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COMPREHENSIVE PLANNING SERVICES

**FINAL ENVIRONMENTAL IMPACT REPORT
FOR
THE MONTERRA RANCH SUBDIVISION**

SB826

EIR No. 84-007

Subdivision 815

AP Nos. 103-071-16, 17;
259-011-35, 39, 40, 41, 42,
43, 44, 45, 46, 65;
416-101-01, 02, 03, 04;
a portion of 259-011-64

County Base Map 17
County Planning Area 02

Prepared for
Monterey County

February 1986

SUMMARY OF IMPACTS AND MITIGATION MEASURES

This section presents a summary of the project's impacts on the environment and mitigation measures to prevent or lessen these impacts. Impacts and mitigation measures are consecutively numbered in the report, and a summary is presented here; see full report for detailed wording of impacts and mitigation measures.

BRIEF PROJECT DESCRIPTION

Hanover Monterra Investors II propose to develop their 2,831 acre property into 283 lots, and a recreational tennis and equestrian complex for residents and their guests; and, to dedicate 115 acres for an addition to Jack's Peak Park. The 283 single-family lots will consist of 10 ranch lots and 273 estate lots; the overall average density is one lot per 10 acres of land. An internal private loop road system is proposed with entry gates on Highway 68 at York Road and Ragsdale Drive (Ryan Ranch entrance).

GEOLOGY IMPACTS AND MITIGATION MEASURES

Impacts

1. Absent the completion of additional specific geotechnical studies identified in this EIR, and adherence to recommendations which come out of those studies, there is the potential for adverse geologic impacts in several areas of the subdivision. Areas subject to impacts, absent these studies, include the entire Berwick Canyon Fault and Landslide, lots located along the structural lineation in the central-southwestern portion of the site, and lots located in dipslope areas. Specific studies needed are listed below under Mitigation Measures. Specific lot numbers are described in the Geology section.
2. Future homes built on subdivision lots will be subject to strong seismic shaking in the event of an earthquake along the San Andreas Fault.
3. Landslide areas have not been studied in enough detail necessary to establish appropriate setback criteria.

Mitigation Measures

1. Additional geotechnical field work, including trenching, is required to determine the location of the Navy and Berwick Canyon Faults, and the

structural lineations located between the Navy and Chupines Faults. There is great potential for surface offset along the structural lineation. A 100 foot construction setback is initially recommended on either side of these features and this setback may need to be increased where the features are not precisely located or are concealed.

2. No structures or lakes should be constructed on the Berwick Canyon landslide area until further geotechnical studies are completed to determine the slide activity, the fault location and the potential problems with loading (building on) the slide mass.
3. A thorough aerial photo investigation and field review of possible slides in all areas proposed for development should be carried out to determine whether the slides are moving headward or laterally; and, to establish reasonable setbacks from specific slides. See Section 2.1.5 for specific lots involved.
4. A geotechnical study on dipslopes should be completed to determine safe dip angles with the Monterey Formation Bedrock; and, to recommend foundation and other techniques which will prevent future slope failure in areas where these angles are exceeded.

SOILS IMPACTS AND MITIGATION MEASURES

Impacts

4. The foundations of proposed structures could be subject to corrosion of unprotected steel and concrete.
5. Access roads to Lots 185-190, 146-184, 62-69, 57-60, connecting 118 and 119, cross 30% or greater slopes in potentially thin and erosive soils.
6. Topography could constrain development in several areas where lots contain less than 4000 square feet of land with slopes for building sites less than 30%. Lots 44, 45, 58, 59, 60, 75, 82, 85, 86, 275 and 276 are all in this category.

Mitigation Measures

5. On-site soil conditions at each building site should be evaluated by a soils engineer to determine foundation requirements. Geotechnical expertise may also be required in some cases; see geologic impacts above.
6. An erosion control plan should be prepared for the project. This plan should include all of the following:
 - all disturbed slopes should be revegetated with a mix of seeds best suited for the climate and soil conditions;
 - slopes should be covered with a straw mulch or jute netting after seeding; the straw mulch should be punched in; no hydromulch should be used;
 - no grading should occur between October 15 and April 15, unless conforming to Monterey County Code Section 16.12.090;
 - where possible, cuts should be revegetated with trees as well as seed, especially in areas where trees are removed to allow roads and driveways;
 - removed topsoil should be stockpiled on the site to be used for revegetation work;
 - all road work on slopes over 30% or in landslide or dipslope areas shall require geotechnical evaluations;
 - land should be graded and landscaped in increments of size that can be completed during a single construction season;
 - storm water should not be allowed to flow directly down unprotected slopes, devoid of vegetation;
 - catch basins should be used to retain sediment within the site area during the construction period;
 - the grading operations should be evaluated and inspected by a qualified soils engineer;

7. Building envelope locations should be required on lots which include slopes greater than 30%, or those adjacent to slide areas, dipslopes, faults or lineations deemed hazardous.
8. Relocate access roads which cross 30%+ slopes or require specific geologic, grading and erosion control plans to mitigate impacts.

HYDROLOGIC AND DRAINAGE IMPACTS AND MITIGATION MEASURES

Impacts

7. There will be an 11.4 per cent increase in runoff over pre-development levels. During construction, there is the potential for erosion of on-site soil and sedimentation in off-site, downstream drainage areas, including Laguna Grande and Roberts Lakes. Future runoff from urban activity areas (roads, driveways, homesites) will contribute to a variety of water quality problems. Contaminant matter includes sand, silt, organic matter, vehicular oils and fuels, heavy metal compounds, non-biodegradable fertilizers, pesticides and vegetative control chemicals. The planned Equestrian Center could have significant water quality impacts if not properly designed and maintained. Groundwater quality testing indicates that iron and manganese concentrations and salinity content exceed safe drinking water requirements.

Mitigation Measures

9. Retention basins should be designed to retain additional peak runoff due to development, while discharging no more than predevelopment 10-year design runoff. Retention basins should also be designed with overflow or bypass features to allow post-development 100-year storm flows. Each basin is designed to discharge predevelopment 10-year runoff at two feet of freeboard while storing additional runoff due to development. Each basin is designed to allow post-development 100-year storm overflows at one foot of freeboard. Pipelines, curbs and gutters and catchment structures will be designed for the 10-year storm, and culverts crossing under roadways in drainage channels will be designed for post-development 100-year storm.

10. Based on General Plan Policy 16.2.7, the Project Engineer will design and submit for approval to the County Planning Director after consulting with the Monterey County Flood Control and Water Conservation District, a complete drainage plan, including engineering studies and calculations, future runoff courses, and present and future volume of runoff and silt load. Wherever possible, drainage shall be directed to the seven proposed detention basins. As an addendum to the drainage plan, it shall be determined if these basins are adequate to handle the increased runoff created by the project. Maintenance or a pro-rated contribution toward maintenance of the detention ponds shall also be described in the drainage plan addendum.
12. The project applicant shall contribute the development drainage fee per acre to the County Treasury "Canyon Del Rey Creek Watershed Zone Primary Facilities Updating Fund" for off-site operation, maintenance and updating of primary facilities in this watershed, at the discretion of the MCFC and WCD. This contribution shall be made prior to filing of the Final Subdivision Map.
13. The applicant shall pay for all on-site and a pro-rata share of off-site maintenance and operation of storm drainage facilities and access roadways impacted by the project from the time of installation or filing of the Final Map until acceptance of the improvements for the subdivision by the Board of Supervisors, and/or until a Homeowner's Association or other agency, with legal authorization to collect fees sufficient to support the service, is formed to assume responsibility for the service. Mitigations provided in Section 2.3, Soils, requiring erosion control measures shall be implemented in construction and buildout in order to prevent erosion and siltation from increased runoff.
14. There should be a complete and careful County review of the entire grading plan for the proposed project, before project approval. If it is found that there would be extensive cuts and fills, especially on slopes exceeding 30%, thereby increasing potential for excessive erosion and siltation, then the project should be redesigned to eliminate such plans.

15. It should be a condition of project approval that a maintenance program agreement be established to ensure that all paved roads and parking areas be mechanically swept at least once a year in early September before the annual rainy season begins. The contaminant matter traps (French drains) should be appropriately maintained. The Monterey County Public Works Department should establish a procedure to ensure that maintenance of the facilities is carried out annually. The use of a Homeowner's Association requirement and some form of bonding for the first five years may be appropriate.
16. A water quality expert should check the water at least twice a year to ensure that maximum contaminant levels set by the California Department of Health are not exceeded. Water quality test results should be sent to Monterey County's Environmental Health Service for monitoring.
17. Although the Logan water studies indicate that there is an ample groundwater supply for the proposed project, water conservation practices should be considered and implemented whenever possible. Various techniques include: installation of water-conserving fixtures (faucets, toilets, showerheads); use of native low-water requiring plants for landscaping; discouragement/prohibition of exotic plantings; use of drip irrigation systems.
18. If a water mutual is formed, it must meet the standards of Title 22 of the California Administrative Code and the Residential Subdivision Water Supply Standards. It must also be approved by the Monterey Peninsula Water Management District, the State Public Utilities Commission, and the County Environmental Health Service.

VEGETATION/WILDLIFE IMPACTS AND MITIGATION MEASURES

Impacts

34. Development of lots 227 and 234 through 239 and the cul-de-sac road leading to them will displace and remove the rare plant species, Hickmans Onion, resulting in a 90 per cent reduction of this population and available habitat on-site. This would be a significant adverse impact.

9. Approximately 53.5 per cent of the Monterra Ranch Property would be directly affected to some degree by the proposed subdivision development. This effect ranges from direct removal of vegetation cover to indirect modification of the vegetation due to the introduction of invasive landscape, alteration of environmental factors controlling vegetation and habitat development (ie., prevention of fire strategies), and loss of habitat diversity due to monocultural practices or reduction in habitat size.
10. A total of 53.5 per cent or 1,563 acres of existing habitat on the Monterra Ranch may be subject to modification or indirect impacts resulting from this project. Nearly 72 per cent of oak tree habitat may be affected. However, half of that is found on the ranch lot parcels which should not directly disturb more than 10 per cent of the average 50 acre parcels. More significant direct losses of habitat are anticipated within those parcels designed as estate lots, and the recreation and equestrian complex. The higher density of structures and human use in these areas are likely to result in greater direct impact losses to the vegetation and associate wildlife.
12. The activities of fire prevention following the development of the Monterra Ranch property may have a significant long-term impact on vegetation. The accumulation of woody fuels may pose a severe fire hazard over time, and regeneration of existing vegetation conditions would take many years following a catastrophic wildfire.
13. Other indirect impacts to vegetation resulting from the introduction of residences to the landscape include the possible introduction to competitive, adventive landscape species such as eucalyptus, pampas grass, periwinkle, english ivy, etc. that can escape into the surrounding native habitat and displace native species. Increased summer irrigation of landscape vegetation could cause shifts in the vegetation composition or result in soil conditions unfavorable to mature trees that have adapted to a regime of winter wet/summer dry cycles characteristic of California's mediterranean climate. Saturation of oak root zones in the summer have resulted in increases in oak root fungus and decay. This has been shown to be a significant impact in oak woodland

landscapes in association with residential development.

16. The proposed development will reduce the available habitat for wildlife species found in several plant communities discussed elsewhere (LSA 1985). The habitat losses for small mammals and birds will, in turn, reduce the availability of prey for mammalian and avian predators. Losses of forage plant species will reduce deer numbers and their utilization of the area. The result will be a general reduction in wildlife utilization of the area of development.
17. Introduction of domestic cats and dogs could result in increased wildlife conflicts by predation and displacement of native prey species. Deer are very susceptible to attacks by domestic dogs in packs. Cats are effective predators of small game, in particular song birds.
18. Impenetrable fencing around estate and clustered housing tracts could effectively focus deer browsing and restrict migration to linear corridors. This could result in overgrazing impacts of the designated open space areas.

Mitigation Measures

The following mitigation measures are summarized from a more extensive list in Section 2.5.3.

34. Development proposed in the occurrence area of Hickman's onion on-site should be eliminated and a minimum buffer of 50 feet implemented to preserve the population. This would entail the loss or redesign of numerous parcels along the proposed Romera Vista Road in the northwestern end of the property. The furthest occurrence to the south could be protected by shifting of the Romera Vista Road to the east. Care should be taken to preserve the present vegetation and soil structure in the areas where these occurrences were found. No coralled livestock should be kept in these areas. Fencing of the occurrences may be appropriate to prevent accidental encroachment by off-road vehicles and construction equipment or their use as laydown areas.

19. Direct disturbance or removal of native vegetation cover should be restricted to those areas designated for development only (except as prescribed under Fire Control and Fuel Management).
20. Wherever possible, existing unpaved roads on the site should be used for access to the homesites. Construction access to and from homesites should be along the same routes that are proposed for residential access. Existing roads that will not be used as residential access routes should be abandoned. The final residential access routes should be completed before homesites construction activities begin. During construction phases, access roads should be frequently watered to minimize the generation of road dust.
21. The introduction of non-native plant species should be avoided. Native trees (preferably oaks), shrubs, and ground covers should be used for erosion control and landscaping within the designated development envelope surrounding each homesite, the proposed recreation areas, and along the access road system. A landscape plan should be developed incorporating the retention of native trees and vegetation around the building sites. Deed restrictions should be instituted to assure recourse if violated.
28. The following minimal guidelines should be included in the code, covenants and restrictions for the entire development. These guidelines would establish basic rules about impacts that may be implemented by one or a few homeowners but that would negatively impact the resources of the entire development.

For example, if no restrictions are established regarding free-roaming dogs, deer will avoid the general vicinity reducing the quality of the rural living environment for all homeowners.

The basic concerns to be addressed in such an agreement should include but not be limited to: leash and kennel requirements for dogs and bells fitted on cats; fencing designs that will not inhibit deer movements; maintenance of natural and diverse vegetation buffers in non-landscaped areas; minimal tree removal guidelines; fire control standards

should be established and enforced to protect vegetation; restrictions on human activity in designated open space areas; and guidelines on maintenance of domestic livestock.

29. A formal erosion control and revegetation program should be developed in consultation with U.S. Soil Conservation Service representatives and key County Planning Department staff. Detailed measures recommended for incorporation into an erosion control program are included in Section 2.5.3.
32. A controlled burning program should be considered for implementation on the property. Such a program would mimic the effects of natural fires and reduce fire hazard. Maritime chaparral is well adapted to conditions of recurrent fire (Griffin 1978), and coast live oak is extremely fire-resistant and has the ability to resprout from both trunk and branches following a fire (Plumb 1979). Controlled burning would reduce the probability of a catastrophic wild-fire and would be compatible with the ecological strategies of the predominant vegetation types on the property.
33. A program of fuel load reduction through direct vegetation removal should also be considered for implementation on the site, either separately or in tandem with a controlled burning program. A program of direct vegetation removal or thinning may be necessary to reduce critically high fuel loads prior to beginning a prescribed burning program. Dead brush may be piled and later consumed by the burn. The distribution of native vegetation patterns should be considered in designing and establishing fuel breaks.

VISUAL IMPACTS AND MITIGATION MEASURES

Impacts

20. There is the potential for a noticeable decrease in the rural character of the State Route 68 scenic corridor. From State Route 68, proposed essential uses could, depending upon specific design, be visible on Del Rey Ridge, on the ridge west of Work Canyon South, on slopes which face the road-way north of Tarpey Flats, and north-facing slopes between Work Canyon South and York Canyon.

21. There will be minor impacts on the visibility of the project from downtown Monterey, the Toyon residential area west of the site, Seaside, the Hidden Hills residential area, Laguna Seca residences and golf ranch, and homes southeast of the site at the end of Tierra Grande Drive. Views of the site from these areas are either quite distant or largely blocked by intervening topography and vegetation. Views of the project would be limited to lighting at night.

Mitigation Measures

36. Residential and other types of development in areas viewed from State Route 68 should be inconspicuous in order to maintain the natural rural character along this scenic corridor. Visually sensitive areas include Work Ranch Ridge, Del Rey Ridge and north-facing slopes and meadows along Canyon Del Rey. Strict architectural control of building plans for lots in these areas should be required.
37. A requirement for single-story houses, or the location of houses behind existing vegetation along Work Ranch Ridge, Del Rey Ridge, and slopes bordering State Route 68 should be considered.
38. Require building permits for Monterra lots to be evaluated utilizing specific design criteria; see Section 2.6.1.3 for criteria. These criteria are general in nature since overly prescriptive standards of design, given the current preliminary planning stage of the project plan, could be detrimental to the ultimate success of the project. Conformance with these criteria is necessary to provide a project integrated with the natural setting and the planning goals of the County of Monterey and to ensure that the scale of the project allows for development, but also relates to the preservation of the natural character of the State Route 68 corridor.

NOISE IMPACTS AND MITIGATION MEASURES

Impacts

22. Two ranch lots adjacent to Highway 68 on either side of the York Road entrance and 19 estate lots near Highway 68 on either side of the Ragsdale Drive (Ryan Ranch) entrance will be exposed to 55-60 dBA

Day/Night (Ldn) noise levels generated by aircraft operations and vehicular traffic along the highway.

22. All residential lots in the subdivision will experience annoyance from noise levels less than 55 Ldn caused by various aircraft operations such as engine runoff before takeoff, landings and takeoffs; by periodic Laguna Seca auto races and by testing of military ordnance at Fort Ord.

25. High noise levels will be generated on-site by various grading, and other heavy equipment during the construction phase of the project.

Mitigation Measures

67. Require an acoustical study to determine appropriate insulation and window specification requirements for new residential homes on lots adjacent to Highway 68 and on estate lots included in present or future airport noise contours outlined in Figures 2.14 and 2.15.

68. Require developer to disclose noise information in this EIR and the recommended acoustical study to prospective buyers so that they are aware of the short-term annoyance impacts of airport operations, the long-term impacts of airport and vehicular noise sources, and the potential mitigation measures available through appropriate building techniques.

65. Require construction equipment to be properly muffled and limit construction-related hauling and other construction activities to the hours between 7:00 A.M. and 7:00 P.M.

TRAFFIC IMPACTS AND MITIGATION MEASURES

Impacts

26. The project will generate 2,830 daily automobile trips with 178 inbound and 88 outbound trips during the evening peak hour. The additional trips represent a 15.7 per cent increase over existing traffic volumes on the existing two-lane Highway 68, and will have significant adverse impacts in that this highway is currently operating at Level of Service F--beyond its design capacity.

28. The proposed project will add two access points to the congested Highway 68, at Ragsdale Drive/Ryan Ranch and at York Road. The new Ragsdale Drive access point represents a significant adverse impact when compared to an alternative access point off Olmsted Road which is now equipped with a traffic light at Highway 68.

Mitigation Measures

69. The west entrance to the site should be relocated to Olmsted Road in order to: utilize the existing traffic signals there; utilize the future full interchange planned there; remove at least half the Monterra traffic from two miles of High 68 (between Olmsted and the western entrance); eliminate conflicting turning movements on Highway 68 by changing the proposed western entrance to an emergency exit only until an interchange is constructed there. The Monterra subdivision should also participate in funding the interchange improvements at Olmsted Road and Highway 68.
70. Based on the existing plus cumulative traffic need for widening and interchange improvements to Highway 68 and that the Monterra Ranch Subdivision will contribute to that need, the Monterra Ranch Subdivision should participate in funding the widening of Highway 68 to the adopted plan lines at a rate commensurate to the project traffic assignment.
71. An approach lane to Highway 68 on the east entrance should be provided to separate right and left turn traffic. In addition, a left turn pocket on Highway 68 with an adequate deceleration lane should be provided to facilitate access to the east entrance of and to the western entrance off of Olmsted Road.
72. The Monterra Ranch Subdivision should be required to dedicate right of way consistent with Adopted Plan lines for Route 68.
73. The private road designs and construction should be at standard horizontal and vertical standards unless these standards would cause excessive grading and/or environmental impacts. A determination of specific roadway segments to be exempted from normal county

standards, if any, should be made prior to recordation of the final subdivision map.

74. The Monterra subdivision access to Highway 68 will be facilitated by an internal collector loop road which connects east and west entrances. Traffic control should be on the side streets in order to preserve the internal collector's integrity.

75. The subdivision map should be conditioned to grant access rights to the school district and Lt Ng parcels to assure appropriate access to these parcels considering future highway improvements; and to assure secondary access routes for both Lt Ng and Monterra in the future.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

30. The proposed projects will contribute to an incremental degradation of local and regional air quality.

31. The construction phase of the project will generate localized increases in particulate levels and pollutant emissions from construction vehicles.

Mitigation Measures

81. The developer should be required to distribute local transit, bicycle and carpooling information to prospective buyers during marketing of the homesites.

76. Dust control techniques, such as wetting down the soil during excavation and earthmoving operations, and suspending earthmoving activities or increasing sprinkling during periods of high wind (greater than 15 m.p.h.), should be employed during project construction.

WASTEWATER IMPACTS AND MITIGATION MEASURES

Impacts

32. The proposed project will generate 84,900 gallons of wastewater per day from the 283 residential homes.

Mitigation Measures

82. Strictly adhere to the sites indicated safe for the location of septic systems in the M. Jacobs and Associates Percolation Study for the Monterra Ranch project.
83. The Monterey County Health Department should review each specific septic system design and location prior to placement to ensure that the State of California Basin Plans and the By-laws of Monterey County Ordinance 1835 are met.
84. Systems shall not be built on slopes in excess of 30% or, if deemed necessary, should be specifically engineered for such sites; 100 percent expansion areas shall be provided.
85. The use of water conserving fixtures (low flush toilets, flow restrictors on faucet and shower heads) will also reduce the potential for septic system loading. Residents should also be given a brochure during the project marketing stage regarding the use of phosphate free detergents because the system's efficiency will be increased.

FIRE PROTECTION IMPACTS AND MITIGATION MEASURES

Impacts

33. There will be significant fire protection impacts without the provision of a Salinas Rural Fire Protection District station closer to the property than the present Station No. 3 which is 9-10 minutes away. The existing station is simply too far away to adequately provide structural fire protection to the proposed project.
34. There will be an increase in the potential for wildland fires by the introduction of people into this moderate-high fire hazard areas.

Mitigation Measures

86. The Monterra property should be annexed to the Salinas Rural Fire Protection District, and a fire station site should be provided in the Laguna Seca area. Annexation to CSA 39 and the provision of an interim fire station site on the Monterra property might be an acceptable alternative if the Salinas

Rural/Laguna Seca site preference is not attainable for some reason.

87. The developer should enter into an agreement with the Salinas Rural Fire Protection District to help purchase some additional structural and wildfire-fighting equipment.

89. Both the subdivision tentative map and the future improvement plans should be reviewed by the County Fire Warden and Salinas FPD Chief to assure that fire protection and prevention design features are included. These design features are listed in Section 2.9.3 of this report.

88. The developer, Planning Department and fire agency officials should discuss and agree on an appropriate resolution of the secondary access issue on cul-de-sacs longer than 1000 feet.

SCHOOL IMPACTS AND MITIGATION MEASURES

Impacts

36. The proposed project will generate 23 elementary school children, 17 junior high school age, and 17 high school age young adults. Since these additional students can be accommodated by existing school facilities in the Monterey Peninsula Unified School District, no school mitigation measures are necessary.

ARCHAEOLOGICAL IMPACTS AND MITIGATION MEASURES

Impacts

38. Development in the area of Estate Lots 12-26 could impact an isolated bedrock mortar discovered there as part of an archaeological reconnaissance. Discovery of this mortar indicates that there may be additional archaeological artifacts of importance that are undetectable to a surface reconnaissance due to the effects of vegetative cover and normal ranch operation over the years.

Mitigation Measures

91. Prior to and during the initial stages of grading, a registered archaeologist should be consulted to do on-site inspecting, examining the results of grading in those areas judged to have a greater potential of containing archaeological sites such as bedrock outcrops, springs, seeps and the lower ridges should be covered by a controlled intuitive reconnaissance.
92. A condition should be added to the subdivision permit to require a detailed archaeological investigation if development on Estate Lots 12-26 is proposed on or in the vicinity of the archaeological site.

RESPONSE TO COMMENTS

This section of the Final EIR responds to all comments received by the Monterey County Planning Department during the EIR public review period. During this period, public agencies and interested citizens are encouraged to comment on the factual content of the Draft EIR. This Response to Comments section, together with the Draft EIR (DEIR), constitutes the Final Environmental Impact Report on the Monterra Ranch Subdivision project. The DEIR on the project was circulated for public review and comment through the State and Regional (AMBAG) Clearinghouses.

Comment letters received are included in Appendix D, page 174. All comments are acknowledged and those which question the factual information in the DEIR are given specific responses below. Comments and Responses are numbered and the comment letters in Appendix D are marked with corresponding numbers. Various changes to certain pages of the EIR have been made to respond to some comments.

State Office of Planning and Research, John B. Ohanian, 12/30/85
- Acknowledged, no response required.

State Department of Transportation, Division of Aeronautics, Jack D. Kemmerly, 12/23/85 - Acknowledged, no response required.

State Department of Fish & Game, Jack C. Parnell, 12/23/85 - Acknowledged, no response required.

State Department of Transportation, Caltrans, A.C. Carlton, 12/11/85 - Acknowledged, no response required.

State Native American Heritage Commission, Annette Ospital, 12/12/85 - Acknowledged, no response required.

Monterey County Health Department, Al Freidrich, R.S., 1/2/86,
Acknowledged, no response required.

Bestor Engineers, Carl L. Cooper, 12/23/85.

Comment 1

The portion of the DEIR relating to Canada de La Segunda Road (p. 109 et seq.) is inaccurate. The EIR erroneously states that the western route would require a cut of 85 to 125 feet. Homes on lots along the westerly route will not be observable from any

area north of Monterra. The worst error is in the final paragraph which states the easterly route to be "about one and a half minutes difference in travel time", apparently speaking of trips to areas west of the 218/68 intersection.

Response 1

Statements in the EIR regarding the Canada de la Segunda roadway were reviewed with County Public Works and Planning Department personnel. They indicated that the issues regarding the western versus eastern routes for this proposed roadway were aired during the hearings on the Monterey Peninsula Area Plan. At the conclusion of those hearings, the eastern route was clearly favored because of concerns regarding the existing Cal-Am facilities along the western route and the grading which would be necessary for that route.

Comment 2

Table 2.5 is totally in error with regard to Level of Service capacities, especially regarding 2-lane roads.

Response 2

This table is adapted from the State Highway Capacity Manual and is not in error. Please refer to Comment and Response 64.

Monterey Peninsula Water Management District, Ken Greenwood,
12/19/85

Comment 3

Page 27 - USGS recommends that an additional site investigation be done to look into specific seismic problems. Has this been done with respect to the Navy and Berwick Faults?

Response 3

Mitigation Measure No. 1 (page 34) recommends additional geotechnical field work to determine the activity of the Navy and Berwick Faults.

Comment 4

Describe "cat tracking of slopes". This could cause compaction and subsequent erosion, and should be addressed.

Response 4

"Cat-tracking of slopes" refers to an erosion control technique in which a caterpillar tractor compacts the dirt which is side-cast during the grading process. If cat-tracking is done perpendicular to the slope (and not parallel), the tracks will

act like "steps" to dissipate the velocity of water runoff flowing downhill, and thereby lessen erosion. Additionally, some compaction of such side-cast dirt will also serve to lessen erosion.

Comment 5

Further description is needed of the nature of the "very specific engineering recommendations" for the proposed Berwick Canyon Road.

Response 5

The M. Jacobs Berwick Canyon Roadway Study is incorporated into the EIR by reference. The phrase "very specific engineering recommendations" is intended to refer to and describe 25+ pages of detailed soils engineering specifications for the construction of this roadway. It is not appropriate or necessary to repeat such specifications in the EIR.

Comment 6

The LKA Soil and Geologic Investigation Reports were done in 1974 and 1979. Any areas with questionable stability should be investigated again to assess winter 1982 and 1983 impacts.

Response 6

Mitigation Measures 1-5 in the geology and soils section address this concern.

Comment 7

The following items should be added to those listed under Mitigation Measure No. 6 (page 40):

- A) Fertilizer should be included with seed and straw mulch to overcome nitrogen deficiency created by straw and to help establishment of grass;
- B) Stockpiled soil must be protected from erosion by vegetative and/or structural means; and
- C) Disposal of catch basin soil must be addressed.

Response 7

LLS concurs with these suggested additions and reference is made to them on page 40.

Comment 8

Page 44, No. 8 - More specific description is needed of "significant water quality impacts" of an improperly designed equestrian

center (i.e., runoff, erosion, percolation of nitrates and pesticides, etc.).

Response 8

The "significant water quality impacts" of an improperly designed equestrian facility refer to the potential for contamination of groundwater and wells by runoff and percolation of water contaminated by the natural waste products of a concentrated number of horses. These could best be mitigated by a thorough and effective maintenance program to be reviewed by the County Health Department. The two main components of this program would involve the regular collection and disposal of animal waste products and appropriate control procedures. A reference has been added to page.

Comment 9

Page 45, No. 9 - Please discuss the ability of detention basins to handle 100-year stormwater and debris that would be included in flows of that magnitude.

Response 9

Detention basins must be maintained on a regular basis and must be monitored during storm events to remove debris that may accumulate. There are similar concerns with urban area storm drainage systems. Upstream removal is an important and often overlooked (and unpopular) method of "storm readiness". Such a program was undertaken along the upper watershed of Soquel Creek in Santa Cruz County after a bridge logjam caused major flooding in 1982.

Comment 10

Page 46, No. 15 - Further describe "appropriate maintenance" of "french drains".

Response 10

French drains should be serviced and maintained on an annual schedule just prior to the rainy season. Maintenance includes the removal of silt and contaminant matter from the interior collection box.

Comment 11

Table 2.2 - Area I (946 ac) has a lower post-development discharge (Qp). This appears to be a typo.

Response 11

This is a typo and should read 230.5 as can be seen on page 145 (hydrology appendix). The correction has been made to Table 2.2.

Comment 12

Page 48 - First paragraph, fourth line - "was hired by the County..." should read "was retained by MPWMD". Furthermore, these reviews are completed and a subsequent "Water and Wastewater Management Report" has been requested and is in progress. This information should be brought up to date and should agree with that on page 50 (Review of Reports).

Response 12

The Draft EIR contains the latest information which was available when it was printed. Pages 48 through 51 have been updated to include the latest information from the Anderson-Nichols Report.

Comment 13

Pages 49 & 50 - Recharge, Nitrate Loading, Review of Reports - see Anderson-Nichols Report. State Standard (Title 22) is 10.0 Mg/L as N, not 100 Mg/L as stated.

Response 13

These sections have been rewritten to include new information from the July 1985 Anderson-Nichols Monterra Ranch Water Supply Report which is incorporated into the EIR by reference.

Comment 14

Page 50, No. 8 - As stated in Anderson-Nichols Report, groundwater withdrawal will impact wells at the Naval Postgraduate School golf course. Therefore, an off-site water supply will be impacted. This must be address.

Response 14

The Anderson-Nichols Report states that their estimates indicate that the groundwater basin (supplying Monterra and the Naval Postgraduate School golf course) has sufficient recharge to supply both developments; with total recharge exceeding demand by only 50 acre-feet/year. Future proposals to withdraw significant additional amounts of water should be required to recheck the regional water balance. This latter statement has been added to Impact 8 on page 50.

Comment 15

Title 22 should be cited as the source of contamination level standards. Anderson-Nichols studies indicate that water conserving fixtures should be required for two reasons:

1. due to treatment and pumping costs, the available water will be very expensive,

2. other uses of this groundwater resource may be necessary in the future.

Response 15

Comment acknowledged and a change has been made to No. 17 on page 51.

Comment 16

Page 81 - Fertilizer should be added to the Native grass species. Refertilization could be considered after the first year.

Response 16

Comment acknowledged and reference added to page 81.

Comment 17

Page 84, 32 d - The CDF has a Chaparral Management Program (CMP) that provides direct financial and manpower assistance.

Response 17

Comment acknowledged and reference added to page 84.

Comment 18

2.9.2.2 Impacts (page 115) - Rewrite with Anderson-Nichols information. The potential influence of fractured medium upon entry of NO₃ to aquifer needs to be discussed.

Response 18

Section 2.9.2.2 has been modified to include relevant information from the Anderson-Nichols Report.

Comment 19

Page 117, No. 85 - Include training/information program about proper use and maintenance of septic systems by residents via homeowner's association.

Response 19

Comment acknowledged and reference added to page 117.

Monterey County Health Department, Walter Wong, 9/4/85 - Acknowledged, no response required.

Monterey County Flood Control and Water Conservation District,
Owen Stewart, 12/23/85.

Comment 20

Reviews of the Anderson-Nichols Report should be included in the Final EIR.

Response 20

This has been done; please refer to above comments from MPWMD.

Comment 21

The EIR states that the site is not within but adjacent to the California-American Water Company District. Perhaps there should be a discussion in the EIR considering annexation to and service by Cal-Am as an alternative, should on-site water supplies not prove to be viable.

Response 21

The Logan and Anderson-Nichols Monterra Water Supply Studies which have been completed to date document that the on-site well system is a viable source of water for the project. Until additional water resources are developed by Cal-Am, Annexation to and service by it represents a less viable source of water for the proposed project.

Comment 22

Figure 26 (page 42) does not correctly depict the 100-year floodplain and should be revised for the Final EIR.

Response 22

This figure has been revised.

Comment 23

The WWD Corporation letter (page 157) recognizes the need for designing the detention ponds to accommodate silt storage. This should be discussed in the text of the Final EIR in the soils and drainage sections.

Response 23

Comment acknowledged. An addition to Mitigation Measure 9 on page 45 has been made to address this concern.

City of Monterey, Bill Wojtkowski, 12/11/85

Comment 24

Figure 1.3 should be corrected so as not to include MPUSD (school district) property as part of the project area.

Response 24

Figure 1.3 has been corrected.

Comment 25

Section 2.4.2.1 (page 47) states that there is no water service to the Monterra Ranch at this time. The City's Highway 68 Area Plan Policy 2 states: "Water sources should be from other than presently existing Cal-Am sources for areas not presently in Cal-Am service jurisdiction unless Cal-Am service capacity is increased." This policy should be pointed out in the DEIR.

Response 25

Comment acknowledged. Development, as proposed, is consistent with this city policy. It should be noted that city policies technically don't apply as long as the property is located outside the city incorporated area.

Comment 26

A requirement for an annual management/assessment fee for forestry, wildlife habitat protection and an oaktree management program (suggested on page 78) could be set forth within Mitigation Measures 21 through 33.

Response 26

Comment acknowledged. Mitigation Measure No. 28 has been revised to suggest an annual management/assessment fee.

Comment 27

Mitigation No. 32 (page 83) states: "A controlled burning program should be considered to minimize fire hazards." Several City General Plan Policies are suggested as alternatives for fire protection. See letter for policy language.

Response 27

While the suggested policies are good and noteworthy, a controlled burning program is considered more effective and appropriate. This is especially true in that once the property is developed, controlled burns will become difficult or impossible.

Comment 28

Page 86, Mitigation 35 does not specify any protection measures and does not identify who the responsible party will be to monitor the success of such measures if implemented.

Response 28

Mitigation 34 includes protection measures for Hickman's Onion. The State Department of Fish and Game should be designated to monitor the success of the protection measures.

Comment 29

On Figure 2.8, the project site includes land north of the MPUSD site. However, on Figure 1.2, the project site does not include land north of the MPUSD site. Clarification is needed.

Response 29

The Monterra property does include land north of the MPUSD site. However, since that land lies within the city limits of Monterey, it is not a part of this subdivision proposal.

Comment 30

Within the first paragraph on page 87, the last sentence references a figure but no number is given.

Response 30

This should refer to Figure 2.8. This correction has been made.

Comment 31

Section 2.6 (page 91) states that 6.3 percent of the project site would be converted to buildings, roadways, paved areas and landscaping and 93.7 percent would remain in its existing natural state. This conflicts with Impact 9 (page 73) which states that 53.5 percent of the site would be affected to some degree.

Response 31

These two percentages refer to two different things: visual impacts (6.3 percent) and wildlife habitat impacts (53.5 percent). The first refers to that small amount of land which will actually be directly built on--roads, pavement, houses. The second refers to that area which will be affected in various ways ranging from direct removal of vegetative cover to indirect modification of environmental factors controlling vegetation and habitat development (i.e., prevention of fire strategies), and loss of habitat diversity due to monocultural practices or reduction in habitat size.

Comment 32

The third paragraph on page 91, a figure is referenced without a number.

Response 32

The following two figures should be referenced Figures 1.2 and 2.8.

Comment 33

Mitigation 36 (page 94), regarding residential development on visually sensitive areas such as Work Ranch Ridge, Del Rey Ridge, and north-facing slopes and meadows along Canyon Del Rey, should be modified to include the alternative of no development on these prominent ridges.

Response 33

LLS Planning believes that strict architectural controls, including restrictions allowing only single-story homes on such prominent ridges, will be adequate to mitigate potential visual impacts. Mitigation Measures on pages 94 through 98 should be incorporated into a Design Review Sub-Committee of the Homeowner's Association.

Comment 34

Development on slopes greater than 30 percent is a significant impact which is not clearly identified in Impact 6, nor which is adequately mitigated within Mitigation 7 (pages 39 & 40). The City clearly objects to the development of lots on 30 percent slopes. The Highway 68 Area Plan states that no building construction shall take place on slopes over 25 percent.

Response 34

County General Plan Policy 26.1.10 (page 10 of EIR) prohibits development on slopes greater than 30 percent. LLS agrees that development on slopes greater than 30 percent constitutes a significant environmental impact. Impact 6 identifies lots which contain less than 4000 square feet of land with slopes less than 30 percent. Mitigation 7 suggests requiring building envelopes for such lots with the intention of prohibiting any development on areas with slopes in excess of 30 percent, and in areas adjacent to slide areas, dipslopes, faults or lineations deemed hazardous. Impact 6 and Mitigation 7 will be reworded to refer to General Plan Policy 26.1.10.

Comment 35

Mitigation 64 g (page 98) refers to a Visual Sensitivity Map. It is unclear whether this refers to Figure 2.8 or another map.

Response 35

Mitigation 64 g refers to Figure 17, Visual Sensitivity and Scenic Routes, in the Greater Monterey Peninsula Area Plan Inventory and Analysis document. This map shows the Highway 68 corridor as highly sensitive; it is included as Appendix E of this report.

Comment 36

Impact 22 (page 100) - The language regarding aircraft noise impacts is inconsistent. The statement: "All residential lots in the subdivision will also experience annoyance from noise levels less than 55 LdN caused by various aircraft operations..." should probably read "...more than 55 LdN...". In addition, the 1980 ANCLUC study adopted a threshold of 60 dBA for acoustical study and sound insulation requirements as needed for noise sensitive land uses.

Response 36

The impact language is correct. Numerous residential lots adjacent to the two entrance roads off of Highway 68 are located within the predicted 55 LdN noise contour for the airport. In addition, the entire Monterra Ranch is close enough to the airport that residents will experience various single-event noise occurrences higher than 55 dBA but not consistent enough to result in their inclusion in a 55 LdN contour. In other words, future residents throughout the subdivision will hear and probably be annoyed by "noisy" aircraft operations; however, those near the two entrance roads (within the 55 LdN contour) will be subjected to such events often enough so that the average day/night noise level (LdN) will be 55 dBA. The Monterey County General Plan requires acoustical studies when noise levels are between 55 and 70 dBA LdN.

Comment 37

The traffic section (page 106) discusses the probability that 25 percent of the homes in Monterra Ranch would most likely be second homes. This statement is unsubstantiated. Although not used as a traffic reduction factor, this implication is set forth by inclusion of the statement.

Response 37

The subject of the likely percentage of second homes in this development is open to debate. The important thing is that the traffic analysis assumed that all homes would be permanently occupied.

Comment 38

Monterra's addition of 6-8 percent more traffic to Highway 68 west of the project after 1990 will result in a Level of Service (LOS) "E" on the highway in that area. Both the City and County have adopted a LOS "C" as desirable for Highway 68. Additionally, the City's Highway 68 Area Plan states: "No new development will be permitted once LOS "D" is reached unless increased capacity is provided." This threshold for needed additional traffic should be mentioned in the EIR, given the significant impact LOS "E" will create on Highway 68.

Response 38

Transportation policies from the County and City Plans are listed on pages 6, 14, 15 and 19 of the EIR. Additionally, Table 1.2 indicates that the project is either "Consistent With Project Conditions" or "Possibly Inconsistent" with transportation policies 37.2.1 and 39.1.4. Both of these policies involve highway capacity issues. A reference to General Plan policy 37.2.1 has been added to Impact 26 on page 107.

Comment 39

Mitigation 71 (page 112) - Stacking and turning lanes should be considered an interim solution to a much larger impact. The DEIR should discuss a Mitigation which would address the needed added capacity in an all-encompassing expansion of Highway 68 capacity. Working with the City and County the project should pay its proportionate share of the overall expansion of Highway 68 traffic capacity.

Response 39

Mitigation 70 (page 112) states that the Monterra Ranch subdivision should participate in funding the widening of Highway 68 to adopted plan lines at a rate commensurate to the project traffic assignment. This is also discussed on page 128 under Cumulative Impacts. The County Transportation Commission, in conjunction with city and county governments, is responsible for establishing funding mechanisms adequate to resolve highway capacity problems such as this one. Monterra's physical and/or financial contributions should be tailored to fit into an overall financial plan established by the Transportation Commission and relevant city and county agencies.

Comment 40

Mitigation 84 (page 117) states that septic systems should not be built on slopes in excess of 30 percent. Should a Mitigation that no development be allowed for areas greater than 30 percent slopes be offered in a future revision of the EIR (see Comment 34), this will eliminate the potential of having houses and septic tanks on slopes greater than 30 percent.

Response 40

See Response 34.

Comment 41

Section 2.9.3 (page 117) should address the fact that the area is identified by LAFCO as part of the City of Monterey's Sphere of Influence for the logical provision of municipal services such as fire protection if the area is ever annexed into the city limits. This is a viable Mitigation for a significant impact.

Response 41

The proposed project is a rural density subdivision located within county jurisdiction. Normally, cities do not or will not provide fire protection services to properties outside their jurisdiction. Therefore, annexation to the Salinas Rural District is the most realistic mitigation measure for the proposed project.

Comment 42

Table 3.1 (page 128) should be modified as follows: add an 802,000 square foot office park proposed for Tarpey Flats; change Laguna Seca Office Park to 260,000 square feet on 18 lots on 38 acres; change Ryan Ranch Industrial Park to 30 lots on 234 acres.

Response 42

Comment acknowledged and changes have been made to Table 3.1.

Comment 43

Impact 9 (page 130) states that annexation to the City of Monterey and development at higher densities will be precluded. Since the project is within the City of Monterey's Sphere of Influence, this statement is untrue.

Response 43

This statement should perhaps read "...annexation will be unlikely." As stated in Section 3.3.3 (page 132), if this subdivision is approved and built out, it is unlikely that there will be any additional housing proposed. There would be little reason to annex to the city unless more housing was contemplated.

Comment 44

The last paragraph on page 131 states that implementation of a 15 percent affordable to moderate-income housing requirement would be difficult in light of other transportation and public sewer improvements required if the site were developed under the City's

Highway 68 Area Plan. This is unsubstantiated and a subjective statement.

Response 44

The statement says such housing provision might be difficult, not would be difficult.

Comment 45

The second paragraph of Section 3.3.3 states that it is highly unlikely that there will be any additional housing proposed for the project site. This is unsubstantiated.

Response 45

The point of this statement is that this subdivision, if approved and built out, will essentially "burn the urban bridge behind it". Once lots are cut, houses are built and neighborhood densities are established, it is difficult and controversial to infill at higher densities. It is true that future revisions for increased density could be proposed. However, this option becomes less and less viable as a subdivision becomes built out and established. In addition, wording of the covenants, conditions and restrictions of the Homeowner's Association Agreement may legally preclude future increases in density.

League of Women Voters of the Monterey Peninsula, Lorita Fisher, 12/20/85

Comment 46

We do not consider Mitigation 37 (page 94) to be sufficient. Additionally, Mitigation 46 should be changed to state: "Structures should not exceed the height of the existing forest canopy."

Response 46

See Response 33 above.

Comment 47

We believe that General Plan Policy 26.1.10 should be strictly adhered to and that development on slopes greater than 30 percent must be prohibited. We do not consider Mitigation 6 (page 40) satisfactory.

Response 47

See Response 34 above.

Comment 48

In accordance with Policy 39.1.1 (GMP), we propose that the County work with the state, local agencies and citizens to alleviate the existing traffic congestion prior to allowing any more development along this section of Highway 68.

Response 48

See Responses 38 and 39 above.

Association of Monterey Bay Area Governments, Nicolas Papadakis,
12/11/85

Comment 49

The following additions would enhance the usability of the EIR:

- 1) differentiation of Mitigation Measures:
 - a) proposed as part of the project,
 - b) recommended by the consultant, and
 - c) those required by existing ordinances or regulations;
- 2) determination of project consistency with general plan and regional plan policies.

Response 49

The EIR's Mitigation Measures do not fall neatly into the suggested categories for several reasons. First, EIR Mitigation Measures are normally very specific with regard to the property/development under review. For example, while a General Plan policy regarding wildlife might state: "Development shall be carefully planned in areas having high value for fish and wildlife reproduction.", an EIR usually specifically outlines a number of measures which will carry out this policy. Therefore, it is difficult to judge which Mitigation Measures are clearly required by the General Plan policies. Second, it would be unfair to judge which Mitigation Measures are "proposed" by the developer. The developer of Monterra has done many environmental resource studies on this property over the years and has planned the development utilizing this information. If queried, the developer would probably agree with the great majority of Mitigation Measures listed in the EIR. However, it is not the normal process for them to be proposed by the developer. Finally, all of the EIR's Mitigation Measures must be considered during the subdivision hearings. Many, if not all, are typically added as conditions of the subdivision approval.

Table 1.2 (opposite page 17) outlines the project's consistency with County General Plan policies.

Comment 50

Implementation of the project would conflict with County General Plan Policies 37.2.1 and 39.1.4 regarding highway capacity.

Response 50

Table 1.2 (opposite page 17) lists the project as possibly inconsistent with these two policies. As the table indicates, determination of policy compliance is most properly handled by the County Planning Department, Planning Commission, and ultimately, the Board of Supervisors.

Comment 51

According to the Draft Final FAR Part 150 Noise Compatibility Study for the Monterey Peninsula Airport, various aircraft overflights will occur over the property. The safety impacts of these overflights should be addressed.

Response 51

The Monterra property is located well away from and outside the "clear zones" at the ends of the Monterey Airport runways. As the name implies, the "clear zone" is the area where no buildings may be constructed because aircraft take off and land at low altitudes, directly over these areas. The areas at the ends of airport runways are the most common crash areas as a result of failed takeoffs and landings. As one gets further and further away from the airport runways, relative safety increases. The noise contours in the EIR indirectly indicate the amount of aircraft activity over the project site. Only a small area of the site is located close enough to the airport to be included in noise contours.

Additionally, it should be noted that the rural density proposed for the Monterra property will result in relatively few people who might be subjected to aircraft overflights and noise. There are numerous examples of airports being surrounded by urban density development and later being either closed or operationally hampered because of land use compatibility problems.

Comment 52

An error was made in the traffic section. The outbound trips per dwelling unit should be .37 not .31, resulting in 105 outbound trips per dwelling unit in the P.M. peak hour, not the 84 indicated.

Response 52

Larry Seeman & Associates authored the EIR traffic section utilizing the most recent areawide traffic report which had been prepared on this Highway 68 area--the 1984 Traffic Impact

Analysis of the Highway 68 Area Plan by D. Jackson Faustman, Inc. That report utilized the .31 factor for peak hour outbound trips, based on the 1979 ITE Trip Generation Report. In any event, the 17 additional peak hour trips (generated if the .37 factor is utilized) amounts to less than one percent of the peak hour capacity of the highway. Additionally, the traffic analysis was largely based on average daily traffic volumes, not peak hour volumes.

Comment 53

Page 112, Mitigation 69 - The ultimate fate of the western entrance (suggested as an emergency exist only in the EIR) should be specified. Will the exit be closed completely when an interchange is constructed at Olmsted Road or will it serve some other purpose?

Response 53

This emergency exit should be completely closed when the Olmsted interchange is constructed. One alternative would be to make it a right-turn-only exit until the freeway is constructed in this area.

Comment 54

Funding participation by the developers should be specified for Highway 68 improvements identified as Mitigation Measures.

Response 54

See Response 39 above.

Comment 55

Mitigation Measures should include the provision of transit facilities in the roadway layout and design as requested by Monterey Salinas Transit and school transportation authorities.

Response 55

Mitigation Measures 79, 80 and 81 (page 115) address this issue.

Monterey-Salinas Transit, Patricia M. Goodchild, 12/5/85

Comment 56

Given the dispersed nature of the trip ends presented in Table 2.6 of the DEIR, a park-and-ride lot capable of accommodating 100 vehicles would be an appropriate Mitigation Measure both for traffic and for air quality. The park-and-ride lot as well as the access improvements to reach it should be paid for by the

developer. The wording in the EIR should require the provision of such a park-and-ride lot.

Response 56

It is appropriate that the Board of Supervisors consider the requirement for such a park-and-ride lot. Reference to this comment and response has been added to pages 113 and 115. It should be noted that such a park-and-ride lot could have major visual impacts, especially along Highway 68. The location of such a lot would require extensive visual analysis and landscaping treatment.

Monterey County Department of Public Works, Ron Lundquist,
12/13/85

Comment 57

Mitigations 69 and 70 do not specify the amount of money to be contributed to the interchange nor the method of cost distribution to the residents.

Response 57

See Response 39 above.

Comment 58

Mitigation 71 - The funding and timing of this measure (regarding left-turn lanes from Highway 68 and Olmsted Road into the project) should be discussed.

Response 58

This Mitigation should be a condition of any subdivision approval. Left-turn lanes should be built prior to the final sign-off of any building permits for homes on the property.

Comment 59

Policy 37.2.1 is not addressed in the Impact and Mitigation section.

Response 59

A reference to this policy has been added to page 107.

Comment 60

Page 21 - The Route 68 Study to Develop a Program of Improvements was issued by the Monterey County Department of Public Works, not the Monterey County Transportation Commission.

Response 60

This correction has been made.

Comment 61

Page 33 - There is no mention of the 1984 Update of the Regional Transportation Plan.

Response 61

Page 23 has been updated with information from the March 1985 Monterey County Transportation Improvement Plan.

Comment 62

Page 109 - Canada de la Segunda Road - Consideration should be given to the developer's participation in this road. Mitigating could include dedication of right-of-way and construction of or contribution to roadway improvements. Actual Mitigation will be determined in the subdivision process.

Response 62

The developer proposes to dedicate to the County a right-of-way for the Canada de la Segunda Roadway. As the comment indicates, the details of the actual Mitigation will be determined in the subdivision process.

Salinas Rural Fire District, Ron Zeise, 12/10/85

Comment 63

Section 2.9.3.3, Mitigation 89 f (page 121) should be changed to read: "Roof coverings for buildings shall be fire retardant, as defined in the latest addition of the Uniform Building Code, as adopted by Ordinance No. 1 of the Salinas Rural Fire Protection District."

Response 63

Comment acknowledged and the proposed change has been incorporated into the Final EIR.

Noland, Hamerly, Etieene & Hoss, Anthony L. Lombardo, 12/6/85

Comment 64

We disagree with the conclusion reached in the Draft EIR that the additional traffic generated by the Monterra Subdivision will have a significant impact on Highway 68. A report by WWD Engineering (attached to letter) argues that State Highway

Capacity Manual standards are not appropriate for analyzing Highway 68, and concludes that the highway is capable of accepting additional traffic without exceeding an appropriate level of service.

Response 64

All recent traffic reports utilize the State Highway Capacity Manual methodology for computing the Level of Service for Highway 68. What needs to be taken into consideration here is that "Level of Service" is identified by a range of traffic volumes--not a single number. More specifically, Level of Service E could range from 1500 vehicles per hour (vph) to 2400 vph depending on the circumstances. Capacity in the Highway Capacity Manual is defined as the highest volume attainable under Level of Service E.

Level of Service E is not generally an acceptable level of service because of some delay associated with travel and because of the volatile nature of the traffic flow. Adding to the traffic streams at these levels can be significant. Traffic operating at this level of service is difficult to predict. There are numerous other instances in which traffic greater than this is accommodated without serious problems. However, this is not a desirable condition because it is unstable and susceptible to major delays under breakdown or accident situations.

Comment 65

Considering the WWD report, the impact of the entryway opposite Ragsdale Drive will be insignificant. Removing this entryway would require emergency vehicles to traverse the entire length of the subdivision in responding to police or fire assistance calls. Removal of this entrance creates a far more significant public safety impact than the minor amount of traffic which this entryway would cause to enter and exit Highway 68. It is also unwise to unnecessarily increase internal traffic flow.

Response 65

LLS maintains the DEIR recommendation that this entryway be changed to exit right-turn-only and eventually closed. The 12/11/85 Caltrans letter included in Appendix D also recommends that this entrance be moved to Olmsted Road. The public safety concerns can be satisfied with the construction of a permanent road between Lot 104 and the Lot 22 cul-de-sac. There is an existing dirt road which connects these two points.

Comments 66

An alternative proposal for a four-lane "parkway" has been suggested by property owners along Highway 68. This alternative is both affordable and a substantial portion of its cost would be paid for by the property owners along the highway.

Response 66

Comment acknowledged. The type of improvements to Highway 68 which are necessary to accommodate future traffic range from the parkway suggested to a non-access freeway. The City, County and Transportation Commission are the appropriate agencies to make such a decision.

Noland, Hamerly, Etienne and Hoss, Myron L. Etienne, Jr.,
11/27/85

Comment 67

We have commissioned Larry Seeman & Associates to review Mitigation Measure No. 34 regarding the redesign and relocation of certain lots and roadways to avoid the areas of occurrence of Hickman's Onion. The LSA report (attached to letter in Appendix D) proposes that the Hickman's Onion population be moved and replanted away from the proposed lots and roadways. We request that the Final EIR incorporate this measure as an alternative Mitigation Measure to the impact on Hickman's Onion.

Response 67

Biosystems Analysis, LLS's subconsultants on the biotic section of the DEIR, has reviewed the LSA Report regarding the alternative Mitigation Measure for the Hickman's Onion population. Their review is presented in the following paragraphs.

The mitigation of removing or disturbing existing rare plants and their habitats for the purpose of relocation away from proposed areas of projected impacts has been viewed by professional and academic botanists with great skepticism. In the past, this form of rare plant mitigation has not proven to be a very successful way of ensuring the continued existence of the species. The techniques for transplantation of native plant species in the wild has to date been one of uncertainty with few examples of long-term viable success and several examples of failures. This botanist can attest to several examples of difficulties that can result from such actions.

The approach proposed for the transplanting of Hickman's Onion on the Monterra Ranch property appears to have been given thoughtful consideration. However, the proposal makes it appear a simple process. Appropriate methods for propagation and transplanting of native plants have not to date been extensively tested nor published in the literature. What may appear to be a simple process of digging up bulbs and transplanting to a new site may instead be a process of defining specific environmental parameters for growth, edaphic specifications, and even specific mycorrhizal associations. There is so little that we know about these plant specific requirements that it becomes imperative that

no proposal of this kind be implemented without a rigidly designed and peer reviewed experimental program. This includes the framework of LSA's proposal expanded to meet statistical evaluation criteria and to provide safeguards for the existing population in the event of long-term transplant failure.

At a minimum this program should include a field test approach in which only a small portion of the existing stands are disturbed for transplant material. The transplanted areas should be evaluated for a minimum of three years, preferably five, to assess long-term viability and the rate of natural increase in population size in the new transplant sites. During this time the existing populations should be protected from development in case the transplanting effort proves to be unsuccessful. Monitoring and follow-up to the initial transplant effort is mandatory. The successes and failures should be reported on an annual basis and reviewed by a qualified agency (i.e., California Department of Fish and Game).

Hickman's Onion is presently known from only 17 locations in the state. All the locations in the Monterey Bay region are unprotected and under some potential impact from private development or public land use. The populations now known on the Monterra Ranch represent a considerable percentage, by number of individuals, of the total number of Hickman's Onion individuals. Generally, it is believed that rare plants occupy a large percentage of their available habitat. If the species could occur elsewhere on a site it probably would by now. For this reason removal of rare species from an environment in which it has demonstrated a viable, reproductive presence, and its introduction to an environment it does not currently occupy is the least acceptable alternative and potentially the most endangering of all proposed mitigations, short of no protection and destruction of the habitat.

Comment 68

Page 118 - The first sentence on this page is incorrect and contains assumptions not valid. The sentence should read: ...CSA No. 39 (serving Josselyn, Aguajito and Del Monte Fairways) is dependent upon CSA No. 43 and Pebble Beach CSD to east, and its sphere of influence does not cover the area: and Monterey City normally serves only lands within the city limits.

Response 68

Comment acknowledged, and page 118 has been changed as indicated.

Comment 69

The DEIR is incomplete as it lacks a detailed traffic impacts study on Canyon Del Rey Road (Highway 218). We would like to see in the report a complete statement of traffic impacts on Highway 218 and their proposed mitigation.

Response 69

Traffic volumes predicted for Highway 218 are described in the following table.

Year \ Roadway Segment	Highway 218 Volumes (Del Rey Oaks/Fremont to North/South Road)	Highway 218 Volumes (North/South Road to Highway 68)
Base 1987*	15,600	7,100
Base 1990	16,780	7,860
Project Traffic	200	300
1990 + Project	16,980	8,160
Base 2000*	17,700	9,010
2000 + Project	17,900	9,310

*Without Project

As this table indicates, the Fremont end of the segment of Highway 218 between Fremont and North/South Road will be operating at Level of Service E in 1987 (without the project) similar to Highway 68. The portion of Highway 218 between Highway 68 and North/South Road will be operating at Level of Service C through the year 2000 with project; please refer to table 2.5 for two-lane roadway capacity criteria. Therefore, the project traffic will have a cumulative impact on Highway 218 near Fremont Boulevard as it will further exacerbate a Level of Service E condition.

Mitigation of this impact would best be achieved through a developer contribution toward roadway and/or intersection improvements to Highway 218 near Fremont Boulevard. The amount of this contribution should be based on a fair share formula based on the Monterra development's share of future traffic generation. This contribution should be granted to the appropriate agency responsible for such improvements (Caltrans, Seaside and/or Del Rey Oaks).

Monterey Regional Water Pollution Control Agency, Kenneth R. DeMent, 11/14/85

Comment 70

Pages 115 and 116, Section 2.9.2 proposes disposal by septic tank systems. Our agency is presently planning for treatment capacity beginning between 1990 and 2000 for the Monterra Ranch development.

Response 70

Since this area is within the City of Monterey Sphere of Influence, it is appropriate that your agency include it in your future treatment capacity.

Monterey County Building Department, Bill Clark, 11/8/85 - Acknowledged, no response required.

Monterey Bay Unified Air Pollution Control District, Douglas Quentin, 12/20/85

Comment 71

Section 2.8 - Recent air quality data should be used. Mitigation Measures are not quantified as presented.

Response 71

The most recent available air quality data were utilized to update Section 2.8.

Quantification of air quality Mitigation Measures is not within the scope of this EIR contract. Readers are referred to the 1982 AMBAG Air Quality Plan for a discussion of the relative value of various air quality improvement techniques. Please also refer to Comment and Response 56 regarding a park-and-ride lot.

Comment 72

Table 2.7 should present data in common units.

