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State of California
Highway Transportation Agency
Department of Public Works
Division of Highways
Materials and Research Department

June 1965

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Parcel No. 7710
S. A. R. No. 13
I-005-1 (5) 13

Mr. J. Dekema
District Engineer
District 11
San Diego, California

Dear Sir:

Submitted for your consideration is a report on:

TRAFFIC NOISE STUDY II

1965

SNYDER CONTINUATION HIGH SCHOOL

Study made by . . . . . Structural Materials Section
Under general direction of . . . . . E. F. Nordlin
Unit supervisor . . . . . J. E. Barton
Tests and report by . . . . . Louis Bourget

Very truly yours,

JOHN L. BEATON
Materials and Research Engineer

LB:mw

cc:LR Gillis
R Hess

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INTRODUCTION

This report of traffic noise conditions at Snyder Continuation High School complements an earlier report of similar title issued in July 1960. The two noise studies were separated by a five year interval, pursuant to Clause 2C of the Right of Way Contract dated April 5, 1960, in connection with the acquisition of Parcel No. 7710, which was approved by Headquarters Right of Way Office on April 29, 1960.

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SUMMARY

Some highway changes have taken place in the last five years. There are now five northbound lanes passing the school as compared to two lanes in 1960. The two lanes nearest to the school are feeders for the new Interstate 5 route through Balboa Park. The other three northbound lanes are part of Route 395. The net effect is a higher density traffic pattern with greater persistence than was observed in 1960.

The noise peaks resulting from this traffic are likewise of higher level, greater density, and more persistent throughout the school day than were measured in 1960. At no time during school hours can the windows be opened for ventilation, along the west side of the main building, without an attendant penetration of numerous noise peaks between 60 to 73 DBA with an occasional peak from 73 to 80 DBA. A similar situation was observed in Bungalow room 65. The only room of the original test group that showed a lower noise level in 1965 than for 1960 was room 24 at the north end of the building. This is attributable to the partial shielding effect of an earth fill that was added during the 5 year interim to provide a larger outdoor physical education area.

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DISCUSSION

The second series of traffic noise measurements at Snyder Continuation High School was made on June 2, 1965. The test locations, inside of the classrooms shown as A, C, D, and E of Figure 1, are identical to those employed in 1960. Exterior location F has been added as it now provides a more accurate check of exterior noise conditions near the doorways than does old location B because of the added earth fill as mentioned in the summary. A test was also made inside of Bungalow room 65 at the request of the school Principal, Mr. R. L. Malcolm.

Figure 2 illustrates the persistence of high level exterior traffic noise as obtained at exposed location F in the breezeway and location B at the north end of the building. The noise is well sustained throughout the school day between 60 and 70 DBA with many truck peaks reaching and exceeding the 70 DBA level. Some trucks are seen to attain levels between 75 and 81 DBA. There is no longer any significant drop in either traffic or noise between the hours of 10:00 A.M. and 2:00 P.M. as observed in 1960. This is probably the natural result of both an increase in traffic and the greater number of northbound lanes, which now number five rather than two, as mentioned in the summary.

Figure 3 shows the noise levels measured inside of the classrooms at Locations A, C, D, and E, plus Bungalow room 65. These tests were made with the windows open as would be required for ventilation during warm weather. It is evident that the noise developed within the classrooms, excepting Room 24, is of the same order as measured in the recessed breezeway at point F. Truck noise peaks frequently reach or exceed the 70 DBA line which is emphasized on all charts for reference purposes.

The conclusion that must be drawn from this evidence is that the traffic noise levels immediately outside and inside the measured classrooms are now higher with the peaks more frequent and better sustained, during normal school hours, than was the case in 1960.

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EQUIPMENT LIST

The following instruments were employed during the noise study at Snyder Continuation High School:

General Radio Type 1551-C Sound Level Meter.

General Radio Type 1552-B Sound Level Calibrator.

General Radio Type 1307-A Transistor Oscillator.

General Radio Type 1521-A Graphic Level Recorder.

