CALIFORNIA EARTHQUAKE PROBABLE MAXIMUM LOSS QUESTIONNAIRE

California Administrative Code
Title 10, Chapter 5, Subchapter 3, Article 3, Section 2307

General Instructions
(Revised 12/2014)

Who Must Report:

All insurers licensed to transact property insurance in the State of California must report with respect to their earthquake liabilities written in this State.

When one or more companies writing earthquake exposure are members of a group, a group questionnaire must be submitted, separately for primary and reinsurance.

We are no longer requiring companies to print out the reporting forms. You can e-mail them to: RSBeqpml@insurance.ca.gov.

The questionnaires are due according to the following schedule:

Primary Carriers	-	June 30, 2015
Reinsurers	-	August 31, 2015
Retrocessionaires	-	September 30, 2015

Supplemental documents to the questionnaires should be sent to:

CA Department of Insurance
Rate Specialist Bureau – 11st Floor
Earthquake PML Questionnaire
300 South Spring Street
Los Angeles, California 90013
(Information: (213) 346-6774)

Reasons for the Questionnaire:

Part of the regulatory responsibility of the Department of Insurance is to monitor the financial capacity of the licensed insurance companies and to assure to the extent possible that the insurance companies will be able to pay all claims arising under their policies of insurance in this state. To this end, the Department held a public hearing and issued Ruling No. 226 in 1978 which authorized the collection of statistical information on the earthquake exposures. The Department publishes a report periodically containing an industry summary of this information.

This questionnaire enables each individual company to quantify approximately its own earthquake exposure with respect to its volume, location, and type of structure insured.

Besides the Department of Insurance, the aggregate industry summaries of PML (probable maximum loss) on earthquake exposures have been of great interest to reinsurance companies, investment analysts, and the press. Information on individual companies is not included in the published report.

Changes in the Questionnaire for Reporting in 1998:

Pursuant to California legislation AB 1366 (passed in 1995; amending California Insurance Code Section 10089, among others), insurers may offer a “mini” residential earthquake insurance policy in compliance with the statutory mandatory offer of earthquake insurance at the time of the sale of a homeowners fire policy. In the “mini” policy, there is a 15% deductible, but there is no Coverage B for appurtenant structures and there are restrictions on the contents and loss of use coverages. Therefore, the PML is much less for the “mini” policy than for a typical earthquake insurance policy with the same 15% deductible. Some insurers are offering a “wrap around” policy which covers a portion of the deductible and increases the contents and loss of use coverages. The combination of a “mini” policy and a “wrap around” policy would essentially be equivalent in coverage to the typical earthquake policy that had been sold prior to the Northridge earthquake in January 1994.

The California Earthquake Authority (CEA), a state agency, was in operation in 1997. Insurers which joined the CEA offered the “mini” policy which was then insured by the CEA. Such CEA policies are not to be included in the detail portions of Forms A or B. With respect to these CEA policies, there is only an interrogatory on Page 1B of Forms A and B.

In view of the large amount of residential losses after the Northridge earthquake, many structural engineers believe that the PML factors given in this questionnaire were too low. In addition, the scientific consulting firms using earthquake computer modeling have done extensive work in analyzing the potential losses under the CEA earthquake insurance policy. Therefore, the residential PML percentage factors have been changed in Form A to the factors shown below.

Class	Deductible	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F	Zone G	Zone H
1A	1%	6.75	5.75	6.13	2.63	5.25	3.13	1.75	2.50
&	5%	3.63	3.00	3.13	1.19	2.38	1.88	1.00	1.50
1B	10%	2.13	1.63	1.75	0.56	1.13	1.13	0.63	0.88
	15%	1.38	1.00	1.13	0.31	0.63	0.63	0.38	0.50
	"Mini"	0.69	0.50	0.56	0.16	0.31	0.31	0.19	0.25
	"Wrap"	2.94	2.50	2.56	1.03	2.06	1.56	0.81	1.25

These factors are intended to give a general estimate of the impact of a large earthquake in the earthquake Zone. Therefore, these factors are not necessarily comparable to the loss costs used in ratemaking, which include the impact of small and medium size earthquakes and the probability of earthquakes.

