NOISE IMPACT ANALYSIS
DEL MAR VILLAGE SPECIFIC PLAN
DEL MAR, CALIFORNIA

Prepared for:

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TABLE OF CONTENTS

Section **Page**

APPENDICES

A Noise Measurement Data

B Traffic Data and Calculations

LIST OF FIGURES

Figure **Page**

LIST OF TABLES

Table **Page**

CHAPTER 1.0
INTRODUCTION AND PURPOSE

The Del Mar Village Specific Plan (Proposed Project) covers approximately 40 acres and 68 properties and comprises the total area known as the Del Mar Village. It generally follows a six-block portion of Camino del Mar, between 9th Avenue on the south and the Plaza and Hotel Specific Plan areas north of 15th Street on the north and includes the commercial properties facing 15th Street, west of Camino del Mar. The area corresponds to the City's Central Commercial Zone, and the western and eastern boundaries follow the Central Commercial Zone boundary. Three sites in the Public Facilities Zones: City Hall site, Library site, and Post Office site are included within the Project area. Three existing Specific Plans: Del Mar Hotel, Garden Del Mar and Del Mar Plaza Specific Plans are also included within the Project area.

The Proposed Project is intended to guide future public and private development within the Project area over the next 30 years. To achieve the City's Community Plan objective of creating an economically viable, pedestrian oriented and attractive area that serves the needs of both residents and visitors and is well integrated into the residential fabric of the community, the Proposed Project establishes new public improvements in the streetscape; a new mixed-use zone, development standards and design guidelines for private properties; and infrastructure to support future development. The Proposed Project requires the discretionary actions on the part of the City Council for adoption and for an associated Local Coastal Plan Amendment to address the rezone of the area. It will also be subject to a vote of the people per Del Mar's Downtown Initiative Overlay Zone (Measure B) requirements.

Figure 1 shows the regional location of the Project. Figure 2 shows the Project site and vicinity. Figure 3 shows an aerial photograph of the Specific Plan boundary. Figure 4 shows the proposed Specific Plan land uses.

The following main noise sources exist within the Del Mar Village area:

- Traffic on circulation element roads
- Railroad traffic
- Various commercial operations in the planning area

1 Regional Map

FIGURE 1

Source: Recon 2011

2 Project Location on USGS Map

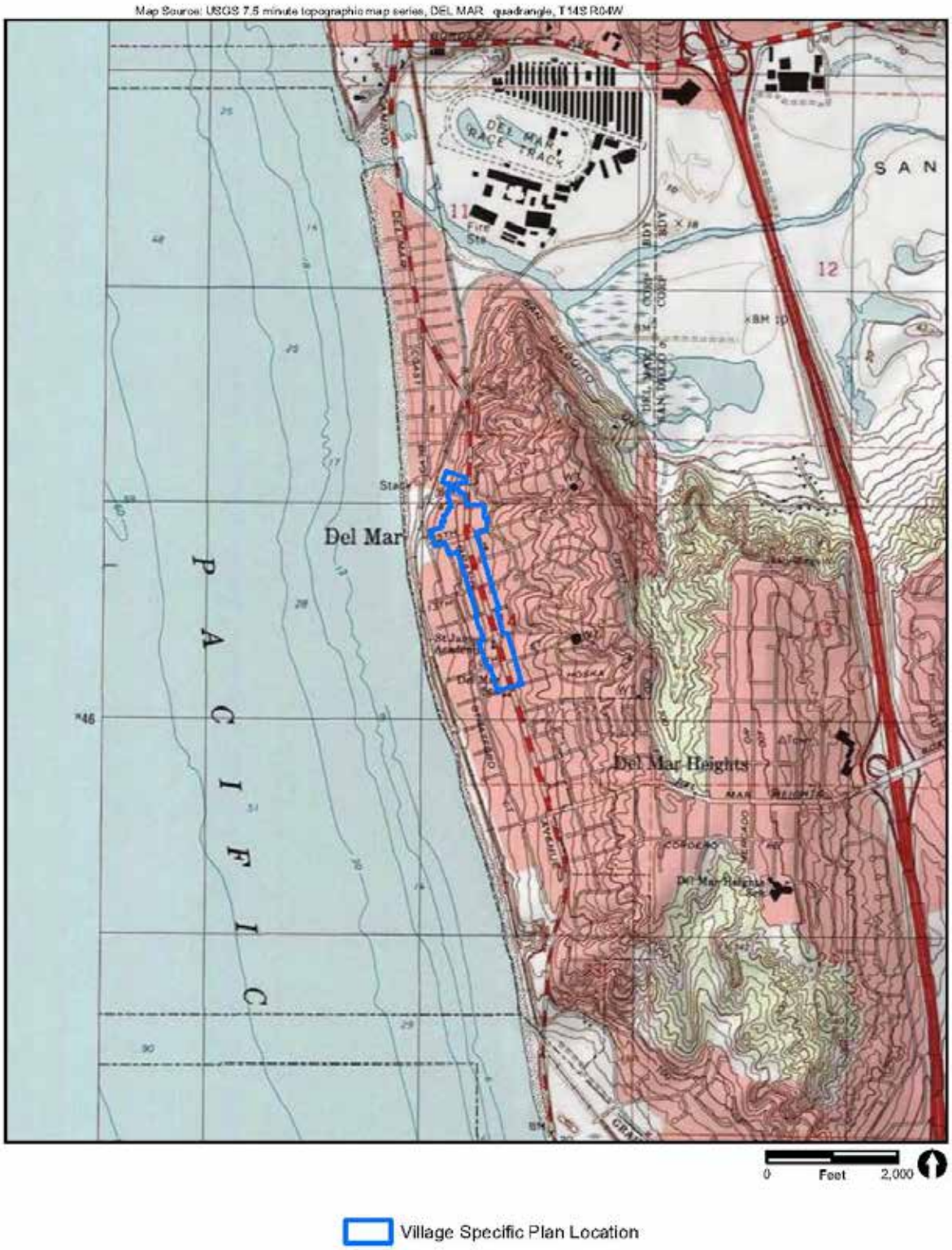


FIGURE 2

Source: Recon 2011

3 Project Location on Aerial Photograph

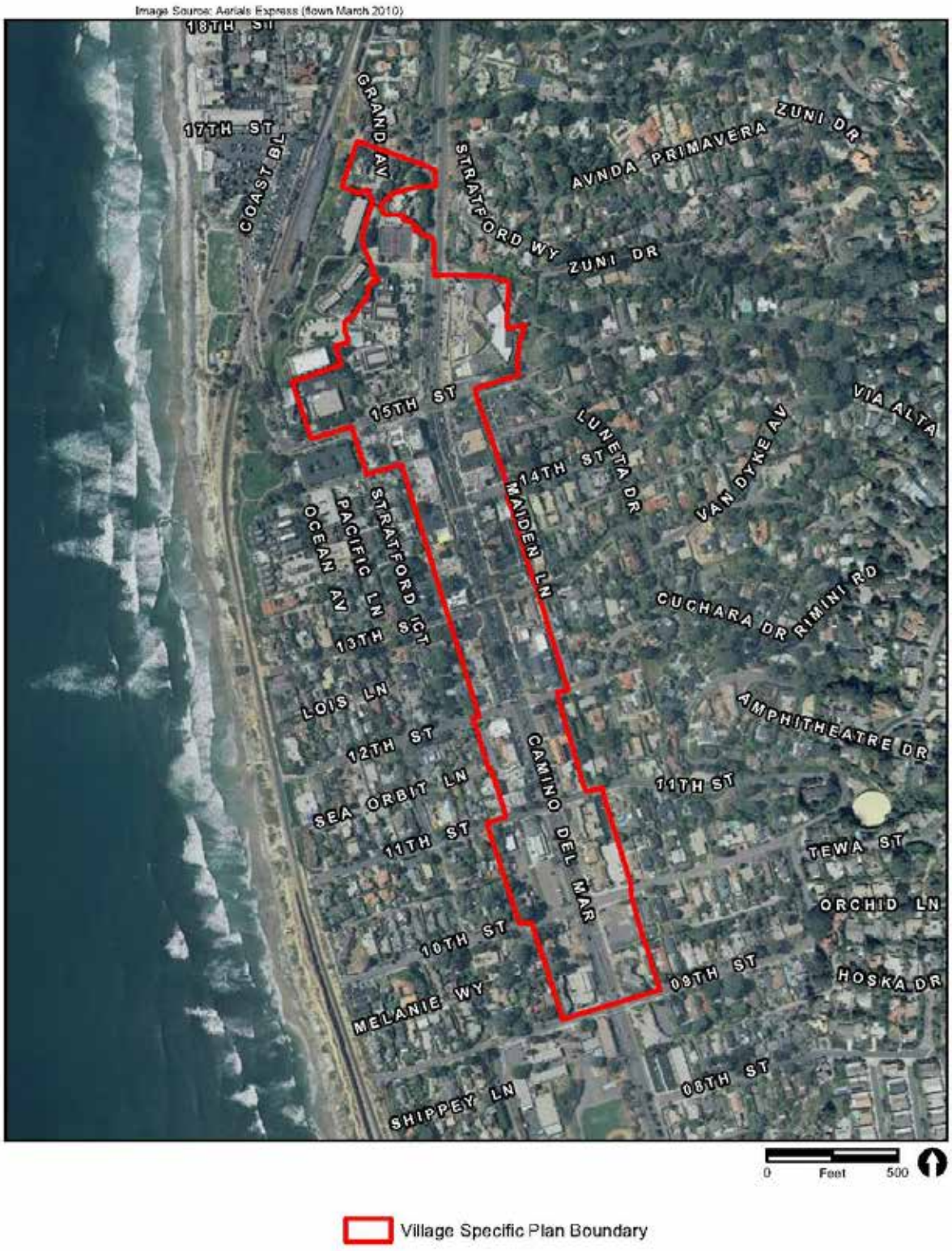


FIGURE 3

Source: Recon 2011

4 Proposed Village Specific Plan

FIGURE 4

Source: Recon 2011

Impacts are assessed in accordance with the guidelines, policies, and standards established by the City of Del Mar. Measures are recommended, as required, to avoid adverse impacts to noise-sensitive areas.

This noise analysis provides a brief discussion of noise terminology, the existing noise environment, and regulatory setting, and evaluates the potential for noise impacts from the overall changes in land use in the Project area through buildout. This analysis does not assume detailed plans for specific development areas.

CHAPTER 2.0
PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The Proposed Project occupies approximately 40 acres within the already urbanized town center of Del Mar. The Proposed Project generally encompasses the central business district corridor that is along Camino del Mar between 9th Street and approximately the easterly alignment of 17th Street. Additionally, commercial and post office properties along 15th Street west to Stratford Court are included.

2.2 PROJECT DESCRIPTION

The Proposed Project consists of a new Specific Plan that is designed to implement the vision of the Community Plan. The intent of the Specific Plan is to:

- increase the development potential within the study area;
- raise the height limit to 26'-0" on the western side of Camino del Mar to match the allowed height limit on the eastern side;
- create a mixed-use zone for the commercial properties that also allows residential development at a density of 20 dwelling units per acre;
- permit parking structures in both the mixed-use and public facilities zones;
- redesign sidewalks and on-street parking to be continuous and aligned within the public right-of-way; and,
- redesign Camino del Mar to be a 2-lane roadway with roundabouts at key intersections (15^{th}, 11^{th} and 9^{th}).

The mixed-use zone is to be applied to all existing commercial zoned properties in the Village as shown in Figure 4. Also, as shown in Figure 4, the historically designated Stratford Square and Library properties would still be subject to the Historic Preservation Overlay Zone.

The new Specific Plan would allow building parcels to increase their maximum development potential from the existing 0.45 Floor Area Ratio (FAR). Proposed allowed building heights would be 26 feet above Camino del Mar for properties that face Camino del Mar, to allow two stories. Side street parcels within the Specific Plan would be allowed to have 26'-0" from their average street front property elevation. Roof

articulation features may extend an additional four feet but not to create habitable space. The projected build-out of the proposed Village Specific Plan is anticipated to include the following mix of land uses as shown in Table 1.

Table 1
Projected Build-Out Summary

Land Use	Existing	Projected Build-Out
Residential (multi-family units)	2	140[1]
Boutique Hotel (rooms)	17	60[1]
Retail, Restaurant & Personal Services (square feet)	74,205	204,500[2]
Office (square feet)	169,646	170,000
Civic (square feet)	28,466	35,000
Public Park/Plaza (square feet)	2,060	6,200

[1] excluding existing L'Auberge Hotel & Condominiums
[2] excluding existing Del Mar Plaza north of 15th St.

Three parcel-specific Specific Plans have been previously adopted and fall within the Village Specific Plan boundaries: the Hotel Specific Plan (L'Auberge), the Plaza Specific Plan (Del Mar Plaza and 1435 Camino del Mar) and the Garden Del Mar Specific Plan (941 Camino del Mar and 307 10th Street). Both the Hotel and Plaza have been developed according to their adopted Specific Plans. The Garden Del Mar site remains entitled but undeveloped and vacant. For purposes of this Specific Plan, the site at 1435 Camino del Mar (a portion of the Plaza Specific Plan) and the entirety of the Garden Del Mar entitled development is included in Table 1. Project Build-Out Summary, Land use and zoning for these two parcels will be refined by the Village Specific Plan. No build-out is anticipated beyond that which is currently constructed at either the L'Auberge Hotel or the Del Mar Plaza, excluding 1435 Camino del Mar.

2.3 4-LANE SIGNALIZED ALTERNATIVE (ALTERNATIVE 2)

Under the 4-Lane Signalized Alternative (Alternative 2) the development pattern would remain the same and Camino del Mar would remain a 4-lane roadway. The stop sign controlled intersections of Camino del Mar and 9th, 11th, and 15th, Streets would be replaced with 4-way signals and the speed limit would be increased to 30 miles per hour (mph).

CHAPTER 3.0
METHODOLOGY

3.1 NOISE TERMINOLOGY AND CONCEPTS

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired, and may, therefore, be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2009).

Decibels and Frequency

In its most basic form, a continuous sound can be described by its frequency or wavelength (pitch) and its amplitude (loudness). Frequency is expressed in cycles per second, or hertz. Frequencies are heard as the pitch or tone of sound. High-pitched sounds produce high frequencies; low-pitched sounds produce low frequencies. Sound-pressure amplitude is measured in micro-Pascals (mPa). Sound-pressure amplitudes for different kinds of noise environments can range from 20 to 100,000,000 mPa. Because this huge range of values is cumbersome and difficult to use, a logarithmic scale is used to describe sound-pressure level in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa (Caltrans 2009).

As dB is measured on a logarithmic scale that quantifies sound intensity, similar to the Richter scale used for earthquake magnitudes, dB cannot be added or subtracted through ordinary arithmetic. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3-dB decrease. In way of example, if an air conditioner produces a sound pressure level of 85 dB at 50 feet, two air conditioners at the same distance would produce 88 dB—not 170 dB.

Perception of Noise at the Receiver and A-Weighting

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency

response of the average young ear when listening to most everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale for sound levels. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are written dB(A) or dBA. Table 2 shows the relationship of various noise levels to commonly experienced noise events.

Table 2
Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 meters (1,000 feet)	--100--	
Gas Lawn Mower at 1 meter (3 feet)	--90--	
Diesel Truck at 15 meters (50 feet), at 80 kilometers per hour (50 miles per hour)	--80--	Food Blender at 1 meter (3 feet); Garbage Disposal at 1 meter (3 feet)
Noisy Urban Area, Daytime Gas Lawn Mower at 30 meters (100 feet)	--70--	Vacuum Cleaner at 3 meters (10 feet)
Commercial Area Heavy Traffic at 90 meters (300 feet)	--60--	Normal Speech at 1 meter (3 feet)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans 2009

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease; that a change of 5 dBA is readily perceptible; and that an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 2009).

Noise Propagation

From the source to the receiver, noise changes both in level and frequency. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on the important factors described in the following discussion.

Geometric spreading from point and line sources: Sound from a small localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates, or drops off, at a rate of 6 dBA for each doubling of the distance. Movement makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The sound level attenuates at a rate of 3 dBA per doubling of distance for line sources (Crocker 2007).

Ground absorption: Hard sites (i.e., sites with a reflective surface between the source and the receiver, such as parking lots or smooth bodies of water) receive no excess ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. Soft sites are sites that have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees and receive an excess ground attenuation value of 1.5 dBA per doubling of distance (Crocker 2007).

Atmospheric effects: Wind speed will bend the path of sound to "focus" it on the downwind side and make a "shadow" on the upwind side of the source. At short distances, up to 164 feet, the wind has minor influence on the measured sound level. For longer distances, the wind effect becomes appreciably greater. Temperature gradients create effects similar to those of wind gradients, except that they are uniform in all directions from the source. On a sunny day with no wind, temperature decreases with altitude, giving a shadow effect for sound. On a clear night, temperature may increase with altitude, focusing sound on the ground surface (Caltrans 2009).

Shielding by natural and human-made features, noise barriers, diffraction, and reflection: A large object in the path between a noise source and a receiver can significantly attenuate noise levels at that receiver location. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, as well as fabricated features such as buildings and walls, can significantly alter noise levels.

Noise Descriptors

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors used in this report to describe environmental noise are defined below:

- L_{max} *(Maximum Noise Level):* The highest A-weighted integrated noise level occurring during a specific period of time.
- L_{min} *(Minimum Noise Level):* The lowest A-weighted integrated noise level during a specific period of time.
- *Peak:* The highest weighted or unweighted instantaneous peak-to-peak value occurring during a measurement period.
- L_n *(Statistical Descriptor):* The noise level exceeded "n%" of a specific period of time, generally accepted as an hourly statistic. An L_{10} would be the noise level exceeded 10% of the measurement period.
- L_{eq} *(Equivalent Noise Level):* The energy mean (average) noise level. The steady-state sound level that, in a specified period of time, contains the same acoustical energy as a varying sound level over the same time period.
- *CNEL (Day-Night Noise Level):* The 24-hour L_{eq} with a 10-dBA "penalty" applied during nighttime noise-sensitive hours, 10:00 p.m. through 7:00 a.m. The CNEL attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

3.2 VIBRATION TERMINOLOGY AND CONCEPTS

Groundborne vibration consists of oscillatory waves that propagate from the source through the ground to adjacent structures. The frequency of a vibrating object describes how rapidly it is oscillating. The number of cycles per second of oscillation is the vibration frequency, which is described in terms of hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz (Crocker 2007).

Perception of Vibration at the Receiver

While people have varying sensitivities to vibrations at different frequencies, in general, they are most sensitive to low-frequency vibration. Vibration in buildings caused by construction activities may be perceived as motion of building surfaces or rattling of windows, items on shelves, and pictures hanging on walls. Vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, connect the structure and the construction activity (FTA 2006).

Although groundborne vibration is sometimes noticeable in outdoor environments, groundborne vibration is almost never annoying to people who are outdoors (FTA 2006). The primary concern from vibration is the ability to be intrusive and annoying to local residents and other vibration-sensitive land uses.

Vibration Propagation

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations reduce much more rapidly than low frequencies, so that low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances. When vibration encounters a building, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under certain circumstances, the ground-to-foundation coupling may also amplify the vibration level due to structural resonances of the floors and walls.

Vibration Descriptors

Vibration levels are usually expressed as a single-number measure of vibration magnitude in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (ppv) is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second. Since it is related to the stresses that are experienced by buildings, ppv is often used in monitoring vibration.

CHAPTER 4.0
EXISTING CONDITIONS

4.1 PROJECT AREA

Existing land uses within the Project area include retail commercial; restaurant; personal service; lodging; professional, medical, real estate and financial office; community services, and a few residential units. Residential uses are located west and east of the Project area. Camino del Mar is a four-lane roadway with a posted speed of 25 mph through the Project area and 40 mph north of 15th Street.

4.2 SENSITIVE NOISE RECEPTORS

Noise-sensitive receptors are generally considered humans engaged in activities or utilizing land uses that may be subject to the stress of significant interference from noise. Activities usually associated with sensitive receptors include, but are not limited to, talking, reading, and sleeping. Land uses often associated with sensitive receptors include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, education facilities, and libraries. Noise-sensitive human receptors exist and are proposed within and adjacent to the Project vicinity.

4.3 EXISTING NOISE LEVELS

To determine the existing noise conditions and assess the potential impacts of noise resulting from the Project, noise measurements were taken in the project vicinity on Tuesday, October 25, 2011 by Recon (Recon 2011). Noise measurements were taken with a Larson-Davis Model 720 Type 1 Integrating Sound Level Meter, serial number 1824. The following parameters were used:

Filter:	A-weighted
Response:	Fast
Time History Period:	5 second

The meter was calibrated prior to the day's measurements. Ground-floor measurements (5 feet above the ground) were taken at five locations in the project vicinity. The weather was partially cloudy to clear and dry with moderate breezes from the west averaging 1 to 3 miles per hour (mph) with occasional gusts of up to 8 mph.

The results of the short-term noise measurements are summarized in Table 3. The noise measurement locations are shown in Figure 5. Detailed measurement data are provided in Appendix A.

Table 3
Short-term Noise Measurement Summary

Site*	Location	Start Time of Measurement	L_{eq} dBA
1	Southern end of the project area	10:44 a.m.	63.5
2	Center of the project area	11:09 a.m.	65.6
3	Northern end of the project area	11:35 a.m.	66.3
4	15th Street	12:38 p.m.	59.3
5	10th Street	1:02 p.m.	58.9

*The Site ID number corresponds to locations shown in Figure 4.

Measurement 1 was located adjacent to Camino del Mar at the southern end of the project area in a vacant, paved lot approximately 70 feet east of the centerline of Camino del Mar. Noise at this location was due to vehicle traffic on Camino del Mar and 10th Street and small aircraft. Noise levels were measured for 15 minutes, and traffic on Camino del Mar was counted during the measurement interval. The average measured noise level was 63.5 dB(A) L_{eq} at Measurement Location 1.

Measurement 2 was located adjacent to Camino del Mar in the center of the project area at approximately 50 feet east of the centerline of Camino del Mar. Noise at this location was due to vehicle traffic on Camino del Mar, pedestrians, and small aircraft. Noise levels were measured for 15 minutes, and traffic on Camino del Mar was counted during the measurement interval. The average measured noise level was 65.6 dB(A) L_{eq} at Measurement Location 2.