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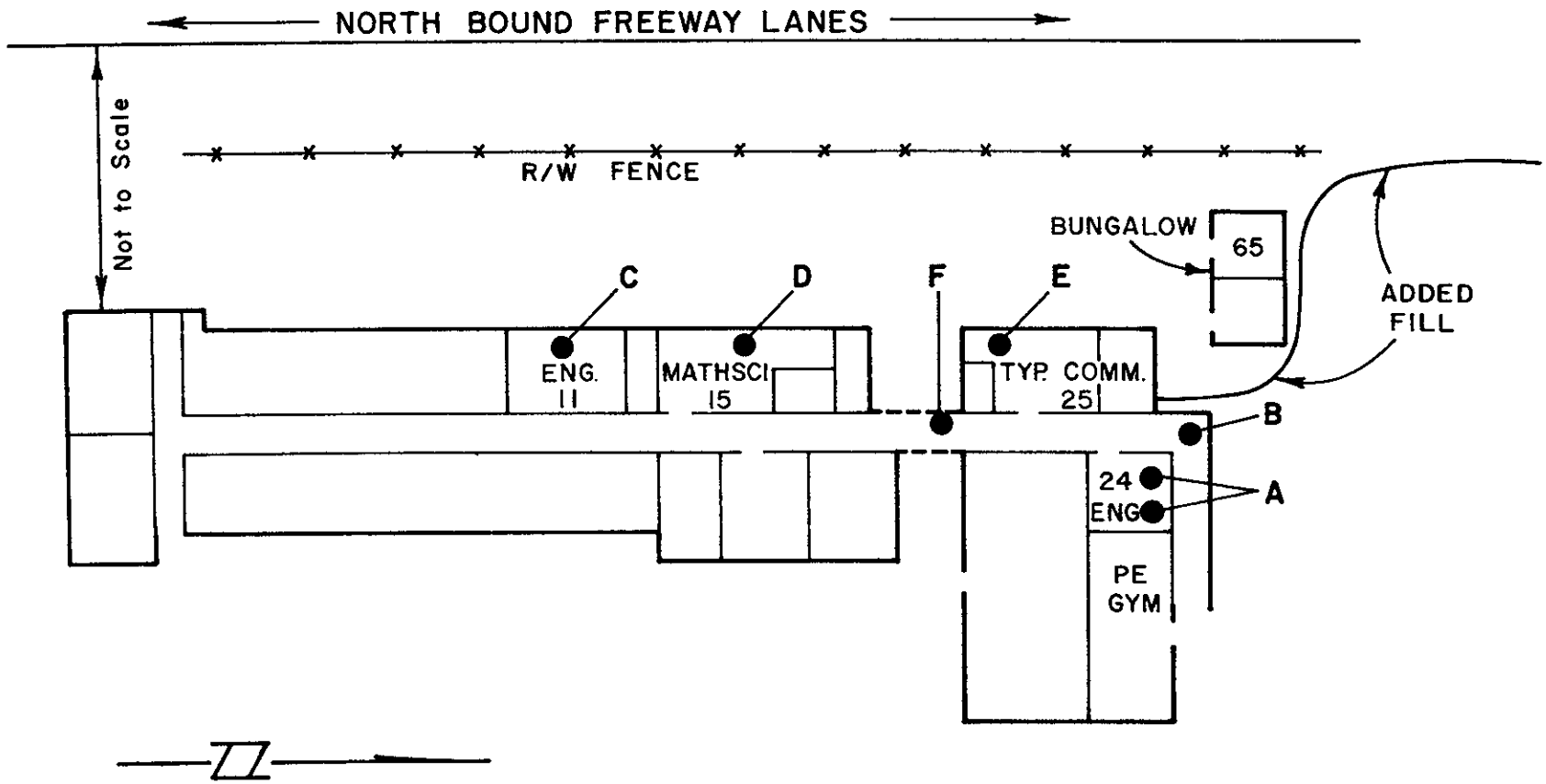

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SNYDER CONTINUATION HIGH SCHOOL
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NOISE MEASUREMENT LOCATIONS