There are no changes this year in the questionnaire to the reporting for commercial structures. The commercial PML factors look all right at this time.

Questionnaire Format

(1) In order to achieve uniformity, the use of the attached standard report format is required (except as provided under Section 2307 relating to special situations) for all earthquake coverages written on California risks.

This Questionnaire is to be completed with respect to earthquake insurance in force at the end of the year, not in force at any time during the year.

(2) Probable Maximum Loss (PML) is defined as the average monetary loss (after the specified deductible) which will be experienced by typical buildings in a given earthquake building class in the specified earthquake PML zone. This definition assumes a large magnitude earthquake, and the damage results only from vibratory motion. The following forms give the suggested PML percentages when the standard deductibles are being used. The given PML percentages were derived from an examination of the structural damage in past earthquakes, with engineering adjustments for the size of the earthquake, and the results averaged over the earthquake zone. Actual insured losses will vary due to poor soil conditions (including landslide) and close proximity to the fault line. In fact, the importance of soil conditions and proximity to the fault line may be greater than the type or condition of the structure. These PML percentages were derived with the intention that they be applied to the value of the structure plus contents plus time element exposures such as business interruption if any. The term "value" means the full actual cash value or replacement cost, as the policy may provide. If there is less than full insurance to value, meaning that if the policy was written for policy limits less than the full potential value of the earthquake loss, then applying the PML percentage to the policy limits will under-estimate the PML. If such is the case, companies are asked to adjust the reported PMLs to a higher level accordingly. This definition of PML does not include (and this Questionnaire does not ask for) monetary loss from workers' compensation, automobile damage, life and accident and health, general liability, crime, fire following an earthquake, or flood, wave or water damage (except for a specific coverage called "earthquake sprinkler leakage").

(3) For convenience, the questionnaire is in two sections - Form "A" for primary insurance and Form "B" for reinsurance.

(4) It is important to separate buildings into low rise (8 or less stories) and high rise (over 8 stories). In a great earthquake, the seismic motions will be both high frequency and low frequency. It turns out that high frequency motion principally affects low rise buildings and low frequency motion principally affects high rise buildings. High frequency motions tend to be damped and dispersed quickly, leaving the low frequency motions to dominate at large distances. So, in order to obtain the correct total PML by zone, the amount of high rise (over 8 stories) exposure in the neighboring zones must also be considered. The calculation of the total zone PML accounts for this in the form.

(5) The Page 1 - Zone Summary includes provision for limiting the reported net PML by the provisions of a catastrophe reinsurance treaty. Each zone is to be considered separately when applying the provisions of the catastrophe treaty. We received a number of calls requesting us to do this, because some companies were

reporting net PML amounts for Zone A and B which were larger than that which they would ever have to pay. Also, the California Legislature has specifically requested information on earthquake catastrophe reinsurance.

Form "A" - Primary Insurance

(1) Primary business written with standard deductibles must be reported in detail by construction class, buildings 8 stories and under, over 8 stories, and by zone/subzone as defined in Table 4. Primary business written with different or large flat deductibles or self-insured retentions does not need to be reported by construction class, but may be reported under "Risks in above classes not written at standard deductible".

This category should also be used when the actual deductibles are higher than the standard deductible, and a lower PML percentage would be required than is given in Column 5.

(2) Primary companies must provide their reinsurers a report covering the treaties, indicating liabilities ceded by zone/subzone, buildings 8 stories and under, and over 8 stories, using the report format provided herein. (Reinsurers usually have the required information on facultative risks already).

(3) Column 1 - Earthquake class and standard percent deductible. See Table 1 attached for a description of the classes. These are the standard deductibles commonly used on most policies. If the deductible actually used is higher (or lower) then a lower (or higher) PML percentage (Column 5) should be used.