Response 72

This table has been revised so that data is presented in common units.

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This Environmental Impact Report was prepared for the County of Monterey. LLS Planning Associates have used their best efforts to prepare a complete and reliable report, but they shall not be liable for damages or costs of any client or third party due to judicial or administrative action, whether or not such action is based on the form and/or content of this report of any portion thereof.

1.0 INTRODUCTION

1.1 Authorization and Purpose

In 1984, the developer and the County Planning Department agreed that an Environmental Impact Report (EIR) be prepared for the proposed project. The scope of work for this report was defined by County Planning Department. Subjects that the Initial Study (see Appendix) identified as having a potential significant impact on the environment are included in this report.

LLS was contracted to prepare this EIR utilizing a number of studies which have been completed during the past ten years, including a number of specific recent studies prepared by the applicant's consultants. These recent studies include: percolation tests, vegetation and wildlife survey, a visual analysis, an archaeological survey, a description of existing ranch operations, a traffic report, groundwater reports, and an engineered drainage study. LLS has relied on these studies for the Existing Conditions portions of the report and has prepared independent Impact and Mitigation Measures sections.

This report provides useful information to members of the public, decision makers, organizations, and concerned public agencies regarding the beneficial and negative environmental impacts and conditions that will result from the proposed project's construction.

1.1.1 Environmental Review Process

After this EIR is required by the County and prepared by the Consultant a preliminary draft is reviewed by the county Staff for thoroughness and consistency with State and County EIR guidelines. The Consultant then makes any necessary changes in the preliminary draft and the report becomes a full draft EIR. This Draft EIR is then available for public review and comment. It is during this review period that responsible agencies and concerned citizens may offer comments and criticism of the draft report. At the conclusion of the review period, the Consultant must respond to all substantial comments received. These comments and responses are appended to the Draft EIR which are then, in a final EIR form, considered for certification as a final EIR by the Monterey County Board of Supervisors.

1.1.2 Content and Format

This report is organized so that its findings and conclusions can be directly applied to various aspects of project design and construction. Besides serving as a full disclosure document, its major intent is to clarify and offer feasible resolutions to concerns voiced by the County regarding residential use of the subject property.

The topical sections of this report each utilize an Existing Conditions section, an Impacts section, and Mitigation Measures section. The report also includes a summary which gives the reader an overview of the impacts of the proposed project.

1.2 PROJECT DESCRIPTION

1.2.1 Location

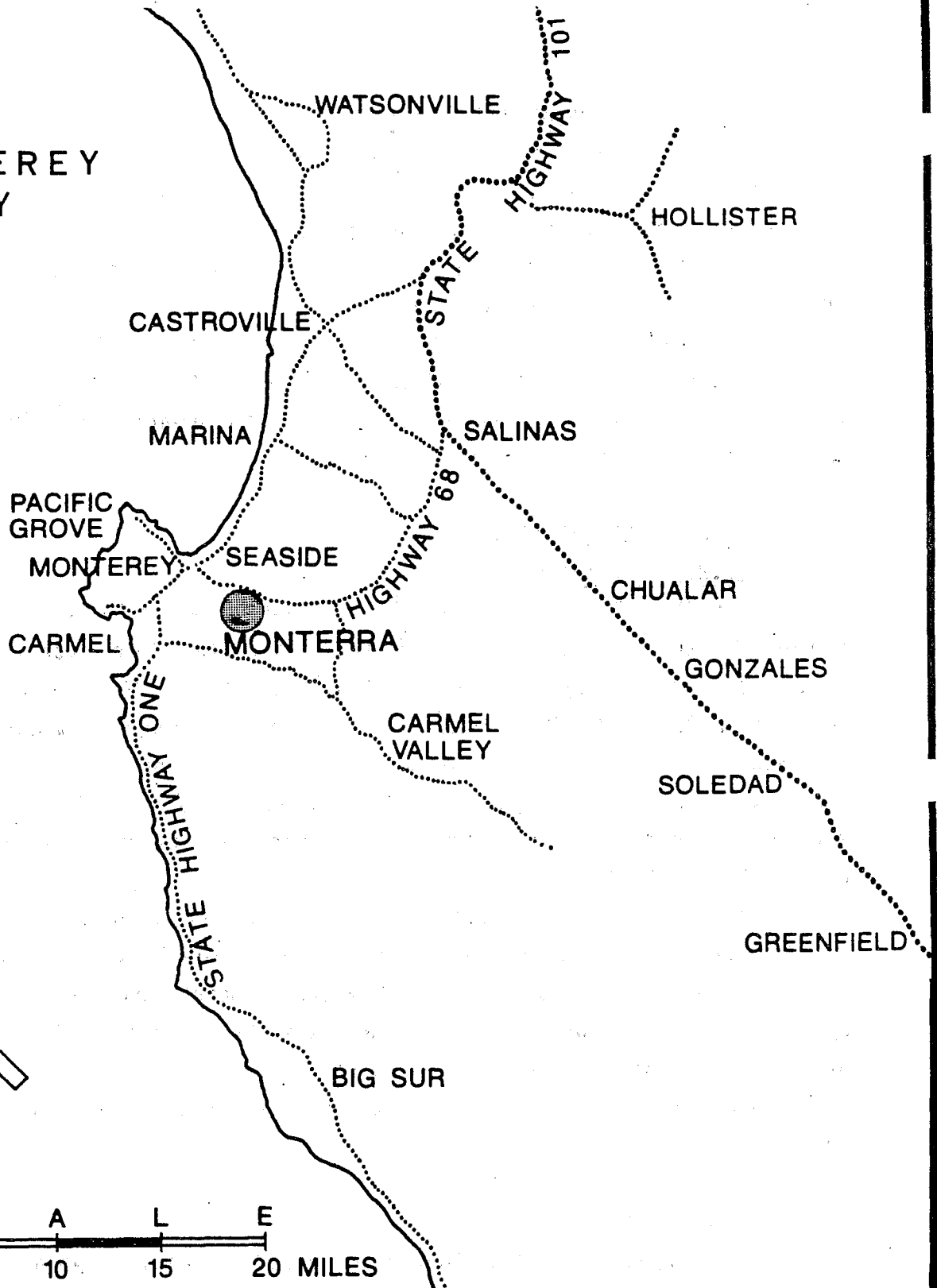
The Monterra project site is 2,831 acres, located along Highway 68 on the eastern outskirts of the City of Monterey. The site extends along the south side of Highway 68 for approximately 2.5 miles, from Olmsted Road to a point one mile east of York Road. Its topography ranges from 200 feet above sea level up to 1000 feet at the crest of the ridge separating this area from Carmel Valley. The Monterra property includes undeveloped ridges, valleys and meadows of both watersheds that enter Carmel Valley and lands north of the crest in the Highway 68 area.

Highway 68 forms the property's northern boundary. The southern boundary is roughly 4000 feet south of the ridgeline between the Highway 68 Valley and Carmel Valley. At its most westerly point, the property is bounded by Olmsted Road; however, the primary western boundary is 2/3 mile east of Olmsted Road. The eastern boundary is approximately one mile east of the York Road/Highway 68 intersection. Figure 1.1 shows the regional location of the project.

1.2.2 Project Objectives

The objective of the Hanover Monterra Investors II (developers) is to seek a rezoning to allow a 283-lot subdivision and a recreation, tennis and equestrian complex for use of residents and their guests; and to dedicate 115 acres of land for an addition to Jack's Peak Park. The tentative map outlines the following four phases (from 1 to 4): 102 lots and recreation and

MONTEREY
BAY



REGIONAL LOCATION FIGURE 1.1



equestrian center; 86 lots; 71 lots; and 24 lots.

1.2.3 Characteristics of the Project

1.2.3.1 Background

The project site is a portion of the old Saucito Rancho, owned by the Saucito Land Company, and by descendants of the late T.A. Work. The property is currently used as a cattle ranch.

Development of the Monterra property (and the surrounding properties) has been discussed by the community and various governmental bodies for a number of years. In 1975, a concept plan for a Monterra Planned Residential Community was approved by the Monterey City Planning Commission. This plan called for 2893 residential units, office/professional uses, parks and public facilities. In March 1976, the Monterey City Council adopted the Monterey II General Plan Element which would permit a maximum of 3000 residential units and other appropriate commercial, office and public facilities. Some time after adoption of this plan, a revised 3386-residential unit project was proposed for the Monterra property. Additionally, a regional shopping center was proposed for the adjacent Tarpey Flats area by another developer.

In February 1982, Monterey City voters adopted Measure "M", a citizens' initiative which repealed the Monterey II Plan and required that, prior to City approval of any land use change in the Highway 68 area, "the proposed plan must be approved by the voters of the City of Monterey." A Highway 68 Plan, dictated by Measure "M", was ratified by City voters at the November 6, 1984 election. This plan is discussed in Section 1.3.3.1.

The developer has stated that the 283-lot subdivision is being proposed because of prohibitive off-site infrastructure costs for a project under the City's Highway 68 Plan.

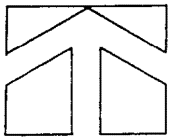
1.2.3.2 Existing Improvements

Existing improvements include an old ranch house, barn, and sheds and dirt ranch roads utilized for the current cattle ranch operation; most buildings will be removed when subdivision improvements are made. There are also some California-American Water Company transmission lines and water tanks on the property.

Monterra Ranch

Monterey California

0 200 400 800 1200 1600 2000 2400
scale in feet



LAND USE: Lots & Parcels

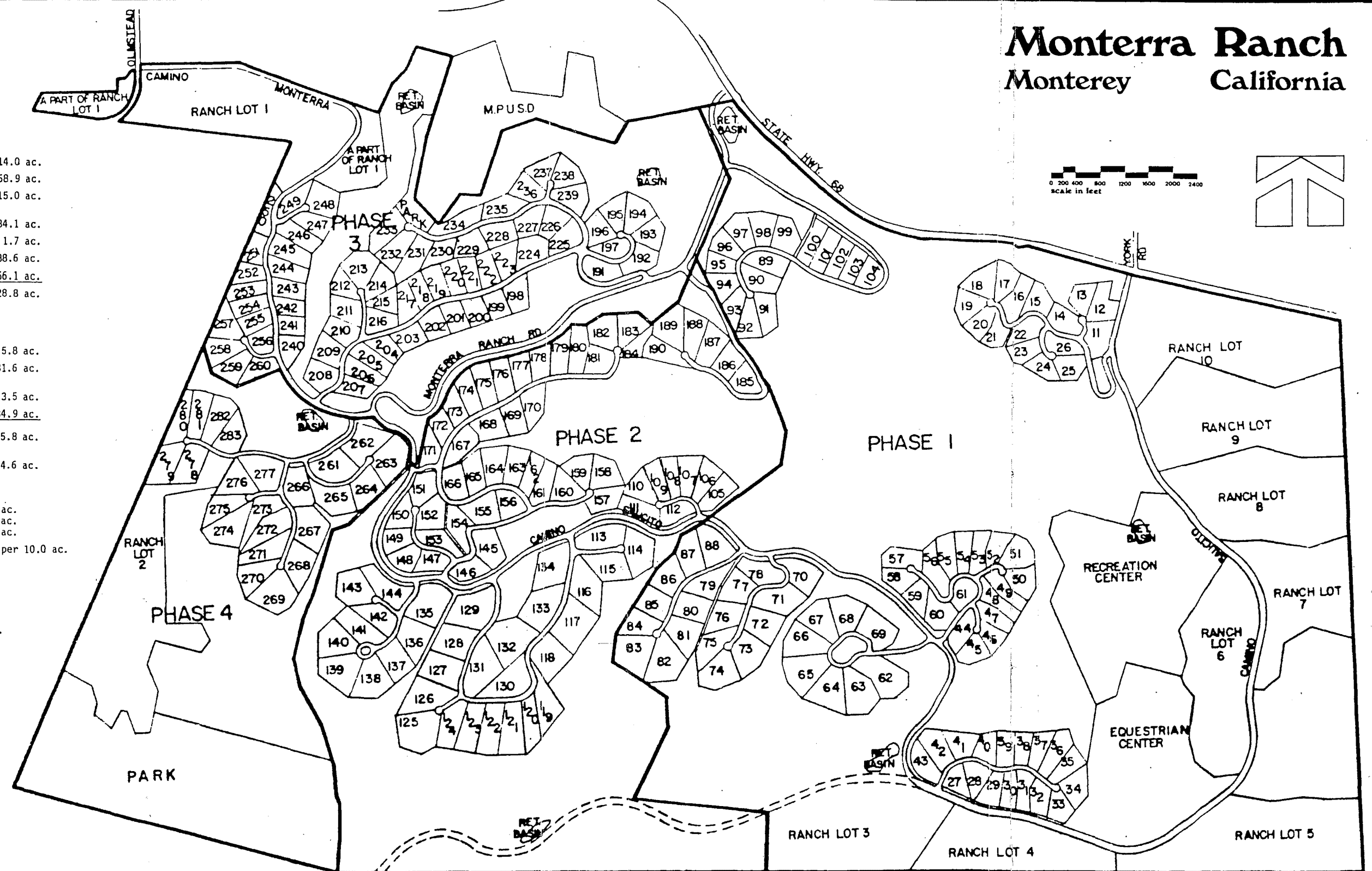
2-5 ac. Estate Lots	273 lots . 814.0 ac.
30-75 ac. Ranch Lots	10 lots 468.9 ac.
Dedicated Park	115.0 ac.
Land Located in the City of Monterey, Parcel D*	84.1 ac.
Parcel A*	1.7 ac.
Parcel B (Recreation Center)	88.6 ac.
Parcel C (Equestrian Center)	56.1 ac.
Subtotal	1628.8 ac.

LAND USE: Common Area

Private Park	5.8 ac.
Private Roadway	131.6 ac.
Future Canada De La Segunda Plan Line	13.5 ac.
Remaining Common Area	1134.9 ac.
Subtotal	1285.8 ac.
Total Area Within Subdivision Boundary	2914.6 ac.

Total number lots	283
Total lot area	1283.3 ac.
Average lot size	4.5 ac.
Minimum lot size	2.0 ac.
Total Monterra Ranch density	1 unit per 10.0 ac.

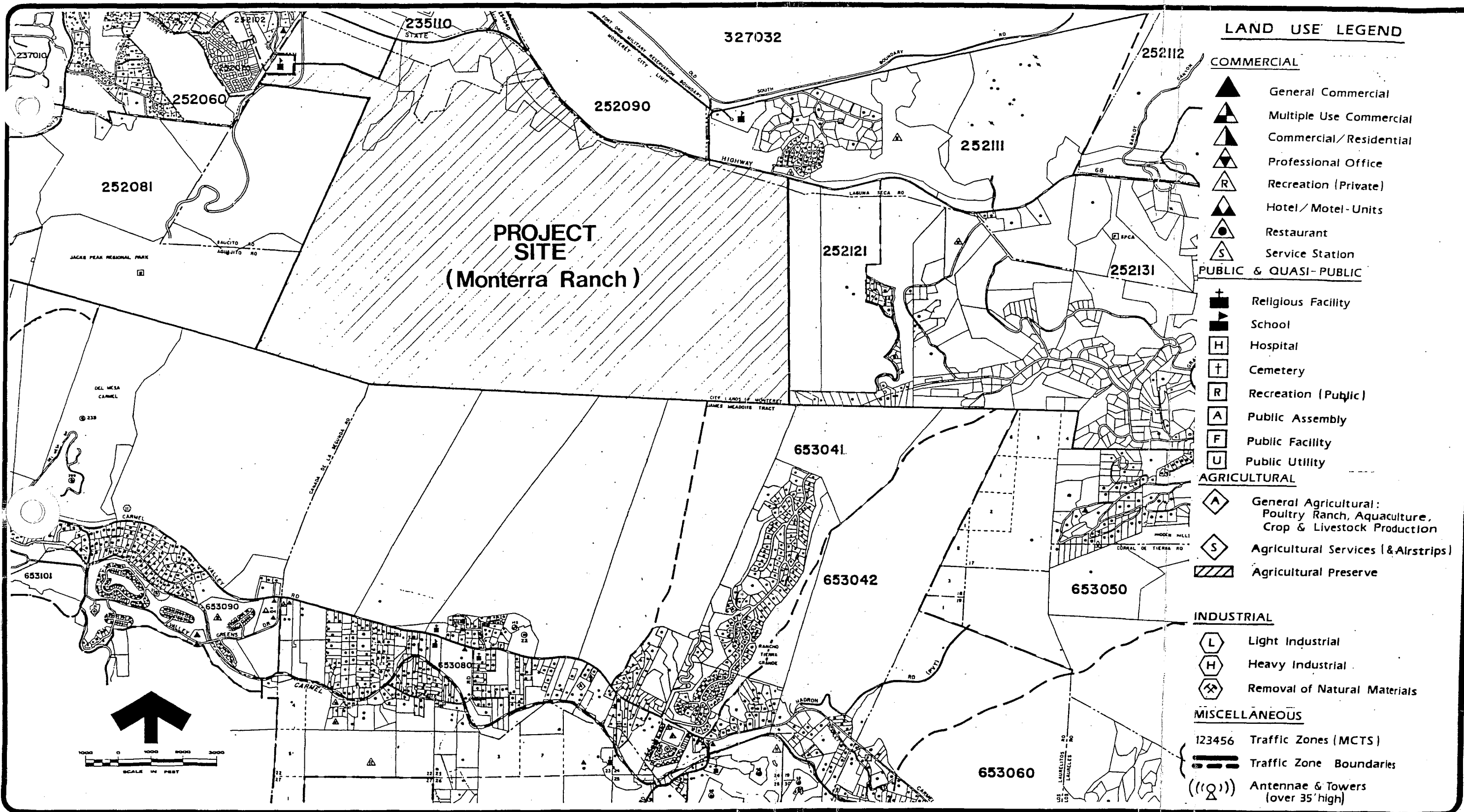
*Note: Parcel D and Parcel A land to be retained by Saucito Land Co.



TENTATIVE SUBDIVISION MAP

FIGURE 1.2





1.2.3.3 Proposed Improvements

Proposed subdivision improvements are shown on Figure 1.2 and are described below and in Table 1.1.

- An 87-acre residential/guest recreational complex (swimming pool, exercise rooms, etc.), and a tennis center with shops and 14 tennis courts;
- a 56-acre equestrian center with a riding ring, stables and paddocks; two lakes in the vicinity of the equestrian and tennis centers;
- 1283 acres in single-family homesites broken down into 10 ranch lots (30-75 acres in size) and 273 estate lots (2-5 acres in size);
- an internal private loop road system with entry gates at the York Road/Highway 68 and Ryan Ranch/Highway 68 intersections, and a series of private cul-de-sacs serving the 273 detached cluster lots, and an emergency access road connecting to Olmsted Road and Foothill Elementary School;
- 1286 acres of land held in common open space, private roadways, equestrian and hiking trails;
- an 115-acre dedication to Jack's Peak Park on the southwestern corner of the property;
- dedication of the proposed Canada De La Segunda Road right-of-way;
- construction of a series of retention basins, based on 100-year flood criteria, to retain storm drainage on site during peak periods;
- treatment of sewage to be handled by individual septic tank systems for subdivision lots and by community leachfield systems for the recreation, tennis and equestrian centers;
- provision of domestic water by an on-site well system which will include water treatment and storage facilities consistent with Monterey County Health Department requirements;
- provision of adequate water storage and distribution to meet fire protection requirements;

TABLE 1.1
TENTATIVE MAP ACREAGE BREAKDOWN

<u>LAND USE: Lots & Parcels</u>			<u>PHASE 1</u>		<u>PHASE 2</u>		<u>PHASE 3</u>		<u>PHASE 4</u>		<u>*</u>
2-5 ac. Estate Lots	273 lots	814.0 ac.	94 lots	285.5 ac.	86 lots	269.3 ac.	70 lots	178.3 ac.	23 lots	81.3 ac.	--
30-75 ac. Ranch Lots	10 lots	468.9 ac.	8 lots	336.6 ac.	--	--	1 lot	72.1 ac.	1 lot	60.2 ac.	--
Dedicated Park		115.0 ac.		--		--		--		115.0 ac.	--
Land Located in the City of Monterey, Parcel D*		84.1 ac.		--		--		--		--	84.1 ac.
Parcel A*		1.7 ac.		--		--		--		--	1.7 ac.
Parcel B (Recreation Center)		88.6 ac.		88.6 ac.		--		--		--	--
Parcel C (Equestrian Center)		<u>56.1 ac.</u>		<u>56.1 ac.</u>		<u>--</u>		<u>--</u>		<u>--</u>	<u>--</u>
Subtotal		1628.8 ac.		766.8 ac.		269.3 ac.		250.4 ac.		256.5 ac.	85.8 ac.
<u>LAND USE: Common Area</u>											
Private Park		5.8 ac.		--		--		5.8 ac.		--	--
Private Roadway		131.6 ac.		54.6 ac.		32.8 ac.		32.0 ac.		12.2 ac.	--
Future Canada De La Segunda Plan Line		13.5 ac.		4.0 ac.		9.5 ac.		--		--	--
Remaining Common Area		<u>1134.9 ac.</u>		<u>559.3 ac.</u>		<u>331.5 ac.</u>		<u>139.5 ac.</u>		<u>104.6 ac.</u>	<u>--</u>
Subtotal		1285.8 ac.		617.9 ac.		373.8 ac.		177.3 ac.		116.8 ac.	--
Total Area Within Subdivision Boundary		2914.6 ac.		1384.7 ac.		643.1 ac.		427.7 ac.		373.3 ac.	85.8 ac.

*Note: Parcel D and Parcel A land to be retained by Saucito Land Co.

Total number lots 283
Total lot area 1283.3 ac.
Average lot size 4.5 ac.
Minimum lot size 2.0 ac.

Total Monterra Ranch density 1 unit per 10.0 ac.

1.2.3.4 Vicinity and Neighboring Land Use

Figure 1.3 indicates land use in the area. The terrain of Monterra is similar to surrounding properties to the east, west and south. The east is the Lit Ng property and beyond that the Hidden Hills subdivision of rural homesites. On the west are Jack's Peak Regional Park, the Aguajito area which is in large acreage holdings, Foothill Elementary School, the Fisherman's Flats residential area, and Tarpey Flats.

To the south are the undeveloped Canada De La Segunda and Housing Authority (former Eastwood) properties which step down topographically to the Carmel Valley floor. To the north lie the undeveloped school district property (south of Highway 68), the Monterey Peninsula Airport, various office/industrial uses between the airport and Highway 218, the as-yet-undeveloped Ryan Ranch research/industrial park subdivision, York School and the Laguna Seca residential development.

1.3 GENERAL PLAN ZONING AND REGIONAL PLANS

1.3.1 Sectional Plan

1.3.1.1 Monterey County General Plan (September 1982)

The Monterra property is designated Resource Conservation and Urban Reserve in the Monterey County General Plan. The minimum parcel size allowed under the resource Conservation Designation is 10 acres. The Urban Reserve Overlay designation is used to denote areas which the County believes should be annexed and developed in a phased manner as part of an incorporated city in order to ensure effective provision of urban services. Until annexation occurs, the County will allow development consistent with the underlying Resource Conservation designation, at a 10-acre minimum parcel size density.

The project, proposed at 1 unit/10 acres, is consistent with the 1 unit/10 acre density permitted under the Resource Conservation Designation. The recreation complex, tennis and equestrian center, intended for use by residents and their guests, is also consistent with the General Plan designation.

The paragraphs below list General Plan policies, relevant to the proposed project, covering transportation, housing, seismic safety, vegetation and wildlife, fire hazards, noise, scenic highways and growth management.

Transportation. Existing conditions and needed improvements on Highway 68 are discussed in Section 2.7. Four important General Plan policies related to transportation are:

Policy 3 7.2.1--Transportation demands of proposed development shall not exceed an acceptable level of service for existing transportation facilities, unless appropriate increases in capacities are provided.

Policy 3 9.1.1--All available public and private sources shall be used for the funding of road and highway development, improvement, and maintenance.

Policy 3 9.1.2--The cost of new roads shall be borne as equitably as possible among benefitting property owners and/or users.

Policy 3 9.1.4--New development shall be located where there is existing road and highway capacity or where adequate road and highway capacity will be provided.

Scenic Highways. Aesthetic impacts of the project on Highway 68 and Jack's Peak Park are discussed in Section 2.6. General Plan Policy 40.2.2 states that "land use controls shall be applied or retained to protect the scenic corridor and to encourage sensitive selection of sites and open space development."

Noise. General Plan Policy 22.2.1 requires new development to conform to noise parameters suggested by the State Health Department's Office of Noise Control (Table 6 of the General Plan). New residential construction is Normally Acceptable (without any special insulation) in the 50-55 LdN noise range; and is Conditionally Acceptable (requires noise analysis and additional insulation) in the 55-70 range.

Seismic and Geologic Hazards. Several General Plan policies related to seismic and geologic hazards are relevant to this project.

Policy 15.1.2--Faults classified as "potentially active" shall be treated the same as "active faults" until geotechnical information demonstrating that a fault is not "active" is accepted by the County.

Policy 15.1.3--The lands within 1/8 mile of active or potentially active faults shall be treated as a fault zone until accepted geotechnical investigations indicate otherwise.

Policy 15.1.4--All new development and land divisions in designated high hazard zones shall provide a preliminary seismic and geologic hazard report which addresses the potential for surface ruptures, ground shaking, liquefaction, and landsliding before the application is considered complete. This report shall be completed by a registered geologist and conform to the standards of a preliminary report adopted by the County.

Policy 15.1.5--A detailed geological report shall be required for all standard subdivisions. In high hazard areas, this report shall be completed by a registered geologist, unless a waiver is granted, and conform to the standards of a detailed report adopted by the County.

Policy 15.1.8--The County shall require a soils report on all building permits and grading permits within areas of known slope instability or where significant potential hazard has been identified.

Policy 15.1.10--All structures and private utility lines shall be designed and constructed to conform to the standards of the latest adopted Uniform Building Code.

Policy 15.1.11--For high hazard areas, the County shall condition development permits based on the recommendations of a detailed geological investigation and soils report.

Policy 15.1.12--The County shall require grading permits to have an approved site plan which minimizes grading and conforms to the recommendations of a detailed soils or geology investigation where required.

Policy 15.1.13--The County shall require septic leachfields and drainage plans to direct runoff and drainage away from unstable slopes.

Policy 15.1.15--Side castings from the grading of roads and building pads shall be removed from the site unless they can be distributed on the site so as not to change the natural landform. An exception to this policy will be made for those cases where changes in the natural landform are required as a condition of development approval.

Vegetation and Wildlife. Section 2.5 of this report discusses the setting, impacts and mitigation measures related to vegetation and wildlife. Relevant General Plan policies are as follows:

Policy 7.1.1--Development shall be carefully planned in, or adjacent to, areas containing limited or threatened plant communities, and shall provide for the conservation and maintenance of plant communities.

Policy 7.1.2--The County shall encourage the protection of limited or threatened plant communities through dedications of permanent conservation easements and other appropriate means.

Policy 7.2.1--Landowners and developers shall be encouraged to preserve the integrity of existing terrain and natural vegetation in visually sensitive areas such as hillsides and ridges.

Policy 7.2.2--Native and native-compatible species, especially drought-resistant species, shall be utilized to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permits.

Policy 9.1.1--Development shall be carefully planned in areas known to have particular value for wildlife and, where allowed, shall be located so that the reasonable value of the habitat for wildlife is maintained.

Policy 9.1.2--Development shall be carefully planned in areas having high value for fish and wildlife reproduction.

Policy 9.2.1--Land use practices which could result in siltation and pollution of inland and marine waters shall be carefully managed in order to assure a clean and productive habitat.

Policy 11.1.1--The California Native Plant Society shall be consulted and appropriate measures shall be taken to protect rare and endangered plant species and their habitats.

Policy 11.1.2--The California Department of Fish and Game shall be consulted and appropriate measures shall be taken to protect areas of Special Biological Importance.

Fire Hazards. Section 2.9.3 discusses fire hazards and protection. County General Plan policies 17.3.1 through 17.5.2 contain numerous detailed requirements to assure that new developments are not exposed to and do not contribute to fire hazards. These fire policies require roads of adequate width, road maintenance agreements for private roads, adequate water supplies, location within a fire district capable of providing a 15-minute response time, adherence to fire agency requirements prior to building permit issuances, and consideration of fuel modification zones. Some of the General Plan Fire policies relevant to this project are listed below.

Policy 17.3.3--The County shall encourage all new development to be located within the response time of 15 minutes from the fire station responsible for serving the parcel. If this is not possible, on-site fire protection systems (such as fire breaks, fire-retardant building materials, and/or water storage tanks) approved by the fire jurisdiction must be installed or development may only take place at the lowest density allowed for the parcel by the General Plan.

Policy 17.3.4--The County shall require all new development to have adequate water available for fire suppression. Water availability can be provided from a conventional water system; from an approved alternative water system if within 300 feet of a habitable structure; by the fire fighting equipment of the fire district within which the property is located; or by an individual water storage facility--water tank, swimming pool, etc.--on the property itself. The fire and planning departments shall determine the adequacy and location of individual water storage to be provided.

Policy 17.3.6--All new development located within a 15-minute response time from a fire station shall be required to annex to the appropriate fire district.

Policy 17.4.1--All residential, commercial, and industrial structural development (not including accessory uses) in high and extreme fire hazard areas shall incorporate recommendations by the local fire district before a building permit can be issued.

Policy 17.4.7--The County shall require all subdivisions, multi-unit residential complexes, and commercial and industrial complexes to obtain, prior to permit approval, a statement from the fire department that adequate structural fire protection is available within minimum response time established by this Plan.

Policy 17.4.11--All new swimming pools shall be plumbed to allow connection to fire fighting equipment, if requested by the local fire jurisdiction.

Policy 17.4.12--A zone which can inhibit the spread of wildland fire shall be required of new development in fire hazard areas to protect development. Such zones should consider irrigated greenbelts, streets, and fuel modification zones in addition to other suitable methods that may be used. The County should not accept dedications of any open space lands required as part of this fire prevention zone.

Policy 17.5.1--Where new developments are required to provide for fuel modification zones, the cost of such construction shall be borne by the developer. Future maintenance of such fuel modification zones shall be in accordance with the fire warden's recommendations.

Policy 17.5.2--Where it is established by the fire warden that a fuel modification program and zone must be constructed in order to establish an acceptable level of risk for fire protection and that such modification is determined by the board of supervisors to be unacceptable environmentally, then such development shall be modified to reduce the requirement for fuel modification.

Land Use. One relevant land use policy involves development on 30%+ slopes:

Policy 26.1.10--The County shall prohibit development on slopes greater than 30%. It is the general policy of the County to require dedicating of scenic easements on slopes greater than 30%. Exception may be made for development which can maximize the goals, objectives and policies of this plan.

Housing. General Plan Housing policies which are relevant to the Monterey property are intertwined with the property's Urban Reserve designation, its location with Monterey City's Sphere of Influence, and the future possibilities for the provision of urban level services and therefore higher density housing.

Policy 60.3.1--The County shall work with the cities and LAFCO to formulate agreements and procedures to encourage location of housing adjacent to or within urban service area away from agricultural lands.

Policy 60.2.1--Development Incentive Zone study areas (includes Monterey II) shall be evaluated as part of the General Plan update process and shall include general investigations of all factors listed above. If appropriate, the Housing Element shall be amended to include one or more of the study areas as Development Incentive Zones during the time frame of this Housing Plan and/or the next revision of the Housing Plan.

Growth Management. The County's growth management policy sets the following priorities for growth in the county:

1. infilling existing urban areas;
2. developing lands adjacent to existing and densely settled urban areas;
3. growing areas adjoining urban areas shall be within spheres-of-influence and shall coincide with the areas to which cities are providing services.

1.3.1.2 Greater Monterey Peninsula Area Plan (1984)

The Greater Monterey Peninsula Area Plan was adopted in 1984. This Greater Monterey Peninsula Area General Plan designates the property as Resource Conservation and Urban Reserve, the same as the Monterey County General Plan discussed above. This area plan contains supplemental policies which must be utilized in conjunction with policies in the county-wide General Plan. Relevant supplemental policies are listed below.

Water Resources.

Policy 5.1.3 (GMP)--Monterey County will encourage development projects to be served by water from public utilities or mutual water companies. If this is not possible, the County shall consider the cumulative effects of the development's water use on wildlife, fish and plant communities and the supply available to existing users.

Environmentally Sensitive Areas.

Policy 11.1.6 (GMP)--Environmentally sensitive areas as shown on the Greater Monterey Peninsula Environmentally Sensitive Areas Map should be preserved as open space. When an entire parcel cannot be developed because of this policy, a low-intensity, clustered development may be approved. However, the development should be located on those portions of the land least biologically significant.

Seismic and Other Geologic Hazards.

Policy 15.1.1.1 (GMP)--The Greater Monterey Peninsula Seismic Hazards Map and Landslide and Erosion Susceptibility Map shall be used to delineate high hazard areas addressed by the county-wide General Plan and this area plan. Hazard categories IV, V, and VI from these maps shall be considered to be "high hazard" areas for the purpose of applying General Plan and/or area plan policies in the Greater Monterey Peninsula Planning Area. These maps may be revised as new, accepted investigations dictate.

Policy 15.1.11.1 (GMP)--For high hazard areas, the County shall require, as a condition of development approval, a detailed geological investigation and soils report and shall further require, as a condition of approval, that the recommendations of that report be followed.

Fire Hazards.

Policy 17.3.1.3 (GMP)--In high and extreme wildland fire hazard areas, roof construction of fire retardant materials shall be required as per Section 3203 (e) (excluding 11) of the Uniform Building Code, or as approved by the fire protection agency. For existing wood roof replacement and new exterior wall construction, use of fire resistant materials is recommended but not required.

Policy 17.3.1.2 (GMP)--Alternate routes of escape that will safely handle evacuations and emergency equipment should be established. In areas of high and extreme wildland fire hazard as designated by the California Department of Forestry, no dead-end road or cul-de-sac should be over 1,000 feet in length. In cases where development is to be served by a dead-end road over 1,000 feet in length, the County Planning Department staff shall meet with a representative of the local fire protection agency and the developer to formulate a plan for provision of secondary access. Such a plan for secondary access shall be implemented by the developer during pending and/or subsequent phases of development. If secondary access cannot be developed, or if, in the case of individual lots of record, the requirement for secondary access would place an unfair economic burden on the property owner, other alternatives to mitigate safety concerns should be considered. For the purpose of this policy only, development shall be defined as the subdivision of land and/or the construction of one or more structures intended for human occupancy.

Policy 17.4.1.1 (GMP)--In high and extreme fire hazard areas, where practical, development should be clustered and should be separated from the wildland by fuel modification zones in order to facilitate fire protection and prevention.

Policy 17.4.1.3 (GMP)--If a fuel modification zone is to be established, provision must be made for its permanent maintenance.

Noise Hazards.

Policy 22.2.1.1 (GMP)--Development in the vicinity of the Monterey Peninsula Airport, Fritzsche Army Airfield, and areas adjacent to the Fort Ord boundary should be sited, designed and/or constructed to minimize noise hazards from aircraft and other sources. The County should consider the Airport Noise Control and Land Use Compatibility (ANCLUC) standards for the areas in the vicinity of Monterey Peninsula Airport.

Land Use.

Policy 26.1.6.2 (GMR)--Open space, low intensity educational and recreational uses are considered to be the most appropriate and compatible land uses in environmentally sensitive areas and areas of high visual sensitivity.

Policy 26.1.9.1 (GMP)--Development on canyon edges and hilltops shall be designed to minimize the visual impact of the development.

Transportation.

Policy 39.1.1.1 (GMP)--The County shall prepare an overall financial plan in order to expedite funding and construction of road and highway improvements in the Planning Area.

Policy 39.1.1.2 (GMP)--The County shall be encouraged to work with the state, local agencies and citizens group to alleviate traffic congestion and promote traffic safety on Highway 68 while maintaining its scenic beauty.

Policy 39.1.1.3 (GMP)--Improvement of Highway 68 intersections, construction of alternate passing lanes, public transit roadway improvements, and improved bicycle safety measures should be undertaken at the earliest time that funding becomes available.

Policy 39.1.1.4 (GMP)--The County shall promote the use of Blanco and Reservation Roads as alternate routes between the Monterey Peninsula and Salinas to alleviate traffic on Highway 68.

Policy 40.2.4 (GMP)--The Greater Monterey Peninsula Visual Sensitivity Map shall be used to designate visually "sensitive" and "highly sensitive" areas generally visible from scenic routes. However, due to map scale, coding an area as visually "sensitive" or "highly sensitive" does not necessarily mean all of that area is visible from the scenic route. All subsequent uses of the terms "sensitive" or "highly sensitive" shall be interpreted within the meaning of this policy.

Policy 40.2.5 (GMP)--Landowners will be encouraged to dedicate scenic easements to an appropriate agency or nonprofit organization over portions of their land shown as "sensitive" or "highly sensitive" on the Greater Monterey Peninsula Visual Sensitivity Map or, where easements already exist, to continue this protection.

Policy 40.2.6 (GMP)--Areas shown as "highly sensitive" on the Greater Monterey Peninsula Visual Sensitivity Map should be preserved as open space to the maximum extent possible through scenic easements or, if necessary, fee acquisition.

Policy 40.2.7. (GMP)--New development should not be sited on those portions of property which have been mapped as "highly sensitive". Where exceptions are appropriate to maximize the goals, objectives and policies of this plan, development shall be sited in a manner which minimizes visible effects of proposed structures and roads to the greatest extent possible and shall utilize landscape screening and other techniques to achieve maximum protection of the visual resource.

Policy 40.2.8 (GMP)--In cases where the extent of visibility of development proposed in "highly sensitive" areas is not clear, individual on-site investigations by the Planning Department staff shall be required.

Policy 40.2.9 (GMP)--New development to be located in areas mapped as "sensitive" or "highly sensitive" and which will be visible from the scenic route shall maintain the visual character of the area. In order to adequately mitigate the visual impacts of development in such areas, the following shall be required:

- a) Development shall be rendered compatible with the visual character of the area using appropriate siting, design, materials and landscaping;
- b) Development shall maintain no less than a 100' setback from the scenic route right-of-way;
- c) The impact of any earth movement associated with the development shall be mitigated in such a manner that permanent scarring is not created;
- d) Tree removal shall be minimized;
- e) Landscape screening and restoration shall consist of plant and tree species consistent with surrounding native vegetation;
- f) Architectural review of projects shall be required to ensure visual compatibility of the development with the surrounding area; and
- g) New development in open grassland areas shown as "sensitive" or "highly sensitive" on the Visual Sensitivity Map should minimize its impact on the uninterrupted viewshed.

- h) Exceptions to the above may be considered if compelling circumstances are demonstrated.

Public Services and Facilities.

Policy 51.1.4 (GMP)--Riding and hiking trails should be acquired and developed with the intent of creating a coordinated, area-wide trails system. All motorized vehicles shall be prohibited from using these trails.

In supporting a coordinated area-wide trails system, the County should give the highest priority to establishing the following trails systems:

- a) establish a permanent riding and hiking trail from Roach Canyon to Jacks Peak Park;
- b) establish an easterly ridgeline trail from Jacks Peak Park to Laureles Grade;
- c) establish a major trail link which generally traverses in a southeasterly direction from Carmel Valley and forms a trail connection with the Los Padres National Forest trail system; and
- d) establish a connection trail from the Jacks Peak Park/Laureles Grade ridgeline trail to the entrance of Laguna Seca Recreation Area to be used as a point of departure to Toro Regional Park along Highway 68.

Policy 53.1.3.1 (GMP)--At the County's discretion, applicants may be required to submit a hydrologic report certifying sustained yield of the water source to serve new development outside of existing water utility service areas.

Policy 53.1.7 (GMP)--The County shall, to the maximum extent possible coordinate with the Monterey Peninsula Water Management District when reviewing development proposals for properties located outside the Water Management District boundaries but within the watershed of tributary streams and/or aquifers which recharge the Carmel Valley Aquifer.

General Plan Policy Compliance.

Table 1.2 indicates the proposed project's compliance with the policies listed above. The project will be consistent with the majority of the policies if appropriate permit conditions are enacted. As noted on the table, the Board of Supervisors ultimately determines policy compliance.

TABLE 1.2
GENERAL PLAN POLICY COMPLIANCE*

Policy Number	Consistent	Consistent with Permit Conditions	Possibly Inconsistent	Policy Number	Consistent	Consistent with Permit Conditions	Possibly Inconsistent	Policy Number	Consistent	Consistent with Permit Conditions	Possibly Inconsistent
<u>Monterey County General Plan</u>				15.1.15		X		17.4.13		X	
37.2.1		X	X?	17.3.3	X			22.2.1.1		X	
39.1.1		X		17.3.4		X		26.1.6.2		X	X?
39.1.2		X		17.3.6		X		26.1.9.1		X	
39.1.4		X	X?	17.4.1		X		39.1.1.1	X		
7.1.1	X	X		17.4.7		X		39.1.1.2	X		
7.1.2	X	X		17.4.11		X		39.1.1.3	X		
7.2.1		X		17.4.12		X		39.1.1.4	X		
7.2.2		X		17.5.1		X		40.2.4	X		
9.1.1	X	X		17.5.2		X		40.2.5		X	
9.1.2	X	X		22.2.1	X	X		40.2.6		X	
9.2.1	X	X		40.2.2	X	X		40.2.7		X	
11.1.1		X		60.3.1	X	X		40.2.8		X	
11.1.2	X	X		60.2.1	X			40.2.9		X	
15.1.2	X	X		<u>Greater Monterey Peninsula Area Plan</u>				51.1.4		X	
15.1.3	X	X		5.1.3	X	X		53.1.3.1	X		
15.1.4	X			11.1.6	X	X		53.1.7	X		
15.1.5		X		15.1.1.1	X						
15.1.8		X		15.1.11.1		X					
15.1.10	X	X		17.3.1.2		X					
15.1.11		X		17.3.1.3		X					
15.1.12		X		17.4.1.1	X	X					
15.1.13		X									

Note: This table was prepared utilizing the best judgment of LLS. It should be understood that the determination of policy compliance is most properly handled by the County Planning Department, Planning Commission, and, ultimately, the Board of Supervisors.

1.3.1.3 Carmel Valley Master Plan

Approximately one-third of the Monterra property is located in the Carmel Valley planning area. The Carmel Valley Master Plan designates the property as Rural Density (10 acres/unit) and Urban Reserve, very similar to the designation in the Greater Monterey Peninsula Area Plan. Policies in the Carmel Valley Master Plan are very similar to those listed above for the other two General Plans.

The Carmel Valley Master Plan area is currently under a development moratorium imposed by a court injunction issued in the case of City of Carmel v. County of Monterey. This case challenged the adequacy of the EIR prepared for the Carmel Valley Master Plan. This injunction prohibits the Monterey County Planning Department from accepting any applications for development approval for any of the area within the Master Plan boundaries. Under stipulation and Order No. 75918, issued by the Superior Court of California, County of Monterey, the Monterra Ranch subdivision application (which includes 1,005 acres in the Carmel Valley Master Plan area) is excluded from the development moratorium based on findings adopted by the City of Carmel.

1.3.1.4 Monterey County Inclusionary Housing Ordinance

The Monterey County's Inclusionary Housing Ordinance (Chapter 18.40) contains the following alternatives for providing housing for low and moderate income households:

- (i) provide 15% inclusionary housing on-site as part of the project;
- (ii) provide 15% inclusionary housing off-site but within same housing market area (the county has four market areas);
- (iii) dedicate land on-site to the housing authority equivalent to 15% of the approved lots or units;
- (iv) dedicate land off-site (but within same housing market area) equivalent to 15% of the approved lots or units;
- (v) payment of an in lieu fee to the County Housing Authority equal to 15% of the median single-family home sale price multiplied by the inclusionary requirement.

The developer of this project is proposing to use option (v), the payment of in lieu fees.

1.3.2.2 Existing Zoning

The existing zoning on the Monterra property is T-V-B-4. The "T" district is considered a holding district until more detailed land use studies can be made and more precise zoning adopted. The "V" portion of the zoning prohibits the use of trailers or mobile homes as living quarters without first securing a use permit. The "B-4" portion of the zoning requires a minimum parcel size of one acre. See Figure 1.4.

1.3.2.2 Proposed Zoning

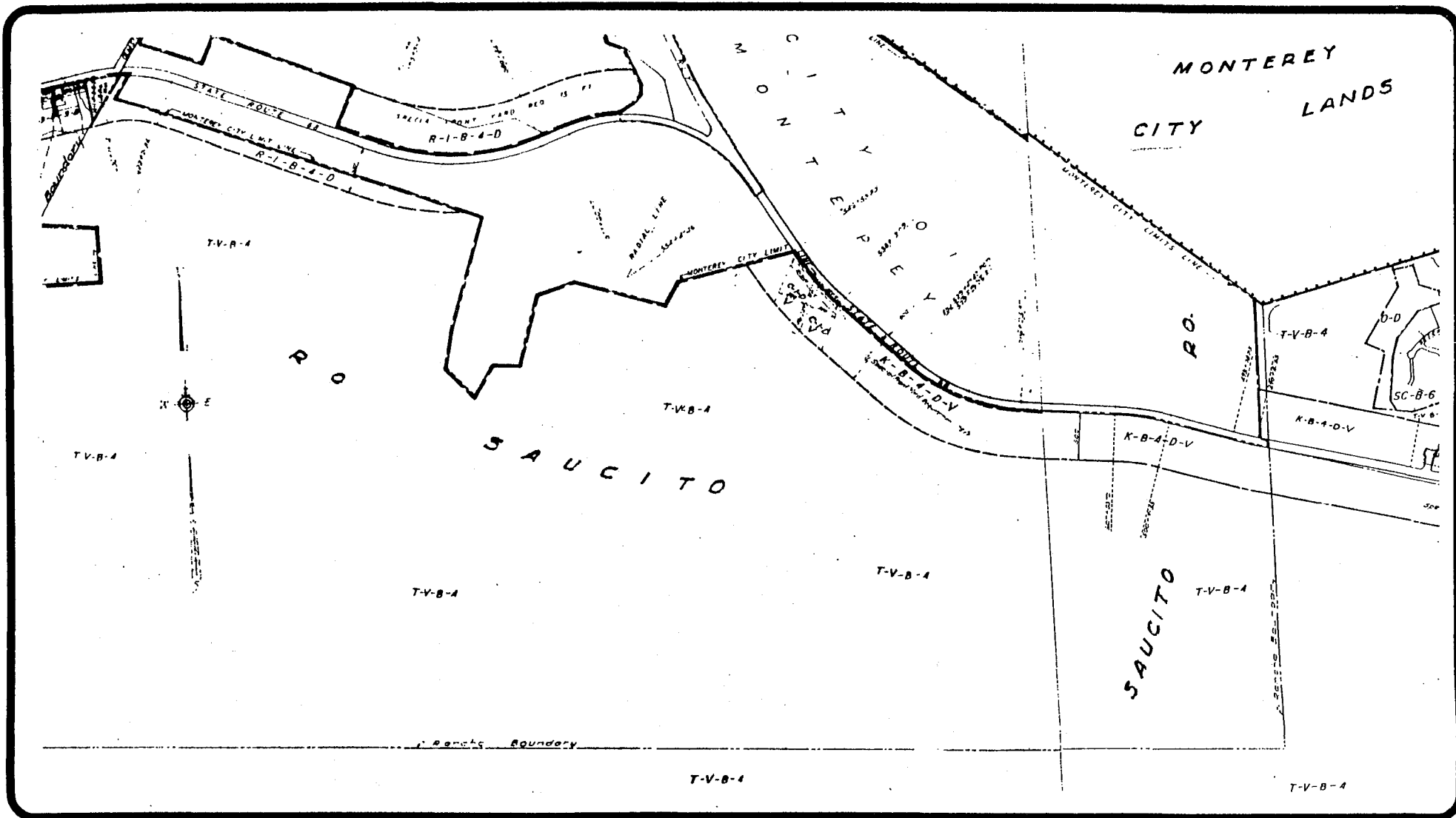
The proposed zoning for the project site is K-B-6 for the residential lots and O for the common areas and the tennis, recreation and equestrian centers. The "K" district is for agriculture-residential areas. The B-6 portion of the zoning indicates the lot sizes are as shown on an approved subdivision map. The "O" district is for open space use areas. The SC-B-6 district may be applied to lots in the scenic corridor for Highway 68 that contain homesites with the potential for visual impact. The SC (Scenic Conservation) district requires an SC permit for building a home to be reviewed by the Planning Commission for site location and design.

1.3.3 Other Applicable Plans

1.3.1.1 City of Monterey Highway 68 Area Plan (March 1984)

The City Council of Monterey approved the Highway 68 Area Plan on June 19, 1984. The need for this plan arose with the passage, by city voters, of Measure "M" in February 1982. Measure "M" repealed the previous Monterey II Plan and required that prior to City approval of any land use change in the Highway 68 area, "the proposed plan must be approved by the voters of the City of Monterey". The Highway 68 Area Plan was approved by city voters in November 1984.

The Highway 68 Area Plan contains specific policies for the Monterra property which would allow a maximum of 1700 residential units, and neighborhood shopping areas to meet the basic needs of future residents. This Area Plan also contains policies related to environmental resources, social



ZONING MAP

FIGURE 1.4



needs, economic issues, and facilities, utilities and services, which apply to the entire Monterey II Area. One important overall policy related to transportation states that no new development will be permitted once Level of Service D is reached unless increased capacity is provided.

1.3.3.3 LAFCO Monterey City Sphere of Influence

The Monterey County Local Agency formation Commission (LAFCO) adopted the Monterey City Sphere of Influence on March 30, 1983. The Monterra property is included within this Sphere-of-Influence boundary.

The definition of a Sphere-of-Influence is "the probable 20-year physical boundary and service area of a local government agency." Inclusion of the Monterra property within the City of Monterey Sphere-of-Influence therefore indicates LAFCO's belief that long-term public services to this property will be best provided by the City of Monterey.

In addition to including the entire property within the City's Sphere-of-Influence, LAFCO designated roughly the western half of the property as an Urban Service Area and the eastern remainder as an Urban Transition Area. An Urban Service Area is an area now served or proposed to be served (within the next five years) by urban facilities, utilities and services. An Urban Transition Area is an area which is not programed for urban facilities or utility expansion within the next five years; or an area which will most likely be used for urban expansion within five to twenty years.

1.3.3.4 Monterey Peninsula Airport Plan

The Monterey Peninsula Airport is located across Highway 68 from the Monterra property. The most recent master planning documents for the airport are the 1975 Master Plan, the 1980 Airport Noise Control and Land Use Compatibility Study (ANCLUC) and the November 1983 Environmental Impact Report for the Proposed Airport and Runway Development Program. The 1983 EIR analyzes the impacts of airport improvement projects suggested in the earlier documents. These improvements are intended to improve the airport's operating efficiency, enhance safety aspects, mitigate airport noise impacts on adjacent residential areas, and improve the district's revenue base.

The improvements proposed by the three studies include the following:

- (i) extension of Runway 10-28 (east-west runway) 1,000 feet to the east;
- (ii) construction of a new 3,500-foot long general aviation runway parallel to Runway 10-28;
- (iii) closure of Runway 6-24 (north-south runway) after 3,500-foot long parallel runway is constructed;
- (iv) facilities for aviation-related industry, light industry, and office/research facilities on the north side of the airfield.

Since aircraft utilizing the airport do not take off or land over the Monterra property, airport operations will have minor impacts on proposed development there. Noise impacts are discussed in Section 2.6.2 of this report.

The Airport Land Use Commission is currently updating the 1982 ANCLUC study and is also assembling land use planning information for surrounding communities. It is anticipated that the commission will adopt an airport land use plan very similar to the land use plans of its surrounding communities.

1.3.3.5 AMBAG 208 Water Quality Plan

The AMBAG 208 Water Quality Plan pays special attention to Laguna Grande and Roberts Lakes, downstream of the Monterra property. Laguna Grande Lake is infilling from sedimentation created by erosion from upstream developments. Roberts Lake is suffering from infilling due to windblow dune deposits.

The AMBAG plan suggests the following measures to mitigate impacts on these two lakes:

- (i) street sweeping and paved driveways;
- (ii) a sediment trap at Laguna Grande Lake, either at War Memorial Park or at the lake inlet;
- (iii) on-site retention of stormwater and sediment for any proposed upstream developments;
- (iv) cluster development;
- (v) continuing education regarding erosion control.

1.3.3.6. Route 68 Study to Develop Program of Improvements

On February 1, 1984, the Monterey County Public Works Department issued a study and recommendations on an improvement program for Highway 68. This study and recommendations have been adopted in concept by the Board of Supervisors.

This study's summary of needed improvements by priority is listed below:

1. Toro Park Interchange and Freeway Extension

Description: Extension of the freeway from 0.3 mile west of Reservation Road to 0.4 mile east of Torero Drive. Construct interchange at Toro Park entrance. Limits - P.M. 16.80/15.10, length - 1.69 M. AADT (1981) - 16,700, L.S. (1981) - Cost (1984) \$5,800,000.

2. Olmsted Road Interchange and Freeway Extension

Description: Extension of the freeway from 0.20 miles east of Olmsted Road to the beginning of existing freeway. Construct improvements from Olmsted Road to the beginning of existing freeway. Construct interchange at Olmsted Road. Limits - P.M. 5/81/4.49, length - 1.32 M, AADT (1981) - 14,800, L.S. (1981) - D, Cost (1984) \$7,900,000

3. Corral de Tierra Bypass

Description: Construction of a two-lane bypass on adopted plan lines from 0.3 mile west of Torero Drive to 0.25 mile west of Corral de Tierra and would include grading (earth work) to ultimate four-lane design. Limits - P.M. 14.85/12.66, length - 1.69 M, AADT (1981) - 16,700, L.S. (1981) - D, Cost (1984) - \$7,200,000

4. Laureles Grade Bypass

Description: Construction of a two-lane bypass on adopted plan lines from 0.25 mile west of Corral de Tierra to 1.00 mile west of Laureles Grade and would include grading to ultimate four-lane design. Limits - P.M. 12.66/10.22, length - 2.44 M. AADT (1981) - 14,400, L.S. - D, Cost (1984) - \$4,200,000

5. York Road
Description: Construction of a two-lane bypass on adopted plan lines from 0.2 mile east of York Road to 0.20 mile east of Olmsted Road and would include grading to ultimate four-lane design. Limits - P.M. 8.32/5.81, length - 2.51 M, AADT (1981) - 14,800, L.S. - D, Cost (1984) - \$4,200,000
6. Laguna Seca
Description: Construction of a two-lane bypass on adopted plan lines from 1.00 mile west of Laureles Grade to 0.20 mile east of York Road and would include grading to ultimate four-lane design. Limits - P.M. 10.22/8.32, length - 1.90 M. AADT (1981) - 15,600, L.S. - D, Cost (1984) - \$3,600,00
7. Corral de Tierra Bypass
Description: Upgrading to four-lane expressway. Cost (1984) - \$2,400,000
8. Laureles Grade Bypass
Description: Upgrading to four-lane expressway. Cost (1984) - \$1,800,000
9. York Road
Description: Upgrading to four-lane expressway. Cost (1984) - \$1,800,000
10. Laguna Seca
Description: Upgrading to four-lane expressway. Cost (1984) - \$1,200,000
11. Corral de Tierra Bypass Interchanges. Cost (1984) - \$10,800,000
Torero Interchange
San Benancio Overcrossing
Corral de Tierra Interchange
12. Laureles Grade Bypass Interchange. Cost (1984) - \$4,000,000
Laureles Grade Interchange
13. York Road Interchanges Cost. (1984) - \$8,400,000
York Road Interchange
Highway 218 Interchange
14. Laguna Seca Interchanges Cost. (1984) - \$4,800,000
Laguna Seca Interchange

1.3.3.7 1985 Monterey County Transportation Improvement Program

The 1985 Regional Transportation Improvement Program (RTIP) includes the following project: H68-Toro Park, 1986-87 F.Y., \$7,183,000 - from .4 mile east of Torero Drive to .3 mile west of Reservation Road and constructing the Toro Park interchange. The State Transportation Improvement Program includes this same project as a "funded project" under the State Highway Account.

1.3.3.8 Monterey Peninsula Water Management District Water Allocation Plan

The Monterey Peninsula Water Management District (MPWMD) Water Allocation Plan allocates 6,501.1 acre-feet of water per year to the Monterey County portion of its district (fiscal year 84/85). As of that year, the County portion was utilizing 5,625 acre-feet; and therefore there was 876.1 acre-feet per year (13.5 percent of allocation) left over which could be allocated to new developments.

New developments which are served by water agencies within this district must have their new water connections approved by MPWMD. Developments which utilize their own wells, such as those proposed for Monterra, are not subject to the Water Allocation Plan. However, detailed hydrologic studies must be performed prior to approval of new wells; see hydrologic and public water supply sections in this report.

2.0 ENVIRONMENTAL SETTING

2.1 Regional Setting

The 2,831-acre Monterra property is located on the southern side of Highway 68 on the eastern outskirts of the City of Monterey. Within the Monterey Bay region, the property is located between Del Rey Oaks, Seaside, Fort Ord and Marina on the north, Carmel Valley on the south, Monterey, Pacific Grove and Carmel on the west, and the rural Highway 68 corridor, Salinas and greater Salinas Valley on the east.

2.2 Geology

2.2.1 Introduction

This section was prepared utilizing numerous public agency planning documents, and geologic and soils reports prepared specifically for the Monterra project site (Lowney-Kaldveer Associates and Jacobs and Associates). Gary Griggs, Ph.D., a registered geologist, conducted additional research, aerial photo interpretation, and field investigation for three man-days to supplement this previous work.

2.2.2 Regional Geological Setting

The Monterey Peninsula is located on the northern end of the Santa Lucia Mountain Range within the Coastal Ranges Geomorphic Province of California. This province is a linear system of more or less parallel and discontinuous mountain ranges and intervening valleys trending northwest/southeast. The geologic structure of the Coastal Range is highly complex. The rock masses have been closely folded, broken into fault blocks, and substantially eroded. Tectonic activity continues to the present day.

A major feature of the Coastal Ranges is the numerous northwest-trending, active faults, dominated by the San Andreas Fault which extends for more than 600 miles. These faults often follow the boundaries of mountain valleys for a short distance and then cut obliquely across the topography to adjacent mountain fronts. Drainage networks typically display a trellis pattern that parallels the regional structure.

The western Santa Lucia Range shows similarities to the other Coastal Range sections, except that the widely exposed basement rocks include a highly metamorphosed sedimentary rock known as the Sur Series gneiss, in addition to granitic rock and Franciscan metasediments. The Sur Series gneiss has been intruded by the Santa Lucia granitic rocks. The granite and gneiss basement formed a rigid block covered by younger sediments. Where Tertiary sediments overlie Franciscan and Cretaceous rock, intense folding has taken place.

The three active faults or fault zones in Monterey County are the San Andreas Fault along the eastern edge of the county, the Palo Colorado-San Gregorio Fault zone which lies along the coast, and the Monterey Bay Fault zone, nine miles north of the project site within the bay, which passes onshore between Marina and Monterey.

Two northwest-trending faults, the Berwick Canyon and Navy Faults, and one west-trending fault, the Chupines Fault, pass directly through the project area and are considered potentially active. The Navy Fault has been mapped as an onland extension of a trace of the active Monterey Bay Fault zone; the Berwick Canyon and Chupines Faults appear to be connected to this fault zone as well. Each of these faults is believed to be potentially capable of producing ground offset or displacement along its trace (Clark, et.al., 1974).

