

MOTORSPORTS TASK FORCE

AGENDA

WEDNESDAY, JANUARY 24, 2007

COUNTY-CITY BUILDING

555 SO. 10TH STREET, ROOM 113

7:30 A.M. - 8:30 A.M.

1. Approval of Minutes - January 3, 2007 (see attached)
2. Motorsports Overview - Rod Wolters, Brainerd International Raceway
3. Subcommittee Reports
 - a. Economic, Fiscal, Social & Environmental - Jeff Maul
 - b. Location - Mike DeKalb
 - c. Demand - Darl Naumann
4. Suggested Agenda Items

MINUTES
MOTORSPORTS TASK FORCE
Wednesday, January 24, 2007 - 7:30 a.m.
County-City Building, Room 113

Task Force Members Present: Russ Bayer, Chair; Carol Brown, Dave Dykmann, Randy Harre, Gary Juilfs, Chris Kingery, Karen Kurbis, Mike Tavlin, Greg Osborn, Stan Patzel, Mike DeKalb, Lincoln-Lancaster County Planning Department (Ex-officio); Kerry Eagan, County Chief Administrative Officer (Ex-officio); Darl Naumann, Lincoln-Lancaster County Economic Development Coordinator (Ex-officio), Jeff Maul, Convention & Visitors Bureau Executive Director (Ex-officio) and Scott Holmes, Lincoln-Lancaster County Health Department (Ex-officio)

Task Force Member Absent: Larry Lewis

Others Present: Rod Wolter, Brainerd International Raceway; Dave Holtgrave, Holtgrave & Associates PC; Bill Smith, Speedway Motors; Marvin Krout, Lincoln-Lancaster County Planning Department; Marlene Tracy, Randy Moore, Kent Halvorsen, Jeff Atkinson, Gary Dominguez, Jill Bailie, Cori Beattie, County Board Secretary; and other interested parties

Minutes

Some indicated they had not received a copy of the minutes. By direction of the Chair, minutes were to be resent to all members with approval delayed for one week.

Motorsports Overview

Brown introduced Rod Wolter, Dave Holtgrave and Bill Smith - all experts in the field of motorsports.

Wolter gave a brief summary of his credentials. He is an engineer by trade who served as Manager of the Nebraska Motorplex and has been involved in the development of numerous motorsports facilities. His last venture was in Brainerd, MN, where he consulted for a track which was not doing well financially. The annual economic impact to the area is now over \$10 million as per a study by the University of Minnesota which took into consideration how much each man, woman, child spent per day.

With regard to rules for racetracks, Wolter noted every area is different. He stressed location is critical in terms of traffic flow. Ideally, facilities should be near a four or six-lane highway. Sponsorships and media coverage are also a big issues. Wolter said while it may be somewhat difficult to get a big national event to the area, the location would be good for events such as Super Chevy Shows, National Muscle Car Association or National Mustang/Ford Association events or Fun Ford Weekends. Diesel truck races are also very profitable at this time. Facilities can also be used for local events such as flea markets, car shows, swap meets and training sessions.

Wolter stated the Brainerd, MN, track has 424 homes around the perimeter and there has been virtually no trouble with the neighbors.

Holtgrave said he has been an architect for 38 years and has been involved with many motorsports facilities. He has also toured with NHRA, NASCAR and Busch to observe various venues. He discussed the basic criteria for a site plan. A total of 160 acres was recommended when

considering construction of a drag strip with secondary facilities (tractor pulls, snowmobile racing, etc.). Holtgrave stressed other major components are finding a site within a mile or two of a major highway, hotels, restaurants, etc., and having more than one access point. It was also noted that road courses should be included inside oval tracks for maximum efficiency.

In response to Bayer's inquiry regarding the amount of land it would take to provide for a drag strip, road course and oval track (3/4 to one mile in length), Holtgrave recommended 280 acres.

Holtgrave then provided an overview of a basic facility. He noted a drag strip alone needs 4,000' of paved area. Facilities should be family oriented, therefore, clean and plentiful restrooms and adequate vending are key. He discussed the layout for such things as parking, green space, staging areas, spectator areas, control tower, media compound, etc. It was noted additional green areas could be used for parking with the proper measures taken into consideration, i.e., drainage, soil type, grass type, etc.. This would also allow for a variety of other events at the facility.

Bayer inquired whether the basic components of a drag strip and other track are the same. Holtgrave said if other forms of racing are included at the facility, such things as parking, offices, grandstands, etc., can be shared. Kurbis asked about camping space. Wolter said some venues allow for camping and others do not as it can be costly.

It was noted the economic impact to the surrounding area would be great. Holtgrave said the money generated from racing affects more than hotels and restaurants - it touches caterers, florists, printers, car rentals, etc.

Osborn said a lot of studies have been done based on national events. He questioned what percentage of events would be at that level versus a smaller scale. Wolter estimated 40-50% of Brainerd's total income is based on national events. He felt Lancaster County would be well-served in doing smaller events which are easier to manage and make more money than a national event. He added many event sponsors are ready to jump onboard if something is planned for this area.

Bayer asked for information on tracks that have failed. Wolter said one in England struggled due to poor construction. Brainerd made money once it was properly managed.

In response to Harre's inquiry regarding how long it would take to book larger events once the facility was opened, Holtgrave said this area is ripe. Wolter ventured to say the facility would be overwhelmed with race cars the very first weekend. Harre questioned start-up costs. Holtgrave estimated the cost for an 8,000 seat drag strip facility with 4-5 acres of paving to be roughly \$6 million (not including land costs). A larger facility with an oval track and road course could cost anywhere from \$30 million to \$150 million.

Maul asked if a single-use facility was built what type of racing would best be served and would it survive. Wolter said the key to making a multi-use facility profitable is keeping it busy year-round. He added a single-event venue such as drag racing can also make it. It was noted drag racing has the largest growth in the industry at this time.

With regard to noise, Kurbis inquired whether any monitoring is done on vehicles. Wolter said the SCCA has a limit of 103 decibels. The NHRA has also added more sound control. He mentioned truck traffic along a highway generates more noise than drag racing which is shorter in duration compared to a oval track.

Bayer asked if there are drag racing noise standards. Wolter responded no, although, the industry is trying to come up with some. Bayer inquired whether a local community could adopt reasonable noise standards at such a level that they would impact the success of a track. Wolter said top-fuel cars are the noisiest but one weekend a year could be reserved for this type of activity.

With regard to economics, Juilfs questioned the correlation between holding a national or local event and the respective economic impact to the community. Wolter said it really depends on the type of event. For example, some event participants tend to travel in campers, thus, their impact on hotels might not be as great. For other events, hotels will be full.

Osborn asked what help is provided by the City of Brainerd, MN, or the county with regard to track promotion. Wolter said a strong Chamber of Commerce or tourism bureau is the answer. In Brainerd, the Chamber sells tickets to national events year-round and receives so much per ticket. He encouraged the track owner to join every Chamber in the area and to be an active participant. He also suggested they invite hotel owners to the track to discuss upcoming events.

Smith gave a brief summary of his background. Because of his passion and interest in racing, he founded Speedway Motors in 1952 - a time when motorsports was not as well known as it is today. He indicated he is here today because, as an entrepreneur, he knows what it takes to grow a business. He felt as long as the project receives the full support of the community, it will succeed.

Subcommittee Reports

Due to time constraints, Bayer suggested subcommittee reports be rescheduled for 7:30 a.m. on January 31 followed by a one-hour presentation by Dr. Chéenne beginning at 7:45 a.m.

Suggested Agenda Items

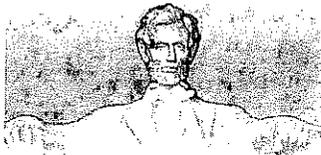
This item was also rescheduled for January 31st.

There being no further business, the meeting adjourned at 8:36 a.m.

Submitted by,



Cori Beattie
County Board Secretary



**CITY OF LINCOLN
NEBRASKA**

MAYOR COLEEN J. SENG

lincoln.ne.gov

Lincoln-Lancaster County
Health Department
Bruce D. Dart, Ph.D., Health Director
3140 "N" Street
Lincoln, Nebraska 68510-1514
402-441-8000
TDD: 402-441-6284
fax: 402-441-8323
health@lincoln.ne.gov



To: Andre Barry; Cline, Williams, Wright, Johnson, & Oldfather, LLP
Mark Hunzeker; Pierson, Fitchett. Hunzeker, Blake & Katt

From: Scott E. Holmes, MS, REHS, *SEH*
Manager, Environmental Public Health Division
Lincoln-Lancaster County Health Department

Date: October 24, 2006

Re: Information gathered since the October 11 Planning Commission meeting

Please find enclosed copies of the following information the Lincoln-Lancaster County Health Department staff have gathered or created since the October 11, 2006 Planning Commission meeting.