Measurement 3 was located adjacent to Camino del Mar at the north end of the project area at approximately 45 feet west of the centerline of Camino del Mar. Noise at this location was due to vehicle traffic on Camino del Mar, pedestrians, small aircraft, and valet activities at the adjacent hotel. Noise levels were measured for 15 minutes, and traffic on Camino del Mar was counted during the measurement interval. The average measured noise level was 66.3 dB(A) L_{eq} at Measurement Location 3.

Measurement 4 was located adjacent to 15th Street at the west end of the project area at approximately 30 feet north of the centerline of 15th Street. Noise at this location was

due to vehicle traffic on 15th Street, pedestrians, small aircraft, post office activities, and the ocean. Noise levels were measured for 15 minutes, and traffic on 15th Street was counted during the measurement interval. The average measured noise level was 59.3 dB(A) L_{eq} at Measurement Location 4.

Measurement 5 was located at the dead end of 10th Street, west of the project area, at approximately 30 feet east of the center of the railroad tracks. Noise levels were measured at this location to obtain measurements of a train pass-by. Noise at this location was due to the ocean, gardening activities, and one train. Noise levels were measured for 19 minutes. One northbound Coaster passed the measurement location during the measurement period. The average measured noise level was 58.9 dB(A) L_{eq}. The calculated sound exposure level (SEL) for the train pass-by was 85.4 dB(A).

Traffic counts were conducted during the first four measurements, which were used to develop a vehicle classification mix for use traffic-noise modeling. Table 4 summarizes the 15-minute traffic counts.

Table 4
15-Minute Traffic Counts*

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
Measurement 1					
NB Camino del Mar	154	3	0	2	0
SB Camino del Mar	102	1	0	0	2
Measurement 2					
NB Camino del Mar	140	2	1	1	0
SB Camino del Mar	166	2	2	1	2
Measurement 3					
NB Camino del Mar	124	2	0	0	1
SB Camino del Mar	139	3	0	1	0
Measurement 4					
WB 15th Street	50	3	0	0	0
EB 15th Street	39	0	0	0	0

*Traffic counts were not taken at measurement 5 as this location did not include through traffic. Measurements were taken at this location to obtain existing noise levels of a train pass-by.

5 Noise Measurement Locations

Source: Recon 2011

4.4 APPLICABLE STANDARDS

City of Del Mar Community Plan (General Plan)

The City of Del Mar goals for transportation noise sources are published in the City's Community Plan - Transportation Element, Noise Section (March 1976, incl. 1985 amendments). The City of Del Mar Project considers 65 dB CNEL the maximum level compatible with residential land uses. The City of Del Mar Project has no transportation noise sources requirements applicable to other uses. However, the Community Plan does include an objective to reduce the level of noise created by major transportation routes in the community. The two policies created to enforce this objective include limiting vehicular speeds along Camino del Mar and to "encourage sound reduction construction techniques in new buildings within the 65 decibel boundaries adjacent to Camino del Mar and the railroad right-of-way."

City of Del Mar Municipal Code

Section 9.20.040 of the City's Municipal Code states that:

A. Unless otherwise specified, it shall be unlawful for any person(s) to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table at any location in the City of Del Mar beyond the premises on which the noise is produced, as measured pursuant to the provisions of this Chapter. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person(s).

B. The noise limits specified in subsection (A) above shall be adjusted as follows to account for the effects of time and duration on the impact of noise levels:

    1. Noise that is produced for no more than a cumulative period of 30 minutes in any hour may exceed the noise limit by 3 decibels.
    2. Noise that is produced for no more than a cumulative period of 15 minutes in any hour may exceed the noise limit by 6 decibels.
    3. Noise that is produced for no more than a cumulative period of 10 minutes in any hour may exceed the noise limit by 8 decibels.
    4. Noise that is produced for no more than a cumulative period of 5 minutes in any hour may exceed the noise limit by 11 decibels.
    5. Noise that is produced for no more than a cumulative period of 2 minutes in any hour may exceed the noise limit by 15 decibels.

C. For purposes of this chapter, the peak decibel reading for a noise with a fluctuating noise level (such as live or recorded music) shall be considered as the noise level for the entire cumulative period of noise. Likewise, the time between repetitive intermittent noises (such as banging, pounding, or hammering) shall be included in the cumulative of the noise.

D. If the measured ambient level exceeds the applicable limit noted above, the allowable one-hour average sound level shall be the ambient noise level.

E. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits of the two districts.

F. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this Chapter, measured at or beyond six (6) feet from the boundary of the easement upon which the equipment is located.

The applicable noise limits are summarized in Table 5.

Table 5
Applicable Noise Level Limits

Property Receiving Noise	Time of Day	One-Hour Average Sound Level [dB(A) $L_{eq(1)}$]
R1-5 – Medium Density Single Family Residential R1-5B – Medium Density Single Family Residential – Beach R1-10 – Low Density Residential R1-10B – Low Density Residential – Beach R-2 – High Density Mixed Residential R1-14 – Modified Low Density Residential R1-40 – Very Low Density Residential RM-East – Medium Density Single-Mixed Residential – East RM-West – Medium Density Mixed Residential – West RM-Central – Medium Density Mixed Residential – Central RM-South – Medium Density Mixed Residential – South OS Overlay – Open Space Overlay Zone	7:00 A.M. to 10:00 P.M. 10:00 P.M. to 7:00 A.M.	50 40
NC – North Commercial Zone RC – Residential-Commercial Zone CC – Central Commercial Zone PC – Professional Commercial Zone BC – Beach Commercial Zone VC – Visitor Commercial Zone	7:00 A.M. to 10:00 P.M. 10:00 P.M. to 7:00 A.M.	60 50
RR – Railroad Right-of-Way Zone	7:00 A.M. to 10:00 P.M. 10:00 P.M. to 7:00 A.M.	60 55

California's Title 24 Noise Standards

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (Title 24, Part 2, California Code of Regulations or CCR). CCR Title 24 establishes standards, based on the U.S. Department of Housing and Urban Development (HUD) requirements, for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential or motel/hotel building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise sources create an exterior CNEL (or Ldn) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or Ldn) of at least 45 dBA.

Construction Noise Level Limits

Section 9.20.050 of the City's Municipal Code states that:

Any person who operates powered construction or landscape equipment and/or who erects, constructs, demolishes, excavates for, alters or repairs any building or structure within the City of Del Mar in such a manner as to cause noise to be received beyond the boundaries of the property on which the construction work is occurring shall comply with the following:

A. No construction work shall be performed on Sundays or City holidays.

B. No construction work shall be performed before 9:00 A.M. or after 7:00 P.M. on Saturday.

C. No construction work shall be performed before 7:00 A.M. or after 7:00 P.M. on Monday through Friday.

D. Construction activity shall not cause an hourly average sound level greater than 75 decibels on property zoned or used for residential purposes.

E. Exception: A person may perform construction work on the person's own property, provided such construction activity is not carried on for profit or livelihood, between the hours of 10:00 A.M. and 5:00 P.M. on Sundays and City holidays.

CHAPTER 5.0
IMPACTS

5.1 CONSTRUCTION

Noise impacts from construction are dependent on the noise generated by the construction equipment, the location and sensitivity of affected land uses, as well as the timing and duration of the activities. Noise levels adjacent to the active construction sites would increase during construction. Construction would not result in long-term impacts, since it would be temporary and daily construction activities would be limited by the City's Noise Ordinance (Section 9.20.050) to hours of less noise sensitivity.

In general, construction activities are carried out in stages, and each stage has its own noise characteristics based on the construction equipment in use. Typical maximum noise levels at a distance of 50 feet from various pieces of construction equipment are shown in Table 6. Typical construction projects, with equipment moving from one point to another, work breaks, and idle time, have hourly noise level that are lower than loud short-term, or instantaneous, peak noise events. Maximum noise levels of 85 to 90 dBA L_{max} may occur during grading and excavation, when there may be a combination of noise from several pieces of equipment in close proximity, including the noise of backup alarms. Noise levels of other activities, such as framing or paving, would be less. Considering equipment usage and duty-cycles, a maximum 1-hour average noise level of 80 dBA L_{eq} at a distance of 50 feet from the construction area is assumed to occur.

Noise levels from construction activities are considered as point sources and would drop off at a rate of 6 dBA per doubling of distance over hard sites, such as streets and parking lots; the drop-off rate would increase slightly to 7.5 dBA over soft sites such as grass fields and open terrain with vegetation (FTA 2006). For purposes of this analysis the Project area is considered acoustically hard, and all potential exterior receptors were assumed to be 5 feet above grade. All construction equipment is assumed to have an exhaust outlet height (source height) of 10 to 14 feet.

Table 6
Typical Maximum Construction Equipment Noise Levels

Equipment	Noise Level at 50 feet (dBA L_{max})	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 KVA or less)	70	50%
Generator (more than 25 KVA)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
Insitu Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%

Source: FTA 2006; Thalheimer 2000 KVA = kilovolt amps

Section 9.20.050 of the City's Municipal Code protects residential uses from construction noise exceeding a hourly average sound level greater than 75 decibels. A few residences are in the Project area; however, several are located around its periphery. The distance from the center of these activities to the nearest residential receptor would be approximately 50 feet. Residences within, and in the vicinity of, the Project area would be affected by construction noise.

Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time.

Major noise-generating construction activities of the Project would include removal of existing pavement and structures, site grading and excavation, building framing, paving, and landscaping. The highest construction noise levels during typical construction activities would be generated during grading, excavation, road base construction, and foundation work, with lower noise levels occurring during building construction and paving. As noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. However, intervening structures would result in lower noise levels. Sound levels may be attenuated 3.0 to 5.0 dBA by a first row of houses/buildings and 1.5 dBA for each additional row of houses in built-up environments (FHWA 1978). These factors generally limit the distance construction noise travels and ensure noise impacts from construction are localized.

Although construction noise would be localized to the individual sites during construction, residences throughout the Project area could be intermittently exposed to temporary elevated levels of noise throughout the years of construction. This is a potentially ***significant impact*** since construction noise would potentially exceed the City's Municipal Code Section 9.20.050 hourly average limit of 75 decibels. Due to the potential for high short-term and instantaneous noise levels during peak construction activity at nearby residential properties, measures have been identified that would reduce noise levels associated with construction.

5.2 TRAFFIC NOISE

The Project would allow for an increase of development densities within the Project area and would also include traffic control measures along Camino del Mar. The Project could allow additional sensitive land uses in areas where noise levels could exceed acceptable standards. The Project would potentially facilitate an increase in traffic along Camino del Mar, which could permanently increase existing traffic noise levels. Also, the Project would include roundabouts at several intersections along Camino del Mar and reduce Camino del Mar from four lanes to two lanes. This would result in reduced speed and also increase the distance between traffic and sensitive receivers which could reduce traffic noise levels. The analysis below was completed to determine the

overall effect of these Project changes to traffic noise. In addition, the project four lane with signals alternative was evaluated.

Existing Traffic Noise Levels

To determine changes in noise levels associated with the Proposed Project, the Federal Highway Administration's (FHWA) Traffic Noise Prediction Model, (RD-77-108) was used to predict existing and future traffic noise levels at specific receptor locations along affected roadways. Inputs to the model include distance, ground attenuation, and vehicle volumes by type of vehicle and speeds. Traffic volumes were taken from the Project traffic report (KOA 2012). The traffic classification mix used in the modeling was developed from traffic counts taken during the noise measurements. Traffic speeds were taken from the Project traffic report and observed speed limits. All roadways were modeled on acoustically hard ground type. The model outputs are noise levels at 50 feet from the centerline of affected streets in the Project area with distances to various noise level contours (see Table 7). These noise contours do not account for intervening structures, differences in ground absorption or other shielding.

FutureTraffic Noise Levels

As the Proposed Project would allow for an increase development densities within the Project area, traffic increases could result in related traffic-noise levels increases, which could adversely affect existing land uses. Thus, noise levels are predicted along project vicinity roadways to determine future noise levels and potential increases. However, since the Proposed Project would change the lane and intersection geometry of Camino del Mar, detailed modeling was required to determine the effects of the potential roundabouts on traffic noise due to difference in flow restrictions and relocation of lanes along Camino del Mar.

Changes in noise levels along other Project area roadways are evaluated based on simpler modeling as no significant changes in roadway characteristics are proposed in those locations. Noise level changes associated with other Project area roadways are shown in Table 8. As shown in Table 8, noise level increases along these other affected roadways would range between -2 and 2 dBA. Therefore, based on the results shown in Table 8, direct Project traffic-noise level increases along area roadways would be less than 3 dBA, which is considered a less than significant increase in noise levels. A more detailed analysis along the proposed improvements of Camino del Mar is provided below.

Table 7
Existing Modeled Noise Levels

Roadway	Segment	Noise Level at 50 Feet from Centerline of Roadway	Distance to Noise Level from Roadway Centerline (feet)[1]		
			70 dB	65 dB	60 dB
Highway 101	North of Lomas Santa Fe Dr	75	142	448	1,415
	North of Via De La Valle	73	109	345	1,091
Camino del Mar	North of Jimmy Durante Blvd	70	45	143	453
	Jimmy Durante Blvd to Community	72	79	250	791
	Community to 15th St	72	79	250	791
	15th St to 14th St	More detailed future analysis is provided below for the proposed roadway improvements.			
	14th St to 13th St				
	13th St to Drwy				
	Drwy to 12th St				
	12th St to Drwy				
	Drwy to 11th St				
	11th St to Drwy				
	Drwy to 10th St				
	10th St to Drwy				
	Drwy to 9th St				
	9th St to Community	72	79	251	792
	Community to Del Mar Heights Rd	71	69	218	690
	South of Del Mar Heights Rd	70	50	159	502
	South of Carmel Valley Rd	70	50	159	502
Lomas Santa Fe Dr	Solana Hills Dr to I-5 SB Ramps	74	119	376	1,189
Via De La Valle	Del Mar Downs Rd to Jimmy Durante Blvd	73	97	308	972
	Jimmy Durante Blvd to I-5 SB Ramps	76	181	573	1,811
	East of I-5 NB Ramps	74	120	381	1,204
Jimmy Durante Blvd	Via De La Valle to Link	70	--	156	492
	Link to Fairgrounds	70	--	156	492
	Fairgrounds to San Dieguito Dr	70	--	156	492

Roadway	Segment	Noise Level at 50 Feet from Centerline of Roadway	Distance to Noise Level from Roadway Centerline (feet)[1]		
			70 dB	65 dB	60 dB
	San Dieguito Dr to Camino del Mar	67	--	78	247
Del Mar Heights Rd	East of I-5 NB Ramps	77	235	742	2,347
	West of I-5 SB Ramps	75	168	532	1,682
	Camino del Mar to Crest Way	71	63	198	626
15th St	Coast Blvd to Camino del Mar	61	--	--	64
	Camino del Mar to Luneta Dr	59	--	--	--
Carmel Valley Rd	East of S. Camino del Mar	68	--	90	283
Crest Rd	North of Del Mar Heights Rd	56	--	--	--
Coast Blvd	North of 15th St	60	--	--	--
Stratford Ct	15th St to 13th St	57	--	--	--

[1] Distances less than 50 feet are assumed to within the right-of-way.

Table 8
Existing Plus improvements Modeled Noise Levels

Roadway	Segment	Noise Level at 50 Feet from Centerline of Roadway			Delta	Delta
		Existing	4-Lane with Signals	2-Lane with Roundabouts	4-Lane with Signals	2-Lane with Roundabouts
Highway 101	North of Lomas Santa Fe Dr	75	75	75	0	0
	North of Via De La Valle	73	73	73	0	0
Camino del Mar[1]	North of Jimmy Durante Blvd	70	70	70	0	0
	Jimmy Durante Blvd to Community	72	73	73	1	1
	Community to 15th St	72	73	73	1	1
	15th St to 14th St	More detailed future analysis is provided below for the proposed roadway improvements.				
	14th St to 13th St					
	13th St to Drwy					
	Drwy to 12th St					
	12th St to Drwy					
	Drwy to 11th St					
	11th St to Drwy					
	Drwy to 10th St					
	10th St to Drwy					
	Drwy to 9th St					
	9th St to Community	71	69	69	-2	-2
	Community to Del Mar Heights Rd	71	69	69	-2	-2
	South of Del Mar Heights Rd	70	70	70	0	0
	South of Carmel Valley Rd	70	70	70	0	0
Lomas Santa Fe Dr	Solana Hills Dr to I-5 SB Ramps	74	74	74	0	0
Via De La Valle	Del Mar Downs Rd to Jimmy Durante Blvd	73	73	73	0	0
	Jimmy Durante Blvd to I-5 SB Ramps	76	76	76	0	0
	East of I-5 NB Ramps	74	74	74	0	0

Roadway	Segment	Noise Level at 50 Feet from Centerline of Roadway			Delta	Delta
		Existing	4-Lane with Signals	2-Lane with Roundabouts	4-Lane with Signals	2-Lane with Roundabouts
Jimmy Durante Blvd	Via De La Valle to Link	70	71	71	1	1
	Link to Fairgrounds	70	71	71	1	1
	Fairgrounds to San Dieguito Dr	70	71	71	1	1
	San Dieguito Dr to Camino del Mar	67	68	68	1	1
Del Mar Heights Rd	East of I-5 NB Ramps	77	77	77	0	0
	West of I-5 SB Ramps	75	76	76	0	0
	Camino del Mar to Crest Way	71	72	72	1	1
15th St	Coast Blvd to Camino del Mar	61	62	62	1	1
	Camino del Mar to Luneta Dr	59	59	59	1	1
Carmel Valley Rd	East of S. Camino del Mar	68	68	68	0	0
Crest Rd	North of Del Mar Heights Rd	56	56	56	0	0
Coast Blvd	North of 15th St	60	60	60	1	1
Stratford Ct	15th St to 13th St	57	58	58	1	1

[1] Roadway segments along Camino del Mar where planned improvements are proposed are analyzed in more detail below and not shown.

Based on a review of the traffic data, future traffic volumes are the same under either build scenario for Camino del Mar. The existing plus Project or existing plus the signalized scenario are used for purposes of determining direct and cumulative impacts. Table 9 presents predicted changes in levels from the existing conditions with the proposed roundabouts and a 4-lane signalized scenario. Future traffic volumes were taken from the Project traffic report (KOA 2012). All other parameters, e.g. speeds and vehicle classification mix, were unchanged from the existing conditions model. Figure 6 shows the locations of the modeled receptors along Camino del Mar. The detailed modeling input and outputs are provided in Appendix B.

The Federal Highway Administration's (FHWA) Traffic Noise Model, version 2.5, (TNM2.5) was utilized to determine changes in the noise levels due to the planned improvements along Camino del Mar. The model was developed from aerial photographs of the project area and engineer drawings of the proposed roundabouts. The centerline of the future Camino del Mar traffic lane was assumed to be the same location as the inside lane under the current configuration.

The Proposed Project would develop roundabouts along Camino del Mar, between 15th Street and 9th Street and reduce speeds between 9th Street and Del Mar Height Road to 30 mph. As shown in Table 9, these improvements would result in noise level changes ranging from -7 to 1 dBA CNEL. The reduction in future noise levels was primarily due to the removal of the outside lane on Camino del Mar and the removal of the intersections. Removal of the lanes would move the noise sources further from the receivers. Also, intersections generate more noise than a steady flowing traffic due to the noise associated with breaking and engine revving.

Under Alternative 2, Camino del Mar would retain the current lane geometry. However, the stops signs at the intersections at 9th, 11th, and 15th Streets would be replaced with signals and the speed limit would be raised to 30 mph. Based on the modeling, the development of signals and increase in speed would result in an increase in noise levels ranging from 0 to 2 dBA.