At the present time, only generalized predictions can be made for the probable occurrence of major earthquakes. In view of the seismic activity in the area, it is reasonable to expect strong ground shaking (caused by earthquakes along one of the active or potentially active faults) to affect the project area within the next several decades. Other seismic effects that could possibly occur in the area include ground rupture (displacement along fault traces) and landsliding, particularly along dip slopes and existing landslide masses, and potential liquefaction or settlement along the Canyon Del Rey area.

2.2.3 Site Geology

The project site is situated on a topographically and geologically complex mountain block which trends east/west and is bounded by the Carmel Valley to the south and Canyon Del Rey and the foothills of Fort Ord Military Reservation to the north. The site contains rugged slopes and deeply incised

drainageways. Elevations range from 200 feet (above mean sea level) along Canyon Del Rey to nearly 1000 feet near the crest of the drainage divide in the southeast portion of the site.

Bedrock Geology. The geologic formations or bedrock units exposed on the site are similar to those found in the adjacent southern Monterey Bay area (Figure 2.1). The most extensive of these is the Monterey Formation which is composed of two distinct members or units--the upper diatomaceous shale and the lower siliceous shale. This formation, which is over 3000 feet thick, strikes generally east/west or northwest/southeast. The shale dips as little as 2° in the southwestern corner of the parcel and as steeply as $55-65^{\circ}$ in the northeastern portion. Physical properties of the Monterey Shale, as a potential foundation material, are fairly constant from west to east through the site along the strike of the beds. However, there is a pronounced change in the nature of the Monterey shale and attitude of the bedrock going from the south-central portion of the site to the more northern portions.

Over the northern portion of the property, the generally flat-lying deposits of the Paso Robles Formation, Aromas Sands, and Older Alluvium occur. All of these relatively young granular deposits have similar engineering properties--generally consisting of silty sand or a mixture of silty sand and gravel grading from medium dense to dense below the soil mantle. These deposits exhibit a high degree of stability even on some steeply incised slopes due to their cementation and flat-lying bedding. Only in areas where roadways have altered the natural drainage and created erosion on barren slopes or where the underlying diatomaceous shale has failed, have slope failures occurred in these materials.

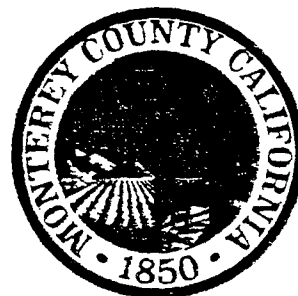
Faults and Seismicity. The site is located about 21 miles southwest of the San Andreas Fault, and about 11-12 miles northeast of the San Gregorio/Palo Colorado Fault zone, both of which are seismically active (Greene, et.al., 1973). The Monterey Bay Fault zone, which is also seismically active, lies between these two other fault zones, and trends onshore between Marina and Monterey. Green, et.al. (1973) and Clark, et.al. (1974) have traced these faults onshore where they have been continued as the Navy, Seaside, Ord Terrace and other un-named faults.

MONTEREY COUNTY

PLANNING DEPARTMENT

(408) 422-9018 - P.O. BOX 1208 - SALINAS, CALIFORNIA 93902

ROBERT SLIMMON, JR.
DIRECTOR OF PLANNING



February 20, 1986

Monterra Ranch
c/o Hanover Monterra Investors II
2029 Century Park East #3335
Los Angeles, CA 90067

Dear Applicant:

This is to notify you that a staff review of your tentative subdivision map (826) application finds it to be:

_____ incomplete, and more information is necessary. A list of the additional information required is attached.

_____ complete and has been placed on an agenda to determine environmental effect for _____. A copy of the staff's "Environmental Assessment and Recommendation" including date and time of your application will be sent to you prior to that meeting.

_____ complete and has been placed on an agenda to determine environmental effect and has been set for public hearing for _____.

_____ complete and has a categorically exempt environmental status. The application has been set for public hearing for _____.

X complete. The application has been set for public hearing for March 13, 1986 before the Subdivision Committee

Feel free to contact us for any additional information you may require.

Sincerely,

MONTEREY COUNTY PLANNING DEPARTMENT

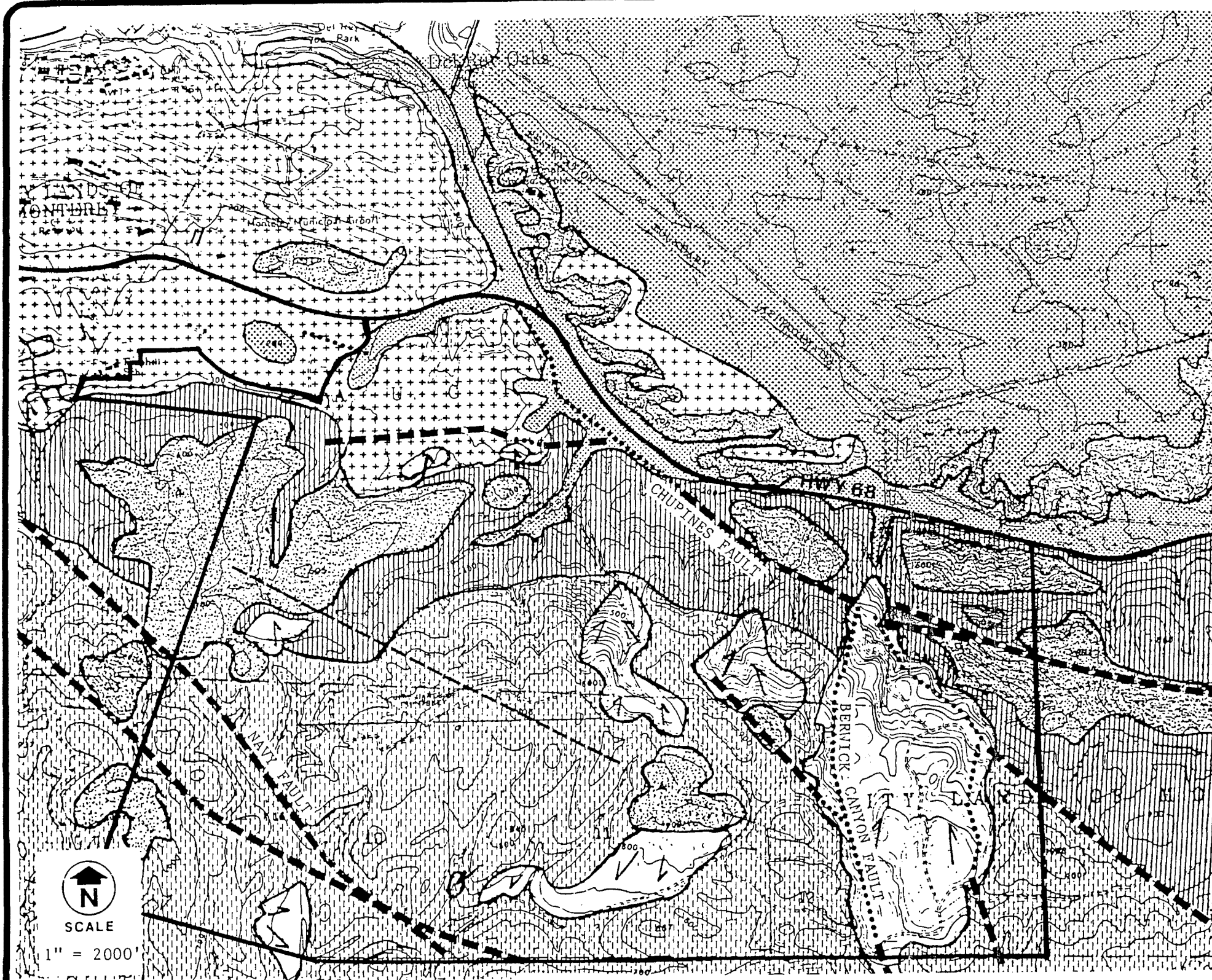
Wm. J. Card

William J. Card
Planner II

WJC/cw

B6

cc: Anthony Lombardo; Anne Secker; ~~WJC Corporation~~



LEGEND

- ALLUVIUM (Qa)
- OLDER ALLUVIUM (Qoa)
- LANDSLIDE DEPOSITS (Qls)
- PASO ROBLES FORMATION (Qtp)
- ARÔMAS SAND (Qar)
- SANTA MARGARITA SANDSTONE (Tsm)
- MONTEREY SHALE, DIATOMITE MEMBER (Tmd)
- MONTEREY SHALE, SILICEOUS SHALE, MEMBER UNDIFFERENTIATED (Tm)
- STRUCTURAL LINEATION; DASHED WHERE INFERRED
- FAULT; DASHED WHERE APPROXIMATELY LOCATED, DOTTED WHERE CONCEALED OR INFERRED

SOURCES: LOWNEY- KALDVEER ASSOCIATES, 1979
CLARK et. al., 1974

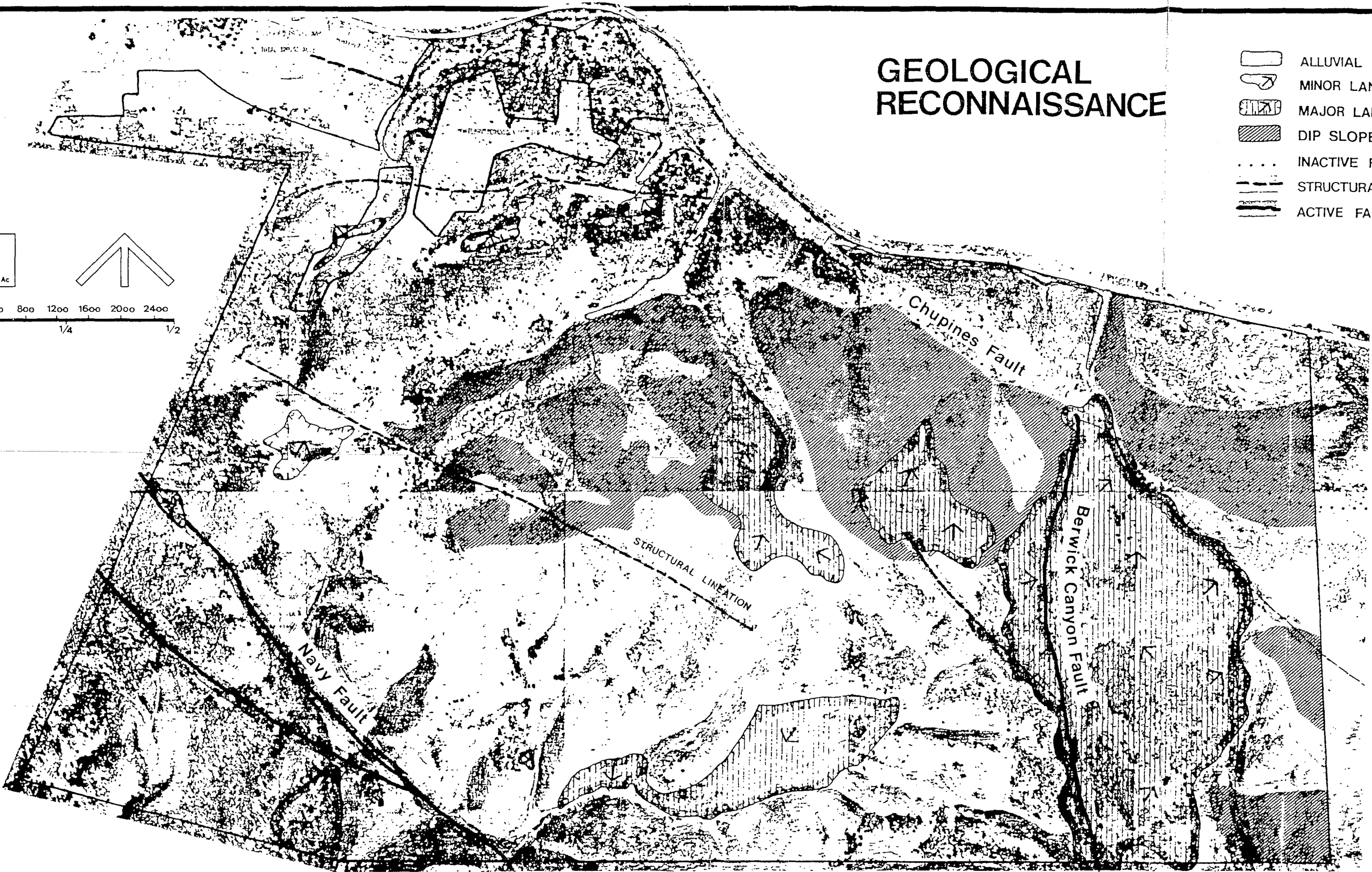
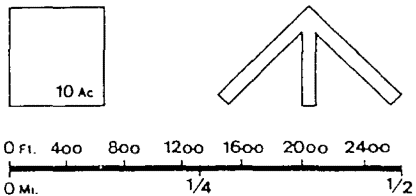
BEDROCK GEOLOGY, FAULT ZONES & LANDSLIDE DEPOSITS

FIGURE 2.1



GEOLOGICAL RECONNAISSANCE

- ALLUVIAL SOIL
- MINOR LANDSLIDE
- MAJOR LANDSLIDE
- DIP SLOPE
- INACTIVE FAULT
- STRUCTURAL LINEATION
- ACTIVE FAULT



LANDSLIDES, DIP SLOPES & FAULT ZONES

FIGURE 2.2



The Navy, Chupines and Berwick Canyon Faults all traverse the project site and may all be onland traces of the offshore, seismically active Monterey Bay Fault zone.

The Navy Fault exists as two branches where it crosses the southwestern corner of the site. Based on field work by the U.S. Geological Survey (Clark, et.al., 1974) and the reconnaissance geological investigation of the site by Lowney-Kaldveer and Associates (1974), the Navy Fault is recognized by its topographic lineations. Zones of crushed Monterey shale, and the alignment of springs, scarps and aligned drainages onshore and offset of the seafloor along the seaward extension of the fault (Greene and others, 1973) indicate that the Navy Fault may be active. A 1.6 Richter Magnitude earthquake occurred on the Navy Fault within the project property in 1972. Although no consistent offsets of curbs or other man-made features were found by the U.S.G.S. to be associated with the fault, most of these features would have been constructed so recently that they would not have had time to show much movement. The U.S. Geological Survey recommends that site investigations by geologists should be made on the Navy Fault before development is contemplated on it (Clark, et.al., 1974).

The Chupines Fault can be mapped discontinuously from the eastern boundary of the Seaside Quadrangle northwestward for about four miles to where it reaches Quaternary alluvium of Canyon Del Rey. The Paso Robles Formation of Pleistocene age has been offset about six to ten feet although no evidence has yet been found to indicate the fault is presently active (Clark, et.al., 1974).

Most of the Berwick Canyon Fault, which trends northwesterly onto the site from the south, is concealed on the site beneath a very large landslide. This fault appears to offset older alluvium of probable Pleistocene age and is, therefore, considered geologically young and potentially active. The U.S.G.S. also recommends detailed investigation by engineering geologists before contemplating any development (Clark, et.al., 1974) in this fault area.

Although the approximate locations of all three faults are shown on the project geology map, both the original consultant (Lowney-Kaldveer Associates, 1974) and the County reviewer (Levish, 1975) state clearly that, prior to planning a development, further evaluation will be required in order to more accurately locate these faults. This is particularly important at the

southwestern corner of the site where the Navy Fault consists of two traces which pass within 500 feet of proposed dwelling units.

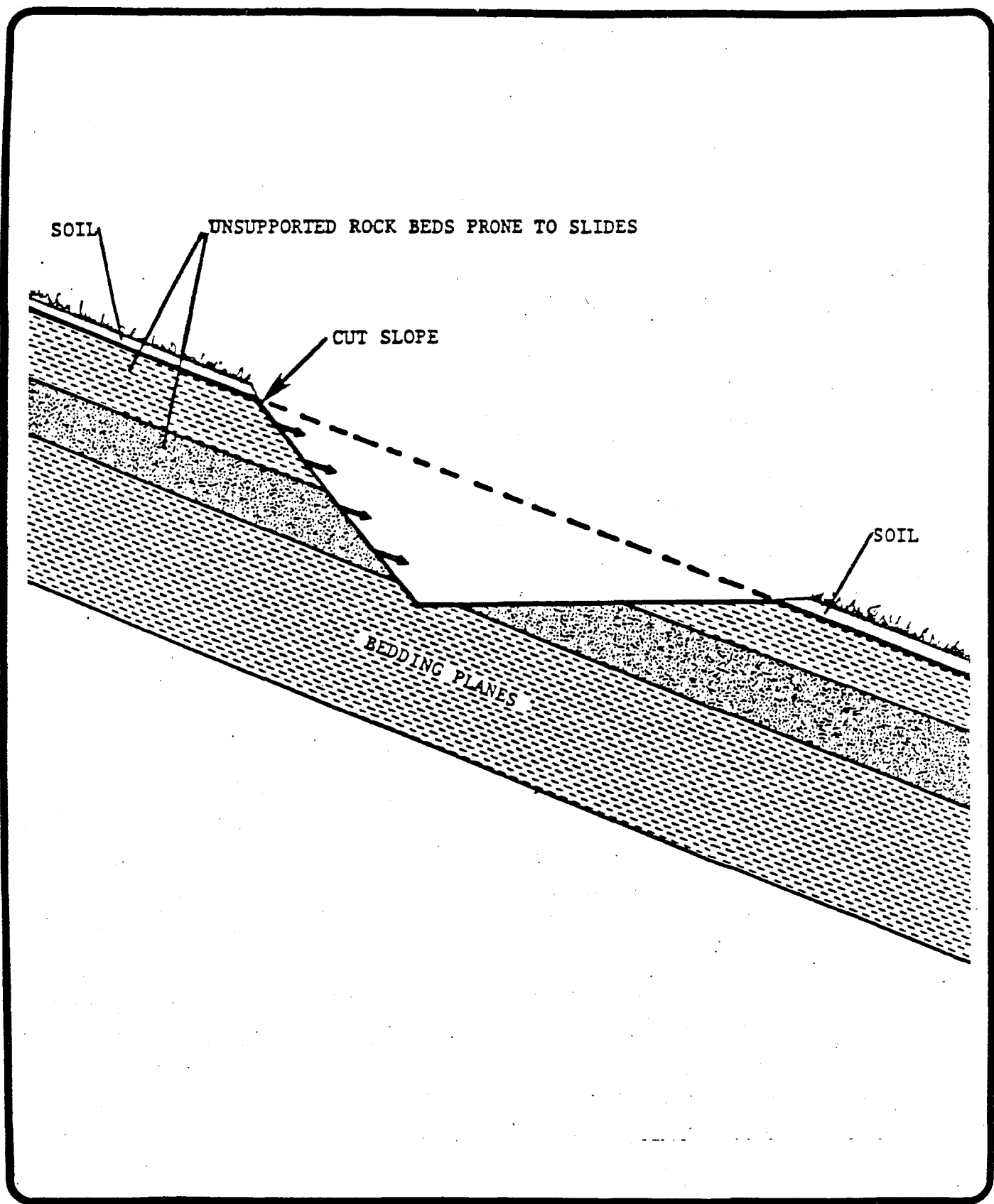
A structural lineation which trends northwest/southeast nearly midway between the Navy and Chupines Faults also requires more thorough evaluation. This feature may be a fault or shear zone associated with the named faults. Development is proposed along the trace of this feature and its significance needs resolution. Two additional lineations shown on the geology map which pass near or through the proposed school site need similar evaluation, as does a short lineation just west of the Berwick Canyon slide.

In order to accurately locate these faults and lineations as well as determine their importance or recency of activity relative to the proposed development, careful aerial photo work, followed by field mapping and trenching is strongly recommended.

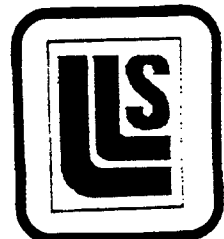
Slope Stability and Landslides. Landslides and areas of potential slope instability are found over large portions of the project site. For the most part, the existing failures and potentially unstable areas lie within the Monterey Formation which underlies most of the steeper portions of the site. The Monterey shale is notoriously unstable throughout southern and central California for several reasons: 1) the presence of the expansive clay bentonite which, due to its ability to shrink and swell seasonally with change in water content, is prone to failure, and 2) the presence of dipslopes in the Monterey shale on which the bedding planes and hillsides have similar slopes, thereby generating block glides or large-scale rock slides (Figure 2.3). Faulting on the project site has further weakened the Monterey shale through shearing, fracturing, and subsequent weathering.

Dipslopes underlie most of the north-facing slopes which form the northern half of the site. Two large, deep-seated slides and a portion of the Berwick Canyon slide have been mapped on these dipslope areas (see Figure 2.2) and should be recognized as clear indications of the inherent instability of the Monterey Formation under dipslope conditions.

Dipslopes are not the only areas of concern within the Monterey Formation, however, as several large slides have occurred along the southern side of the property where dipslope conditions do not exist. Sixty-one percent of the site consists of hillslopes in excess of 30% which is another



DIPSLOPE ILLUSTRATION FIGURE 2.3



key factor in producing this slope instability; see Figure 2.4.

Although ten large slides have been mapped on the project site (including the Berwick Canyon slide which is just over a mile long and 2/3 of a mile wide), little has been said in the Lowney-Kaldveer geotechnical investigation about the aerial photo analysis and the presence of smaller slide masses or the recency of slide movement. With over 50 years of stereo air photo coverage, it should be evident whether all or any of these slides have either grown or been remobilized during that time interval. Freshness of head scarps and presence or age of vegetation growing on these scarps can also clarify this issue. Based on more detailed investigations of this sort, setbacks from the head and lateral scarps of the slides can be realistically delineated. Levish (1975) in his review draws the same conclusions regarding setbacks from landslides. At present, a number of proposed home sites are within several hundred feet of landslide head scarps. Careful site-specific evaluations of these areas are needed at this stage of planning.

Field reconnaissance and aerial photo analysis suggest that these large, previously mapped slide masses are relatively old. The topography is quite subdued, headscarp areas are not at all fresh on photos or in the field and vegetation on the mapped slides appears undisturbed, although in some instances distinguishable from the surrounding areas. The vegetation on the site, however, chaparral, oaks and some pines, is not very useful (as are redwoods, for example) in recording slope movements.

Two previously unmapped smaller landslides (on Lot 265 and Lot 82) were delineated as a result of aerial photo evaluation. In addition, although two very large landslides were delineated along the north-facing dipslopes in the north central portions of the site, two other slightly smaller areas with similar characteristics and appearance on the aerial photos occur just to the west of these two slides, but were previously unmapped. None of these appear to be young active slides, but each of these areas should be evaluated further where development is proposed within them.

2.2.4 Impacts

1. There is the potential for significant impacts if additional geotechnical studies are not carried out to determine specific project requirements as outlined below. Lowney-Kaldveer and Associates (1974) state repeatedly in their report that "further evaluation will be required", and that "we recommend that detailed geotechnical studies be made in any geological hazard areas where development is proposed", etc. Detailed geological and geotechnical evaluation is now necessary before any final approvals are given to the proposed project. The same conclusion is reached in the Levish (1975) review.

The project site is mapped as a moderate to high hazard area on the County General Plan Map of potential seismic and geological hazards. Detailed geological reports are required for standard subdivisions in such areas. The 1979 Lowney-Kaldveer geologic report for a previously proposed subdivision on the project site clearly needs to be supplemented with additional geologic studies on specific impact areas described in this and previous sections.

The geological and geotechnical features that now require more detailed study and evaluation regarding the impact they will have or the control they will place on any proposed development are described in the following impacts discussions.

2. Faults: Locations and Activity Levels. Three major hazards are associated with faulting and earthquakes: 1) seismic shaking, 2) surface offset, and 3) ground failure. Each will be discussed individually.

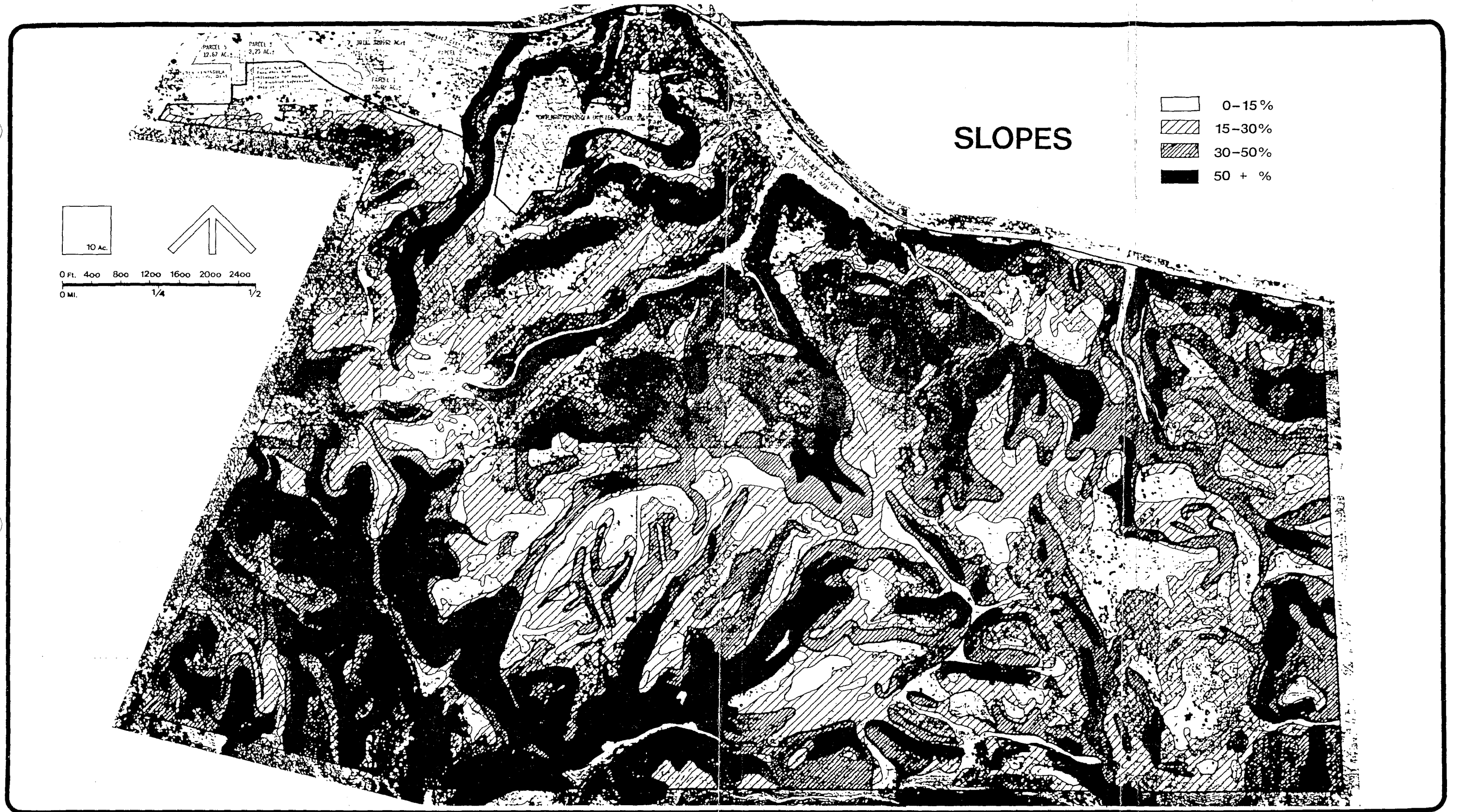
A. Seismic Shaking. Seismic shaking can be expected to be very strong to severe in the vicinity of the project site (VI-VIII on the Rossi-Forel Scale; McCrory, et.al. 1977). The intensity of shaking at a particular location depends not only on the strength (magnitude) of the earthquake and distance from the earthquake focal point, but also on local geologic conditions. Data from many historic earthquakes indicate that intensities are generally heavier in areas underlain by thick deposits of unconsolidated sediment than in adjacent bedrock areas. The Canyon Del Rey area is the portion of the site where shaking can be expected to be

most intense and this area is not apparently projected for development.

The San Andreas Fault, because of its high activity level and despite its distance from the site, represents the greatest threat in terms of seismic shaking. Although the Navy and Berwick Canyon Faults are potentially capable of generating earthquakes, the likelihood of a large earthquake on the San Andreas Fault is considerably greater. Any proposed construction or improvements need to give serious consideration to resisting and reducing the impact of strong seismic shaking through recommendations such as those given by Yanev (1974).

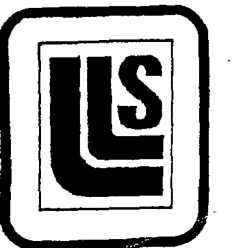
- B. Surface Offset. Existing evidence indicates that the Navy and Berwick Canyon Faults are active or potentially active. There is the potential for significant adverse impacts unless additional field work including trenching is required to evaluate this potential more accurately. A similar investigation of the two major lineations crossing the site is also necessary in order to evaluate the hazard they pose. A construction setback from the active or potentially active features or appropriate width must be established along the length of each feature. A 100-foot setback to either side is recommended; where the trace is not precisely located or is concealed, this distance may need to be increased. The recreation complex along the Berwick Canyon Fault (and on the landslide surface) is an example of this problem. Due to the uncertainty of the slide activity, and the fault's location as well as the potential problems of loading the slide mass, no structures should be built in this area until further studies are completed.

The area of greatest potential concern for surface offset lies along the lineation lying between the Navy and Chupines Faults. The present proposal establishes no setbacks along this zone and building sites have been delineated along its length. Its significance and the potential threat of surface offset needs careful evaluation. A similar concern exists with the short



SLOPE MAP

FIGURE 2.4



lineation just west of the Berwick Canyon slide.

- C. Ground Failure. Earthquake-induced ground failure is a significant aspect of seismic shaking but is difficult to predict. It is known that many of the very large slides in the Santa Cruz Mountains to the north were induced by the 1906 San Francisco earthquake. If a large earthquake were to occur during a particularly wet winter, the potential for inducing new landslides or reactivating older slides is significantly increased. Again, based on existing data, no building construction is recommended on the Berwick Canyon slide area. Due to the size of this slide complex, stabilization is not a viable option; avoidance of the potential hazard is considered the only reasonable mitigation. Any structures or proposals to impose water on the surface of the Berwick Canyon slide should be totally avoided based on limited existing information. Loading with the water itself creates the potential for destabilizing the slide complex. However, if movement continues, during seismic shaking or under non-seismic conditions, any reservoir lining could rupture, leading to the entry of additional water into the subsurface and further activating the slide.

The geological consultants recommend similarly "that development planning (in this area) be restricted to roads, green areas, or possibly a golf course, until further studies can assess the activity of the slides. Any grading for roads (and the associated runoff) should be carefully planned to minimize surface water infiltration and erosion which might decrease the existing stability of the slide masses."

Liquefaction or ground settlement may also occur during large earthquakes in areas underlain by clean silts and sands with high water tables. With the exception of the Canyon Del Rey drainage, the geological investigation by Lowney-Kaldveer and Associates (1974) found few areas where this type of seismically induced ground failure would constitute a potential problem. Soil properties and depth to water table are unknown, however, within

some of the larger slide masses and within some of the drainages, particularly along the southern boundary of the property, further geotechnical investigations are required in these areas prior to final development approvals (Lowney-Kaldveer and Associates, 1974).

3. Slope Stability and Landslides. Landsliding under seismic conditions has been previously discussed. Slope failure no doubt has and will continue to occur under non-seismic conditions as well. A very thorough aerial photo investigation of possible slides in all areas proposed for development should now be carried out, followed by field investigation. The recency of slide movement as expressed in freshness of topography and condition and vegetation of the head scarp areas needs evaluation. Borings or trenching would also be needed to define depth of failure surface if slide reconstruction is proposed.

The historic aerial photo record also needs careful analysis in order to determine whether the slides are growing headward or laterally. Such data is necessary in order to establish reasonable setbacks from the slides. The present proposal places a number of homesites directly upslope from large slides. More detailed investigations are needed in these areas.

Although large dipslope areas have been previously delineated along the northern portion of the site and seven of the ten large slides occur in dipslope areas, little evaluation has been carried out on the stability of the remaining portions of the site underlain by dipslopes. The number of bedrock attitudes on the geologic map is limited such that it is difficult to know how steeply the shale beds dip in many areas.

A number of proposed homesites along the slopes immediately west of the large dipslope failures are in areas designated as dipslopes or potentially hazardous areas. Considering the widespread extent of dipslope failures in the Monterey Formation elsewhere in California, as well as on the project site, development in such areas, whether grading for road construction or actual structures, is not recommended without detailed study indicating such development is safe. Safe dip angles within the Monterey bedrock need to be established and where these angles are exceeded, geological and geotechnical data needs to be presented which indicates construction in such

areas will not be subject to future slope failure. Although portions of these slopes are presently stable, the impacts of grading, construction, increased runoff and increases subsurface water (irrigation and septic leach fields) all have the ability to destabilize these Monterey Formation dipslopes.

2.2.5 Mitigation Measures

1. Additional geotechnical field work, including trenching, is required to determine the activity of the Navy and Berwick Canyon Faults, and the structural lineations located between the Navy and Chupines Faults where development is proposed within 200 feet of these features. There is an unknown potential for surface offset along the structural lineation. A 100-foot construction setback is initially recommended on either side of these features and this setback may need to be increased where the features are not precisely located or are concealed. Specifically, the short lineation to the west of the Berwick Canyon landslide passes through proposed Lots 47, 55 and 61; further investigation of the hazard posed by this geologic structure is needed. The major lineation passes through many proposed lots; further evaluation is needed here also. Proposed lots 19-25 lie adjacent to Chupines Fault. As long as any construction remains at least 200 feet from this mapped trace, further fault activity is unlikely due to constrained location of fault zone.

2. No structures or lakes should be constructed on the Berwick Canyon landslide area until further geotechnical studies are completed to determine the slide activity, the fault location and the potential problems with loading (building on) the slide mass.

3. A thorough aerial photo investigation and field investigation of possible slides in all areas proposed for development should be carried out to determine whether the slides are growing headward or laterally; and, to establish reasonable setbacks from specific slides. Specifically:

- Proposed Lots 33, 34, and 35 are partially on steep (over 30%) slopes above headscarp area of Berwick Canyon slide. These should be consolidated, eliminated or any structure located a safe distance back from scarp (200 ft.).
- The access road to proposed Lots 62-69 runs up a drainage way or draw with side slopes over 30%. Natural drainage must be dealt with here.
- The lower third of Lots 63 and 64 are mapped as the headscarp of a large landslide. There are no bedding attitudes mapped here such that further analysis is required to determine safe setback for structures if construction proceeds.
- All of Lot 52 and large portions of lots 51, 53 and 54 lie along the head of a large mapped dipslope landslide. A cul-de-sac is located at the headscarp as well. Stability evaluation is required here. Although perhaps stable under present conditions, the input of significantly increased water through septic leachfields, landscape watering, and increased runoff at the top of a dipslope may well destabilize these slopes.
- A previously unmapped landslide forms the lower portion of Lot 82; most of the middle portion of the lot is over 30%. Stability/setback evaluation needed if lot is retained.
- The road connecting Lot 118 to 119 crosses a drainage and slope over 30%; needs evaluation. This may be an unnecessary connection.
- Lots 105-110 are at the top of a dipslope; impacts of development and added water require further evaluation.
- Road traversing the steep slope connecting Lots 145, 154-166, and the lots themselves are all on a slope with only a single mapped attitude indicating a 32° dip in Monterey Shale. This slope is potentially unstable, development and water input adds additional concern which needs resolution.
- Lots 161-170 lie at the base of the above-mentioned, potentially unstable dipslope. Hazard evaluation needed.

- Lots 235 and 236 and road are on a mapped slide; if this is actually a slide it appears to be incorrectly located and headscarp should be further to the north, at the break-in-slope; resolution is needed.
- Access road to Lots 185-190 runs directly up the center of a major drainage and crosses the toe of a major mapped landslide. Lot 185 is on the toe of this apparently old subdued slide. The rear portion of Lot 188 is steep scarp and unmapped slide. This lot should be eliminated, or construction set well back from edge and post-construction stability assessed.
- Retention ponds proposed south of lot 208, west of lot 43, and west of lot 8 are located in landslide areas and should be individually assessed and designed to take these conditions into account.
- Any secondary access roads which are found to be necessary by the Planning Department and fire officials should be evaluated for potential geologic problems.

4. A geotechnical study on dipslopes should be completed to determine safe dip angles with the Monterey Formation bedrock; and, to recommend foundation and other techniques which will prevent future slope failure in areas where these angles are exceeded.

2.3 Soils

This section is based upon the Lowney-Kaldveer Associates geologic/soils report and on the Monterey County Soil Survey.

2.3.1 Existing Conditions

2.3.1.1 Soil Types

The USDA Soil Conservation Service Maps indicated two major soil types on the site: Santa Lucia Reliz Association and Santa Lucia Shaly Clay Loam.

The Santa Lucia-Reliz Association is found on slopes between 30 and 75%. Because of these slopes, runoff is very rapid and erosion hazard is high. Additionally, this soil has a high corrosion hazard for uncoated steel and concrete, and low shrink-swell.

The Santa Lucia Shaly Clay Loam is found on three different slope ranges: 2-15%, 15-30%, and 30-50%. As the slope increases, so does the erosion hazard and runoff rate. This soil has a high potential for corroding concrete and uncoated steel. On 2-15% cross slopes, building hazard is moderate because of slope and depth to rock. On steeper slopes (15-50%), the building hazard is severe; see Table 2.1.

2.3.1.2 Erosion in Canyon Del Rey Watershed

During periods of high runoff, extensive erosion can occur in the Canyon Del Rey watershed. Large quantities of sand, silt, and clay are transported from headwater regions and side slopes to be deposited on the valley floor. Sedimentation occurs predominantly in Laguna Grande Lake, Roberts Lake, and in the areas immediately east of the box culvert under Monte Mart at Fremont Avenue (MCFC and WCD, 1977). Almost all sediment presently being contributed to Canyon Del Rey Creek is derived from the southern slopes of its watershed. The slopes in this area are generally steep and soils have high runoff rates and high to very high erosion rates (U.S.D.A. Soil Conservation Service, 1979). The northern slopes of the watershed have lower slopes and very permeable soils. While erosion can occur on these less steep slopes, almost all of the eroded material is deposited within a short distance downstream and very little sediment is transported into Canyon Del Rey Creek (MCFC and WCD, 197).

Under the existing vegetation cover, there are no areas on the site where extensive erosion is taking place. The most rapidly eroding areas on the site occur in the lower elevation of the site along drainage channels contributory to Canyon Del Rey which are incised into the alluvial deposits and the diatomaceous shale unit of the Monterey Formation. Extensive gullying has also occurred along a number of the steep, existing roads on the site as a result of vegetation removal and concentrated runoff. The potential for erosion is, therefore, clear.

TABLE 2.1
SOIL CHARACTERISTICS

Soil Type \ Characteristic	Erosion Hazard	Runoff	Permeability (in/yr.)	Foundations	Soil Suitability
Santa Lucia-Reliz (Sq) 30-75%	High	Rapid	.6-2.0	High conc. and unc. steel	Severe slope
Santa Lucia Shaly Clay Loam (SFE) 15-30%	Moderate	Medium	5.1-6.5	High conc. and unc. steel	Severe slope
Santa Luca Shaly Clay Loam (SfF) 30-50%	High	Rapid	5.1-6.5	High conc. and unc. steel	Severe slope

2.3.1.3 Drainage Report for Monterra Development July 1984

In addition to drainage control proposals for the development itself, this report recommends the following methods of preventing erosion and siltation during construction:

1. cat tracking slopes;
2. temporary excavated swales;
3. hay bales placed in water courses to pond water and retain silt;
4. temporary retention basins adjacent to developed area;
5. fabric fences which will allow water to pass while retaining silts--example, Geofab (see brochure in the Appendix);
6. incorporate straw in soil.

2.3.1.4 M. Jacobs and Associates Percolation Study

In May and June 1984, M. Jacobs and Associates conducted extensive soil borings and percolation tests to determine the rate of potential infiltration of subsurface soils.

The majority of tests run indicated percolation rates within the specified County Health Department requirements for septic systems. Further testing is planned for holes which did not meet the requirements. Of the 86 borings, four did not meet minimum percolation rate requirements, five had excessive percolation rates.

2.3.1.5 M. Jacobs and Associates Soil Investigation for the Berwick Canyon Roadway

A 1984 soils investigation for the Berwick Canyon Roadway is described in the geologic impacts section above. The report concludes that the proposed roadway can be built over the Berwick Canyon landslide as long as very specific engineering recommendations are followed.

2.3.1.6 Lowney Kaldeveer Associates Soil and Geologic Investigations

Lowney Kaldeveer Associates (LKA) conducted preliminary geologic and soils investigations of the larger 2893-3386 unit Monterra projects in 1974 and 1979. These reports are extensively discussed in the geologic section above.

The LKA reports conclude that soils and foundation conditions, except where involved with some hazardous condition of slope stability or faulting are generally adequate. Some of the soils developed over areas of the diatomite member of the Monterey Formation may possess some unusual characteristics which require careful additional evaluation. Compaction subsidence may be a problem when developed areas are settled; this should be examined as a part of further soils investigations. Moderately expansive soils exist on the site and further site-specific analysis is recommended in order to determine where these soils will occur and thereby affect development.

LKA found few areas, with the exception of the drainage of Canyon Del Rey, susceptible to liquefaction under shaking from a large earthquake. However, water table conditions and soil properties are unknown (and warrant further investigation) within some of the broader tributary drainage channels, particularly along the southern boundary of the property.

2.3.2 Impacts

4. Foundations of proposed structures could be subject to corrosion of unprotected steel and concrete.

5. Access roads to Lots 185-190, 146-184, 62-69, 57-60, connecting 118 and 119 cross 30% or greater slopes in potentially thin and erosive soils.

6. General Plan Policy 26.1.10 prohibits development on slopes greater than 30 percent. Topography could constrain development in several areas where lots contain less than 4000 square feet of land with slopes for building sites less than 30%. Lots 44, 45, 58, 59, 60, 75, 82, 85, 86, 275 and 276 are all in this category.

2.3.3 Mitigation Measures

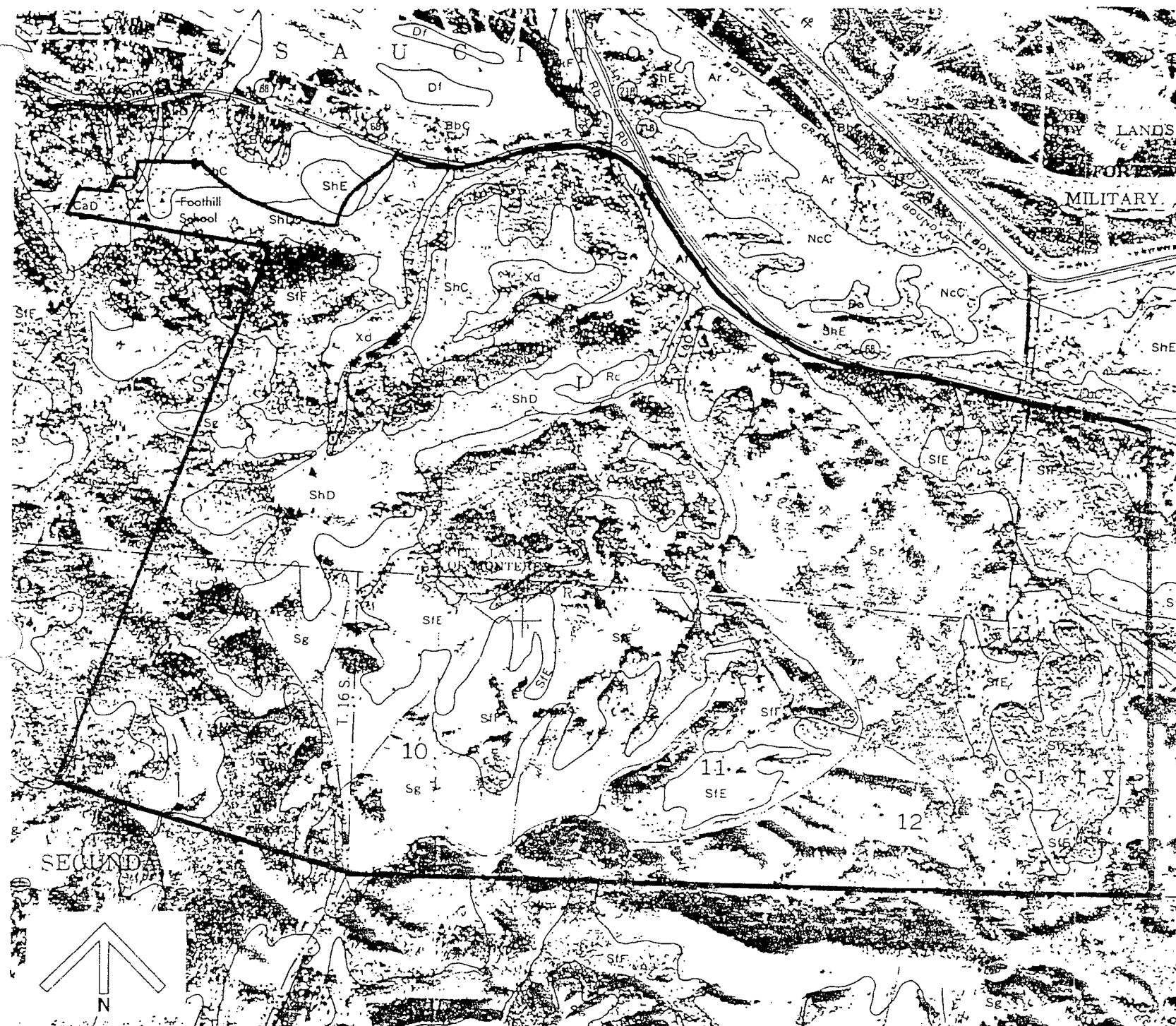
5. Soil Conditions at each building site should be evaluated by a soils engineer to determine foundation requirements.

6. An erosion control plan should be prepared for the project. This plan should include all of the following:

- all disturbed slopes should be revegetated with a mix of seeds best suited for the climate and soil conditions;
- slopes should be covered with a straw mulch or jute netting after seeding; the straw mulch should be punched in; no hydromulch should be used;
- no grading should occur between October 15 and April 15, unless conforming to Monterey County Code Section 16.12.090;
- where possible, cuts should be revegetated with trees as well as seed, especially in areas where trees are removed to allow roads and driveways;
- removed topsoil should be stockpiled on the site to be used for revegetation work;
- all road work on slopes over 30% or in landslide or dipslope areas shall require geotechnical evaluations;
- land should be graded and landscaped in increments of size that can be completed during a single construction season.
- storm water should not be allowed to flow directly down unprotected slopes, devoid of vegetation.
- catch basins should be used to retain sediment within the site area during the construction period.
- the grading operations should be evaluated and inspected by a qualified soils engineer.
- See also Comment Response 7 in Response to Comments section.

7. Building envelopes should be required on lots which include slopes greater than 30%, or those adjacent to slide areas, dipslopes, faults or lineations deemed hazardous. General Plan Policy 26.1.10 prohibits development on slopes greater than 30 percent.

8. Relocate access roads which cross 30%+ slopes or require specific geologic, grading and erosion control plans to mitigate impacts.



SOILS LEGEND

- CaD Chamise shaly loam, 9 to 15 percent slopes.
- Rc Rock outcrop-Xerorthets association.
- Sfe Santa Lucia shaly clay loam, 15 to 30 percent slopes.
- Sff Santa lucia shaly clay loam, 30 to 50 percent slopes.
- Sg Santa Lucia-Reliz association.
- ShC Santa Ynez fine sandy loam, 2 to 9 percent slopes.
- ShD Santa Ynez fine sandy loam, 9 to 15 percent slopes.
- ShE Santa Ynez fine sandy loam, 15 to 30 percent slopes.
- Xd Xerorthents, dissected.

SOILS MAP

FIGURE 2.5



2.4 Hydrology and Drainage

2.4.1.1 Existing Conditions: Area Watershed

The 2,831-acre project site is situated on a mountain block containing rugged slopes and deeply incised drainways. The crest of the drainage divide between Canyon del Rey and Carmel Valley trends northwest/southeast through the site. Sixty-three percent of the site drains to the Canyon del Rey watershed, thirty-five percent drains south to Canada de la Segunda or Carmel Valley, and two percent drains west to Monterey. Encompassing an area of 16.8 square miles and drained by Canyon Del Rey Creek, this watershed originates at an elevation of about 1,000 feet.

Approximately two-thirds of the site lies within the Canyon Del Rey watershed, and drains northwestward via Canyon Del Rey, Laguna Grande, and Roberts Lake, to the Pacific Ocean at Monterey Bay. About 50 acres of the northwesterly panhandle of Monterra presently drains across Tarpey Flats at Route 68 and then westward and northwestward to Monterey Bay via Route 68 and the Naval Postgraduate School. The remainder of Monterra drains south to the Carmel River, via Canada de la Segunda, and ultimately to the ocean at Carmel Bay.

The northern slopes of the watershed consist of sand dune fields and mesa-like terraces; surficial soils are sandy and permeable. The south slopes of the watershed predominantly consist of shale hills. Slopes are relatively steep and surficial soils generally have a low to moderate permeability. The floor of Canyon Del Rey is composed of deep alluvium. The channel of Canyon Del Rey Creek is incised five to ten feet into the alluvial plain.

Runoff and Flooding. Mean annual precipitation within the drainage area varies from 12 to 16.5 inches. Incident rainfall generally does not produce large quantities of runoff. Soils in the basin are generally pervious, particularly on the northern slopes and the valley floor, and therefore permit high infiltration rates. Most of the precipitation from smaller, frequently occurring storms infiltrates into the soils where it flows beneath the ground surface toward the valley alluvial deposits. However, the pervious surficial soils in many areas of the watershed are shallow and underlain by impervious clayish hardpan layers or shale bedrock. During large infrequent storms or when there has been substantial antecedent precipitation,

the surface soils become saturated and a much larger proportion of the precipitation runs off as stream flow. The 100-year flood in Canyon Del Rey is, therefore, much larger than the 10-year flood under existing conditions (Monterey County Flood Control and Water Conservation District, MCFC and WCD, 1977).

The 100-year floodplain along Canyon Del Rey Creek which runs along Highway 68 and the northeastern boundary of the project site is shown in Figure 2.6. The 100-year flood is the flood magnitude which has a probability of occurring on the average of once every 100 years or a one percent probability of occurring in any given year. The 100-year flood has been established by the Federal Insurance Administration as the basis for flood hazard evaluation and the determination of flood insurance rates.

Watershed Sub-basins. six of the 28 total sub-basins of the Canyon Del Rey Watershed are located on the Monterra property, according to the Monterey County Master Drainage Plan (June 1977). Following is a brief description of the five major sub-basins (see Figure 2.6):

- Sub-basin 10 is a triangular shaped, 1018-acre watershed which includes areas outside the project site. It is the largest of the drainage basins on the site. Its main watercourse is well defined and passes under State Route 68 through a six by three-foot reinforced concrete box.

- Sub-basin 11 is 332 acres in area. Runoff from most of this basin flows directly into Canyon del Rey Creek. Runoff from the eastern corner of the basin collects in the south drainage ditch along State Route 68, and then flows under the highway and into the creek through an 18-inch culvert; the culvert.

- Sub-basin 12 has a tributary drainage of 469 acres. The watershed itself becomes very narrow in downstream area and runoff concentrates in a single watercourse parallel to a private ranch roadway. The watercourse becomes indistinct as it approaches Canyon del Rey Creek. The water from Canyon del Rey Creek passes

under the private road through a 3.5-foot by 8.5-foot box culvert, located a few feet from and parallel to State Route 68.

- Sub-basin 13 is a small, 170-acre watershed that primarily consists of a single drainageway without a distinct watercourse. Runoff from the basin flows directly into Canyon del Rey Creek on the south side of State Route 68.
- Sub-basin 14 has a tributary drainage of 366 acres, including some areas not within the project site boundaries. The basin has one well defined watercourse that joins Canyon del Rey Creek before the creek crosses State Route 68 through a 48-inch culvert.

All five of the tributary drainage basins contain slopes greater than twenty-five percent. Soils on these slopes consist of clay loams, which are generally shallow and characterized by low to moderate permeability, high runoff rates, and high erosion potential.

Poorly drained areas occur in the northern portion of the site along much of the course of Canyon del Rey Creek. Other local areas of poor drainage are associated with landslide deposits (particularly in sub-basin 10), "sag" ponds along the Berwick Canyon Fault traces, and constructed stock ponds.

Water Quality Management Plan. The Association of Monterey Bay Area Governments (AMBAG) study, titled A Water Quality Management Plan for the Monterey Bay Region, was funded through a grant under Section 208 of the Federal Water Pollution Control Act and contains specific concerns over the potential impact of development on Laguna Grande and Roberts Lakes. The two coastal lakes are located between Seaside and Monterey. The report revealed that the lakes are being filled with sediment from urban runoff and upstream watershed erosion. The Plan made a number of findings and recommended specific actions which could be taken to reduce the deterioration of the lakes. Siltation in the lakes is also addressed in the County Master Drainage Plan and recommended mitigation measures include development of on-site sedimentation and detention basins where feasible and minimization of

impervious surfaces.

2.4.1.2 Applicant's Proposed Drainage Plan

The applicant's engineer, David Fuller of WWD Corporation, proposed a drainage plan in the July 1984 Drainage Report for the Monterra Development. This plan includes the following elements.

- overland flow to street gutters and drain lines to existing natural drainage swales;
- pipelines, curbs and gutters, and catchment structures will be designed for the 10-year storm, and culverts crossing under roadways in drainage channels will be designed for post-development 100-year storms;
- seven retention basins (322,856 cubic feet of storage) designed to retain additional peak runoff due to development, while discharging no more than pre-development 10-year design runoff. Retention basins will also be designed with overflow or bypass features to allow post-development 100-year storm overflows at one foot of freeboard.

2.4.1.3 Impacts

7. The proposed project would increase the peak storm runoff by a factor of 11.4 percent as a result of covering open ground with impervious surfacing in the form of roadways, buildings, pads, tennis courts, etc. Without adequately designed retention facilities, this increased runoff could overflow downstream receiving facilities and increase erosion hazards on and off site. Table 2.2 indicates summary drainage calculations; see Appendix for full report. Changes in on-site drainage could cause increased gullying and erosion on-site.

8. Future runoff from urban activity areas (roads, driveways, homesites) will contribute to a variety of water quality problems. Contaminant matter includes sand, silt, organic matter, vehicular oils and fuels, heavy metal compounds, non-biodegradable fertilizers, pesticides and vegetative control chemicals. The planned equestrian center could have

significant water quality impacts if not properly designed. Groundwater quality testing indicates that iron and manganese concentrations and salinity content exceed safe drinking water requirements.

2.4.1.4 Mitigation Measures

9. Retention basins should be designed to retain additional peak runoff due to development, while discharging no more than predevelopment 10-year design runoff. Retention basin should also be designed with overflow or bypass features to allow post-development 100-year storm flows. Each basin will be designed to discharge predevelopment 10-year runoff at two feet of freeboard while storing additional runoff due to development. Each basin will be designed to allow post-development 100-year storm overflows at one foot of freeboard. Pipelines, curbs and gutters and catchment structures will be designed for the 10-year storm, and culverts crossing under roadways in drainage channels will be designed for post-development 100-year storms. Retention basins should also be designed to accommodate silt storage.

10. Based on General Plan Policy 16.2.7, the Project Engineer will design and submit for approval to the County Planning Director after consulting with the Monterey County Flood Control and Water Conservation District, a complete drainage plan, including engineering studies and calculations, future runoff courses, and present and future volume of runoff and silt load. Wherever possible, drainage shall be directed to the seven proposed detention basins. As an addendum to the drainage plan, it shall be determined if these basins are adequate to handle the increased runoff created by the project. Maintenance or a pro-rated contribution toward maintenance of the detention ponds shall also be described in the drainage plan addendum.

11. All natural drainage swales shall be designated on the Final Subdivision Map by easements labeled "natural drainage easements". New drainage culverts should be identified as such on improvement plans and are subject to review and approval of the County Public Works Director.

TABLE 2.2

DRAINAGE CALCULATIONS
SUMMARY TABLE

<u>Area</u>		<u>Post Development C</u>	<u>Time of Concentration Tc</u>	<u>Qp (CFS) Pre- Development</u>	<u>Qp (CFS) Post- Development</u>	<u>Req'd Retention Storage Volume (Cubic Feet)</u>
I	946 AC	0.2207	39.1 min.	208.877	230.50	87,205
II	1300 AC	0.2344	60.0 min.	231.40	271.20	155,852
III	112 AC	0.2100	60.0 min.	19.94	20.93	3,739 *
IV	173 AC	0.2100	52.7 min.	32.87	34.51	5,824 *
V	1056 AC	0.2179	60.0 min.	187.97	204.79	70,236
Total Storage Required =						322,856

Notes:

- * 1. No retention basins required.
- 2. Design based on 10-year design and intensity curves found on Plate 25 of Monterey County Standards.
- 3. See Figure 1.3 for possible retention basin locations. Final location and size to be determined during final map review of phase being considered.

12. The project applicant shall contribute the development drainage fee per acre to the County Treasury "Canyon Del Rey Creek Watershed Zone Primary Facilities Updating Fund" for off-site operation, maintenance and updating of primary facilities in this watershed, at the discretion of the MCFC and WCD. This contribution shall be made prior to filing of the Final Subdivision Map.

13. The applicant shall pay for all on-site and a pro-rata share of off-site maintenance and operation of storm drainage facilities and access roadways impacted by the project from the time of installation or filing of the Final Map until acceptance of the improvements for the subdivision by the Board of Supervisors, and/or until a Homeowners' Association or other agency, with legal authorization to collect fees sufficient to support the service, is formed to assume responsibility for the service. Mitigations provided in Section 2.3, Soils, requiring erosion control measures shall be implemented in construction and buildout in order to prevent erosion and siltation from increased runoff.

14. There should be a complete and careful County review of the entire grading plan for the proposed project, before project approval. If it is found that there would be extensive cuts and fills, especially on slopes exceeding 30%, thereby increasing potential for excessive erosion and siltation, then the project should be redesigned to eliminate such plans.

15. It should be a condition of project approval that a maintenance program agreement be established to ensure that all paved roads and parking areas be mechanically swept at least once a year in early September before the annual rainy season begins. The contaminant matter traps (French drains) should be appropriately maintained. The Monterey County Public Works Department should establish a procedure to ensure that maintenance of the facilities is carried out annually. The use of a Homeowner's Association requirement and some form of bonding for the first few years may be appropriate.

*Please refer to Comment/Response 8.

2.4.2.1 Existing Conditions--Groundwater.

The shale bedrock forming the bulk of the project site is intensely fractured and contains a sizeable supply of groundwater. The shales receive a large supply of recharge through rainfall (Logan, 1979). Several springs exist on the site, particularly in the northern portion along Canyon Del Rey and along fault traces.

The alluvial deposits on the canyon floor contain large amounts of groundwater, although these deposits have not been noted in water resource literature as a water supply source. Several wells in the project area extract water from the alluvium for irrigation use.

The Santa Margarita sandstone, a productive aquifer in areas east of the project site, underlies the northern slopes of the Canyon Del Rey watershed. This aquifer is truncated by the Chupines Fault and does not occur in the southern portion of the watershed. The Monterey shale which forms the bulk of the hill on the south slopes of the watershed is also a potentially productive aquifer. Although shales are normally impermeable, the prevalent fractures throughout these rocks allow water to move through them easily. Rainfall supplies a large quantity of recharge to the shales. Several wells extracting water from this unit in the project area have fairly productive records (Logan, 1979).