- 1) Email of 10/24/2006 from Scott E Holmes titled "Community contacts Version 2" (1 page)
- 2) Email of 10/22/06 from Wayne McMurtry wrmcmurtry@bacavalley.com titled "data" (1 page) and Fax of October 23, 2006 from Wayne McMurtry to Gary Walsh (4 pages)
- 3) Fax dated 10/05/06 from Wayne McMurtry of the National Hot Rod Association to Gary Walsh of LLCHD which contains excerpts from "AN ASSESSMENT OF MEASURED SOUND LEVELS FROM 1984 TO 1993 AT POMONA INTERNATIONAL RACEWAY" created by GORDON BRICKEN & ASSOCIATES CONSULTING (10 pages) ACOUSTICAL AND ENERGY ENGINEERS" (8 pages)
- 4) Map dated October 17, 2006 titled "Proposed Race Track Near Davey, NE, Residences with 0.5 and 1.0 Mile Radii" (1 page)
- 5) Fax dated 9/21/06 of a memorandum from Wayne McMurtry to Rick Thorson of LLCHD titled "Sound levels Drag Strip" (8 pages) plus two Google Earth maps created by LLCHD staff (2 pages)
- 6) Data from 2004 unofficial testing done by LLCHD employee Rick Thorson conducted at Scribner drag strip (1 page)
- 7) Document dated June 4, 2002 titled "Race Vehicle Noise Testing at Lincoln Municipal Airport" dated June 4, 2002 (5 pages)
- 8) Document from 1996 titled "RACE CAR NOISE IMPACT ASSESSMENT OF OCTOBER 20, 1996" (4 pages)

This information has also been provided to the Planning Department. If you have any questions, please contact me at sholmes@lincoln.ne.gov or call me at 441-8019.

Note: This memo was copied via email without attachments to Mike DeKalb and Marvin Krout, Planning Department and to Bruce D. Dart, Rick Thorson, and Chris Schroeder, Health Department



Scott E Holmes/Notes
10/24/2006 09:06 AM

To Michael V Dekalb/Notes@Notes, Marvin S
Krout/Notes@Notes
cc Chris M Schroeder/Notes@Notes, Gary L
Walsh/Notes@Notes, Rick L Thorson/Notes@Notes, Scott E
Holmes/Notes@Notes, Bruce D Dart/Notes@Notes
bcc

Subject Community contacts Version 2

Please disregard previous versions of this same information. In our haste to get information out to all, some comments contained in the previous draft had not been reviewed and need clarification. Thanks.
Scott

These tracks are listed under the NHRA's 2006 schedule with the exception of Martin, MI.

All contacts were made by Chris Schroeder, Senior Environmental Health Specialist, Air Quality Program, LLCHD, during the past two weeks.

1. **Martin, MI** (269) 672-5069... spoke with Terry Sturgis (County Supervisor). Land is specifically zoned for a drag strip. Interesting info... way before his time, he indicated they specifically zoned this parcel of land for a drag strip to keep out a rock amphitheater. There is no noise ordinance in their county. In his tenure, he has only received one noise complaint relative to the operation of this facility.
2. **Brainard, MN** (218) 824-1125...spoke with Bonny Finnerty (County Planner-Crow Wing County). Do not have a county noise ordinance. Enacted special legislation at state level which allowed approval for the operation of this facility. No complaints in 30 years.
3. **Madison, IL** - do not have a noise ordinance that affects the operation of this facility.
4. **Topeka, KS** - Hartland Park. spoke with Braxton Copely. The city executed an "island annexation" so the operation of this facility is subject to complying with the city's noise code. However, under section 54.148, provides an exemption for the operation of this facility by applying for a special event permit via the city council. Mr. Braxton said it is sort of a "get out of jail free card". The track is surrounded by commercial, including those that benefit from when events occur. They have not had any noise complaints relative to the operation of this facility.
5. **Hebron, OH** - National Trail Raceway. spoke with Jim Mickey (County Planner). Do not have county noise ordinance.
6. **Richmond, VA - Henrico County**. spoke with John Mehfoud (Magistrate). Do not have county noise ordinance.

Most of these facilities have operated for many years.



"Wayne"
<wrmcmurtry@bacavalley.com>
10/22/2006 12:08 PM

To <GWalsh@cl.lincoln.ne.us>
cc "Rob Park" <rpark@nhra.com>
bcc
Subject Data

Will fax four excerpts from Pomona data first thing tomorrow. Have some notes on the copies. Table 11 is 1987 data taken over three days at TRACK SIDE!!! About 20 ft. from edge of track, nothing scientific about location, safety of operator was determining factor. These values are what you were looking for I believe. Remember that the last three categories account for 80 plus percent of entrants.

Note on page 24 to record what would be the closet to a total rural setting mitigation of a 50% sound reduction factor in approximately 2/3 of a mile with no value allowance for obstructions.

For your review the Table 22 is one day at a National Event, the proposed facility would rarely have anything that comes close to this value so the percentage of Stock type values would be much greater than 82%.

Last, disregard the 93 data as being after construction; however, with no mitigation only 24% of runs exceeded 70db which isn't far from conversational speech and normal single car traffic.

Post-it™ Fax Note	7671	Date	# of pages 3
To GEORGE WALSH	From MYMURTY	Co./Dept.	
Phone #	Phone # 505-445-9914		
Fax # 402-441-3870	Fax #		

94/006

1987
DATA

REFERENCE SOUND LEVELS AT TRACKSIDE (1)

<u>CLASS</u>	<u>MEAN MAXIMUM DBA</u>	<u>SENEL</u>
Top Fuel Dragster	135	139
Top Fuel Funny Car	135	139
Top Alcohol Dragster	125	129
Top Alcohol Funny Car	127	131
Pro-Bike	112	119
Pro-Stock	112	119
Super Stock	110	117
Competition Eliminator	110	117
Super Comp.	109	116
Super Gas	109	116
Stock	107	114

(1) Fifty feet from the center of the track for pair of cars.

These classes can be aggregated into four general classifications as listed in Table 12.

TABLE 12

REFERENCE SOUND LEVELS AT TRACKSIDE (1)
FOR GENERAL CLASSES OF CARS

<u>CLASS</u>	<u>MEAN MAXIMUM DBA</u>	<u>SENEL</u>
Fuel cars	135	139
Alcohol cars	126	130
Pro-Stocks	112	119
Stocks	109	116

(1) Fifty feet from the center of the track for pair of cars.

10.0 FREQUENCY DISTRIBUTION

In 1984, as part of the initial survey, a record was made of several fuel cars in the form of one-third octave band values. This data was used to aid in designing the sound walls. The one-third octave plot is shown on Exhibit 14.

time, the relationship between Positions #11 and #15 remains about the same over the day.

The findings clearly indicate that great care must be taken in using the paired technique since the relationships between locations can vary with time. In this particular case, Positions #11 and #15 were subject to the same wind effects due to both being along the same axis relative to the track. Positions #11 and #20 experience two different wind effects since they are located along two different axis relative to the track. This indicates that in pairing, it is better for the pairs to be located along a common axis to gain the advantage of using pairing to minimize the number of measurements per location. In this example, the morning or the afternoon pairings (22 to 27 measurements) could be used to calibrate Position #15 fairly accurately to the larger data base at Position #11. Thus, the accuracy of a three day set of runs can be attained with about one-third the usual measurements. The same is not true of Position #20. The entire days' measurement of 47 runs was needed. The 47 runs is two-thirds of the minimum runs needed. Thus, little is gained from pairing Position #11 with Position #20.

The results have some profound implications on instrumenting tracks. In this track, a single benchmark location was used because most of the focus of attention has been on one side of the track. If the intent was to obtain accurate profile around the entire track, a benchmark location would be required on each side of the track.

Finally, it is interesting to note that the predicted difference between Position #11 (1,800 feet from track) and Position #15 (5,160 feet from track), based on straight propagation theory without including the effects of buildings and sound wall, is 9 dBA. Tables 18 and 19 indicated that in the samples taken, the relationship was 11 dBA.

whatever you get for noise level at 1800' it will be 9 dBA less at 5160 ft. The difference in distance is 2 1/2 mi.

14.0 CNEL AND OTHER MEASURES

Over the nine years of the program, most of the attention has been given to measuring and interpreting the maximum sound levels of the cars. There are some methods of defining sound impacts that are based on the cumulative dosage of sound. The most prominent of these cumulative dosage measures is the Community Noise Equivalent Level (CNEL). The CNEL calculation is based on the equation given on the following page.

FUEL = 9%
 ALCOHOL = 8.4%
 STOCK = 82.5%

TABLE 22

CNEL CALCULATION AT BENCHMARK FOR OCTOBER 1993

<u>CLASS</u>	<u>dBA MAX</u>	<u>SENEL</u>	<u>RUNS</u>	<u>CNEL</u>
Fuel	78	81	94	51
Alcohol	72	75	88	45
Stock	59	66	862	46
Total	--	--	1,044	53

The total CNEL level is only slightly more than that produced by the fuel cars alone. As a result, the CNEL value can be reduced simply to the form:

$$CNEL = dBAMax(fuel) - 25.$$

This correction can be applied to the contours shown on Exhibits 7 and 8.