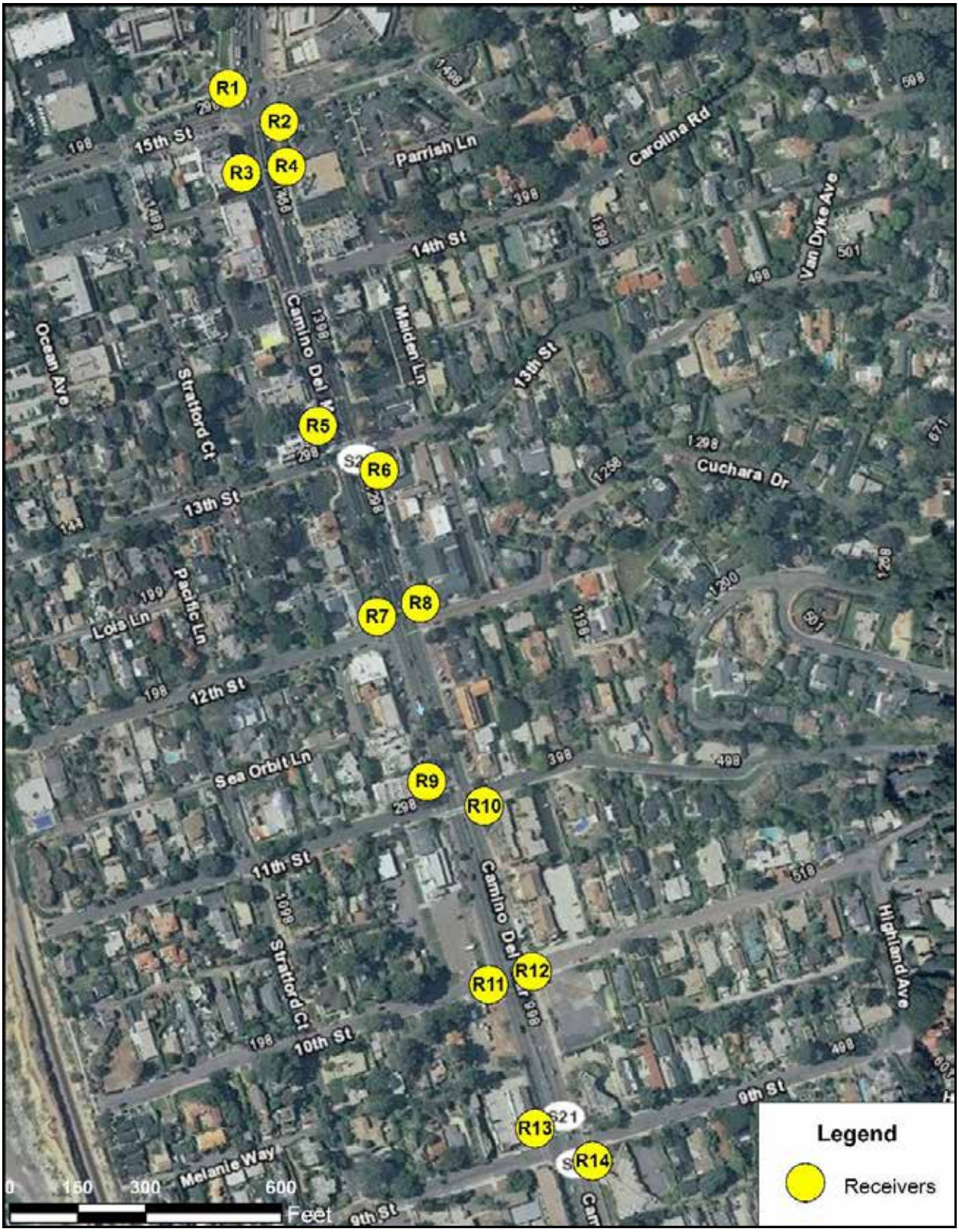
Table 9
Camino Del Mar Existing and Future Modeled Noise Levels

ID[2]	Noise Level (dBA CNEL[1])				
	Existing 4-Lane Stop Signs	Proposed Project 2-Lane Roundabouts	Delta	Alternative 2 4-Lane Signalized	Delta
R1	73	68	-5	74	1
R2	73	67	-6	74	1
R3	70	66	-4	72	2
R4	69	66	-3	71	2
R5	71	71	0	73	2
R6	71	71	0	72	1
R7	69	70	1	71	2
R8	68	68	0	70	2
R9	72	65	-7	73	1
R10	74	67	-7	75	1
R11	69	66	-3	71	2
R12	70	66	-4	71	1
R13	72	68	-4	73	1
R14	74	72	-2	74	0

1 The CNEL is estimated to be 1 dBA higher than the peak hour L_{eq}.

2 Receiver locations are shown in Figure 6.

6 Camino Del Mar Receiver Locations



Source: Ldn 2012

While traffic noise level increases are anticipated to be less than significant, the Proposed Project could allow development of new residential uses in areas where noise levels would exceed the City's noise level compatibility standards. CCR Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential or motel/hotel building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise sources create an exterior CNEL (or Ldn) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or Ldn) of at least 45 dBA. The City of Del Mar has adopted the CCR Title 24 standards and applies them to all residential uses.

Typical residential construction in California provides approximately 15 dBA of noise reduction from exterior noise sources with the windows open, and approximately 20 to 25 dBA of noise reduction with standard windows kept closed. Thus, where exterior noise levels are below 65-dBA CNEL, interior noise levels for new construction would typically meet the interior 45-dBA CNEL standard established in the California Code of Regulations, Title 24, Chapter 2-35. Additionally, as indicated in the Community Plan, sound reduction construction techniques are encourages where exterior noise levels exceed 65 CNEL.

Where exterior noise levels are 65 to 70 dBA CNEL, interior noise can be mitigated with standard wall and window construction, and the inclusion of mechanical forced-air ventilation to allow occupants the option of maintaining windows closed to control noise. Where exterior noise levels exceed 70 dBA CNEL, residential units may require additional noise-reduction measures, such as windows and doors with high Sound Transition Class (STC) ratings to meet the 45-dBA CNEL criteria. The existing and proposed uses within the Project would be a potentially impacted and mitigation measures have been identified that would reduce this ***potentially significant impact***.

The City of Del Mar Project has no transportation noise sources requirements applicable to the commercial and retail uses. There is no similar criterion for interior noise levels in commercial uses. This would be a ***less-than-significant impact***.

5.3 OPERATIONAL NOISE

Future development implemented under the Project could include residential uses located in proximity to commercial uses and in areas served by public transit along major roadways. New residential and mixed-use development that could occur with implementation of the Proposed Project would potentially be constructed within the same building or adjacent to commercial land uses.

Noise sources associated with commercial land uses include mechanical equipment operations, parking lot noise (e.g., opening and closing of vehicle doors, people talking, car alarms) and delivery activities. Noise from such commercial activities can reach intermittent levels of approximately 60-70 dBA, 50 feet from the source (EPA 1974). Thus, point source noise levels associated with commercial land uses could potentially expose nearby existing and future noise-sensitive receptors to excessive noise levels that violate the Noise Ordinance. As a result, this impact is ***potentially significant***. Mitigation measures have been identified that would reduce this impact to less than significant.

5.4 VIBRATION

Commercial operations have, on occasion, been known to utilize equipment or processes that have a potential to generate groundborne vibration. However, vibrations found to be excessive for human exposure that are the result of commercial machinery are generally addressed from an occupational health and safety perspective. The residual vibrations are typically of such low amplitude that they quickly dissipate into the surrounding soil and are rarely perceivable at the surrounding land uses. Additionally, the commercial uses that would be constructed under the proposed plan would include uses such as retail, restaurants, and small offices that would not require heavy mechanical equipment that would generate groundborne vibration or heavy truck deliveries.

Based on the operational characteristics of the commercial land uses expected in the Plan area, it is not anticipated that the operations would result in groundborne vibration levels that approach or exceed applicable vibration-level limits. This would be a ***less-than-significant*** impact.

Construction of projects implemented under the Project would likely be located adjacent to existing structures. Construction activities may include demolition of existing structures, site preparation work, excavation of parking and subfloors, foundation work, and building construction. Demolition for an individual site may last several weeks to months and may produce substantial vibration. Excavation for underground levels could also occur on some project sites and vibratory pile driving could be used to stabilize the walls of excavated areas. Piles or drilled caissons may also be used to support building foundations.

Pile driving has the potential to generate the highest groundborne vibration levels and is the primary concern for structural damage when it occurs within 50 feet of structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods, and equipment used. Pile driving activities generate vibrations at various frequencies. The dominant frequency of propagating waves from impact sources ranges mostly between 3 Hz and 60 Hz (Svinkin 1992). Using the middle range for illustration purposes, equipment operating at a frequency range of 30 Hz would exceed the perceptible range at approximately 100 feet. Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component such as rock or caisson drilling, and site excavation or compaction may be high enough to be perceptible within 150 feet and may be high enough to damage existing structures within 50 feet. This would represent a ***potentially significant impact*** at sensitive receptors.

Other project construction activities, such as site preparation work, excavation of parking and subfloors, foundation work, and building construction, and the use of jackhammers, other high-power or vibratory tools, compactors, and tracked equipment, may also potentially generate substantial vibration in the immediate vicinity, typically within 25 feet of the equipment. Thus, typical building construction is not anticipated to be a source of substantial vibration much beyond the construction footprint. By use of administrative controls, such as the Municipal Code, scheduling, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and, as such, typical construction activities would result in a ***less than significant*** impact.

5.5 CUMULATIVE NOISE

The cumulative study area for noise was determined to include those roadway segments throughout the project area and the immediate community that would have an increase in traffic as a result of the Proposed Project and, thus, a potential increase in noise. Other noise sources, such as construction and operation of mechanical equipment, are temporary and more localized and controlled at the source such that they do not typically combine with other sources to create cumulative noise impacts. Additionally, identified mitigation measures would reduce project-level impacts to less than significant, thus, these sources are not considered in the cumulative noise assessment. Cumulative traffic noise levels (i.e., future with Project over existing), were estimated using future traffic volumes from the traffic report and are presented in Tables 8 and 9.

As shown in Tables 8 and 9, traffic noise would increase by less than 3 dBA along all project vicinity roadways. Thus, operation associated the Project would not contribute to a cumulatively significant increase to ambient traffic noise levels along these roadways.

CHAPTER 6.0
NOISE ABATEMENT AND MITIGATION MEASURES

To reduce potential noise-related impacts, the City will verify that the following noise abatement measures are incorporated into each project, as applicable.

6.1 CONSTRUCTION

N-1 The following measures are required of all construction projects implemented under the Proposed Project to reduce noise associated with construction:

- All internal combustion-engine-driven equipment will be equipped with mufflers that are in good operating condition and appropriate for the equipment.
- "Quiet" models of air compressors and other stationary construction equipment will be employed where such technology exists.
- Stationary noise-generating equipment will be located as far as reasonable from sensitive receptors when sensitive receptors adjoin or are within 150 feet of a construction site.
- Unnecessary idling of internal combustion engines (i.e., in excess of 5 minutes) will be prohibited.
- Foundation pile holes will be predrilled, as feasible based on geologic conditions, to minimize the number of impacts required to seat the pile.
- Construction-related traffic will be routed along major roadways and away from noise-sensitive receptors.
- Construction activities, including the loading and unloading of materials and truck movements, will be limited to the hours specified in the City Noise Ordinance (Section 8.80.202).
- Residences within 150 feet of construction sites will be notified of the construction in writing. The notification will describe the activities anticipated, provide dates and hours, and provide contact information with a description of the complaint and response procedure.

- Each project implemented as part of the Project will designate a “construction liaison” who will be responsible for responding to any local complaints about construction noise. The liaison will determine the cause of the noise complaints (starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem. A telephone number for the liaison will be conspicuously posted at the construction site.
- If a noise complaint(s) is registered, the liaison or project representative will retain a City-approved noise consultant to conduct noise measurements at the location where the complaint was registered. The noise measurements will be conducted for a minimum of 1 hour and will include 1-minute intervals. The consultant will prepare a letter report summarizing the measurements and potential measures to reduce noise levels to the maximum extent feasible. The letter report will include all measurement and calculation data used in determining impacts and resolutions, and will provide code enforcement for determining if the recommendations are adequate.

N-2 The following measures are required of all construction projects within 150 feet of residential uses implemented under the Proposed Project to reduce noise impacts associated with construction:

- Temporary noise barriers will be constructed around construction sites adjacent to, or within 150 feet of residences. Temporary noise barriers must be constructed of material with a minimum weight of 3 pounds per square foot with no gaps or perforations. Noise barriers may be constructed of, but are not limited to, 5/8-inch plywood, 5/8-inch oriented strand board, or hay bales.
- A temporary sound-control blanket barrier will be erected, if necessary, along residential building façades facing construction sites. This mitigation would only be necessary if conflicts occurred that were irresolvable by proper scheduling, and other means of noise control were unavailable. The sound blankets are required to have a minimum breaking and tear strength of 120 pounds and 30 pounds, respectively. The sound blankets will have a minimum sound transmission classification of 27 and noise-reduction coefficient of 0.70. The sound blankets will be of sufficient length to extend from the top of the building and drape onto the ground or be sealed at the ground. The sound blankets will have a minimum overlap of 2 inches.

Significance after mitigation: Less than significant.

6.2 NOISE COMPATIBILITY

N-3 In areas where new residential development would be exposed to a CNEL of greater than 65 dBA, site-specific noise studies will be conducted to determine the area of impact and to present appropriate mitigation measures, which may include the following:

- Use site planning to minimize noise in shared residential outdoor activity areas by locating the areas behind the buildings or in courtyards, or orienting the terraces to alleyways rather than streets whenever possible.
- Provide mechanical ventilation in all residential units proposed along roadways or in areas where noise levels could exceed 65 dBA CNEL so that windows can remain closed at the choice of the occupants to maintain interior noise levels below 45 dBA CNEL.
- Install sound-rated windows and construction methods to provide the requisite noise control for residential units proposed along roadways or in areas where noise levels could exceed 70 dBA CNEL.

Significance after mitigation: Less than significant.

6.3 OPERATION

N-4 Limit exterior noise levels in noise-sensitive outdoor use areas resulting from nontransportation noise sources to those contained in Section 9.20.040 of the City Municipal Code. Meeting these noise performance standards would be the responsibility of the developer of the proposed use and not the responsibility of the existing use. In areas where new residential development would be located adjacent to noise-generating uses, site-specific noise studies should be conducted to determine the area of impact and to present appropriate mitigation measures, which could include, but are not limited to the following:

- Require the placement of loading and unloading areas so that commercial buildings shield nearby residential land uses from noise generated by loading dock and delivery activities. If necessary, additional sound barriers shall be constructed on the commercial sites to protect nearby noise-sensitive uses.

- Require the placement of all commercial heating, ventilation, and air conditioning (HVAC) machinery to be placed within mechanical equipment rooms wherever possible.

- Require the provision of localized noise barriers or rooftop parapets around HVAC, cooling towers, and mechanical equipment so that line-of-sight to the noise source from the property line of the noise-sensitive receptors is blocked.

Significance after mitigation: Less than significant.

6.4 VIBRATION

N-5 The following measures are required of all construction projects implemented under the Proposed Project to reduce vibration from construction activities:

- Avoid impact pile driving where possible.
- Drill piles where geological conditions permit their use.
- Avoid using vibratory rollers and tampers near sensitive areas.

N-6 For projects where construction will include vibration-generating activities, such as pile driving, within 150 feet of existing structures, site-specific vibration studies shall be conducted to determine the area of impact and to present appropriate mitigation measures that may include the following:

- Identify sites that would include vibration compaction activities such as pile driving and have the potential to generate groundborne vibration, and the sensitivity of nearby structures to groundborne vibration. This task should be conducted by a qualified structural engineer.
- Develop a vibration monitoring and construction contingency plan to identify structures where monitoring would be conducted; set up a vibration monitoring schedule; define structure-specific vibration limits; and address the need to conduct photo, elevation, and crack surveys to document before and after construction conditions. Construction contingencies would be identified for when vibration levels approached the limits.

- At a minimum, monitor vibration during initial demolition activities and during pile driving activities. Monitoring results may indicate the need for more or less intensive measurements.
- When vibration levels approach limits, suspend construction and implement contingencies to either lower vibration levels or secure the affected structures.
- Conduct post-surveys on structures where either monitoring has indicated high levels of vibration or complaints of damage have been made. Make appropriate repairs or compensation where damage has occurred as a result of construction activities.

Significance after mitigation: Less than significant.

CHAPTER 7.0
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APPENDIX A

NOISE MEASUREMENT DATA

C:\NOISE\LARDAV\SLMUTIL\25OCT_09.bin Interval Data

Meas Site	Location	Number	Date	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	Uwpk
Measurement 1											
0		0	25Oct 11	10:44:00	59.5	62.9	80.6	69.2	44.5	80.8	91.3
0		0	25Oct 11	10:45:00	60.0	61.1	78.9	68.0	50.2	83.7	87.8
0		0	25Oct 11	10:46:00	60.0	66.7	84.4	75.3	52.0	85.4	95.8
0		0	25Oct 11	10:47:00	60.0	61.4	79.2	68.6	50.6	82.2	89.8
0		0	25Oct 11	10:48:00	60.0	63.1	80.8	69.3	52.0	91.6	90.6
0		0	25Oct 11	10:49:00	60.0	60.6	78.4	67.2	52.6	80.6	85.3
0		0	25Oct 11	10:50:00	60.0	60.9	78.7	69.3	43.6	83.0	87.8
0		0	25Oct 11	10:51:00	60.0	67.2	85.0	76.8	57.5	89.0	101.8
0		0	25Oct 11	10:52:00	60.0	63.2	81.0	70.5	52.2	82.7	93.8
0		0	25Oct 11	10:53:00	60.0	64.3	82.1	69.8	48.8	82.7	87.8
0		0	25Oct 11	10:54:00	60.0	61.4	79.2	69.7	44.7	83.1	85.3
0		0	25Oct 11	10:55:00	60.0	60.6	78.4	68.6	45.1	80.6	85.3
0		0	25Oct 11	10:56:00	60.0	65.2	82.9	72.9	45.7	90.6	92.7
0		0	25Oct 11	10:57:00	60.0	63.5	81.2	71.0	44.4	82.6	89.8
0		0	25Oct 11	10:58:00	60.0	62.8	80.6	69.2	47.4	81.5	87.8
0		0	25Oct 11	10:59:00	0.7	58.7	57.2	59.4	58.0	75.1	0.0
Measurement 2											
0		0	25Oct 11	11:09:00	59.5	60.5	78.3	67.9	49.4	78.7	87.8
0		0	25Oct 11	11:10:00	60.0	65.6	83.4	73.6	58.7	84.2	98.7
0		0	25Oct 11	11:11:00	60.0	61.8	79.6	68.4	52.6	83.6	93.8
0		0	25Oct 11	11:12:00	60.0	71.3	89.0	85.2	53.9	96.3	102.6
0		0	25Oct 11	11:13:00	60.0	65.7	83.5	80.4	52.5	92.5	101.4
0		0	25Oct 11	11:14:00	60.0	63.8	81.6	74.6	53.0	85.8	93.8
0		0	25Oct 11	11:15:00	60.0	64.6	82.3	73.2	56.2	85.6	90.6
0		0	25Oct 11	11:16:00	60.0	64.2	82.0	72.9	50.6	84.5	89.8
0		0	25Oct 11	11:17:00	60.0	65.8	83.6	76.7	52.4	88.6	94.9
0		0	25Oct 11	11:18:00	60.0	61.1	78.8	69.1	47.7	84.8	92.7
0		0	25Oct 11	11:19:00	60.0	68.0	85.7	78.6	56.7	88.8	101.4
0		0	25Oct 11	11:20:00	60.0	61.5	79.3	68.7	48.5	85.7	89.8
0		0	25Oct 11	11:21:00	60.0	68.6	86.4	80.9	50.6	92.8	98.0
0		0	25Oct 11	11:22:00	60.0	63.6	81.4	71.9	48.9	83.5	97.4
0		0	25Oct 11	11:23:00	60.0	62.5	80.3	68.0	53.6	84.7	97.4
0		0	25Oct 11	11:24:00	0.5	56.2	52.9	56.6	55.9	75.3	0.0
Measurement 3											
0		0	25Oct 11	11:35:00	59.1	65.7	83.4	74.6	56.9	86.3	91.3
0		0	25Oct 11	11:36:00	60.0	65.7	83.5	75.7	52.9	88.6	94.9
0		0	25Oct 11	11:37:00	60.0	63.6	81.4	69.4	53.2	84.3	96.2
0		0	25Oct 11	11:38:00	60.0	61.2	79.0	66.9	54.7	78.7	89.8
0		0	25Oct 11	11:39:00	60.0	64.9	82.6	73.5	52.0	89.2	93.8
0		0	25Oct 11	11:40:00	60.0	63.4	81.2	72.6	52.7	84.5	92.7
0		0	25Oct 11	11:41:00	60.0	66.6	84.4	82.5	57.9	92.7	103.7
0		0	25Oct 11	11:42:00	60.0	71.6	89.4	84.1	54.0	95.7	105.0
0		0	25Oct 11	11:43:00	60.0	63.6	81.4	76.7	51.5	90.2	91.3
0		0	25Oct 11	11:44:00	60.0	65.1	82.8	74.1	55.8	86.7	91.3
0		0	25Oct 11	11:45:00	60.0	70.1	87.9	90.9	55.0	99.0	100.4
0		0	25Oct 11	11:46:00	60.0	67.0	84.8	76.8	57.2	94.6	99.3
0		0	25Oct 11	11:47:00	60.0	61.8	79.5	69.1	54.2	80.2	92.7
0		0	25Oct 11	11:48:00	60.0	65.9	83.7	73.1	55.2	86.1	91.3
0		0	25Oct 11	11:49:00	60.0	63.2	81.0	73.9	53.9	85.9	92.7
0		0	25Oct 11	11:50:00	0.6	63.0	60.9	64.6	61.6	73.4	87.8
Measurement 4											
0		0	25Oct 11	12:38:00	59.6	53.9	71.6	61.9	47.4	83.9	95.8
0		0	25Oct 11	12:39:00	60.0	61.7	79.4	74.5	49.9	87.0	92.7
0		0	25Oct 11	12:40:00	60.0	57.8	75.5	70.2	47.7	86.1	92.7
0		0	25Oct 11	12:41:00	60.0	55.8	73.6	64.9	48.9	87.6	93.8
0		0	25Oct 11	12:42:00	60.0	61.9	79.7	72.5	48.8	90.5	99.3
0		0	25Oct 11	12:43:00	60.0	59.6	77.4	66.4	50.3	81.4	85.3
0		0	25Oct 11	12:44:00	60.0	62.8	80.6	75.4	48.4	87.9	100.9
0		0	25Oct 11	12:45:00	60.0	58.5	76.3	66.8	49.5	81.0	89.8
0		0	25Oct 11	12:46:00	60.0	59.4	77.1	67.5	48.0	81.9	89.8
0		0	25Oct 11	12:47:00	60.0	57.8	75.6	70.4	47.8	83.1	91.3
0		0	25Oct 11	12:48:00	60.0	57.2	75.0	67.9	48.5	85.6	87.8
0		0	25Oct 11	12:49:00	60.0	54.9	72.7	65.0	49.1	85.6	96.6
0		0	25Oct 11	12:50:00	60.0	57.6	75.3	64.3	49.9	79.6	89.8
0		0	25Oct 11	12:51:00	60.0	61.8	79.5	75.3	47.0	88.1	94.9
0		0	25Oct 11	12:52:00	60.0	58.2	76.0	70.1	47.1	92.5	96.6
0		0	25Oct 11	12:53:00	0.4	53.0	49.0	53.4	52.8	68.6	0.0
Measurement 5											
0		0	25Oct 11	13:02:00	59.6	55.0	72.8	63.3	52.8	85.7	85.3
0		0	25Oct 11	13:03:00	60.0	65.8	83.5	80.9	47.4	92.5	97.4
0		0	25Oct 11	13:04:00	60.0	53.6	71.4	56.5	50.5	71.9	0.0
0		0	25Oct 11	13:05:00	60.0	54.1	71.8	56.2	50.8	74.2	0.0
0		0	25Oct 11	13:06:00	60.0	51.1	68.8	54.3	48.7	68.6	0.0

