

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Inter-Departmental Memorandum

To: Design Team Leaders

DATE: October 3, 1999

FROM: Steven W. Reeves
Quality Control Engineer

SUBJECT OR PROJECT NO: Side Drains

INFORMATION COPY TO:

COUNTY:

Roadway Design Division Engineer
Assistant Roadway Design Division Engineer
Roadway Design Section Engineers
RWD Hydraulic Section
Active Consultants
District Construction Engineers
Files

Recent changes to Standard Drawing RD-1 have increased the length of pipe required for side drains. Standard Drawing RD-1 shows the slopes required on driveways and ramps. Please find this drawing attached. Side drain pipe must be of sufficient length to allow the flatter slopes shown. Please see examples shown below.

Example 1: 18" side drain inside clear zone, 16' ramp, speed equal to 50 mph, and vertical distance from ramp to flow line is 3.5 ft.

Desirable 10:1 slope

$16 + (3.5 \times 10) + (3.5 \times 10) = 86$ ft of pipe, use 88 ft (keep in increment of 4 ft)

Maximum 6:1 slope

$16 + (3.5 \times 6) + (3.5 \times 6) = 58$ ft of pipe, use 60 ft (keep in increment of 4 ft)

Example 2: 18" side drain inside clear zone, 16' ramp, speed equal to 40 mph, and vertical distance from ramp to flow line is 4 ft.

Desirable 10:1 slope

$16 + (4 \times 10) + (4 \times 10) = 96$ ft

Maximum 3:1 slope

$16 + (4 \times 3) + (4 \times 3) = 40$ ft

Example 3: 18" side drain outside clear zone, 16' ramp, speed is not a factor, vertical distance from ramp to flow line is 2.5 ft, and side slope of roadway is 4:1

Desirable = match road slope

$16 + (2.5 \times 4) = (2.5 \times 4) = 36$ ft of pipe

Maximum 3:1 slope

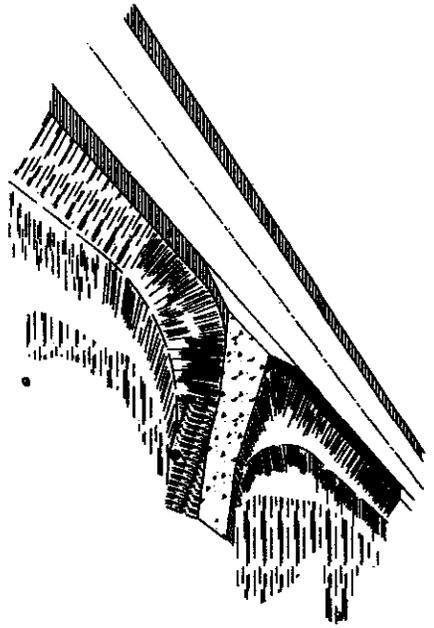
$16 + (2.5 \times 3) + (2.5 \times 3) = 31$ ft of pipe, use 32 ft (keep in increment of 4 ft)

Unless instructed otherwise, always use desirable when determining the length of side drains. All pipe lengths must be in increments of four (4) feet. Remember to include at least six (6) inches of cover over pipe culvert.

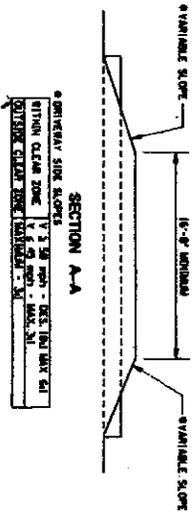
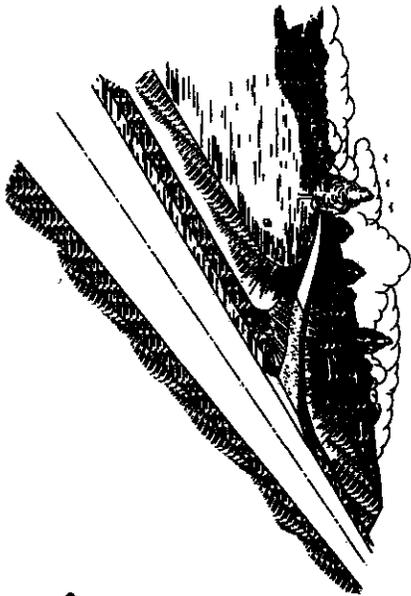
If you have any questions, please advise.

Attachment
SWR/swr

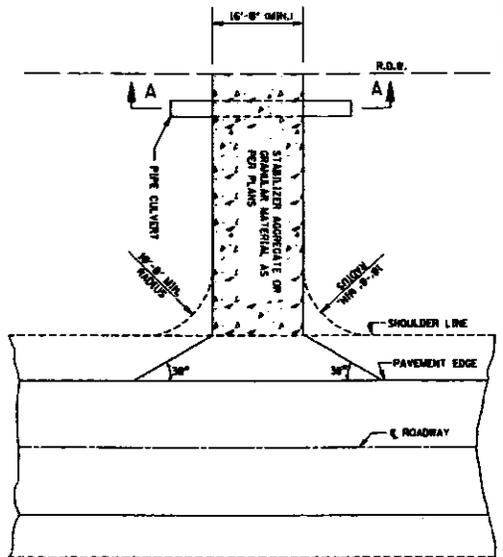
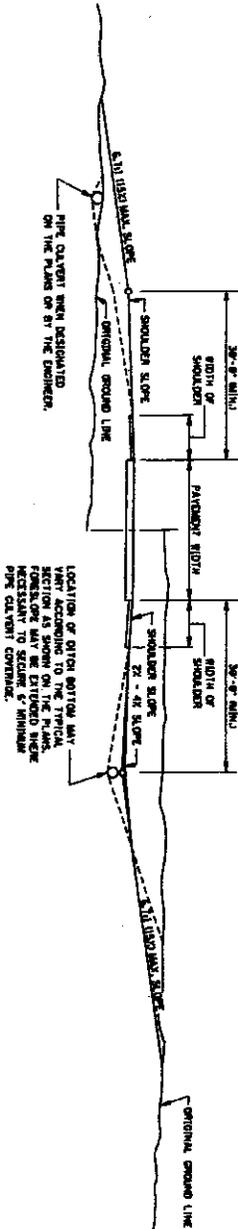
RAMP IN FILL SECTION



RAMP IN CUT SECTION



TYPICAL SECTION AT RAMP



MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

RURAL DRIVEWAYS

ISSUE DATE: OCTOBER 1, 1983

RD-1
SHEET 271

STATE	PROJECT NO.
MISS.	