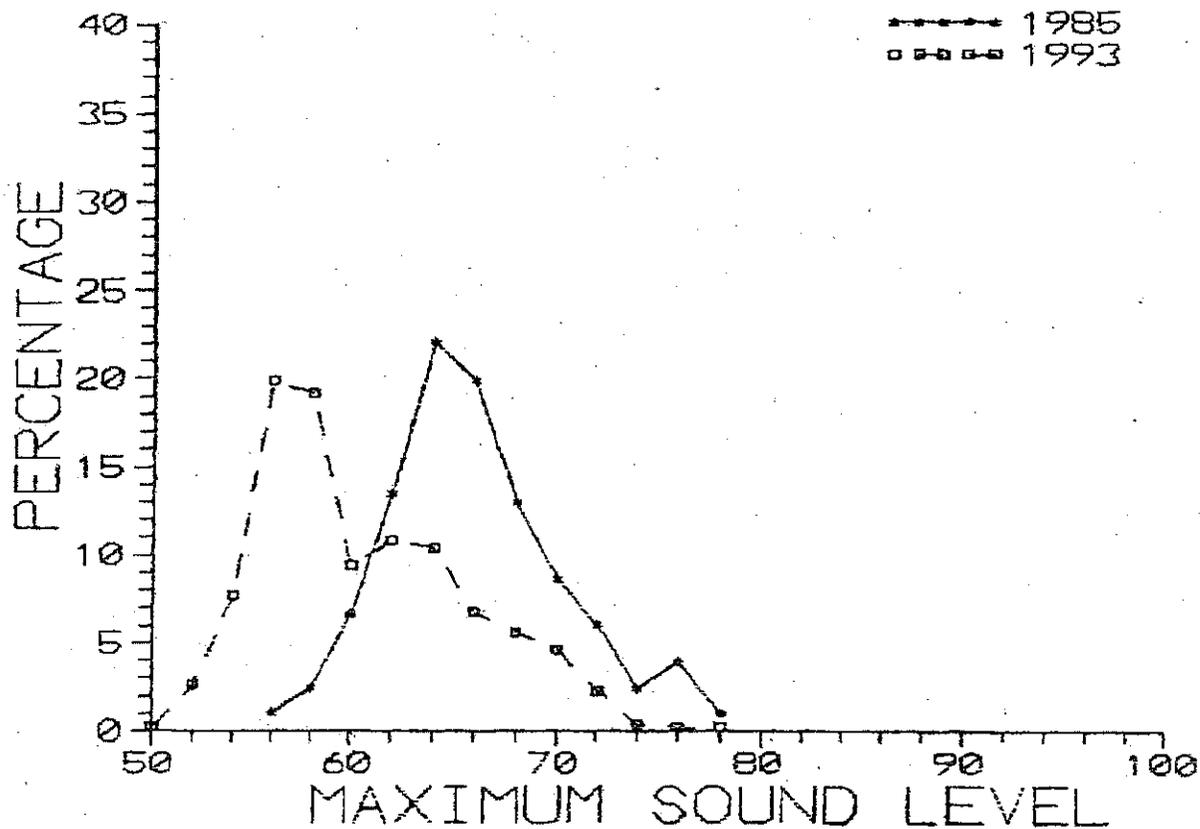
15.0 MISCELLANEOUS OBSERVATIONS

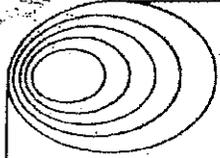
One of the most consistently puzzling aspects of the comments that come from the community is the seemingly uniform perception of sound levels no matter where a person lives in the community. The data appears to provide some explanation for these observations. They are summarized as follows:

1. At times there can be wide swings in the sound levels from one run to another. In these situations, it is difficult to sense the general pattern of the runs. The worst case tends to dominate the perception.
2. There is a general tendency for the sound level to the north to increase over the day and to decrease at other locations. It is especially obvious after mid-afternoon. The community perception will tend to form judgements on the worst period of the day. Thus, a person to the west may judge the condition on the morning experience and the person to the north might judge it to be in the afternoon experience.
3. The exact distribution of sound appears to change to some extent with each run. This has the effect of making it seem that many more locations are experiencing similar sound levels than are actually occurring on average.

EXHIBIT 9

PERCENTAGE DISTRIBUTION OF STOCK CAR CLASSES FOR 1985 AND 1993





GORDON BRICKEN & ASSOCIATES

CONSULTING ACOUSTICAL and ENERGY ENGINEERS

February 8, 1994

Post-it™ Fax Note	7671	Date	# of pages 8
To	EARLY WALSH	From	McMURTRY
Co./Dept.		Co.	
Phone #		Phone #	505-445-9914
Fax #	402-441-3890	Fax #	

A N A S S E S S M E N T O F

M E A S U R E D S O U N D L E V E L S

F R O M 1 9 8 4 T O 1 9 9 3

A T

P O M O N A I N T E R N A T I O N A L R A C E W A Y

Prepared by:

Prepared for:

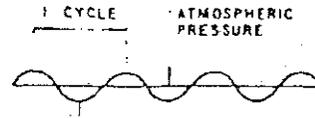
Gordon Bricken
President

MR. WAYNE McMURTRY
NATIONAL HOT ROD ASSOCIATION
P. O. Box 5555
Glendora, California

/mmb

91740-0750

FREQUENCY is measured by the rate of fluctuation per second of the air pressure. This is called CYCLES PER SECOND or, in recent years, is called HERTZ.



SOUND LEVEL is determined by the amount of energy or power in the source and the distance from the source of the listener. Sound decreases by a factor of 6 for every doubling of the distance.



Sound level is measured in DECIBELS. Every ten (10) decibels is a tenfold increase in level. The effect is multiplied not added. Thus, a 20 db sound is 100 times more energy than a single decibel. A 30 db sound level is 1,000 times more energy.

$$10 \times 1 = 10 = 10\text{DB}$$

$$10 \times 10 = 100 = 20\text{DB}$$

$$10 \times 10 \times 10 = 1000 = 30\text{DB}$$

The range of sound levels to which persons are exposed is very great. We hear natural sounds from near a whisper, such as rustling leaves, to sounds as intense as thunderclaps. Man made sounds cover the same vast range.

140	Hydraulic press, distance 3 ft
130	Bass drum at 3 ft, peak
120	Automobile horn, distance 3 ft
110	DC-6 airliner, inside
100	Automatic lathe, distance 3 ft
90	Automobile at 40 mph, inside
80	Office with tabulating machines, ambient noise
70	Conversational speech, distance 3 ft
60	Residential kitchen, ambient noise
50	

1985 ALCOHOL PAIRINGS
FOR MEASUREMENT POSITIONS 11, 4, 17, AND 18

DATE: 10/19/85

BENCH MARK

<u>TIME</u>	<u>#11</u>	<u>#4</u>	<u>TIME</u>	<u>#11</u>	<u>#17</u>	<u>TIME</u>	<u>#11</u>	<u>#18</u>
11:35	86	84	17:53	92	98	15:43	77	87
11:38	86	84	17:55	90	100	15:46	84	85
11:41	85	87				15:50	84	90
11:44	84	84						
11:52	84	85						
11:58	84	87						
11:59	80	82						
11:52	80	90						
12:02	84	90						
12:07	83	87						
12:12	80	85						
12:15	84	88						
13:40	84	87						
13:43	81	87						
13:47	80	87						
13:50	82	84						
13:51	84	87						
13:56	82	86						
13:58	85	87						
14:01	88	90						
Total	20	20		2	2		3	3
Mean	84	87		*	*		*	*
Avg.	84	87		91	99		83	88

This is more consistent w/ the avg top fuel funny car max level at the benchmark location in 1991 which was 89.

1985 TOP FUEL PAIRINGS
FOR MEASUREMENT POSITIONS 11, 16, AND 3

DATE: 10/19/85

IS BENCHMARK LOCATION

<u>TIME</u>	<u>#11</u>	<u>#16</u>	<u>TIME</u>	<u>#11</u>	<u>#3</u>
11:07	80	77	15:57	83	94
11:11	80	76	16:00	86	96
11:14	78	76	16:13	85	100
11:20	79	76	16:16	86	101
11:38	79	77	16:22	84	95
11:41	78	73	16:25	79	90
11:51	80	77	16:28	84	92
11:52	78	74	16:31	88	96
11:54	78	72	16:33	85	98
11:59	80	72	16:37	87	95
12:00	79	74	16:40	85	95
12:03	79	80	16:43	84	98
12:08	81	80	16:45	84	100
12:10	77	78	16:48	87	99
12:14	80	78	16:53	91	96
12:17	79	77	16:56	94	100
12:23	78	77	16:59	91	100
12:30	82	77	17:02	88	98
12:33	78	80	17:05	85	100
12:36	75	79	17:12	92	97
12:37	80	82			
12:42	90	84			
12:44	88	83			
12:47	79	84			
12:50	79	81			
Total	25	25		20	20
Mean	79	78		86	98
Avg.	82	79		88	98

Range 79 to 94

20
86
88

close to avg max level at benchmark in testing conducted in 1991, which was 89 for funny cars. Top fuel dragsters were 96 at this location in 1991 testing.

Top Fuel is as bad as it gets

S85

STOCK MAXIMUM NOISE LEVELS 1985 AT BENCHMARK

LEVEL	1985	
	COUNT	%
55		
56	3	1.0
57	0	0.0
58	2	0.7
59	5	1.7
60	11	3.6
61	9	3.0
62	33	10.8
63	8	2.6
64	48	15.7
65	19	6.3
66	40	13.2
67	20	6.6
68	25	8.3
69	14	4.6
70	22	7.3
71	4	1.3
72	13	4.3
73	5	1.7
74	5	1.7
75	2	0.7
76	11	3.6
77	1	0.3
78	2	0.7
79	1	0.3
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		

Total 303
 median? Mean? 65
 Avg. 69

Data for 1991 Pro Stock testing at Benchmark was not provided. It was reported to be less than max ambient levels.