0	0	25Oct 11 13:07:00	60.0	52.3	70.1	55.2	50.2	75.6	0.0
0	0	25Oct 11 13:08:00	60.0	52.6	70.3	55.7	47.2	68.0	0.0
0	0	25Oct 11 13:09:00	60.0	51.3	69.1	54.0	47.3	68.4	0.0
0	0	25Oct 11 13:10:00	60.0	51.2	68.9	59.0	43.8	77.4	0.0
0	0	25Oct 11 13:11:00	60.0	49.1	66.8	52.8	46.3	68.0	0.0
0	0	25Oct 11 13:12:00	60.0	52.8	70.6	55.5	49.8	71.1	0.0
0	0	25Oct 11 13:13:00	60.0	53.5	71.3	57.3	50.2	69.0	0.0
0	0	25Oct 11 13:14:00	60.0	55.5	73.3	61.0	51.9	72.9	0.0
0	0	25Oct 11 13:15:00	60.0	60.5	78.3	67.6	50.6	85.0	85.3
0	0	25Oct 11 13:16:00	60.0	54.6	72.4	64.4	48.8	81.6	94.9
0	0	25Oct 11 13:17:00	60.0	52.9	70.7	58.1	47.7	76.1	0.0
0	0	25Oct 11 13:18:00	60.0	51.2	68.9	54.6	48.3	66.9	0.0
0	0	25Oct 11 13:19:00	60.0	68.2	86.0	84.8	46.2	97.8	103.0
0	0	25Oct 11 13:20:00	60.0	54.3	72.1	64.6	46.8	87.8	85.3
0	0	25Oct 11 13:21:00	0.4	50.6	46.7	51.7	50.1	69.9	0.0

C:\NOISE\LARDAV\SLMUTIL\25OCT_09.bin Time History Data
Sample Period (sec): 5.000

Site	Location	Meas Number	Date	Time	Level	Lmax	SEL
Run	Key						
Measurement 1							
0		0	25Oct 11	10:44:00	65.8	68.8	72.7
0		0	25Oct 11	10:44:05	64.4	66.2	71.4
0		0	25Oct 11	10:44:10	66.9	68.8	73.9
0		0	25Oct 11	10:44:15	67.0	69.2	74.0
0		0	25Oct 11	10:44:20	61.7	63.3	68.7
0		0	25Oct 11	10:44:25	59.5	61.7	66.5
0		0	25Oct 11	10:44:30	47.9	53.7	54.9
0		0	25Oct 11	10:44:35	47.5	49.8	54.5
0		0	25Oct 11	10:44:40	58.1	61.6	65.1
0		0	25Oct 11	10:44:45	58.3	60.7	65.3
0		0	25Oct 11	10:44:50	61.2	63.0	68.2
0		0	25Oct 11	10:44:55	62.3	63.6	69.3
0		0	25Oct 11	10:45:00	60.1	61.3	67.1
0		0	25Oct 11	10:45:05	63.7	65.6	70.7
0		0	25Oct 11	10:45:10	61.7	65.3	68.7
0		0	25Oct 11	10:45:15	58.7	60.6	65.7
0		0	25Oct 11	10:45:20	55.4	57.1	62.4
0		0	25Oct 11	10:45:25	52.5	54.5	59.5
0		0	25Oct 11	10:45:30	57.9	62.8	64.9
0		0	25Oct 11	10:45:35	65.6	67.2	72.6
0		0	25Oct 11	10:45:40	65.8	68.0	72.8
0		0	25Oct 11	10:45:45	58.9	63.6	65.9
0		0	25Oct 11	10:45:50	52.3	54.7	59.3
0		0	25Oct 11	10:45:55	53.9	56.3	60.9
0		0	25Oct 11	10:46:00	64.7	67.6	71.7
0		0	25Oct 11	10:46:05	61.4	64.5	68.4
0		0	25Oct 11	10:46:10	61.4	63.1	68.4
0		0	25Oct 11	10:46:15	55.7	58.6	62.7
0		0	25Oct 11	10:46:20	57.7	59.8	64.7
0		0	25Oct 11	10:46:25	60.6	63.8	67.6
0		0	25Oct 11	10:46:30	69.8	74.6	76.8
0		0	25Oct 11	10:46:35	72.3	75.3	79.3
0		0	25Oct 11	10:46:40	68.8	72.0	75.8
0		0	25Oct 11	10:46:45	69.3	71.0	76.3
0		0	25Oct 11	10:46:50	64.6	66.8	71.6
0		0	25Oct 11	10:46:55	64.2	68.6	71.2
0		0	25Oct 11	10:47:00	65.9	68.6	72.9
0		0	25Oct 11	10:47:05	61.4	67.2	68.4
0		0	25Oct 11	10:47:10	55.8	60.5	62.8
0		0	25Oct 11	10:47:15	64.0	67.0	71.0
0		0	25Oct 11	10:47:20	58.4	62.1	65.3
0		0	25Oct 11	10:47:25	65.6	68.1	72.6
0		0	25Oct 11	10:47:30	56.5	61.1	63.5
0		0	25Oct 11	10:47:35	55.8	58.7	62.8
0		0	25Oct 11	10:47:40	57.2	61.3	64.2
0		0	25Oct 11	10:47:45	61.7	64.0	68.7
0		0	25Oct 11	10:47:50	55.0	57.1	62.0
0		0	25Oct 11	10:47:55	55.4	60.6	62.4
0		0	25Oct 11	10:48:00	60.1	61.4	67.0
0		0	25Oct 11	10:48:05	54.1	57.0	61.0
0		0	25Oct 11	10:48:10	56.4	59.1	63.4
0		0	25Oct 11	10:48:15	58.1	59.3	65.1
0		0	25Oct 11	10:48:20	56.9	57.7	63.9
0		0	25Oct 11	10:48:25	61.8	63.5	68.8
0		0	25Oct 11	10:48:30	62.8	69.3	69.8
0		0	25Oct 11	10:48:35	65.6	67.7	72.6
0		0	25Oct 11	10:48:40	68.2	69.3	75.2
0		0	25Oct 11	10:48:45	67.2	69.0	74.2
0		0	25Oct 11	10:48:50	58.8	64.1	65.8
0		0	25Oct 11	10:48:55	62.1	65.1	69.1
0		0	25Oct 11	10:49:00	57.7	61.2	64.7
0		0	25Oct 11	10:49:05	55.9	57.3	62.9
0		0	25Oct 11	10:49:10	61.5	63.6	68.5
0		0	25Oct 11	10:49:15	56.8	59.6	63.8
0		0	25Oct 11	10:49:20	60.5	63.6	67.5
0		0	25Oct 11	10:49:25	60.2	63.2	67.2
0		0	25Oct 11	10:49:30	62.1	63.8	69.1
0		0	25Oct 11	10:49:35	55.4	58.7	62.4
0		0	25Oct 11	10:49:40	57.3	60.7	64.3
0		0	25Oct 11	10:49:45	61.2	63.6	68.2
0		0	25Oct 11	10:49:50	64.7	67.2	71.7
0		0	25Oct 11	10:49:55	62.5	64.6	69.5
0		0	25Oct 11	10:50:00	51.4	56.5	58.4
0		0	25Oct 11	10:50:05	53.9	61.1	60.9
0		0	25Oct 11	10:50:10	63.9	66.5	70.9
0		0	25Oct 11	10:50:15	63.0	67.1	70.0
0		0	25Oct 11	10:50:20	49.2	53.6	56.2
0		0	25Oct 11	10:50:25	50.8	55.0	57.8
0		0	25Oct 11	10:50:30	55.7	58.2	62.7
0		0	25Oct 11	10:50:35	53.4	57.0	60.4
0		0	25Oct 11	10:50:40	52.5	56.2	59.5
0		0	25Oct 11	10:50:45	56.4	60.2	63.4
0		0	25Oct 11	10:50:50	64.5	69.0	71.5
0		0	25Oct 11	10:50:55	67.9	69.3	74.9
0		0	25Oct 11	10:51:00	67.1	68.0	74.1
0		0	25Oct 11	10:51:05	64.4	65.3	71.4
0		0	25Oct 11	10:51:10	67.4	69.6	74.4
0		0	25Oct 11	10:51:15	63.9	68.6	70.9
0		0	25Oct 11	10:51:20	60.3	63.2	67.3
0		0	25Oct 11	10:51:25	62.3	63.7	69.3
0		0	25Oct 11	10:51:30	61.6	62.6	68.6
0		0	25Oct 11	10:51:35	64.0	68.2	71.0
0		0	25Oct 11	10:51:40	73.5	76.8	80.5
0		0	25Oct 11	10:51:45	68.0	70.6	75.0
0		0	25Oct 11	10:51:50	69.5	71.7	76.5
0		0	25Oct 11	10:51:55	62.5	66.1	69.5
0		0	25Oct 11	10:52:00	53.9	55.5	60.9
0		0	25Oct 11	10:52:05	55.2	58.0	62.2
0		0	25Oct 11	10:52:10	60.0	62.1	67.0
0		0	25Oct 11	10:52:15	62.0	66.5	69.0
0		0	25Oct 11	10:52:20	65.8	66.8	72.8
0		0	25Oct 11	10:52:25	67.3	70.5	74.3
0		0	25Oct 11	10:52:30	65.4	68.5	72.4
0		0	25Oct 11	10:52:35	59.1	61.7	66.0
0		0	25Oct 11	10:52:40	61.1	62.0	68.1
0		0	25Oct 11	10:52:45	59.9	62.2	66.9
0		0	25Oct 11	10:52:50	65.0	66.7	72.0
0		0	25Oct 11	10:52:55	65.1	67.1	72.1
0		0	25Oct 11	10:53:00	65.5	69.3	72.5
0		0	25Oct 11	10:53:05	61.4	65.0	68.4
0		0	25Oct 11	10:53:10	62.4	64.8	69.4
0		0	25Oct 11	10:53:15	63.2	67.0	70.2
0		0	25Oct 11	10:53:20	61.4	65.8	68.4
0		0	25Oct 11	10:53:25	66.8	69.5	73.8
0		0	25Oct 11	10:53:30	66.4	68.1	73.4
0		0	25Oct 11	10:53:35	65.9	67.6	72.9
0		0	25Oct 11	10:53:40	57.0	63.1	64.0
0		0	25Oct 11	10:53:45	58.0	64.8	65.0
0		0	25Oct 11	10:53:50	66.6	68.6	73.6
0		0	25Oct 11	10:53:55	66.2	69.8	73.2
0		0	25Oct 11	10:54:00	65.5	69.7	72.5
0		0	25Oct 11	10:54:05	62.4	65.2	69.4
0		0	25Oct 11	10:54:10	60.7	64.8	67.7
0		0	25Oct 11	10:54:15	49.7	53.6	56.7
0		0	25Oct 11	10:54:20	48.0	53.5	55.0
0		0	25Oct 11	10:54:25	56.5	60.0	63.5
0		0	25Oct 11	10:54:30	59.3	61.8	66.3
0		0	25Oct 11	10:54:35	53.2	56.2	60.2
0		0	25Oct 11	10:54:40	58.4	61.5	65.4
0		0	25Oct 11	10:54:45	59.6	61.9	66.6
0		0	25Oct 11	10:54:50	57.8	63.2	64.8
0		0	25Oct 11	10:54:55	67.6	69.6	74.6
0		0	25Oct 11	10:55:00	66.5	68.6	73.5
0		0	25Oct 11	10:55:05	63.6	67.1	70.5
0		0	25Oct 11	10:55:10	59.8	62.0	66.8
0		0	25Oct 11	10:55:15	56.9	58.5	63.9
0		0	25Oct 11	10:55:20	54.5	55.5	61.5
0		0	25Oct 11	10:55:25	62.7	68.5	69.7
0		0	25Oct 11	10:55:30	63.9	68.0	70.9
0		0	25Oct 11	10:55:35	53.2	58.2	60.2
0		0	25Oct 11	10:55:40	50.1	53.1	57.1
0		0	25Oct 11	10:55:45	52.5	54.1	59.5
0		0	25Oct 11	10:55:50	48.3	49.9	55.3
0		0	25Oct 11	10:55:55	52.0	57.6	59.0
0		0	25Oct 11	10:56:00	67.2	70.4	74.2
0		0	25Oct 11	10:56:05	65.2	67.7	72.2
0		0	25Oct 11	10:56:10	68.7	71.6	75.7
0		0	25Oct 11	10:56:15	68.6	71.4	75.6
0		0	25Oct 11	10:56:20	69.4	72.9	76.4
0		0	25Oct 11	10:56:25	59.8	63.0	66.8
0		0	25Oct 11	10:56:30	60.7	62.9	67.7
0		0	25Oct 11	10:56:35	63.1	64.4	70.1
0		0	25Oct 11	10:56:40	60.3	62.1	67.3
0		0	25Oct 11	10:56:45	61.9	64.4	68.9
0		0	25Oct 11	10:56:50	51.7	58.4	58.7
0		0	25Oct 11	10:56:55	52.8	57.5	59.8
0		0	25Oct 11	10:57:00	61.1	64.2	68.1
0		0	25Oct 11	10:57:05	62.7	64.9	69.7
0		0	25Oct 11	10:57:10	61.8	63.5	68.8
0		0	25Oct 11	10:57:15	54.2	59.5	61.2
0		0	25Oct 11	10:57:20	45.9	48.2	52.9
0		0	25Oct 11	10:57:25	55.4	60.1	62.4
0		0	25Oct 11	10:57:30	58.5	63.9	65.5
0		0	25Oct 11	10:57:35	63.8	64.9	70.7
0		0	25Oct 11	10:57:40	60.6	63.6	67.6
0		0	25Oct 11	10:57:45	66.3	68.8	73.2
0		0	25Oct 11	10:57:50	69.8	71.0	76.8
0		0	25Oct 11	10:57:55	65.2	68.9	72.2
0		0	25Oct 11	10:58:00	66.6	69.2	73.5
0		0	25Oct 11	10:58:05	66.3	68.9	73.3
0		0	25Oct 11	10:58:10	64.0	66.1	71.0
0		0	25Oct 11	10:58:15	67.2	69.1	74.2
0		0	25Oct 11	10:58:20	59.6	64.5	66.5
0		0	25Oct 11	10:58:25	59.1	61.7	66.1
0		0	25Oct 11	10:58:30	54.1	55.9	61.0
0		0	25Oct 11	10:58:35	49.0	51.6	56.0
0		0	25Oct 11	10:58:40	52.9	56.1	59.9
0		0	25Oct 11	10:58:45	64.5	67.0	71.5
0		0	25Oct 11	10:58:50	59.5	64.0	66.5
0		0	25Oct 11	10:58:55	55.1	59.4	62.1
0		0	25Oct 11	10:59:00	58.3	58.7	65.3
Stop	Key						
Run	Key						
Measurement 2							
0		0	25Oct 11	11:09:00	58.2	60.6	65.2
0		0	25Oct 11	11:09:05	52.5	56.0	59.5
0		0	25Oct 11	11:09:10	50.2	51.9	57.2
0		0	25Oct 11	11:09:15	60.5	63.6	67.5
0		0	25Oct 11	11:09:20	61.9	64.5	68.9
0		0	25Oct 11	11:09:25	58.0	60.7	65.0
0		0	25Oct 11	11:09:30	55.9	57.2	62.9
0		0	25Oct 11	11:09:35	58.8	60.7	65.8
0		0	25Oct 11	11:09:40	60.9	62.7	67.9
0		0	25Oct 11	11:09:45	64.4	67.0	71.4
0		0	25Oct 11	11:09:50	64.1	67.9	71.0
0		0	25Oct 11	11:09:55	61.8	63.9	68.8
0		0	25Oct 11	11:10:00	61.8	64.7	68.8
0		0	25Oct 11	11:10:05	61.1	63.9	68.1
0		0	25Oct 11	11:10:10	65.0	66.7	72.0
0		0	25Oct 11	11:10:15	64.7	71.1	71.7
0		0	25Oct 11	11:10:20	62.9	65.9	69.9
0		0	25Oct 11	11:10:25	68.3	73.5	75.3
0		0	25Oct 11	11:10:30	69.8	71.6	76.8
0		0	25Oct 11	11:10:35	69.5	71.1	76.5
0		0	25Oct 11	11:10:40	64.0	67.5	71.0
0		0	25Oct 11	11:10:45	63.9	66.6	70.9
0		0	25Oct 11	11:10:50	60.7	63.0	67.7
0		0	25Oct 11	11:10:55	62.6	66.9	69.6
0		0	25Oct 11	11:11:00	64.7	67.7	71.7
0		0	25Oct 11	11:11:05	62.1	63.9	69.1
0		0	25Oct 11	11:11:10	62.4	64.1	69.3
0		0	25Oct 11	11:11:15	58.9	64.0	65.9
0		0	25Oct 11	11:11:20	58.5	62.4	65.5
0		0	25Oct 11	11:11:25	54.8	57.9	61.8
0		0	25Oct 11	11:11:30	60.9	63.1	67.9
0		0	25Oct 11	11:11:35	60.0	62.0	67.0
0		0	25Oct 11	11:11:40	65.2	68.4	72.2
0		0	25Oct 11	11:11:45	60.3	62.4	67.3
0		0	25Oct 11	11:11:50	62.0	63.6	69.0
0		0	25Oct 11	11:11:55	62.6	65.0	69.6
0		0	25Oct 11	11:12:00	60.9	63.8	67.9
0		0	25Oct 11	11:12:05	56.3	59.4	63.3
0		0	25Oct 11	11:12:10	62.5	68.9	69.5
0		0	25Oct 11	11:12:15	80.5	85.2	87.5
0		0	25Oct 11	11:12:20	73.8	81.4	80.7
0		0	25Oct 11	11:12:25	65.1	68.2	72.0
0		0	25Oct 11	11:12:30	64.9	69.0	71.8
0		0	25Oct 11	11:12:35	64.5	67.9	71.5
0		0	25Oct 11	11:12:40	58.7	62.7	65.7
0		0	25Oct 11	11:12:45	62.6	65.7	69.6
0		0	25Oct 11	11:12:50	67.4	70.9	74.3
0		0	25Oct 11	11:12:55	63.1	64.6	70.1
0		0	25Oct 11	11:13:00	62.6	63.9	69.5
0		0	25Oct 11	11:13:05	57.8	63.6	64.7
0		0	25Oct 11	11:13:10	58.2	61.1	65.2
0		0	25Oct 11	11:13:15	58.8	60.0	65.8
0		0	25Oct 11	11:13:20	58.9	61.1	65.9
0		0	25Oct 11	11:13:25	65.7	72.5	72.7
0		0	25Oct 11	11:13:30	74.1	80.4	81.1
0		0	25Oct 11	11:13:35	61.7	63.6	68.7
0		0	25Oct 11	11:13:40	64.8	66.2	71.8
0		0	25Oct 11	11:13:45	65.7	70.7	72.7
0		0	25Oct 11	11:13:50	61.6	64.5	68.6
0		0	25Oct 11	11:13:55	60.3	64.0	67.3
0		0	25Oct 11	11:14:00	57.2	61.0	64.2
0		0	25Oct 11	11:14:05	61.3	63.6	68.3
0		0	25Oct 11	11:14:10	61.9	64.1	68.9
0		0	25Oct 11	11:14:15	59.7	67.6	66.7
0		0	25Oct 11	11:14:20	56.2	60.1	63.2
0		0	25Oct 11	11:14:25	65.5	71.9	72.5