Existing domestic and livestock water uses are served by on-site wells. There is no water service currently available for the site, nor is the site within the California-American Water Company District. However, the site is adjacent to the district boundaries and the water company owns a landlocked area within Monterey's boundaries and has an easement to this parcel under and across the project site.

2.4.2.2 Applicant's Proposed Water Supply System

The project applicants intend to utilize on-site wells to meet the project's water supply needs. The applicant's consulting hydrologist, John Logan, completed a study titled A Water Supply for Monterey in June 1984. After review of this study by Walter Wong and Al Friedrich of the Monterey County Environmental Health Service, additional information was requested and delivered in a November 1984 addendum. Additional data concerning these water studies is included in two February 1984 reports--Well

Data Summary-Monterra and Nitrate Loading at Monterra.

All of these reports have been reviewed by the above staff of the County Environmental Health Service, and also by staff of the Monterey Peninsula Water Management District. Additionally, an independent engineering firm, Anderson Nichols of Palo Alto, was retained by MPWMD to review and comment on the Logan reports. These reviews have been completed. The paragraphs below summarize the system proposed in the Logan reports and present the latest information regarding their review as of February, 1986. For further information, the reports themselves should be consulted.

Demand and Supply. The Monterra project water demand is estimated to be 140 acre feet per year; this includes recreational facilities demand, 20 percent for system losses and 20 percent for desalinizer wastage. Of this 140 acre feet per year, 117 acre feet per year is the estimated net demand. This demand (140 af/yr) is equivalent to 87 gallons per minute (gpm) or 125,000 gallons per day (gpd). Tests on the "Jacks" well indicate that it alone could meet the demand by pumping 9.5 hours per day, with the "Monterra 1" well being a backup. As an alternative, a new large diameter well could be constructed near "Monterra 1" with an additional backup well.

Pumping Tests. Three pertinent pumping tests have been conducted at Monterra and are summarized as follows:

1. Jacks well; Aug. 1977; 4 hours; 225 gallons per minute (gpm); no other data.
2. Jacks well; Mar. 1980; 17.3 hours; 220 gpm; static level, 136.5 ft; pumping level, 170.5 ft; specific capacity, 6.5 gpm/ft; pumping level was unchanged for the last two hours, indicating a leaky regime; transmissivity, 6000 gpd/ft.
3. Monterra No. 1; Mar. 1980; 6.5 hours; 79 gpm (limited by a small pump); static level, 3.0 ft; pumping level, 34.3 ft; specific capacity, 2.5 gpm/ft; confined regime; transmissivity, 2700 gpd/ft; storativity, 0.003.

Groundwater Basins. The demand can be met by groundwater contained in the fractured siltstones and shales of the Monterey Formation that may be more than 1000 feet thick below the property. Monterra's groundwater basin is geologically isolated from neighboring properties except for those which underlie the area near Monterey Peninsula Airport. Production of the net demand of 117 af/yr will have no adverse effect on the developments along Highway 68 or in Seaside. However, any proposals for significant additional withdrawals of water from aquifers in the area will warrant a reassessment of the regional water balance.

Recharge. One portion of rainfall reaching the ground produces runoff; another is returned to the atmosphere by evapotranspiration; and the remainder infiltrates to the ground. Estimates of infiltration at Monterra are 1.3-4.4 inches/year.

Drought Reserve. The volume of groundwater stored under Monterra is a function of effective porosity and aquifer thickness. Assuming a 2-4 percent effective porosity and 200-400 feet of thickness, the volume of available groundwater is 2,700 -40,000 af/year--more than an adequate amount to provide for drought situations.

Nitrate Loading from Septic Systems. Based upon Anderson-Nichols' equilibrium nitrate concentration predictions, it appears that there will not be a nitrate groundwater problem from residential septic tank discharge. However, the placement of septic tank systems in a fractured shale formation must be done with great care. Local percolation tests performed by Logan (1984b) indicate the presence of rapid pathways not only for recharge, but also for septage. The possibility of high nitrate concentrations reaching the aquifer via fractures exists.

Septic systems should be located as far from the wells as possible and not along fractures that intersect the well locations. The potential for groundwater contamination can be further reduced by limiting the construction of impervious surfaces and structures in critical recharge areas, thus maximizing the surface area available for infiltration of water to mix with the septage.

If a reverse osmosis system is installed to reduce the existing salinity, the majority of nitrate present in the groundwater will also be removed. This will provide additional protection to the residents of Monterra against the threat of water contaminated by nitrates. However, the wise use of the aquifer on a regional scale requires that the contamination of the groundwater be minimized so that any downgradient users are also protected.

Review of Reports. The Anderson Nichols report, reviewing the completeness and adequacy of the Logan reports, generally concludes that water quantity is not a problem but there is enough uncertainty regarding water quality to require additional testing. The major water quality concern is the potential for mixing of septic leachates with groundwater and disposal of wastage from the water treatment operation.

The County Environmental Health Service and Monterey Peninsula Water Management District staff have reviewed all of the above reports. Discussions between these agencies and the applicant concluded that: (i) a longer pump test will be required to demonstrate sustained yield; (ii) a wastewater management plan for the development's septic systems will be required to assure the existence of a ten-foot soil mantle beneath proposed systems; (iii) and a specific water treatment plan will have to be submitted outlining the specific treatment process, the amount of wastage from treatment and the method of disposal. After submission of these documents, further review and refinement will be necessary by the applicant, the Health Department, and the Monterey Peninsula Water Management District.

2.4.3.3 Impacts

8. Monterra's groundwater will require treatment to reduce iron and manganese concentrations and salinity content; and, this treatment will generate wastewater which will require disposal.

Since Monterra's groundwater basin is generally isolated from neighboring properties and since productions of net demand for Monterra will have no adverse effect on other developments along Highway 68 or in Seaside, there are no impacts associated with off-site water supplies. Estimates do indicate that any future proposals to withdraw additional amounts of water should be required to recheck regional water balance.

2.4.3.4 Mitigation Measures

16. A water quality expert should check the water at least twice a year to ensure that maximum contaminant levels set by the California Department of Health are not exceeded. Water quality test results should be sent to Monterey County's Environmental Health Service for monitoring.

17. Although the Logan and Anderson-Nichols water studies indicate that there is an ample groundwater supply for the proposed project, water conservation practices should be required and implemented due to high treatment and pumping costs and possible other necessary future uses for this groundwater resource. Various techniques include: installation of water-conserving fixtures (faucets, toilets, showerheads); use of native, low-water requiring plants for landscaping; discouragement/prohibition of exotic plantings; use of drip irrigation systems.

18. If a water mutual is formed, it must meet the standards of Title 22 of the California Administrative Code and the Residential Subdivision Water Supply Standards. It must also be approved by the Monterey Peninsula Water Management District, the State Public Utilities Commission, and the County Environmental Health Service.

2.5 Vegetation and Wildlife

This section was prepared utilizing a Biological Resources report prepared by LSA/Larry Seeman Associates, Inc. in June 1985, to describe the Existing Conditions. Biosystems Analysis, Inc. prepared the Impacts and Mitigations.

2.5.1 Existing Conditions

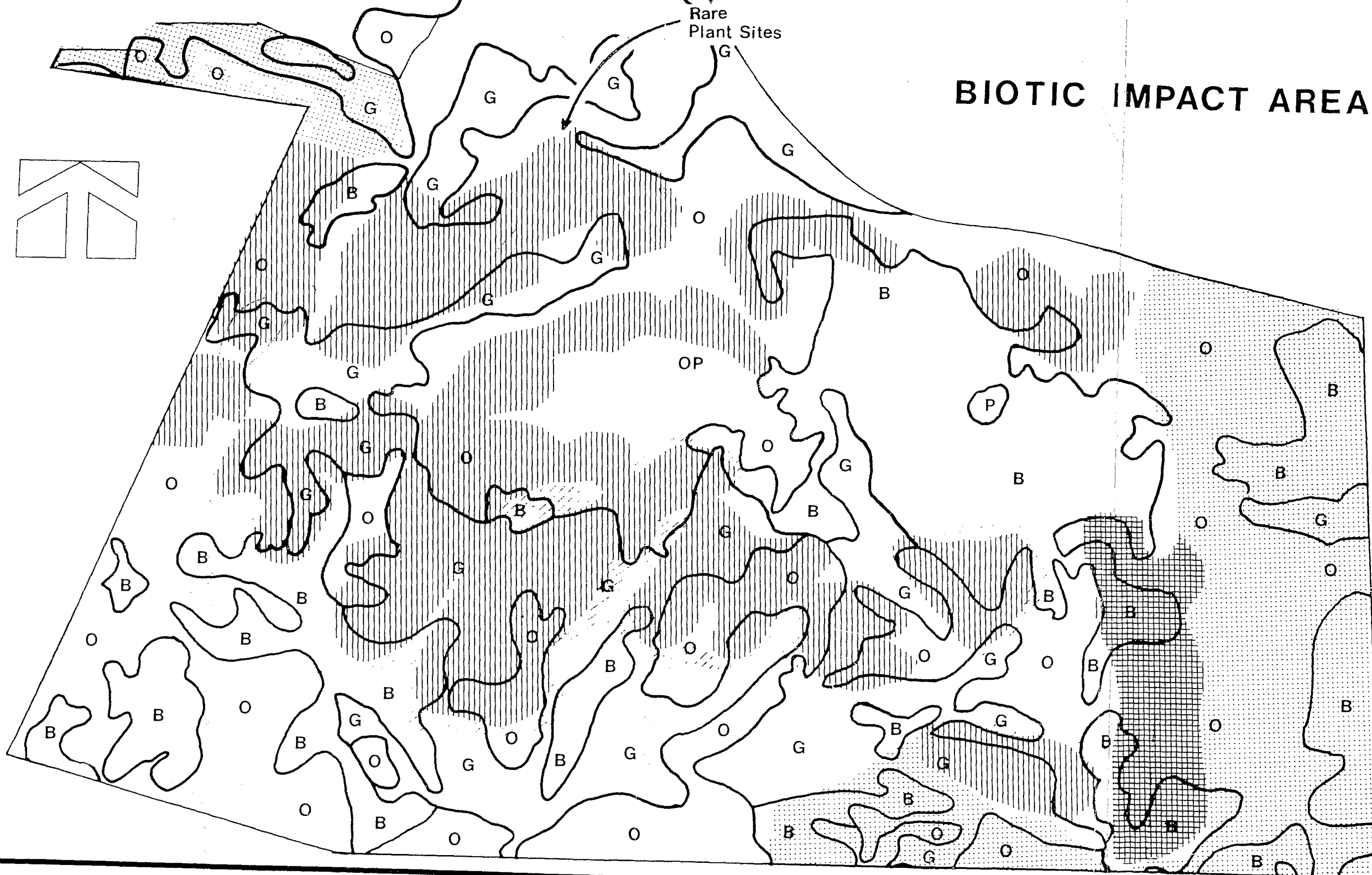
The description of the existing resources is based on field survey work, experience with the resources on nearby and adjacent property, and previous work by other individuals and firms. The field survey included an extensive survey to determine the distribution and abundance of rare plant species that other more general resource and planning reports covering this area of Monterey County suggested could potentially occur on-site. Those species are Hickman's onion, Toro manzanita, and sandmat manzanita. No animal species listed by the state or federal government as endangered, threatened, rare, or sensitive are known to occur on Monterra Ranch. However, several species of concern do have home ranges which could overlap the project site or require habitat which occurs on-site.

2.5.1.1 Existing Biological Resources

The Monterra Ranch supports a mosaic of vegetation types including grassland, mixed coastal scrub, oak woodland, oak-pine forest, and, in small areas, relatively pure Monterey pine forest. These types are of almost equal coverage, except for the pure Monterey pine forest, which covers comparatively few acres.

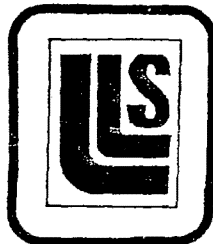
For each vegetation type, the following sections describe: 1) the general site conditions within which the type is found; 2) its structure and composition; 3) the fuels present and the fire hazard rating; and 4) the associated wildlife community. Brief statements are made regarding vegetation dynamics where considerations of change over time are relevant to the project. Following these type descriptions subsequent sections provide information on species that are listed by the state and federal government, on harvest species, and on kangaroo rats, three species of which are known to occur in Monterey County.

BIOTIC IMPACT AREAS



BIOTIC IMPACT AREAS FIGURE 2.7

- | | | | |
|--------------|---------------|---------------------------------------|--|
| O OAK TREES | B BRUSH AREAS | [Grid] HIGH BIOTIC IMPACT | [Cross-hatch] UNDETERMINED BIOTIC IMPACT |
| P PINE TREES | G GRASSLANDS | [Vertical lines] MEDIUM BIOTIC IMPACT | [Diagonal lines] INSIGNIFICANT BIOTIC IMPACT |
| | | [Diagonal lines] LOW BIOTIC IMPACT | |



Appendix C contains a plant species list for each vegetation type present on Monterra Ranch. Appendix C contains lists for bird, mammal, and amphibian and reptile species.

Grassland. The grassland type generally occupies the most gently sloping terrain on the Monterra site. Slopes vary from 0 to 50 percent but most of the grassland slopes are between 10 and 30 percent. The soils in the areas occupied by the grassland type belong to three series, the Santa Ynez series, the Santa Lucia series, and the Reliz series, the latter occurring as a member of a more general association-level soil body on the project site (the Santa Lucia-Reliz association). The other types found at Monterra occur on the Santa Lucia soils, but a good correlation exists between the distribution of the Santa Ynez series and the occurrence of grassland. Grazing and other human activities have affected the distribution of grassland as well as its composition but the Santa Ynez series is generally considered a rangeland soil (U.S. Soil Conservation Service 1978). Although the grassland contains scattered trees and shrubs the soils possess an indurated layer or claypan which restricts root penetration to as little as 16 inches in some places.

The composition of the grassland illustrates the effect of human introductions; many of the dominant species are annual forbs and grasses introduced from Europe. The species observed in the grasslands are listed in Appendix A. At the time of the field survey, the grassland had dried and the aspect was such that the annual and perennial grasses appeared to be dominant. These grasses include soft chess, wild oats, hairgrass, fescue, needlegrass, and Italian ryegrass. The tarweeds, geranium, mariposa lily, and cransbill were the most obvious forbs. Compositionally, the grassland resembles grasslands on adjacent property south of Highway 68, in both the Canyon Del Rey and the Carmel Valley watersheds.

The grassland contains shallow swales and depressions where sedges (Carex and Cyperus spp.) are present. Many of the depressions appear to have been man-made, used for watering cattle, a purpose for which several are still in use. A few, however, are not used. These support vegetation when they are wet during the winter and spring, but when they dry out they are devoid of cover. The primary species are brass buttons and a variety of sedges.

In the northern half of the property, the margins of many of the grasslands coincide with rock outcrop ledges or the limits of terraces below which the slope increases steeply (and coast live oak woodland typically occurs). The soils at the margins of these terraces are very shallow, indicating lower soil moisture availability and dry plant growth conditions, particularly on those sites with southerly exposures where surface and subsurface drainage is directed away from the terrace margin. Elsewhere, the terrace slopes slightly to the north and water from the grassland area drains toward the rock outcrop ledges, possibly accumulating there during the spring, creating favorable conditions with which Hickman's onion appears to be associated.

The grassland type also supports woody vegetation. In some areas, it surrounds islands of shrub-dominated vegetation which, when large enough, can be considered stands belonging to the mixed coastal scrub. The grassland also contains a large number of coast live oak, chamise, baccharis (coyote brush), poison oak, California sagebrush, and bush monkey flower. The coast live oak often contain bare understories, the lack of cover being attributable to rock outcrops and minimal soil or to past compaction of the soil and grazing by cattle. Where vegetation is present in the understories of these coast live oak, it is often poison oak, bush monkey flower, or chamise, the result being a multi-layered woody element in the midst of an herbaceous grass mosaic.

The grassland type contains relatively "flashy live and dead" fuels. The Monterey County General Plan fire hazard map shows that the Monterra Ranch is located in a high-hazard area. However, the General Plan does not possess a level of resolution great enough to portray the variability in fuels and fire hazard at the site. The California State Department of Forestry (CDF) (1973) has developed a system which, in spite of the broad classifications resulting, produces a product which is more detailed than the County General Plan Map. This system, called the Fire Hazard Severity Classification System, can be used to rate the fire hazard in wildland, undeveloped, and naturally vegetated areas. Ratings are based on climate, the fuels associated with three basic types of vegetation (grass, scrub, and woods-brushland), and the slope of the terrain (using slope classes of 0-40 percent, 41-60 percent, and 60+ percent). Climate is usually evaluated over entire USGS topographic quadrangles and is given a uniform rating over the area covered. The Seaside quadrangle, within

which Monterra Ranch is located, is given a rating of I, which means that, on the average, the area is characterized by one day or less each year within which the fire weather is "very high" or "extreme". For this reason, the differences, in fuels associated with the vegetation on the property and differences in slope are primarily responsible for the fire hazards.

Fire hazard on the property is moderate to high based on the CDF Fire Hazard Severity Scale. On slopes less than 60 percent in the grassland type the fuels are light and the fire hazard is considered to be moderate. This is the lowest possible rating with this system; no fuel-slope-climate combination is assigned a low rating. Fires initiated or carried into the grassland on windy days can move rapidly depending upon the slope and the direction of entry. A fire moving into the grassland type at the bottom of a long slope exceeding 50 percent could be carried swiftly to the top because the fuels ignite readily. Therefore, although the fire hazard in the grassland type is classified uniformly as being moderate, it is lower on slopes less than 5 percent and greater in areas where the slopes are over 40 percent.

The grassland type serves as the principal habitat for a limited number of species, primarily small birds and mammals. It is also important feeding and hunting area for a great many others. Grassland supports resident populations of small rodents including bottle pocket gopher, California meadow mouse, and western harvest mouse. Resident bird species in the grassland include the lark sparrow and horned lark. These species serve as the prey base for a variety of predators, among which are raptorial birds such as the red-tailed hawk, American kestrel and great horned owl. Mammalian predators which hunt the grassland include the gray fox, coyote, long-tailed weasel, striped skunk, and bobcat.

In addition to the predators mentioned above, a variety of other species use the grassland for only part of their habitat requirements. They move between the grassland and the other habitat types, primarily feeding in the grassland and seeking cover in these other habitat types. Most species following this pattern of activity are described in the subsequent section on the mixed coastal scrub. Other species found in the grassland which would come primarily from the oak woodland and the oak-pine forest include common flicker, scrub jay, robin, and mourning dove.

Mixed Coastal Scrub. Mixed coastal scrub stands occupy the more steeply sloping portions of the Monterra site. Coast live oak woodland occurs on equally steep slopes but not as widely on the soil series associated with these slopes. The mixed coastal scrub occurs primarily on soils belonging to the Santa Lucia-Reliz Association and secondarily on Santa Lucia shaly clay loams and the very poorly developed rocky soils. The Santa Lucia-Reliz Association contains very weakly developed soils in which no B horizon has yet developed. The slopes are steep, runoff is rapid to extremely rapid, and the incorporation of organic matter and the movement of clay from the surface to the subsurface (to form a clay-like B horizon) have not occurred. The pockets of Reliz series soils (which are too small in the area to map independently) included within the area occupied by Santa Lucia soils are, on the average, no deeper than 20 inches. At that depth, roots encounter hard, fractured shale of the Monterey Formation. The Santa Lucia soils are slightly deeper but, on the average, do not exceed 24 inches in depth. On steeper slopes, soil depth may be as little as 4-6 inches and rock outcrops are present. In such conditions, water and nutrient availability are extremely limited. Rocky soils are equally shallow but the U.S. Soil Conservation Service provides no profile information for them.

The steep slopes covered by mixed coastal scrub often abut gentler slopes which are covered by grassland or oak woodland vegetation. The transition between types is quite gradual in some locations with either oaks or grassland species occurring jointly with shrub species over some horizontal distance; elsewhere the transition is abrupt, producing a strong visual discontinuity and a rapid change in the species composition of the vegetation. The terrace grassland described above (northwest corner of the site proper) is a case in which the transition is abrupt. Oak trees and/or mixed coastal scrub species grow on the steeper slopes and are rooted up to the top of the edge of the marginal rock ledge. Above the ledge the grassland type develops immediately.

The mixed coastal scrub is dominated by six primary species. These are baccharis (coyote brush), chamise, California sagebrush, black sage, poison oak, and bush monkey flower. The above six species produce over 90 percent of the total cover except where the type is being locally invaded by coast live oak or Monterey pine. Other minor shrub species in the type are

redberry (Rhamnus crocea), toyon, bush lupine (Lupinus aboreus), blue blossom, blackberry, and coffeeberry. These species are listed as type constituents in Appendix C to this report.

Generally, the scrub stands are between two and eight feet in height. The coyote brush, poison oak, chamise, and sage can all exceed eight feet in height but generally do not except on gentler slopes (better sites). Unlike the grassland type which usually exhibits 100 percent cover, the mixed scrub type usually exhibits cover of 75 percent or less.

Scrub stands occur adjacent to stands of coast live oak and Monterey pine and tree seedlings and saplings have become established in and are growing up through them. Many of the coast live oak that have become established in scrub stands are heavily browsed by deer as their bushy forms show. Those that display the most rapid height growth have become established, not between shrubs, but beneath them and have grown vertically with less interruption. Monterey pine can also establish itself in scrub stands and appear to undergo less browsing pressure than the oak. As in the oak woodland stands (described below), Monterey pine can exhibit excellent height growth when it becomes established in scrub stands.

Scrub stands also occur as patches within the oak woodlands and the oak-pine forests. These patches are commonly associated with openings and are typically formed of coyote brush, California sage, and/or poison oak. Apparently, some of these scrub stands are residuals of a previous locally dominant larger scrub stand which has been invaded and replaced by Monterey pine or coast live oak. Such scrub stands are found at the margins of oak woodland and Monterey pine forest stands adjacent to large scrub brushfields.

Coyote brush, California sage, and poison oak also invade the grassland type on the property. Both the grassland and the scrub have been grazed by cattle, but regardless of the grazing activities, seedlings and mature shrubs of each of these three species are found throughout many of the grassland stands.

Because of its greater fuel volume and the generally steeper slopes, the fire hazard associated with the mixed scrub type is greater than that associated with the grassland type. According to the California Department of Forestry's Fire Hazard severity Classification System, the hazard in the mixed coastal scrub type found at Monterra would be moderate on slopes less than 50

percent and high on slopes exceeding 60 percent. Fire does not move as rapidly in the scrub type as it does in the grassland type but because of the slope, the greater fuel volume and the relative impenetrability of the vegetation, it is much more difficult to control and contain. Fuel moisture is reduced more rapidly and the slopes are drier and hotter in south- and southwest-facing areas. These areas are generally capable of supporting (carrying) fires of greater intensity than on north-facing slopes, which are the dominant slopes or aspects of Monterra.

Wildlife use of the mixed coastal scrub can be divided into two subtypes. The subtypes are primarily determined by slope aspect because plant species composition of the two subtypes is generally the same. Slopes facing north or east generally support denser growth due to the greater soil moisture availability on these slopes. The plants grow together forming a dense, impenetrable mass, are often six or more feet in height, and leaf litter is generally present on the ground. Bird species which favor this subtype include California quail, common bushtit, Bewick's wren, California thrasher, hermit thrush, purple finch, and song sparrow.

Scrub on south or west-facing slopes grows under much drier conditions. Plant growth is not as dense or as high and there is very little leaf litter. Open patches of ground are larger and a sparse covering of grasses, bare soil, or rock are often interspersed throughout these brush stands. Fewer bird species are present and species composition changes. Bird species found on these slopes include poor-will, roadrunner, lesser goldfinch, and rufous-crowned sparrow.

Several species are equally common in either scrub subtype. Numbers may vary locally with the plant composition of a stand or some aspect of its physical structure. Bird species found in both subtypes include Anna's hummingbird, wrentit, scrub jay, rufous-sided towhee, and fox sparrow. Mammals found primarily in the scrub which utilize both subtypes include dusky-footed woodrat, California mouse, and white-footed mouse.

Scrub stands are often found adjacent to grassland on the Monterra site. Where grassland and scrub types meet, they form an "edge" which attracts a number of species which are not solely dependent on either type. These species move back and forth between the two, feeding primarily in the grassland and seeking cover in the scrub. Bird species exhibiting this

activity pattern include the California quail, brown towhee, dark-eyed junco, white-crowned sparrow, and golden-crowned sparrow. Most mammals found in the scrub also follow this pattern of feeding or hunting in the grassland and seeking shelter in the scrub. This group includes the brush rabbit, gray fox, babcat, and black-tailed deer.

Oak Woodland. The oak woodland type occurs on the same soils series as the mixed coastal scrub type but the slopes are not as steep and usually the soils are slightly better developed (each soil series is characterized by a range in properties, including depth and slope). Oak woodland extends into the grassland types, is replacing it in some areas and is usually found on slopes of greater than 15 percent.

The oak woodland is dominated by coast live oak. It is represented by several large stands and smaller patches widely distributed over the property over a range in slopes and aspects, and is mixed among stands and patches of the other vegetation types present. The vegetation map prepared by Earthmetrics (1980) for a previous EIR shows the distribution.

Although coast live oak is the primary overstory species, the overstory also includes California buckeye and Monterey pine. Buckeye are scattered throughout the oak woodland type at the lower elevations. Monterey pine are scattered throughout the type over the entire property and locally are abundant enough to warrant recognition of an oak-pine forest dominated by both species.

The coast live oak overstory ranges in height from 15 to 50 feet and the trees that form it range in diameter from 3 to 32 inches at breast height (dbh). Many of the trees have originated as sprouts from stumps of trees previously killed or cut. Few seedlings are present and many of the shorter oaks are shrub-like. The absence of seedlings can be attributed to the work of predators such as insects, which destroy acorns and seedlings, birds (scrub jays, woodpeckers, etc.), small mammals such as pocket gophers, and deer. Browsing by deer also explains the frequent bushy form of smaller oaks, particularly at the edge of oak stands near mixed coastal scrub.

Monterey pine are scattered throughout the oak woodland stands at Monterra. Mature pine are considerably taller, commonly 80 feet tall, and emerge well above the surrounding oak canopy. Pole-sized, sapling, and seedling pines are also present, the poles taller than the oaks, the saplings equal in height, and the seedlings shorter. Typically, the pine shows excellent height growth throughout the oak woodland type and groups of pine that include trees of several ages aggregated around mature parent trees can close their crowns above the oak. This crown closure may be accompanied by the death of the oaks below depending upon slope, soil depth, aspect, and the amount of light that can reach them. This change results in the oak-pine described in the subsequent discussion.

The understory in the oak woodland type includes several shrub, forb, and grass species. The most common species are poison oak (Rhus diversiloba), french broom (Cytisus monspessulanus), fuchsia-flowered gooseberry (Ribes speciosum), straggly gooseberry (R. divaricatum), ocean spray (Holodiscus discolor), toyon (Heteromeles arbutifolia), and snowberry (Symphoricarpos sp.). Poison oak is by far the most abundant and most abundantly reproducing, both by seedling and through sprouts from runners of the understory species. At the margin of oak woodlands, in openings, and near roads, point hemlock (Conium maculatum), blackberry (Rubus sp.), coyote brush (Baccharis pilularis), and french broom produce a dense edge with almost 100 percent cover. Shrub cover away from the edges ranges from 10 to 50 percent.

The forb-grass layer in the oak woodland types includes several dozen species. Because of their number, they are not included here but are listed in Appendix C.

A previous report prepared for the Monterra site by Dawkakin (1974) contains a discussion of the types of insects and pathogens which are known to attack coast live oak. These include the oak moth and the oak bark beetle, both insects, and oak root fungus. These are mentioned here to supply a basis for subsequent reference in the discussion of planning considerations and mitigation measures.

The fuels in the oak woodland type can be considerable depending upon the distribution of foliage in the understory. Combinations of pine and oak or pine, oak, and dense understory brush can create "ladder fuels" capable of allowing a ground fire to "climb" into the canopy. The potential for crown

fires developing from ground fires that move into the oak woodland increases with increasing slope; as slopes increase the distance between the bottoms of the oaks and the tops of the understory shrubs can decrease. Oak woodland fuels in this type are the heaviest of those found on the Monterra site. The fire hazard is rated as high (according to the CDF system) regardless of the slope.

The oak woodland is an important habitat for a variety of wildlife species. It attracts, with the possible exception of the Monterey pine forest, the greatest diversity of wildlife species. Several factors account for this. The struture of the vegetation (its vertical arrangement) contains plants in all major layers--tree, shrub, and herbaceous. As many species, particularly birds, are confined or most commonly found in a particular layer of the vegetation, this diversity in the arrangement of the vegetation increases the number of species found here. An additional important factor is the older oaks often have dead limbs and cavities which are used as nesting or den sites by many species. The oak woodland is also a highly productive habitat type. Several plant species produce abundant food crops. Acorn production by the coast live oak varies from year to year but acorns are always highly sought by a number of species. In addition, the berry crop of several shrubs, including toyon, poison oak, and coffeeberry, are important wildlife food items. The woodland also supports a large number of insects which attract a correspondingly large number of insectivorous birds, primarily summer residents and nesting seedeaters which feed their nestlings primarily with insects.

Use of the oak woodland by birds is highly variable and depends on a species habitat requirements. Several species are found primarily in the crown canopy such as the Nuttall's woodpecked, western flycatcher, chestnut-backed checkadee, and Hutton's vireo. Other species, such as the Bewick's wren, orange-crowned warbler, rufous-sided towhee, and fox sparrow, are found primarily in the shrub and herbacious understory, while others move between the crown canopy and the ground such as the common flicker or robin, or the crown canopy and the brush understory such as the bushtit or ruby-crowned kinglet. Some species such as the scrub jay, move between all plant layers of the woodland.

Mammals are also common in the woodland although their use of it is not as structured or restricted to one particular portion of it. Gray squirrels are found in the woodland, with the greatest numbers occurring in the fall when the acorn crops mature. This species is the most easily observed mammal in this type. The dusky-footed woodrat is also common, as is evidence of its presence--large, conical-shaped mounds of sticks forming its nest. This species is nocturnal and rarely seen. Other common mammals in the woodland include the broad-handed mole, opossum, gray fox and white-footed mouse.

Oak-Pine Forest. Monterey pine occur at four locations at the Monterra Ranch. One of these locations is in the north central part of the property, where it occurs in a pure stand as an island in the middle of north coastal scrub. In the other areas where Monterey pine occur, it is found in association with coast live oak. Small groups of pine trees create a pine-dominated overstory at numerous locations within the oak woodland. At these locations, the vegetation can be appropriately described as either oak-pine forest or Monterey pine forest.

The oak-pine forest type occurs on both north- and south-facing slopes intermediate in steepness between those on which the grassland and the mixed coastal scrub types occur. The soils are Santa Lucia and are shaly clay loams.

Where the oak-pine forest is truly a mixed-tree type, the Monterey pine occur in small aggregations of closely spaced trees which stand above the few included coast live oak or as more widely spaced solitary individuals between which several coast live oak are rooted. The oak-pine type is actually a mosaic of stands of pure oak, stands of pure pine, and mixed stands. The Monterey pine grow taller than the coast live oak and can form an emergent layer or taller overstory when they attain diameters of 24 inches and greater at breast height (dbh) but do not live as long as the coast live oak. Monterey pine live longer than 150 years only in unusual circumstances and most trees live less than 120 years. Coast live oak, on the other hand, can live beyond 200 years.

The structural combinations found in the oak-pine type are described above in the section on oak woodland. The understory poles and saplings are available to replace the older pine as they die and can also close a canopy over the coast live oak. Depending upon the age and condition of the oak growing amongst the pine, the latter can overtop the oak, reduce its vigor, cause its decline, and potentially its death.

The understory of the oak-pine forest varies from being very similar to that in the oak woodland to being relatively open. Under pure Monterey pine, the shrub and ground layers are much more open. Pine litter does not decompose as readily as oak litter and the layer of litter is thick enough to prevent successful germination and establishment of shrubs, forb, and grass species. Shrubs are present, however the most common species being poison oak, french broom, fuchsia-flowered gooseberry and others found in the oak woodland type. Poison oak assumes a vinelike form and twines up pine trees as well as growing in the typical shrub form.

The understory forb and grass layer is not as rich as that in the oak woodland type, but nonetheless contains a large number of species. Bedstraws (Galium sp.), vetches (Vicia spp.), lupines (Lupinus spp.), and annual and perennial grasses are more abundant in the larger Monterey pine-dominated area and provide most of the cover in the ground layer. Other ground layer or forest floor species are listed in Appendix C.

Dowdakin (1974) identified a number of forest pests which attack Monterey pine. These include the red turpentine beetle, engraver beetles (Ips), twig beetles, the flat-head borer, and the pitch moth. Mistletoe and gall rust also use Monterey pine as a host. These insects and disease agents can seriously weaken trees and, depending upon the age, size, and condition of the trees, cause their death.

Fuels in the oak-pine forest are high. Ladder fuels are created wherever Monterey pine is present in the understory of either oak or pine. Fuels in the pure pine aggregations can be lower than those in the pure coast live oak aggregations if the pine aggregation is large enough. The fire hazard in the oak-pine forest would, however, be high regardless of local type variations.

The oak-pine forest is the most diverse habitat type on the property. The presence of the pines increases the number of wildlife species attracted to the type by increasing its structural diversity.

The greatest diversity of bird species is found where pine forms the upper tree layer, coast live oak forms a second tree layer, a layer of mixed brush species is found beneath the trees, and herbaceous species are found on the forest floor. In stands of this type, hairy woodpecker, olive-sided flycatcher, Steller's jay, chestnut-backed chickadee, pygmy nuthatch, and pine siskin are primarily associated with the pine; Nuttall's woodpecker, acorn woodpecker, western flycatcher, bushtit, and Hutton's vireo are most commonly found in the oak; wren-tit, Bewick's wren, and orange-crowned warbler forage in the brush; and California quail, hermit thrush, rufous-sided towhee and fox sparrow forage on the ground. The species composition of the oak-pine forest varies depending on the number of plant layers found in it at a particular location.

In locations where there is no woody understory beneath the pines, the composition of bird species present varies from that described above. Species found primarily in the pine include trunk gleaners such as the hairy woodpecker and brown creeper as well as those species which feed primarily in the pine canopy; chestnut-backed chickadee, pygmy nuthatch, ruby-crowned kinglet, and Townsend's warbler are still present but few of the bird species found in the understory are present. These species depend on the relatively dense, woody understory. Bird species above who utilize the open forest floor include common flicker, mourning dove, American robin and dark-eyed junco.

An important element in the oak-pine forest which helps to increase bird diversity is the presence of dead trees (snags), branches, and stubs of limbs. They provide perch sites, a food source and most importantly provide nest sites for a variety of cavity nesting species. Grinnell and Linsdale (1936) found most cavity nests in the Monterey pine forests in snags or stumps of pines. Primary cavity nesting species (species which excavate their own holes) include common flicker, hairy woodpecker, and pygmy nuthatch. Secondary cavity nesters (species which use previously excavated cavities) include American Kestrel, violet-green swallow, chestnut-backed chickadee, brown creeper, and western bluebird.

Mammals are also common in the oak-pine forest although they are not as easily seen because most species are nocturnal. As in the oak woodland, the gray squirrel is the most easily observed mammal in the oak-pine forest. It is particularly abundant in this habitat type and if it is not actually seen, evidence of its presence can be easily found. This includes large stick nests high in the tree canopy, scaled pine cones, fresh cut cones, twigs cut during cone harvesting, and during the winter and spring fungi with portions eaten from them. Other mammal species found in the pine forest include opossum, broad-handed mole, dusky-footed woodrat, raccoon, and gray fox.

The fallen trunks and limbs of the pine provide shelter for many small animals. Amphibians and reptiles find moisture and concealment under the logs more often than in any other situation on the property. Western fence lizards use downed logs as hunting and sunning sites as well as for cover. Small mammals also frequently tunnel beneath and seek shelter under or in these fallen logs.

2.5.1.2 Environmentally Sensitive Habitat and Rare Plant Survey

Environmentally Sensitive Habitat. The project site occurs in close proximity to areas which the County has defined as Environmentally Sensitive Habitats. These habitats are mapped in Figure 3 of the County's Plan for the Greater Monterey Peninsula Planning Area. One of these areas, defined as a Natural area, is Jack's Peak Regional Park, which shares a common boundary along the western margin of the project site. The other sites are mapped in this figure. They mark the habitats of plants considered to be rare by the County and/or the California Native Plant Society (CNPS).

Rare Plant Survey. Under the assumption that one or more rare plant species could potentially occur on the Monterra Ranch, the following steps were taken to organize the conduct a rare plant survey.

1. The California Natural Diversity Data Base (CNDDDB) of the Department of Fish and Game was contacted and a request was made for a search of CNDDDB records for any and all rare plant occurrences known in the vicinity of the project site.

2. Upon receipt of the report summarizing the search results, the known locations were mapped on the Seaside 7.5-minute USGS topographic quadrangle. In the vicinity of Monterra Ranch, locations were mapped for Toro manzanita (Arctostaphylos montereyensis), sandmat manzanita (A. pumila), Seaside bird's beak (Cordylanthus rigidus var. littoralis), Eastwood's ericameria (Ericameria fasciculata), and Hickman's onion (Allium hickmanii). A known location for Hickman's onion was mapped on the project site.

All of these species are listed as rare and endangered by the CNPS but none has either state or federal status. The U.S. Fish and Wildlife Service publishes opinions on the status of plant species in the Federal Register. An original review, with recommendations for federal listing, was conducted in 1980 and a supplemental review was conducted in 1983. According to these reviews, the U.S. Fish and Wildlife considers federal listing as appropriate for Eastwood's ericameria, Seaside bird's beak, and Hickman's onion. for Sandmat manzanita, additional information is considered necessary. Toro manzanita is considered too widespread and under no immediate threat. Therefore, it is no longer under consideration. Current County General Plan documents, however, consider all five species important. Table 2.5 contains data on the flowering phenology, habitat, and status of these five species.

3. Our previous experience with the five species, their distributions, and their habitat requirements, led us to believe that only Hickman's onion could occur on the project site. Except for Hickman's onion, these species are known to occur on old sand dunes (sand hills) and in the sandy terrain extending (at least in the site vicinity) to the north from approximately Highway 68. Nevertheless, to ensure that the rare plant survey would be complete and supportable, we determined whether or not the habitat types within which these species are typically found

TABLE 2.3
FLOWERING PHENOLOGY, HABITAT, AND STATUS OF
RARE PLANT SPECIES OCCURRING ON OR NEAR MONTEREA RANCH

Species	Flowering period and ideal survey dates	Habitat Conditions	Status
1. <u>Allium hickmanii</u> ¹ Hickman's onion	March- April	Grassland and grassy openings in oak woodland and oak-pine forest	N/S
2. <u>Arctostaphylos</u> ¹ <u>pumila</u> Sandmat manzanita	February- May	Openings in coastal scrub and chaparral on pre-Flandrian sand hills.	N/S
3. <u>Arctostaphylos</u> ¹ <u>montereyensis</u> Toro manzanita	January- March	Coastal scrub or chaparral on stabilized dunes and older sand hills.	N/S
4. <u>Cordylanthus rigidus</u> var. <u>littoralis</u> Seaside bird's beak	July- August	Dry open areas and along dirt roads in old sand dunes and in sandy woodlands and scrub along the coast	N/S
5. <u>Ericameria fasciculata</u> Eastwood's ericameria	July- October	Openings in coastal scrub and chaparral on stabilized dunes or older sand hills.	N/S

Status: N/S indicates that none of the above species has state or federal status.

¹ Subject to survey.

occur on the Monterra Ranch. This was done through: 1) conversatinos with Mr. Vernal Yadon of the Pacific Grove Natural History Museum, an individual recognized as one of the primary experts on the Monterey County flora; 2) reference to the Monterey County Soil Survey (U.S. Soil Conservation Service, 1978); 3) reduction of the habitat information contained in the CNDDDB reports and CNPS species status reports; and 4) a field visit with Mr. Yadon to known species locations. (Dr. Stromberg had previously conducted surveys for the Seaside bird's beak and Hickman's onion and, in the case of the former species, knew the exact locations of the populations to which the CNDDDB records referred).

4. Based on step 3, Hickman's onion and the two manzanita species were considered as candidates for extensive field survey work.
5. The survey was then conducted for the two manzanita species. Because these species are visible from a distance and occur on sandy soils, a complete survey of the project site and adjacent land between the arm of the site that reaches toward Foothill School and the right-of-way of Highway 68 was conducted. The results are presented below.
6. For Hickman's onion, an initial reconnaissance visit was made to the known location on the project site with Mr. Yadon in June of 1984. The visit was late in the season for Hickman's onion and the species had set seed and dried up and difficult to see in the surrounding grass. Nevertheless, two plants were observed and a preliminary habitat description was established for use in conducting a stratified survey of the entire project site. The habitat was defined to include grassland sites that, by virtue of their slope position and the associated substrate conditions, are spring wet and summer dry. Grassy forest and woodland openings were considered marginal habitat with a limited potential to support the species. On the basis of this initial habitat

description, Dr. Stromberg designed and conducted the 1984 field survey, providing weighted coverage to the grassland and forest opening elements of the habitat. In man-hours, the 1984 survey effort was distributed as follows:

- a. the grassland at the margin of the terrace on which the findings were made (shallow soils, rock outcrop area along the rock ledge, associated depressions characterized by spring moisture and hard summer surface soils) in the initial survey with Mr. Yadon -- 16 hours (54 percent);
- b. grassland in swales, at the margins of depressions, and elsewhere where low-growing grass and forbs occupy rock outcrops, areas of apparently shallow soil and other locations where spring wet-summer dry conditions exist -- 4 hours (13 percent);
- c. grassland elsewhere on the project site -- 4 hours (13 percent);
- d. grassy openings in the oak woodland and oak-pine forest types -- 6 hours (20 percent).

The survey for Hickman's onion produced no findings in addition to those made on the initial reconnaissance visit with Mr. Yadon.

In April 1985, an additional survey was conducted. The site was visited on several occasions through late March and early April to time the survey to maximum visibility of Hickman's onion. Initially, the survey was conducted according to the same weighted coverage scheme as used in the 1984 survey, but during the course of conduct the scheme was modified; no plants were observed in habitat type d (identified above) but several hundred were observed in the other types. Approximately 28 man-hours were allocated to the grassland habitats and four hours were allocated to the grassy openings in the oak woodland and oak-pine forest. Because the species was in flower and very obvious from as far as 50 feet, it was possible to survey all grassland areas in relatively complete fashion.

Figure 2.7 and another figure in Appendix C show the results of the two-year survey. No findings in addition to those made with Mr. Yadon resulted in 1984 (Figure 2, site 1), but in 1985 because the survey was timed ideally, several thousand plants were observed at three new locations (Sites 2, 3, and 4 in Figure 2), all in grassland habitat. No observations were made in oak woodland or oak-pine forest.

At Sites 1, 2 and 4, Hickman's onion is concentrated in narrow bands at terrace margins where the grassland on the relatively level terrain gives way to the oak woodland on the steep slopes. Sites 1 and 2 are on relatively gently sloping (5-10 percent) land with a north-facing aspect above the terrace margin within 50 feet of the rock outcrops that mark the terrace limit (as does Site 3). Site 4 is just below the rock outcrops at the terrace margin on a 20 to 30 percent slope with a southeast-facing aspect. Site 1 contains approximately 40 plants, Site 2 approximately 130 plants, and Site 4 between 300 and 400.

Site 3 is the largest population on-site. It contains approximately 2500 plants, distributed across the grassland but concentrated most heavily along the northern margin in a position physically similar to those in which the species occurs at Sites 1 and 2.

The survey of Monterra Ranch produced no finding of either species of Arctostaphylos. Both species occur north of the project site between the long westward-extending arm and Highway 68 (Tarpey Flats). The soil in this area is Baywood sand, a soil associated with old sand dunes and located primarily on Fort Ord. Old sand dunes do not occur on the Monterra Ranch. A single sandmat manzanita was, however, found on a sandstone outcrop adjacent to the project site. The location is marked on the figure in Appendix C.

2.5.1.3 Federal and State Listed Wildlife Species

No federal or state listed endangered or threatened wildlife species are known to occur on the Monterra Ranch. One listed species, the peregrine falcon, is present in the region. Several bird species of concern are either present on the ranch or have home ranges and habitat requirements which overlap the project site.

Burrowing Owl. The burrowing owl (Athene cunicularia) is a small diurnal owl found in grassland areas. It feeds on rodents and nests in abandoned animal burrows. The species has been declining in California since 1940. The main reasons for decline include conversion of grassland and pasturelands to irrigated agriculture and the destruction of ground squirrel colonies. The only CNDDDB record in Monterey County was of a nest with four young near Marina. No burrowing owls were found on the site during this study.

Golden Eagle. The gold eagle (Aquila chrysaetos) is an uncommon inhabitant of grassland habitats which typically nests in the foothills but will occupy crags. Its principal food items include ground squirrels and rabbits. Golden eagles are present in the region but none have been sighted on Monterra Ranch during the course of this study.

Prairie Falcon. The prairie falcon (Falco mexicanus) is a species of special concern known to nest in the vicinity of the Monterra Ranch. The nest site is located in an area of sandstone cliffs known as "The Palisades" located approximately 6.5 miles to the east. The Monterra Ranch is within foraging radius of a prairie falcon nest at the palisades (roughly 10 miles). There are no suitable prairie falcon nesting cliffs on the Monterra Ranch.

Much of the bird's decline has been attributed to eggshell thinning and hatching failure from pesticide residues. Robbing of eyries by falconers, shooting and general human activity have also contributed to their decline. No prairie falcons have been observed within the Monterra project boundaries.

Peregrine Falcon. The peregrine falcon (Falco peregrinus) is a rare bird that nests on protected ledges of high cliffs, mainly in woodland, forest and coastal habitats. They prey primarily on pigeons, shorebirds and songbirds, which they catch in flight. "The palisades", 6.5 miles east of the site, is a historic peregrine eyrie, but has not been occupied recently by peregrines. The nearest currently active nest is located approximately 15 miles south of the site. There is no suitable nesting habitat for peregrines on the site. No peregrines were observed within the project boundaries. Peregrine falcons are listed by federal and state agencies as endangered.

Northern Harrier. The northern harrier (Circus cyaneus) is commonly found in grasslands and marshes. It feeds largely on rodents. This species has declined in California as a breeding bird. Wintering populations are much larger than breeding populations but have also dropped in number. The major reasons for their decline have been the destruction of marsh habitat and grazing, which adversely affects populations nesting in grasslands. The northern harrier is a winter resident species in the area.

Cooper's Hawk. Cooper's hawk (Accipiter cooperii) is an uncommon nesting species in Monterey County and a more common migrant. Cooper's hawks nest in pine and oak woodlands, and forage primarily in woodlands. Prey species are primarily small birds. Although no Cooper's hawks were observed on the Monterra Ranch, this species may breed and forage in the woodlands on the site.

Purple Martin. Purple martins (Progne subis) are the largest of the swallows, and nest locally in the pine woodlands. These birds are colonial nesters, and typically nest in multiple cavities in larger pine snags (standing dead trees). No purple martins were observed on the site, but the species is likely to nest in the Monterey pine habitat type on-site.

Additional birds considered to be of special concern by the California Department of Fish and Game and possibly present on the ranch are the merlin (Falco columbarius), long-eared owl (Asio otus), sharp-shinned hawk (Accipiter striatus), and yellow warbler (Dendroica petechia). Each is considered a nonresident visitor of the Monterra Ranch and is infrequently seen.

2.5.1.4 Harvest Species

Harvested wildlife species are subject to sport or commercial harvest under regulations of the California Fish and Game Commission. Nineteen species falling into this classification are found within the Monterra Subdivision project site.

Black-Tailed Deer. Perhaps the most popular harvestable species found on the Monterra Ranch is the black-tailed deer (Odocoileus hemionus). Deer use occurs in all habitat types found within the project area. Ecotone habitats such as grassland/shrub or grassland/woodland are important in providing both food and shelter. Drainage swells and riparian channels are readily used as migratory and feeding corridors. Deer also utilize mast and acorns found in oak-woodlands as a food source. Deer that rely on large areas of open space and natural vegetation would persist on the Monterra Ranch, however their diet would also include plants in resident gardens. In areas of open space, backyard plantings actually encourage deer use. Blue blossom, ceanothus, coffeeberry and coast live oak are native vegetation species utilized as deer browse and cover. Removal of such plant species would reduce habitat value to deer.

Wild Pigs. The feral domestic swine, also known as the introduced wild boar (Sus scrofa) from Europe, is a harvested wildlife species. Wild pigs are known to occupy Jack's Peak Park, which adjoins the Monterra project site on the western boundary. Swine are typically found in oak woodland habitats. Grass, leaves and stems are an important part of the wild pig's diet during the spring and summer while mast, particularly oak acorns, provide an important food source whenever it is available. Surface water and moist areas are essential features of good wild pig habitat with preference for seeps, springs and stream courses where a heavy overstory exists (Pine and Gerdes, 1973).

Although suitable pig habitat is found within the boundaries of the Monterra Ranch, no pigs have been located. Oak woodland within Monterra Subdivision will remain relatively undisturbed, however, the effective elimination of a source of food would reduce the overall value of the project site as habitat for wild pigs. Pigs would not likely use grassland areas left between structures. Human activity would cause them to move. The 115-acre "buffer" area being set aside on the western margin of Monterra Ranch for dedication to Jack's Peak Park, will provide suitable habitat for wild pigs.

2.5.1.5 Kangaroo Rats

Three species of kangaroo rats are known to occur in Monterey County: Heerman kangaroo rat (Dipodomys heermanni), Santa Cruz kangaroo rat (D. veustus), and the big-eared kangaroo rat (D. elephantinus).

The Heerman kangaroo rat is found on dry grassy plains and partly open, gravelly ground on slopes with sparse chaparral. It feeds on green vegetation and occupies a system of burrows. Three subspecies of heermanni are found in Monterey County: D.h.tularensis, D.h.goldmani, and D.h.jolonensis. D.h.jolonensis is the subspecies found on the Monterra Ranch.

The Santa Cruz kangaroo rat is found on slopes with chaparral, oaks and pines which make them more common in the mountains bordering the northeast side of Salinas Valley. They do, however, occur on flat areas. Two subspecies of D.venustus occur within Monterey County: D.v.venustus and D.v.sanctilucia. Neither subspecies has been found in the vicinity of Monterra Ranch.

The big-eared kangaroo rat is found in chaparral-covered slopes on the southern portion of the Gabilan Mountain Range. No known recordings of this species exists in the vicinity of the Monterra Subdivision project.

2.5.2 Impacts

2.5.2.1 Habitat Loss

9. Approximately 53 percent of the Monterra Ranch property would be directly affected to some degree by the proposed subdivision development. This affect ranges from direct removal of vegetation cover to indirect modification of the vegetation due to the introduction of invasive landscape, alteration of environmental factors controlling vegetation and habitat development (i.e., prevention of fire strategies), and loss of habitat diversity due to monocultural practices or reduction in habitat size.

It is difficult at this time to estimate the magnitude of the impacts on biotic habitats on the Monterra Ranch. This was due to the lack of a well defined site development plan and the lack of a good baseline on the extent of historical impacts that have already occurred on the ranch. For the purpose of this impact assessment, the site was divided into categories of development based on the proposed site development map submitted to the County of Monterey. These groupings represent a combination of the different

residential types of development, recreational facilities, and access roads. Habitat types as mapped by Earthmetrics, Inc. (1981) were overlayed on the site plan and an estimate of the amounts of habitat disturbed by type and development was made (see Figure 2.7). Table 2.4 summarizes the amount of each habitat type associated with proposed development areas on the Monterra Ranch.

10. A total of 53 percent or 1,563 acres of existing habitat on the Monterra Ranch may be subject to modification or indirect impacts resulting from the project. Nearly 72 percent of oak tree habitat may be affected. However, half of that is found on the ranch lot parcels which should not directly disturb more than 10 percent of the average 50-acre parcels. More significant direct losses of habitat are anticipated within those parcels designated as estate lots, and the recreation and equestrian complex. The higher density of structures and human use in these areas are likely to result in greater direct impact losses to the vegetation and associate wildlife.

The significance of the anticipated habitat losses due to this ranch development are difficult to assess due to the general and broad characterization and mapping of the habitats by Larry Seeman Associates (LSA) and the lack of a detailed description of the design of the residences and methods of construction. For instance, there is not any delineation of areas with high densities of pine and oak trees or oak savanna. A savanna-type habitat would better tolerate selected placement of houses with less direct removal of mature trees than would a dense oak woodland-type.

2.5.2.2 Other Direct and Indirect Impacts to Vegetation

11. Impacts that may result due to vegetation removal include the potential for accelerated soil erosion and slope failure (slumping, mudflows, etc.). Many soil types and geologic substrates (in particular coastal terrace and preflandrian dune substrates) in the coastal region of Monterey are highly susceptible to destabilization when vegetation cover is removed. This is especially the case in chaparral-type habitats (equals brush habitat type designation on the Monterra Ranch). The extent of this impact is dependent on the timing of the disturbance, the type of erosion control implemented, and

Table 2.4 Area (in acres) covered by five vegetation/habitat types within the proposed development area types on the Monterra Ranch property.

Habitat Type	Acreage of Habitat On-Site	Ranch Lots	Estate Lots, and Rec. Facilities	Adjacent Impacts Areas	Main Roads	Total	
						Acreage on property	% Total
Grassland	704	51	231	39	15	336	47.7
Brush Area	719	171	107	50	1	329	45.8
Oak Trees	1064	307	342	107	7	763	71.7
Pine Trees	6	0	0	0	0	0	0
Oak-Pine	<u>426</u>	<u>0</u>	<u>120</u>	<u>4</u>	<u>11</u>	<u>135</u>	<u>31.7</u>
TOTAL	2919	529	800	200	34	1563	53.5

Source: Larry Seeman Associates and Biosystems Analysis, Inc., 1985.

the species and type of vegetation used for revegetation.

12. The activities of fire prevention following the development of the Monterra Ranch property may have a significant long-term impact on vegetation. The accumulation of woody fuels may pose a severe fire hazard over time, and regeneration of existing vegetation conditions would take many years following a catastrophic wildfire. Vegetation removal in some areas may somewhat reduce the fire hazard on the property, but most scrub, chaparral, and pine woodland communities are adapted to fire regeneration strategies. As their habitats increase in age, they become progressively more volatile. Therefore, continued fire prevention creates a condition in which these habitats become even more susceptible to catastrophic wildfire. Prevention of this fire response successional strategy may result in degrading of the habitat and/or a shift to a different non-fire adapted or less desirable habitat type. Control of fire hazard and soil erosion are inversely correlated; reducing vegetative cover would reduce fire hazard but would accelerate erosion rates, while increasing vegetative cover would protect soil resources but would also contribute to the fire hazard. A catastrophic fire would also create extensive areas of exposed soils and probably result in tremendous soil erosion and surface runoff.

13. Other direct impacts of vegetation resulting from the introduction of residences to the landscape include the possible introduction to competitive, adventive landscape species such as eucalyptus, pampas grass, periwinkle, english ivy, etc., that can escape into the surrounding native habitat and displace native species. Increased summer irrigation of landscape vegetation could cause shifts in the vegetation composition or result in soil conditions unfavorable to mature trees that have adapted to a regime of winter wet/summer dry cycles characteristic of Californian mediterranean climate. Saturation of oak root zones in the summer have resulted in increases in oak root fungus and decay. This has been shown to be a significant impact in oak woodland landscapes in association with residential development. Monterey pines are susceptible to insect infestation and windfall when the root systems have been over irrigated or compacted by construction activities. The death of these species could enhance the

ignition and place at risk homes and people in close proximity due to tree or branch fall.

2.5.2.3 General Wildlife Impacts

The following impacts discussion is prepared based on a review of the 1985 LSA Biotic Resources Report, which described the biological resources of the Monterra Ranch Subdivision.

14. Habitat losses are quantified in Table 2.4. Approximately 52 percent of the parcel will be modified or impacted due to the development. This will modify a significant portion of the parcel in terms of its suitability to wildlife resources.

15. Modification of existing natural vegetation to landscaped, introduced species will eliminate or reduce some existing habitats, but will provide new vegetation communities for those species more commonly associated with areas of development.

Some wildlife species are more susceptible to disturbance than others and are readily displaced by human disturbance and the impacts associated with housing developments.

16. The proposed development will reduce the available habitat for wildlife species found in several plant communities discussed elsewhere (LSA 1985). The habitat losses for small mammals and birds will, in turn, reduce the availability of prey for mammalian and avian predators. Losses of forage plant species will reduce deer numbers and their utilization of the area. The result will be a general reduction in wildlife utilization of the area of the development.

17. Introduction of domestic cats and dogs would result in increased wildlife conflicts by predation and displacement of native prey species. Deer are very susceptible to attacks by domestic dogs in packs. Cats are effective predators of small game, in particular song birds.

18. Impenetrable fencing around estate and clustered housing tracts could effectively focus deer browsing and restrict migration to linear corridors. This could result in overgrazing impacts of the designated open space areas.

2.5.2.4 Impacts to Sensitive Habitats and Rare Plant and Wildlife

Only one sensitive habitat type was identified by LSA (1985). That is the area adjacent to Jack's Peak Regional Park in the western margin of the property. As presently proposed, the site development will have no direct affect on this area. The portion of the property adjacent to the park boundary has been designated for park dedication. Native Monterey pine forest has been designated as a unique habitat area (Priority 2) by the California Natural Diversity Data Base (CNDDB). The Monterey pines on the Monterra Ranch are undoubtedly part of this native stock in the Monterey region. However, due to the general nature of the vegetation mapping, representative Monterey pine forest cannot be delineated and thus the extent of impact is unknown. A more detailed mapping of pine distribution and density may be warranted.

19. One rare plant species, Hickman's onion, was documented on-site during a spring 1985 re-survey by LSA (see Figure 2.7). During this survey, a total of six occurrences were located totaling approximately 2.3 acres in extent. These occurrences were located on old coastal terrace grassland near the northwest corner of the property above the old school site. As presently configured all but the northernmost coccurrence would be directly displaced by the development. The largest population occurrence designated as Site 3 by LSA (1985) would be removed or impacted by the construction of estate lots 237 and 238 and the cul-de-sac access road. The displacement and removal of these occurrences in this area would pose a significant impact to this species on-site and possibly in the region. The development as currently proposed would result in a 90 percent reduction of this population and available habitat on-site.

There are no rare, threatened, or endangered wildlife species that will be directly impacted by the proposed development.

2.5.3 Mitigation Measures

Based on the results of the LSA field surveys and impact analysis, a set of mitigation and management recommendations have been suggested to minimize the high erosion and fire hazards and to minimize potential project impacts on vegetation, wildlife resources, sensitive species, and sensitive habitats.

2.5.3.1 General Project Mitigation

19. Direct disturbance or removal of native vegetation cover should be restricted to those areas designated for development only (except as prescribed under Fire Control and Fuel Management).

20. Wherever possible, existing unpaved roads on the site should be used for access to the homesites. Construction access to and from homesites should be along the same routes that are proposed for residential access. Existing roads that will not be used as residential access routes should be abandoned. The final residential access routes should be completed before homesite construction activities begin. During construction phases, access roads should be frequently watered to minimize the generation of road dust.