PRO-STOCK MAXIMUM NOISE LEVELS 1985 AT BENCHMARK

1985		
<u>LEVEL</u>	<u>COUNT</u>	<u>%</u>
55		
56		
57		
58		
59		
60	2	5.6
61	0	0.0
62	3	8.3
63	1	2.8
64	2	5.6
65	1	2.8
66	4	11.1
67	3	8.3
68	4	11.1
69	4	11.1
70	5	13.8
71	1	2.8
72	4	11.1
73	0	0.0
74	2	5.6
75		
76		
77		
78		
79		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		
Total	36	
Mean	67	
Avg.	69	

TABLE 2

DISTRIBUTION OF SOUND LEVELS AT
TRACKSIDE AND AT 2ND AND F STREETS (1)

PARAMETER	TRACKSIDE		2ND AND F	
	RANGE	PERCENT	RANGE	PERCENT
Measurements	75 - 79	0.0	50 - 54	16.7
	80 - 84	0.0	55 - 59	52.7
	85 - 89	8.4	60 - 64	27.9
	90 - 94	36.1	65 - 69	2.8
	95 - 99	47.2	70 - 74	0.0
	100 - 104	8.3	75 - 79	0.0
	105 - 109	0.0	80 - 84	0.0
Median Level	95		58	
One Sigma Spread	± 3		± 3	

(1) Footnotes:

- a. Trackside is for the 36 events which correspond to a measurable event at 2nd and F Streets.
- b. One Sigma Spread means 66 percent of all values fell between plus-or-minus the number given.
- c. Median means half of all events were less than the number listed and half were greater than the number listed.

The results at 2nd and F Streets are consistent with the database taken at this location in the past for similar vehicles. Note that in Table 1, only about 30 percent of the total runs exceeded 95 dBA, whereas in the matching sample to the measurable events at 2nd and F Streets, 56 percent of the trackside samples exceeded 95 dBA. Also note that the median value at trackside for all events was 91 dBA, whereas the matching events to the 2nd and F Streets events had a median of 95 dBA. It is the higher events that are the ones which produce the measurable events since only 18 percent of the runs after 2:00 P.M. were measurable.

Finally, the 2nd and F Streets location had an average for the measured events of 58 dBA. This is slightly higher than the 55 dBA reported on February 13, for the same location.

The cars tended to be rear wheel driven, domestic manufactures of 1960's and 1970's vintage with some form of modified engine and running gear.

4.2

VIOLATIONS

Previously, all vehicles at 106 dBA, or higher were flagged off the course. Beginning in April, the violation threshold was lowered to 100 dBA. A total of 29 cars were at 101 dBA, or higher. All were flagged and most left the course. However, as was the case on March 27, 1999, some cars were allowed back onto the course by the promoter. No explanation was given for this action and no count was taken of the number that returned.

On March 27, 1999 of the six vehicles that were flagged, one was flagged twice and at least one other, a motorcycle, also returned to the track.

4.3

COMMUNITY LOCATIONS

The community location is at the northeast corner of 2nd and F Streets. That is the "benchmark" location previously established and for which the largest community database exists. The ambient noise was sufficiently high enough to prevent recording of most runs. Of the 195 runs recorded at trackside after 2:00 P.M., only 36, or 18 percent, could be identified out of the total noise. Noise from cars, aircraft, lawn equipment, and dogs were all higher and more frequent than the drag events. The results for the 36 runs are given in Table 2 on the following page.

what was the ambient noise level?

Wayne McHurt
e-mailed 10/12/06
indicating that he
could not answer
assumption that
max ambient levels
could be 70-75 dBA.
This is a highly urbanized
area.

TYPICAL
BRACKET RACING
TYPE VEHICLES

Memorandum

To: Rick Thorson
CC: none
From: Wayne McMurtry *Wayne*
Date: 9/21/2006
Re: Sound levels Drag Strip

I have discovered again how having two residences is a detriment to efficiency. Things are always at the wrong place. Most of my acoustic material is in the wrong place to give you the response you deserve in the time frame you need. What I do have will hopefully suffice for this first transmittal.

Attached is a rough "Bullitt" listing of discoveries from our exhaustive testing at Pomona.

Exhibits I am sending along with short explanation of each. Of course, please feel free to call me with any questions.

Figure 1 sketch shows the bench mark location we use for measurements (position 2)

Table 11-3 Noise level readings taken within community.

Table 1 Summary of Measurements---Recognize that Top Fuel is the worse case scenario, the events you would have at Lincoln would align with Pro Stock or Motorcycle for acoustic energy production. What is significant on this exhibit is that those two categories didn't produce readings above ambient at the Bench Mark.

Tables marked N-1 and N-2 is taken from California and L.A. publications. Table A-1 is from one of our Consultants publication.

Drag Racing is unique as the periods of max. production of sound is short bursts followed by ambient levels before the next burst. Differs substantially from Oval or Road Racing. This causes more attention being called to the occurrence because it is different, and not on going which develops immediate recognition, and therefore acceptance, without notice like an airplane flyover might.

As the project moves through the review process I would like to suggest that the Applicant brings someone who is knowledgeable of dynamics of Drag Racing to meet with decision makers, or at any Public review that may be called. Probably not going to create any converts but experience has shown success in explaining away some concerns.

Comments on acoustic findings at Pomona Raceway.

Maximum energy production is on the extended centerline of track behind start.

As vehicles are accelerating over race distance, the energy contours are ever expanding and therefore diminishing in value. There are proven formulas for reduction over distance values.

Any structure adjacent to the track, (source) has max. mitigating value. Concrete guardwall as an example.

Charts recording db values from Pomona are in the most part from National Events. The significant point there is that only the upper tiers of each class can compete.

The vehicles in the Professional Categories only compete at National Event sites.

Even at those events they represent only a small percentage of runs.

At hobby type sportsmen venues, such as Lincoln would begin as, records have shown that generally over 50% of contestants at a typical local event drive street legal vehicles, and therefore, muffled vehicles.

Prevailing winds have impact on energy contours.

Atmospheric conditions, such as cloud cover, wind, & temperature will impact random testing. Any target value for acoustic readings must be always recorded at a specific location to have analytic significance.

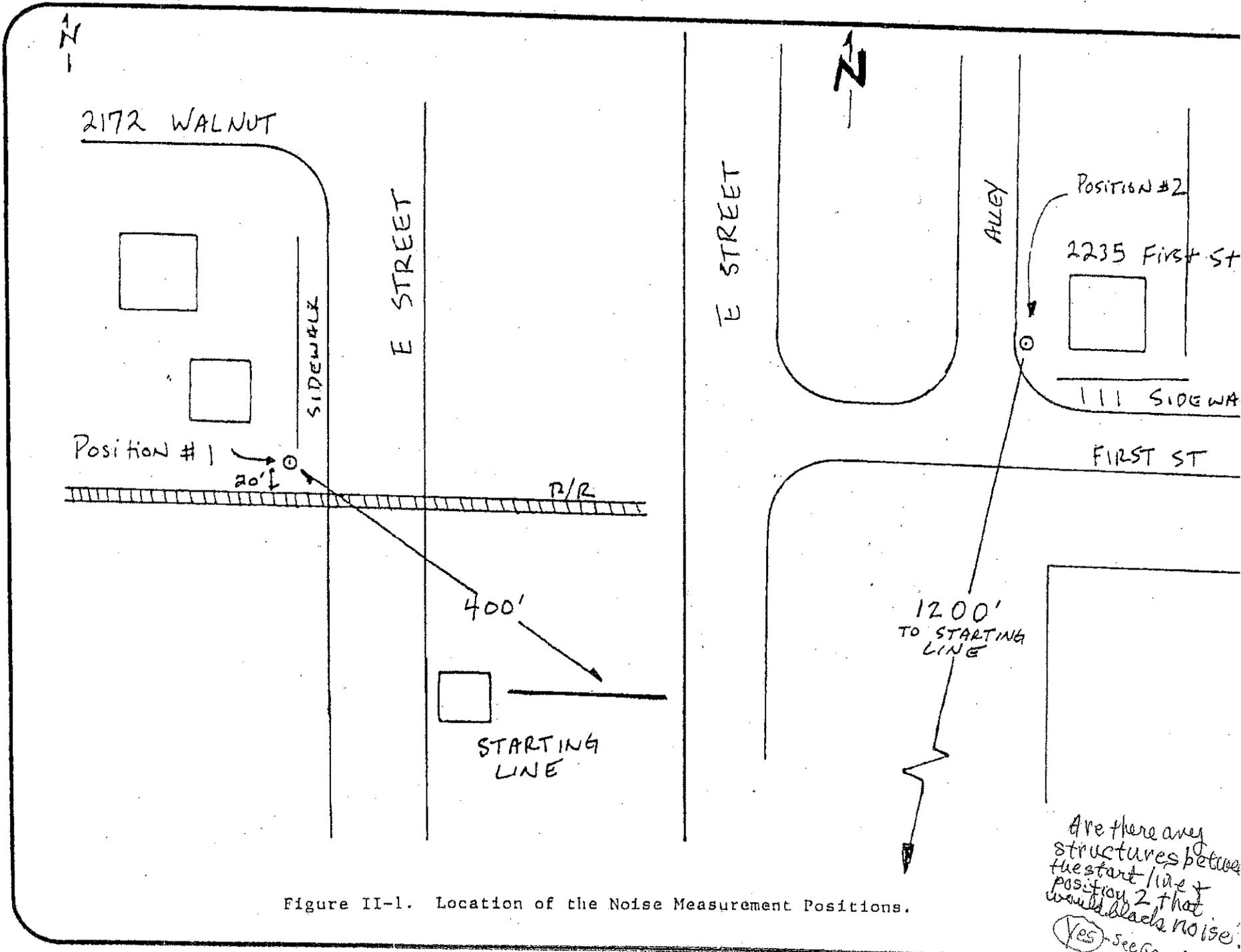


Figure II-1. Location of the Noise Measurement Positions.