0		0	25Oct 11	11:14:30	70.3	74.6	77.3	0		0	25Oct 11	11:35:55	60.6	63.4	67.6
0		0	25Oct 11	11:14:35	62.9	66.6	69.9	0		0	25Oct 11	11:36:00	58.1	60.4	65.0
0		0	25Oct 11	11:14:40	65.4	68.9	72.4	0		0	25Oct 11	11:36:05	63.3	70.4	70.3
0		0	25Oct 11	11:14:45	59.3	62.1	66.3	0		0	25Oct 11	11:36:10	61.8	68.9	68.8
0		0	25Oct 11	11:14:50	59.9	62.5	66.8	0		0	25Oct 11	11:36:15	55.8	58.2	62.8
0		0	25Oct 11	11:14:55	64.2	67.0	71.2	0		0	25Oct 11	11:36:20	63.6	65.9	70.6
0		0	25Oct 11	11:15:00	65.1	67.0	72.1	0		0	25Oct 11	11:36:25	57.6	62.9	64.6
0		0	25Oct 11	11:15:05	64.3	66.0	71.3	0		0	25Oct 11	11:36:30	57.1	61.2	64.1
0		0	25Oct 11	11:15:10	63.8	65.7	70.8	0		0	25Oct 11	11:36:35	65.4	68.9	72.4
0		0	25Oct 11	11:15:15	63.7	66.4	70.7	0		0	25Oct 11	11:36:40	70.6	75.7	77.6
0		0	25Oct 11	11:15:20	62.6	65.7	69.6	0		0	25Oct 11	11:36:45	68.9	70.6	75.9
0		0	25Oct 11	11:15:25	61.6	62.7	68.6	0		0	25Oct 11	11:36:50	68.1	71.9	75.1
0		0	25Oct 11	11:15:30	58.4	61.1	65.4	0		0	25Oct 11	11:36:55	69.1	74.1	76.1
0		0	25Oct 11	11:15:35	64.5	66.6	71.5	0		0	25Oct 11	11:37:00	62.8	65.1	69.8
0		0	25Oct 11	11:15:40	62.3	65.7	69.3	0		0	25Oct 11	11:37:05	62.2	63.2	69.2
0		0	25Oct 11	11:15:45	65.0	69.9	72.0	0		0	25Oct 11	11:37:10	66.0	69.4	73.0
0		0	25Oct 11	11:15:50	69.8	73.2	76.8	0		0	25Oct 11	11:37:15	66.2	69.1	73.2
0		0	25Oct 11	11:15:55	63.7	68.4	70.7	0		0	25Oct 11	11:37:20	64.4	67.3	71.4
0		0	25Oct 11	11:16:00	70.5	72.9	77.5	0		0	25Oct 11	11:37:25	63.8	68.4	70.8
0		0	25Oct 11	11:16:05	68.9	72.4	75.9	0		0	25Oct 11	11:37:30	63.1	66.7	70.1
0		0	25Oct 11	11:16:10	64.3	66.0	71.3	0		0	25Oct 11	11:37:35	61.6	64.6	68.6
0		0	25Oct 11	11:16:15	61.7	63.9	68.7	0		0	25Oct 11	11:37:40	61.9	65.4	68.9
0		0	25Oct 11	11:16:20	59.6	63.3	66.6	0		0	25Oct 11	11:37:45	64.6	68.7	71.6
0		0	25Oct 11	11:16:25	62.9	64.6	69.9	0		0	25Oct 11	11:37:50	59.5	67.5	66.5
0		0	25Oct 11	11:16:30	63.0	65.1	70.0	0		0	25Oct 11	11:37:55	60.1	63.1	67.1
0		0	25Oct 11	11:16:35	58.0	60.9	65.0	0		0	25Oct 11	11:38:00	57.9	60.5	64.9
0		0	25Oct 11	11:16:40	61.3	63.9	68.3	0		0	25Oct 11	11:38:05	59.1	61.2	66.1
0		0	25Oct 11	11:16:45	51.8	54.8	58.8	0		0	25Oct 11	11:38:10	57.3	62.3	64.2
0		0	25Oct 11	11:16:50	57.3	58.7	64.3	0		0	25Oct 11	11:38:15	58.6	60.4	65.6
0		0	25Oct 11	11:16:55	56.6	60.6	63.6	0		0	25Oct 11	11:38:20	59.3	61.5	66.3
0		0	25Oct 11	11:17:00	54.9	56.5	61.9	0		0	25Oct 11	11:38:25	64.8	66.7	71.8
0		0	25Oct 11	11:17:05	58.9	63.2	65.9	0		0	25Oct 11	11:38:30	62.9	66.1	69.9
0		0	25Oct 11	11:17:10	68.1	72.4	75.1	0		0	25Oct 11	11:38:35	61.9	64.0	68.9
0		0	25Oct 11	11:17:15	74.0	76.7	81.0	0		0	25Oct 11	11:38:40	64.7	66.9	71.7
0		0	25Oct 11	11:17:20	65.1	68.7	72.0	0		0	25Oct 11	11:38:45	61.4	63.2	68.4
0		0	25Oct 11	11:17:25	63.1	65.4	70.1	0		0	25Oct 11	11:38:50	57.7	59.4	64.7
0		0	25Oct 11	11:17:30	63.4	66.2	70.4	0		0	25Oct 11	11:38:55	58.8	60.4	65.8
0		0	25Oct 11	11:17:35	62.5	66.5	69.5	0		0	25Oct 11	11:39:00	61.8	64.6	68.8
0		0	25Oct 11	11:17:40	57.5	62.1	64.5	0		0	25Oct 11	11:39:05	66.3	71.1	73.2
0		0	25Oct 11	11:17:45	58.8	64.2	65.8	0		0	25Oct 11	11:39:10	67.9	71.0	74.9
0		0	25Oct 11	11:17:50	60.2	63.1	67.2	0		0	25Oct 11	11:39:15	65.4	70.2	72.4
0		0	25Oct 11	11:17:55	62.5	67.7	69.5	0		0	25Oct 11	11:39:20	58.5	63.1	65.5
0		0	25Oct 11	11:18:00	62.6	66.7	69.6	0		0	25Oct 11	11:39:25	66.3	71.7	73.3
0		0	25Oct 11	11:18:05	62.8	65.1	69.8	0		0	25Oct 11	11:39:30	68.9	73.5	75.9
0		0	25Oct 11	11:18:10	56.1	62.0	63.1	0		0	25Oct 11	11:39:35	62.3	65.4	69.3
0		0	25Oct 11	11:18:15	54.8	57.2	61.8	0		0	25Oct 11	11:39:40	57.3	62.2	64.3
0		0	25Oct 11	11:18:20	55.2	62.9	62.2	0		0	25Oct 11	11:39:45	65.8	72.4	72.8
0		0	25Oct 11	11:18:25	49.6	55.2	56.6	0		0	25Oct 11	11:39:50	63.1	72.1	70.1
0		0	25Oct 11	11:18:30	56.7	60.6	63.7	0		0	25Oct 11	11:39:55	55.5	60.4	62.5
0		0	25Oct 11	11:18:35	55.8	58.7	62.8	0		0	25Oct 11	11:40:00	59.1	60.7	66.1
0		0	25Oct 11	11:18:40	59.0	60.9	66.0	0		0	25Oct 11	11:40:05	61.3	63.4	68.2
0		0	25Oct 11	11:18:45	62.7	68.5	69.7	0		0	25Oct 11	11:40:10	56.1	57.7	63.1
0		0	25Oct 11	11:18:50	66.3	69.0	73.3	0		0	25Oct 11	11:40:15	55.2	59.2	62.2
0		0	25Oct 11	11:18:55	63.9	68.2	70.8	0		0	25Oct 11	11:40:20	56.0	60.1	63.0
0		0	25Oct 11	11:19:00	61.8	64.9	68.8	0		0	25Oct 11	11:40:25	58.6	61.8	65.6
0		0	25Oct 11	11:19:05	63.3	66.9	70.2	0		0	25Oct 11	11:40:30	58.7	59.9	65.7
0		0	25Oct 11	11:19:10	60.2	66.1	67.2	0		0	25Oct 11	11:40:35	60.6	63.9	67.6
0		0	25Oct 11	11:19:15	62.7	64.7	69.7	0		0	25Oct 11	11:40:40	67.4	71.0	74.4
0		0	25Oct 11	11:19:20	71.3	76.7	78.3	0		0	25Oct 11	11:40:45	68.5	72.6	75.5
0		0	25Oct 11	11:19:25	75.8	78.6	82.8	0		0	25Oct 11	11:40:50	66.7	70.0	73.7
0		0	25Oct 11	11:19:30	68.8	75.3	75.7	0		0	25Oct 11	11:40:55	64.6	68.6	71.6
0		0	25Oct 11	11:19:35	65.9	67.5	72.9	0		0	25Oct 11	11:41:00	74.2	82.5	81.2
0		0	25Oct 11	11:19:40	61.4	64.7	68.4	0		0	25Oct 11	11:41:05	68.1	75.7	75.0
0		0	25Oct 11	11:19:45	61.9	64.5	68.9	0		0	25Oct 11	11:41:10	66.1	78.1	73.1
0		0	25Oct 11	11:19:50	59.8	63.9	66.8	0		0	25Oct 11	11:41:15	59.3	63.4	66.3
0		0	25Oct 11	11:19:55	59.6	61.5	66.6	0		0	25Oct 11	11:41:20	64.0	66.3	71.0
0		0	25Oct 11	11:20:00	59.6	63.2	66.6	0		0	25Oct 11	11:41:25	63.2	65.7	70.2
0		0	25Oct 11	11:20:05	65.1	66.5	72.0	0		0	25Oct 11	11:41:30	61.8	64.4	68.8
0		0	25Oct 11	11:20:10	60.3	62.9	67.3	0		0	25Oct 11	11:41:35	63.0	66.1	70.0
0		0	25Oct 11	11:20:15	62.0	68.7	69.0	0		0	25Oct 11	11:41:40	64.0	66.9	71.0
0		0	25Oct 11	11:20:20	60.9	63.2	67.9	0		0	25Oct 11	11:41:45	63.6	64.7	70.6
0		0	25Oct 11	11:20:25	62.0	63.0	69.0	0		0	25Oct 11	11:41:50	62.4	64.2	69.4
0		0	25Oct 11	11:20:30	60.9	63.8	67.9	0		0	25Oct 11	11:41:55	63.4	65.5	70.4
0		0	25Oct 11	11:20:35	58.0	61.4	65.0	0		0	25Oct 11	11:42:00	65.9	67.5	72.9
0		0	25Oct 11	11:20:40	60.7	62.9	67.7	0		0	25Oct 11	11:42:05	68.8	71.9	75.8
0		0	25Oct 11	11:20:45	65.1	67.1	72.1	0		0	25Oct 11	11:42:10	76.1	80.7	83.1
0		0	25Oct 11	11:20:50	59.2	66.1	66.2	0		0	25Oct 11	11:42:15	74.5	78.5	81.5
0		0	25Oct 11	11:20:55	50.2	53.1	57.2	0		0	25Oct 11	11:42:20	70.4	72.9	77.4
0		0	25Oct 11	11:21:00	58.8	66.5	65.8	0		0	25Oct 11	11:42:25	68.7	70.5	75.7
0		0	25Oct 11	11:21:05	66.5	70.5	73.5	0		0	25Oct 11	11:42:30	78.1	84.1	85.0
0		0	25Oct 11	11:21:10	62.9	65.5	69.9	0		0	25Oct 11	11:42:35	65.9	68.0	72.9
0		0	25Oct 11	11:21:15	61.3	64.0	68.3	0		0	25Oct 11	11:42:40	64.1	66.2	71.0
0		0	25Oct 11	11:21:20	62.0	65.5	69.0	0		0	25Oct 11	11:42:45	62.7	65.4	69.7
0		0	25Oct 11	11:21:25	60.2	63.3	67.2	0		0	25Oct 11	11:42:50	57.9	64.9	64.9
0		0	25Oct 11	11:21:30	58.8	61.3	65.8	0		0	25Oct 11	11:42:55	57.3	59.6	64.3
0		0	25Oct 11	11:21:35	62.8	64.6	69.8	0		0	25Oct 11	11:43:00	64.0	70.9	71.0
0		0	25Oct 11	11:21:40	70.4	78.6	77.4	0		0	25Oct 11	11:43:05	66.9	73.2	73.9
0		0	25Oct 11	11:21:45	77.7	80.9	84.7	0		0	25Oct 11	11:43:10	63.6	67.9	70.6
0		0	25Oct 11	11:21:50	62.9	66.0	69.9	0		0	25Oct 11	11:43:15	67.6	76.7	74.6
0		0	25Oct 11	11:21:55	62.9	65.5	69.9	0		0	25Oct 11	11:43:20	67.6	70.6	74.6
0		0	25Oct 11	11:22:00	66.5	68.1	73.5	0		0	25Oct 11	11:43:25	58.5	65.7	65.5
0		0	25Oct 11	11:22:05	61.2	63.9	68.2	0		0	25Oct 11	11:43:30	53.1	54.5	60.1
0		0	25Oct 11	11:22:10	64.5	66.4	71.5	0		0	25Oct 11	11:43:35	54.5	59.2	61.5
0		0	25Oct 11	11:22:15	65.3	68.1	72.3	0		0	25Oct 11	11:43:40	60.2	63.0	67.2
0		0	25Oct 11	11:22:20	58.5	68.9	65.5	0		0	25Oct 11	11:43:45	60.6	61.9	67.6
0		0	25Oct 11	11:22:25	54.4	59.6	61.4	0		0	25Oct 11	11:43:50	60.2	63.9	67.2
0		0	25Oct 11	11:22:30	55.4	64.7	62.4	0		0	25Oct 11	11:43:55	63.2	66.2	70.2
0		0	25Oct 11	11:22:35	63.5	66.4	70.5	0		0	25Oct 11	11:44:00	63.5	65.6	70.5
0		0	25Oct 11	11:22:40	65.5	68.1	72.5	0		0	25Oct 11	11:44:05	69.6	74.1	76.6
0		0	25Oct 11	11:22:45	65.6	71.9	72.5	0		0	25Oct 11	11:44:10	66.8	72.1	73.8
0		0	25Oct 11	11:22:50	66.1	71.6	73.1	0		0	25Oct 11	11:44:15	65.6	67.0	72.6
0		0	25Oct 11	11:22:55	54.4	60.4	61.4	0		0	25Oct 11	11:44:20	65.6	66.5	72.6
0		0	25Oct 11	11:23:00	56.4	59.6	63.4	0		0	25Oct 11	11:44:25	65.7	68.6	72.7
0		0	25Oct 11	11:23:05	58.2	60.4	65.2	0		0	25Oct 11	11:44:30	61.7	64.4	68.7
0		0	25Oct 11	11:23:10	62.5	66.4	69.5	0		0	25Oct 11	11:44:35	61.7	64.5	68.7
0		0	25Oct 11	11:23:15	64.2	66.4	71.2	0		0	25Oct 11	11:44:40	65.2	68.0	72.2
0		0	25Oct 11	11:23:20	63.5	66.9	70.5	0		0	25Oct 11	11:44:45	61.6	63.6	68.6
0		0	25Oct 11	11:23:25	60.5	62.1	67.5	0		0	25Oct 11	11:44:50	61.6	64.7	68.5
0		0	25Oct 11	11:23:30	65.9	67.6	72.9	0		0	25Oct 11	11:44:55	61.7	66.5	68.7
0		0	25Oct 11	11:23:35	66.2	68.0	73.2	0		0	25Oct 11	11:45:00	56.0	57.8	63.0
0		0	25Oct 11	11:23:40	62.8	66.1	69.8	0		0	25Oct 11	11:45:05	57.9	63.2	64.9
0		0	25Oct 11	11:23:45	60.7	64.6	67.7	0		0	25Oct 11	11:45:10	62.6	65.8	69.6
0		0	25Oct 11	11:23:50	57.8	61.4	64.8	0		0	25Oct 11	11:45:15	63.4	65.3	70.4
0		0	25Oct 11	11:23:55	58.7	61.4	65.7	0		0	25Oct 11	11:45:20	60.9	62.5	67.9
0		0	25Oct 11	11:24:00	56.5	56.5	63.5	0		0	25Oct 11	11:45:25	61.3	63.1	68.3
Stop Key								0		0	25Oct 11	11:45:30	61.4	63.5	68.4
Run Key								0		0	25Oct 11	11:45:35	65.8	71.0	72.8
Measurement 3								0		0	25Oct 11	11:45:40	70.5	72.7	77.5
0								0		0	25Oct 11	11:45:45	67.6	69.1	74.6
0		0	25Oct 11	11:35:00	66.8	68.6	73.8	0		0	25Oct 11	11:45:50	78.6	90.9	85.6
0		0	25Oct 11	11:35:05	67.8	70.7	74.7	0		0	25Oct 11	11:45:55	74.1	78.4	81.1
0		0	25Oct 11	11:35:10	64.1	65.2	71.1	0		0	25Oct 11	11:46:00	66.8	71.2	73.8
0		0	25Oct 11	11:35:15	61.1	64.0	68.1	0		0	25Oct 11	11:46:05	70.7	75.4	77.7
0		0	25Oct 11	11:35:20	58.6	61.6	65.6	0		0	25Oct 11	11:46:10	69.6	73.0	76.6
0		0	25Oct 11	11:35:25	62.6	66.4	69.6	0		0	25Oct 11	11:46:15	67.2	72.9	74.2
0		0	25Oct 11	11:35:30	70.0	74.6	77.0	0		0	25Oct 11	11:46:20	68.6	74.6	75.6
0		0	25Oct 11	11:35:35	68.5	70.5	75.5	0		0	25Oct 11	11:46:25	61.2	65.5	68.2
0		0	25Oct 11	11:35:40	66.5	68.1	73.5	0		0	25Oct 11	11:46:30	59.7	61.5	66.7
0		0	25Oct 11	11:35:45	61.4	63.7	68.4	0		0	25Oct 11	11:46:35	61.4	63.5	68.4
0		0	25Oct 11	11:35:50	63.7	65.6	70.7	0							