FIGURE 1

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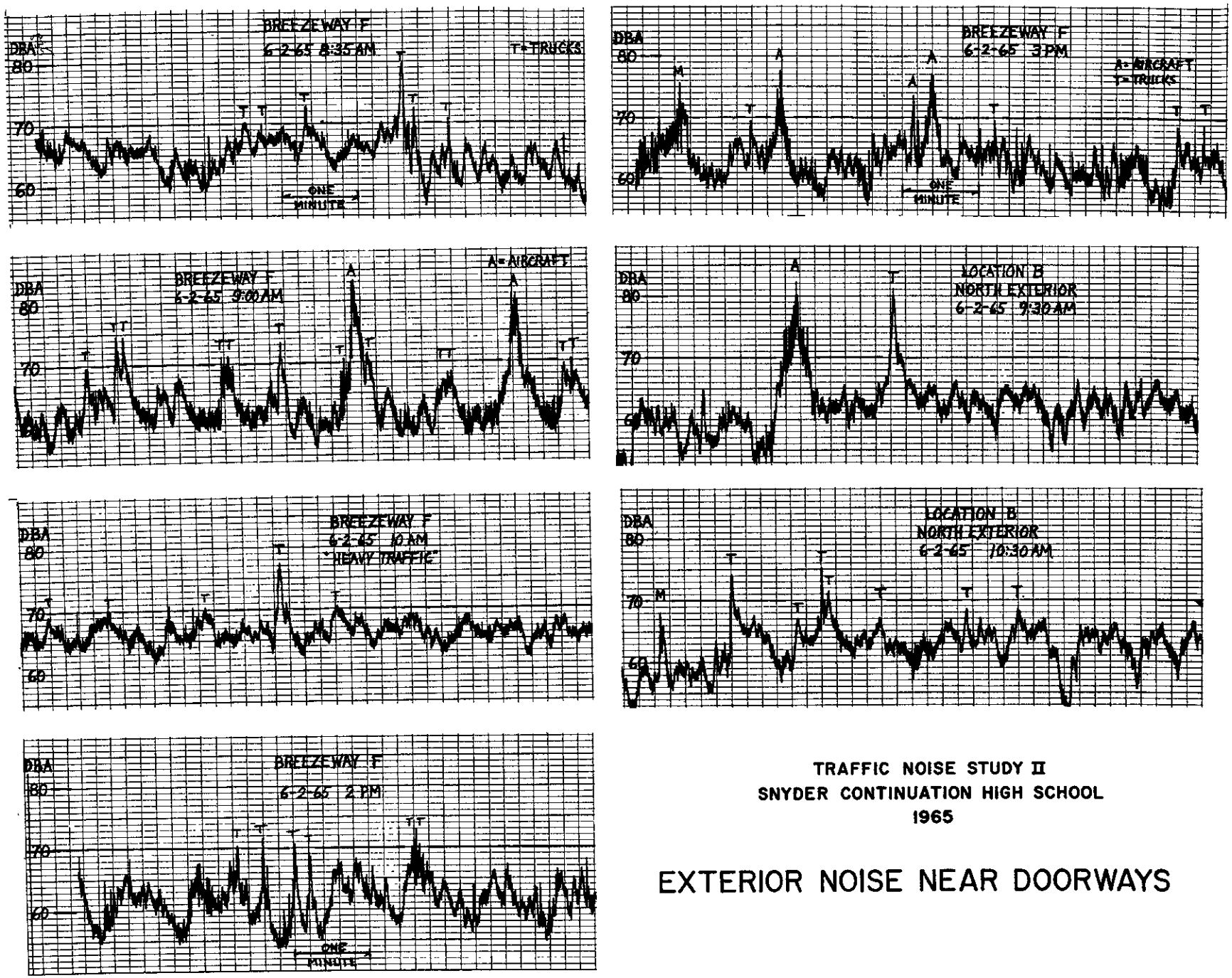

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EXTERIOR NOISE NEAR DOORWAYS

FIGURE 2

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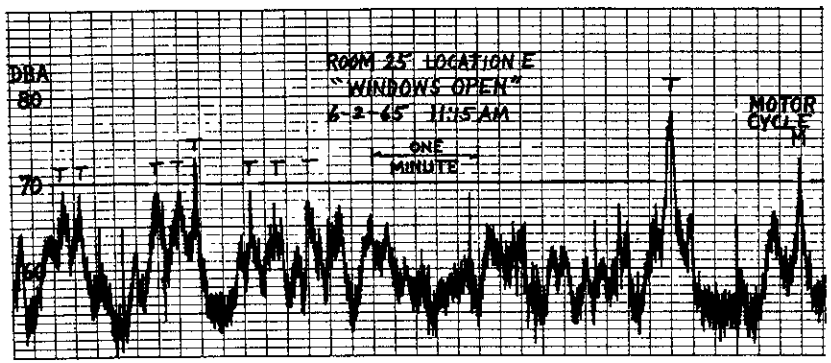