Are there any structures between the start line & position 2 that would block noise?

Yes - see Google Earth

TABLE 1. SUMMARY OF THE NHRA NOISE MEASUREMENTS, POMONA RACEWAY.

PROJECT: POMONA RACEWAY, CITY OF LA VERNE
 PROJECT #: 2332-91
 DATE: OCTOBER 25, 1991
 POSITIONS: #1: NORTHEAST CORNER OF RESIDENCE AT 2172 WALNUT ST.
 #2: SOUTHWEST CORNER OF SIDE YARD, RESIDENCE AT 2235 FIRST ST.

TIME	NOISE SOURCE CLASSIFICATION	ACTIVITY	* MAXIMUM SOUND LEVEL, dB(A) *	
			POSITION #1	POSITION #2
01:54 PM	MOTORCYCLE	DRAG RACE	93	-
01:55 PM	MOTORCYCLE	DRAG RACE	92	-
01:56 PM	MOTORCYCLE	DRAG RACE	90	-
01:57 PM	MOTORCYCLE	DRAG RACE	91	-
01:58 PM	MOTORCYCLE	DRAG RACE	90	-
01:59 PM	MOTORCYCLE	DRAG RACE	91	-
		AVERAGE:	91	-
02:08 PM	PRO STOCK	DRAG RACE	92	-
02:09 PM	PRO STOCK	DRAG RACE	90	-
02:10 PM	PRO STOCK	DRAG RACE	89	-
02:11 PM	PRO STOCK	DRAG RACE	90	-
02:13 PM	PRO STOCK	DRAG RACE	92	-
02:14 PM	PRO STOCK	DRAG RACE	89	-
02:15 PM	PRO STOCK	DRAG RACE	92	-
		AVERAGE:	91	-
02:27 PM	TOP FUEL FUNNY CAR	DRAG RACE	113	90
02:30 PM	TOP FUEL FUNNY CAR	DRAG RACE	115	88
02:34 PM	TOP FUEL FUNNY CAR	DRAG RACE	115	89
02:44 PM	TOP FUEL FUNNY CAR	DRAG RACE	-	88
		AVERAGE:	114	89
02:58 PM	TOP FUEL DRAGSTER	DRAG RACE	-	93
03:01 PM	TOP FUEL DRAGSTER	DRAG RACE	-	101
03:04 PM	TOP FUEL DRAGSTER	DRAG RACE	-	94
03:06 PM	TOP FUEL DRAGSTER	DRAG RACE	-	99
03:13 PM	TOP FUEL DRAGSTER	DRAG RACE	111	89
03:16 PM	TOP FUEL DRAGSTER	DRAG RACE	115	96
03:19 PM	TOP FUEL DRAGSTER	DRAG RACE	109	91
03:22 PM	TOP FUEL DRAGSTER	DRAG RACE	114	92
03:25 PM	TOP FUEL DRAGSTER	DRAG RACE	114	92
03:28 PM	TOP FUEL DRAGSTER	DRAG RACE	116	97
		AVERAGE:	115	96

1200 Ft ±
 EXTENDED &
 WAS ESTABLISHED
 AS BENCH MARK
 FOR ALL TESTING
 & REVIEW.

3

LA 11/14/91 11:41 AM

TABLE II - 3
NOISE SOURCE INVENTORY*
CITY OF LA VERNE

NOISE SOURCE	RANGE OF NOISE LEVELS
005 Light Aircraft Flyover (Altitude 2000')	50 to 75 dB(A)
006 Truck Leaving Plant on private property at 50'	72 to 80
007 Trash Pick-up at 100'	75 to 95
008 Train movement on A.T.&S.F. Tract at 100'	
009 from track	80 to 90
010 Train movement on spur line at 100'	75 to 85
011 Helicopter flyover (altitude of 200')	85 to 95
012 Truck on City Streets at 50'	75 to 90
013 Transit Bus at 50'	71 to 75
014 Motorcycles at 50'	65 to 90
015 Sports Cars at 50'	65 to 85
016 Traffic on the Freeway (at 50')	80 to 85
017 Traffic on the Major Arterials (at 50')	65 to 75
018 Train Horn Sounding	Refer to Figure 8
019 Construction Noise	Refer to Figure 6
020 Racing activity at Winternational Speedway	
021 Stock cars at 400' (nearest residence)	90 to 95
022 Funny cars at 400' (nearest residence)	100 to 105
023	

024 *Typical values not representative of any one particular location within the City.

TABLE A-1

SOUND PRESSURE LEVELS (SPL)

(in dB Ref. .0002 dyne/cm²)

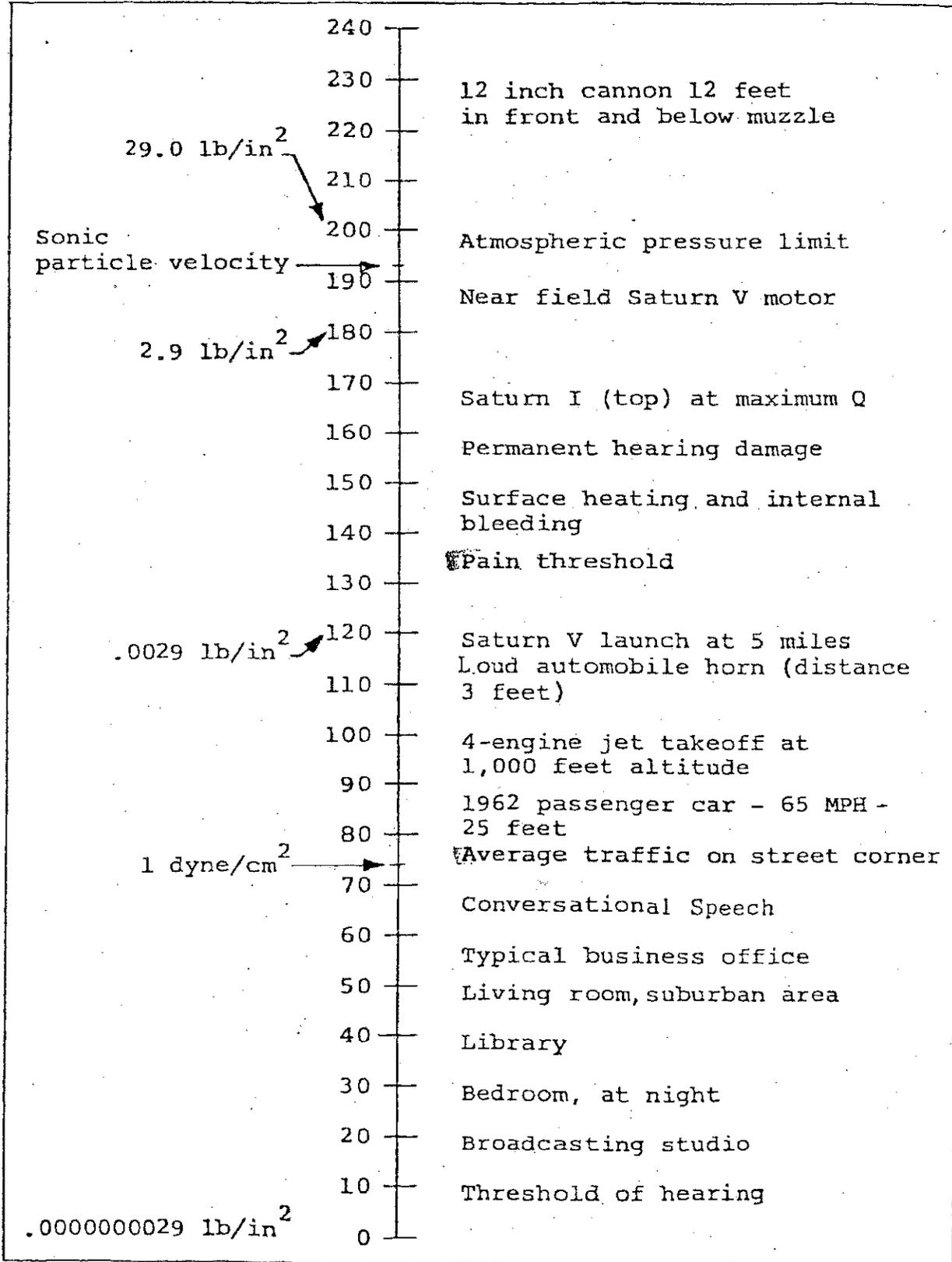


Table N-2

Sound Levels and Loudness of Illustrative Noises in Indoor and Outdoor Environments