0		0	25Oct 11	11:46:40	67.0	71.5	74.0	0		0	25Oct 11	12:45:10	54.9	58.5	61.9
0		0	25Oct 11	11:46:45	64.5	69.5	71.5	0		0	25Oct 11	12:45:15	53.8	59.0	60.8
0		0	25Oct 11	11:46:50	60.0	61.6	67.0	0		0	25Oct 11	12:45:20	50.3	51.5	57.3
0		0	25Oct 11	11:46:55	67.1	74.5	74.1	0		0	25Oct 11	12:45:25	55.1	62.3	62.1
0		0	25Oct 11	11:47:00	61.1	64.9	68.1	0		0	25Oct 11	12:45:30	60.3	66.8	67.3
0		0	25Oct 11	11:47:05	64.5	66.5	71.5	0		0	25Oct 11	12:45:35	57.3	59.1	64.3
0		0	25Oct 11	11:47:10	57.1	60.7	64.1	0		0	25Oct 11	12:45:40	62.2	66.0	69.2
0		0	25Oct 11	11:47:15	58.5	60.5	65.5	0		0	25Oct 11	12:45:45	60.8	64.9	67.8
0		0	25Oct 11	11:47:20	64.5	68.6	71.5	0		0	25Oct 11	12:45:50	59.5	61.0	66.5
0		0	25Oct 11	11:47:25	65.4	67.7	72.4	0		0	25Oct 11	12:45:55	61.5	64.1	68.5
0		0	25Oct 11	11:47:30	63.2	66.7	70.2	0		0	25Oct 11	12:46:00	59.9	63.8	66.8
0		0	25Oct 11	11:47:35	59.8	62.7	66.8	0		0	25Oct 11	12:46:05	58.5	60.9	65.5
0		0	25Oct 11	11:47:40	58.4	61.5	65.4	0		0	25Oct 11	12:46:10	60.6	62.8	67.5
0		0	25Oct 11	11:47:45	59.7	62.0	66.7	0		0	25Oct 11	12:46:15	60.6	64.1	67.6
0		0	25Oct 11	11:47:50	55.9	58.8	62.9	0		0	25Oct 11	12:46:20	61.4	67.5	68.4
0		0	25Oct 11	11:47:55	55.8	57.4	62.8	0		0	25Oct 11	12:46:25	64.3	67.0	71.3
0		0	25Oct 11	11:48:00	57.1	60.4	64.1	0		0	25Oct 11	12:46:30	58.5	63.6	65.5
0		0	25Oct 11	11:48:05	61.0	66.2	68.0	0		0	25Oct 11	12:46:35	58.3	59.5	65.3
0		0	25Oct 11	11:48:10	68.2	71.1	75.2	0		0	25Oct 11	12:46:40	55.3	57.7	62.3
0		0	25Oct 11	11:48:15	68.1	70.1	75.1	0		0	25Oct 11	12:46:45	52.1	54.1	59.1
0		0	25Oct 11	11:48:20	69.9	72.5	76.9	0		0	25Oct 11	12:46:50	50.0	53.0	57.0
0		0	25Oct 11	11:48:25	65.8	68.1	72.8	0		0	25Oct 11	12:46:55	50.7	54.1	57.7
0		0	25Oct 11	11:48:30	61.8	64.5	68.8	0		0	25Oct 11	12:47:00	51.4	54.5	58.4
0		0	25Oct 11	11:48:35	69.0	73.1	76.0	0		0	25Oct 11	12:47:05	50.0	50.6	57.0
0		0	25Oct 11	11:48:40	65.5	68.7	72.5	0		0	25Oct 11	12:47:10	49.1	51.8	56.1
0		0	25Oct 11	11:48:45	62.6	65.2	69.6	0		0	25Oct 11	12:47:15	50.8	54.0	57.8
0		0	25Oct 11	11:48:50	63.1	66.0	70.1	0		0	25Oct 11	12:47:20	51.6	53.6	58.6
0		0	25Oct 11	11:48:55	61.6	63.7	68.6	0		0	25Oct 11	12:47:25	56.3	59.8	63.3
0		0	25Oct 11	11:49:00	61.8	63.5	68.8	0		0	25Oct 11	12:47:30	50.6	54.6	57.6
0		0	25Oct 11	11:49:05	69.0	73.9	76.0	0		0	25Oct 11	12:47:35	60.5	68.4	67.5
0		0	25Oct 11	11:49:10	65.1	68.1	72.1	0		0	25Oct 11	12:47:40	65.1	70.4	72.0
0		0	25Oct 11	11:49:15	64.8	68.2	71.8	0		0	25Oct 11	12:47:45	57.2	61.4	64.2
0		0	25Oct 11	11:49:20	59.4	64.6	66.4	0		0	25Oct 11	12:47:50	58.1	61.4	65.1
0		0	25Oct 11	11:49:25	55.8	57.7	62.8	0		0	25Oct 11	12:47:55	57.9	59.9	64.9
0		0	25Oct 11	11:49:30	55.0	56.1	62.0	0		0	25Oct 11	12:48:00	55.9	59.4	62.9
0		0	25Oct 11	11:49:35	57.3	60.6	64.3	0		0	25Oct 11	12:48:05	58.1	59.6	65.1
0		0	25Oct 11	11:49:40	58.2	60.0	65.2	0		0	25Oct 11	12:48:10	60.5	64.1	67.5
0		0	25Oct 11	11:49:45	59.9	61.1	66.9	0		0	25Oct 11	12:48:15	60.7	64.9	67.7
0		0	25Oct 11	11:49:50	65.1	68.7	72.0	0		0	25Oct 11	12:48:20	59.8	65.0	66.8
0		0	25Oct 11	11:49:55	63.4	66.2	70.3	0		0	25Oct 11	12:48:25	51.1	53.0	58.1
Stop Key										0	25Oct 11	12:48:30	50.0	56.9	57.0
Run Key										0	25Oct 11	12:48:35	50.5	53.7	57.5
Measurement 4										0	25Oct 11	12:48:40	60.7	67.9	67.7
0		0	25Oct 11	12:38:00	52.3	54.2	59.3	0		0	25Oct 11	12:48:45	53.4	60.0	60.4
0		0	25Oct 11	12:38:05	53.2	61.9	60.2	0		0	25Oct 11	12:48:50	49.9	51.1	56.9
0		0	25Oct 11	12:38:10	54.4	61.2	61.3	0		0	25Oct 11	12:48:55	50.4	54.9	57.3
0		0	25Oct 11	12:38:15	53.7	56.7	60.7	0		0	25Oct 11	12:49:00	50.5	52.0	57.5
0		0	25Oct 11	12:38:20	54.7	59.3	61.7	0		0	25Oct 11	12:49:05	51.4	53.6	58.3
0		0	25Oct 11	12:38:25	48.3	51.7	55.3	0		0	25Oct 11	12:49:10	54.0	57.6	61.0
0		0	25Oct 11	12:38:30	50.9	58.2	57.9	0		0	25Oct 11	12:49:15	54.9	58.4	61.9
0		0	25Oct 11	12:38:35	52.9	55.7	59.9	0		0	25Oct 11	12:49:20	52.9	63.9	59.9
0		0	25Oct 11	12:38:40	56.9	61.4	63.9	0		0	25Oct 11	12:49:25	50.2	50.8	57.2
0		0	25Oct 11	12:38:45	56.5	60.7	63.5	0		0	25Oct 11	12:49:30	51.3	54.0	58.3
0		0	25Oct 11	12:38:50	52.5	53.4	59.5	0		0	25Oct 11	12:49:35	52.4	59.2	59.4
0		0	25Oct 11	12:38:55	53.9	55.8	60.9	0		0	25Oct 11	12:49:40	52.3	58.4	59.3
0		0	25Oct 11	12:39:00	61.2	65.2	68.2	0		0	25Oct 11	12:49:45	56.1	59.0	63.1
0		0	25Oct 11	12:39:05	54.4	60.5	61.4	0		0	25Oct 11	12:49:50	59.4	65.0	66.4
0		0	25Oct 11	12:39:10	56.9	60.8	63.9	0		0	25Oct 11	12:49:55	59.5	61.4	66.5
0		0	25Oct 11	12:39:15	69.9	74.5	76.9	0		0	25Oct 11	12:50:00	62.4	64.1	69.4
0		0	25Oct 11	12:39:20	64.4	71.7	71.4	0		0	25Oct 11	12:50:05	58.6	61.0	65.6
0		0	25Oct 11	12:39:25	55.4	58.8	62.4	0		0	25Oct 11	12:50:10	54.2	56.4	61.2
0		0	25Oct 11	12:39:30	57.6	59.5	64.6	0		0	25Oct 11	12:50:15	52.7	55.4	59.7
0		0	25Oct 11	12:39:35	57.7	59.5	64.7	0		0	25Oct 11	12:50:20	56.9	60.4	63.9
0		0	25Oct 11	12:39:40	54.9	57.2	61.9	0		0	25Oct 11	12:50:25	55.7	58.9	62.7
0		0	25Oct 11	12:39:45	53.1	54.7	60.0	0		0	25Oct 11	12:50:30	55.1	58.5	62.1
0		0	25Oct 11	12:39:50	54.5	57.9	61.5	0		0	25Oct 11	12:50:35	53.6	57.4	60.6
0		0	25Oct 11	12:39:55	57.5	60.5	64.5	0		0	25Oct 11	12:50:40	58.4	59.5	65.4
0		0	25Oct 11	12:40:00	54.6	62.2	61.6	0		0	25Oct 11	12:50:45	59.3	64.3	66.3
0		0	25Oct 11	12:40:05	55.8	60.9	62.8	0		0	25Oct 11	12:50:50	54.2	51.5	61.2
0		0	25Oct 11	12:40:10	63.0	65.5	70.0	0		0	25Oct 11	12:50:55	58.6	63.7	65.6
0		0	25Oct 11	12:40:15	60.5	70.2	67.5	0		0	25Oct 11	12:51:00	60.8	63.2	67.8
0		0	25Oct 11	12:40:20	54.0	54.9	61.0	0		0	25Oct 11	12:51:05	68.1	75.2	75.1
0		0	25Oct 11	12:40:25	56.2	58.4	63.2	0		0	25Oct 11	12:51:10	68.4	75.0	75.4
0		0	25Oct 11	12:40:30	55.2	57.8	62.2	0		0	25Oct 11	12:51:15	54.9	59.0	61.9
0		0	25Oct 11	12:40:35	57.4	62.7	64.4	0		0	25Oct 11	12:51:20	58.5	60.7	65.5
0		0	25Oct 11	12:40:40	57.3	62.5	64.3	0		0	25Oct 11	12:51:25	60.6	63.7	67.6
0		0	25Oct 11	12:40:45	50.3	52.2	57.3	0		0	25Oct 11	12:51:30	54.5	60.5	61.5
0		0	25Oct 11	12:40:50	55.2	57.6	62.2	0		0	25Oct 11	12:51:35	54.2	56.5	61.2
0		0	25Oct 11	12:40:55	59.1	65.4	66.0	0		0	25Oct 11	12:51:40	53.1	56.7	60.1
0		0	25Oct 11	12:41:00	58.2	62.0	65.2	0		0	25Oct 11	12:51:45	48.3	50.2	55.3
0		0	25Oct 11	12:41:05	51.6	56.4	58.5	0		0	25Oct 11	12:51:50	48.6	49.9	55.6
0		0	25Oct 11	12:41:10	55.1	58.5	62.1	0		0	25Oct 11	12:51:55	51.9	54.5	58.9
0		0	25Oct 11	12:41:15	56.8	59.7	63.8	0		0	25Oct 11	12:52:00	54.7	57.0	61.7
0		0	25Oct 11	12:41:20	52.6	53.9	59.6	0		0	25Oct 11	12:52:05	49.4	52.5	56.4
0		0	25Oct 11	12:41:25	55.8	57.4	62.7	0		0	25Oct 11	12:52:10	56.4	61.6	63.4
0		0	25Oct 11	12:41:30	54.8	56.2	61.8	0		0	25Oct 11	12:52:15	57.5	61.1	64.5
0		0	25Oct 11	12:41:35	59.8	64.2	66.8	0		0	25Oct 11	12:52:20	58.9	69.6	65.9
0		0	25Oct 11	12:41:40	57.5	62.0	64.5	0		0	25Oct 11	12:52:25	53.2	54.6	60.2
0		0	25Oct 11	12:41:45	54.2	64.9	61.2	0		0	25Oct 11	12:52:30	56.2	58.5	63.2
0		0	25Oct 11	12:41:50	50.8	54.4	57.8	0		0	25Oct 11	12:52:35	60.7	63.2	67.7
0		0	25Oct 11	12:41:55	53.2	62.5	60.2	0		0	25Oct 11	12:52:40	58.3	60.2	65.3
0		0	25Oct 11	12:42:00	52.5	56.3	59.5	0		0	25Oct 11	12:52:45	64.2	70.1	71.2
0		0	25Oct 11	12:42:05	60.7	66.0	67.7	0		0	25Oct 11	12:52:50	55.8	59.3	62.8
0		0	25Oct 11	12:42:10	68.6	71.8	75.6	0		0	25Oct 11	12:52:55	53.5	59.1	60.5
0		0	25Oct 11	12:42:15	58.8	60.8	65.8	0		0	25Oct 11	12:53:00	53.4	53.4	60.4
0		0	25Oct 11	12:42:20	58.4	61.4	65.3	Stop Key							
0		0	25Oct 11	12:42:25	58.5	61.0	65.5	Run Key							
0		0	25Oct 11	12:42:30	60.3	63.1	67.3	**Measurement 5**							
0		0	25Oct 11	12:42:35	58.5	64.8	65.5	0		0	25Oct 11	13:02:00	54.6	56.4	61.6
0		0	25Oct 11	12:42:40	54.5	60.3	61.5	0		0	25Oct 11	13:02:05	54.9	57.5	61.9
0		0	25Oct 11	12:42:45	52.9	63.5	59.9	0		0	25Oct 11	13:02:10	54.8	55.5	61.8
0		0	25Oct 11	12:42:50	66.6	72.5	73.6	0		0	25Oct 11	13:02:15	54.2	60.1	61.2
0		0	25Oct 11	12:42:55	60.4	63.7	67.4	0		0	25Oct 11	13:02:20	54.3	55.1	61.3
0		0	25Oct 11	12:43:00	60.6	65.1	67.6	0		0	25Oct 11	13:02:25	55.3	56.8	62.3
0		0	25Oct 11	12:43:05	58.5	64.4	65.5	0		0	25Oct 11	13:02:30	56.5	57.4	63.5
0		0	25Oct 11	12:43:10	61.4	65.0	68.4	0		0	25Oct 11	13:02:35	56.1	56.8	63.0
0		0	25Oct 11	12:43:15	62.6	66.4	69.6	0		0	25Oct 11	13:02:40	55.4	56.1	62.4
0		0	25Oct 11	12:43:20	56.8	59.6	63.8	0		0	25Oct 11	13:02:45	55.1	63.3	62.1
0		0	25Oct 11	12:43:25	58.5	60.9	65.5	0		0	25Oct 11	13:02:50	54.0	55.3	61.0
0		0	25Oct 11	12:43:30	51.2	52.9	58.2	0		0	25Oct 11	13:02:55	53.7	54.6	60.7
0		0	25Oct 11	12:43:35	60.2	62.9	67.2	0		0	25Oct 11	13:03:00	53.6	57.4	60.6
0		0	25Oct 11	12:43:40	61.1	63.9	68.1	0		0	25Oct 11	13:03:05	53.1	53.6	60.0
0		0	25Oct 11	12:43:45	60.6	63.5	67.5	0		0	25Oct 11	13:03:10	53.1	54.0	60.1
0		0	25Oct 11	12:43:50	57.8	60.6	64.8	0		0	25Oct 11	13:03:15	54.5	57.5	61.5
0		0	25Oct 11	12:43:55	56.4	57.6	63.4	0		0	25Oct 11	13:03:20	58.8	61.4	65.8
0		0	25Oct 11	12:44:00	54.4	61.0	61.4	0		0	25Oct 11	13:03:25	75.2	80.9	82.2
0		0	25Oct 11	12:44:05	61.0	64.0	68.0	0		0	25Oct 11	13:03:30	69.7	76.6	76.7
0		0	25Oct 11	12:44:10	59.3	61.9	66.3	0		0	25Oct 11	13:03:35	54.8	58.1	61.8
0		0	25Oct 11	12:44:15	57.9	60.6	64.9	0		0	25Oct 11	13:03:40	50.1	54.9	57.1
0		0	25Oct 11	12:44:20	51.2	56.0	58.2	0		0	25Oct 11	13:03:45	48.4	49.4	55.4
0		0	25Oct 11	12:44:25	54.6	62.3	61.6	0		0	25Oct 11	13:03:50	49.0	50.3	56.0
0		0	25Oct 11	12:44:30	59.1	63.9	66.0	0		0	25Oct 11	13:03:55	50.1	53.6	57.1
0		0	25Oct 11	12:44:35	72.0	75.4	79.0	0		0	25Oct 11	13:04:00	53.6	54.1	60.6
0		0	25Oct 11	12:44:40	62.1	69.1	69.1	0		0	25Oct 11	13:04:05	52.7	54.0	59.7
0		0	25Oct 11	12:44:45	57.7	59.3	64.7	0		0	25Oct 11	13:04:10	52.7	54.5	59.7
0		0	25Oct 11	12:44:50	55.2	57.6	62.2	0		0	25Oct 11	13:04:15	54.0	54.8	61.0
0		0	25Oct 11	12:44:55	56.0	60.0	63.0	0		0	25Oct 11	13:04:20	52.8	54.4	59.8
0		0	25Oct 11	12:45:00	58.6	60.6	65.6	0		0	25Oct 11	13:04:25	51.4	52.6	58.4
0		0	25Oct 11	12:45:05	52.1	59.2	59.1	0		0	25Oct 11	13:04:30	52.4	53.6	59.4

0	0	25Oct 11	13:04:35	53.1	55.1	60.1	0	0	25Oct 11	13:15:20	63.8	64.7	70.8
0	0	25Oct 11	13:04:40	54.7	55.5	61.7	0	0	25Oct 11	13:15:25	62.9	65.7	69.9
0	0	25Oct 11	13:04:45	53.9	55.3	60.9	0	0	25Oct 11	13:15:30	62.9	67.6	69.9
0	0	25Oct 11	13:04:50	55.2	56.5	62.2	0	0	25Oct 11	13:15:35	59.3	61.8	66.3
0	0	25Oct 11	13:04:55	55.1	55.8	62.1	0	0	25Oct 11	13:15:40	53.5	53.9	60.5
0	0	25Oct 11	13:05:00	54.3	55.3	61.2	0	0	25Oct 11	13:15:45	53.0	53.9	60.0
0	0	25Oct 11	13:05:05	54.5	55.6	61.5	0	0	25Oct 11	13:15:50	51.3	51.9	58.3
0	0	25Oct 11	13:05:10	55.3	56.0	62.3	0	0	25Oct 11	13:15:55	52.9	55.4	59.9
0	0	25Oct 11	13:05:15	55.3	56.1	62.3	0	0	25Oct 11	13:16:00	52.0	52.8	59.0
0	0	25Oct 11	13:05:20	53.6	55.1	60.6	0	0	25Oct 11	13:16:05	52.0	55.9	59.0
0	0	25Oct 11	13:05:25	52.7	53.4	59.7	0	0	25Oct 11	13:16:10	49.9	52.1	56.9
0	0	25Oct 11	13:05:30	52.6	53.9	59.6	0	0	25Oct 11	13:16:15	51.9	60.8	58.9
0	0	25Oct 11	13:05:35	51.3	52.3	58.3	0	0	25Oct 11	13:16:20	51.6	59.3	58.6
0	0	25Oct 11	13:05:40	54.4	55.8	61.4	0	0	25Oct 11	13:16:25	53.7	64.4	60.7
0	0	25Oct 11	13:05:45	55.0	55.8	62.0	0	0	25Oct 11	13:16:30	50.5	52.5	57.5
0	0	25Oct 11	13:05:50	54.5	55.8	61.5	0	0	25Oct 11	13:16:35	52.9	56.1	59.9
0	0	25Oct 11	13:05:55	53.3	54.4	60.3	0	0	25Oct 11	13:16:40	54.6	56.7	61.6
0	0	25Oct 11	13:06:00	53.3	54.3	60.2	0	0	25Oct 11	13:16:45	56.1	57.9	63.0
0	0	25Oct 11	13:06:05	53.1	54.1	60.1	0	0	25Oct 11	13:16:50	58.4	60.0	65.4
0	0	25Oct 11	13:06:10	51.0	52.1	58.0	0	0	25Oct 11	13:16:55	59.3	61.4	66.3
0	0	25Oct 11	13:06:15	49.5	51.5	56.5	0	0	25Oct 11	13:17:00	57.1	58.1	64.0
0	0	25Oct 11	13:06:20	51.1	52.8	58.0	0	0	25Oct 11	13:17:05	55.2	56.8	62.2
0	0	25Oct 11	13:06:25	50.4	51.3	57.4	0	0	25Oct 11	13:17:10	54.7	57.4	61.7
0	0	25Oct 11	13:06:30	49.5	50.6	56.5	0	0	25Oct 11	13:17:15	52.9	53.9	59.9
0	0	25Oct 11	13:06:35	50.3	51.0	57.3	0	0	25Oct 11	13:17:20	51.7	53.6	58.7
0	0	25Oct 11	13:06:40	49.9	50.6	56.9	0	0	25Oct 11	13:17:25	52.3	53.3	59.3
0	0	25Oct 11	13:06:45	49.6	50.4	56.6	0	0	25Oct 11	13:17:30	50.8	52.1	57.8
0	0	25Oct 11	13:06:50	51.4	52.6	58.4	0	0	25Oct 11	13:17:35	51.0	52.2	58.0
0	0	25Oct 11	13:06:55	51.2	51.9	58.2	0	0	25Oct 11	13:17:40	50.2	51.4	57.2
0	0	25Oct 11	13:07:00	52.0	52.6	59.0	0	0	25Oct 11	13:17:45	48.9	50.6	55.9
0	0	25Oct 11	13:07:05	52.9	54.3	59.9	0	0	25Oct 11	13:17:50	50.0	52.1	57.0
0	0	25Oct 11	13:07:10	52.9	53.9	59.9	0	0	25Oct 11	13:17:55	50.6	51.8	57.6
0	0	25Oct 11	13:07:15	51.1	51.7	58.1	0	0	25Oct 11	13:18:00	50.5	51.6	57.5
0	0	25Oct 11	13:07:20	51.9	55.1	58.9	0	0	25Oct 11	13:18:05	50.5	51.4	57.5
0	0	25Oct 11	13:07:25	52.4	54.5	59.3	0	0	25Oct 11	13:18:10	50.6	51.2	57.5
0	0	25Oct 11	13:07:30	51.4	53.1	58.4	0	0	25Oct 11	13:18:15	51.3	52.1	58.2
0	0	25Oct 11	13:07:35	51.1	52.1	58.1	0	0	25Oct 11	13:18:20	51.5	52.2	58.5
0	0	25Oct 11	13:07:40	52.4	53.3	59.4	0	0	25Oct 11	13:18:25	53.1	54.6	60.1
0	0	25Oct 11	13:07:45	53.0	54.3	60.0	0	0	25Oct 11	13:18:30	52.9	54.2	59.9
0	0	25Oct 11	13:07:50	52.4	53.6	59.4	0	0	25Oct 11	13:18:35	51.0	53.6	58.0
0	0	25Oct 11	13:07:55	53.1	54.1	60.1	0	0	25Oct 11	13:18:40	49.7	51.9	56.7
0	0	25Oct 11	13:08:00	54.4	55.4	61.4	0	0	25Oct 11	13:18:45	50.9	51.8	57.9
0	0	25Oct 11	13:08:05	55.0	55.6	62.0	0	0	25Oct 11	13:18:50	49.9	50.9	56.9
0	0	25Oct 11	13:08:10	54.3	55.1	61.3	0	0	25Oct 11	13:18:55	49.9	50.7	56.9
0	0	25Oct 11	13:08:15	53.6	54.6	60.6	0	0	25Oct 11	13:19:00	47.4	49.1	54.4
0	0	25Oct 11	13:08:20	52.3	53.0	59.3	0	0	25Oct 11	13:19:05	48.6	51.7	55.6
0	0	25Oct 11	13:08:25	51.3	52.5	58.3	0	0	25Oct 11	13:19:10	51.8	53.1	58.8
0	0	25Oct 11	13:08:30	49.1	50.5	56.1	0	0	25Oct 11	13:19:15	52.6	53.5	59.6
0	0	25Oct 11	13:08:35	48.0	49.6	55.0	0	0	25Oct 11	13:19:20	53.6	54.3	60.6
0	0	25Oct 11	13:08:40	51.1	52.5	58.0	0	0	25Oct 11	13:19:25	53.9	54.7	60.9
0	0	25Oct 11	13:08:45	51.6	52.5	58.6	0	0	25Oct 11	13:19:30	53.7	55.9	60.7
0	0	25Oct 11	13:08:50	52.6	53.5	59.6	0	0	25Oct 11	13:19:35	66.8	77.7	73.8
0	0	25Oct 11	13:08:55	51.8	53.1	58.8	0	0	25Oct 11	13:19:40	78.0	84.8	85.0
0	0	25Oct 11	13:09:00	51.1	51.6	58.1	0	0	25Oct 11	13:19:45	69.7	75.4	76.7
0	0	25Oct 11	13:09:05	51.1	52.6	58.1	0	0	25Oct 11	13:19:50	55.0	56.9	62.0
0	0	25Oct 11	13:09:10	52.8	53.7	59.8	0	0	25Oct 11	13:19:55	52.2	53.4	59.2
0	0	25Oct 11	13:09:15	51.8	52.9	58.8	0	0	25Oct 11	13:20:00	55.9	59.8	62.9
0	0	25Oct 11	13:09:20	49.1	50.6	56.1	0	0	25Oct 11	13:20:05	53.6	55.7	60.6
0	0	25Oct 11	13:09:25	49.1	51.4	56.1	0	0	25Oct 11	13:20:10	55.1	57.8	62.1
0	0	25Oct 11	13:09:30	53.0	54.0	60.0	0	0	25Oct 11	13:20:15	55.9	56.4	62.9
0	0	25Oct 11	13:09:35	52.0	53.4	59.0	0	0	25Oct 11	13:20:20	56.9	64.6	63.9
0	0	25Oct 11	13:09:40	50.7	53.0	57.7	0	0	25Oct 11	13:20:25	55.9	57.2	62.9
0	0	25Oct 11	13:09:45	51.3	51.9	58.3	0	0	25Oct 11	13:20:30	55.5	56.4	62.5
0	0	25Oct 11	13:09:50	51.0	51.7	58.0	0	0	25Oct 11	13:20:35	53.9	55.4	60.9
0	0	25Oct 11	13:09:55	50.4	51.4	57.4	0	0	25Oct 11	13:20:40	51.4	53.2	58.4
0	0	25Oct 11	13:10:00	51.4	52.2	58.4	0	0	25Oct 11	13:20:45	48.8	50.6	55.8
0	0	25Oct 11	13:10:05	50.9	51.7	57.9	0	0	25Oct 11	13:20:50	48.2	50.3	55.2
0	0	25Oct 11	13:10:10	51.8	52.8	58.8	0	0	25Oct 11	13:20:55	49.5	51.7	56.5
0	0	25Oct 11	13:10:15	52.6	53.3	59.6	0	0	25Oct 11	13:21:00	51.5	51.4	58.5
0	0	25Oct 11	13:10:20	53.6	54.9	60.6	Stop	Key					
0	0	25Oct 11	13:10:25	53.3	54.3	60.3							
0	0	25Oct 11	13:10:30	51.7	52.8	58.7							
0	0	25Oct 11	13:10:35	50.0	52.7	57.0							
0	0	25Oct 11	13:10:40	50.1	59.0	57.1							
0	0	25Oct 11	13:10:45	45.6	46.7	52.5							
0	0	25Oct 11	13:10:50	47.1	55.8	54.1							
0	0	25Oct 11	13:10:55	49.1	50.8	56.0							
0	0	25Oct 11	13:11:00	49.9	50.7	56.9							
0	0	25Oct 11	13:11:05	49.5	50.3	56.5							
0	0	25Oct 11	13:11:10	48.5	49.8	55.5							
0	0	25Oct 11	13:11:15	50.0	51.4	57.0							
0	0	25Oct 11	13:11:20	51.4	52.2	58.4							
0	0	25Oct 11	13:11:25	49.0	50.2	56.0							
0	0	25Oct 11	13:11:30	47.3	48.4	54.2							
0	0	25Oct 11	13:11:35	47.0	47.7	54.0							
0	0	25Oct 11	13:11:40	47.8	48.5	54.8							
0	0	25Oct 11	13:11:45	48.5	49.5	55.5							
0	0	25Oct 11	13:11:50	48.3	48.8	55.3							
0	0	25Oct 11	13:11:55	49.1	52.8	56.0							
0	0	25Oct 11	13:12:00	52.3	53.4	59.2							
0	0	25Oct 11	13:12:05	52.9	54.0	59.9							
0	0	25Oct 11	13:12:10	53.1	53.7	60.1							
0	0	25Oct 11	13:12:15	53.5	54.5	60.5							
0	0	25Oct 11	13:12:20	53.8	54.5	60.8							
0	0	25Oct 11	13:12:25	52.5	53.8	59.5							
0	0	25Oct 11	13:12:30	51.2	52.2	58.2							
0	0	25Oct 11	13:12:35	52.9	55.5	59.9							
0	0	25Oct 11	13:12:40	52.5	53.4	59.5							
0	0	25Oct 11	13:12:45	52.2	53.0	59.2							
0	0	25Oct 11	13:12:50	53.2	54.2	60.2							
0	0	25Oct 11	13:12:55	53.0	53.9	60.0							
0	0	25Oct 11	13:13:00	53.8	55.4	60.8							
0	0	25Oct 11	13:13:05	54.6	56.2	61.6							
0	0	25Oct 11	13:13:10	54.5	57.3	61.5							
0	0	25Oct 11	13:13:15	51.6	52.8	58.6							
0	0	25Oct 11	13:13:20	52.2	53.0	59.2							
0	0	25Oct 11	13:13:25	52.1	52.7	59.0							
0	0	25Oct 11	13:13:30	52.8	54.5	59.8							
0	0	25Oct 11	13:13:35	53.5	54.5	60.5							
0	0	25Oct 11	13:13:40	53.0	54.0	60.0							
0	0	25Oct 11	13:13:45	54.4	55.4	61.4							
0	0	25Oct 11	13:13:50	54.3	55.5	61.3							
0	0	25Oct 11	13:13:55	53.5	54.3	60.5							
0	0	25Oct 11	13:14:00	53.8	54.9	60.8							
0	0	25Oct 11	13:14:05	54.4	55.9	61.4							
0	0	25Oct 11	13:14:10	54.3	55.2	61.3							
0	0	25Oct 11	13:14:15	52.7	53.9	59.7							
0	0	25Oct 11	13:14:20	53.1	54.3	60.1							
0	0	25Oct 11	13:14:25	54.1	54.8	61.1							
0	0	25Oct 11	13:14:30	54.4	55.3	61.4							
0	0	25Oct 11	13:14:35	54.1	54.8	61.1							
0	0	25Oct 11	13:14:40	56.0	57.5	63.0							
0	0	25Oct 11	13:14:45	57.1	58.7	64.1							
0	0	25Oct 11	13:14:50	58.9	61.0	65.8							
0	0	25Oct 11	13:14:55	58.2	60.7	65.2							
0	0	25Oct 11	13:15:00	60.3	64.7	67.3							
0	0	25Oct 11	13:15:05	62.1	64.2	69.1							
0	0	25Oct 11	13:15:10	59.3	62.2	66.3							
0	0	25Oct 11	13:15:15	62.9	66.7	69.9							