21. The introduction of non-native plant species should be avoided. Native trees (preferably oaks), shrubs, and ground covers should be used for erosion control and landscaping within the designated development envelope surrounding each homesite, the proposed recreation areas, and along the access road system. A landscape plan should be developed incorporating the retention of native trees and vegetation around the building sites. Deed restrictions should be instituted to assure recourse if violated.

22. Exotic plant species that are aggressive colonizers of disturbed areas should be actively eradicated. These species include, but are not limited to, French broom, poison oak, and Eucalyptus.

23. Off-road vehicle activities should not be allowed on the property.

24. Livestock (e.g., horses, cattle) should be kept or grazed on the property only at stocking levels comparable to pre-existing use. If desired, use of the existing road and trail system for recreational horesback riding and hiking may be allowed to continue. No livestock should be stabled or boarded on any cluster or estate parcel.

25. No broad-scale application of pesticides or herbicides should be permitted on the property.

26. Dead trees and snags, as well as bare and denuded limbs, should be retained. These are valuable as perch or roost sites for raptors and flycatchers, and as nest sites for cavity-nesting birds. Removal should be implemented only when a hazard exists.

27. Brush piles and fallen logs should be retained (except as prescribed under Fire Control and Fuel Management). These serve as protective or escape cover, nest sites, and foraging areas for a variety of wildlife species.

28. Since the 1985 LSA Biotic Report does not quantify wildlife resources or the extent of their distribution, specific mitigation measures are not estimated.

The following minimal guidelines should be included in a homeowner's agreement for the entire development. These guidelines would establish basic rules about impacts that may be implemented by one or a few homeowners, but that would negatively impact the resources of the entire development.

For example, if no restrictions are established regarding free-roaming dogs, deer will avoid the general vicinity reducing the quality of the rural living environment for all homeowners.

The basic concerns to be addressed in such an agreement should include but not be limited to:

- a) leash and kennel requirements for dogs and bells fitted on cats to impede their predatory impact on wildlife;
- b) fencing designs that will not inhibit deer movements;
- c) maintenance of natural and diverse vegetation buffers in non-landscape areas;
- d) minimal tree removal guidelines;
- e) fire control standards should be established and enforced to protect vegetation;
- f) restrictions on human activity in designated open space areas;
- g) guidelines on maintenance of domestic livestock;
- h) an annual management/assessment fee for forestry programs, wildlife habitat protection and oak tree management.

2.5.3.2 Erosion Control

Recommended measures for reduction of fire hazard may conflict with the goals of an erosion control program (see Fire Control and Fuel Management).

A formal erosion control and revegetation program should be developed in consultation with U.S. Soil Conservation Service representatives and key County Planning Department Staff. The following measures are recommended for incorporation into an erosion control program (see also Section 2.3 Soils).

29. Development and construction activities should be conducted with as little vegetation removal and soil disturbance as possible. Tree and shrub root systems should be left intact to help bind the soil. Surface cuts and fills should be made only for designated homesites and associated construction material laydown areas. Development of the existing unpaved road along the ridgeline as construction and residential access to the homesites will prevent soil disturbance on slopes where higher erosion rates are expected. Clearing should not be allowed on slopes greater than ten percent without specific consultation with an erosion control specialist.

30.* A short-term erosion control program should be established on large areas of exposed soil (cuts, fills, etc.), consisting of seeding with an annual grass and herbaceous cover.

- a. Standard seed mixes for erosion control applications may be inappropriate due to relatively high fire hazard and competition with native species. No data were found to suggest that regeneration of oaks would be inhibited by high densities of annual grasses. However, the inhibitory effect of weed competition on chaparral shrub seedling survival is well documented (Horton, 1950; Schultz, et.al., 1955; Hanes, 1977). Gautier (1981) discussed the possibility that seeding of recent burns in chaparral may increase long-term slope erosion by retarding the recovery of native shrub vegetation. Therefore, a seed mix should be designed to include species relatively low in stature and biomass in order to reduce fire hazard and competition effects. Annual fescue (Vulpia megalura, Vulpia octoflora) and soft chess (Bromus hordeaceus spp. hordeaceus) are recommended. To these may be added a mixture of native herbaceous species, including California poppy (Eschscholtzia californica), trefoil (Lotus spp.), clover (Trifolium spp.), and lupine (Lupinus spp.).
- b. Germination and establishment of seeded grasses and herbs are dependent on proper timing and intensity of precipitation (Hanes, 1977). Seed applications should be made in September, just prior to the onset of the rainy season.
- c. The success of the seeding effort should be monitored, especially during the first several months following the initial treatment. On an annual basis, seeding should be repeated where necessary to help stabilize areas of exposed soil.

*See also Comment/Response 16 in Response to Comments section.

31. A long-term erosion control program should be established to revegetate disturbed areas using native woody species.

- a. Plant materials used in revegetation and landscaping should be propagated in a nursery from native seeds and cuttings collected on the site. The propagules should be planted in a sandy soil mixture. At least in the period immediately prior to transplanting, soil water conditions should simulate those found on the site. These measures will help reduce transplant shock and mortality.
- b. Liner planning should follow the method developed by Chan, et.al. (1977). The standard method consists of excavating holes 6 to 12 inches deep and mixing the native substrate with a high loam, potting type soil. On slopes, slight backslopes are constructed above the liner hole to minimize erosion and encourage soil water retention. Each liner is placed within a small (about 8-inch diameter) plastic collar with the bottom removed. The collar serves as a protection against rodents, concentrates precipitation within the root zone, and provides an anchor point for the wire mesh screen used to protect the young seedlings from foraging wildlife (i.e., deer). A mulch of black plastic film embedded between two layers or burlap is placed around each plant to aid in soil water retention and control of competitive weeds and grasses around the transplants.
- c. Plantings should be conducted in late October or early November, to coincide with the period when soil water tables are reaching surface levels. This planting period is most conducive to liner establishment. It favors extensive root development prior to significant above-ground growth in the spring and helps to eliminate the need for spring and summer watering programs.

- d. An annual monitoring and maintenance schedule should be adopted to repair or replace screens and collars, remove competitive weeds, provide supplemental watering if warranted, and replanting as necessary.

2.5.3.3 Fire Control and Fuel Management

An inverse relationship exists between the amount of vegetation cover and soil erosion rates (Gautier, 1981). A controlled burning and fuel management program may increase erosion potential on the site by reducing vegetation cover, and therefore may appear to be in conflict with the objectives of an erosion control program. However, the increased erosion attributable to active fuel management practices would be considered minor compared with the severe erosion potential following a catastrophic wildfire. Such a hot fire has a greater probability of occurring when fire suppression has allowed the accumulation of woody fuels. Active fuel management may result in a short-term increase in soil erosion rates associated with vegetation removal, but this is compensated by a long-term decrease in potential for severe soil erosion following a catastrophic wildfire.

32. A controlled burning program should be considered for implementation on the property. Such a program would mimic the effects of natural fires and reduce fire hazard. Maritime chaparral is well adapted to conditions of recurrent fire (Griffin, 1978), and coast live oak is extremely fire-resistant and has the ability to resprout from both trunk and branches following a fire (Plumb, 1979). Controlled burning would reduce the probability of a catastrophic wildfire and would be compatible with the ecological strategies of the predominant vegetation types on the property.

- a. The scale and frequency of prescribed burning should be commensurate with the maintenance of mature plant communities with minimal fuel loads.

- b. The controlled burning program should be initiated prior to construction on the homesites. This will result in lessened fuel loads and reduced fire hazard during and after the construction phase of the project.
- c. A qualified forester or controlled burn specialist should be consulted before initiating a controlled burning program. Representatives of the California Department of Forestry (CDF) may be of assistance in designing a controlled burning program or in recommending knowledgeable experts on the subject. Factors to consider in developing a burn prescription include dead/live fuel ratio, fuel volume, live and dead fuel moisture, fuel chemical content, and weather conditions (Green, 1981). Various techniques may be used to limit or control the area of land to be burned at any one time (i.e., construction of fuel breaks, mechanical fuel reduction, spot burning, etc.).
- d.* The landowner should not necessarily be required to bear the entire burden for this program. An agreement with agencies such as CDF, the California Youth Conservation Corps, and the County of Monterey may be pursued to alleviate the cost of the program.

33. A program of fuel load reduction through direct vegetation removal should also be considered for implementation on the site, either separately or in tandem with a controlled burning program.

- a. A program of direct vegetation removal or thinning and chipping may be necessary to reduce critically high fuel loads prior to beginning a prescribed burning program. Dead brush may be piled and later consumed by the burn.
- b. The distribution of native vegetation patterns should be considered in designing and establishing fuel breaks.

*See Comment 17 in Response to Comments section.

- c. Vegetation removal for fuel management may be accomplished either mechanically or by hand. Hand removal is less cost-effective but results in lower amounts of soil disturbance and subsequent accelerated erosion rates. Mechanical removal should be conducted in a manner that minimizes soil disturbance (e.g., following slope contours).
- d. The "pruning up" of shrubs (i.e., removing all their lower branches) should be considered as an alternative to outright clearing of chaparral, coastal scrub, and the understory of live oak woodland. This technique may prevent fire from reaching the crowns of the larger shrubs and trees and therefore favors cool ground fires. The method has been used effectively in fire control applications in southern California. Use of this technique would produce a minimal amount of soil disturbance compared with mechanical vegetation removal.

2.5.3.4 Management of Sensitive Species and Sensitive Habitat Types

Attempts should be made to protect and manage all existing occurrences of rare or unusual plant species on the property. Disturbance should be avoided in close proximity to occurrence areas for sensitive species or recognized sensitive habitat areas.

34. Estate lots 227 and 235 through 239 proposed in the occurrence area of Hickman's onion on-site should be eliminated or redesigned and a minimum buffer of 50 feet implemented to preserve the population. This could entail the loss or redesign of these parcels along the proposed Romera Vista Road in the northwestern end of the property. The furthest occurrence to the south could be protected by shifting of the Romera Vista Road to the east. Care should be taken to preserve the present vegetation and soil structure in the areas where these occurrences were found. No corraled livestock should be kept in these areas. Fencing of the occurrences may be appropriate to prevent accidental encroachment by off-road vehicles and construction equipment or their use as laydown areas.

35. The Hickman's onion population should be monitored both during and after construction to evaluate the adequacy of the protection measures implemented and the vitality of the species.

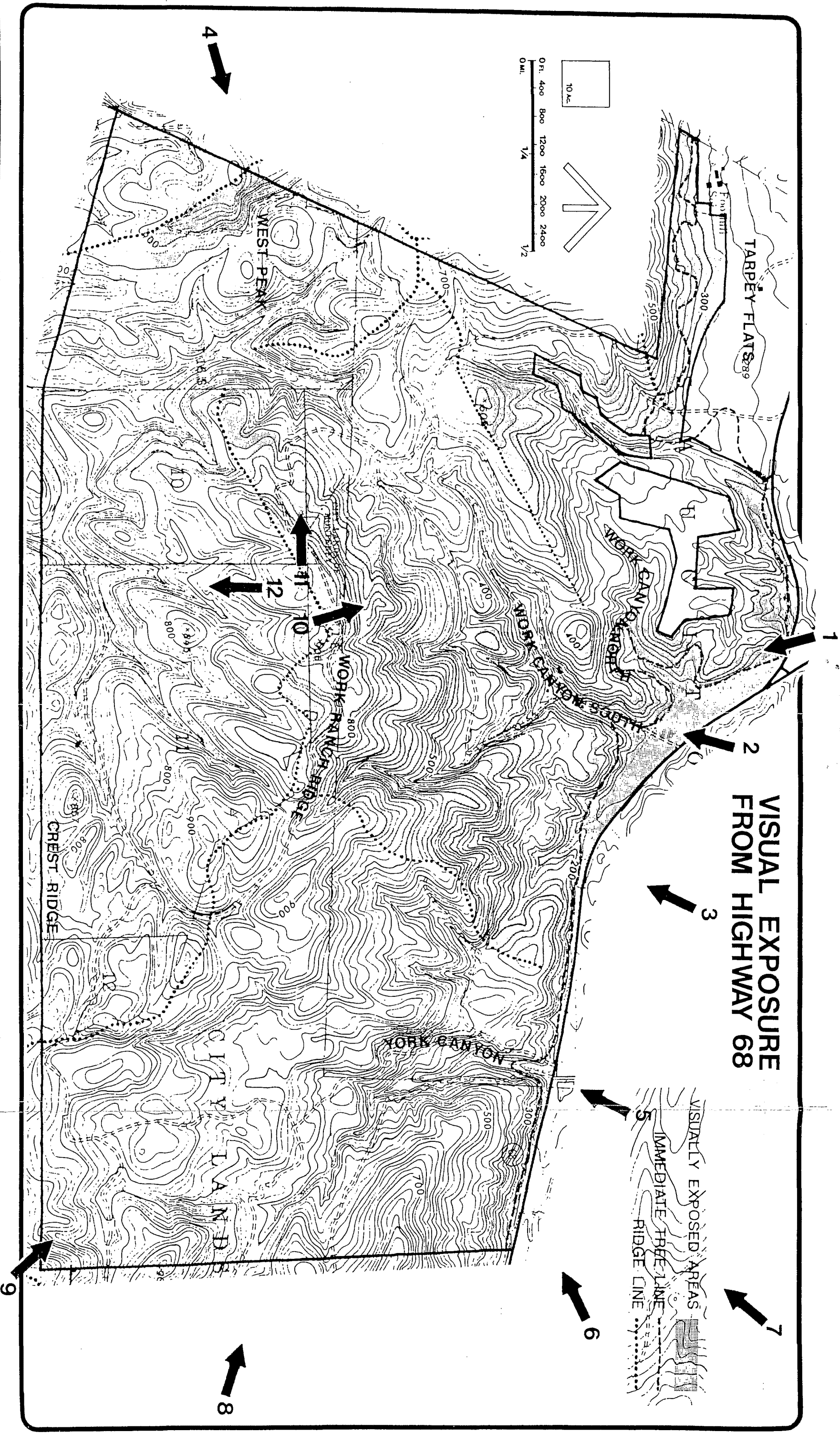
2.6 Aesthetic Considerations

2.6.1 Visual Patterns/Design Elements

2.6.1.1 Existing Conditions

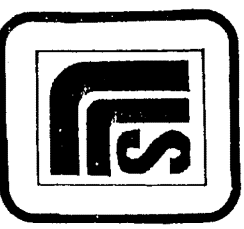
Regional and Areawide Setting. The project site is located in the vicinity of the Monterey Peninsula, an area noted for its unique and attractive visual character. The dominant visual elements of this area are the crescent shaped coastline of Monterey Bay and the central wooded ridge that extends through the peninsula separating the City of Monterey and State Route 68 corridor from Del Monte Forest, Carmel and Carmel Valley. A series of wooded canyons radiate from the ridge to the bay. Mesas occur between these canyons, supporting a variety of land uses. State Route 68, a designated state scenic highway, winds through one of these canyons, Canyon Del Rey, from the City of Monterey to the Salinas Valley. The road is bordered by pastoral, semi-rural land, consisting of open, rolling grassland, oak and pine woodlands, and prominent wooded ridges.

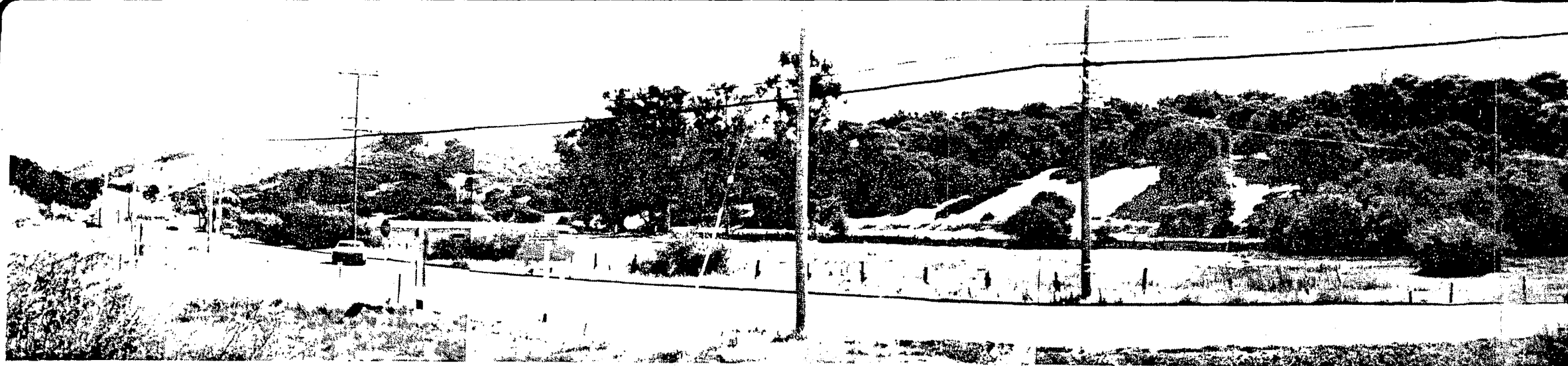
Project Site Setting. Monterra, the largest private property in the Highway 68 area, is a 2,831-acre project site consisting of a series of visually prominent ridges and canyons, ranging in elevation from 110 feet near the intersection of State Routes 68 and 218 to over 1,000 feet in the southeast corner of the site. Major landforms on-site are designated in Figure 2.8. The site supports a variety of natural vegetative patterns, including open rolling grassland dotted with Coast Live Oak or Monterey pine trees, denser oak or pine woodland, and steep brush covered slopes. At present, the site is used for cattle grazing. The site is undeveloped, except for a few ranch buildings. Adjacent lands are also undeveloped or support low intensity residential uses.



MAJOR LANDFORMS & VISUAL EXPOSURE FROM HIGHWAY 68

FIGURE 2.8





PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 1-3

FIGURE 2.9





4



5

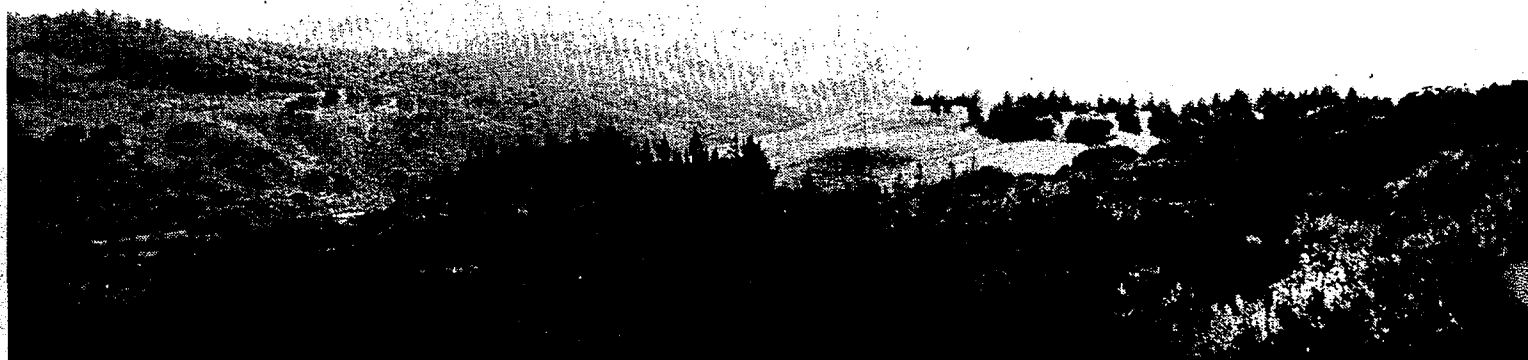
PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 4-5

FIGURE 2.9





6



7

PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 6-7

FIGURE 2.9

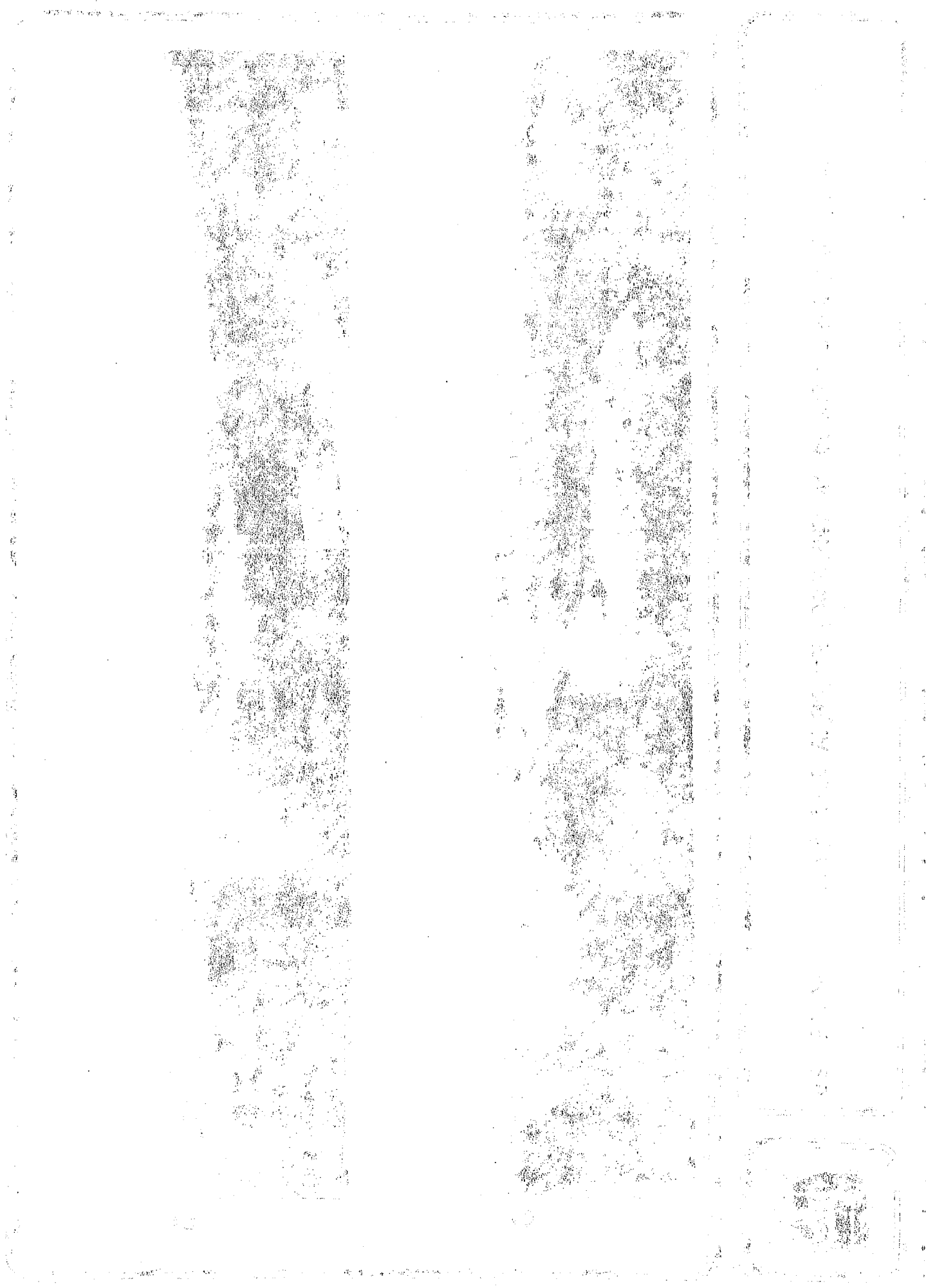




PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 8-9

FIGURE 2.9



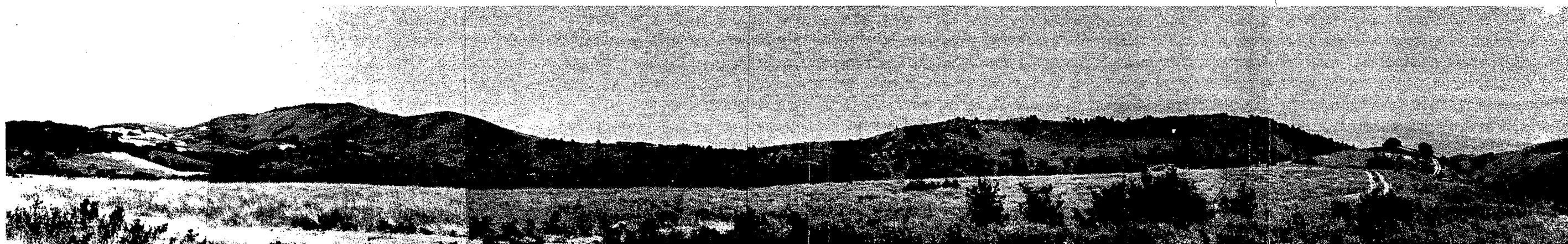




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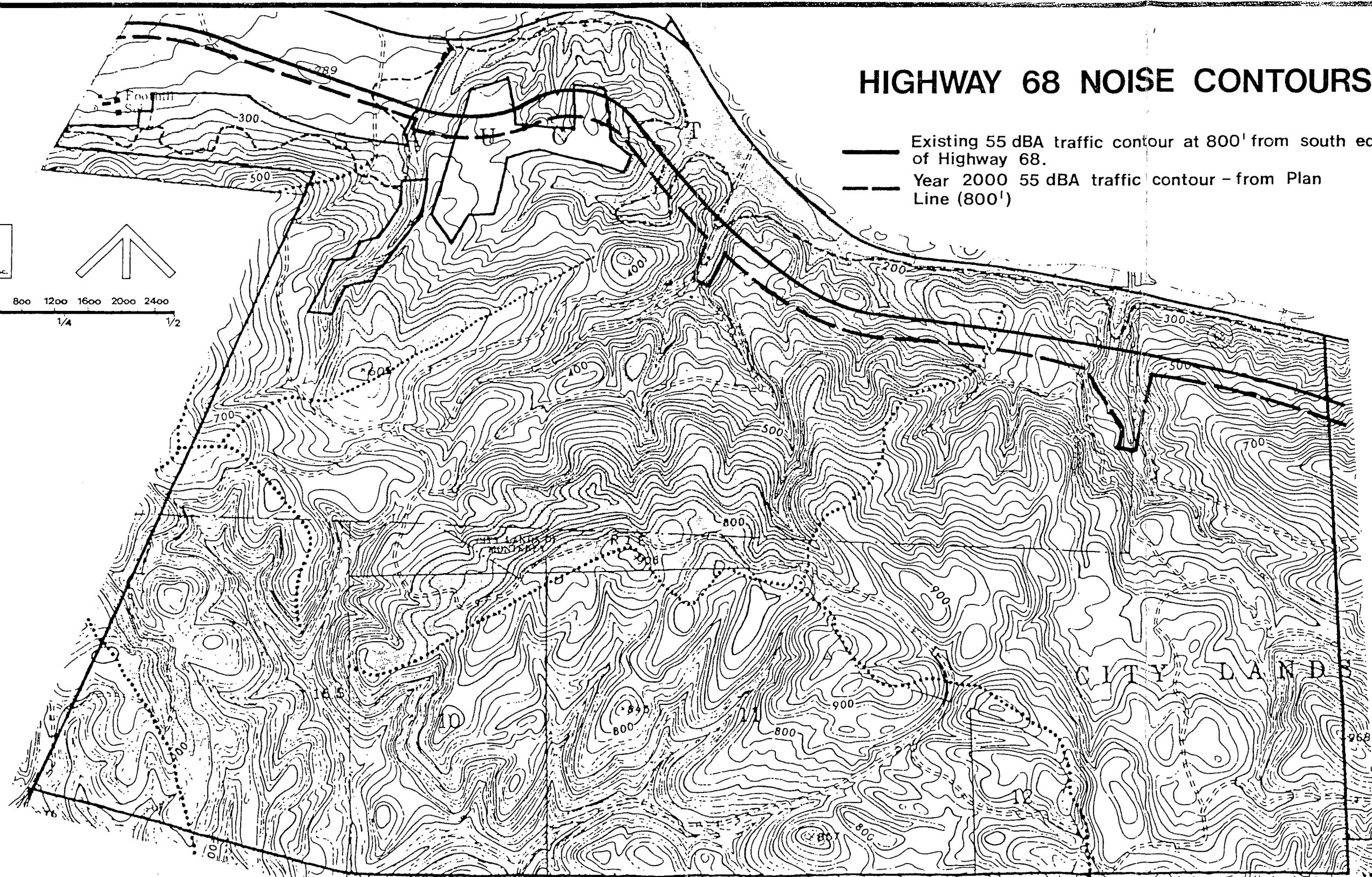
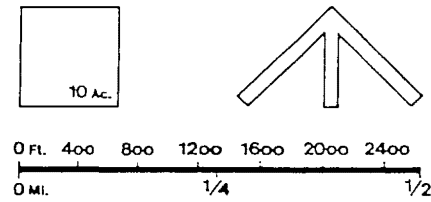
PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 10-12

FIGURE 2.9



HIGHWAY 68 NOISE CONTOURS

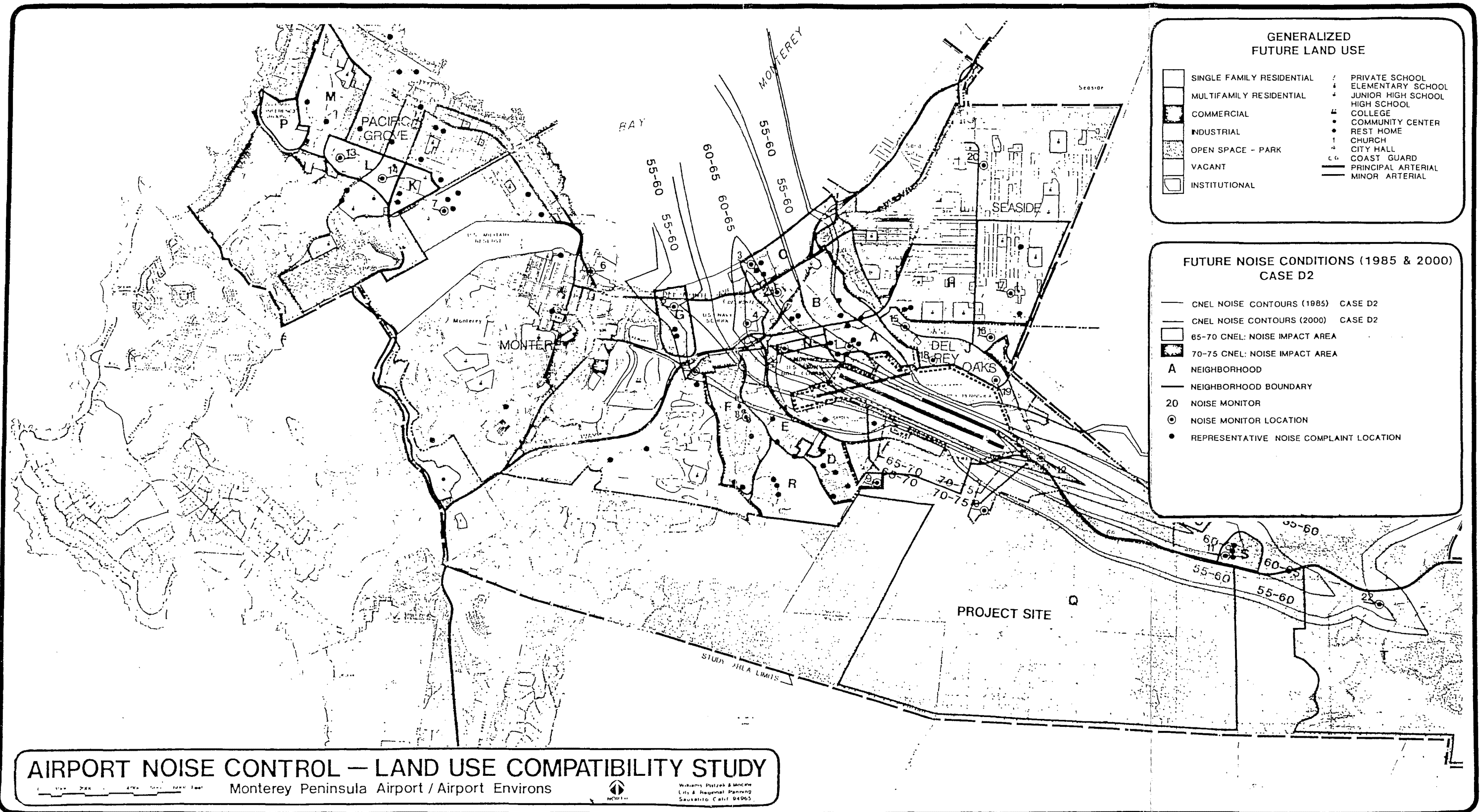
- Existing 55 dBA traffic contour at 800' from south edge of Highway 68.
- - - Year 2000 55 dBA traffic contour - from Plan Line (800')



HIGHWAY 68 NOISE CONTOURS

FIGURE 2.10





AIRPORT NOISE CONTOURS

FIGURE 2.11



The project site is a major visual feature in the Monterey region because of its large size, the visibility of its high ridges from many parts of the Monterey peninsula, and its location along State Route 68 (a scenic highway and major entrance to the City of Monterey). Figure 2.9, Plates 1 to 12 depicts the project area from surrounding vantage points. Figure 2.8 shows the locations of these vantage points. Particular emphasis is given to the major view corridors identified below.

View Corridors. View corridors are areas allowing the exchange of views between the project site and likely viewer vantage points. The project site is directly visible from State Route 68 and adjacent development and is part of distant views from downtown Monterey, the Toyon residential area, Seaside, and portions of hillside areas to the south accessed by Carmel Valley Road. Major view corridors have large viewer capacities and are of regional significance, in comparison to local view corridors. Views from State Route 68 comprise the major view corridor related to the project, although other regional viewing opportunities of the site are available. State Route 68 is a recognized state scenic highway and a major gateway to the Monterey Peninsula. As shown in Figure 2.8, the portion of Monterey which borders State Route 68 is a visually exposed area.

The project site is directly visible to persons driving along State Route 68 for approximately five minutes, assuming a driving speed of 45 miles per hour. Bicyclists and pedestrians, as well as motorists waiting at the intersections of State Route 68 with State Route 218, York Road, Olmsted Road, and driveways off of State Route 68, view the site for longer durations. From the roadway, the steep, wooded and brush covered slopes are readily apparent, with some relatively level grassland and trees along the roadway in the foreground. Figure 2.9, Plate 1 depicts the lowest western portion of the site as seen from the State Route 218/68 intersection. Plate 2 shows the eastern end of the project site from the York Road/State Route 68 intersection. Plate 3, which was taken from the Ryan Ranch site, shows the central portion of the site along State Route 68, including the existing ranch entrance.

Distant views of ridgetops in the project area are available from portions of State Route 68 not in the immediate project vicinity, Seaside, downtown Monterey, and the Toyon residential area. The ridges provide an aesthetic backdrop for the city and pleasant contrast to the level parts of the peninsula and bay. The project site is partially visible in distant views from the Toyon residential area, located northwest of State Highway 1 in the vicinity of Walter Colton Junior High School. Views from this area are limited to a portion of the site along State route 68; views of the site's interior are largely blocked by ridges to the west. Although the project site is part of the peninsula ridges, it is not readily identifiable in these distant, regional views of the ridgeline. Also, views of the site from Carmel Valley Road are largely blocked by intervening ridges.

View corridors, which are more local in nature, include Jacks Peak Park Road, York Road, Jacks Peak Park, York School, Laguna Seca residential area, Laguna Seca Golf Ranch, Hidden Hills residential area and some residences at the end of Tierra Grande Drive in Carmel Valley. From Jacks Peak Park Road and adjacent Foothill School, one looks across the relatively level grassland of Tarpey Flats to the wooded ridges of Monterra. The project site contributes to the natural setting of this roadway, which serves as an entrance to Jacks Peak Park. From Jacks Peak Park, scenic vistas of the site's southern undeveloped ridges are available, as shown on Plate 4. This setting contributes to the park's values for passive recreational uses, such as hiking and photography.

The other land uses in the area, including residential neighborhoods, school, and golf course, are also enhanced by their aesthetic setting. Views of the site's north-facing slopes are available from all portions of York Road including direct, short-range views from the State Route 68/York Road intersection (Plates 5-7). The upper elevations of the Laguna Seca residential area and Laguna Seca Golf Ranch have more distant views of the site's wooded ridges along the State Route 68 corridor. Plate 7 depicts the site from the top of Domino Road in the Laguna Seca residential area. Similar, but more distant, views are available from the golf ranch; Plate 6 was taken from the roadway leading to the golf ranch. Also, some residences at upper elevations in the Hidden Hills area (east of the project site) and at the end of Tierra Grande Drive (southeast of the site, off Carmel Valley Road)

also view small portions of the site ridges, but to a much lesser extent, as shown on Plates 8 and 9.

View Opportunities. From the site's ridgetops, scenic areawide vistas of the Monterey Bay region are available. Unlike much of wooded Jacks Peak Park, the site has many open ridgetops which are unique, especially valuable vantage points because of the panoramic views they provide. As shown on Plate 10, views to the north include the largely undeveloped portion of Fort Ord, the Monterey Airport, City of Seaside, and Monterey Bay with the site's rolling oak-studded grassland in the foreground. To the west, nearby wooded ridges, including Jacks Peak Park, are dominant (Plate 11). To the south, the long silhouette with Crest Ridge and distant ridges south of Carmel Valley are apparent (Plate 12). The rural interior of the site itself is a visual asset. The varying topographic relief and patterns of vegetation provide a pleasant pastoral landscape.

2.6.1.2 Impacts

The rural project site setting would be partially replaced by a suburban residential environment. The general design of the project, shown in Figure 1.2, is analyzed herein with regard to its compatibility with existing natural features and adjacent land uses, as well as its ability to provide a practical and aesthetic setting for the proposed residential and recreational uses. Detailed architectural and grading plans are not yet available for analysis at this preliminary stage of development. It is important that the final site plan reflects the stated design standards and policies of the County of Monterey and is responsible to the high visual sensitivity of the area. Design criteria are provided at the end of this section for use as guidelines by the County Planning and Building Departments in reviewing the proposed project.

Site Design. It is a stated design policy of the project plan to preserve existing land forms and visual features in order to provide a development in harmony with its rural, natural setting. Proposed design features which support this policy include the following from Wallace Holm Architects, Inc., 1984:

1. Strictly controlling development near ridgelines.
2. Locating development, on backslopes and on flatter upland meadows, to keep development hidden from nearby off-site view.
3. Limiting most construction to grass- and brush-covered areas, in order to save existing trees.
4. Locating roads, trails, buildings and paving on the gentler slopes, to minimize cuts and fills; contouring cuts and fills to look natural.
5. Restricting height of structures to three and one-half stories or 35 feet, whichever is lower.
6. Restricting the heights of retaining walls and using natural materials where possible.
7. Requiring restrictive architectural control, of all significant structures, extending to engineering, materials, textures, scale, massing, and detail, as well as to design, and requiring a palette of colors and materials which harmonize with the natural colors of the terrain to such an extent that the structures will blend into the natural landscape and become virtually invisible.
8. Installing all on-site utilities underground.
9. Screening the developments at the meadows with native trees and shrubs, and keeping development profile low and small scale.
10. Ensuring that off-street parking areas shall not dominate their surroundings, and shall be dispersed, landscaped, with pedestrian scale, and suited to existing slopes without major cuts and fills.
11. Develop a program for conserving the oak and pine trees prior to any development. Establish procedures for controlling land grading operations and vegetation removal.
12. Inventory and locate natural areas worthy of special consideration and attention.
13. Program retention of forests and wooded areas as an essential aesthetic resource.

Other design features which could impact the site's natural setting, include the construction of buildings along ridgetops and potentially inadequate minimum setbacks from roadways. The impacts of these design features on the appearance of the project are specifically discussed in the following impact sections. The discussion is limited by the existing general level of project design. The final, more detailed site design will be subject to review by the County Planning Department and compliance to applicable County policies.

Intensity of Uses. The visual intensity of the project will be affected by land coverage, density, and placement of development on-site, as well as specific architectural design. Approximately 102 acres (3.6 percent) of the project site would be buildings, roadways, or other paved areas. Another 2.7 percent of the site would be landscaping, with the remaining 93.7 percent proposed to remain in its existing natural state. Although the majority of the site would remain as natural open space, the placement and design of development is of major regional importance for the protection and preservation of the visual resources, on-site as well as off-site. Seventy-eight (78) residences would be constructed on the site's ridgetops, including the prominent Work Ranch Ridge, Del Rey Ridge, and north-facing slopes along State Route 68. These residences could be up to 35 feet in height. Although ridgetop construction may require less grading and allow the preservation of steep slopes in a natural state, significant impacts to the natural setting could occur.

It should be noted that the low intensity of development allows flexibility in the placement of structures by using the topography, existing natural vegetation and tree cover to significantly lessen visual impacts from off-site. However, there are lots to be developed along ridges and slopes that would be especially incompatible with the natural skyline and surrounding undeveloped slopes. For location of these lots, see Figures 1.2 and 2.8.

Compatibility with Natural Features. The project's compatibility with the site's topography and existing natural vegetation will be analyzed on the basis of general design goals for grading, vegetation removal, and placement of development on-site, since no detailed plans are yet available.

It is the project proponent's intention that the project preserve and reinforce the character of existing vegetation, land forms, and views. Grading would primarily occur for construction of buildings and paved areas, on 3.6 percent of the site. Grading for landscaping would occur on another 2.7 percent of the site within individually owned parcels. It is an objective of the project plan to avoid excessive cuts and fills, as well as to preserve healthy trees where practicable. However, a detailed grading plan is not yet available. Any construction on slopes over 15 percent would be subject to grading policies and standards for hillside areas.

Roads. Many of the proposed roads would follow existing canyons, swales, or ridgetops. The two collector roads with access to State Rout 68 would extend up York Canyon and Work Canyon and hence, would be largely screened by adjacent ridges. The smaller internal street serving Lots 268-281 and the access road cut to Olmsted Road would be visible from portions of State Route 68.

Building Designs. The visual intensity of the Monterra project could be reduced to a limited extent by sensitive architectural treatment, such as increased minimum setbacks from State Route 68, screening of landscaping, low-scale of buildings, minimal lighting, signage, and vegetation removal.

Potential buildings and landscaping should be designed to blend with the surrounding natural landscape. However, this may not be possible for development on open, grassy ridgetops, where the height of structures may not allow structures to blend with the surrounding landscape and ridgeline.

Distant Views. Distant views of Monterra from development farther east, including Laguna Seca Golf Ranch and Laguna Seca Ranch residences (existing and possibly those that are proposed), would be limited to residences on the upper parts of ridges. With sensitive architectural treatment and grading design, the future residences should not be conspicuous, although lighting at night would be evident.

From residential areas east and south (i.e., Hidden Hills and homes on Tierra Grande Drive, which extends off of Carmel Valley Road), the project should be minimally visible or not apparent due to view blockage by intervening ridges. Residences on the east and southern parts of the site, however, may be particularly visible, particularly their nighttime lighting.

The project is expected to be an unobtrusive part of views from downtown Monterey, the Toyon residential area and the Holiday Inn in Seaside, because of the distance of these vantage points from the project site. Although buildings are not expected to be seen from these areas, some lights may be visible on the ridgeline at night.

On-Site View Opportunities. The proposed residences built on Work Ranch Ridge could have prime scenic vistas of undeveloped hills to the south, east and west as well as the Monterey Bay, cities of Seaside and Monterey, and Fort Ord to the north, northwest and northeast. The availability of views from these residences, as well as the roadway providing access to them depends on the building location and heights, architectural design, and the use of natural landscaping. The natural, rural character of view opportunities from north-facing slopes would be altered, since some residences would overlook residences located on the lower elevations of the site.

Summary of Impacts. The project would have the following visual impacts:

20. The potential for a noticeable decrease in the rural character of the State Route 68 scenic corridor. From State Route 68, the following proposed uses would be visible: Del Rey Ridge, on the ridge west of Work Canyon South, on slopes which face the roadway north of Tarpey Flats, and north-facing slopes between Work Canyon South and York Canyon.

21. Minor impacts on the visibility of the project from downtown Monterey, the Toyon residential area west of the site, Seaside, the Hidden Hills residential area, Laguna Seca residences and golf ranch, and homes southeast of the site at the end of Tierra Grande Drive. Views of the site from these areas are either quite distant or largely blocked by intervening topography and vegetation. Views of the project would be limited to lighting at night.

2.6.1.3 Mitigation Measures

The following measures are recommended to mitigate the specific visual impacts of the project.

36. Residential and other types of development in areas viewed from State Route 68 should be inconspicuous in order to maintain the natural rural character along this scenic corridor. Visually sensitive areas include Work Ranch Ridge, Del Rey Ridge and north-facing slopes and meadows along Canyon Del Rey. Strict architectural control of building plans for lots in these areas should be required.

37. A requirement for single-story houses located behind existing vegetation along Work Ranch Ridge, Del Rey Ridge, and slopes bordering State Route 68 should be considered.

38. Require building permits for Monterra lots to be evaluated utilizing the following design criteria. These criteria are general in nature since overly prescriptive standards of design, given the current preliminary planning stage of the project plan, could be detrimental to the ultimate success of the project. Conformance with these criteria is necessary to provide a project integrated with the natural setting and the planning goals of the County of Monterey and to ensure that the scale of the project allows for development, but also relates to the preservation of the natural character of the State Route 68 corridor.

Site Design.

39. The prominent ridges and native vegetation along the State Route 68 corridor shall be preserved in a natural state, as much as possible, to maintain the natural scenic quality of this area.

40. Development should be designed to blend with the natural terrain, by using innovative site design, grading techniques, building types, and spacing of buildings.

41. All structures should complement one another and the natural landscape, provide visual interest, and create a sense of identity within the development.

42. Removal of native vegetation, particularly trees, should be minimized.

43. Grading in hillside areas should be minimized to the portion of the site covered by the structure. Required grading should be finished to blend with the natural contours by avoiding abrupt changes in grade and by rounding off sharp angles along the sides of cut and fill slopes. The mass grading of large building pads and excessive terracing should be avoided. (No grading plan submitted to date, so full extent of grading is not known at this time.)

44. Roadways should be designed to reflect the natural topography in order to minimize grading and scarring of hillsides.

45. Exterior colors and materials that blend, rather than contrast with the surrounding soil and vegetative cover should be used. These include natural wood and masonry materials and brown, muted green and gold colors. Highly reflective surfaces and colors should be avoided.

46. Structures should not greatly exceed the height of the forest canopy.

47. Development along ridge lines should not silhouette against the skyline.

48. Exterior lighting should be minimized. Lighting that is necessary should be of low profile design, unobtrusive and compatible with the rural character of the project area. Consider using warm tone lights on dark standards.

49. Roofs of buildings at lower elevations should be attractively designed to enhance views of these buildings from adjacent hillside residential areas. In general, sloping, gabled, or vaulted roofs constructed of wood shingles, wood shakes or tiles are preferred over flat, gravel-type roofs. Mechanical equipment on roofs should be avoided or screened so that it is not apparent from the hillside areas.

50. Large wall planes without a change in dimension should be avoided.

51. Parking and service areas, for the recreational uses should be screened with landscaped berms.

52. Architectural detail should consider the appearance of buildings as seen from the hillside areas, as well as from on-grade with the building. Trellises, awnings, balconies, and planters should be used to add interest and assist with blending in with the natural setting.

53. Edges between active public areas and adjacent private residential areas should be defined by landscaping.

54. All utility lines serving the project should be placed underground.

55. Signage identifying the entrance to the Monterra development, should be minimized, particularly along State Route 68. Signs should be aesthetically pleasing, blending into the highway corridor. There should be a comprehensive signage motif which is compatible with the building design and surrounding natural setting (e.g., non-illuminated wood signs). Signs identifying individual residences and buildings should be of a uniform low-profile type, easy to identify (and to facilitate emergency access).

56. When adequate off-street parking is provided, consideration should be given to reduced street width. Intermittent widening of streets for cluster parking areas, bays, and turnarounds, are encouraged at appropriate locations. Alternatively, parking may be provided along only one side of the street.

57. Streets may be divided into one-way segments on different levels of steeper slopes to better blend with the terrain and minimize grading. pedestrian paths may also be at a different level from the roadway segments.

58. The clustering of driveways or use of common access driveways should be encouraged to maximize natural open space preservation.

59. A comprehensive trail plan should be submitted to the County prior to approval of the tentative map.

60. A continuous system of hiking and equestrian trails following fairly level contours should connect the proposed open space and park areas. Also, open space linkages should be provided between the site and the Ryan Ranch. Solid lot line fencing of yards bordering this narrow open space corridor should be avoided to prevent a "walled" appearance.

61. Natural landscaping should be provided around buildings to screen them from internal roadways and from surrounding areas, especially State Route 68.

62. Roadway guard rails and fences should blend into the landscape as much as possible.

63. Off-road turnouts should be provided in areas with significant views.

64. Follow the recommendations of the Greater Monterey Peninsula Area Plan Citizens Advisory Committee in regard to highly sensitive areas along Highway 68:

- a. Development shall be rendered compatible with the visual character of the area using appropriate siting, design, materials and landscaping;
- b. Development shall maintain no less than a 100-foot setback from the scenic route right-of-way;
- c. The impact of any earth movement associated with the development shall be mitigated in such a manner that permanent scarring is not created;
- d. Tree removal shall be minimized;
- e. Landscape screening and restoration shall consist of plant and tree species consistent with surrounding native vegetation;
- f. Architectural review of projects shall be required to ensure visual compatibility of the development with the surrounding area; and
- g. New development in open grassland areas shown as "sensitive" or "highly sensitive" on the Visual Sensitivity Map should minimize its impact on the uninterrupted viewshed.

2.6.2 Noise

2.6.2.1 Existing Conditions

There are two major off-site noise sources which affect the noise environment in the project vicinity. These noise sources consist of aircraft activities associated with the Monterey County Airport, and the traffic traveling along Highway 68. Figures 2.10 and 2.11 indicate the existing and future noise contours from these two noise sources.

The Noise element of the Monterey County General Plan specifies a maximum exterior noise level in the range of 50-55 dBA (L_{dn}) for low-density residential homes. Noise levels between 55 and 60 dBA (L_{dn}) are considered conditionally acceptable where development should only be undertaken after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.

The area of the northwestern portion of the project site is within or near the existing 55-60 dBA Community Noise Equivalent Level (CNEL) contour for the northwest-to-southeast runway at Monterey Airport. Airport noise contours are taken from the 1980 Airport ANCLUC Study. Proposed within this area are numerous single-family residences. In addition, an airport noise monitoring station, located within the 55-60 dBA CNEL contour on the school property adjacent to the project site, has measured a Day-Night Noise Level (L_{dn}) of 58 dBA (ANCLUC Study 1980). Both the CNEL and L_{dn} noise descriptors are determined by the cumulative noise exposures occurring over a 24-hour day with evening and nighttime noise weighted greater due to the higher annoyance levels during these periods.

To estimate existing noise levels generated by Highway 68 traffic, a highway traffic noise model developed by the U.S. Department of Transportation was used. Using 1981 traffic volumes from the traffic section of this report, the model calculated a 72 L_{dn} at 50 feet from the centerline of the eastbound lane of Highway 68. The location of existing traffic noise contours were then calculated from the 50-foot reference distance based on the noise level diminishing at a rate of 4.5 dBA for each doubling of the distance from the source location. The area of the project intended for residential use that is within the existing 55 L_{dn} traffic noise contour includes the proposed ranch lots adjacent to Highway 68 near York Road.

Minor, but annoying noise sources near the project site include the Laguna Seca racetrack and Fort Ord Military Reservation. Both are located across Highway 68 and produce intermittent car race noise and explosives testing noise, respectively.

2.6.2.2 Impacts

Aircraft Noise

The Monterey Peninsula Airport District Board has adopted for implementation a program for maintaining an adequate level of future air service to Monterey County and controlling future aircraft noise in the airport environs (personal communication with District staff, February 19, 1985). Major elements of this program include:

1. Construction of a new general aviation runway parallel to existing Runway 10-28.
2. Closure of existing Runway 6-24 after the parallel general aviation runway is available for use.
3. Extension of existing Runway 10R-28L 1,000 feet to the east.
4. Modification of existing aircraft flight tracks and air traffic control procedures to reflect the parallel runway configuration and displaced landing threshold on Runway 10R.

These program elements when combined with the forecasts of aviation demand for the year 2000 will result in the 50-60 CNEL noise contour shown in Figure 2.11 (1980 Airport Noise Control and Land Use Compatibility Study and the 1983 Environmental Impact Report for the Proposed Airport and Runway Development Program).

22. New areas of the project that will be affected by future aircraft-generated noise levels exceeding the General Plan standard of 55 dBA CNEL includes an approximate 1,200-foot strip of land fronting Highway 68. Residential uses proposed within this area are the numerous lots adjacent to the two entrance roads. All residential lots in the subdivision will also experience annoyance from noise levels less than 55 dBA L_{dn} caused by various aircraft operations such as engine runup before takeoff.

Ground Transportation Noise

23. Development of the proposed project will have a cumulative impact on the area's noise environment, however, project-related traffic will not cause noise levels along Highway 68 and other roadways in the area to rise significantly. The additional traffic generated by the project would increase Highway 68 noise levels by less than 1 dBA when averaged over a 24-hour period, this change would not be detected by the human ear.

Based on project and area cumulative buildout traffic volumes that are forecasted to use Highway 68 in the year 2000, and assuming that Highway 68 will be widened, the noise model calculated a 73.6 dBA L_{dn} 50 feet south of the adopted Highway 68 plan line. Using this reference distance, the future 55 L_{dn} contour will be located 800 feet south of the adopted Highway 68 plan

line and within the area of the future 55-60 CNEL contour for aircraft noise.

Cumulative Aircraft and Ground Transportation Noise Impacts

24. Areas of the project that are exposed to both aircraft and traffic-generated noise levels of 55 dBA or greater averaged over a 24-hour period will experience an additional 3 dBA increase. This increase is due to the cumulative exposure to two separate noise sources simultaneously over a 24-hour period.

Construction Noise

25. During the construction phases of development, high noise levels in the site vicinity will be created. The site preparation and construction phases will generate noise levels ranging from approximately 70 to 90 dBA at 50-foot distances from heavy equipment and vehicles. The noise impact from construction activity to receptor points is dependent on the work phases of the construction process, and on the distance of the path between work areas and the noise receptor location. The only sensitive receptors in the immediate project area are the existing ranch house and mobile home on-site. The import of materials to the site by truck for construction may result in some noise increase along the haul routes. The location of haul routes are not known, but will involve regional highways.

2.6.2.3 Mitigation Measures

Short-Term

65. Construction phase noise can be mitigated by using properly maintained and muffled equipment. The use of graders and other equipment with tires rather than bulldozers can reduce noise generation. Also the use of nail guns rather than manual hammering can reduce noise generation. Noise intrusion can be reduced by using temporary berms or barriers such as lumber or other stockpiled materials.

66. Noise impact from the transportation of materials can be reduced or avoided by selecting haul routes that will be frequently used which do not pass through residential areas or by sensitive receptors and by limiting hauling to the hours between 7:00 am and 7:00 pm.

Long-Term

67. Require an acoustical study of proposed new residential homes within future 55 L_{dn} noise contours. Require sound insulation, if necessary, to mitigate noise impacts in these areas exposed to an existing or future CNEL or L_{dn} of 55 dBA and greater.

68. Require developer to disclose noise information in this section and the recommended acoustical study to prospective buyers so that they are aware of short-term annoyance impacts of airport, Fort Ord and Laguna Seca raceway operations, the long-term impacts of airport and vehicular noise sources, and the potential mitigation measures available through appropriate design and building techniques.

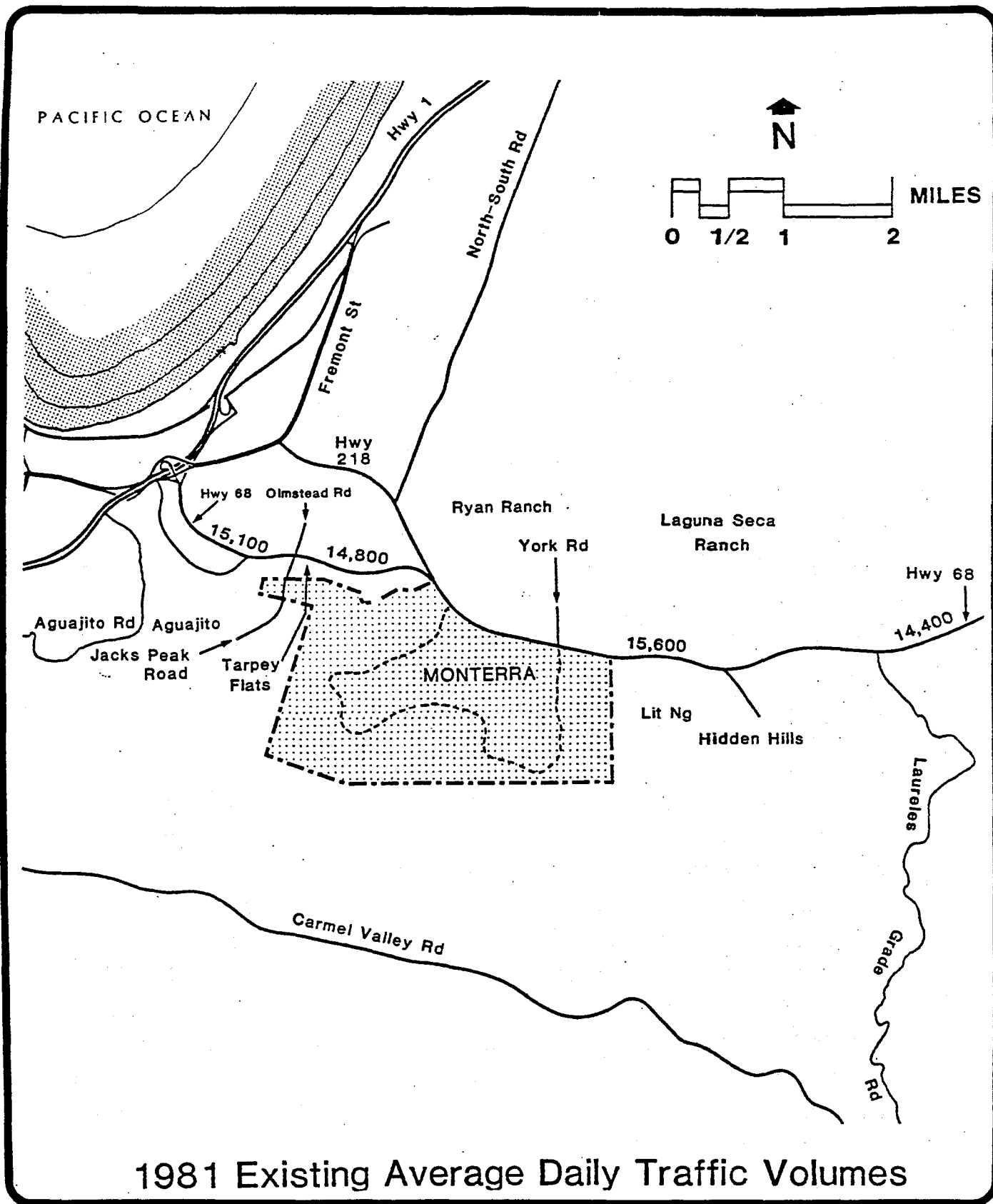
2.7 Traffic

The following traffic impact analysis report was prepared by LSA/Larry Seeman Associates, Inc. in July 1984. LLS Planning Associates has made modifications to the report to reflect additional analysis and comments from the Monterey County Department of Public Works.