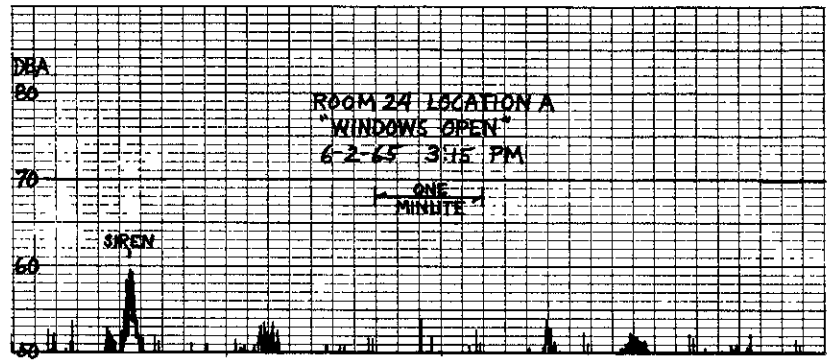

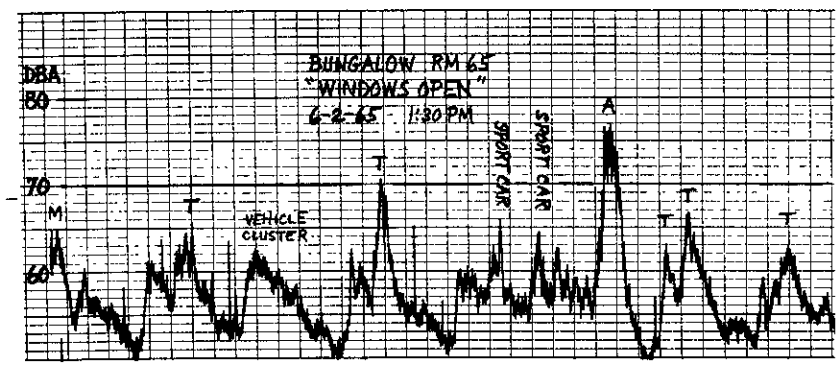

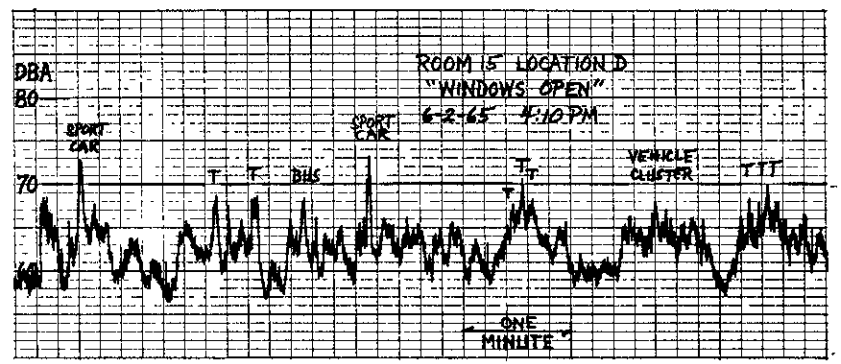

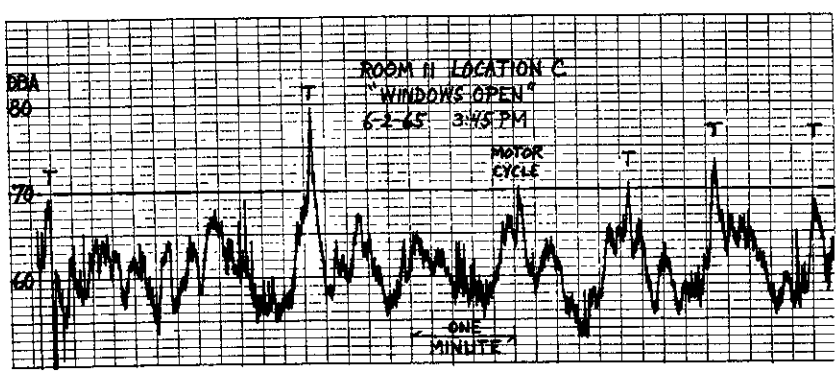

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TRAFFIC NOISE IN CLASSROOMS WITH OPEN WINDOWS

FIGURE 3

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