(4) Column 2 - Aggregate direct liability. The term "direct" has the same meaning as it is used in the Annual Statement, namely the full liability, after deductibles, before reduction for reinsurance. See Note (14) below relating to homeowners policies.

(5) Column 3 - Aggregate direct PML. This is the PML of the risks before reinsurance and should be equal to the PML percentage times the Aggregate Direct Liability, subject to the qualifications in Notes (6) and (7).

(6) Column 4 - Aggregate liability net of reinsurance. The PML percentage is intended to be applied to the full monetary value of the building, contents, and business interruption. Therefore, if there is full insurance to value, then the face amount of the policy would be the appropriate "aggregate liability," subject to Note (14) below. If the reinsurance is pro rata, then the PML percentage applied to the aggregate net liability would give the correct net PML. If not pro rata, the company will have to use judgment accordingly. Also, if the company knows that often the policies are not issued at full insurance to value, judgment should be used to report a higher PML than would otherwise result from applying the given PML percentages.

(7) Column 5 - Minimum PML Percentage. This percentage applied to the amount in Column 4 gives the "Estimated PML on net liability" (Column 6). The companies should use a higher PML percentage when:

(a) the particular risk justifies it,
(b) the reinsurance was written on an excess of loss basis,
(c) there is less than full insurance to value,
(d) the actual deductible is less than the deductible indicated in Column 2, or
(e) see Note (11) below relating to time element exposures.

If the primary business was written with large flat deductibles or deductibles different than the standard deductibles, then the company will have to use judgment accordingly to estimate the proper entry for Column 6. See Note (1) above.

(8) Column 6 - Estimated PML on net liability. This is the net probable maximum loss to the company after deductible and reinsurance.

(9) Part III, Line (4) - All Other Primary Business.

This line provides for such situations as excess or layered coverage, highly protected risks, stop loss contracts, and "earthquake sprinkler leakage" (EQSL). (Some companies estimate the PML for EQSL as: (100% of the property value) x (.005) minus the deductible minus reinsurance).

(10) California FAIR Plan Liability and PML should be reported on line (3). Liabilities assumed from all pools and associations should be combined in one entry. (Report only your share of the FAIR Plan or pool liability.)

(11) Time Element Exposures: Business interruption, rents, extra expense, etc. may require higher PMLs than the direct damage coverages, so primary companies may use a higher PML percentage than shown in column 5 to reflect time element exposures. A maximum period of one year of potential liability should be assumed. If time element coverages use different deductibles or PML than property coverages, report them under "Risks in above classes not written at standard deductible" of the applicable Part.

(12) All earthquake liabilities (other than earthquake sprinkler leakage) at a single location should be given the earthquake class applying to the building. This includes all subjects of insurance and all types of coverages. If there are multiple buildings at a single location, use the highest ISO construction class. If the earthquake class is not known on a description-waived policy, assign the liability to the most likely class.

(13) Policies with a single occurrence limit per policy (or a stop loss policy) (not per risk or location), covering risks in more than one earthquake sub-zone (A1, A2, A3, or B1, B2, B3) should be treated as one risk in the earthquake sub-zone. For instance, a chain of stores located in sub-zones A1, A2, and A3 is insured for $5 million in the event of a single earthquake. Treat the chain of stores as a single risk and place it in the sub-zone with the highest PML. On another issue, assume two commercial buildings valued at $10 million each and the PML percentages are 35% and 50%, giving a PML of $8.5 million for both buildings. If the single occurrence limit is $7.5 million, then the insured PML is $7.5 million.

(14) Contents. Under the EQ Class 1B Homeowners (excluding HO 4 and HO 6), the contents liability is 50% of the policy amount. Therefore, the aggregate liability is established as 1.5 times the face amount of the policy. If a higher percentage applies, that percentage should be used. Outbuilding and additional living expenses are to be ignored. For HO 4 and HO 6, use the face amount of the policies.