2.7.1 Existing Conditions

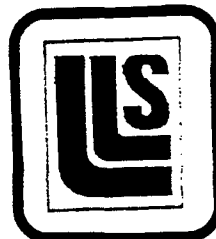
The proposed Monterra subdivision site extends for almost 2.5 miles along the south side of State Route 68, immediately east of and adjoining Tarpey Flats. The project site and its proximity to the regional road system is presented in Figure 2.12.

The Monterra subdivision site is served by two State highways, State Route 68 and State Route 218. State Route 68 is a major connecting road between Monterey and the Salinas area. State Route 218, also known as Canyon del Rey Road, serves as a connector to the Seaside and Del Rey Oaks area. The junction of these two highways is located adjacent to the project site. Both of these highways are two-lane, two-way facilities.



Source: Caltrans District 5

1981 EXISTING AVERAGE DAILY TRAFFIC VOLUMES
FIGURE 2.12



Three local streets exist in the project vicinity. Jacks Peak Road, adjacent to the western boundary of the proposed Monterra subdivision, serves a regional recreation site. North of State Route 68, Jacks Peak Road is named Olmsted Road and serves the Monterey Peninsula Airport. York Road is located across Highway 68 from the eastern boundary of the proposed Monterra Subdivision. York road connects with the internal street system of Ford Ord and belongs to the Army. It also serves York school. All three of these local streets are two-lane facilities.

Existing Traffic Volume

Existing 1981 Average Daily Traffic volumes (Figure 2.12) were obtained from the February 1984 Route 68 Study to Develop Program of Improvements prepared by the Monterey County Department of Public Works. As can be seen, the average daily traffic volumes are relatively consistent between Highway 1 and Laureles Grade Road, averaging approximately 15,000 vehicles daily.

Existing Levels of Service

In traffic engineering, the concept of capacity and the relationship between capacity and traffic volumes is generally expressed in terms of levels of service (LOS). These levels recognize that while an absolute limit exists as to the amount of traffic traveling along a given roadway link or through an intersection (the absolute capacity), the conditions that motorists experience as acceptable deteriorate as traffic approaches the absolute capacity. Under such conditions, congestion is experienced, characterized by instability of traffic flow with considerable fluctuations in speeds and associated delays.

This near-capacity situation is labeled LOS E (levels of service are designated A through F). Beyond LOS E, capacity has been exceeded, and arriving traffic will exceed the ability of the roadway link or intersection to accommodate it. An upstream queue (back-up) will then form and continue to expand in length until the demand volume reduces again. A complete description of levels of service can be found in Highway Capacity Manual (Highway Research Board Special Report 87).

For purposes of this study, LOS C is used to define the acceptable level of service. However, in some cases where the level of service is slightly exceeded, some discretion should be exercised in suggesting a major change in roadway type or number of lanes which would only improve a marginal condition.

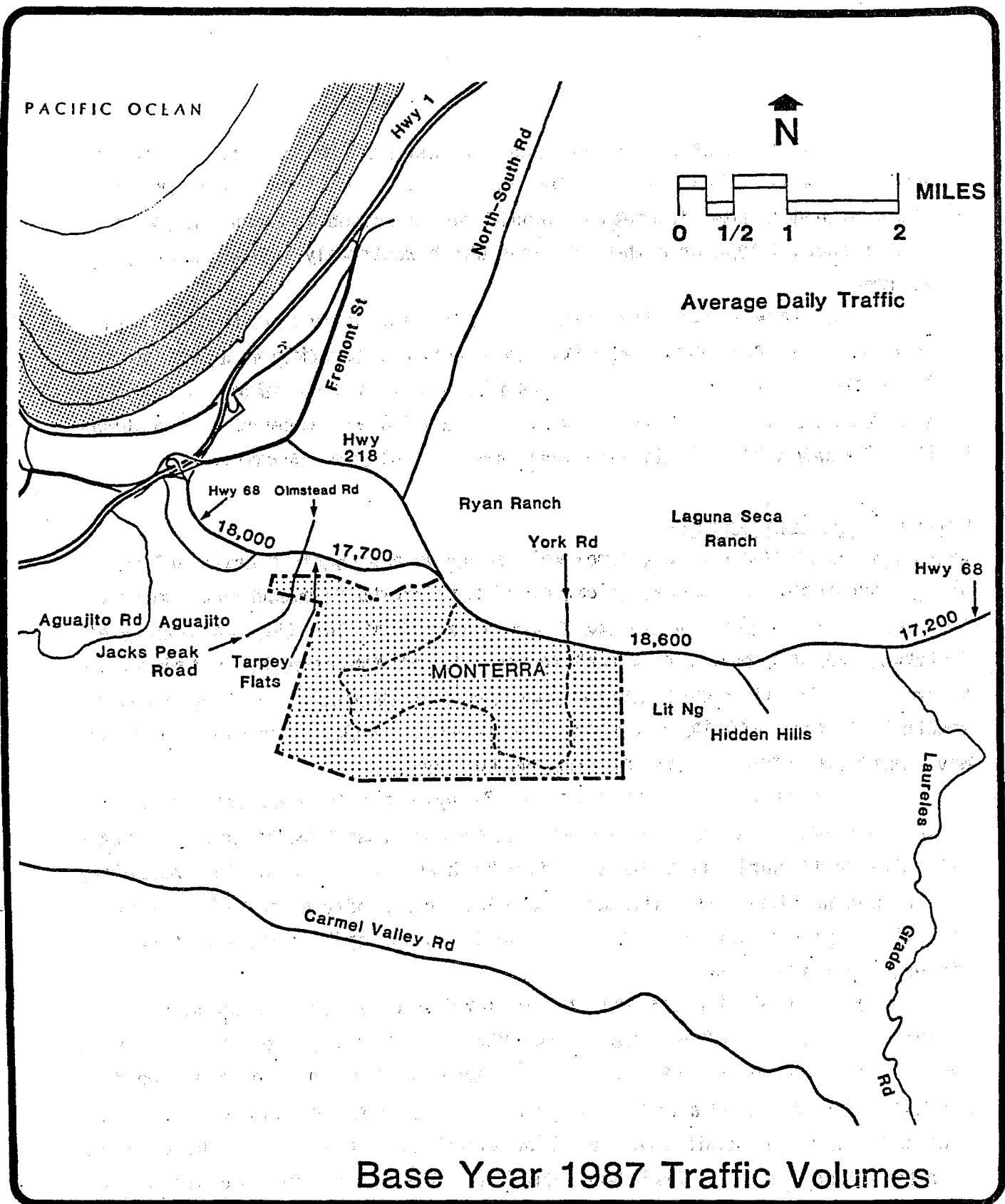
The roadway capacity criteria, as assumed in this traffic analysis, are presented in Table 2.5. Capacity for a two-lane facility is approximately 15,000 vehicles per day. As can be seen by applying this volume to existing traffic volumes identified in Figures 2.12 and 2.13, all segments of Highway 68 from Highway 1 to past Laureles Grade are currently at capacity.

Forecast Traffic/No Project

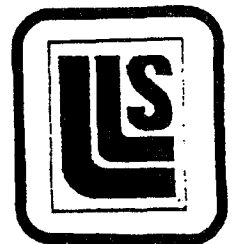
Growth in through-traffic volumes will occur with or without new development along Highway 68. The amount or extent of this growth is based on a number of factors, some of which are beyond the control of the City or County of Monterey. As an example, if growth in the City of Monterey is curtailed to minimal levels, through-traffic may continue to increase given the continued growth of tourist activity or, more significantly, major increases in Federal Government activities at the Presidio and Ford Ord.

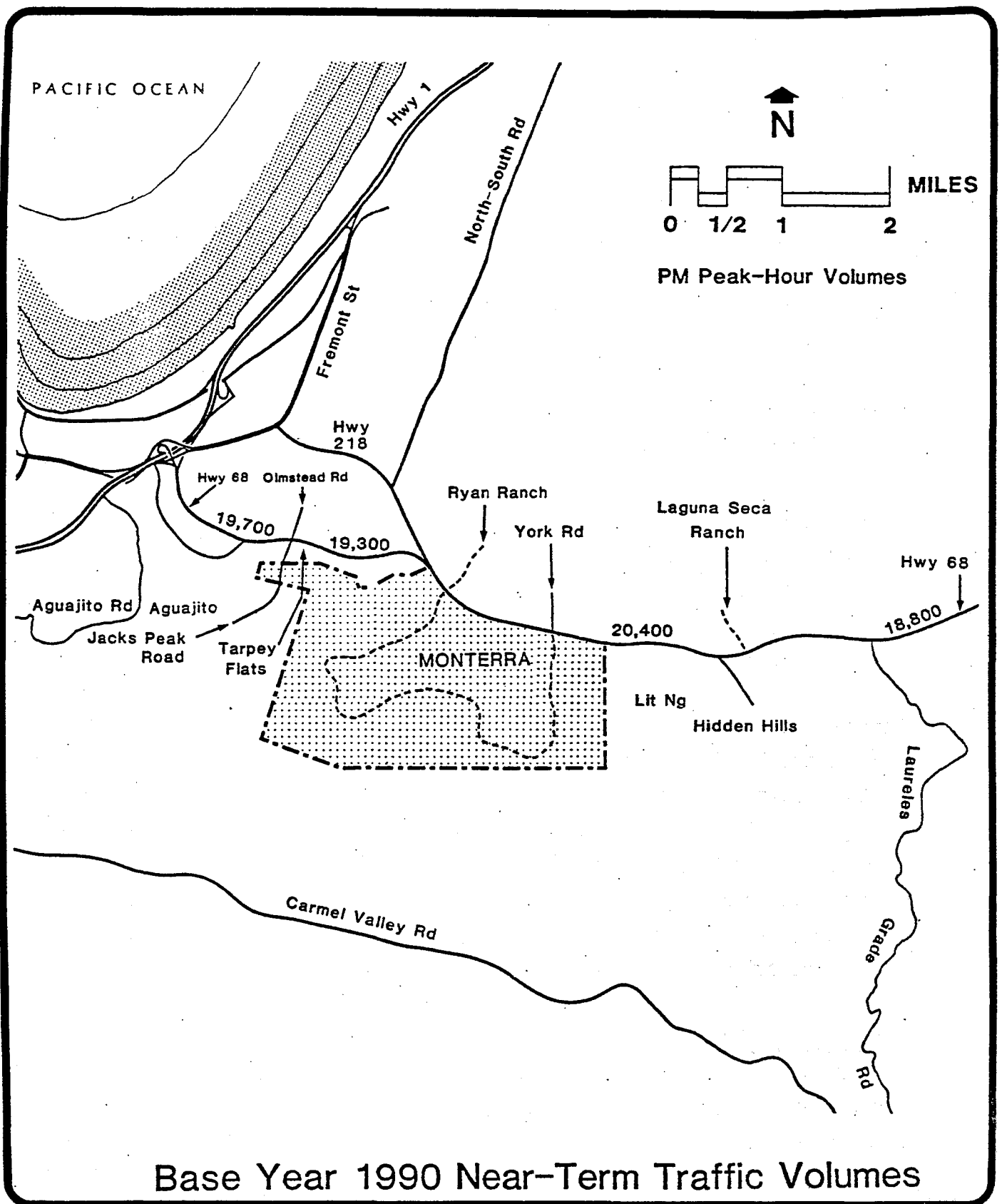
For purposes of this study, a 3% growth rate was assumed. In discussions with City and County staff, it appears that this historical growth rate is a reasonable rate between the high and low impacts. In evaluating near-term conditions with buildout of the Monterra subdivision, this 3% growth rate will represent a worst-case scenario in isolating Monterra as having a higher proportion of the total traffic.

Two forecast time periods are identified as will be discussed later in this report. The first is a Base Year (1987) time period which is when traffic from the proposed Monterra subdivision will begin to be added to the background traffic, and a Near-Term (1990) development time period which is when the Monterra Subdivision will be complete. The resulting base year, near-term, and full-term development traffic volumes, assuming no project, and no Highway 68 area cumulative impacts, are presented in Figures 2.13 and 2.14.

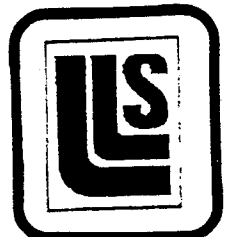


BASE YEAR 1987 TRAFFIC VOLUMES
FIGURE 2.13





BASE YEAR 1990 NEAR-TERM TRAFFIC VOLUMES
FIGURE 2.14



Based on the forecast through-traffic assignments for 1987 and 1990, a level of service analysis was performed using the average daily traffic volumes presented in Table 2.5. The level of service analysis indicated that, in 1987, just prior to occupancy of the Monterra subdivision, Highway 68 from Highway 1 to east of Laureles Grade will exceed the capacity of a two-lane facility. As through-traffic continues to increase to 1990 forecast volume levels, the Highway 68 LOS will further deteriorate.

To maintain LOS C or better, Highway 68 will need to be widened by 1987 to the four-lane adopted alignment from Highway 1 to east of Laureles Grade Road in order to accommodate the existing traffic plus forecast through plan alignment, instead of one lane on each side of the existing roadway. The four-lane widening could accommodate 1990 existing plus through-traffic at the LOS C threshold. Any additional through-traffic would exceed the LOS C threshold, and would require a six-lane facility.

2.7.2 Impacts

The methodology employed to determine trip generation, traffic impacts, and mitigation measures for the proposed Monterra subdivision follows traditional traffic engineering procedures. Trips are generated by land use units, distributed and assigned to the local highway system, added to the base-year traffic volumes, and evaluated via volume/capacity ratios in order to determine whether acceptable levels of service will prevail or whether mitigation measures are necessary to facilitate acceptable levels of service. This analysis for the proposed Monterra subdivision development is presented in the following paragraphs.

Proposed Land Use

The proposed Monterra Ranch subdivision currently submitted to the County of Monterey requests development approval for 283 dwelling units and an equestrian and tennis center for residents only. Based on a normal development approval and construction process, and conversations with the County of Monterey, lots within the Monterra subdivision development will most likely begin selling in 1986, with initial occupancy occurring in 1987. The project will take approximately four years for development with full occupancy estimated by 1990.

TABLE 2.5
ROADWAY CAPACITY CRITERIA

Roadway Facility Type	Maximum Average Daily Traffic Volumes				
	@ LOS A Vehicles Per Day	@ LOS B Vehicles Per Day	@ LOS C Vehicles Per Day	@ LOS D Vehicles Per Day	@ LOS E Vehicles Per Day
2-lane highway	5,000	7,500	10,000	13,000	15,000
4-lane arterial	16,000	18,000	20,000	22,000	24,000
6-lane arterial	26,000	31,000	35,000	39,000	44,000
4-lane freeway	30,000	35,000	40,000	50,000	60,000
6-lane freeway	40,000	50,000	60,000	75,000	90,000

Source: Monterey County Department of Public Works and LSA, Inc.

Trip Generation

Trip generation for the proposed Monterra subdivision development is the application of appropriate trip generation rates times the proposed number of dwelling units. The proposed trip generation per dwelling unit is 10 per day, and 0.63 inbound and 0.31 outbound during the p.m. peak hour, as presented in "Trip Generation", Institute of Transportation Engineers (ITE), 1979 and 1982.

The ITE daily generation rate is slightly less than the CalTrans residential trip generation rate of 12 trip ends per dwelling units. In review of the type of dwelling units being proposed, and based on conversations with City and County staff, 25% or more of the proposed dwelling units are anticipated to be second homes. Therefore, many of these units will remain vacant during parts of the year, and when they are occupied peak-hour impacts will be less than the typical homeowner who contributes to the home-to-work peak-hour trip.

Applying trip generation rates to the 283 dwelling units results in a Monterra subdivision daily trip generation of 2,830 with 178 inbound and 88 outbound occurring during the p.m. peak hours.

Trip Distribution

The methodology used to distribute the project traffic to the highway system is that used in the January 1984 Highway 68 Area Plan Traffic Impact Analysis by Faustman. Trip distribution percentages are first defined as whether they remain internal or travel external to the study area. Trips remaining internal to the study area are assigned to logical destinations such as schools, shopping, and places of employment. Trips which will be traveling externally to the study area were distributed based on the Highway 68 traffic impact analysis which was in turn derived from the MCTS regional traffic model. These trip distribution percentages are presented in Table 2.6

Traffic Assignment

The assignment process is basically multiplication of the trip distribution percentages time the Monterra subdivision trip generation and assigning this product along the logical roadway to the trip destinations. In the case of the Highway 68 study area, this process is relatively straightforward given

TABLE-2.6

INTERNAL/EXTERNAL RESIDENTIAL TRIP DISTRIBUTION PERCENTAGES

External Orientation	
Highway 1 south	15.2
Highway 1 north	15.8
Fremont Street west of Highway 1	31.1
Fremont Street east of Highway 1	3.1
Aquajito Road vicinity	0.5
Josselyn Canyon Road vicinity	0.8
Highway 218 north of Highway 68	15.7
Highway 68 east of Laureles Grade Road	<u>17.8</u>
Totals	<u>100.0</u>

Source: January 1984 Highway 68 Traffic Impact Analysis
by D. Jackson Faustman.

the linear nature of the street system.

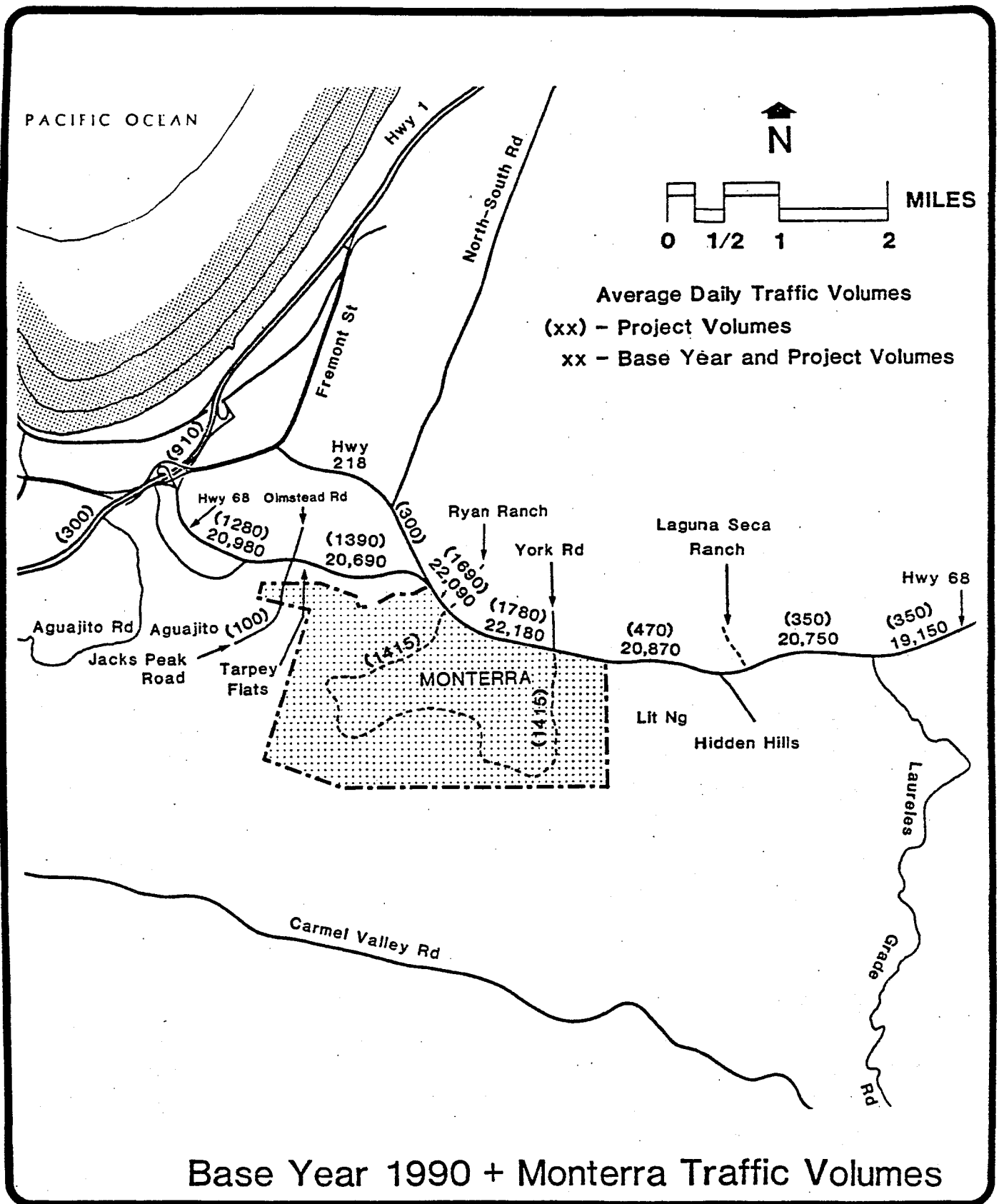
The one area of potential alternative routing, however, is accessing Highway 68. The Monterra subdivision map currently proposes two access points between the project site and Highway 68. It is presently planned that these access points will have guard or plasticard operated entry gates. One access location would have a guard gate entrance. The second entrance would be accessed through a card key and would, therefore, be limited to residents use only. Non-residential traffic, especially during the peak hour, is expected to be low and, therefore, was not included in the trip assignment (see subsequent section on Canada de la Segunda for entrance gate options if Canada de la Segunda is constructed at some point in the future).

In reviewing the Monterra subdivision map as to the proportion of units which would be closer to one entrance gate than another, it appeared about equal. Therefore, it was assumed that 50% of the total Monterra subdivision traffic would utilize each entrance. It was further assumed that slightly over half the traffic heading east would be using the east entrance and over half the traffic heading west would be using the west entrance in order to avoid backtracking for some of the residents located approximately equidistant between the two entrances.

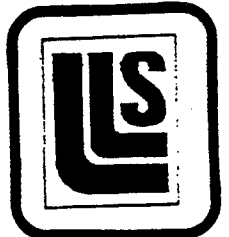
The resulting traffic assignments for the Monterra subdivision in 1990 is presented in Figure 2.15. Also included in Figure 2.15 are the existing plus background through-traffic volumes. As can be seen, in 1990 the proposed Monterra subdivision will add approximately 6% to 8% more traffic to Highway 68 west of the Monterra Ranch and approximately 2% east of the ranch when compared to the existing and through-traffic volumes.

2.7.2 Traffic Impacts

26. When the projected Monterra project trips are added to the existing plus through-traffic volumes forecast, the upper limits of LOS E (15,000 ADT) will be further exceeded on the existing two-lane Highway 68. Absent mitigation of this impact, the project would conflict with General Plan Policy 37.2.1.



BASE YEAR 1990 & MONTERRA TRAFFIC VOLUMES
 FIGURE 2.15



Cumulative Traffic Impact Analysis

27. The results of the cumulative traffic impact analysis are presented in Figure 2.16. As can be seen, forecast year 2000 cumulative average daily traffic volumes for Highway 68 between Highway 1 and Highway 218 will approach 40,000 ADT. This volume will require a four-lane freeway consistent with adopted plan lines in order to provide LOS C.

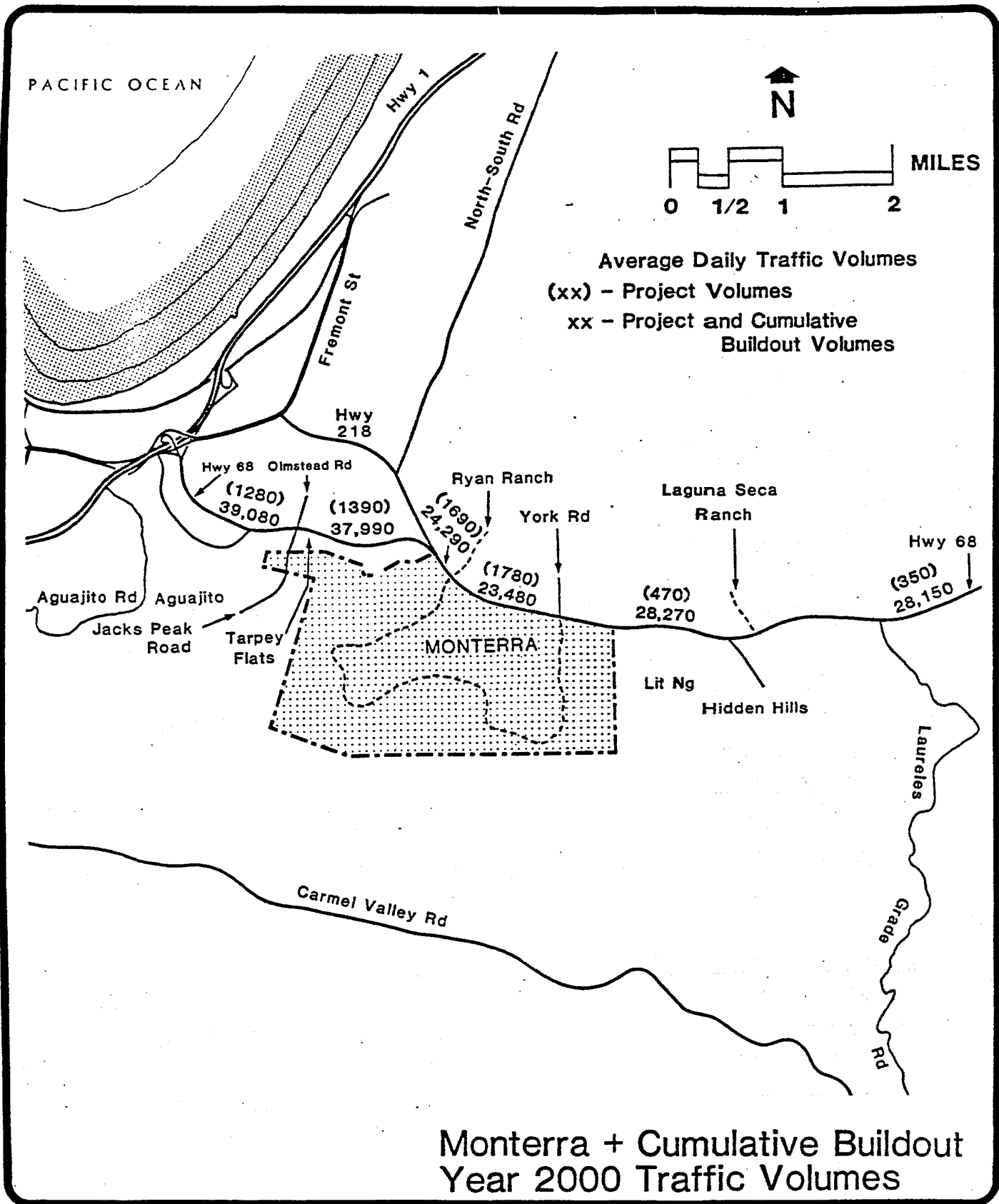
Average daily traffic volumes from Highway 218 to east of Laureles Grade Road will range from 22,000 to 28,000 ADT, and will require a four-lane freeway or a six-lane major arterial in order to provide LOS C.

The cumulative impact analysis conducted for the Monterra Ranch subdivision is based on the "Route 68 Study to Develop Program of Improvements", prepared by the Monterey County Department of Public Works, February 1, 1984. The above cited report analyzed the results of the Monterey County Transportation Study (MCTS) year 2000 traffic model data to base recommended improvements.

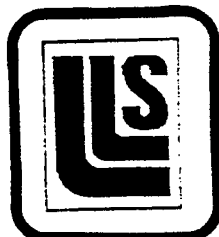
Input to this model for the Monterra Ranch subdivision was assigned a 3,000 dwelling units development which equals 30,000 ADT. Given the proposed Monterra development is for 283 dwelling units which approximately generates 2,830 ADT, the forecast results of the MCTS model required modification. The methodology used was to: 1) assign the previous 30,000 daily trips to the network using the MCTS distribution patterns, 2) subtract the previous Monterra Ranch assignment from the total assignment in order to determine total forecast cumulative traffic without Monterra, and 3) add the new Monterra Ranch assignment to the base cumulative assignment.

Project Access

28. It is important to note that the Monterra project could be accessed via Olmsted Road, thereby eliminating the need for one of the proposed Highway access points. The Olmsted Road/Highway 68 intersection has recently been signalized and has been discussed as the first proposed freeway interchange near Highway 1. In comparison to this possible access route, the project access points pose significantly greater traffic impacts on the congested Highway 68 corridor. County of Monterey policy states that access would be limited to unsignalized intersections as signalization along Highway 68 will not be permitted.



MONTERRA & CUMULATIVE BUILDOUT—YEAR 2000
TRAFFIC VOLUMES
FIGURE 2.16



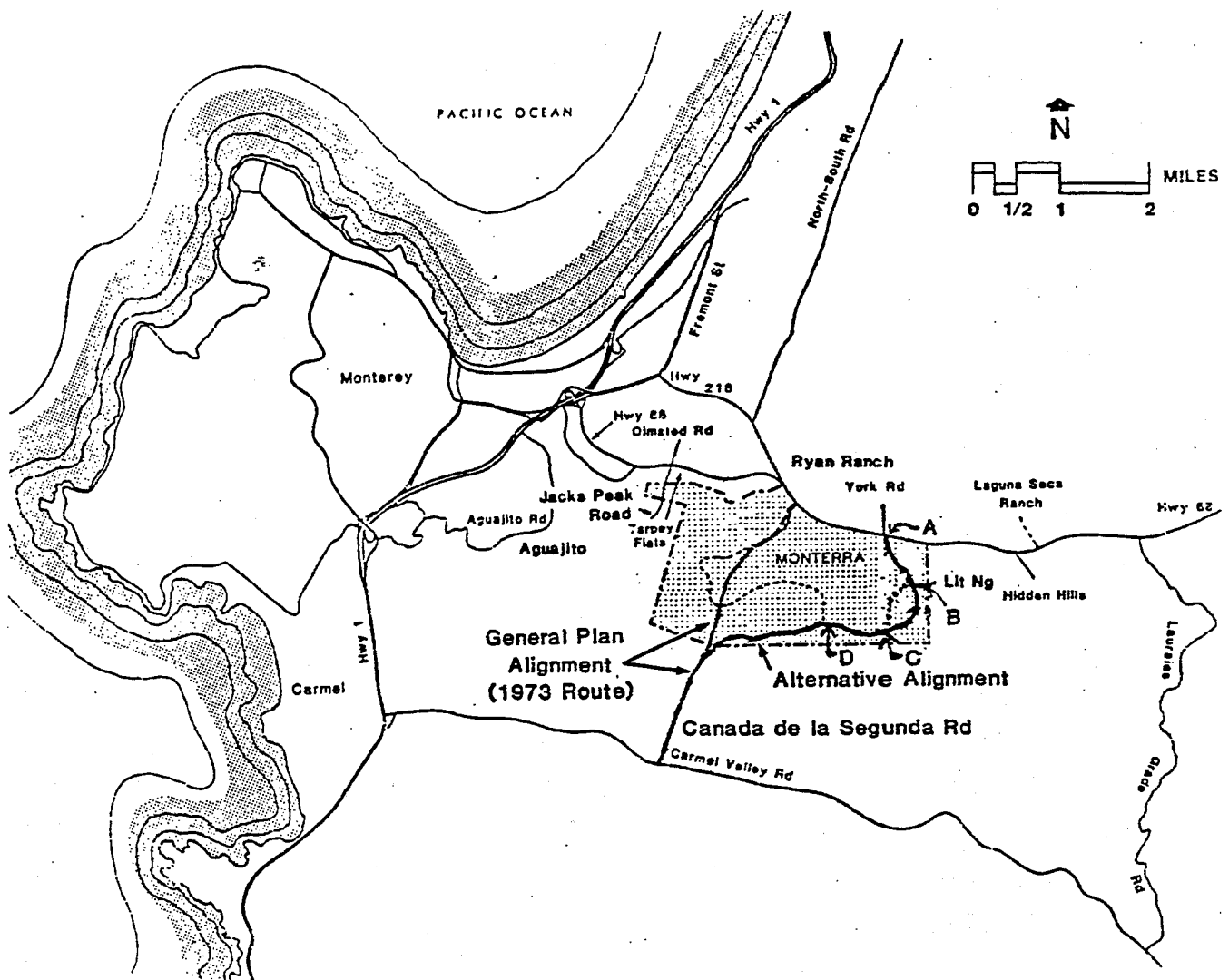
In order to determine whether intersection access could be permitted without signalization, the forecast estimated average daily traffic was compared to the CalTrans Traffic Signal Warrants. Traffic Signal Warrant 2, Interruption of Continuous Traffic, is the primary warrant which may be exceeded by the project. This warrant is met for rural conditions when the total vehicles in both directions per day on Highway 68 exceed 8,400 for a two-lane Highway 68 or 10,080 for a four-lane Highway 68; and, the total vehicles per day approaching Highway 68 via the proposed project access is greater than 850 for a one-lane approach or 1,120 for a two-lane approach.

In reviewing Figure 2.15--Base Year 1990 + Monterra Traffic Volumes--and Figure 2.16--Monterra + Cumulative Buildout Year 2000 Traffic Volumes--it can be seen that the minimum Highway 68 estimated average daily traffic approach volumes are exceeded for both interim and buildout conditions. With the access approach volumes of approximately 700 vehicles per day, however, the minor street minimum volume warrant of 850 for a one-lane access is not reached, therefore, signalization is not warranted. It should be pointed out, however, that the assignment process assumed an equal distribution to each gate. If a shift of this assumed distribution occurred, to one or the other of the access locations, then the 850 average daily traffic signal warrant for a one-lane access could be reached.

In order to permit left turns into the site, a left-turn pocket with adequate deceleration lanes will be required in order to separate those desiring to turn left and the through traffic.

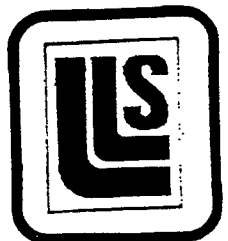
Canada de la Segunda Road

The Monterey County General Plan identifies a new road, Canada de la Segunda, connecting Highway 68 with Carmel Valley Road. As contemplated in the General Plan (the "1973" route), this new road would intersect with Highway 68 near the point where the west entrance road to Monterra subdivision is located. An alternative alignment connecting with Highway 68 at the east instead of the west entrance of Monterra subdivision is shown on the Monterra subdivision map. These two general alignments are presented in Figure 2.17.



Alternative Routing to Carmel Valley
Via Canada de la Segunda Road

ALTERNATIVE ROUTING TO CARMEL VALLEY
VIA CANADA DE LA SEGUNDA ROAD
FIGURE 2.17



Users of this new road would be those traveling from Carmel to Salinas, Monterey to Carmel Valley, and Carmel Valley to Highways 68 and 218. Traditional traffic analysis methodology suggests that those who would use Canada de la Segunda Road would make their route decision based on a minimum time path. Therefore, to obtain utilization from a new facility sufficient to justify its construction and meet the needs of specialized users (such as transit buses and fire trucks which have grade limitations), a high-standard roadway with minimum gradient would be necessary in order to compete with (attract trips from) the existing facilities (Highway 1 and Laureles Grade).

It is difficult to precisely determine the volumes which might be diverted should Canada de la Segunda be built along either the "1973" route or the more easterly route shown on the Monterra subdivision map. If this facility captures 25% of the traffic from Highway 68 east of the Monterra subdivision to Carmel, or from Monterey to east Carmel Valley Road, about 2,000 average daily trips would utilize this facility.

Traffic from the Monterra subdivision would add approximately 300 more average daily trips (2,300 total), given the proximity to the Canada de la Segunda facility. With full buildout of the Highway 68 Area Plan cumulative development (adjusted to current land use application intensities), traffic on Canada de la Segunda would be approximately double the existing plus project-generated traffic, or a total of about 4,600 average daily trips, assuming a competitively designed facility.

In review of the two aforementioned alignments, the General Plan (1973) alignment accesses Highway 68 near the westerly Monterra subdivision access and follows a route which generally coincides with the Cal Am water easement bisecting the Monterra subdivision (Figure 2.17). This alignment requires a steep grade to reach the ridgeline and would require a significant (e.g., 85-125') cut near the ridgeline to maintain a gradient sufficient to meet normal criteria for efficient transit bus and fire truck operation. The cut would likely be observable from any area to the north of Monterra, possibly presenting conflict with viewshed policies of applicable general plans. It is also likely that a number of facilities of the Cal Am Water Company (installed along this same westerly route subsequent to 1973) would need to be relocated if this route is allowed. These include sections of pipeline, a pump station, and an underground holding tank located near the

ridgeline. Similarly, it may be necessary to relocate overhead PG and E electric lines serving the pumps near the ridgeline.

The proposed new (more easterly) route as presented in the Monterra subdivision map (Figure 2.17) extends east from Canada de la Segunda south of the ridgeline, following a more gentle gradient (10-12%), and would access Highway 68 at the eastern entrance to the Monterra subdivision. Major cuts visible from the watershed to the north would not be required. Under this alternative alignment, the applicant would be faced with a more complex gate control system, at Points A, B, C, and D (Figure 2.17), but the physical integrity of the overall project site as a single landholding would be preserved.

The difference in utilization of either alternative is difficult to determine precisely. The easterly route is just over a mile longer than the westerly route. This equates to about one and one-half minutes difference in travel time, a minor difference. For Carmel/Salinas trips, the easterly route is almost the same length. For Monterey/Carmel Valley trips, the added length is more important, but still small.

Access to Monterey Peninsula Unified School District Property and Lt Ng Property

29. During the pre-EIR public agency comment period, the issue of future dual access to the MPUSD parcel northwest of the project site was raised. The school district has access to their property off of Highway 68. However, a dual access to the site appears appropriate considering the future freeway improvements proposed for the highway and the property's potential for development for other than educational uses; this access could be provided through either Lot 1 or Lot 234, or both.

The project proposes a right-of-way (between ranch lots 7 and 8) from the main loop road to the Lt Ng property to the west. This right-of-way makes good planning sense in that the Lt Ng and Monterra properties can both benefit by the provision of additional emergency access routes in case of fire; see Figure 1.2.

2.7.3 Mitigation Measures

69. The west entrance to the site should be relocated from Ragsdale Drive to Olmstead Road in order to: utilize the existing traffic signals there; utilize the future full interchange planned there after construction of the Toro Park interchange; remove at least half the Monterra traffic from two miles of Highway 68 (between Olmstead and the western entrance); eliminate conflicting turning movements on Highway 68 by changing the proposed western entrance to an emergency exit only until an interchange is constructed there. The Monterra subdivision should also participate in funding the intersection improvements at Olmstead Road and Highway 68.

70. Based on the existing plus through-traffic plus cumulative traffic need for widening Highway 68 and that the Monterra Ranch subdivision will contribute to that need, the Monterra Ranch subdivision should therefore participate in funding the widening of Highway 68 to the adopted plan lines at a rate commensurate to the project traffic assignment. The formula for this fee should be determined by the Planning Department.

71. An approach lane to Highway 68 on the east entrance should be provided to separate right and left-turn traffic. In addition, a left-turn pocket on Highway 68 with an adequate deceleration lane should be provided to facilitate access to the east entrance of and to the western entrance off of Olmstead road.

72. The Monterra Ranch subdivision should dedicate a right-of-way consistent with adopted plan lines for Route 68.

73. The private road designs and construction should be at horizontal and vertical standards unless these standards would cause excessive grading and/or environmental impacts. A determination of specific roadway segments to be exempted from normal county standards, if any, should be made prior to recordation of the final subdivision map.

74. The Monterra subdivision access to Highway 68 will be facilitated by an internal collector loop road which connects east and west entrances. Traffic control should be on the side streets in order to preserve the internal collector's integrity.

75. The subdivision map should be conditioned to grant access rights to the school district and Lt Ng parcels to assure appropriate access to the parcel considering future highway improvements; and to assure secondary access routes for both Lt Ng and Monterra in the future. Please see Figure 1.2 for locations.

2.8 Air Quality

2.8.1 Existing Conditions

The project site is located within the North Central Coast Air Basin which includes Monterey, Santa Cruz and San Benito Counties. The Environmental Protection Agency and Air Resources Board have designated this air basin as a non-attainment area for photochemical oxidant levels. Photochemical oxidants are secondary pollutants formed in the atmosphere when hydrocarbons and nitrogen oxides from vehicular emissions mix in the presence of sunlight.

Ambient air quality data compiled at the Salinas and Monterey monitoring stations from 1978 to 1984 show that the state oxidant standard (.10 PPM) has been exceeded eight days (13 hours) in Salinas and two days (2 hours) in Monterey. During the same time period, neither station measured oxidant levels exceeding the federal standard of .12 PPM or greater (1982 Air Quality Plan). At the present time, the air basin meets or is below all of the federal and state standards for other pollutants.

The 1982 Air Quality Plan prepared by the Association of Monterey Bay Area governments (AMBAG) contains transportation strategies to meet and maintain air quality standards by 1987. Major strategies are:

*Please refer to Comment 56 in the Response to Comments section, regarding the provision of a park-and-ride lot.

1. Short-Range Transit Improvements.
2. Traffic Flow Improvements--Signal Optimization.
3. Improved Bicycle Facilities.
4. Areawide Ridesharing and Flextime Promotion.

2.8.2 Impacts

30. Long-term air quality impacts will occur due to an increase in emissions from automobile trips generated by the project. A comparison of automobile emissions generated annually in 1987 by the project and overall annual emissions produced in the County is indicated in Table 2.7. While the projected pollutant levels generated by the project are insignificant when compared to the entire County, project-generated emissions will result in an incremental degradation of air quality.

31. Short-term air-quality impacts will occur from construction activities on the site. The type of impact will likely be localized increases in particulate levels and pollutant emissions from construction vehicles. These impacts would be temporary and restricted to the Monterra Ranch area.

2.8.3 Mitigation Measures

Short-Term Construction Impacts

76. Use dust controls, such as wetting down the soil during excavation and earthmoving operations.

77. Suspend construction activities or increase sprinkling during periods of high wind (greater than 15 mph).

78. Revegetate exposed surfaces as soon as possible.

TABLE 2.7

ON-ROAD VEHICLE EMISSIONS GENERATED BY THE PROJECT

Pollutant Type	VMT ¹ (miles/year)	1983 Emissions Factor ² (grams/mile)	1987 Emissions Factor ² (grams/mile)	1983 Annual Project Emissions (short tons)	1987 Annual Project Emissions (short tons)	1987 Projected Annual Monterey County Transportation Emissions ³ (short tons)
Carbon Monoxide	4.8×10^6	17.29	13.27	91.29	70.07	48,380.75
Nitrogen Oxides	4.8×10^6	3.19	2.37	16.84	12.51	6,252.45
Particulates	4.8×10^6	.40	.36	2.11	1.90	6,748.85
Total Hydrocarbons	4.8×10^6	1.42	.09	7.50	.48	4,759.60

¹Assumes 2,830 trips/day (total trips generated by the project) x 4.6 miles/trip x 365 days/year = project vehicle miles traveled.

²Emission factors are from the EMFAC 6C Emissions Program by California Air Resources Board (July 1982); an average vehicle speed of 40 miles per hour is assumed.

³Projections are from 1982 Air Quality Plan, AMBAG.

Long-Term Auto Emissions Impacts

79. Consider provision of a park and ride lot, bus stop and turn-out area to be located near the project on Highway 68 to encourage the use of public transit by future residents.

80. As specified in the Air Quality Plan, the Association of Monterey Bay Area Governments should review all project plans.

81. The developer should be required to distribute local transit, bicycle and carpooling information to prospective buyers during the marketing of the homesites. Please refer to Comment 56 in Response to Comments section.

2.9 Public Services

2.9.1 Water Supply

Section 2.4.6 of this report discusses the existing conditions, impacts and mitigation measures involved with water supply and service for the proposed subdivision.

2.9.2 Wastewater Disposal

2.9.2.1 Existing Conditions

Wastewater disposal in the Monterra area is an important constraint to development. At present, there are no sewer lines serving the project area. It is proposed that sewage disposal in the 2,831-acre project be accomplished by septic tank systems. Feasibility of on-site effluent disposal systems is determined through the evaluation of soil capability, topography, hydrology, and development density. To ensure appropriate operation of such systems, the permeability and absorptive capacity of the soils surrounding the on-site systems must be adequate for hydraulic loading of the system.

2.9.2.2 Impacts

John Logan, registered hydrology geologist consultant, in his June 1984 report, A Water Supply for Monterra, states that there is ample acreage for the safe disposal of sewage, especially considering the low density of one residence per ten acres and in spite of the thin soils, steep

slopes and low infiltration rates common to Monterra and surrounding area.

The July 1985 Anderson-Nichols Monterra Ranch Water Supply Study utilized equilibrium analysis to determine whether the expected septage loadings will increase nitrate levels above the state limit of 10 mg/l.

Based upon Anderson-Nichols' equilibrium nitrate concentration predictions, it appears that there will not be a nitrate groundwater problem from residential septic tank discharge. However, the placement of septic tank systems in a fractured shale formation must be done with great care. Local percolation tests performed by Logan (1984b) indicate the presence of rapid pathways not only for recharge, but also for septage. The possibility of high nitrate concentrations reaching the aquifer via fractures exists.

Septic systems should be located as far from the wells as possible and not along fractures that intersect the well locations. The potential for groundwater contamination can be further reduced by limiting the construction of impervious surfaces and structures in critical recharge areas, thus maximizing the surface area available for infiltration of water to mix with the septage.

If a reverse osmosis system is installed to reduce the existing salinity, the majority of nitrate present in the groundwater will also be removed. This will provide additional protection to the residents of Monterra against the threat of water contaminated by nitrates. However, the wise use of the aquifer on a regional scale requires that the contamination of the groundwater be minimized so that any downgradient users are also protected.

32. The proposed project will generate 84,900 gallons per day of wastewater from the 283 residential units, and 16,980 gallons per day of wastewater from the Recreation Complex, Tennis and Equestrian centers. Septage may contaminate the groundwater supply if the planned loadings are greater than the soils nitrogen assimilation capacity.

2.9.2.3 Mitigation Measures

82. Strictly adhere to the sites indicated safe for the location of septic systems in the M. Jacobs and Associates Percolation Study for the Monterra Ranch project.

83. The Monterey County Health Department should review each specific septic system location and design prior to their placement to ensure that the State of California Basin Plan and the provisions of Monterey County Ordinance 1835 are met.

84. Septic systems should not be built on slopes in excess of 30% or if deemed necessary should be specifically engineered for each site.

85.* The installation of water conserving fixtures (low flush toilets, flow restrictors on faucet and shower heads) should be required to reduce the potential for septic system loading. Residents should also be encouraged to use phosphate free detergents because the systems' efficiency will be increased.

2.9.3 Fire Protection

2.9.3.1 Existing Conditions

At present, the project site is protected only against wildland fires by the California Department of Forestry. Their nearest stations are located in Carmel Valley at Tularcitos and Carmel Hill. The property is classified as containing both moderate and high fire hazard areas; these classifications are based on slope, climate, vegetative fuel loading and water availability. Lower grassland slopes are typically classified as moderate fire hazard areas, and steeper brushland and wooded slopes are high fire hazard areas.

There is no fire agency yet directly responsible for structural fire protection on the project site. This is not a problem at present because there are very few structures on the property. The subdivision and development of the property under the proposed project will obviously require structural fire protection from an appropriate fire agency.

Mr. Tom Perkins, the Monterey County Fire Warden, was contacted regarding the most appropriate method for the provision of structural fire protection to the project site. Of the four alternative agencies which could provide structural fire protection to the property (Monterey City, County Service Area No. 39, Mid-Carmel Valley, and Salinas Rural), Mr. Perkins suggested that the Salinas Rural Fire Protection District would be most

appropriate. In summary the reason for its choice was the Mid-Carmel Valley is too far away; CSA No. 39 (serving Josselyn Canyon, Aquajito and Del Monte Fairways) is dependent upon CSA No. 43 and Pebble Beach CSD to exist, and its sphere of influence does not cover the area; and Monterey City normally serves only city limits lands.

The Salinas Rural Fire Protection District's nearest facility is Station 3 located at 19900 Portola Drive (near the Highway Patrol Offices), 9-10 minutes response time from the York Road/Highway 68 intersection. Station 3 is a manned, full-time facility using three 24-hour shifts. The available equipment at the station is as follows:

1. Structural engine pumper--1250 gallons per minute (gpm), 750 gallons storage
2. Water Tender--1500 gallons
3. Four-wheel drive grass/brush truck--300 gallons
4. Four-wheel drive grass/brush truck--125 gallons
5. Rescue vehicle

Salinas Rural also has an unmanned volunteer station at the top of Laureles Grade.

The project site would have to be annexed to the Salinas Rural Fire Protection District in order to receive structural fire protection from that district. The County Fire Warden also suggested that a new fire station in the Laguna Seca area would be necessary to lessen the emergency response time to the project site.

2.9.3.2 Impacts

33. There will be significant fire protection impacts without the provision of a Salinas Rural Fire Protection District station closer to the property than the present Station No. 3 which is 9-10 minutes away. The existing station is simply too far away to adequately provide structural fire protection to the proposed project. The project developers are negotiating with owners of the Laguna Seca property to assure an adequate response time for fire protection purposes.

34. Another project impact with regard to fire protection would be an increase in the potential for wildland fires by the introduction of people into this moderate-high fire hazard area. If annexed to the Salinas Rural Fire Protection District (as suggested above), that agency would be primarily responsible for the control of wildlands fires, with secondary backup (through a Mutual Aid Agreement) from the California Department of Forestry. Salinas Rural would need to have an additional 1250 gpm structural engine pumper and 300 gallon, 4-wheel drive brush rig at the Laguna Seca station to provide both structural and wildland fire protection. Fire protection control requirements will involve street design, fire breaks, construction materials, water supply and facilities, structure clearances, building codes and possible presuppression measures (controlled burns and/or fuel modification zones--see vegetation and wildlife section also). These are more specifically listed in the following mitigation measures section.

35. Several of the cul-de-sacs in the subdivision exceed the 1000-foot maximum length standard of Policy 17.3.1.2 of the Greater Monterey Peninsula General Plan. Under this policy, secondary access provisions in these types of situations must be discussed and agreed upon by the applicant, Planning Department and fire agency officials.

2.9.3.3 Mitigation Measures

86. The Monterra property should be annexed to the Salinas Rural Fire Protection District, and a fire station site should be provided in the Laguna Seca area. Annexation to CSA 39 and the provision of an interim fire station site on the Monterra property might be an acceptable alternative if the Salinas Rural/Laguna Seca site preference is not attainable for some reason.

87. The developer should enter into an agreement with the Salinas Rural Fire Protection District to help purchase some additional structural and wildfire-fighting equipment.

88. The developer, Planning Department and fire agency officials should discuss and agree an appropriate resolution of the secondary access issue on cul-de-sacs longer than 1000 feet.

89. Both the subdivision tentative map and the future improvement plans should be reviewed by the County Fire Warden and Salinas Rural FPD Chief to assure that fire protection and prevention design features are included. Some of these design features are listed below.

- a. The development shall provide safe and ready access for fire and other emergency equipment and to handle possible evacuations. Drives provided for access to buildings and hydrants shall be dedicated to the County for emergency access as provided by amendment to Section 10.31(d) of the 1979 Edition of the Uniform Fire Code. Parking shall be prohibited in turnarounds; signs so indicating shall be posted.
- b. Emergency access points shall be provided to all significant public and private water supplies
- c. All buildings shall be sprinklered for fire protection in accord with Salinas Rural Fire Protection District regulations. Water distribution and source facilities shall be required of sufficient design to support the flows necessary for the type of development proposed.
- d. Flammable ground cover shall be cleared in a 30-foot area around each structure, or to the property line, and replaced with a low fire spread evergreen groundcover or other suitable material approved by the Fire Warden and Planning Director. Where the property line is less than 30 feet from any structure, the Fire Warden shall evaluate the hazard and may require non-combustible siding, exterior sprinkler or other methods of protection which will reduce the risk of fire spread.
- e. All buildings shall be designed and sited so that roofs and other areas may be kept free of leaves, needles and other dead vegetative growth.

- f. Roof coverings for buildings shall be fire retardant, as defined in the latest edition of the Uniform Fire Code (adopted as Ordinance No. 1 by the Salinas Rural Fire District).
- g. All easements for fire breaks for the fire safety of built-up areas shall include access for firefighting personnel and equipment.
- h. Fire breaks shall be periodically cleared of dead wood and vegetation by the homeowner's association in cooperation with the agency.
- i. When parking lanes are not provided, turnouts eight feet wide and 15 feet long on each side of fire hydrants shall be provided and posted "No Parking".
- j. Highly flammable underbrush shall be removed from within 20 feet of each side of all roadways if required by the fire agency. Individual or small groups of trees, ornamental shrubbery or similar plants of low combustibility which are used as groundcover need not be removed.

2.9.4 Energy Conservation

None of the homes or tennis/recreation/equestrian complex buildings for the Monterra project have been designed to date. The large lot sizes and southern exposure of the site make both passive and active solar design most possible. The opportunities for solar energy design will, of course, be balanced against the preservation of another inherent attribute of the site--its natural vegetation and trees. A number of important passive solar design concepts, listed in the following section, should be followed by future home and building designers/architects to assure energy conservation and efficiency.

2.9.4.1 Passive Solar Design Guidelines

Proper orientation involves facing the home/building, or its major exposed window areas, to the south. In winter, when heating needs are highest the sun is low in the southern sky. In summer, when heating needs are lowest, the sun rises and sets further north along the eastern and western horizons, is almost overhead at noon, striking south-facing surfaces more diffusely, and is easily shaded out by overhangs and deciduous trellises.

Shading is fundamental to eliminating unwanted heat in warmer months and reducing or eliminating the need for air conditioning. Overhangs are very effective for shading south-facing windows and walls. Louvers, wing walls, and other exterior structures effectively shade east and west-facing surfaces. Deciduous vegetation provides adequate shading of south-facing windows in Monterey County because the density of its foliage corresponds closely to the actual seasonal cooling needs.

Building materials can provide two things--insulation from outdoor temperatures and storage of heat in the winter and cool air in the summer. Strict insulation standards are presently required by California laws and local building codes. While the incorporation of thermal mass in building designs is not required, it should be seriously considered because of its energy efficiency benefits. A building with a high thermal mass, in the form of masonry construction, slab floors or containers of water, can collect a lot of solar energy and store it overnight, or over several days, without getting uncomfortably warm during sunning periods.

Arrangement of space within a home or building can place those areas whose activities require more heat or light next to windows or under skylights. Window areas with different orientations are suitable for different types of tasks. Arrangements of space can also facilitate good flow-through of natural breezes for cooling. Fluorescent lighting uses roughly one-third less electricity than incandescent fixtures.

2.9.4.2 Impacts

If improperly designed, homes and buildings in Monterra could result in further depletion of non-renewable energy resources.

2.9.4.3 Mitigation Measures

90. Incorporation of the measures discussed above in future home and building design will reduce the project's impacts on non-renewable energy resources.

2.9.5.1 Schools

2.9.5.1.1 Existing Conditions

The Monterra Ranch area is located in the Monterey Peninsula Unified School District (MPUSD). Other areas served by MPUSD include the communities of Monterey, Seaside, Marina, Del Rey Oaks, Sand City, and Fort Ord. Recent residential developments have relatively fewer children per household than previously. The housing formula currently used by the M.P.U.S.D. to plan for future needs is .2 children per household. (This factor is considerably reduced from the .35 factor used in the previous Monterra DEIR-1980). Existing schools near Monterra include: Foothill Elementary School, Colton Junior High School (Monterey), King Junior High School (Seaside) Monterey Senior High School, and Seaside High School. Current enrollments and capacities are listed below:

	Enrolled (1984)	Capacity	%
Foothill	380	432	88
Colton	673	815	83
King	659	725	91
Monterey	1639	1850*	89
Seaside	1400	1750*	80

*These figures include 300 students not in classrooms during each school period.

MPUSD also owns 55 acres on the Monterra Ranch directly across from the Monterey Airport. Despite restrictions on school development in airport zones the MPUSD has obtained clearance from the appropriate government agencies to use the site for future school development. It takes approximately 800 homes to support an elementary school. The school district has no plans at this time to either develop or sell the site.

2.9.5.1.2 Impacts

36. Using the .2 housing formula, the 283-unit development would generate 57 school-age children divided as follows (using a 40-30-30% allocation): 23 elementary school age, 17 junior high school age, and 17 high school age. These additional children can be served by existing MPUSD

schools. MPUSD would probably need to provide bus transportation for most of the school-age children. This may or may not add additional costs to the district for transportation, depending on bus scheduling.

Student enrollment at Foothill Elementary School in five years is projected at 476 students (capacity 432). Portable classrooms can be added to the present site as needed. Officials of MPUSD stated that 57 additional students will have no significant financial impact on the school district.

2.9.5.2 Police

2.9.5.2.1 Existing Conditions

The Monterey County Sheriff's Department provides police protection to the unincorporated areas of the county including the project area. The closest Monterey County Sheriff substation is located on Aquajito Road. The average response time to all calls (emergency and non-emergency) throughout the county is nine minutes. The average response time to all calls in populated areas is estimated at seven minutes. The response time to just emergency calls in populated areas is usually less than seven minutes. The Monterra Ranch is within an existing patrol beat which covers an area from the north side of Carmel Hill to Highway 68 and to Laureles Grade. On this patrol beat, there is one day-time patrol officer and two evening patrol officers. After midnight, all Peninsula patrol beats are covered by two patrol officers. Two back-up beats would be available from Carmel Valley or Salinas to provide assistance to the regular beat if needed.

2.9.5.2.2 Impacts

37. An official from the Monterey County Sheriff's Department stated that the Monterra project would not require the hiring of any additional police officers and could be adequately protected by the existing patrol beats. The response time to the Monterra project will be consistent with the other populated areas as long as the roads constructed enable reasonable accessibility to all areas of the project. Additionally, it is likely that the subdivision will have its own private security patrols.

2.9.5.3 Public Transportation

Monterey/Salinas Transit operates bus route 21 between Salinas and Monterey seven days a week on one-hour headways, with stops on Highway 68. On weekdays the route runs from 7 am to 7 pm.

2.9.5.4 Solid Waste

Two private companies, Monterey Disposal Company and Carmel Disposal Company, presently service areas adjacent to Monterra. Solid waste is dumped at the Marina Disposal Site, a Class II-2 disposal area. This site is projected to meet the disposal needs of the Monterey Peninsula for the next 40 years. Solid waste collection from the Monterra project would not significantly affect the overall capacity of the Marina Disposal Site.

2.10 Archaeological Concerns

2.10.1 Existing Conditions

38. An archaeological reconnaissance of the 2,831-acre Monterra Ranch from June 24 to June 27, 1984 was conducted by Holman and Associates in association with Larry Seeman Associates, Inc.

Background research for this site included an examination of the archaeological site, recorded files from the Regional Office of the California Archaeological Site Survey, located at Cabrillo College in Aptos. This was done to determine whether there were any previously located archaeological resources on the property, and whether the property had been included within any prior archaeological research or survey projects. The records search indicated that two archaeological sites on the Monterra Ranch had been recorded.

2.10.2 Impacts

During the reconnaissance, the two previously recorded sites were located as well as two additional sites. The former are both within Monterey City Limits and are in the area of the school site on the site development plan. Neither of these sites are in Monterey County or in the subdivision plan; therefore, these two sites will not be affected by the proposed project.

A new bedrock mortar site was located and one chipped stone artifact was discovered. The isolated chipped stone artifact was found in an area designated on the site development plan as common open space and therefore will not be affected by the proposed project. The isolated bedrock mortar is located on proposed Ranch Lot #2. In order to prevent a potential impact, a condition should be placed on the development of this lot which will require more detailed archaeological investigation if development of this lot is proposed on or in the vicinity of the archaeological site.