APPENDIX B

TRAFFIC DATA AND CALCULATIONS

Ldn Consulting
J. Louden
24 February 2012
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Del Mar Downtown SP
RUN: Existing
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	3	1	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
R2	4	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
R3	5	1	0.0	68.7	66	68.7	10	Snd Lvl	68.7	0.0	8	-8.0
R4	6	1	0.0	67.5	66	67.5	10	Snd Lvl	67.5	0.0	8	-8.0
R5	8	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
R6	9	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
R7	10	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
R8	11	1	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
R9	13	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
R10	14	1	0.0	72.7	66	72.7	10	Snd Lvl	72.7	0.0	8	-8.0
R11	16	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
R12	17	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R13	18	1	0.0	71.2	66	71.2	10	Snd Lvl	71.2	0.0	8	-8.0
R14	19	1	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	14	0.0	0.0	0.0
All Impacted	14	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Ldn Consulting 24 February 2012
J. Louden TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Del Mar Downtown SP
RUN: Existing

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Camino Del Mar - 1 SB	24.0	point14	14	6,250,264.5	1,931,873.0	0.00				Average	
		point13	13	6,250,212.5	1,930,655.6	0.00				Average	
		point12	12	6,250,215.0	1,930,572.0	0.00				Average	
		point11	11	6,250,222.5	1,930,507.1	0.00					
Camino Del Mar - 5 NB	24.0	point15	15	6,251,088.5	1,927,753.9	0.00				Average	
		point16	16	6,251,027.5	1,927,924.5	0.00				Average	
		point17	17	6,250,965.0	1,928,129.8	0.00					
15 ST - 1 WB	12.0	point31	31	6,250,205.0	1,930,462.0	0.00				Average	
		point30	30	6,249,700.0	1,930,306.2	0.00					
15 ST - 1 EB	12.0	point33	33	6,249,698.5	1,930,302.9	0.00				Average	
		point32	32	6,250,204.5	1,930,448.4	0.00					
15 ST - 2 EB	12.0	point34	34	6,250,291.0	1,930,466.5	0.00				Average	
		point35	35	6,250,574.0	1,930,546.0	0.00					
15 ST - 2 WB	12.0	point36	36	6,250,574.0	1,930,570.6	0.00				Average	
		point37	37	6,250,291.0	1,930,496.6	0.00					
13 ST - 2 WB	12.0	point39	39	6,250,727.0	1,929,789.5	0.00				Average	
		point38	38	6,250,495.0	1,929,715.1	0.00					
13 ST - 2 EB	12.0	point41	41	6,250,498.5	1,929,702.6	0.00	Stop	0.00	100	Average	
		point40	40	6,250,740.5	1,929,779.8	0.00					
13 ST - 1 WB	12.0	point43	43	6,250,415.5	1,929,688.1	0.00	Stop	0.00	100	Average	
		point42	42	6,250,149.5	1,929,606.1	0.00					
13 ST - 1 EB	12.0	point45	45	6,250,155.0	1,929,592.6	0.00				Average	
		point44	44	6,250,422.5	1,929,677.6	0.00					
11 ST - 2 WB	12.0	point46	46	6,250,983.0	1,929,031.8	0.00				Average	
		point47	47	6,250,738.0	1,928,953.4	0.00					

11 ST - 2 EB	12.0	point48	48	6,250,741.0	1,928,940.1	0.00	Stop	0.00	100	Average	
		point49	49	6,250,983.5	1,929,017.2	0.00					
11 ST - 1 WB	12.0	point50	50	6,250,653.5	1,928,928.4	0.00	Stop	0.00	100	Average	
		point51	51	6,250,318.5	1,928,827.0	0.00					
11 ST - 1 EB	12.0	point53	53	6,250,332.0	1,928,811.0	0.00				Average	
		point52	52	6,250,662.0	1,928,913.0	0.00					
9 ST - 2 WB	12.0	point54	54	6,251,444.5	1,928,331.8	0.00				Average	
		point55	55	6,250,974.5	1,928,183.9	0.00					
9 ST - 2 EB	12.0	point56	56	6,250,980.0	1,928,170.0	0.00	Stop	0.00	100	Average	
		point57	57	6,251,450.5	1,928,320.8	0.00					
9 ST - 1 WB	12.0	point58	58	6,250,888.5	1,928,155.6	0.00	Stop	0.00	100	Average	
		point59	59	6,250,304.5	1,927,966.9	0.00					
9 ST - 1 EB	12.0	point61	61	6,250,306.0	1,927,959.2	0.00				Average	
		point60	60	6,250,893.5	1,928,146.4	0.00					
Camino Del Mar - 4 NB	24.0	point62	62	6,250,965.0	1,928,129.8	0.00	Stop	0.00	100	Average	
		point18	18	6,250,834.5	1,928,536.9	0.00				Average	
		point19	19	6,250,726.5	1,928,905.0	0.00					
Camino Del Mar - 5 SB	24.0	point63	63	6,250,905.0	1,928,198.1	0.00	Stop	0.00	100	Average	
		point2	2	6,250,990.0	1,927,921.2	0.00				Average	
		point1	1	6,251,051.0	1,927,750.6	0.00					
Camino Del Mar - 3 NB	24.0	point64	64	6,250,726.5	1,928,905.0	0.00	Stop	0.00	100	Average	
		point20	20	6,250,710.5	1,928,961.6	0.00				Average	
		point21	21	6,250,598.0	1,929,300.0	0.00				Average	
		point22	22	6,250,479.5	1,929,681.6	0.00					
Camino Del Mar - 4 SB	24.0	point65	65	6,250,663.0	1,928,946.6	0.00	Stop	0.00	100	Average	
		point5	5	6,250,691.5	1,928,897.5	0.00				Average	
		point4	4	6,250,797.0	1,928,533.6	0.00				Average	
		point3	3	6,250,905.0	1,928,198.1	0.00					
Camino Del Mar - 2 NB	24.0	point66	66	6,250,479.5	1,929,681.6	0.00	Stop	0.00	100	Average	
		point23	23	6,250,418.5	1,929,866.4	0.00				Average	
		point24	24	6,250,294.5	1,930,292.1	0.00				Average	
		point25	25	6,250,280.5	1,930,355.5	0.00				Average	
		point26	26	6,250,270.5	1,930,429.8	0.00					
Camino Del Mar - 3 SB	24.0	point67	67	6,250,433.5	1,929,723.4	0.00	Stop	0.00	100	Average	
		point7	7	6,250,550.5	1,929,347.2	0.00				Average	
		point6	6	6,250,663.0	1,928,946.6	0.00					
Camino Del Mar - 1 NB	24.0	point68	68	6,250,270.5	1,930,429.8	0.00	Stop	0.00	100	Average	
		point27	27	6,250,252.5	1,930,575.4	0.00				Average	
		point28	28	6,250,250.0	1,930,658.9	0.00				Average	

		point29	29	6,250,302.5	1,931,876.4	0.00					
Camino Del Mar - 2 SB	24.0	point69	69	6,250,222.5	1,930,507.1	0.00	Stop	0.00	100	Average	
		point10	10	6,250,253.0	1,930,320.4	0.00				Average	
		point9	9	6,250,257.0	1,930,288.9	0.00				Average	
		point8	8	6,250,433.5	1,929,723.4	0.00					

Ldn Consulting **24 February 2012**
J. Louden **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Del Mar Downtown SP**
RUN: **Existing**

Roadway Name	Points Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Camino Del Mar - 1 SB	point14	14	839	40	19	40	4	40	0	0	0	0
	point13	13	839	40	19	40	4	40	0	0	0	0
	point12	12	839	40	19	40	4	40	0	0	0	0
	point11	11										
Camino Del Mar - 5 NB	point15	15	809	40	18	40	4	40	0	0	0	0
	point16	16	809	40	18	40	4	40	0	0	0	0
	point17	17										
15 ST - 1 WB	point31	31	250	25	6	25	2	25	0	0	0	0
	point30	30										
15 ST - 1 EB	point33	33	250	25	6	25	2	25	0	0	0	0
	point32	32										
15 ST - 2 EB	point34	34	145	25	4	25	1	25	0	0	0	0
	point35	35										
15 ST - 2 WB	point36	36	145	25	4	25	1	25	0	0	0	0
	point37	37										
13 ST - 2 WB	point39	39	106	25	3	25	1	25	0	0	0	0
	point38	38										
13 ST - 2 EB	point41	41	106	25	3	25	1	25	0	0	0	0
	point40	40										
13 ST - 1 WB	point43	43	106	25	3	25	1	25	0	0	0	0
	point42	42										
13 ST - 1 EB	point45	45	106	25	3	25	1	25	0	0	0	0
	point44	44										

11 ST - 2 WB	point46	46	106	25	3	25	1	25	0	0	0	0
	point47	47										
11 ST - 2 EB	point48	48	106	25	3	25	1	25	0	0	0	0
	point49	49										
11 ST - 1 WB	point50	50	106	25	3	25	1	25	0	0	0	0
	point51	51										
11 ST - 1 EB	point53	53	106	25	3	25	1	25	0	0	0	0
	point52	52										
9 ST - 2 WB	point54	54	106	25	3	25	1	25	0	0	0	0
	point55	55										
9 ST - 2 EB	point56	56	106	25	3	25	1	25	0	0	0	0
	point57	57										
9 ST - 1 WB	point58	58	106	25	3	25	1	25	0	0	0	0
	point59	59										
9 ST - 1 EB	point61	61	106	25	3	25	1	25	0	0	0	0
	point60	60										
Camino Del Mar - 4 NB	point62	62	809	25	18	25	4	25	0	0	0	0
	point18	18	809	25	18	25	4	25	0	0	0	0
	point19	19										
Camino Del Mar - 5 SB	point63	63	655	40	15	40	3	40	0	0	0	0
	point2	2	655	40	15	40	3	40	0	0	0	0
	point1	1										
Camino Del Mar - 3 NB	point64	64	809	25	18	25	4	25	0	0	0	0
	point20	20	809	25	18	25	4	25	0	0	0	0
	point21	21	809	25	18	25	4	25	0	0	0	0
	point22	22										
Camino Del Mar - 4 SB	point65	65	655	25	15	25	3	25	0	0	0	0
	point5	5	655	25	15	25	3	25	0	0	0	0
	point4	4	655	25	15	25	3	25	0	0	0	0
	point3	3										
Camino Del Mar - 2 NB	point66	66	809	25	18	25	4	25	0	0	0	0
	point23	23	809	25	18	25	4	25	0	0	0	0
	point24	24	809	25	18	25	4	25	0	0	0	0
	point25	25	809	25	18	25	4	25	0	0	0	0
	point26	26										
Camino Del Mar - 3 SB	point67	67	655	25	15	25	3	25	0	0	0	0

	point7	7	655	25	15	25	3	25	0	0	0	0
	point6	6										
Camino Del Mar - 1 NB	point68	68	839	40	19	40	4	40	0	0	0	0
	point27	27	839	40	19	40	4	40	0	0	0	0
	point28	28	839	40	19	40	4	40	0	0	0	0
	point29	29										
Camino Del Mar - 2 SB	point69	69	655	25	15	25	3	25	0	0	0	0
	point10	10	655	25	15	25	3	25	0	0	0	0
	point9	9	655	25	15	25	3	25	0	0	0	0
	point8	8										

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24 February 2012
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Del Mar Downtown SP
RUN: Existing

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	3	1	6,250,192.0	1,930,501.8	0.00	4.92	0.00	66	10.0	8.0	Y
R2	4	1	6,250,305.0	1,930,428.1	0.00	4.92	0.00	66	10.0	8.0	Y
R3	5	1	6,250,222.0	1,930,314.6	0.00	4.92	0.00	66	10.0	8.0	Y
R4	6	1	6,250,321.0	1,930,329.4	0.00	4.92	0.00	66	10.0	8.0	Y
R5	8	1	6,250,390.5	1,929,755.6	0.00	4.92	0.00	66	10.0	8.0	Y
R6	9	1	6,250,526.0	1,929,657.2	0.00	4.92	0.00	66	10.0	8.0	Y
R7	10	1	6,250,521.5	1,929,334.2	0.00	4.92	0.00	66	10.0	8.0	Y
R8	11	1	6,250,617.0	1,929,363.5	0.00	4.92	0.00	66	10.0	8.0	Y
R9	13	1	6,250,631.5	1,928,969.2	0.00	4.92	0.00	66	10.0	8.0	Y
R10	14	1	6,250,757.5	1,928,915.1	0.00	4.92	0.00	66	10.0	8.0	Y
R11	16	1	6,250,768.0	1,928,520.6	0.00	4.92	0.00	66	10.0	8.0	Y
R12	17	1	6,250,863.5	1,928,549.9	0.00	4.92	0.00	66	10.0	8.0	Y
R13	18	1	6,250,870.0	1,928,202.9	0.00	4.92	0.00	66	10.0	8.0	Y
R14	19	1	6,250,997.0	1,928,130.6	0.00	4.92	0.00	66	10.0	8.0	Y

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24 February 2012
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Del Mar Downtown Specific Plan
RUN: 2-Lame Roundabouts
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	3	1	0.0	66.6	66	66.6	10	Snd Lvl	66.6	0.0	8	-8.0
R2	4	1	0.0	65.8	66	65.8	10	----	65.8	0.0	8	-8.0
R3	5	1	0.0	65.0	66	65.0	10	----	65.0	0.0	8	-8.0
R4	6	1	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0
R5	8	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
R6	9	1	0.0	70.2	66	70.2	10	Snd Lvl	70.2	0.0	8	-8.0
R7	10	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R8	11	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0
R9	13	1	0.0	64.4	66	64.4	10	----	64.4	0.0	8	-8.0
R10	14	1	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
R11	16	1	0.0	64.7	66	64.7	10	----	64.7	0.0	8	-8.0
R12	17	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0
R13	18	1	0.0	67.3	66	67.3	10	Snd Lvl	67.3	0.0	8	-8.0
R14	19	1	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	14	0.0	0.0	0.0
All Impacted	7	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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INPUT: ROADWAYS
PROJECT/CONTRACT: Del Mar Downtown Specific Plan
RUN: 2-Lame Roundabouts

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
15 ST - 1 WB	12.0	point31	31	6,250,205.0	1,930,462.0	0.00				Average	
		point30	30	6,249,700.0	1,930,306.2	0.00					
15 ST - 1 EB	12.0	point33	33	6,249,698.5	1,930,302.9	0.00				Average	
		point32	32	6,250,204.5	1,930,448.4	0.00					
15 ST - 2 EB	12.0	point34	34	6,250,291.0	1,930,466.5	0.00				Average	
		point35	35	6,250,574.0	1,930,546.0	0.00					
15 ST - 2 WB	12.0	point36	36	6,250,574.0	1,930,570.6	0.00				Average	
		point37	37	6,250,291.0	1,930,496.6	0.00					
13 ST - 2 WB	12.0	point39	39	6,250,727.0	1,929,789.5	0.00				Average	
		point38	38	6,250,495.0	1,929,715.1	0.00					
13 ST - 2 EB	12.0	point41	41	6,250,498.5	1,929,702.6	0.00				Average	
		point40	40	6,250,740.5	1,929,779.8	0.00					
13 ST - 1 WB	12.0	point43	43	6,250,415.5	1,929,688.1	0.00				Average	
		point42	42	6,250,149.5	1,929,606.1	0.00					
13 ST - 1 EB	12.0	point45	45	6,250,155.0	1,929,592.6	0.00				Average	
		point44	44	6,250,422.5	1,929,677.6	0.00					
11 ST - 2 WB	12.0	point46	46	6,250,983.0	1,929,031.8	0.00				Average	
		point47	47	6,250,738.0	1,928,953.4	0.00					
11 ST - 2 EB	12.0	point48	48	6,250,741.0	1,928,940.1	0.00				Average	
		point49	49	6,250,983.5	1,929,017.2	0.00					
11 ST - 1 WB	12.0	point50	50	6,250,653.5	1,928,928.4	0.00				Average	
		point51	51	6,250,318.5	1,928,827.0	0.00					
11 ST - 1 EB	12.0	point53	53	6,250,332.0	1,928,811.0	0.00				Average	
		point52	52	6,250,662.0	1,928,913.0	0.00					
9 ST - 2 WB	12.0	point54	54	6,251,444.5	1,928,331.8	0.00				Average	

		point55	55	6,250,974.5	1,928,183.9	0.00					
9 ST - 2 EB	12.0	point56	56	6,250,980.0	1,928,170.0	0.00				Average	
		point57	57	6,251,450.5	1,928,320.8	0.00					
9 ST - 1 WB	12.0	point58	58	6,250,888.5	1,928,155.6	0.00				Average	
		point59	59	6,250,304.5	1,927,966.9	0.00					
9 ST - 1 EB	12.0	point61	61	6,250,306.0	1,927,959.2	0.00				Average	
		point60	60	6,250,893.5	1,928,146.4	0.00					
Camino Del Mar - SB	12.0	point93	93	6,250,264.5	1,931,873.0	0.00				Average	
		point92	92	6,250,220.0	1,930,656.9	0.00				Average	
		point91	91	6,250,225.0	1,930,567.2	0.00					
Camino Del Mar - NB	12.0	point94	94	6,251,078.5	1,927,754.4	0.00	Stop	0.00	100	Average	
		point95	95	6,251,020.0	1,927,920.0	0.00					
Camino Del Mar - NB-2	12.0	point126	126	6,250,255.5	1,930,520.6	0.00				Average	
		point123	123	6,250,252.5	1,930,575.4	0.00				Average	
		point124	124	6,250,250.0	1,930,658.9	0.00				Average	
		point125	125	6,250,302.5	1,931,876.4	0.00					
Camino Del Mar - SB-2	12.0	point127	127	6,250,225.0	1,930,567.2	0.00				Average	
		point90	90	6,250,229.0	1,930,511.4	0.00				Average	
		point89	89	6,250,225.0	1,930,493.4	0.00				Average	
		point88	88	6,250,214.0	1,930,477.8	0.00				Average	
		point87	87	6,250,211.5	1,930,464.8	0.00				Average	
		point86	86	6,250,213.5	1,930,450.6	0.00				Average	
		point85	85	6,250,222.0	1,930,438.9	0.00				Average	
		point84	84	6,250,237.0	1,930,429.2	0.00				Average	
		point83	83	6,250,242.5	1,930,421.1	0.00				Average	
		point82	82	6,250,259.0	1,930,316.2	0.00				Average	
		point81	81	6,250,266.0	1,930,280.4	0.00				Average	
		point80	80	6,250,439.0	1,929,721.4	0.00					
Camino Del Mar - NB-2	12.0	point128	128	6,250,475.0	1,929,677.4	0.00	Stop	0.00	100	Average	
		point113	113	6,250,418.5	1,929,866.4	0.00				Average	
		point114	114	6,250,288.5	1,930,290.0	0.00				Average	
		point115	115	6,250,277.0	1,930,351.1	0.00				Average	
		point116	116	6,250,265.0	1,930,427.8	0.00				Average	
		point117	117	6,250,271.5	1,930,445.4	0.00				Average	
		point118	118	6,250,279.5	1,930,458.5	0.00				Average	
		point119	119	6,250,282.5	1,930,481.1	0.00				Average	
		point120	120	6,250,273.0	1,930,500.6	0.00				Average	
		point121	121	6,250,265.0	1,930,509.5	0.00				Average	
		point122	122	6,250,255.5	1,930,520.6	0.00					