db(A)	Over-All Level (Sound Pressure Level Approx 0.002 Microbar)	Community (Outdoor)	Home or Industry (Indoor)	Loudness (Human Judgement of Different Sound Levels)
130	UNCOMFORTABLY LOUD	Military Jet Aircraft Take-Off with After-Burner from Aircraft Carrier @ 50 Ft. (130)	Oxygen Torch (121)	120 dB(A) 32 Times As Loud
120		Turbo-Fan Aircraft @ Takeoff Power @ 200 Ft. (118)	Riveting Machine (110) Rock-N-Roll Band (108-114)	
110	VERY LOUD	Jet Flyover @ 1000 Ft. (103) Boeing 707, DC-8 @ 6080 Ft. Before Landing (97) Bell J-2A Helicopter @ 200 Ft. (100)		110 dB(A) 16 Times As Loud
100		Power Mower (95) Boeing 737, DC-9 @ 6080 Ft. Before Landing (97) Motorcycle @ 25 Ft. (90)	Newspaper Press (97)	
90	MODERATELY LOUD	Car Wash @ 20 Ft. (89) Prop. Plane Flyover @ 1000 Ft. (88) Diesel Truck, 40 MPH @ 50 Ft. (84) Diesel Train, 45 MPH @ 100 Ft. (83)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80 dB (A) 2 Times As Loud
80		High Urban Ambient Sound (80) Passenger Car, 65 MPH @ 25 Ft. (77) Freeway @ 50 Ft. from Pavement Edge. 10 A.M. (76 ± 6)	Living Room Music (76) TV-Audio, Vacuum Cleaner (70)	
70	QUIET	Air Conditioning Unit @ 100 Ft. (50)	Cash Register @ 10 Ft. (65-70) Electric Typewriter @ 10 Ft. (64) Dishwasher (Rinse) @ 10 Ft. (60) Conversation (10)	60 dB (A) 1/2 As Loud
60		Large Transformer @ 100 Ft. (50)		
50	JUST AUDIBLE	Bird Calls (44) Lower Limit Urban Ambient Sound (40)		50 db (A) 1/4 As Loud
40				
10	{db(A) Scale Interrupted}			
0	THRESHOLD OF HEARING			

SOURCE: Reproduced from Melville C. Branch and R. Dale Beland, "Outdoor Noise in the Metropolitan Environment, Published by the City of Los Angeles, 1970, p. 2.

Table N-1
State of California Noise and Land Use Compatibility Guidelines

Land Use Category	Community Noise Exposure Ldn or CNEL, dB						
	55	60	65	70	75	80	85
Residential—Low Density Single Family, Duplex, Mobile Home	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Residential—Multiple Family	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Transient Lodging—Motels, Hotels	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Sports Arena, Outdoor Spectator Sports	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Playgrounds, Neighborhood Parks	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Office Buildings, Business, Commercial and Professional	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Industrial, Manufacturing, Utilities, Agriculture	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable

-  **Normally Acceptable**
 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
-  **Conditionally Acceptable**
 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
-  **Normally Unacceptable**
 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
-  **Clearly Unacceptable**
 New construction or development should generally not be undertaken.

SOURCE: Cotton/Beland/Associates. Modified from U.S. Department of Housing and Urban Development and State of California guidelines.

Position #2
1200' to start line

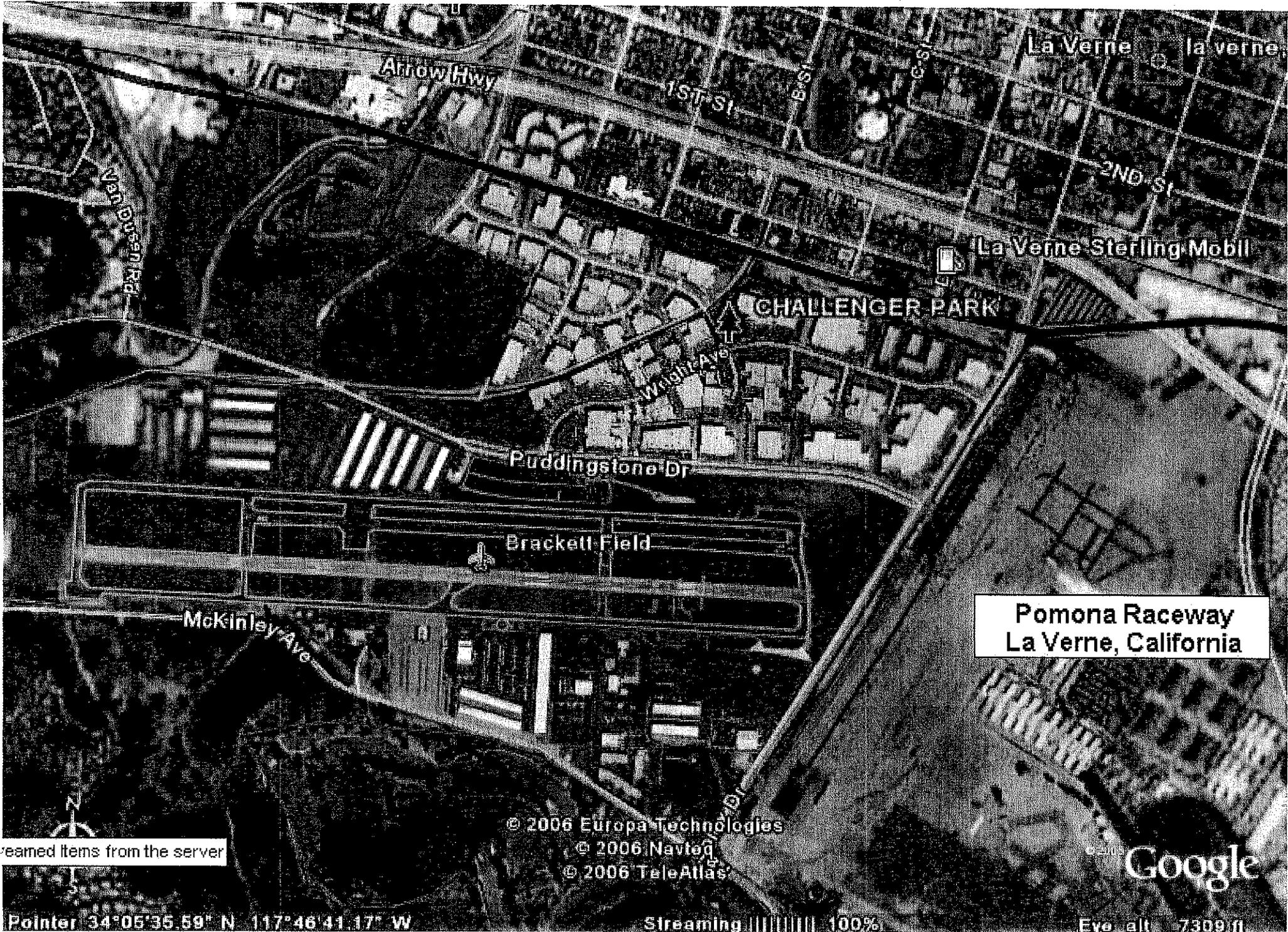
Position #1
400' to start line

Starting Line

Walnut St

Wright Ave

Fallopex Dr



Pomona Raceway
La Verne, California

Seamed items from the server

© 2006 Europa Technologies
© 2006 Navteq
© 2006 TeleAtlas

Google

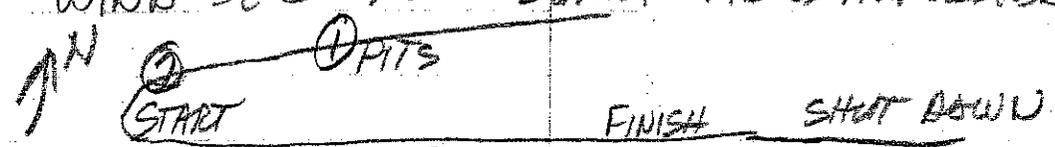
Pointer 34°05'35.59" N 117°46'41.17" W

Streaming 100%

Eye alt 7309 ft

CRIBS, MY NOTES FROM THE LAST DAY YOU WERE OPEN IN 2004, I DON'T KNOW THE EXACT DATE. RICK T. 6

SCABNER LAST OPEN DAY TIME RUNS ONLY
WIND \approx 5 NNW SUNNY FIELDS HARVESTED



① VARIOUS CARS, NORTH PROPERTY LINE, ADJACENT TO FIELD, \approx 500 FT FROM TRACK 1 MIN LOG

	3:02	77	PIT NOISE	2-3 CARS IDLING
	3:04	74	" "	2 CARS RETURNING
	3:05	78	" "	" " "
PEAK \approx 95	3:08	81	" "	COMP DRABSTER, CAMARO
	3:09	74	" "	

② CLOSER TO START, \approx 250 FT

	3:21	82	SEVERAL CAR STAGED? RACING
MIFFER ON SOME	3:24	80	1 CAR, STREET MUSTANG LEAVING LINE
	3:39	92	COMP DRABSTER + DUSTER
	3:41	86	2 HOPARS LEAVING LINE
	3:43	89	CAMARO \approx NOVA LEAVING

③ APPROX 1000 FT SOUTH OF $\frac{1}{2}$ TRACK OPEN FIELD

	3:57	88	TWO CARS OPEN HEADERS
NORTH ROAD: OPEN FIELD	3:59	87	COMP DRABSTER SINGLE
	4:03	92	KEVIN JEFF, ANOTHER CAMARO
	4:06	89	TWO CARS OPEN
	4:08	86	" " 1 OPEN

Race Vehicle Noise Testing at Lincoln Municipal Airport

Date: June 4, 2002

Time: 7:45 p.m.- 8:35 p.m.