Discovery of a bedrock mortar located on proposed "Ranch Lot #2" may indicate that there might be additional archaeological artifacts of importance that are undetectable to a surface reconnaissance due to the effects of vegetative cover and normal ranch operations over the years (cattle dropping, road grading, erosion, etc.).

2.10.3 Mitigation Measure

91. Prior to and during the initial stages of grading, a qualified archaeologist should be consulted to do on-site inspecting, examining the results of grading in those areas judged to have a greater potential of containing archaeological sites such as bedrock outcrops, springs, seeps and the lower ridges should be covered by a controlled intuitive reconnaissance.

92. A condition should be added to the development permit for the subdivision to require a detailed archaeological investigation if development of Ranch Lot #2 is proposed on or in the vicinity of the archaeological site.

3.0 ENVIRONMENTAL EVALUATION

3.1 Cumulative Impacts

The proposed project will have cumulative impacts on traffic, noise levels, local and regional air quality, water quality and quantity, stormwater runoff, vegetation and wildlife, fire and police protection services, and the aesthetics of the area. Similar to other rural homesites being developed in this general area, this project will cause the above cumulative impacts. Table 3.1 lists a number of recently approved or proposed projects in the Highway 68 corridor. This table indicates that approximately 722 residential lots or units, and major employment-generating developments are in various stages of review, approval and construction. The overall land use pattern in this Highway 68 area is changing from rural/open space to suburban/urban--and cumulative impacts will result from this change.

Significant impacts could result if all or a significant majority of the projects cited above are approved and constructed in a short time period. It should be noted that a great number of the proposed projects are minor and major land divisions which will result in lots which will be sold and then built on at some later date in the future, determined by the individual decisions of separate buyers. Nevertheless, the cumulative impacts which can be expected from these development proposals over the next 5-20 years can be summarized as follows:

1. Traffic levels along Highway 68 will exceed the capacity of the present two-lane facility and will require a four-lane freeway west of Highway 218 and six-lane expressway east of Highway 218 to maintain a "C" level of service.
2. Without strict requirements for and maintenance of on-site detention facilities, water quality levels in Laguna Grade and Roberts Lakes can be expected to deteriorate to some degree as a result of increased erosion and urban runoff in the Canyon Del Rey watershed. The potential also exists for polluting local groundwater supplies as a result of the numerous septic systems which will be utilized for waste water disposal.

3. There will be losses in the amount of undisturbed wildlife habitats. The rural/open space visual experience of the area will change with the introduction of single-family homes and suburban activities.
4. Increased need for structural fire protection, police protection and other public services will follow the suburban development pattern.

Increased traffic can only be mitigated by major improvements to Highways 68 and 218; and, to the Blanco and Reservation road alternatives arterial/highway routes for through traffic between the Salinas Valley and Monterey Peninsula. The Monterey County Regional Transportation Improvement Program and State Transportation Improvement Program include only the freeway extension and interchange improvement at the eastern end of Highway 68 (Toro Park) in the next five years. County Transportation Commission Staff indicate that improvements to Highway 68 ran third in terms of priority for available funds after the Hatton Canyon bypass (Carmel Valley) and the Highway 101/Prunedale bypass improvements. Without the institution of some form of transportation impact fee system, there do not appear to be any funding possibilities for the major improvements needed on Highway 68.

Air quality and noise level impacts can best be mitigated through federal and state air and noise emission controls on new and used automobiles and through the encouragement of transit and carpooling alternatives.

As development increases toward eventual buildout of this area, vigilant monitoring of groundwater quality and quantity, by the County, private water companies, and the Monterey Peninsula Water Management District becomes more and more important. Ongoing investigations and spot checks will be needed to determine the effects of wastewater disposal on groundwater quality. Careful placement and design of septic systems consistent with County General Plan, County Environmental Health and Regional Water Quality Control Board guidelines and regulations will assist in preventing impacts on the groundwater.

TABLE 3.1

RECENT DEVELOPMENT PROPOSALS IN THE PROJECT AREA

<u>Project</u>	<u>Description (Lots/Acre)</u>		<u>Other</u>
Tarpey Flats Office Park	-	-	802,000 sq.ft. office park
Laguna Seca Regional Park	-	-	EIR
Laguna Seca Ranch #1	46	36	
Laguna Seca Ranch #2	49	135	EIR
Laguna Seca Ranch East	151	483	EIR
Laguna Seca Office Park	18	38	260,000 sq.ft. commercial/office
Ryan Ranch Industrial Park	30	234	3,700 empl., Recorded, EIR
Aquajito	200	900	Conceptual design
Bay Ridge (Stander)	86	295	Recorded (under construction), EIR
Lotz	9	40	Approved tentative map, EIR
Mansfield	10	40	Recorded, EIR
Malacothamnus	10	40	Recorded, EIR
Mesa Hills West	58	301	Pending, Supple. EIR
Bird	4	40	Approval (on appeal), Neg. Dec.
Shaffi	4	40	Recorded, Neg. Dec.
Halcyon Hills (1980)	10	40	Completed, sold, Neg. Dec.
Baronet (1972)	10	40	Completed, sold, Neg. Dec.
Adj. Mesa Hills (70-83)	32	63	Built, Neg. Dec.
Adj. Hidden Hills (75-80)	17	40	Built, Neg. Dec.
Reordan	8	40	Includes 25 inclusionary housing units
Lotz	9	40	
Hill	<u>9</u>	<u>40</u>	10 units
Total	770 lots*		

*48 lots are commercial or industrial; leaving 722 residential lots

Strict adherence to guidelines contained in the Monterey County, Greater Monterey Peninsula and Carmel Valley General Plans regarding the siting, height and design of structures will reduce or avoid significant visual impacts. Similarly, the clustering of development away from visually prominent or biologically sensitive areas will minimize impacts of vegetation and wildlife.

3.2 Unavoidable Adverse Impacts Associated with the Project

The following unavoidable adverse impacts would result from the project. While mitigation measures have been proposed for each of the impact areas, the impacts may not be totally eliminated.

1. The project will generate 2,830 additional vehicle trips (178 inbound and 88 outbound during the p.m. peak hours) per day. These trips will increase already high traffic congestion on Highway 68 and thereby increase the accident potential.
2. The overall air quality in northern Monterey County will be decreased in proportion to the number of vehicle trips generated.
3. Future residents of the proposed project will be subject to seismic shaking, erosion and landslide hazards.
4. The project will contribute to increased noise levels along Highways 68 and 218.
5. Project runoff has the potential to degrade surface water quality in downstream Laguna Grande and Roberts Lakes.
6. Septic systems may contribute to groundwater pollution.
7. Fire hazard in the area will be increased.

8. Wildlife habitat, open space and undeveloped viewsheds will be modified by development.
9. Annexation to the City of Monterey and development at higher densities will be precluded.

3.3 Project Alternatives

3.3.1 No Project

If the property is not developed, none of associated impacts identified in this report would occur. Increased traffic, air pollutants, and noise emissions would not occur. No additional stormwater runoff and septic effluent would be generated. Without development, no visual or biotic impacts would take place. No residents would be subject to seismic and landslide hazards. The County would not realize any increased tax revenues from the increased assessed valuations of new lots and homes. On the other hand, the General Plan and zoning designations on the property would remain the same, allowing future development. Since the property is relatively underutilized at present, it is likely that another development proposal would be made in the future. Annexation to the City of Monterey and development according to that jurisdiction's Highway 68 Plan would also be possible.

3.3.2 Greater Residential Density--City of Monterey Highway 68 Plan

If the property were annexed to the City of Monterey, up to 1,700 residential units could be developed under that jurisdiction's Highway 68 Plan. As noted in Chapter 1, the Monterra property is located within Monterey City's Sphere of Influence.

The impacts of development at this density would be traffic--roughly six times the amount of traffic would be generated as compared to the proposed project. The Highway 68 Plan policies require highway improvements to assure a level of service "D" or better. However, considering the lack of city, county or state funding for needed major improvements to Highway 68, it appears unlikely that improvements would be made. No comprehensive Highway 68 improvement funding plan has yet been established to assure needed improvements.

Impacts upon vegetation and wildlife would be next greatest in order of magnitude. Instead of going from rural/open space land use to suburban/rural as with the proposed project, the higher density (1,700 units) alternative would change the land use to urban/suburban. The necessary clustering of attached homesites would very likely turn the meadow areas of the property into low/medium density (5-15 units/acre) urban neighborhoods and virtually eliminate the wildlife habitats there. The common open space areas would be subject to human intrusion by much greater numbers of people than under the proposed plan.

Geologic impacts would affect a much greater number of residential units and people. The clustering of units in meadow areas could help to reduce geologic impacts but resolution of the severity of the impacts will only be possible when more detailed geologic studies, including trenching, determine exact locations of faults and structural lineations, as well as landslide and dip slope stability and setback criteria.

Drainage and water quality impacts would be increased by the additional impervious surfacing and attendant drainage which would result from a higher density project. Larger retention ponds and more elaborate drainage collection and treatment systems would be necessary; and, their continued maintenance would be more critical to downstream water quality. Demand for water would increase sixfold and would be subject to the Monterey Peninsula Water Management District allocation system.

A higher density project would create a much greater demand for urban public services such as sewer, water, police, fire, recreation and education. The provision of public sewers would require extensive off-site improvements and cost similar in scale to Highway 68 improvements. The developer has stated that it is not economically feasible to spread the cost of these improvements over a 1,700-unit project. Police and fire protection services would undoubtedly require increased personnel and equipment costs.

A higher density project would increase the supply of housing on the peninsula. The Highway 68 Plan calls for the provision of housing at various price levels with at least 15 percent affordable to moderate-income households. Implementation of this provision might be difficult in light of other transportation and public sewer improvements required by the City Plan.

3.3.3 Double Proposed Residential Density

This alternative would involve a County General Plan Amendment to permit 550-600 residential lots. This might also be accomplished through annexation to the City of Monterey. This density could be accomplished by splitting each proposed lot in two, so that the smallest lot size would still be greater than one acre (the minimum for septic systems).

This alternative attempts to provide more housing without necessitating the provision of costly public sewers. It is unlikely that this number of units would be constructed unless permitted by the County prior to approval of the proposed subdivision. Once this subdivision is approved, it is highly unlikely that there will be any additional housing proposed for the project site. Therefore, the site will be lost as an area for increased density when the housing demand increases in the Monterey Bay area.

If allowed, this alternative would roughly double the impacts covered in this report. Traffic noise and air quality impacts would double; this would have significant impacts on Highway 68 unless mitigated through funded improvement projects. Drainage impacts would also double, necessitating additional capacity in retention ponds. Geologic impacts would necessitate additional detailed studies as recommended in the geologic section. Vegetation and wildlife impacts would increase by the amount of house/yard areas removed from the habitat and the impact of additional human intrusions into the wildlife areas. Visual impacts would increase as a result of a doubling of the number of building sites.

3.3.4 Project that Minimizes Environmental Impacts

This alternative would incorporate the most important mitigation measures recommended in this report to minimize environmental impacts. The mitigation measures that would be incorporated into the project would consist of the following:

1. Complete additional specific geotechnical studies, including trenching on-site, to determine appropriate setbacks from faults, structural lineations, and landslides; to determine appropriate foundations in dipslope areas; and to determine whether or not structures and lakes can be safely constructed in the Berwick

Canyon Fault/landslide area.

2. Prepare engineered grading and erosion control plans for the site; and complete appropriate soils tests to determine septic system and foundation requirements for each lot.
3. Require Homeowner's Association to carry out an on-going maintenance program for the development's roads, engineered drainage system, and common open space (includes both wildlife protection and fire hazard prevention) and other improvements.
4. Require design and operational policy for Equestrian Complex to be reviewed by the County Environmental Health and Public Works Departments to assure that water quality impacts do not result.
5. The County should condition the subdivision permit to require architectural review on certain prominent lots; the covenants, conditions and restrictions adopted with the subdivision should require architectural guidelines to protect viewsheds.
6. Require an acoustical study to determine appropriate insulation and window specification requirements for lots included in airport and Highway 68 noise contours.
7. Relocate west entrance to project from Ragsdale Drive to Olmsted Road to utilize stoplight and future interchange of Olmsted Road. Require Monterra subdivision developers to contribute to Highway 68 improvements at a rate commensurate to the project-generated traffic.
8. Require annexation to Salinas Rural Fire Protection District and provision (together with other area developments) of a fire station site at Laguna Seca.

9. Designate building envelopes in areas of steep terrain on subdivision map (cross slopes greater than 30%).
10. Develop detailed erosion control plans for roadcuts on cross slopes greater than 30%.
11. Develop a detailed landscaping plan for revegetation of cutslopes and the creation of visual buffers in sensitive areas.
12. Require the CC and R's of the subdivision to include specific requirements allowing full fencing only for private areas (pools, patios, etc.). Not allowing full fencing of individual lots so as not to curtail wildlife movement on-site.
13. Also include in the CC and R's that all non-native plantings take place within fully fenced private areas to prevent introduction of this kind of vegetation to the natural areas of the site and thereby prevent natural reduction of feeding habitats of wildlife.
14. Require the CC and R's to include that all domesticated animals be strictly controlled and kept in contained areas and not allowed to freely roam the site in order to lesson impacts on wildlife.
15. Redesign road and eliminate lots as necessary to protect the Hickman's onion rare plant community.

3.3.5 On-Site Inclusionary Housing

This alternative would add 42 inclusionary (low-moderate cost) housing units to the 47.6-acre Ranch Lot 8 in the eastern section of the project site; see Figure 3.1 for Inclusionary Housing Site Plan. This alternative is included because the Monterey County Board of Supervisors indicated in September 1985 that the provision of on-site inclusionary housing may become a requirement of all future subdivisions in the county.

Geology and Soils. The inclusionary housing units would be located in an area of mapped dipslopes and near the Chupines Fault. In order to prevent adverse impacts, specific geologic investigations would be necessary to determine appropriate setback and construction requirements.

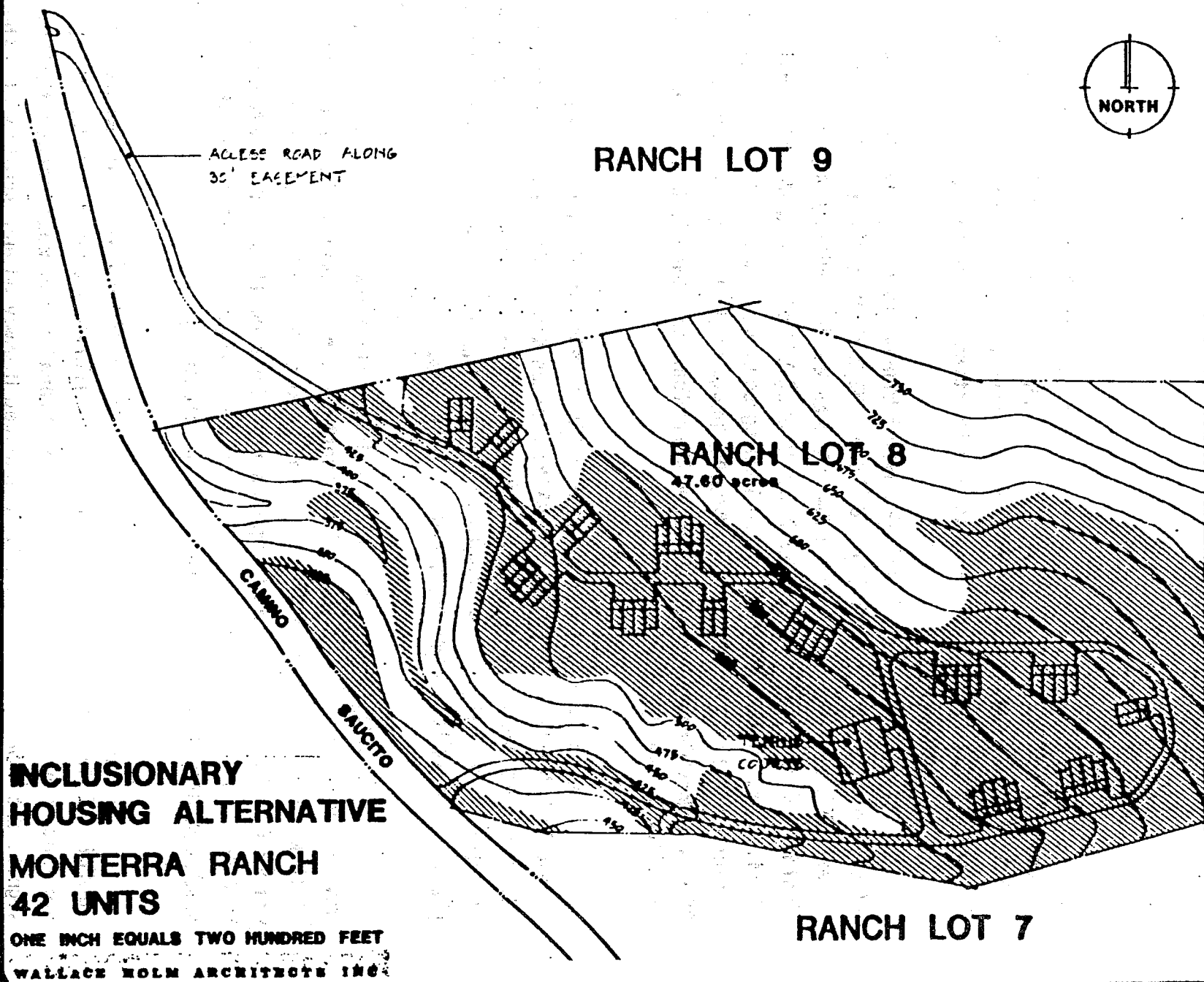
Hydrology. Additional stormwater runoff caused by the approximately 270,000 square feet (6 acres) of additional impervious surfacing would require an enlarged retention basin for sub-watershed No. 10. Additional water demand (estimated at 18 acre-feet/year by Logan) from these units will not be significant. Additionally, nitrate loading concerns should not be a problem because of the great distance between these units' septic systems and the proposed Monterra water system well locations on Ranch Lot 1 and near the Ragsdale/Highway 1 entrance.

Vegetation and Wildlife. The inclusionary housing units and their attendant roadways, driveways, and parking areas would eliminate approximately six acres of grassland habitat. This would increase the overall biotic area affected by the project from 53.50 to 53.75 percent. There are no known rare plants or wildlife within Ranch Lot 8 boundaries.

Aesthetic Considerations. The inclusionary housing alternative will have minor visual impacts. Since there is a ridge between the project and State Route 68, the housing project cannot be seen from the Highway 68 Scenic Corridor. The minor visual impacts will be from those areas within the Monterra Ranch project to the south and those areas just east of the Monterra Ranch property that are above the 650-foot elevation.

Traffic, Noise and Air Quality. This alternative would generate an additional 420 daily drips--a 15 percent increase over the 2,830 trips generated by the 283 lots. These additional trips would cause further significant impacts on the already congested Highway 68 and would require the proposed two-lane approach to Highway 68 at the eastern access point in order to avoid signalization of this intersection (see page 110--Project Access--for discussion). Noise and air quality impacts would also increase by 15 percent

Figure 3.1



because of the additional traffic generated by this alternative.

Wastewater Disposal. The septic disposal systems necessary for these 42 units would require ten feet of soil mantle to assure appropriate filtering, and adequate, less-than-30 percent slope land, to accommodate double the septic leachfields normally required. While no percolation tests have been performed on Ranch Lot 8 itself, the success rate of numerous tests of similar soil types which have been performed elsewhere on the Monterra property is a positive indication that testing for the inclusionary housing units will be successful. In any event, such testing will have to be completed, to the satisfaction of County Environmental Health officials, prior to any subdivision approval.

Fire Protection. The fire protection requirements for the inclusionary housing alternative can be satisfied if the fire protection mitigation measures for the entire 283-lot subdivision are followed; see Section 2.9.3.3.

Schools. Utilizing the .2 housing formula used by the Monterey Peninsula Unified School District (MPUSD), 42 units would generate 8 school-age children (using the 40-30-30 allocation): 3 elementary school age, 2 junior high school age and 2 high school age. These additional students can be served by the existing MPUSD schools.

3.4 Growth-Inducing Impacts

The project is one of many subdivisions proposed for the immediate area. The Cumulative Impacts section above lists the various other proposals. Since the project is not extending any sewer or water lines, it will not induce growth by the provision of public service infrastructure.

The project will eventually add approximately 710 residents to this area. This growth will slowly add to the demand for water, energy and public services. Residents of this area may eventually generate a market for additional commercial shopping facilities.

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Ken Thomas: Noise and Air Quality
Gary Griggs: Geology
Biosystems Analysis: Vegetation and Wildlife Impacts and
Mitigation Measures

APPENDIX "A"

INITIAL STUDY

FILE NO. SUBD 215

SIGNIFICANT
IMPACT
CAN BE
MITIGATED
INSIGNIFICANT
IMPACT
YES
NO

BASIC ENVIRONMENTAL QUESTIONS

X			X	1. Within a high seismic hazard zone? Zone:
X			X	2. Development on slopes over 30%? <u>SOME RD. SECTIONS</u>
X			X	3. Potential erosion problem? <u>APPEARS TO CROSS BROADS</u>
X			X	4. Evidence of geologic instability? <u>3%</u>
X			X	5. Soil constraints for development? <u>CERTAIN SLIDE & SLUMP AREAS.</u>
X			X	6. Potential to degrade surface water? Affected water(s) <u>LANDSLIDES & QUESTION OF SOILS SUITABLE FOR SEPTIC TANKS, ROADS, FOUNDATIONS</u>
X			X	7. Potential to degrade groundwater? <u>CH. DEL. RT. a. Reduce water quality? LABRA CONDE, ROBERTS L.</u>
X			X	8. Would increased project runoff be detrimental? <u>UNKNOWN AT THIS TIME</u>
	X	X	X	9. Within a 100 year floodplain? <u>ALONG HWY 66 NO FLOOD</u>
X			X	10. Eliminate native vegetation? Type: <u>PROPOSED THERE, EXCEPT MAIN ACCESS RD.</u>
X			X	11. Rare or endangered species? Species: <u>SURVEY IN PROGRESS</u>
X			X	12. Impact any unique or fragile biotic community?
X			X	13. Impact a wildlife use area? Type: <u>LOSS OF HABITAT</u>
X			X	14. Designated scenic area? <u>HWY 66</u>
X			X	15. Any significant visual impact? <u>JACKS PEAK PARK & HWY 66</u>
	X	X	X	16. Obnoxious odors?
			X	17. Unacceptable noise? <u>IMPACT OF AIRPORT ON THIS PROJECT</u>
X			X	18. Traffic impact? <u>HWY 66 & 215, LOCAL CO. RDS AND NEARBY CITY ROADS</u>
			X	19. Conflict with any airport land use plan or land use?
			X	20. Project access inadequate?
	X	X	X	21. Air quality degradation on a <u>WHILE CONSTRUCTING ROADS</u>
X			X	22. Sewage disposal problem? <u>FIRE PLACES, TRAFFIC, HUMAN ACTIVITIES</u>
X			X	23. Water supply problem? <u>PERCOLATION STUDIES</u>
X			X	24. Inadequate school facilities? District:
	X	X	X	25. Increased fire hazard? <u>NO DISTRICT FOR STRUCTURAL FIRE PROT.</u>
	X	X	X	26. Inadequate access for fire trucks?
	X	X	X	27. Extension of utilities 1/2 mile or more?
X			X	28. Inefficient use of energy?
	X	X	X	29. Archaeological site? <u>SURVEY IN PROGRESS</u>
	X	X	X	30. Historical site?
	X	X	X	31. Loss of prime row crop or irrigated farmland?
	X	X	X	32. Loss of grazing land? <u>NOW USED AS CATTLE RANCH.</u>
	X	X	X	33. Inconsistent with Growth Management Policies?
	X	X	X	34. Conflicts with neighboring land use?
	X	X	X	35. Generates the need for new housing?
X			X	36. Adverse cumulative effect? <u>TRAFFIC, WATER, RUNOFF</u>
X			X	37. Displace existing residents?
			X	38. Is growth inducing? <u>WILL REQUIRE SUPPLY OF SERVICES FOR THE NEW RESIDENTS.</u>
				39. Short term benefits at expense of long-term benefits?
				40. Irreversible commitment of land or irreplaceable resources?

NOTES: INADEQUATE DATA TO ANSWER ALL QUESTIONS, HOWEVER APPLICANT HAS REQUESTED AN EIR TO RESEARCH THE ISSUES.

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DRAINAGE REPORT
MONTERRA RANCH DEVELOPMENT

July 12, 1984

AREA DESCRIPTION AND LOCATION

Monterra Ranch is situated in Monterey County south of Highway 68 and east of Jacks Peak Park Road. It consists of a total of 3000± acres of which 63% drains to the Canyon del Rey watershed, 35% drains south to Canada de la Segunda or Carmel Valley, and 2% drains west to Monterey.

There are five major drainage areas on Monterra Ranch (see Exhibit A). Later, upon finalization of plans, these sub-drainage basins may be further divided into smaller subdrainage basins (the same design criteria will apply).

For the purposes of this report, only these five major subdrainage basins will be considered. Total required retention basin storage will be determined for each of the five major subdrainage basins. Approximate (possible) locations of these retention basins are shown as dots on Exhibit "A".

DESIGN CRITERIA:

Using the 10-year recurrence interval as a design storm, it is proposed to provide ample retention storage so that the post-development peak runoff from the area is less than the pre-development peak runoff from the same area.

Retention basins will be designed to retain additional peak runoff due to development, while discharging no more than predevelopment 10-year design runoff. Retention basins will also be designed with overflow or bypass features to allow post-development 100-year storm flows.

More specifically, retention basins will have the following features:

- a. Each basin will be designed to discharge predevelopment 10-year runoff at 2 feet of freeboard while storing additional runoff due to development.
- b. Each basin will be designed to allow post-development 100-year storm overflows at 1 foot of freeboard.
- c. Pipelines, curbs and gutters and catchment structures will be designed for the 10-year storm, and culverts crossing under roadways in drainage channels will be designed for post-development 100-year storms.

ASSUMPTIONS:

C Predevelopment = C = 0.20

C Post Development = C_p

C Pavement and Roofs = 0.90

C Slopes and Shoulders = 0.60

Use Plate 25 - County Standards - to determine intensities.

POST DEVELOPMENT COEFFICIENT OF RUNOFF (C_p):

AREA I (see Exhibit A):

Total Area	=	<u>946 Acres</u>
1. Paved Roads	= 14,000 LF x 30' = 420,000 S.F.	= 9.6 AC
2. Shoulders & Slopes	= 14,000 LF x 10' = 140,000 S.F.	= 3.2 AC
3. Residential Units:	= 20 @ 4,000 SF = 80,000 S.F.	= 1.9 AC
4. Driveways	= 20 @ 1,000 SF = 20,000 S.F.	= 0.5 AC
5. Recreation Center	= 100,000 S.F.	= 2.3 AC
6. Shops	= 25,000 S.F.	= 0.6 AC
7. Tennis Courts	= 15,000 S.F.	= 0.4 AC
8. Tennis Center	= 100,000 S.F.	= 2.3 AC
9. Equestrian Center	= 120,000 S.F.	= 2.8 AC
10. Parking	= 250,000 S.F.	= <u>5.8 AC</u>
		= 29.4 AC

$$C_{pI} = (946 - 29.4) \times 0.20 + 3.2 \times 0.6 + (9.6+1.9+0.5+2.3+0.6+0.4+2.3+2.8+5.8) \times 0.9$$

$$= \frac{9.6 \times 0.20 + 3.2 \times 0.6 + 26.2 \times 0.9}{946}$$

$$C_{pI} = \frac{183.32 + 1.92 + 23.58}{946} = \frac{208.82}{946} = 0.2207$$

AREA II (see Exhibit A):

Total Area	=	<u>1300 Acres</u>
1. Paved Roads	= 46,000 LF @ 30' = 1,380,000 SF	= 31.7 AC
2. Shoulders & Slopes	= 46,000 LF @ 10' = 460,000 SF	= 10.6 AC
3. Residential	= 200 max. units @ 4,000 SF = 800,000 SF	= 18.4 AC
4. Driveways	= 200 max. units @ 1,000 SF = 200,000 SF	= <u>4.6 AC</u>
		= 65.3 AC

$$C_{pII} = \frac{1236.7 \times 0.20 + 4.6 \times 0.60 + (31.7+10.6+18.4) \times 0.9}{1300}$$

$$= \frac{247.34 + 2.76 + 54.63}{1300}$$

$$C_{pII} = \frac{304.73}{1300} = 0.2344$$

AREA III:

Ranch Estate:

C	=	0.20 predevelopment
Cp _{III}	=	0.21 postdevelopment

AREA IV:

Ranch Estate:

C	=	0.20 predevelopment
Cp _{IV}	=	0.21 postdevelopment

AREA V (see Exhibit A):

Total Area	=	<u>1056 Acres</u>
1. Paved Roads	= 16,000 LF @ 30' = 480,000 SF	= 11.0 AC
2. Shoulders & Slopes	= 16,000 LF @ 10' = 160,000 SF	= 5.5 AC
3. Residential	= 100 max. units @ 4000 SF = 400,000 SF	= 9.2 AC
4. Driveways	= 100 max. units @ 1000 SF = 100,000 SF	= <u>2.3 AC</u>
		28.0 AC

$$Cp_v = \frac{1028 \times 0.20 + 2.3 \times 0.6 + (11+5.5+9.2) \times 0.9}{1056}$$

$$Cp_v = \frac{205.6 + 1.38 + 23.13}{1056} = \frac{230.11}{1056}$$

$$Cp_v = 0.2179$$

SUMMARY

Area	C Predevelopment	C Postdevelopment
I 946 Acres	0.20	0.2207
II 1300 Acres	0.20	0.2344
III 112 Acres	0.20	0.2100
IV 173 Acres	0.20	0.2100
V 1056 Acres	0.20	0.2179

AREA I 946 Acres

Tc (Time of Concentration)

Overland grass 1200' @ 4% slope = 28.0 minutes

Ditch Flow 1000'/12,000' = 8.33% for 12,000'
= 666 secs = 11.11 minutes

(V = 18 FPS) Tc = 39.1 minutes

Rainfall Intensity (Plate 25 - County Standards):

$i_2 = 0.6 \text{ in/hr (2 year)}$

$i_{10} = 1.48 \times (i_2) = 1.48 \times 0.6 = 0.89 \text{ in/hr}$

Peak Predevelopment Runoff - 10 Year:

$T_c = 39 \text{ min.}$ $I_t = \frac{7.75 \times i_{10}}{(T_c)^{1/2}} = \frac{7.75 \times 0.89}{(39)^{1/2}} = 1.104 \text{ in/hr}$

$Q = A c i = 946 \times 0.20 \times 1.104 = 208.877 \text{ CFS}$

for $T = 60 \text{ min.}$ $I_t = 0.89$

$Q_{1 \text{ hr}} = 946 \times 0.2 \times 0.89 = 168.39 \text{ CFS}$

Post Development Runoff, 10-year $Q_p = 208.877 \times \frac{.2207}{.20} = 230.5 \text{ CFS}$

$Q_{1 \text{ hr}} = 946 \times 0.2207 \times 0.89 = 185.82 > 168.39 \text{ CFS}$

$Q_{1.5 \text{ hrs}} = 946 \times 0.2207 \times \frac{7.75 \times 0.89}{(90)^{1/2}} = 151.79 < 168.39 \text{ CFS}$

$Q_{1.3 \text{ hrs}} = 946 \times 0.2207 \times \frac{7.75 \times 0.89}{(78)^{1/2}} = 163.05 \approx 168.39: \text{ OK}$

Storage Required:

1st Hour: $(185.82 - 168.39) \times 60 \times 60 \text{ secs.} = 62,748 \text{ CF}$

1 hr - 1.3 hr: $\left(\frac{185.82 + 163.05}{2} - 151.79 \right) \times 1080 \text{ secs} = 24,457 \text{ CF}$
= 87,205 CF

AREA II 1300 Acres

Tc (Time of Concentration)

Overland: grassy/brush 1800 LF @ 12 to 14% slope = 58.0 minutes

Ditch flow: Avg slope = 7%
7000 LF @ 10 FPS = 700 secs = 11.7 minutes

Tc = 69.7 minutes

Use Tc Max. = 60.0 minutes

Rainfall Intensity (Plate 25 - County Standards):

$$i_2 = 0.6 \text{ in./hr.}$$

$$i_{10} = 1.48 \times (i_2) = 1.48 \times 0.60 = 0.89 \text{ in/hr.}$$

Peak Predevelopment Runoff - 10 Year:

$$T_c = 60 \text{ min.} \quad I_t = 0.89 \text{ in/hr.}$$

$$Q = A c i = 1300 \times 0.20 \times 0.89 = 231.4 \text{ CFS}$$

Post Development Runoff - 10 Year : $Q_p = 231.4 \times \frac{.2344}{.20} = 271.2 \text{ CFS}$

$$Q_{1 \text{ hr}} = 1300 \times 0.2344 \times 0.89 = 271.2 \text{ CFS} > 231.4$$

$$Q_{1.2 \text{ hrs}} = 1300 \times 0.2344 \times \frac{7.75 \times 0.89}{(72)^{\frac{1}{2}}} = 247.7 \text{ CFS} > 231.4$$

$$Q_{1.3 \text{ hrs}} = 1300 \times 0.2344 \times \frac{7.75 \times 0.89}{(78)^{\frac{1}{2}}} = 238.0 \text{ CFS} > 231.4$$

$$Q_{1.4 \text{ hrs}} = 1300 \times 0.2344 \times \frac{7.75 \times 0.89}{(84)^{\frac{1}{2}}} = 229.3 \text{ CFS} < 231.4$$

Storage Required:

$$\text{1st Hour: } (271.2 - 231.4) \times 60 \times 60 = 142,280 \text{ CF}$$

$$\text{1 hr - 1.2 hrs: } \left(\frac{271.2 + 247.7}{2} - 247.7 \right) \times 12 \times 60 = 8,460 \text{ CF}$$

$$\text{1.2 - 1.4 hrs: } \left(\frac{247.7 + 229.3}{2} - 231.4 \right) \times 12 \times 60 = 5,112 \text{ CF}$$

$$\text{Total Storage Required} = 155,852 \text{ CF}$$

AREA III 112 Acres

T_c (Time of Concentration)

$$\text{Overland/grassy brush } 800' \text{ LF @ } 20\% = 28.0 \text{ minutes}$$

$$500' \text{ swale - grassy (overland type) @ } 30\% = 23.0 \text{ minutes}$$

$$1000' \text{ overland - grassy/trees @ } 15\% = \underline{21.0 \text{ minutes}}$$

$$T_c = 72.0 \text{ minutes}$$

$$\text{Use Max } T_c = 60.0 \text{ minutes}$$

Rainfall Intensity (Plate 25 - County Standards):

$$i_2 = 0.60 \text{ in/hr}$$

$$i_{10} = 0.60 \times 1.48 = 0.89 \text{ in/hr.}$$

Peak Predevelopment Runoff - 10 year:

$$T_c = 60 \quad I_t = 0.89 \text{ in/hr}$$

$$Q = Aci = 112 \times 0.20 \times 0.89 = 19.94 \text{ CFS}$$

Postdevelopment Runoff - 10 Year: $Q_P = 20.93 \text{ CFS}$

$$Q_{1 \text{ hr}} = 112 \times 0.21 \times 0.89 = 20.93 \text{ CFS}$$

$$Q_{1.1 \text{ hr}} = 112 \times 0.21 \times \frac{7.75 \times .89}{(66)^{1/2}} = 19.96 \approx 19.94$$

Storage Required:

$$1\text{st hr: } (20.93 - 19.94) \times 60 \times 60 = 3,564 \text{ CF}$$

$$1-1.1 \text{ hr: } \left(\frac{20.93 - 19.96}{2} - 19.96 \right) \times 6 \times 60 = \underline{175 \text{ CF}}$$

$$\text{Total Storage Required} = 3,739 \text{ CF}$$

AREA IV 173 acres

Tc (Time of Concentration)

1500' overland/grassy/brushy @ 30% = 46.0 minutes

2000' Ditch Flow @ 2%

2000' @ 5 FPS = 400 secs = 6.7 minutes

52.7 minutes

Peak Predevelopment Runoff - 10 year:

Tc = 52.7 min. $I_t = \frac{7.75 \times 0.89}{(52.7)^{1/2}}$ = 0.95 in/hr

Q = Aci = 173 x 0.20 x 0.96 = 32.87 CFS

For Tc = 60 min. $I_t = 0.89$

$Q_{1 \text{ hr}} = 173 \times 0.20 \times 0.89$ = 30.79 CFS

Post Development Runoff - 10 year: $Q_p = \frac{.21}{.20} = 32.87 - 34.51$ CFS

$Q_{1 \text{ hr}} = 173 \times .21 \times .89$ = 32.33

$Q_{1.1 \text{ hr}} = 173 \times .21 \times \frac{7.75 \times .89}{(66)^{1/2}}$ = 30.84 \approx 30.79: OK

Storage Required:

1st hr: $(32.33 - 30.79) \times 60 \times 60$ = 5,554 CF

1 - 1.1 hr: $(\frac{32.33 + 30.84}{2} - 30.84) \times 60 \times 6$ = 270

Total Storage Required = 5,824 CF

AREA V 1056 Acres

T_c (Time of Concentration) to Southerly Property Line

Overland/avg. grass 1400' @ 7% = 50.0 minutes

Swale Flow (natural/grassy)

$$\frac{800' \text{ to } 300' \text{ El}}{9000 \text{ LF}} = \frac{500}{9000} = 5.6\%$$

$$V = 9 \text{ FPS}$$

$$T = (9000/9) \text{ secs} \div 60 \text{ sec/min.} = 16.7 \text{ minutes}$$

$$T_c = 66.7 \text{ minutes}$$

$$\text{Use Max. } T_c = 60.0 \text{ minutes}$$

Peak Predevelopment Runoff - 10 year:

$$T_c = 60 \text{ min.} \quad I_t = 0.89 \text{ or } \frac{(7.75 \times .89)}{(60)^{1/2}}$$

$$Q = Q_1 \text{ hr} = A c i = 1056 \times 0.20 \times 0.89 = 187.97 \text{ CFS}$$

$$\text{Post Development Runoff - 10 year: } Q_p = \frac{.2179}{.20} \times 187.97 = 204.79 \text{ CFS}$$

$$Q_1 \text{ hr} = 1056 \times 0.2179 \times 0.89 = 204.79 > 187.97$$

$$Q_{1.25 \text{ hrs}} = 1056 \times 0.2179 \times \frac{(7.75 \times 0.89)}{(75)^{1/2}} = 183.27 \approx 187.97$$

Storage Required :

$$1\text{st hr: } (204.79 - 187.97) \times 60 \times 60 = 60,552 \text{ CF}$$

$$1 - 1.25 \text{ hr: } \left(\frac{204.79 + 183.27}{2} - 183.27 \right) \times 15 \times 60 = 9,684 \text{ CF}$$

$$\text{Total Storage Required} = 70,236 \text{ CF}$$

SUMMARY TABLE

Area	Post Development C	Tc	Qp (CFS) Pre- Development	Qp (CFS) Post- Development	Req'd Retention Storage Volume (Cubic Feet)
I 946 AC	0.2207	39.1 min.	208.877	230.50	87,205
II 1300 AC	0.2344	60.0 min.	231.40	271.20	155,852
III 112 AC	0.2100	60.0 min.	19.94	20.93	3,739 *
IV 173 AC	0.2100	52.7 min.	32.87	34.51	5,824 *
V 1056 AC	0.2179	60.0 min.	187.97	204.79	70,236
Total Storage Required =					322,856

Notes:

- * 1. No retention basins required.
2. Design based on 10-year design and intensity curves found on Plate 25 of Monterey County Standards.
3. See Exhibit "A" for possible retention basin locations. Final location and size to be determined during final map review of phase being considered.

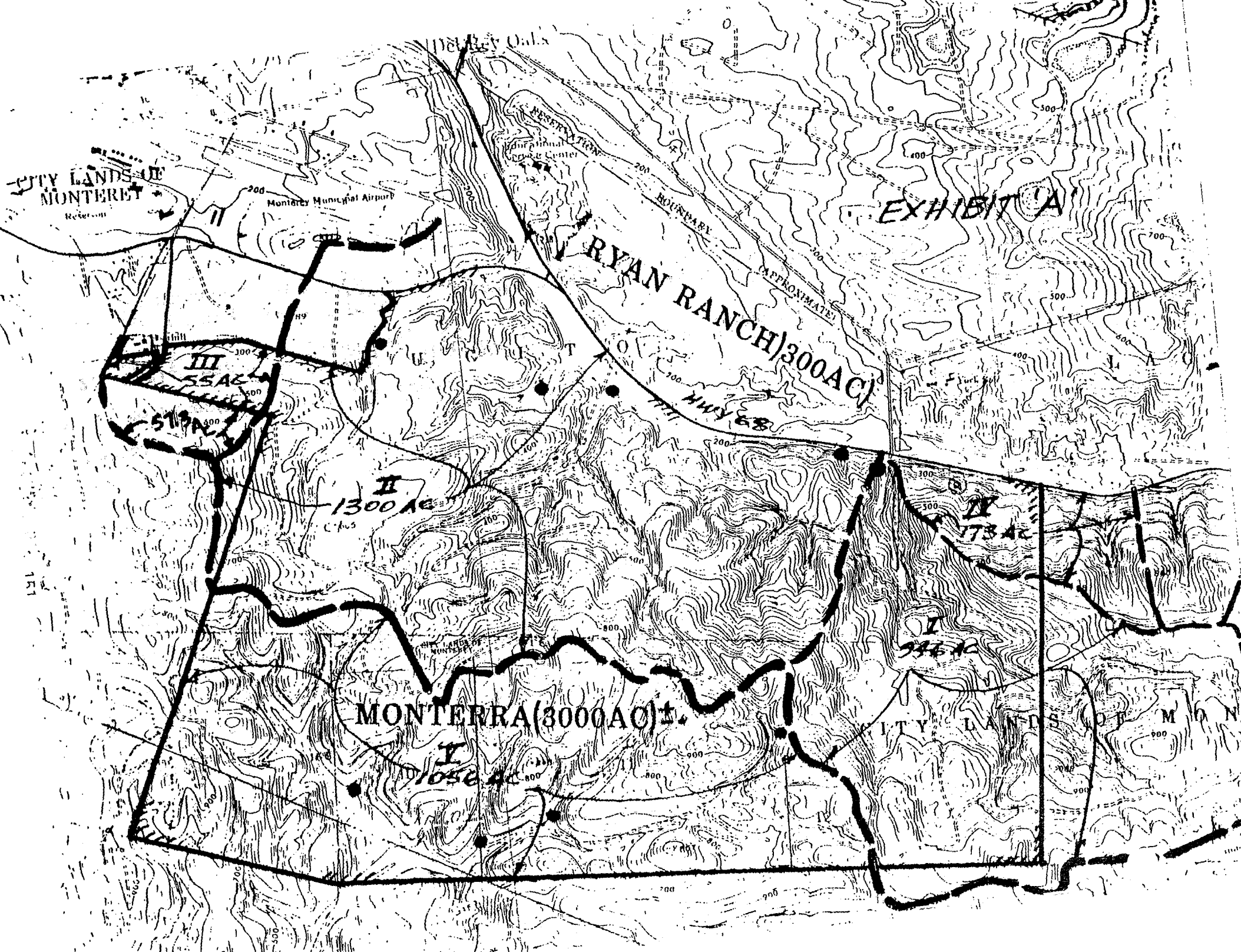


EXHIBIT A

RYAN RANCH (300 AC)

MONTEREY (3000 AC) 1

CITY LANDS OF
MONTEREY

Monterey Municipal Airport

III
55 AC

II
1300 AC

IV
173 AC

I
944 AC

I
1056 AC

CITY LANDS OF MONTEREY

W W D CORPORATION
ENGINEERING · PLANNING
CONSULTANTS

DAVID K. FULLER
DIRECTOR OF ENGINEERING
R.C.E. 24400

August 13, 1984

Mr. Owen Stewart
Monterey County Flood Control
P. O. Box 930
Salinas, California 93902

Subject: Monterra Ranch Development
Drainage Report - Supplement

Dear Owen:

As per our telephone discussion of August 9th pertaining to storm drainage:

1. Siltation retention will be provided to prevent silting of off-site and downstream waterways.
2. Each major drainage area will be provided with retention works for both storm water runoff and silt.

This letter is in response to attached letter from Lynne Mounday.

Will you please respond to Lynne's letter as soon as possible (if you have not already).

Thank you.

Sincerely,



DAVID K. FULLER

DKF:jls

cc: Mr. Wallace Holm

AUG 14 1984
RECEIVED

GEOFAB™ Silt Fence

PATENT PENDING

GEOFAB™ Silt Fence is an erosion control system designed specifically as a silt fence requiring no support other than posts.

GEOFAB™ erosion control system allows for the rapid flow of water, providing high filtering efficiency, excellent strength and durability.

SELF-SUPPORTING

GEOFAB™ supports itself on the fence posts with the enclosed cord and built-in netting.

EASILY INSTALLED

GEOFAB™'s built-in cord attaches to each fence post.

LOW INSTALLATION COST

GEOFAB™ does not require the use of woven wire supports, hog pins or staples.

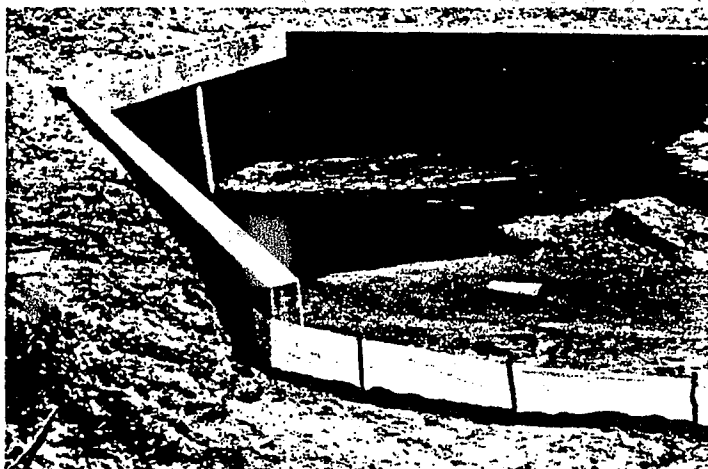
LOW MAINTENANCE

GEOFAB™ will stop silt and sand but allows high water flow, thus eliminating maintenance caused by damming of water.

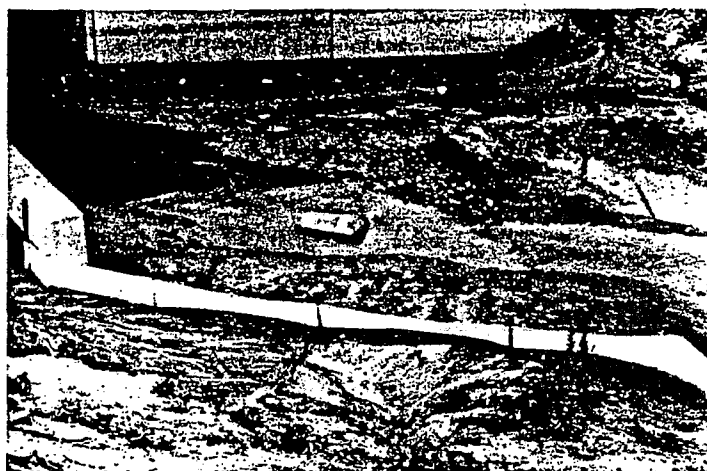
LONG LIFE

GEOFAB™ is non-rotting and ultraviolet (sunlight) protected, offering a stable, long-lasting product.

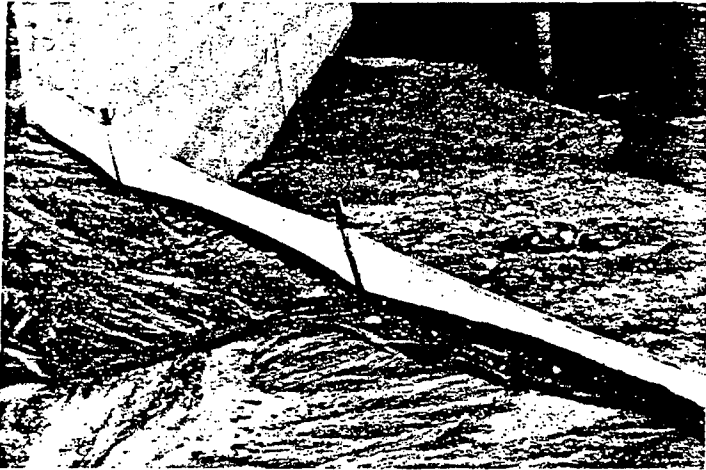
The following unretouched photographs are of actual installation sites.



GEOFAB™ Silt Fence installed along the toe of slope for erosion protection of stream.



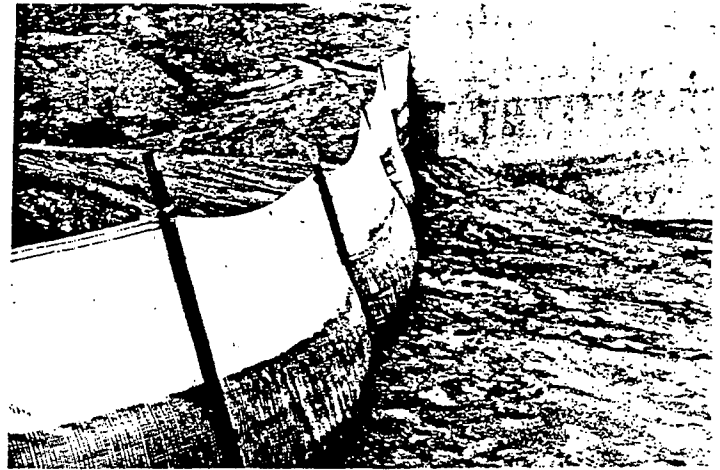
Accumulated sediment after three months.



Note that water has not been retained on top of the accumulated sediment, showing that GEOFAB™ Silt Fence does not dam water.



Note the non-clogging characteristics of GEOFAB™.



High strength, high water flow and low stretch resulting in effective erosion control.

INSTALLATION PROCEDURES*

1. Install fence posts on a slight angle toward the anticipated run-off source.
2. Dig a 4" to 6" trench along the fence line.
3. Lay out the GEOFAB™ Silt Fence on the uphill side along the fence line.
4. Wrap GEOFAB™ around the first post and tie securely with the enclosed cord.
5. Stretch GEOFAB™ to the next fence post (6' to 10' apart); make a 1½" horizontal slit in GEOFAB™ directly above the cord and pull the cord through the slit, pull taut and wrap twice around the post.
6. Repeat Step 5 until the last post is reached and wrap GEOFAB™ around the last post and secure with cord.
7. Drape the lower 6" of GEOFAB™ into the trench, curled toward the run-off source.
8. Back-fill the trench.

*Selection of the type of post used to install GEOFAB™, as well as the distance between each post, is to be determined by the specifications of the local State Department of Transportation and/or the resident engineer. However, it is recommended that steel posts be used, weighing an average of 1.3 pounds per foot.

GEOFABTM SILT FENCE

PATENT PENDING

TYPICAL FABRIC PROPERTIES*

Material	100% spunbonded nylon reinforced with polyester netting	
Weight	4.2 oz./yd. ²	ASTM D 1910
Thickness	10 mils	ASTM D 1977
Grab Tensile	130 lbs.	ASTM D 1682
Elongation To Break	25% plus or minus 3%	ASTM D 1682
Mullen Burst	210 lbs.	ASTM D 774-46
Water Flow Rate	470 gallons per minute/foot ²	
E.O.S.	Equivalent Opening Size 70-100 U.S. Corps of Engineers Guide Spec. CW02215 Nov. 1977	
Cord	1/8" nylon braided installed full length of fabric	
Strength Retention	Ultraviolet treated for outdoor application	
Fabric Width	Supplied in widths to meet local State D.O.T. and/or Federal requirements	
Standard Roll Length	150 ft.	

*The above properties are average results and should not be construed as minimum or maximum properties.

For more information on GEOFABTM Silt Fence or other civil engineering fabrics in the GEOFABTM line, please contact Mercantile Development, Inc. at (203) 226-7803, or write:

MERCANTILE DEVELOPMENT, INC.
274 Riverside Avenue
Westport, CT 06880

There is no express warranty on this material. There is no implied warranty of merchantability or fitness for any particular use. The manufacturer and dealer cannot assume responsibility beyond supplying a product conforming to the advertised specifications. Suggestions by the manufacturer or dealer for possible end uses and for installation techniques are made solely for the convenience of the customer and for his choice, and are not intended to and shall not imply any representations or warranties.

W W D CORPORATION
ENGINEERING - PLANNING
CONSULTANTS

DAVID K. FULLER
DIRECTOR OF ENGINEERING
R.C.E. 24400
August 23, 1984

Mr. Lynn Mounday
Monterey County Planning Department
P. O. Box 1208
Salinas, California 93902

Subject: Monterra Ranch
Supplement No. 2 to Drainage Report

Dear Lynn:

As per our telephone conversation of today, the following supplement should be attached to the initial Drainage Report dated July 12, 1984.

Following are methods of preventing erosion and siltation during construction:

1. Cat tracking slopes.
2. Temporary excavated swales.
3. Hay bales placed in water courses to pond water and retain silt.
4. Temporary retention basins adjacent to developed area.
5. Fabric fences which will allow water to pass while retaining silts. Example: Geofab (attached is copy of brochure).
6. Incorporate straw in soil.

All of the above methods slow the velocity of water, allowing silts to settle out of runoff or stabilize soil to prevent erosion. Any one or a combination of these methods will be used during construction on the Monterra Ranch, to retain silts on site and prevent erosion.

In conjunction with the above, all areas which are excavated during construction will be cat tracked and hydroseeded and maintained until substantial growth can prevent further erosion. Hydroseeding and maintenance will be made part of the construction contract. After construction contract is finalized, Property Owners Association will maintain those areas as required.

Also, all concentrated flows from pipe discharges into natural drainage channels will be provided with rock energy dissipators to spread the flow and dissipate the energy to prevent gullyng.

Retention basins will be designed as provided in initial report, and 30% will be added to the required storage volume to accommodate silt storage. This will amount to approximately 100,000 CF for silt storage.

The Property Owners Association will provide for yearly fall inspections and, if required, removal of deposited silts.

There is more than ample area for the required retention ponds (over 100 acres) as can be observed from Exhibit A of Initial Report. At most, a total of five acres of land will be required, which will likely be divided between 10 to 20 strategically placed basins ranging in size from approximately 0.2 acres to 1.0 acres.

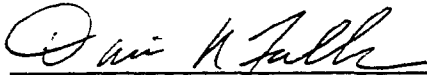
All basins will be contoured to appear as a gently sloping depression; will be a maximum of 4 feet deep, with a minimum of 5 to 1 (horizontal to vertical) side slopes. All slopes will be hydroseeded. Any basin visible from Highway 68 will be screened by landscape planting to mitigate visual impacts.

Specific details pertaining to exact location, size, basin outlet design, best methods for prevention of erosion, etc. can be more specifically addressed during the construction plan preparation stage through reports submitted by the developer's engineer to the County staff. Prior to approval of the Final Map, all such details will be addressed and designs approved by the County staff.

page 3

Due to the low density of development on this project (1 unit per 10 acres), the impacts due to additional runoff will be minimal (approximately an 11.4% increase in runoff). With the installation of retention-siltation works, the impacts will likely be less after development than presently exist. The primary concern should be the prevention of erosion during construction and the proper establishment of ground cover to prevent future erosion.