Form "B" - Reinsurance

(1) A separate form is being provided for reinsurance liabilities. There is no requirement to report by construction class, but business assumed should be reported by high rise (over 8 stories) or low rise (8 stories or less) to the extent possible. (However, reinsurers would have to know the construction class in order to estimate the PML).

(2) All of the comments with respect to Form "A" are applicable as well to reinsurers when completing Form "B".

(3) Reinsurers must also report their experience to their retrocessionaires. (A retrocession is defined as a transaction under which a reinsurer cedes all or part of the reinsurance it has assumed to another carrier, regardless of the identity of the primary insurer.)

(4) Retrocessionaires must report retrocessions as reinsurance on Form "B".

(5) The questionnaire requests the "aggregate assumed liability" before retrocessions. This is because we do not believe that we are receiving full reporting from the retrocessionaires. Also, we would like to know the individual reinsurer's full exposure. We are well aware that the importance of the liability amount varies greatly depending on the layer of coverage.

(6) On Page 1 of the Questionnaire, there is provision for limiting the estimated net PML amount by zone by any catastrophe reinsurance.

(7) The primary companies should deduct only per risk reinsurance, and not aggregate or catastrophe reinsurance, in order to get net liability or net PML. To be consistent, therefore, the reinsurers should only report per risk exposures assumed when computing assumed liability and assumed PML, and not include any aggregate or catastrophe exposure. The objective is to make the reporting easier. The Department of Insurance will know the amount of such catastrophe PML exposure from page one of the Questionnaire, although not by company.

TABLE 1

CONSTRUCTION (BUILDING) CLASSIFICATIONS

Any building which fully qualifies under more than one definition should be placed in the lower numbered (i.e. best) classification.

Habitational (small)

Class 1A: Single through four family dwellings. No limitations on story height, area, and construction materials.

Class 1B: "Homeowners". In the “mini” policy, there is a 15% deductible, but there is no Coverage B for appurtenant structures and there are restrictions on the contents and loss of use coverages. Therefore, the PML is much less for the “mini” policy than for a typical earthquake insurance policy with the same 15% deductible. Some insurers are offering a “wrap around” policy which covers a portion of the deductible and increases the contents and loss of use coverages.

Class 1E: Mobile homes and contents.

Wood Frame Buildings, including Habitational not Qualifying Above

Excluded are structures which are classed for fire as wood frame but have concrete supported floors and/or some walls of unit masonry or concrete.

Class 1C: Habitational: Wood frame and frame stucco habitational buildings which do not exceed 2 stories in height, regardless of area.

Non-habitational: Wood frame and frame stucco buildings, except: (1) buildings which are over 3 stories in height; and (2) buildings which are over 3,000 sq. ft. in ground floor area.

Class 1D: Wood frame and frame stucco buildings not qualifying under Class 1C.

All-metal Buildings

Class 2A: All-metal buildings which are one story in height and 20,000 sq. ft. or less in ground floor area. Wood or cement-asbestos are acceptable alternatives to metal roofing and/or siding.

Class 2B: Buildings which would qualify as Class 2A except for exceeding area or height limitations.

Steel Frame Buildings

Class 3A: Buildings with a complete steel frame carrying all loads. Floors and roofs must be of poured-in-place reinforced concrete or of concrete fill on metal decking welded to the steel frame (open web steel joists excluded). Exterior walls must be non-load bearing and of poured-in-place reinforced concrete or of reinforced unit masonry. Buildings having column-free areas

greater than 2,500 sq. ft. (such as auditoriums, theaters, public halls, etc.) do not qualify.

Class 3B: Buildings with a complete steel frame carrying all loads. Floors and roofs must be of poured-in-place reinforced concrete metal, or any combination thereof, except that roofs on buildings over three stories may be of any material. Exterior and interior walls may be of any non-load bearing material.

Class 3C: Buildings having a complete steel frame with floors and roofs of any material (such as wood joist on steel beams) and with walls of any non-load bearing materials.