Location of test strip: West tarmac, east of Duncan Avionics facility, Lincoln Municipal Airport. Measurement site: Northeast corner of NW 47th and West Mathis at a distance 4500 feet (0.85 miles) west of the test strip (see attached map, the blue line represents the one-mile distance from the test strip).

Weather conditions: Wind was north at approximately 5 mph, no precipitation but somewhat humid.

Type of vehicles tested: Muffled (6) and unmuffled (10-15) stock-bodied vehicles used for drag racing and two motorcycles, one of which was a drag bike.

Testing regime: Vehicles were accelerated in pairs in some cases, primarily the muffled cars, over a 200 foot test strip. Unmuffled vehicles for the most part were not run in pairs but there were several side-by-side contests. A number of vehicles engaged in "burnout" activity which was recorded as a noise event because this is part of normal drag racing activity.

Instrumentation: Noise measurements were taken with a calibrated B and K Model 2225 sound level meter equipped with a wind screen. An A-weighted scale is employed with this meter using slow response for background measurements and for muffled vehicles. The fast response meter function was used to obtain readings for the unmuffled vehicles (cars and motorcycles).

Noise Measurement Results

1) Background noise recorded at the measurement site in the absence of noise from the racing test strip was 43.5 db(a); decibels A-weighted scale = db(a). No aircraft noise was present, but some of the background noise was the result of traffic noise from NW 48th Street. Background levels were low enough during the testing so as to not interfere with the individual measurements of noise associated with the test vehicles.

2) There were 6 vehicles involved in the testing that were muffled. A total of 9 noise events associated with these vehicles were recorded. The range of readings for these events was 50 to 60 db(a). The equivalent sound level (Leq) computed for these 9 events was 57 db(a). The Leq is a common noise descriptor used to evaluate community noise levels because it is a reasonably good indicator of community annoyance according to the EPA. In order to develop a scenario that would simulate a typical 1/4 mile event at a drag strip, a 15 second time frame was used in conjunction with the 57 db(a) to compute a two-minute Leq at the measurement distance, i.e.,

T F A R O

4500 feet. The 15 second interval would include noise associated with staging, the 1/4 mile run, and shutdown after the run. A two-minute Leq of 50 db(a) is the limit established in the LMC 27.63.570(d) that is associated with racing events in the Airport Environs for areas greater than one-mile from the track site that are located outside of the Ldn 65 noise contour.

A two-minute Leq of 48 db(a) was computed for the muffled vehicle scenario at 4500 feet. The computation method accounts for the 15 second noise event and the remainder of the period during which there is no noise from racing activity. It is reasonable to assume that only a single event of this nature would occur during a period of two minutes.

Due to the fact that the measurement site is 0.85 miles from the test site it was necessary to extrapolate the two-minute Leq to a distance of one-mile. A typical assumption used for making this extrapolation is that a 6 db(a) reduction is realized for each doubling of distance from the noise source provided the majority of the distance over which the noise travels is a "soft" surface (such as dirt and grass). At a distance of 9000 feet, a noise level of 42 db(a) would be assumed. Where the distance is one-mile (5280 feet) the noise level would be approximately one to two decibels less than at the measurement site. The predicted two-minute Leq at a distance slightly greater than one-mile would be 46 to 47 db(a). Except for the extreme east side of Arnold Heights near West Mathis and NW 48th Street, almost all of this area is greater than one-mile from the test site. It is also noted that all of Arnold Heights is located outside of the Ldn 65 noise contour. Therefore, the 50 db(a) limit is applicable to almost all areas in Arnold Heights.

3) There were 10-15 vehicles involved in the testing that were unmuffled. A total of 28 noise events associated with these vehicles were recorded at the measurement site. The sound equivalent level (Leq) computed for these 28 events was 64 db(a). The range for these readings was 57 to 71 db(a). The same procedure described previously for muffled vehicles was used for the 1/4 mile racing scenario and computation of the two-minute Leq, except that 64 db(a) was used in conjunction with the 15 second time frame.

A two-minute Leq of 55 db(a) was computed for the measurement site. When this level was extrapolated to a distance slightly greater than one-mile, the predicted two-minute Leq was 53 to 54 db(a). As previously noted, the limit for almost all of the Arnold Heights area, given the location of the test site, is 50 db(a).

Conclusions:

- 1) The noise level associated with muffled racing vehicles is predicted to comply with the two-minute Leq limit of 50 db(a) at a distance greater than one-mile from the test site.
- 2) The noise level associated with unmuffled racing vehicles is predicted to exceed the 50 db(a) two-minute Leq limit at distances greater than one-mile from the test site. This area of exceedence covers almost the entire area of Arnold Heights and the area south of West Adams Street and west of NW 48th Street. Note: Approximately one-half of the Ashley Heights area is covered by the 50 db(a) limit (the entire area is located outside of the Ldn 65 noise contour). The portion inside of one-mile from the test site is subject to the Leq 10 minute limits of 65 db(a) and

55 db(a) for daytime and nighttime hours, respectively, that have been established in the LMC 8.24.090, Table 1. However, if muffled vehicles only are operated at the test site, the noise levels (Leq) in the portion of Ashley Heights that is within one-mile of the test site should be at or within 50 db(a).

Recommendations:

In the event additional noise testing is requested for muffled and unmuffled vehicles, it is suggested that testing be conducted using the following testing and measurement protocols:

- 1) Vehicles would be operated in a side-by-side manner for all test runs.
- 2) Each test run would be a minimum of 1/8 mile in distance, if possible.
- 3) All other activities associated with a normal run, such as staging, would be conducted in order to simulate an actual racing event to the extent possible.
- 4) After discussion with the event operator, all Leq measurements will be based on a one-minute sampling period.
- 5) All measurements will be taken in residential areas where the measurement sites are slightly in excess of one-mile from the test site. Two locations in Arnold Heights and one in Ashley Heights should be selected.

**Summary Table of Drag Race Noise Testing Results (in db(a))- Lincoln Municipal Airport
June 4, 2002**

Muffled Vehicles

<u>Noise Events</u>	<u>Peak Leq</u>	<u>Range</u>	<u>10 min. Leq (4500 ft)</u>	<u>2 min. Leq (4500 ft)</u>	<u>2 min Leq (> 1 mi.)</u>
N = 9	57	50-60	47	48	46-47

Unmuffled Vehicles

N = 28	64	57-71	54	55	53-54
--------	----	-------	----	----	-------

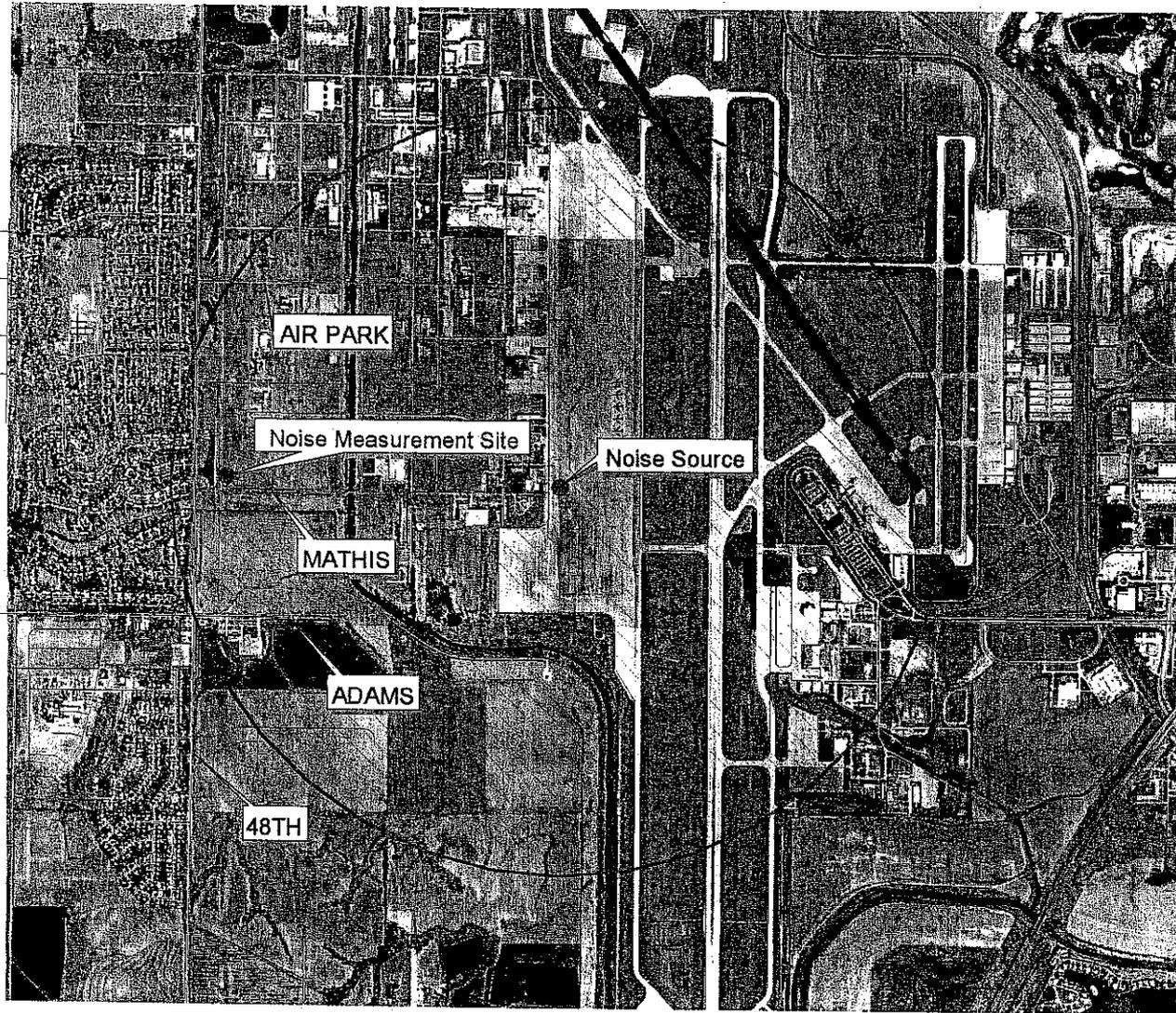
Notes:

