

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## Inter-Departmental Memorandum

**TO:** Design Team Leaders

**DATE:** March 18,1999

**FROM:** Steven W. Reeves  
Quality Control Engineer

**SUBJECT OR PROJECT NO:** Lime & Lime Flyash  
Treatments

**INFORMATION COPY TO:**

**COUNTY:**

Roadway Design Division Engineer  
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New pavement designs on projects may require Lime-Flyash treatment of the granular course and of the subgrade. This could be in addition to lime treatment of the subgrade. If lime and lime-flyash treatment are both required in the subgrade, they will be split by percentages (i.e. 30% lime treatment, 70% lime-flyash treatment). If your project contains this requirement, please follow the procedure shown below to calculate the quantities.

### PAY ITEMS FOR LIME-FLYASH TREATMENT OF GRANULAR COURSE

1. 907-311-A PROCESSING LIME AND FLY ASH TREATED COURSE, (\_\_\_" THICK)
2. 907-311-B LIME
3. 907-311-C FLY ASH (CLASS C OR F)

### PAY ITEMS FOR LIME-FLYASH TREATMENT OF SUBGRADE

1. 907-311-A PROCESSING LIME AND FLY ASH TREATED COURSE, (\_\_\_" THICK)
2. 907-311-B LIME
3. 907-311-C FLY ASH (CLASS C OR F)

### PAY ITEMS FOR LIME TREATMENT OF SUBGRADE

1. 307-C \_\_\_" SOIL-LIME-WATER MIXING (CLASS C)
2. 307-D LIME

Footnotes will be required to separate the quantities for lime-flyash treatment of subgrade and the lime-flyash treatment of granular material. See attached sheets for examples.

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If you have any questions, please advise.

Attachments  
SWR/swr

FROM PAVEMENT RECOMMENDATION

**GRADING:**

Chemical treatment of the subgrade will be required, 6" depth (70% LFA @ 3%lime & 12% flyash and 30% Lime @ 6% lime for estimating purposes) on this project.

**PAVING:****NEW CONSTRUCTION:**

3" Hot Mix Asphalt, MT (9.5 mm Mixture)(2 @ 1.5")

2" Hot Mix Asphalt, MT (12.5 mm Mixture)(1 @ 2")

3" Hot Mix Asphalt, MT (19 mm Mixture)(1 @ 3")

6" LFA Treated Granular Material (9/C)

1" Granular Material (9/C)

15" structure Thickness

8" Shoulder Granular Material (6/C)

6" Chemical Treatment of Subgrade

**EXAMPLE**

BOP 1+00 EOP 50+00 LENGTH 5000-100=4900 FT = 49 STATIONS

## ASPHALT

9.5mm Mixture	$49 \times 51.60 = 2528.4$ Tons
12.5 mm Mixture	$49 \times 34.70 = 1700.3$ Tons
19.0 mm Mixture	$49 \times 52.51 = 2572.99$ Tons

## GRANULAR MATERIAL

6/c	$49 \times 46.5 = 2278.5$ C.Y.
9/c	$49 \times 164.64 = 8067.36$ C.Y.

## LIME-FLYASH TREATMENT OF GR. MAT'L.

Lime	$49 \times 2.39 = 117.11$ Tons
Fly ash	$49 \times 9.58 = 469.42$ Tons
Treatment	$49 \times 311.11 = 15244.39$ S.Y.

## LIME TREATMENT OF SUBGRADE

Lime	$49 \times 7.2 \times 0.30 = 105.84$ Tons	0.30 for 30%
Treatment	$49 \times 533.33 \times 0.30 = 7839.951$ S.Y.	0.30 for 30%

## LIME-FLY ASH TREATMENT OF SUBGRADE

Lime	$49 \times 7.2 \times 0.5 \times 0.70 = 123.48$ Tons	0.70 for 70%
Fly ash	$49 \times 7.2 \times 2 \times 0.70 = 493.92$ Tons	0.70 for 70%
Treatment	$49 \times 533.33 \times 0.70 = 18293.219$ S.Y.	0.70 for 70%

NOTE: The rate of 7.2 tons per station is multiplied by 0.5 for the lime quantity in LFA of Subgrade because it is set up at 3% by weight. The 7.2 tons/station is set up at 6% by weight. The rate of 7.2 tons/station is multiplied by 2 for the fly ash quantity in LFA of Subgrade because it is set up at 12% by weight.

## SUMMARY OF QUANTITIES SHEET

307-C	6" SOIL-LIME-WATER MIXING (CLASS C)	7840 S.Y.	
307-D	LIME	106 TON	
907-311-A	PROCESSING LIME AND FLY ASH TREATED COURSE, (6" THICK)	33538 S.Y.	1
907-311-B	LIME	241 TON	2
907-311-C	FLY ASH (CLASS C OR F)	963 TON	3

1. INCLUDES 15245 S.Y. FOR TREATMENT OF GRANULAR COURSE AND 18293 S.Y. FOR TREATMENT OF SUBGRADE.
2. INCLUDES 117 TONS FOR TREATMENT OF GRANULAR COURSE AND 124 TONS FOR TREATMENT OF SUBGRADE.
3. INCLUDES 469 TONS FOR TREATMENT OF GRANULAR COURSE AND 494 TONS FOR TREATMENT OF SUBGRADE.