Reinforced Concrete Buildings

Combined Reinforced Concrete and Structural Steel Buildings

NOTE: Class 4A and 4B buildings must have all vertical loads carried by a structural system consisting of one or a combination of the following: (a) poured-in-place reinforced concrete frame, (b) poured-in-place reinforced concrete bearing walls, (c) partial structural steel frame with (a) and/or (b). Floors and roofs must be of poured-in-place reinforced concrete, except that materials other than reinforced concrete may be used for the roofs of buildings over 3 stories.

Class 4A: Buildings with a structural system as defined by the note above with poured-in-place reinforced concrete exterior walls or reinforced unit masonry exterior walls. Not qualifying are buildings having column-free areas greater than 2,500 sq. ft. (such as auditoriums, theaters, public halls, etc.).

Class 4B: Buildings having a structural system as defined by the note above with exterior and interior non-bearing walls of any material.

Class 4C: Buildings having: (a) partial or complete load carrying system of precast concrete, and/or (b) reinforced concrete lift-slab floors and/or roofs, and (c) otherwise qualifying for Class 4A and 4B.

Class 4D: Buildings having a reinforced concrete frame, or combined reinforced concrete and structural steel frame. Floors and roofs may be of any material (such as wood joist on reinforced concrete beams) while walls may be of any non-load bearing material.

Mixed Construction

Class 5A: Buildings having load bearing exterior walls of (a) poured-in-place reinforced concrete, and/or (b) precast reinforced concrete (such as "tilt-up" walls), and/or (c) reinforced brick masonry, and/or (d) reinforced hollow concrete block masonry. Floors and roofs may be of wood, metal, poured-in-place concrete, precast concrete, or other material. Interior bearing walls must be of wood frame or any one of a combination of the aforementioned wall materials.

EDITORIAL NOTE: No class distinction is made between newer highly earthquake resistive buildings and older moderate earthquake resistive buildings having these construction

materials. ISO Classes 5A and 5AA shall be combined and considered as Class 5A.

Class 5B: Buildings having load bearing walls of unreinforced brick or other types of unreinforced solid unit masonry, excluding adobe.

Class 5C: Buildings having load bearing walls of hollow tile or other hollow unit masonry construction, adobe, and cavity wall construction. Also included are buildings not covered by any other class.

Earthquake Resistive Construction

Class 6: Any building with any combination of materials so designed and constructed as to be highly earthquake resistant and also with superior damage control features in addition to the minimum requirements of building codes.

Miscellaneous

Class 7: Bridges, tunnels, dams, piers, wharves, tanks, tank contents, towers of all types, and the like. Time-element coverages for these structures to be included.

TABLE 2

CONSTRUCTION CLASSES, PML, AND DEDUCTIBLES

Net PML (%)

Class	Deductible	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F	Zone G	Zone H
1A	1%	6.75	5.75	6.13	2.63	5.25	3.13	1.75	2.50
&	5%	3.63	3.00	3.13	1.19	2.38	1.88	1.00	1.50
1B	10%	2.13	1.63	1.75	0.56	1.13	1.13	0.63	0.88
	15%	1.38	1.00	1.13	0.31	0.63	0.63	0.38	0.50
	"Mini"	0.69	0.50	0.56	0.16	0.31	0.31	0.19	0.25
	"Wrap"	2.94	2.50	2.56	1.03	2.06	1.56	0.81	1.25
1C	5%	3	3	3	3	3	3	3	3
1D	5%	10	10	10	10	10	10	10	10
1E	2%	5	5	5	5	5	5	5	5
2A	5%	2	2	2	2	2	2	2	2
2B	5%	10	10	10	10	10	10	10	10
3A	5%	15	15	15	15	15	15	15	15
3B	5%	25	25	25	25	25	25	25	25
3C	10%	25	25	25	25	25	25	25	25
4A	5%	20	20	20	20	20	20	20	20
4B	5%	35	35	35	35	35	35	35	35
4C	10%	50	50	50	50	50	50	50	50
4D	10%	45	45	45	45	45	45	45	45
5A	5%	25	25	25	25	25	25	25	25
5B	10%	60	60	60	60	60	60	60	60
5C	10%	75	75	75	75	75	75	75	75
6	5%	10	10	10	10	10	10	10	10
*7	0%	50	50	50	50	50	50	50	50
COC	**	**	**	**	**	**	**	**	**

*Includes special structures such as bridges, tunnels, dams, piers, wharves, tanks, tank contents, towers of all types, and the like. Time-element coverages for these structures are also to be included.

