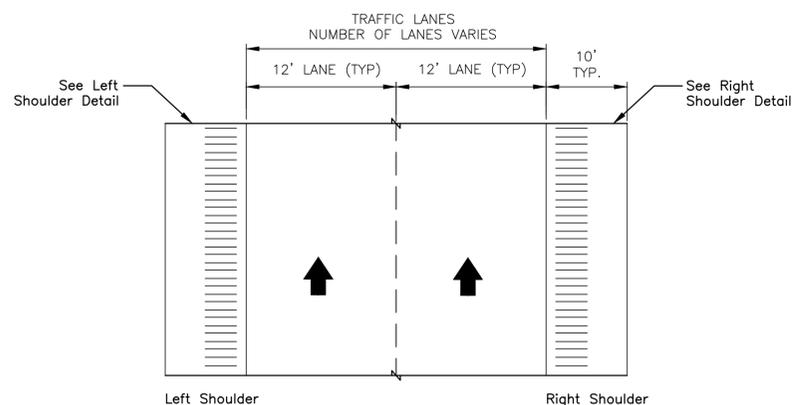
RAMP EXEMPTION DETAIL
ENTRANCE RAMP SIMILAR
TD410.03.03

GENERAL NOTES
TD410.03.01

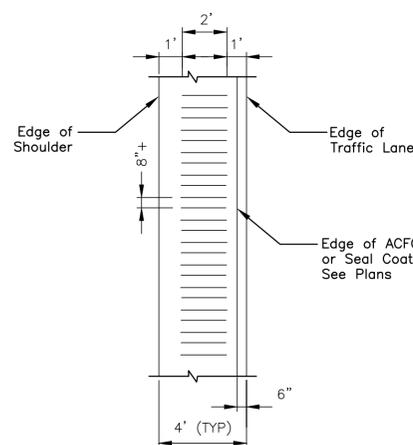
1. SHOULDER GROOVING SHALL BE APPLIED TO THE SHOULDERS WHEN CALLED FOR ON THE CONTRACT DRAWINGS IN ACCORDANCE WITH THE FOLLOWING SHOULDER WIDTHS: UNDIVIDED HIGHWAYS: SHOULDER 6' AND GREATER DIVIDED HIGHWAYS: RIGHT SHOULDER 6' AND GREATER LEFT SHOULDER 4' AND GREATER SHOULDER GROOVING SHALL BE OMITTED ACROSS PRINCIPAL INTERSECTING.
2. ROADWAYS OR OTHER INTERRUPTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER.
3. SHOULDER GROOVING SHALL BE CONSTRUCTED BY MAKING INDENTATIONS IN THE ASPHALTIC CONCRETE. THE INDENTATIONS MAY BE FORMED BY ROLLING THE HOT ASPHALT CONCRETE WITH A ROLLER TO WHICH HALF SEGMENT OF 2" INSIDE DIAMETER PIPE HAVE BEEN WELDED TO THE DRUM. THE PIPE SEGMENTS SHALL BE 2' LONG AND SPACED AT APPROXIMATE 8" CENTERS.
4. EACH ROLLER SHALL BE EQUIPPED WITH AN ACCEPTABLE GUIDE THAT EXTENDS IN FRONT OF THE ROLLER AND IS CLEARLY VISIBLE TO THE OPERATOR IN ORDER THAT PROPER ALIGNMENT OF THE COMPLETED SCORED SHOULDER IS OBTAINED.
5. THE CONTRACTOR MAY UTILIZE OTHER EQUIPMENT OR METHODS TO CONSTRUCT THE SHOULDER GROOVING IF APPROVED BY THE ENGINEER.



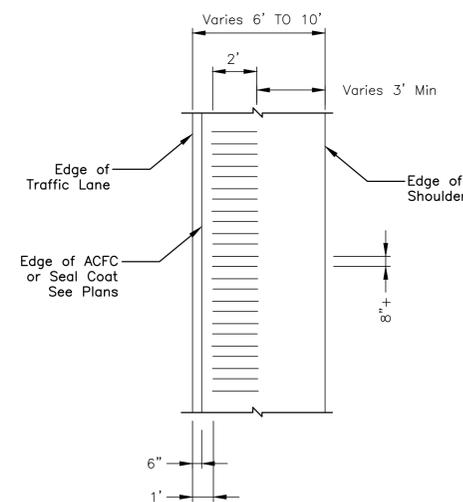
TYPICAL SHOULDER GROOVING PLAN
FOR UNDIVIDED HIGHWAYS
TD410.03.04



TYPICAL SHOULDER GROOVING PLAN
FOR DIVIDED HIGHWAYS
TD410.03.05



LEFT SHOULDER GROOVING DETAIL
FOR DIVIDED HIGHWAYS
(TYPICALLY 4' WIDE)
TD410.03.06



RIGHT SHOULDER GROOVING DETAIL
(SHOULDERS 6' AND WIDER)
TD410.03.07

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ENGINEERING DEPARTMENT

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Traffic Standard
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TRAFFIC

Title
TRAFFIC CALMING DEVICES

**SHOULDER GROOVING
FOR RUMBLE STRIPS**

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