1) The 10 minute Leq limits in the LMC 8.24.090, Table 1, are 65 db(a) for the time period 7 am to 10 pm and 55 db(a) for the time period 10 pm to 7 am. These would apply in the areas that are one-mile or less from the test site.

2) The 2 minute Leq limit in the LMC 27.63.570(d) is 50 db(a) for the Airport Environs. This applies in areas greater than one-mile from the test site that are outside of the Ldn 65 noise contour.

dragstripnoisetests,LAA.wpd

Airpark Noise Testing



- 1 mile Buffer around Noise Source
- Streets
- Noise Measurement Site
- Noise Source



8

RACE CAR NOISE IMPACT ASSESSMENT OF OCTOBER 20, 1996

Discussion

Tests were conducted in the vicinity of a proposed auto racing complex to be located west of the intersection of NW 27th and West Vine Street. The site is south-southwest of the main runway at the Lincoln Municipal Airport and north of Interstate 80. A map is attached which defines this area.

Six cars participated in the testing:

1. One Chevy-powered stock car used for oval track racing; 2. Four Chevy-powered (2-454 cid, 1-400 cid, 1-350 cid, cid = cubic inch displacement) Camaros used for drag racing; and 3. One Plymouth Duster (340 cid) used for drag racing. All cars were located at the site indicated on the map during noise measurements. Vehicles revved their engines to simulate racing conditions during each of the 3, 5-minute test periods.

Sound equivalent levels (Leq) were measured at the 3 locations indicated on the attached map: 1. Site 1 - west of the intersection of Surfside Drive and Lakeside Drive near Capitol Beach Lake; 2. Site 2 - on the east side of NW 16th Street approximately half-way between West S Street and Surfside Drive in the Capitol Beach area, and 3. Site 3 - on the east side of NW 27th Street between Interstate 80 and the mobile home park. At each site 5, 1-minute Leq readings were taken without the race cars running in order to establish the background noise level. An additional 5, 1-minute Leq readings were then taken with the cars revving their engines to establish the noise impact of this source at each of the 3 sites. Each set of 5, 1-minute readings was then converted to a 5 minute Leq for background and for background and source (total noise) at each site. All Leq readings were taken with a Bruel and Kjaer (B & K) Type 2225 Sound Level Meter using the 60 second Leq function switch and a db(a) (decibel-A weighted) range of 50-90. The meter had been calibrated at a noise level of 94 db(a) using a B & K calibration device. The Leq represents the "average" noise level over a specified period of time, although it is not a strict arithmetic average. This particular noise descriptor has been used by many government agencies to characterize community noise. The Lincoln Municipal Code, Chapter 8.24, has noise limits based on the Leq.

Weather conditions during the collection of data were as follows: Sky conditions - clear to partly cloudy; Temperatures - 60° to 65°F and falling; Wind direction - north to northwest; Wind speed - generally 10 to 15 mph, with some gusts in excess of 15 mph.

All measurements were taken between 5:44 pm and 6:42 pm.

Test Data

Site 1	<u>Background</u>	<u>Background & Race Cars (Total)</u>
1-min. Leq	65.5 db(a) 63.0 64.0 63.5 <u>63.0</u>	1-min. Leq 64.0 db(a) 66.0 63.5 64.0 <u>63.0</u>
5-min. Leq =	64.0 db(a)	5-min. Leq = 64.0 db(a)
Site 2	<u>Background</u>	<u>Background & Race Cars (Total)</u>
1-min. Leq	54.5 db(a) 55.5 55.0 57.0 <u>56.5</u>	1-min. Leq 55.5 db(a) 55.0 54.5 54.5 <u>55.0</u>
5-min Leq =	56.0 db(a)	5-min. Leq = 55.0 db(a)
Site 3	<u>Background</u>	<u>Background & Race Cars (Total)</u>
1-min. Leq	64.0 db(a) 64.0 62.0 64.0 <u>60.5</u>	1-min. Leq 63.5 db(a) 65.0 64.0 62.5 <u>64.5</u>
5-min Leq =	63.0 db(a)	5-min. Leq = 64.0 db(a)

At all sites, vehicle noise associated with I-80 traffic was the predominant source of noise. Occasionally, it was possible to detect the sound of revving engines from the race cars, but for the majority of the 5-minute period at each site it was not possible to hear the race car engine sounds above that of the I-80 traffic noise.

Based on a comparison of the 5-minute Leq background noise with that of the background and race car noise (total noise) at each site, it could not be demonstrated that race car engine noise caused an increase in the background noise. Based on the measurement data collected during this time period, it is concluded that there was no difference between the background noise and the race car noise, i.e., the overall noise levels in these areas remained the same regardless of the operation of the race car engines. It is noted that when there is a difference of 3 db(a) or less between the total noise and the background noise, technically, there is no way to determine the noise contribution of the source itself.

Noise readings for Proposed Drag Strip
West of NW 27th Street on West Vine Street
Date of Testing 4/20/97

Approximately 10 unmuffled cars were operated (revving engines) at this site during the 15 minute period, 4:45 pm to 5:00 pm.

Approximately 20 muffled cars were operated (revving engines) at the same site during the 15 minute period, 5:00 pm to 5:15 pm.

Location of Noise Readings and Results

Weather: Mostly Cloudy, Temps in mid 50's, Winds were east at 10-12 mph

<u>Site</u>	<u>Time</u>	<u>Readings (1 min. Leg. in dba)</u>
West of Lakeside Dr.	4:39 pm	56 (background)
West of Lakeside Dr.	4:52 pm	57.5
West of Lakeside Dr.	4:53 pm	58
NW 27th, 1st house north of overpass	5:00 pm	58
NW 27th, 1st house north of overpass	5:03 pm	61
West Vine, north of track entrance	5:11 pm	55

Note: All readings were the result of traffic noise from Interstate 80. The only site at which car (muffled) noise associated with the proposed track could be heard was on West Vine, north of the track entrance. Even in this case, the noise level recorded was the result of I-80 traffic. The daytime noise limit of 65 db(a) in the City noise ordinance was not equalled or exceeded at any of the sites. It is noted that with the exception of the West Vine site, all of the other sites were upwind of the proposed track at the time noise readings were recorded.

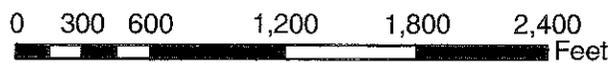
GW:lc
NP9006

October 17, 2006



Proposed Drag Strip NW 27th & W. Vine Noise Testing Conducted October 1996 & April 1997

Noise Testing Sites





russbayer@aol.com
01/09/2007 04:04 PM

To: SHolmes@ci.lincoln.ne.us, gjuilfs@lancaster.ne.gov,
randy@schwisow.com, carolserv@hotmail.com,
keagan@lancaster.ne.gov, MDekalb@ci.lincoln.ne.us,
cc

bcc

Subject: Fwd: Contact Us form - from MSHF website

Hi Everyone,

I wrote the Motorsports Hall of Fame of America for a definition of Motorsports. Here is what I received back:

-----Original Message-----

From: info@mshf.com
To: russbayer@aol.com
Sent: Fri, 5 Jan 2007 5:38 PM
Subject: Re: Contact Us form - from MSHF website

We consider 'motorsports' any competition that races with motors... whether it be on land (cars of all sorts, motorcycles), air (airplanes), or by sea (boats). We also include other forms of racing that does not involve direct competition, but instead racing against time, i.e. setting land speed records. Hope this helps.

Thank you for your interest in the Motorsports Hall of Fame of America

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