**Buildings in the course of construction (COC) are to be placed in the completed building class, using 50% of the completed PML and the full value of the usual deductible (Fire Forms where insurance is written at 80% of value or higher).

Buildings constructed of materials of more than one class shall be assigned to the Construction Class with the highest PML.

Earthquake liabilities on buildings, contents, time element, and other location coverages shall be included under the building Construction Class.

TABLE 3

COMMERCIAL INLAND MARINE ADDENDUM & EXCEPTIONS

Liabilities for the following Commercial Inland Marine classes shall be reported in accordance with the requirement of this regulation and included in each zone/subzone. The Company shall assign to each such risk, factors resulting in no less a Net PML than "Gross PML" less "Deductible" as shown on Table 2 for the containing building.

Addendum Class	ISO Classification Code
Bailee's customers - dryers and cleaners, laundry, rug cleaners	171
Bailee's customers - all others	172
Cold storage locker operators	200
Camera dealers	220, 221
Data processing equipment	225, 226-incl.
Differences in conditions	228
Equipment dealers 234, 235	
Musical instruments dealers	240, 241-incl.
Marine supply dealers	283
Miscellaneous dealers not subject to ISO	320
Floor plan policies	328
Fine arts - dealers	332
Fine arts - museums, galleries, and institutions	333
Fine arts - Commercial (excl. dealers, museums, institutions)	334
Furriers block	352
Jewelers block	400 -423
Physicians and surgeons equipment	482
Processing risks	483
Stamp and coin dealers	516
Valuable papers and records	530
Garment contractors	600 - 624

NOTE: Property in the open shall be reported at the PML assigned by the company, but in no event shall the PML be less than 5% nor the net PML, considering deductible, less than 2%.

All Exception Classes to be reported in Part III

Exception Class	ISO Classification Code
Bridges	160
Bridges and tunnels time-element	161
Dams	
Builders risks	370-379
Installation floaters	382
Piers, wharves, and docks	484
Radio and TV broadcasting, equipment and towers incl.	485-488
Tanks and storage 517	

NOTE: These classes should be recorded in each zone at the PML established by the company for earthquake in the underwriting process.

TABLE 4
CALIFORNIA EARTHQUAKE ZONES and SUBZONES

The Zones and Subzones according to which all data reported in this call are classified are defined below, with references to the maps attached as Figures 1 & 2.

ZONE A

SUBZONE A1

San Francisco and San Mateo Counties

SUBZONE A2

Alameda and Contra Costa Counties

SUBZONE A3

Del Norte, Humbolt, Lake, Marin, Mendocino, Monterey, Napa, San Benito, Santa Clara, Santa Cruz, Solano and Sonoma Counties.

ZONE B

SUBZONE B1

Los Angeles Co. west of Interstate 5 and south of Mulholland Drive (crest of the Santa Monica Mountains). See Figure 2.

SUBZONE B2

Remainder of Los Angeles Co. not contained in Subzone B1. See Figure 2.

SUBZONE B3

Orange County

ZONE C

Kern, San Luis Obispo, Santa Barbara and Ventura Counties.

ZONE D

San Diego County.

ZONE E

Alpine, Imperial, Inyo, Mono, Riverside and San Bernardino Counties.

ZONE F

Fresno, Kings, Madera, Mariposa, Merced and Tulare Counties

ZONE G

Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, San Joaquin, Stanislaus, Sutter, Tuolomne, Yolo, and Yuba Counties.

ZONE H

Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity Counties.

FIGURE 1 California Department of Insurance Earthquake Zones.

