

INDIANA DEPARTMENT OF TRANSPORTATION



INTER-DEPARTMENT COMMUNICATION
Standards Section – Room N642



*Writer's Direct Line
232-6775*

June 27, 2005

DESIGN MEMORANDUM No. 05-19
TECHNICAL ADVISORY

TO: All Design, Operations, District Personnel, and Consultants

FROM: /s/ Anthony L. Uremovich
Anthony L. Uremovich
Design Policy Engineer
Contracts and Construction Division

SUBJECT: HMA Ramp Cross Section

SUPERSEDES: *Indiana Design Manual* Figure 52-13S

EFFECTIVE: November 16, 2005, Letting

Indiana Design Manual Part V Figure 52-13S has been corrected to show the locations of the underdrains to be at the edges of the ramp travel lane pavement instead of at the edges of the paved shoulders.

Attached hereto is a PDF copy which includes *Indiana Design Manual* pages 52-13(21) and 52-13(22). This PDF document includes the subject figure.

Please print a hardcopy of the PDF document and substitute it for the like-numbered pages in your hardcopy of *Manual* Part V, Volume 2.

The subject changes have been incorporated into the online version of the *Manual*.

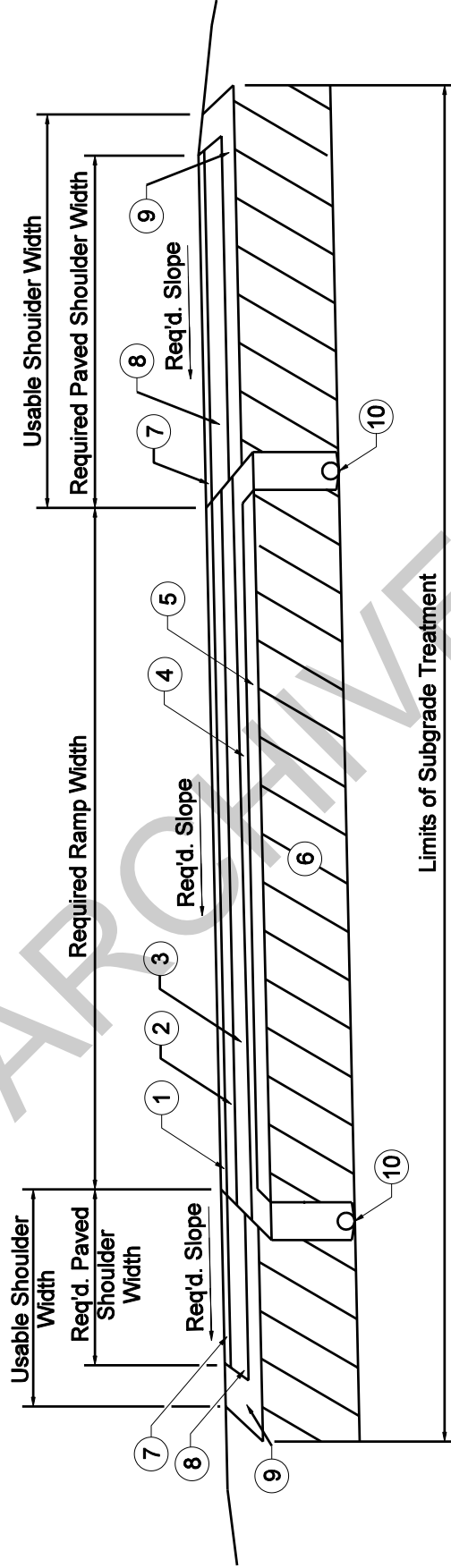
alu
Attachment

*** Shoulder**

- ⑦ 90 kg/m² HMA Surface 9.5 mm
- ⑧ 270 kg/m² HMA Base 25.0 mm
- ⑨ 200 mm Compacted Aggregate Base

If Mainline ESAL value is equal to or greater than 30 million, the ramp pavement section shall be utilized in the shoulder areas. The underdrains shall be relocated accordingly.