Camino Del Mar - SB-2-2	12.0	point129	129	6,250,439.0	1,929,721.4	0.00	Stop	0.00	100	Average	
		point75	75	6,250,568.0	1,929,308.9	0.00				Average	
		point74	74	6,250,682.5	1,928,951.5	0.00				Average	
		point73	73	6,250,674.0	1,928,939.8	0.00				Average	
		point72	72	6,250,673.0	1,928,923.6	0.00				Average	
		point71	71	6,250,682.0	1,928,909.5	0.00				Average	
		point70	70	6,250,697.0	1,928,899.6	0.00				Average	
		point69	69	6,250,802.5	1,928,535.4	0.00				Average	
		point68	68	6,250,910.5	1,928,199.2	0.00				Average	
		point67	67	6,250,898.0	1,928,175.5	0.00				Average	
		point66	66	6,250,897.5	1,928,154.2	0.00				Average	
		point65	65	6,250,911.5	1,928,135.0	0.00				Average	
		point64	64	6,250,934.5	1,928,121.4	0.00					
Camino Del Mar - NB-2	12.0	point130	130	6,251,020.0	1,927,920.0	0.00	Stop	0.00	100	Average	
		point96	96	6,250,959.5	1,928,127.8	0.00				Average	
		point97	97	6,250,973.5	1,928,153.4	0.00				Average	
		point98	98	6,250,971.5	1,928,177.9	0.00				Average	
		point99	99	6,250,962.0	1,928,197.4	0.00				Average	
		point100	100	6,250,932.0	1,928,207.9	0.00				Average	
		point101	101	6,250,828.5	1,928,540.0	0.00				Average	
		point102	102	6,250,722.5	1,928,903.8	0.00				Average	
		point103	103	6,250,732.0	1,928,924.4	0.00				Average	
		point104	104	6,250,731.5	1,928,943.1	0.00				Average	
		point105	105	6,250,721.5	1,928,955.1	0.00				Average	
		point106	106	6,250,706.5	1,928,960.0	0.00				Average	
		point107	107	6,250,585.0	1,929,320.0	0.00				Average	
		point108	108	6,250,475.0	1,929,677.4	0.00					
Camino Del Mar - SB-2-2-2	12.0	point131	131	6,250,934.5	1,928,121.4	0.00	Stop	0.00	100	Average	
		point63	63	6,250,996.5	1,927,922.6	0.00				Average	
		point62	62	6,251,057.5	1,927,752.9	0.00					

Ldn Consulting				**24 February 2012**								
J Louden				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Del Mar Downtown Specific Plan**											
RUN:	**2-Lame Roundabouts**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
15 ST - 1 WB	point31	31	247	25	6	25	2	25	0	0	0	0
	point30	30										
15 ST - 1 EB	point33	33	247	25	6	25	2	25	0	0	0	0
	point32	32										
15 ST - 2 EB	point34	34	134	25	3	25	1	25	0	0	0	0
	point35	35										
15 ST - 2 WB	point36	36	134	25	3	25	1	25	0	0	0	0
	point37	37										
13 ST - 2 WB	point39	39	106	25	3	25	1	25	0	0	0	0
	point38	38										
13 ST - 2 EB	point41	41	106	25	3	25	1	25	0	0	0	0
	point40	40										
13 ST - 1 WB	point43	43	106	25	3	25	1	25	0	0	0	0
	point42	42										
13 ST - 1 EB	point45	45	106	25	3	25	1	25	0	0	0	0
	point44	44										
11 ST - 2 WB	point46	46	106	25	3	25	1	25	0	0	0	0
	point47	47										
11 ST - 2 EB	point48	48	106	25	3	25	1	25	0	0	0	0
	point49	49										
11 ST - 1 WB	point50	50	106	25	3	25	1	25	0	0	0	0
	point51	51										
11 ST - 1 EB	point53	53	106	25	3	25	1	25	0	0	0	0

	point52	52										
9 ST - 2 WB	point54	54	106	25	3	25	1	25	0	0	0	0
	point55	55										
9 ST - 2 EB	point56	56	106	25	3	25	1	25	0	0	0	0
	point57	57										
9 ST - 1 WB	point58	58	106	25	3	25	1	25	0	0	0	0
	point59	59										
9 ST - 1 EB	point61	61	106	25	3	25	1	25	0	0	0	0
	point60	60										
Camino Del Mar - SB	point93	93	956	40	21	40	4	40	0	0	0	0
	point92	92	956	40	21	40	4	40	0	0	0	0
	point91	91										
Camino Del Mar - NB	point94	94	971	40	21	40	4	40	0	0	0	0
	point95	95										
Camino Del Mar - NB-2	point126	126	956	40	21	40	4	40	0	0	0	0
	point123	123	956	40	21	40	4	40	0	0	0	0
	point124	124	956	40	21	40	4	40	0	0	0	0
	point125	125										
Camino Del Mar - SB-2	point127	127	810	25	18	25	4	25	0	0	0	0
	point90	90	810	25	18	25	4	25	0	0	0	0
	point89	89	810	25	18	25	4	25	0	0	0	0
	point88	88	810	25	18	25	4	25	0	0	0	0
	point87	87	810	25	18	25	4	25	0	0	0	0
	point86	86	810	25	18	25	4	25	0	0	0	0
	point85	85	810	25	18	25	4	25	0	0	0	0
	point84	84	810	25	18	25	4	25	0	0	0	0
	point83	83	810	25	18	25	4	25	0	0	0	0
	point82	82	810	25	18	25	4	25	0	0	0	0
	point81	81	810	25	18	25	4	25	0	0	0	0
	point80	80										
Camino Del Mar - NB-2	point128	128	971	25	21	25	4	25	0	0	0	0
	point113	113	971	25	21	25	4	25	0	0	0	0
	point114	114	971	25	21	25	4	25	0	0	0	0
	point115	115	971	25	21	25	4	25	0	0	0	0
	point116	116	971	25	21	25	4	25	0	0	0	0
	point117	117	971	25	21	25	4	25	0	0	0	0

	point118	118	971	25	21	25	4	25	0	0	0	0
	point119	119	971	25	21	25	4	25	0	0	0	0
	point120	120	971	25	21	25	4	25	0	0	0	0
	point121	121	971	25	21	25	4	25	0	0	0	0
	point122	122										
Camino Del Mar - SB-2-2	point129	129	810	25	18	25	4	25	0	0	0	0
	point75	75	810	25	18	25	4	25	0	0	0	0
	point74	74	810	25	18	25	4	25	0	0	0	0
	point73	73	810	25	18	25	4	25	0	0	0	0
	point72	72	810	25	18	25	4	25	0	0	0	0
	point71	71	810	25	18	25	4	25	0	0	0	0
	point70	70	810	25	18	25	4	25	0	0	0	0
	point69	69	810	25	18	25	4	25	0	0	0	0
	point68	68	810	25	18	25	4	25	0	0	0	0
	point67	67	810	25	18	25	4	25	0	0	0	0
	point66	66	810	25	18	25	4	25	0	0	0	0
	point65	65	810	25	18	25	4	25	0	0	0	0
	point64	64										
Camino Del Mar - NB-2	point130	130	971	25	21	25	4	25	0	0	0	0
	point96	96	971	25	21	25	4	25	0	0	0	0
	point97	97	971	25	21	25	4	25	0	0	0	0
	point98	98	971	25	21	25	4	25	0	0	0	0
	point99	99	971	25	21	25	4	25	0	0	0	0
	point100	100	971	25	21	25	4	25	0	0	0	0
	point101	101	971	25	21	25	4	25	0	0	0	0
	point102	102	971	25	21	25	4	25	0	0	0	0
	point103	103	971	25	21	25	4	25	0	0	0	0
	point104	104	971	25	21	25	4	25	0	0	0	0
	point105	105	971	25	21	25	4	25	0	0	0	0
	point106	106	971	25	21	25	4	25	0	0	0	0
	point107	107	971	25	21	25	4	25	0	0	0	0
	point108	108										
Camino Del Mar - SB-2-2-2	point131	131	810	40	18	40	4	40	0	0	0	0
	point63	63	810	40	18	40	4	40	0	0	0	0
	point62	62										

Ldn Consulting						**24 February 2012**					
J Louden						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Del Mar Downtown Specific Plan**										
RUN:	**2-Lame Roundabouts**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	3	1	6,250,192.0	1,930,501.8	0.00	4.92	0.00	66	10.0	8.0	Y
R2	4	1	6,250,305.0	1,930,428.1	0.00	4.92	0.00	66	10.0	8.0	Y
R3	5	1	6,250,222.0	1,930,314.6	0.00	4.92	0.00	66	10.0	8.0	Y
R4	6	1	6,250,321.0	1,930,329.4	0.00	4.92	0.00	66	10.0	8.0	Y
R5	8	1	6,250,390.5	1,929,755.6	0.00	4.92	0.00	66	10.0	8.0	Y
R6	9	1	6,250,526.0	1,929,657.2	0.00	4.92	0.00	66	10.0	8.0	Y
R7	10	1	6,250,521.5	1,929,334.2	0.00	4.92	0.00	66	10.0	8.0	Y
R8	11	1	6,250,617.0	1,929,363.5	0.00	4.92	0.00	66	10.0	8.0	Y
R9	13	1	6,250,631.5	1,928,969.2	0.00	4.92	0.00	66	10.0	8.0	Y
R10	14	1	6,250,757.5	1,928,915.1	0.00	4.92	0.00	66	10.0	8.0	Y
R11	16	1	6,250,768.0	1,928,520.6	0.00	4.92	0.00	66	10.0	8.0	Y
R12	17	1	6,250,863.5	1,928,549.9	0.00	4.92	0.00	66	10.0	8.0	Y
R13	18	1	6,250,870.0	1,928,202.9	0.00	4.92	0.00	66	10.0	8.0	Y
R14	19	1	6,250,997.0	1,928,130.6	0.00	4.92	0.00	66	10.0	8.0	Y

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24 February 2012
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Del Mar Downtown SP
RUN: Ex_4-L Sig
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	3	1	0.0	73.2	66	73.2	10	Snd Lvl	73.2	0.0	8	-8.0
R2	4	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0
R3	5	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
R4	6	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
R5	8	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
R6	9	1	0.0	71.3	66	71.3	10	Snd Lvl	71.3	0.0	8	-8.0
R7	10	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
R8	11	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R9	13	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
R10	14	1	0.0	73.5	66	73.5	10	Snd Lvl	73.5	0.0	8	-8.0
R11	16	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
R12	17	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
R13	18	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
R14	19	1	0.0	73.3	66	73.3	10	Snd Lvl	73.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	14	0.0	0.0	0.0
All Impacted	14	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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J. Louden TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Del Mar Downtown SP
RUN: Ex_4-L Sig

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Camino Del Mar - 1 SB	24.0	point14	14	6,250,264.5	1,931,873.0	0.00				Average	
		point13	13	6,250,212.5	1,930,655.6	0.00				Average	
		point12	12	6,250,215.0	1,930,572.0	0.00				Average	
		point11	11	6,250,222.5	1,930,507.1	0.00					
Camino Del Mar - 5 NB	24.0	point15	15	6,251,088.5	1,927,753.9	0.00				Average	
		point16	16	6,251,027.5	1,927,924.5	0.00				Average	
		point17	17	6,250,965.0	1,928,129.8	0.00					
15 ST - 1 WB	12.0	point31	31	6,250,205.0	1,930,462.0	0.00	Signal	0.00	100	Average	
		point30	30	6,249,700.0	1,930,306.2	0.00					
15 ST - 1 EB	12.0	point33	33	6,249,698.5	1,930,302.9	0.00				Average	
		point32	32	6,250,204.5	1,930,448.4	0.00					
15 ST - 2 EB	12.0	point34	34	6,250,291.0	1,930,466.5	0.00	Signal	0.00	100	Average	
		point35	35	6,250,574.0	1,930,546.0	0.00					
15 ST - 2 WB	12.0	point36	36	6,250,574.0	1,930,570.6	0.00				Average	
		point37	37	6,250,291.0	1,930,496.6	0.00					
13 ST - 2 WB	12.0	point39	39	6,250,727.0	1,929,789.5	0.00				Average	
		point38	38	6,250,495.0	1,929,715.1	0.00					
13 ST - 2 EB	12.0	point41	41	6,250,498.5	1,929,702.6	0.00	Signal	0.00	100	Average	
		point40	40	6,250,740.5	1,929,779.8	0.00					
13 ST - 1 WB	12.0	point43	43	6,250,415.5	1,929,688.1	0.00	Signal	0.00	100	Average	
		point42	42	6,250,149.5	1,929,606.1	0.00					
13 ST - 1 EB	12.0	point45	45	6,250,155.0	1,929,592.6	0.00				Average	
		point44	44	6,250,422.5	1,929,677.6	0.00					
11 ST - 2 WB	12.0	point46	46	6,250,983.0	1,929,031.8	0.00				Average	
		point47	47	6,250,738.0	1,928,953.4	0.00					

11 ST - 2 EB	12.0	point48	48	6,250,741.0	1,928,940.1	0.00	Signal	0.00	100	Average	
		point49	49	6,250,983.5	1,929,017.2	0.00					
11 ST - 1 WB	12.0	point50	50	6,250,653.5	1,928,928.4	0.00	Signal	0.00	100	Average	
		point51	51	6,250,318.5	1,928,827.0	0.00					
11 ST - 1 EB	12.0	point53	53	6,250,332.0	1,928,811.0	0.00				Average	
		point52	52	6,250,662.0	1,928,913.0	0.00					
9 ST - 2 WB	12.0	point54	54	6,251,444.5	1,928,331.8	0.00				Average	
		point55	55	6,250,974.5	1,928,183.9	0.00					
9 ST - 2 EB	12.0	point56	56	6,250,980.0	1,928,170.0	0.00	Signal	0.00	100	Average	
		point57	57	6,251,450.5	1,928,320.8	0.00					
9 ST - 1 WB	12.0	point58	58	6,250,888.5	1,928,155.6	0.00	Signal	0.00	100	Average	
		point59	59	6,250,304.5	1,927,966.9	0.00					
9 ST - 1 EB	12.0	point61	61	6,250,306.0	1,927,959.2	0.00				Average	
		point60	60	6,250,893.5	1,928,146.4	0.00					
Camino Del Mar - 4 NB	24.0	point62	62	6,250,965.0	1,928,129.8	0.00	Signal	0.00	100	Average	
		point18	18	6,250,834.5	1,928,536.9	0.00				Average	
		point19	19	6,250,726.5	1,928,905.0	0.00					
Camino Del Mar - 5 SB	24.0	point63	63	6,250,905.0	1,928,198.1	0.00	Signal	0.00	100	Average	
		point2	2	6,250,990.0	1,927,921.2	0.00				Average	
		point1	1	6,251,051.0	1,927,750.6	0.00					
Camino Del Mar - 3 NB	24.0	point64	64	6,250,726.5	1,928,905.0	0.00	Signal	0.00	100	Average	
		point20	20	6,250,710.5	1,928,961.6	0.00				Average	
		point21	21	6,250,598.0	1,929,300.0	0.00				Average	
		point22	22	6,250,479.5	1,929,681.6	0.00					
Camino Del Mar - 4 SB	24.0	point65	65	6,250,663.0	1,928,946.6	0.00	Signal	0.00	100	Average	
		point5	5	6,250,691.5	1,928,897.5	0.00				Average	
		point4	4	6,250,797.0	1,928,533.6	0.00				Average	
		point3	3	6,250,905.0	1,928,198.1	0.00					
Camino Del Mar - 2 NB	24.0	point66	66	6,250,479.5	1,929,681.6	0.00	Signal	0.00	100	Average	
		point23	23	6,250,418.5	1,929,866.4	0.00				Average	
		point24	24	6,250,294.5	1,930,292.1	0.00				Average	
		point25	25	6,250,280.5	1,930,355.5	0.00				Average	
		point26	26	6,250,270.5	1,930,429.8	0.00					
Camino Del Mar - 3 SB	24.0	point67	67	6,250,433.5	1,929,723.4	0.00	Signal	0.00	100	Average	
		point7	7	6,250,550.5	1,929,347.2	0.00				Average	
		point6	6	6,250,663.0	1,928,946.6	0.00					
Camino Del Mar - 1 NB	24.0	point68	68	6,250,270.5	1,930,429.8	0.00	Signal	0.00	100	Average	
		point27	27	6,250,252.5	1,930,575.4	0.00				Average	
		point28	28	6,250,250.0	1,930,658.9	0.00				Average	

		point29	29	6,250,302.5	1,931,876.4	0.00					
Camino Del Mar - 2 SB	24.0	point69	69	6,250,222.5	1,930,507.1	0.00	Signal	0.00	100	Average	
		point10	10	6,250,253.0	1,930,320.4	0.00				Average	
		point9	9	6,250,257.0	1,930,288.9	0.00				Average	
		point8	8	6,250,433.5	1,929,723.4	0.00					

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J. Louden **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Del Mar Downtown SP**
RUN: **Ex_4-L Sig**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Camino Del Mar - 1 SB	point14	14	956	40	21	40	4	40	0	0	0	0
	point13	13	956	40	21	40	4	40	0	0	0	0
	point12	12	956	40	21	40	4	40	0	0	0	0
	point11	11										
Camino Del Mar - 5 NB	point15	15	964	40	21	40	4	40	0	0	0	0
	point16	16	964	40	21	40	4	40	0	0	0	0
	point17	17										
15 ST - 1 WB	point31	31	1	25	1	25	1	25	0	0	0	0
	point30	30										
15 ST - 1 EB	point33	33	0	0	0	0	0	0	0	0	0	0
	point32	32										
15 ST - 2 EB	point34	34	1	25	1	25	1	25	0	0	0	0
	point35	35										
15 ST - 2 WB	point36	36	1	25	1	25	1	25	0	0	0	0
	point37	37										
13 ST - 2 WB	point39	39	106	25	3	25	1	25	0	0	0	0
	point38	38										
13 ST - 2 EB	point41	41	106	25	3	25	1	25	0	0	0	0
	point40	40										
13 ST - 1 WB	point43	43	106	25	3	25	1	25	0	0	0	0
	point42	42										
13 ST - 1 EB	point45	45	106	25	3	25	1	25	0	0	0	0
	point44	44										

11 ST - 2 WB	point46	46	106	25	3	25	1	25	0	0	0	0
	point47	47										
11 ST - 2 EB	point48	48	106	25	3	25	1	25	0	0	0	0
	point49	49										
11 ST - 1 WB	point50	50	106	25	3	25	1	25	0	0	0	0
	point51	51										
11 ST - 1 EB	point53	53	106	25	3	25	1	25	0	0	0	0
	point52	52										
9 ST - 2 WB	point54	54	106	25	3	25	1	25	0	0	0	0
	point55	55										
9 ST - 2 EB	point56	56	106	25	3	25	1	25	0	0	0	0
	point57	57										
9 ST - 1 WB	point58	58	106	25	3	25	1	25	0	0	0	0
	point59	59										
9 ST - 1 EB	point61	61	106	25	3	25	1	25	0	0	0	0
	point60	60										
Camino Del Mar - 4 NB	point62	62	964	30	21	30	4	30	0	0	0	0
	point18	18	964	30	21	30	4	30	0	0	0	0
	point19	19										
Camino Del Mar - 5 SB	point63	63	810	40	18	40	4	40	0	0	0	0
	point2	2	810	40	18	40	4	40	0	0	0	0
	point1	1										
Camino Del Mar - 3 NB	point64	64	964	30	21	30	4	30	0	0	0	0
	point20	20	964	30	21	30	4	30	0	0	0	0
	point21	21	964	30	21	30	4	30	0	0	0	0
	point22	22										
Camino Del Mar - 4 SB	point65	65	810	30	18	30	4	30	0	0	0	0
	point5	5	810	30	18	30	4	30	0	0	0	0
	point4	4	810	30	18	30	4	30	0	0	0	0
	point3	3										
Camino Del Mar - 2 NB	point66	66	964	30	21	30	4	30	0	0	0	0
	point23	23	964	30	21	30	4	30	0	0	0	0
	point24	24	964	30	21	30	4	30	0	0	0	0
	point25	25	964	30	21	30	4	30	0	0	0	0
	point26	26										
Camino Del Mar - 3 SB	point67	67	810	30	18	30	4	30	0	0	0	0

	point7	7	810	30	18	30	4	30	0	0	0	0
	point6	6										
Camino Del Mar - 1 NB	point68	68	956	40	21	40	4	40	0	0	0	0
	point27	27	956	40	21	40	4	40	0	0	0	0
	point28	28	956	40	21	40	4	40	0	0	0	0
	point29	29										
Camino Del Mar - 2 SB	point69	69	810	30	18	30	4	30	0	0	0	0
	point10	10	810	30	18	30	4	30	0	0	0	0
	point9	9	810	30	18	30	4	30	0	0	0	0
	point8	8										

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J. Louden TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Del Mar Downtown SP
RUN: Ex_4-L Sig

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	3	1	6,250,192.0	1,930,501.8	0.00	4.92	0.00	66	10.0	8.0	Y
R2	4	1	6,250,305.0	1,930,428.1	0.00	4.92	0.00	66	10.0	8.0	Y
R3	5	1	6,250,222.0	1,930,314.6	0.00	4.92	0.00	66	10.0	8.0	Y
R4	6	1	6,250,321.0	1,930,329.4	0.00	4.92	0.00	66	10.0	8.0	Y
R5	8	1	6,250,390.5	1,929,755.6	0.00	4.92	0.00	66	10.0	8.0	Y
R6	9	1	6,250,526.0	1,929,657.2	0.00	4.92	0.00	66	10.0	8.0	Y
R7	10	1	6,250,521.5	1,929,334.2	0.00	4.92	0.00	66	10.0	8.0	Y
R8	11	1	6,250,617.0	1,929,363.5	0.00	4.92	0.00	66	10.0	8.0	Y
R9	13	1	6,250,631.5	1,928,969.2	0.00	4.92	0.00	66	10.0	8.0	Y
R10	14	1	6,250,757.5	1,928,915.1	0.00	4.92	0.00	66	10.0	8.0	Y
R11	16	1	6,250,768.0	1,928,520.6	0.00	4.92	0.00	66	10.0	8.0	Y
R12	17	1	6,250,863.5	1,928,549.9	0.00	4.92	0.00	66	10.0	8.0	Y
R13	18	1	6,250,870.0	1,928,202.9	0.00	4.92	0.00	66	10.0	8.0	Y
R14	19	1	6,250,997.0	1,928,130.6	0.00	4.92	0.00	66	10.0	8.0	Y