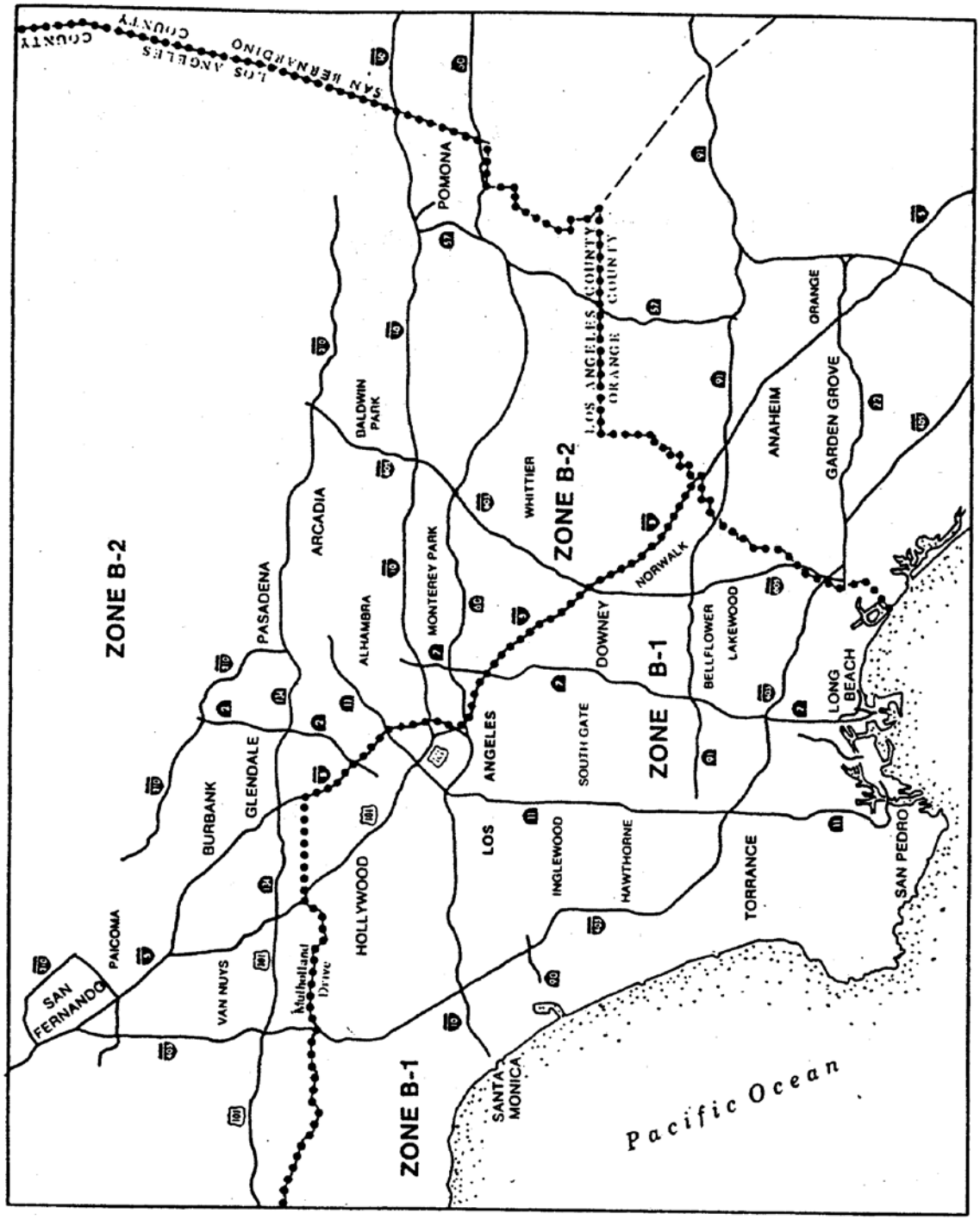

FIGURE 2. Los Angeles County divided into subzones B-1 and B-2.

Instructions