* Open graded mixtures OG19.0 mm or OG25.0 mm should be QC/QA-HMA, 5, 76. For all other mixtures, see Section 52-9.02 to determine the appropriate HMA mixture designation.

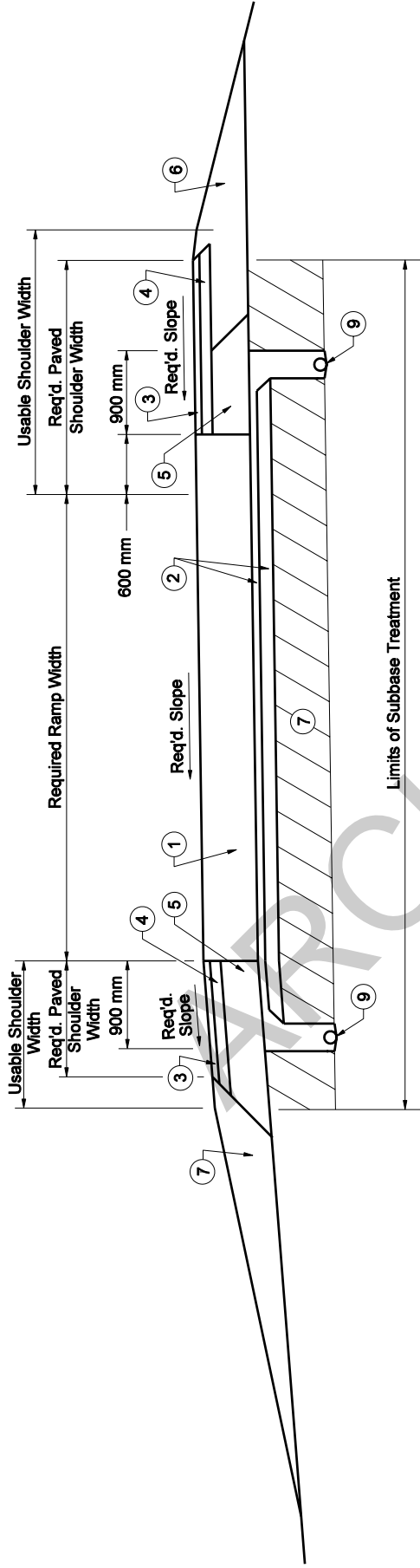


*** Ramp**

- ① 90 kg/m² HMA Surface 9.5 mm
- ② 150 kg/m² HMA Intermediate 19.0 mm
- ③ 180 kg/m² QC/QA HMA Base 19.0 mm or HMA Intermediate 19.0 mm
- ④ 140 kg/m² Minimum HMA Intermediate OG19.0 mm
- ⑤ 180 kg/m² QC/QA HMA Base 19.0 mm or HMA Intermediate 19.0 mm
- ⑥ Subgrade Treatment
- ⑩ Pipe, Type 4, Circular, 150 mm

FULL-DEPTH HMA RAMP

Figure 52-13S



Ramp

- ① PCCP
- ② Subbase for PCCP (75 mm Coarse Aggregate, No. 8 on 150 mm Coarse Aggregate, No. 53)

*** Shoulder**

- ** ③ 90 kg/m² HMA Surface 9.5 mm
- ** ④ 180 kg/m² HMA Intermediate 19.0 mm
- ** ⑤ HMA Base 25.0 mm
- ⑥ Variable Depth Compacted Aggregate Base
- ⑦ Compacted Aggregate Base
- ⑧ Subgrade Treatment
- ⑨ Pipe, Type 4, Circular, 150 mm

* If ramp ESAL value is equal to or greater than 30 million, the ramp pavement section should be utilized in the shoulder areas. See Figure 52-13F for underdrain locations and compacted aggregate wedge details.

** See Section 52-9.02 to determine the appropriate HMA mixture designation.

PCCP RAMP
Figure 52-13T