Sincerely,



DAVID K. FULLER

cc: Mr. Wallace Holm
Mr. Richard Stevens
Mr. Myron E. Etienne
Larry Seeman Associates
Mr. Owen Stewart

APPENDIX "C"



☐ 500 Newport Center Drive, Suite 600
Newport Beach, California 92660
phone (714) 640-6363

☐ 2606 Eighth Street
Berkeley, California 94710
phone (415) 841-6840

Community Planning ☐ Natural Resource Management ☐ Environmental Assessment

**BIOLOGICAL RESOURCES
OF THE MONTERRA RANCH SUBDIVISION
MONTEREY COUNTY, CALIFORNIA**

PREPARED FOR

**NOLAND, HAMERLY, ETIENNE & HOSS
AND
COUNTY OF MONTEREY**

BY

**LSA/LARRY SEEMAN ASSOCIATES, INC.
2606 EIGHTH STREET
BERKELEY, CALIFORNIA 94710
(415) 841-6840**

JUNE 5, 1985

APPENDIX VEGETATION

PLANT SPECIES

Species Observed	Vegetation Type			
	Oak Pine Forest	Oak Woodland	Mixed Coastal Scrub	Grass- land
<u>Trees</u>				
Monterey pine (<u>Pinus radiata</u>)	x	x	x	
Coast live oak (<u>Quercus agrifolia</u>)	x	x	x	
California buckeye (<u>Aesculus californica</u>)		x		
<u>Shrubs</u>				
Chamise (<u>Adenostoma fasciculatum</u>)			x	x
Coyote brush (<u>Baccharis pilularis</u>)	x	x	x	x
Coastal sagebrush (<u>Artemisia californica</u>)	x	x	x	x
Poison oak (<u>Rhus diversiloba</u>)	x	x	x	x
French broom (<u>Cytisus monspessulanus</u>)	x	x	x	x
Bush lupine (<u>Lupinus arboreus</u>)			x	
Bush monkey flower (<u>Mimulus aurantiacus</u>)			x	
Blue blossom (<u>Ceanothus thyrsiflorus</u>)			x	
Black sage (<u>Salvia mellifera</u>)			x	
Fuchsia-flowered gooseberry (<u>Ribes speciosum</u>)	x	x		
Scraggly gooseberry (<u>R. divaricatum</u>)	x	x		
Snowberry (<u>Symphoricarpos</u> sp.)	x	x		
Coffeeberry (<u>Rhamnus californica</u>)	x	x	x	
Toyon (<u>Heteromeles arbutifolia</u>)	x	x	x	
Redberry (<u>Rhamnus crocea</u>)		x		
Ocean spray (<u>Holodiscus discolor</u>)	x	x		
Blackberry (<u>Rubus</u> sp.)		x		
Bitter cherry (<u>Prunus emarginata</u>)		x		

Species Observed	Vegetation Type			
	Oak Pine Forest	Oak Woodland	Mixed Coastal Scrub	Grass- land
<u>Forbs, Ferns, and Grasses</u>				
Scarlet pimpernel (<u>Anagalis arvensis</u>)	x	x	x	x
Long-beaked filaree (<u>Erodium botrys</u>)			x	x
Red-stemmed filaree (<u>E. cicutarium</u>)			x	x
California everlasting (<u>Gnaphalium californicum</u>)	x		x	x
Golden brodiaea (<u>Triteleia lutea</u>)				x
Brodiaea (<u>Brodiaea coronaria</u> var. <u>terrestris</u>)				x
Other brodiaeas (<u>Brodiaea</u> spp.)				
Goldfields (<u>Baeria chrysostoma</u>)				x
Escobita (<u>Orthocarpus purpurascens</u>)				x
Owl's clover (<u>O. densiflorus</u>)				x
California aster (<u>Aster chilensis</u>)			x	x
California buttercup (<u>Ranunculus californicus</u>)				x
Buttercups (<u>Ranunculus</u> spp.)		x	x	x
Bracken fern (<u>Pteridium aquilinum</u>)	x		x	
Maidenhair fern (<u>Adiantum</u> sp.)		x		
Cliffbrake (<u>Pellaea</u> sp.)		x		
Wood fern (<u>Dryopteris arguta</u>)		x		
Yarrow (<u>Achillea millefolium</u>)			x	x
Queen Anne's lace (<u>Daucus carota</u>)			x	x
Bedstraw (<u>Galium californicum</u>)		x		x
Bedstraws (<u>Galium</u> spp.)	x	x		x
Johnny jump-up (<u>Viola pedunculata</u>)				x
Sun cups (<u>Oenothera ovata</u>)				x
Amole (<u>Chlorogalum pomeridianum</u>)			x	x
Milk thistle (<u>Silybum marianum</u>)				x
Shepherd's purse (<u>Capsella bursa-pastoris</u>)				x
Bur clover (<u>Medicago hispida</u>)				x
Wild cucumber (<u>Marah fabaceus</u>)				x
Footsteps of spring (<u>Sanicula arctopoides</u>)				x
Geranium (<u>Geranium</u> sp.)		x		x

Species Observed	Vegetation Type			
	Oak Pine Forest	Oak Woodland	Mixed Coastal Scrub	Grass- land
<u>Forbs, Ferns, and Grasses(cont.)</u>				
Plantain (<u>Plantago hookeriana</u>)				x
Plantain (<u>P. cornucopifolia</u>)				x
Poison hemlock (<u>Conium maculatum</u>)		x		x
Miner's lettuce (<u>Montia perfoliata</u>)	x	x		x
Common chickweed (<u>Stellaria media</u>)	x	x		x
Linanthus (<u>Linanthus androsaceus</u>)				x
Mugwort (<u>Artemesia douglasii</u>)		x	x	
Popcorn flower (<u>Plagiobotrys</u> sp.)				x
Verrain (<u>Verbena lasiostachys</u>)		x		x
Brass buttons (<u>Cotula</u> sp.)				x
Lupines (<u>Lupinus</u> spp.)	x	x	x	x
Morning glory (<u>Convolvulus</u> sp.)			x	
Blue-eyed grass (<u>Sisyrinchium bellum</u>)			x	x
Indian paintbrush (<u>Castilleja affinis</u>)		x		
Indian paintbrush (<u>Castilleja</u> spp.)	x	x	x	x
Strawberry (<u>Fragaria californica</u>)		x		
Vetches (<u>Vicia</u> spp.)	x	x		x
Common monkeyflower (<u>Mimulus guttatus</u>)			x	x
Hedge nettle (<u>Stachys rigida</u>)		x		
Cranesbill (<u>Geranium dissecta</u>)			x	x
Fiesta flower (<u>Pholistoma auritum</u>)		x		
Coast tarweed (<u>Madia sativa</u>)				x
Wild grape (<u>Vitus californica</u>)		x		
Checker bloom (<u>Sidalcea malvaeflora</u>)			x	x
Red maids (<u>Calandrinia ciliata</u>)				x
Rattlesnake weed (<u>Dancus pucillus</u>)				x
California poppy (<u>Eschscholzia californica</u>)				x
Pitcher sage (<u>Salvia spathacea</u>)		x		
Toothwort (<u>Dentaria californica</u>)		x		
Woodland star (<u>Lithophragma heterophylla</u>)		x		
Cow parsnip (<u>Heracleum lanatum</u>)				x

Species Observed	Vegetation Type			
	Oak Pine Forest	Oak Woodland	Mixed Coastal Scrub	Grass- land
<u>Forbs, Ferns, and Grasses(cont.)</u>				
Periwinkle (<u>Vinca major</u>)	x	x		
Bird's foot trefoil (<u>Lotus</u> sp.)				x
Common fiddleneck (<u>Amsinkia</u> <u>intermedia</u>)		x		x ¹
Hickman's onion (<u>Allium hickmanii</u>)				x ¹
Globe lily (<u>Calochortus luteus</u>)				x
Tarweed (<u>Hemizonia conymbosa</u>)				x
Field mustard (<u>Brassica campestris</u>)				x
Clovers (<u>Trifolium</u> spp.)				x
Wild radish (<u>Raphanus satirus</u>)				x
Curly dock (<u>Rumex acetosella</u>)	x			x
Cheeseweed (<u>Malva parviflora</u>)				x
Croton (<u>Croton californius</u>)				x
Sticky chickweed (<u>Cerastium viscosum</u>)				x
Red brome (<u>Bromus rubens</u>)		x		x
Wild oats (<u>Avena fatua</u>)				x
Oatgrass (<u>Danthonia californica</u>)			x	x
Little quaking grass (<u>Briza minor</u>)				x
Quaking grass (<u>Briza maxima</u>)		x		x
Italian ryegrass (<u>Lolium perenne</u>)				x
Ripgut brome (<u>Bromus diandrus</u>)				x
Soft chess (<u>Bromus mollis</u>)				x
Purple needlegrass (<u>Stipa pulchra</u>)				x
Junegrass (<u>Koeleria cristata</u>)		x		x
Melicgrass (<u>Melica imperfecta</u>)		x		x
Perennial fescue (<u>Festuca</u> sp.)		x		x
Barneyard foxtail (<u>Hordeum leporinum</u>)				x
Meadow barley (<u>Hordeum brachyantherum</u>)				x
Hairgrass (<u>Aira caryophyllea</u>)				x
Sedges (<u>Carax</u> and <u>Gypnus</u> spp.)				x

¹Observed only in grassland.

BIRD SPECIES (cont.)

Species	Residency Status	Oak Woodland	Oak Pine Forest	Mixed Coastal Scrub	Grass- land	Aerial
Steller's Jay*	R	X	X			
Scrub Jay*	R	X		X	X	
Common Crow	R				X	X
Chestnut-backed Chickadee*	R	X	X			
Plain Titmouse	R	X				
Bushtit*	R	X	X	X		
Pygmy Nuthatch*	R		X			
Brown Creeper*	R		X			
Wrentit*	R	X	X	X		
House Wren*	R	X				
Bewick's Wren*	R	X	X	X		
California Thrasher*	R	X		X		
American Robin*	R		X		X	
Varied Thrush	W	X	X			
Hermit Thrush	W	X	X	X		
Golden-crowned Kinglet	W	X	X			
Ruby-crowned Kinglet*	W	X	X	X		
Hutton's Vireo*	R	X	X			
Orange-crowned Warbler*	S	X	X	X		
Yellow-rumped Warbler	W		X	X	X	
Townsend's Warbler	W		X			
Hermit Warbler	W		X			
Wilson's Warbler*	S		X			
Lazuli Bunting	S			X		
Purple Finch*	R	X		X		
House Finch	R		X		X	
Pine Siskin*	R		X			
Lesser Goldfinch*	R			X	X	
Lawrence's Goldfinch	R			X	X	
Red Crossbill	W		X			
Rufous-sided Towhee*	R	X	X	X		

APPENDIX WILDLIFE

BIRD SPECIES

Species	Residency Status	Oak Woodland	Oak Pine Forest	Mixed Coastal Scrub	Grass- land	Aerial
Turkey Vulture*	R					X
Black-shouldered kite	R	X			X	X
Sharp-shinned Hawk	R	X	X			X
Cooper's Hawk*	R	X	X			X
Red-tailed Hawk*	R				X	X
Golden Eagle	R					X
American Kestrel*	R					X
California Quail*	R	X	X	X	X	X
Band-tailed Pigeon*	R	X	X			X
Mourning Dove*	R		X		X	
Roadrunner	R			X		
Common Barn owl	R				X	X
Great Horned Owl	R	X	X	X	X	
Poor-will*	R			X		
White-throated Swift	R					X
Anna's Hummingbird*	R	X	X	X		
Rufous Hummingbird	T			X		
Allen's Hummingbird*	S	X		X		
Northern Flicker*	R	X	X		X	
Acorn Woodpecker*	R	X	X			
Red-breasted Sapsucker	W	X				
Hairy Woodpecker*	R	X	X			
Nuttall's Wood- pecker*	R	X				
Black Phoebe*	R				X	
Say's Phoebe	W				X	
Western Flycatcher*	S	X	X			
Olive-sided Flycatcher*	S		X			
Horned Lark*	R				X	
Violet-green Swallow*	S					X
Barn Swallow*	S					X

BIRD SPECIES (cont.)

Species	Residency Status	Oak Woodland	Oak Pine Forest	Mixed Coastal Scrub	Grass- land	Aerial
Brown Towhee*	R	X		X		
Lark Sparrow*	R			X	X	
Rufous-crowned Sparrow*	R			X		
Dark-eyed Junco*	R	X	X		X	
White-crowned Sparrow*	R			X	X	
Golden-crowned Sparrow*	R			X		
Fox Sparrow	R	X	X	X		
Song Sparrow*	R	X		X		

* - Observed during field reconnaissance, April-May, 1981.

R - Resident, present throughout the year.

S - Summer resident, present from March to September.

W - Winter resident, present from October to April.

T - Transient, present during spring (March-May) and/or fall (August to October) migrations.

APPENDIX WILDLIFEMAMMAL SPECIES

Opossum	Gray fox
California mole	Coyote
Ornate shrew	Bobcat
Trowbridge shrew	Mountain lion
California brown bat	Beechey ground squirrel
Little brown bat	Gray squirrel
Fringed bat	Merriam chipmunk
Long-eared bat	Botta pocket gopher
Yuma bat	California pocket mouse
Red bat	Heerman kangaroo rat
Big brown bat	California mouse
Hoary bat	White-footed mouse
Western big-eared bat	Brush mouse
Mexican free-tailed bat	Pinon mouse
Raccoon	Dusky footed woodrat
Ringtail	California vole
Long-tailed weasel	Black-tailed hare
Spotted skunk	Brush rabbit
Striped skunk	Black-tailed deer
Badger	Wild pig

APPENDIX 1. WILDLIFEAMPHIBIAN AND REPTILE SPECIESAMPHIBIANS

Slender salamander
Ensatina
Arboreal salamander
Rough-skinned newt
California newt
Western toad
Pacific tree frog
Bullfrog

REPTILES

Western fence lizard
Southern alligator lizard
Northern alligator lizard
Coast horned lizard
Western skink
Gopher snake
Western whiptail
Western rattlesnake
Rubber boa
Racer
Ringneck snake
Sharp-tailed snake
Common kingsnake
Western terrestrial garter snake
Common garter snake
Western aquatic garter snake

APPENDIX 2STUDY PARTICIPANT QUALIFICATIONS

Malcolm Sproul. Mr. Sproul served as Principal-in-Charge on this report. He is the Manager of LSA's Berkeley office. Mr. Sproul has participated in or managed numerous biotic studies in the Monterey Bay region. These include the following studies prepared for or reviewed by the County: Eastlen and Eastwood Garner (Carmel Valley Overview), Markham Ranch Prairie Falcon Study, Carmel Valley Ranch Area F, Carmel River Inn, Poppy Hills Golf Course, Spanish Bay Resort Resource Management Plan, and Del Monte Forest LCP.

Mr. Sproul received his Master of Landscape Architecture from the University of California, Berkeley. The emphasis of his graduate study was on the effects of suburban development on wildlife populations.

Larry Stromberg. Dr. Stromberg conducted the rare plant survey and wrote the vegetation descriptions. He has conducted rare plant surveys on several properties in the vicinity of the project site, including Laguna Seca raceway and a number of sites in the Carmel Valley. He has also conducted extensive rare plant surveys in the Del Monte Forest and at Spanish Bay for projects planned by the Pebble Beach Company.

Dr. Stromberg has a B.S. degree in Forestry, and M.S. and Ph.D. degrees from the University of California at Berkeley. He has professional experience and academic training in vegetation surveys, vegetation management, and site assessment and understands the relationship between survey design and site conditions. His doctoral research was on vegetation sampling and he produced a 132-page manual on sampling methods used to describe habitat for a workshop in Kahna National Park, India, jointly sponsored by the U.S. Department of Interior and the Indian Ministry of Agriculture.

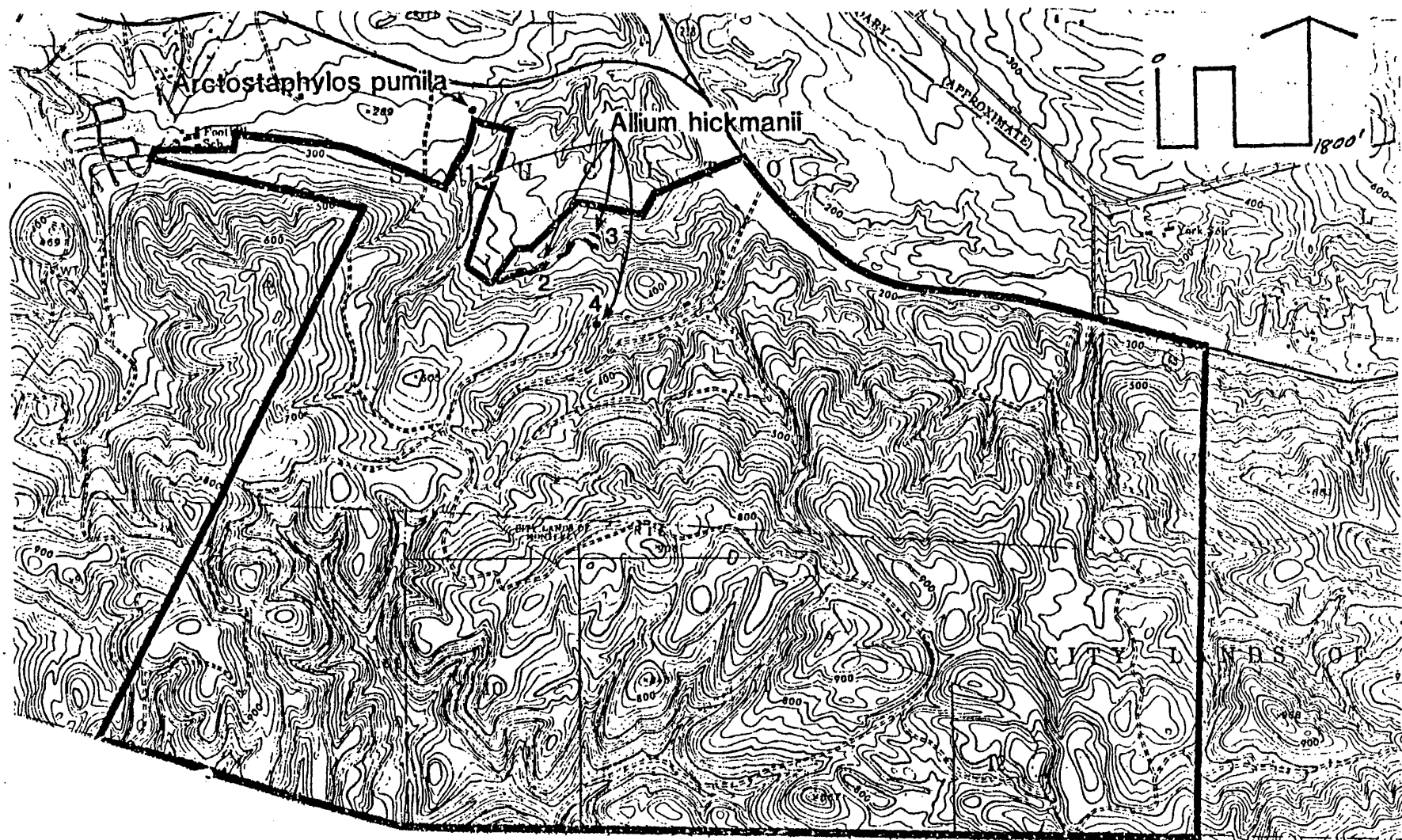
Robert Schonholtz. Mr. Schonholtz served as the senior wildlife biologist on the project. Mr. Schonholtz has worked on a number of biological studies in the project vicinity, including the Markham Ranch Prairie Falcon Study, Carmel Valley Ranch Area F, Poppy Hills Golf Course, and Spanish Bay Resort Resource Management Plan.

Mr. Schonholtz holds a B.S. in Zoology from the University of California at Davis, received in 1978. Mr. Schonholtz has six years of experience as a wildlife biologist in both the public and private sectors.

Heather Welker. Ms. Welker served as staff biologist on this report. Ms. Welker has worked for a number of state and federal agencies throughout the Western United States on wildlife and vegetation studies and has been responsible for the biological sections of a number of EIR's. Ms. Welker received her M.S. degree in biology from California Polytechnic University at Pomona and a B.S. degree in wildlife management from Humboldt State University.

REFERENCES CITED

- Bloeker, Jack Christian von Jr. 1937. The Mammals of Monterey County, California. Masters Thesis, University of California, Berkeley.
- California Department of Fish and Game. 1983. A List of Amphibians, Reptiles, Birds and Mammals of California. Outdoor California, Vol. 44, No. 1.
- California Department of Forestry. 1973. A Fire Hazard Severity Classification System for California's Wildlands. The Resources Agency, Sacramento, Calif.
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- Dowdakin, J. 1974. Wildland Study for Monterra, A Planned Residential Development Community. Prepared for Monterey-Pacific, Inc.
- Earthmetrics, Inc. 1981. Final Environmental Impact Report, Monterra Development. Prepared for the City of Monterey.
- Monterey County Planning Department. 1982. Monterey County General Plan.
- Remsen, J.V. Jr. 1978. Birds Species of Special Concern in California - An Annotated List of Declining or Vulnerable Bird Species. California Department of Fish and Game.
- U.S. Soil Conservation Service. 1978. Soil Survey for Monterey County. U.S. Department of Agriculture.



RARE PLANT SITES

A detailed topographic map of the Hickman's Onion area. The map features numerous contour lines indicating elevation, with labels such as 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000. The map also shows various landmarks, including a large area labeled "PARK 5.84 ac" in the upper left, a "Relent Basin 2000 ac" in the upper right, and a "St. Joseph's" area in the lower right. The map is densely populated with contour lines and elevation markers, providing a detailed view of the terrain.

5.84 ac

REVENUE
DRAIN
20,000

OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET
SACRAMENTO, CA 95814

December 30, 1985

Appendix D
Letters ReceivedLynne H. Mounday
Monterey County Planning
P.O.Box 1208
Salinas, CA. 93902Subject: Monterra Ranch Subdivision EIR
SCH# 84061221

Dear Mr. Mounday:

The State Clearinghouse submitted the above named draft Environmental Impact Report (EIR) to selected state agencies for review. The review period is closed and the comments of the individual agency(ies) is(are) enclosed. Also, on the enclosed Notice of Completion, the Clearinghouse has checked which agencies have commented. Please review the Notice of Completion to ensure that your comment package is complete. If the package is not in order, please notify the State Clearinghouse immediately. Your eight digit State Clearinghouse number should be used so that we may reply promptly.

Please note that recent legislation requires that a responsible agency or other public agency shall only make substantive comments on a project which are within the area of the agency's expertise or which relate to activities which that agency must carry out or approve. (AB 2583, Ch. 1514, Stats. 1984.)

These comments are forwarded for your use in preparing your final EIR. If you need more information or clarification, we suggest you contact the commenting agency at your earliest convenience.

Please contact Price Walker at 916/445-0613 if you have any questions regarding the environmental review process.

Sincerely,

John B. Ohanian
Chief Deputy Director
Office of Planning and Research

cc: Resources Agency

Enclosures

cut 12/13

11/26/85

N/C
No Significant
Impacts

State Clearinghouse, 1400 Ninth St., Rm 121, Sacramento, CA 95814-916/445-0612

NOTICE OF COMPLETION AND ENVIRONMENTAL DOCUMENT TRANSMITTAL FORM

Project Title: MONTEREY RANCH SUBDIVISION E.I.R.

Lead Agency: MONTEREY COUNTY PLANNING

Contact Person: MR. LYNNE H. MOUNDAY

Street Address: P.O. BOX 1208

City: SALINAS

County: MONTEREY

Zip: 93902

Phone: 408-422-9018

Project Location: 4. County: MONTEREY 4a. City/Community: MONTEREY

4b. Assessor's Parcel No.: APN-103-07116,17 4c. Section: SAUCITO RD 4d. Range: 1E

5. Cross Streets: Hwy 68/FORE RD - Hwy 68/DUMSTED RD 5b. For Rural: Nearest Community: SEASIDE 7 1/2 USGS QUAD.

6. Within 2 miles: a. State Hwy # 68 & 218 b. Air-ports MONTEREY PENINSULA c. Railways N/A d. Interways N/A

7. DOCUMENT TYPE

8. LOCAL ACTION TYPE

9. DEVELOPMENT TYPE

01. NOP 06. NOC 02. New Element 01. X Residential: Units 283 Acres 2914.6 AC

02. Early Cons 07. NOC 03. General Plan Amendment 02. Office: Sq. Ft. + 42 INCLUSORY HOUSING

03. Neg Dec 08. NOD 04. Master Plan Acres Employees 325

04. X Draft EIR 05. Annexation 05. Shopping/Commercial: Sq. Ft. TOTAL

05. Supplement/Subsequent EIR 06. Specific Plan 06. Industrial: Sq. Ft.

(Prior SCH No.:) 07. Community Plan 07. Transportation: Type

06. NDA 08. Redevelopment 08. Other: Type

09. NOI 11. Draft EIS 09. X Airports

10. FOST 12. EA 10. X Land Division (Subdivision, Parcel Map, Tract Map, etc.)

11. X Use Permit EQUESTRIAN RECREATION 11. Waste Treatment: Type

12. Joint Document 12. Waste Mgmt Plan 12. CCS Related

13. Final Document 13. Cabot Ag Preserve 13. Other:

14. Other

10. TOTAL ACRES: 2914.6 11. TOTAL JOBS CREATED: * 46 APN 103-071-16,17

12. PROJECT ISSUES DISCUSSED IN DOCUMENT

15. X Septic Systems 23. X Water Quality 259-011-35,40,

01. X Aesthetic/Visual 06. X Flooding/Drainage 16. Sewer Capacity 24. X Water Supply 41,42,43,45,46,47

02. Agricultural Land 09. X Geologic/Seismic 17. Social 25. Wetland/Riparian 416-101-01,02,03

03. X Air Quality 10. X Jobs/Housing Balance 18. X Soil Erosion 26. X Wildlife portion of

04. X Archaeological/Historical 11. Minerals 19. Solid Waste 27. X Growth Inducing 259-011-64

05. Coastal Zone 12. X Noise 20. Toxic/Hazardous 28. Incompatible Landuses

06. Economic 13. X Public Services 21. X Traffic/Circulation 29. X Cumulative Effects

07. X Fire Hazard 14. X Schools 22. X Vegetation 30. Other

13. FUNDING (approx) Federal \$ N/A State \$ N/A Total: \$

14. PRESENT LAND USE AND ZONING: OPEN SPACE, RANGE, WOODLAND, FORMER SPANISH LAND GRANT NOW USED AS A CATTLE RANCH WITH RANCH HOUSE BARRIS RANCHO SAUCITO.

15. PROJECT DESCRIPTION: SUBDIVISION INTO 283 PARCELS, FROM 2ACRES TO 75ACRES, AN 88.6AC RECREATION CENTER, A 6.1 AC EQUESTRIAN CENTER, PRIVATE ROADS, 115 AC PUBLIC PARK DEDICATION OF 2916.4ACRES OF RANCHO SAUCITO.

RECEIVED
DEC 10 1985
State Clearinghouse

CLEARINGHOUSE CONTACT: PRICE WALKER

STATE REVIEW BEGAN: 11/14

DEPT. REVIEW TO AGENCY: 12/23

AGENCY REVIEW TO SCH: 12/28

SCH COMPLIANCE: 12/31

W/C N/C	W/C N/C
1/RESOURCES	1/CALTRANS
1/CONSERVATION	1/AERONAUTICS
1/FISH/GAME	1/CHP
1/FORESTRY	1/ED
1/ED	1/HEALTH SVCS
1/PARKS&REC/CHP	1/PUBLIC WORKS
1/SOLID WASTE ED	1/CORRECTIONS
1/REGION 3 SLO	1/GENERAL SVCS
	1/CHA (SCHOOLS)
	1/SANITARY MGMT
	1/TRAFFIC/CAUTION
	1/CORP
	1/CRISTAL-CPR
	1/USARMY
	1/OTHER

Memorandum

State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Date: December 23, 1985

File:

Attention Price Walker

From: **DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS**

Subject: Monterey County's DEIR for the Monterra Ranch Subdivision; SCH #84061221

The Department of Transportation, Division of Aeronautics, has reviewed the above-referenced document with respect to those areas germane to its statutory responsibilities. Those areas include the impact of noise and safety from the airport on the project, the project's impact on an airport itself, and the compatibility of adjacent land uses in the vicinity of an airport. Because of the project site's close proximity to Monterey Peninsula Airport, the site will be subject to aircraft overflights. We suggest that the Lead Agency require that the developer notify future homeowners of the airport's close proximity and the potential for aircraft overflights. Consideration should also be given to the obtainment of avigation easements.

Thank you for the opportunity to review and comment on this proposal.

JACK D. KEMMERLY, Chief
Division of Aeronautics

Sandy Hesnard
Environmental Planner

bcc: F. Darrell Husum, DOTP ✓
Fred Miller - 5

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DEC 27 1985
State Clearinghouse

Memorandum

To : 1. Projects Coordinator
Resources Agency

2. Monterey County Planning Department
P. O. Box 1208
Salinas, CA 93902

Date : December 23, 1985

12-26

From : Department of Fish and Game

Subject: DEIR, Monterey Ranch Subdivision, SCH 84061221, Monterey County

Department of Fish and Game personnel have reviewed the Draft EIR for the Monterra Ranch Subdivision and we have the following comments.

The Department has been involved with the City of Seaside and the Monterey Joint Powers Agency (JPA) in efforts to control sedimentation in the Laguna Grande-Lake Roberts watershed. There are presently on-going restoration efforts by the JPA. We agree with the stated need in the DEIR to insure that the Monterra Ranch project does not result in adverse sedimentation. The proposed erosion control measures should be reviewed by the JPA and the Monterey County Flood Control and Water Conservation District to insure their adequacy. All the measures should be made conditions of any permits issued.

We also endorse the other mitigation measures proposed in the report such as the use of homeowner deed restrictions to avoid significant impacts to wildlife, snag retention, planting of native species only and use of prescribed burning to decrease fire hazard. Such burning will benefit wildlife as well.

The measures proposed to insure protection of the California Native Plant Society listed plant, Hickman's onion, should be made conditions of any permits issued.

Pursuant to the Cleary vs. County of Stanislaus decision the Department requests timely notification of any official action taken on this project so we may review these actions pursuant to Sections 15088 and 15089 of the California Environmental Quality Act (CEQA) Guidelines, California Administrative Code, Title 14.

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DEC 27 1985
State Clearinghouse

1. Projects Coordinator -2-
2. Monterey County Planning

State EIR guidelines, Section 15146, require lead agencies to respond to all comments/recommendations received on the Draft EIR and to include them in the final document.

Department of Fish and Game personnel are available to discuss our concerns in more detail. To arrange a meeting contact Bruce Elliott, Wildlife Management Supervisor, 2201 Garden Road, Monterey, California 93940, telephone (408) 649-2890.

for *Robert C. Hitchcock*
Jack C. Parnell
Director

RECEIVED
DEC 27 1985
state clearinghouse

DEPARTMENT OF TRANSPORTATION

P.O. BOX 8114, SAN LUIS OBISPO, CA 93403-8114

TELEPHONE: (805) 549-3111

76-14
12-30

Mr. Lynne H. Mounday, Senior Planner
Monterey County Planning Dept.
P.O. Box 1208
Salinas, CA 93902

Date: Dec. 11, 1985

File: Mon-68-5.57

Monterra Ranch Develop.

SCH#: 84061221

Subject: Intergovernmental Review

Dear Mr. Mounday:

Caltrans District 5 staff has reviewed the aboved-referenced document. The following comments were generated as a result of the review:

An encroachment permit must be obtained before any work can be conducted within the Caltrans right-of-way. Please be advised that, prior to obtaining an encroachment permit, you are required to have design plans approved by this office and an environmental document approved by the lead agency. Should you have further questions regarding encroachment permits, please contact Orville Morgan, Permits Engineer.

Mitigation measures proposed to minimize visual impacts to the scenic highway corridor should be included as part of the county's conditions for approval of this project.

Provisions should be made for connections to other probable developments surrounding this project in order to keep local trips off Route 68. Residents should not be forced to use Route 68 as a local collector.

Widening for the right turn lane at the east entrance would require widening of a drainage structure that is adjacent to the entrance. An acceleration lane for right turns east onto Route 68 should also be considered.

The proposed west entrance off of Route 68 should be disregarded and traffic routed via Jacks Peak Road signalized intersection or by constructing a frontage road outside the planned 68 alignment back to the easterly entrance.

Finally, the developer should dedicate the necessary right-of-way for the new alignment of Route 68.

RECEIVED
DEC 23 1985

State Clearinghouse

If the county continues to approve major developments adjacent to Route 68, then it should plan on funding the necessary 4-lane expressway improvements to handle the additional traffic generated by these developments. It is understood that the county is requiring developers to contribute to such a fund.

Please send us a copy of the completed Environmental Impact Report when it is available. Thank you for the opportunity to comment.

If you have any questions, please contact me at (805) 549-3139.



A. C. Carlton
District 5
Intergovernmental Review Coordinator

cc: Terry Roberts, State Clearinghouse

NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, Room 288
Sacramento, California 95814

(916) 322-7791

December 12, 1985

Lynne H. Mounday
Monterey County Planning
P.O.Box 1208
Salinas, CA 93902

Re: Monterra Ranch Subdivision EIR
SCH# 84061221

The Native American Heritage Commission appreciates the opportunity to express its concerns and comments in the environmental review process. As you may know, the Commission is mandated to preserve and protect places of special religious or cultural significance to California Indians (Native Americans) pursuant to Section 5097 et seq of the Public Resources Code.

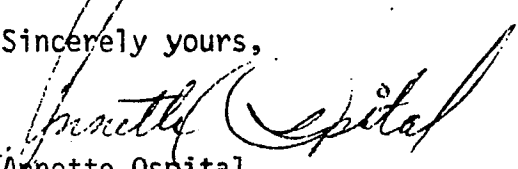
The Commission has the further responsibility of assisting Native Americans in cemetery and burial protection pursuant to Section 5097.94(k) of the Public Resources Code. We request that the County Coroner's office be contacted if human remains of Native American origin are encountered during the project, pursuant to the procedures set forth in Section 7050.5 of the Health and Safety Code. Should this occur, the Commission will assist in expediting the preservation and protection of the remains in a respectful manner.

We request that you consult with the local Indian community in this project area in order to mitigate potential impacts to burial sites and other cultural resources of value to their particular tribal customs. I have enclosed a listing of those individuals and/or groups who can be of assistance to you themselves or in suggesting those in the local community which may have concerns regarding this project area.

This information is provided to assist you in addressing the cultural heritage concerns of the appropriate Native American communities, and as such, the enclosed references are for agency use only and not to be considered a public disclosure. This information may not be released, distributed or reproduced in any form without the prior written permission of the Native American Heritage Commission.

If you have any questions please contact me for further assistance.

Sincerely yours,



Annette Ospital
Special Assistant

AO:jg

Enclosure(s)

COUNTY REFERRAL LIST

NAME, ADDRESS TELEPHONE NO.	TRIBAL AFFILIATION	AREA(S)	B	C	R	S	W	OTHER
Mike Johnston 1152 Cherry Avenue San Jose, CA 95125								
Lucindi Mooney, Dean of Instruction American Indian Council Hartnell College Salinas, CA 93901								
Stan Corpuz 35 Struve Watsonville, CA 95076 (408) 633-3266								
Central Coast Indian Council Joe Ballesteros 1636 1/2 Oak Street Paso Robles, CA 93446 (805) 238-2784								
Joe Avita Monterey Bay Indian Council 1379 Cherokee Drive Salinas, CA 93901								
Rosemary Avita (same as above)								
Vickie Stone Monterey Bay Indian Council 1239 Trazado Avenue Salinas, CA 93906								
D. Joseph Corella Monterey Indian Council and American Indian Program Hartnell College Salinas, CA 93901								
John B. Avila 117 Homestead Avenue Salinas, CA 93901								
Frances Garcia Salinan Indian-Jolon 1309 Granada Avenue Salinas, CA 93906 (408) 466-3759 (CalTrans NA Observer)								

KEY:

B: Burial place/Cemetery
C: Collection Area
R: Rock art (picto., petro., intaglio, etc.)

S: Sacred/Power area
W: Worship/Ritual area

COUNTY REFERRAL LIST

NAME, ADDRESS TELEPHONE NO.	TRIBAL AFFILIATION	AREA(S)	B	C	R	S	W	OTHER
Steven G. Nelson P.O. Box 117 Carmel Valley, CA 93924 (408) 484-2257	Rumsen Family of Costanoan/Ohlone	Monterey	X			X	X	See file
Patrick Orozco 421 J Street Watsonville, CA 95076 (408) 724-5058	Ohlone	Monterey San Benito Santa Clara Santa Cruz	X	X	X	X	X	See file
Ella Mae Williams Rodriguez 55 B Rogge Lane Watsonville, CA 95076 (408) 726-1716	Costanoan Ohlone	Monterey Santa Clara Santa Cruz	X	X	X	X	X	See file
Bernice E. Torrez 914-52 Acosta Plaza Salinas, CA 93905 (408) 758-0730	Pomo, Kashaya Tribe	Monterey	X	X	X	X	X	See file
Monterey Bay Indian Council 1379 Cherokee Drive Salinas, CA 93901								
Jenny-Juanita Esther McLeod P.O. Box 6406 San Jose, CA 95150 (408) 299-2531 (w) (408) 636-1893 (h)	Salinan	Monterey San Luis Obispo	X			X	X	

12-
85

KEY:

B: Burial place/Cemetery
C: Collection Area
R: Rock art (picto., petro., intaglio, etc.)

S: Sacred/Power area
W: Worship/Ritual area

MEMORANDUM

HEALTH DEPARTMENT


COUNTY OF MONTEREY

DATE January 2, 1986

TO: Lynne Mounday, Planning Department
FROM: Al Friedrich, Environmental Health
SUBJECT: Monterra Ranch Subdivision Draft & EIR

The Anderson-Nichols review of the Logan Report addressed the nitrate loading from septic systems. Our office objected to Mr. Logan's comparison method and requested calculations for the particular aquifer below the Monterra Ranch. Anderson-Nichols provided calculations and estimates of NO_3 loading for the aquifer.

Anderson-Nichols noted that care must be taken in septic system siting due to the "factured" nature of the aquifer and that the disposal of water treatment wastes must be separated from the local aquifer.


Al Friedrich, R.S.
Supervising Sanitarian

AF:sd1

CARL L. HOOPER
Registered Civil Engineer

JOHN M. VAN ZANDER
Registered Civil Engineer
Licensed Land Surveyor

RAMON M. NIERVA
Registered Civil Engineer

H. PATRICK WARD
Registered Civil Engineer



BESTOR ENGINEERS, INC.

CIVIL ENGINEERING - SURVEYING - LAND PLANNING
400 CAMINO AGUAJITO, MONTEREY, CALIFORNIA 93940
TELEPHONE (408) 373-2941 FROM SALINAS 424-7681

23 December 1985

MONTEREY COUNTY PLANNING DEPT.
P.O. Box 1208
Salinas, California 93901

Attn: Lynne Mounday

Dear Lynne:

I have read the portion of Draft EIR No. 84-007, Monterra Ranch, relating to Canada de la Segunda Road (Page 109 et. seq.) and find it to be quite inaccurate. I believe that I can speak of this road with some authority, since I was the engineer for Monterra-Pacific in 1973 and prepared preliminary studies for development of Monterra. Those studies envisioned Canada de la Segunda as an arterial road of high enough standards to fully meet the long term needs of the Peninsula population. The proposal by the developer would abandon the logical westerly route and use a much longer easterly route. That route was discussed at length during the hearings on the Greater Monterey Peninsula Area Plan. My correspondence at that time, letter to Board of Supervisors dated 21 November 1984, is enclosed. It shows the easterly route to be 1.75 miles longer than the westerly route for traffic going to the Airport, Garden Road, or Fort Ord. It is 0.15 mile longer for traffic toward Salinas, but that is more than offset by the improved speed and safety from the more direct and lower elevation westerly route.

Comment 1

The EIR erroneously states that the west route would require a cut of 85 to 125 feet. That would be true if full freeway standards (4% grades) were to be maintained. Use of more moderate grades, however, can limit crest cut to only 20 to 30 feet. Maximum grade would be 8.0 to 8.5% on the north portion and 6.0% on the south portion. This certainly is not too steep for emergency vehicle operation. It is far more gentle than the 10-12% quoted for the easterly and longer route.

Comment 1

The westerly alignment may require some relocation of Cal-Am facilities, but judicious design can hold the cost of such relocations to a manageable amount. They would certainly not offset the extra cost for more than 4300 feet of additional length required by the easterly route.

The lots along the westerly route will be partially visible from some of the Monterra development, but they will be screened by intervening terrain from all offsite areas except one or two Ryan Ranch lots. They most certainly will not "be observable from any area north of Monterra."

Comment 1

The gravest error is in the final paragraph where the EIR states the easterly route to be "about one and a half minutes difference in travel time," apparently speaking of trips to areas west of 218/68 intersection. Quite the contrary, the added 1.75 miles, much at 10-12% grades rather than 6-8% grades, and an extra 270 feet of climb, and on a more curved alignment, will probably add four to five minutes. Travel time from the south boundary of Monterra via the westerly route to its Highway 68 intersection is 2.2 miles at a probable 40-45 mph rate, or about 3.0-3.5 minutes. Travel via the easterly route to that same point is 3.0 miles at 25-30 miles per hour (6.0 to 7.2 minutes), then 0.95 miles on Highway 68 at 50-55 mph (1.1 to 1.2 minutes) for a total of 7.1 to 8.4 minutes. For trucks, this time differential will be even greater.

Fuel consumption will also be much greater over the longer, higher, steeper easterly route.

My purpose is not to require that Monterra construct this major arterial road, except for a few portions. The most important point is that there should be a detailed study of the logical westerly route. Plan lines should be adopted, and the development plans should honor those plan lines. Canada de la Segunda Road may not be absolutely essential now, although it certainly is highly desirable. But some day it will be essential. If the right of way is not protected and partially acquired now, it will be too costly to ever acquire.

The entire Peninsula will benefit when Canada de la Segunda is ultimately built. Monterra should not be permitted to price it out of sight.

I also want to place on record the fact that Table 2.5 is totally in error with regard to Level of Service capacities, especially on the 2-lane road. This would indicate that Highway 68 already exceeds LOS E, since it is now at 16,900 ADT. It is readily apparent to anyone who drives that highway, and I do it frequently since I live at Laguna Seca, that there is virtually never any queueing. Traffic at peak hours, both morning and evening, flows very smoothly at 50 to 60 miles per hour. That is, by definition, LOS B, not E.

Comment 2

Very truly yours,

CARL L. HOOPER

CLH/cb
W.O. 2963
0588C

CARL L. HOOPER
Registered Civil Engineer

JOHN M. VAN ZANDER
Registered Civil Engineer
Licensed Land Surveyor

RAMON M. NIERVA
Registered Civil Engineer

H. PATRICK WARD
Registered Civil Engineer



BESTOR ENGINEERS, INC.

CIVIL ENGINEERING - SURVEYING - LAND PLANNING
400 CAMINO AGUAJITO, MONTEREY, CALIFORNIA 93940
TELEPHONE (408) 373-2941 FROM SALINAS 424-7881

21 November 1984

MONTEREY COUNTY BOARD OF SUPERVISORS
P.O. Box 1819
Salinas, CA 93901

Gentlemen:

This letter relates to the Greater Monterey Peninsula Area Plan and one of my pet projects, the Canada de la Segunda Road. I was quite surprised to learn on 20 November 1984 that Public Works has reversed its position regarding the basic route. The purpose of this letter is to ask that you separate at this time the questions of:

1. Shall there be a Canada de la Segunda Road?
2. What route shall it take?

As a part of the Area Plan, only question 1. should be answered. The specific route, question 2., should be deferred to a separate set of hearings when the Plan Line is considered.

I have outlined numerous times the reasons for indicating a future road and for using the original route, or minor deviations from it. I only want to preserve the option to consider that route without having to amend the Area Plan. Toward that end, I urge you to take those actions discussed in my 20 November 1984 letter:

- a. On Page 41, (Page 4 of staff report dated September 1984) delete from the Commission recommendation the words "on an alternate route (not the currently adopted route)" and four lines down, the word "alternative".
- b. On Land use map (Page 13 of September staff report) delete item 9, and substitute: 9. Indicate on Figure II "Canada de la Segunda Road to follow a route to be determined by Plan Line procedure."

I enclose copies of the map I displayed on 20 November 1984. Please note that the easterly route must pass through a saddle at elevation 810, just as I said it did. It cannot pass "east of the ridge at a lower elevation" as stated by Mr. Anthony Lombardo. The east route would add 1.75 miles distance and at least 270 feet of climb (elevation 810 versus elevation 540) as compared to the west route. This added distance, time, and fuel consumed will make this east route far less desirable, and may result in selection by Carmel Valley residents of the route along Lower Carmel Valley, Highway 1, and Highway 68 to reach the airport, Garden Road, and Tarpey Flats.

But these arguments should be considered at Plan Line hearings, not now. The important decision is - Yes, there shall be a Canada de la Segunda.

I enclose an excerpt from the Carmel Valley Master Plan background report (1977) to aid you in making this decision. The reasons are:

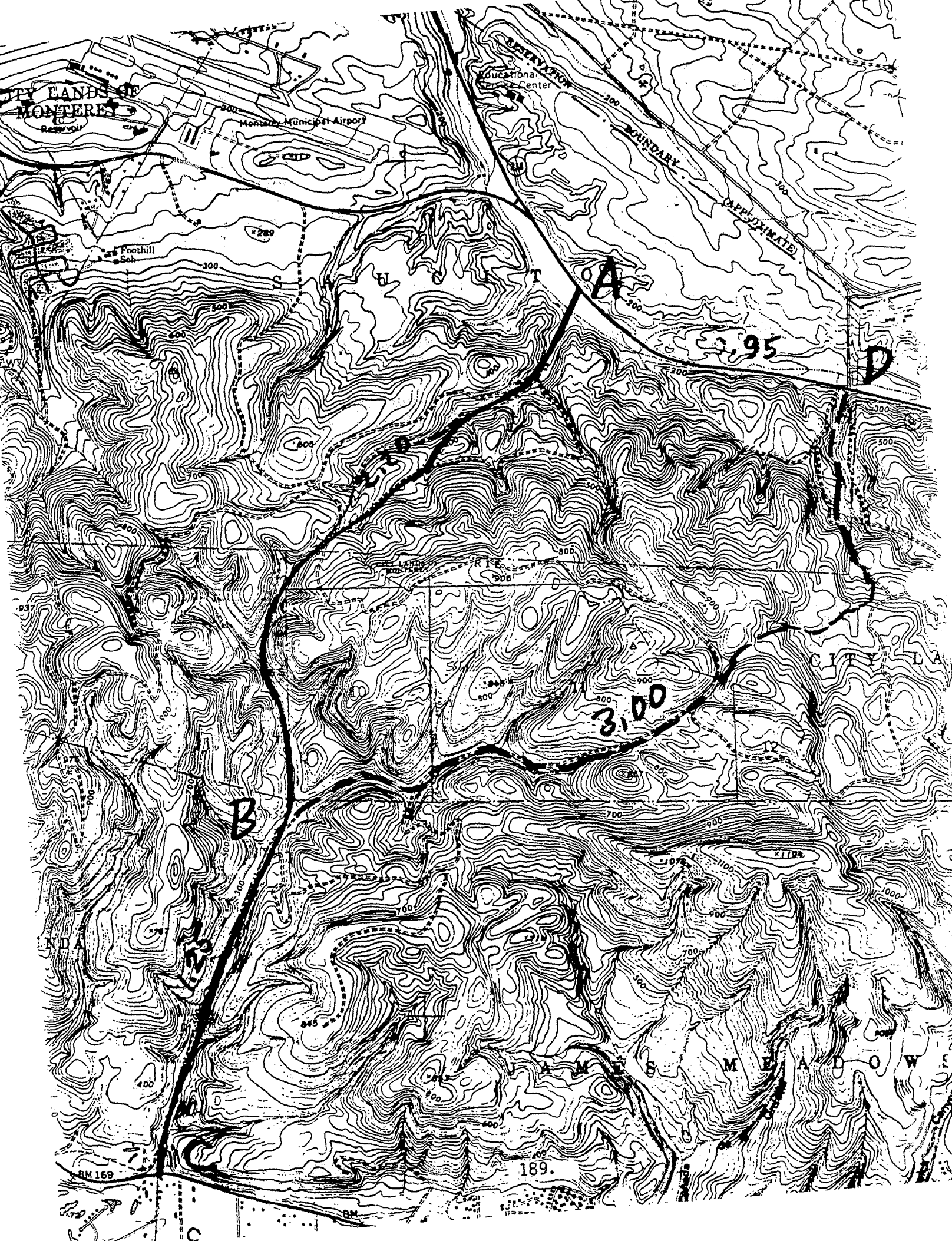
- a. Canada de la Segunda Road will reduce by as much as 4.7 miles the distance travelled between mid-Carmel Valley and the airport area.
- b. It will reduce by 6.3 miles the distance for Ryan Ranch to Carmel Valley.
- c. It could reduce the required Highway 68 freeway design between Highway 1 and Canyon del Rey from six lanes to four.
- d. It could allow retention of the four lanes between Carmel Hill and Fremont on Highway 1, in lieu of adding two more lanes.

Very truly yours,


CARL L. HOOPER

CC: Bruce McClain

CLH/cb
W.O. 4274
0235C



DISTANCE

A-B-C 3.45 MILES

A-D-B-C 5.20 MILES

DIFFERENCE 1.75 MILES

ELEVATION

HIGH POINT A-B 540 ± (CUT TO 460 ±)

HIGH POINT D-B 810 ±

DIFFERENCE 270 (CUT TO 350)

LENGTH

A-C 3.45 MILES

C-D 4.25 MILES

DIFF. 0.80 MILES = \$800,000?

F. Canada de La Segunda

(Text from 1977 Carmel Valley Master Plan
background report on Traffic)

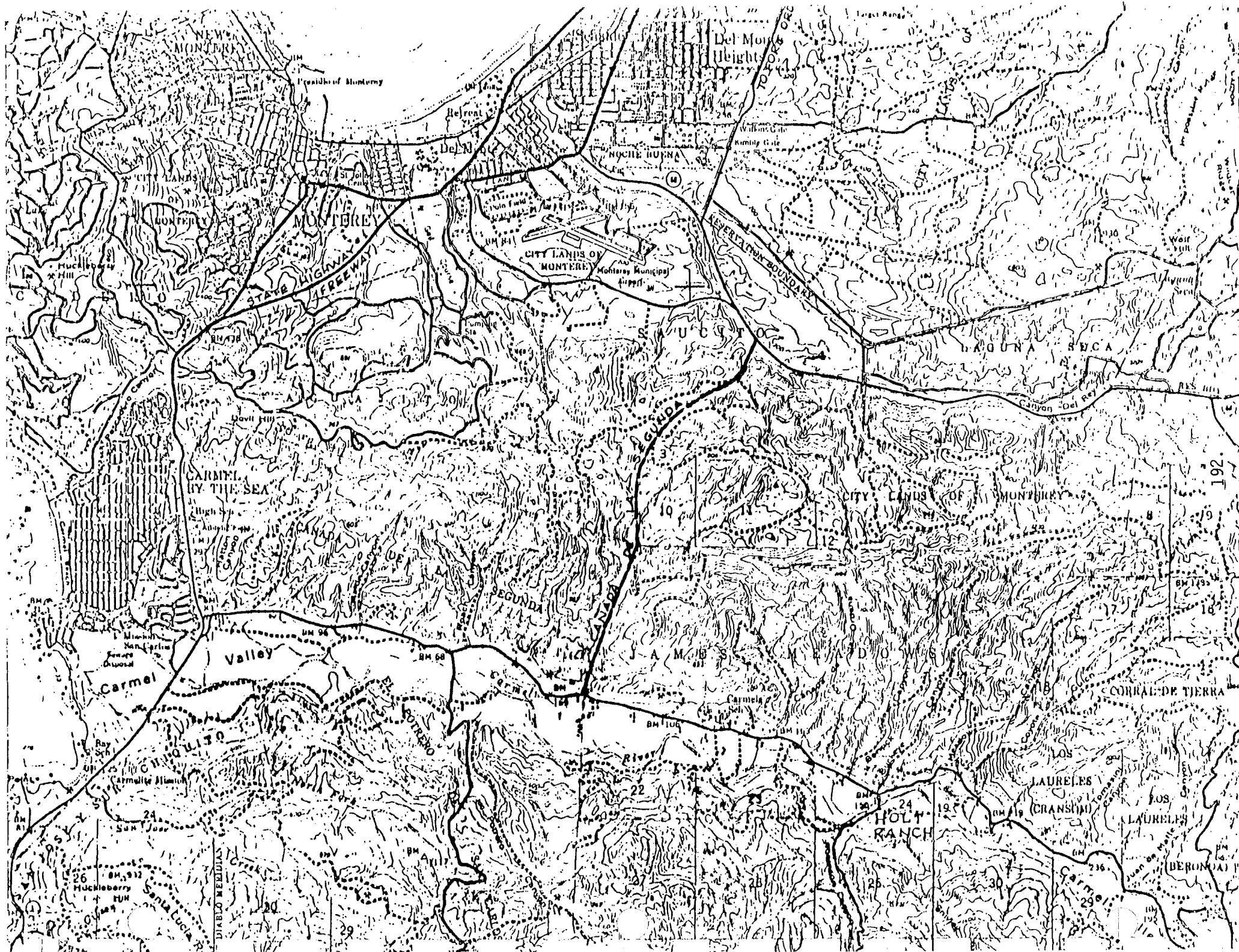
The County has proposed construction of a 3.4 mile, new, two lane, major road in the Canada de la Segunda, connecting the Carmel Valley Road opposite Quail Lodge (2.5 miles west of Robinson Canyon) with Highway 68 near Canyon del Rey Road. This would serve as a partial relief to Highway 1 problems, since it would reduce distance from Valley points to the airport by about 4.7 miles, to Fort Ord by about 4.0 miles, and to Highway 1 northbound from the Peninsula by about 3.3 miles. Since this reduction in mileage is, in most cases, substitution of two lane miles for full freeway or divided four lane miles, and since it will entail several signalized intersections and one stop-sign intersection, it will not necessarily result in the full four to six minute time saving normally accompanying such distance savings. The greater emphasis currently placed on fuel economy, however, does make these savings extremely attractive.

Canada de la Segunda will also serve as a substantially better route between the Lower Carmel Valley and Salinas. The three potential routes between the Carmel Valley/Carmel Rancho intersection and Highway 68/Laureles Grade intersection are:

- a. Via Carmel Valley Road and Laureles Grade - 14.8 miles, mostly two lane, much at under 30 mph, one left turn, one stop sign.
- b. Via Highways 1 and 68 - 12.5 miles, part freeway, part two lane, mostly 55 mph or better (except Carmel Hill), one stop sign.
- c. Via Carmel Valley Road, Canada de la Segunda, Highway 68 - 10.5 miles, mostly two lane, but 45 to 55 mph, one left turn, one stop sign.

Route c (Canada de la Segunda) would thus save about two miles over Highway 1 and would probably be within a few seconds of the same time considering the present two to three minute normal delay on Carmel Hill. It would attract virtually all Lower Valley to Salinas traffic.

The present status of the Canada de la Segunda road is indeterminate. It was previously scheduled for 1976-77 construction but has been the victim of fund non-availability. Consequently, it has been dropped from the current Five Year Plan but could be reinstated at any time. Design has been completed to the point that right of way limits have been determined over much of the route. Acquisition of right of way was initiated late in 1972 but has not been pursued recently. No right of way has been acquired from any of the three abutting property owners (Howard Morgens, Eastlen Enterprises, and the Work Family).





**MONTEREY PENINSULA
WATER MANAGEMENT DISTRICT**

187 Eldorado • Suite E • P.O. Box 85 • Monterey, CA 93940 • (408) 649-4866

December 19, 1985

Mr. Lynne H. Mounday
Monterey County Planning Department
P.O. Box 1208
Salinas CA 93902

Re: Monterra EIR Comments

Dear Lynne:

Enclosed are my comments regarding the Monterra Ranch Subdivision Draft EIR. I found the document to be very complete and readable. My compliments to LLS Planning Associates for their knowledge of recent findings and mitigation measures.

I have referenced the July, 1985 Anderson-Nichols and Co., Inc. report several times. This report should be incorporated into the final EIR. I have also included a letter from the Environmental Health Department regarding the Water and Wastewater Management Plan. *Comment 3*

If you have any questions, please do not hesitate to call.

Sincerely,

Ken R Greenwood

Ken R. Greenwood
Hydrologist

KG:ak

cc: Bruce Buel
Joseph Oliver
Michael Ricker



**MONTEREY PENINSULA
WATER MANAGEMENT DISTRICT**

187 Eldorado • Suite E • P.O. Box 85 • Monterey, CA 93940 • (408) 649-4866

DATE: DECEMBER 19, 1985 FILE REFERENCE: MONTERRA
TO: LYNNE MOUNDAY
FROM: KEN GREENWOOD
SUBJECT: DRAFT EIR COMMENTS

2.2 GEOLOGY

2.2.3 Site Geology

Page 27 - Second paragraph - USGS recommends that an additional site investigation be done to look into specific seismic problems. Has this been done with respect to Navy and Berwick faults?

Comment 3

Page 28 - Third paragraph - LLS recommends locating faults and lineations. This should be a requirement.

Page 29 - First paragraph - Landslide investigation (site specific) should be required including air photo interpretation and field identification.

2.2.4 Impacts

Page 32 - First paragraph - "Due to the size of this slide complex, stabilization is not a viable option; avoidance of the potential hazard is considered the only reasonable mitigation." This recommendation should be strictly adhered to (i.e. no buildings or roads in that area).

2.2.5 Mitigations

Page 34 through 36 - I concur with mitigations. They should all be required (No. 1-4).

2.3 SOILS

2.3.1.3 Drainage Report for Monterra

Page 38 - Further description of erosion control methods during construction:

(a) Disposal of trapped silt in detention basins

(b) Describe "cat tracking of slopes". If this involves tracked or wheeled vehicles, compaction and subsequent erosion will occur. This should be addressed.

Comment 4

2.3.1.4 M. Jacobs and Associates Berwick Cyn. Roadway Study

Page 38 - Further description is needed of the nature of the "very specific engineering recommendations" for the proposed Berwick Canyon road.

Continued
5

2.3.1.6 LKA Soil and Geologic Investigations

These reports were done in 1974 and 1979. Any areas with questionable stability should be investigated again to assess winter 1982 and 1983 impacts.

6

Further study of compaction subsidence as recommended by LKA, should be required.

2.3.3 Mitigation

Pages 39 through 40 - I concur with mitigations with following additions to No. 6:

7

- A) fertilizer should be included with seed and straw mulch to overcome nitrogen deficiency created by straw and to help establishment of grass,
- B) stockpiled soil must be protected from erosion by vegetative and/or structural means, and
- C) disposal of catch-basin soil must be addressed.

Further definition and the application of a "building envelope" is needed.

2.4 HYDROLOGY

Water quality Management Plan (AMBAG 208)

Page 43 - If effective erosion control and retention methods are employed, off-site impacts will be greatly reduced. This would reduce the cost-sharing with reference to Laguna Grande and Roberts Lake.

2.4.1.3 Impacts

Page 44, No. 8 - More specific description of "significant water quality impacts" of an improperly designed equestrian center (i.e.: runoff, erosion, percolation of nitrates pesticides, etc.).

8

Page 45, No. 9 - Please discuss the ability of detention basins to handle 100-year storm and the debris that would be included in flows of that magnitude.

9

Page 46, No. 15 - Further description of "appropriate maintenance" of "French drains".

10

Comment

Page 46, No. 15 - The applicant should propose a "Facility Maintenance Plan" for public works review.

#s

Table 2.2 - Area I (946 AC) has a lower post-development discharge (Op). This appears to be a typo.

11

2.4.2.1 - Existing Conditions - Groundwater

Page 47 - This discussion should include percolation of surface contaminants reaching the aquifer readily through fractures.

2.4.2.2 Applicants Proposed Water Supply System

Page 48 - First paragraph, fourth line - "was hired by the County" ... should read "was retained by the MPWMD"... Furthermore, these reviews are completed and a subsequent "Water and Wastewater Management Report" has been requested and is in progress. This information should be brought up to date and should agree with that on page 50 (Review of Reports).

12

Page 49 - Recharge - See Anderson - Nichols Report (Monterra Ranch Water Supply Study, July, 1985).

13

Page 49 - Nitrate Loading - See Anderson-Nichols report. State standard (Title 22) is 10.0 mg/L as N, not 100 mg/L as stated.

13

Page 50 Review of Reports: This information updates that on page 48.

13

2.4.3.3 Impacts

Page 50, No. 8 - As stated in Anderson - Nichols report, groundwater withdrawal will impact wells at the Naval Postgraduate School golf course. Therefore, an off-site water supply will be impacted. This must be addressed.

14

2.4.3.4 Mitigation Measures

Page 51, No. 16 - Title 22 should be cited as the source of contamination level standards. Water quality results will be made available to MPWMD also, and on a quarterly basis.

Page 51, No. 17 - "Although the Logan and Anderson-Nichols studies indicate".....Also, water conserving fixtures should be required for two reasons:

15

1. due to treatment and pumping costs, the available water will be very expensive; and
2. other uses of this groundwater resource may be necessary in the future.

Comments

2.5.3.2 EROSION CONTROL

Page 81 - Fertilizer should be added to the Native grass species. Refertilization could be considered after the first year.

~~#5~~
16

2.5.3.3 - FIRE CONTROL & FUEL MANAGEMENT

Page 84, 32, d - The CDF has a Chaparral Management Program (CMP) that provides direct financial and manpower assistance.

17

2.9.2 WASTEWATER DISPOSAL

2.9.2.2 Impacts - Rewrite with information from ANCO (1985). El Toro is not a valid comparison. Potential influence of fractured medium upon entry of NO₃ to aquifer needs to be discussed.

18

2.9.2.3 Mitigation Measures

Page 117, No. 85 - Include training/information program about proper use and maintenance of septic systems, by residents via homeowners association.

19

MWD#6/EIRKG

MONTEREY COUNTY

DEPARTMENT OF HEALTH

ROBERT J. MELTON, M.D., M.P.H., Director



PLEASE REPLY TO ADDRESS CHECKED

PREVENTIVE MEDICINE

ENVIRONMENTAL HEALTH

MENTAL HEALTH

ALCOHOL AND DRUG PROGRAMS

- ☐ 1270 NATIVIDAD ROAD, SALINAS, CALIFORNIA 93906-3188 (408) 757-1061
- ☐ 1200 AGUAJITO ROAD, MONTEREY, CALIFORNIA 93940-4898
- ☐ 1180 BROADWAY, KING CITY, CALIFORNIA 93930 (408) 385-1291
- ☐ 1292 OLYMPIA AVENUE, SEASIDE, CALIFORNIA 93955 (408) 899-4271

RECEIVED

1985

September 4, 1985

MP.W.M.D.

Myron Etienne
Attorney-at-Law
333 Salinas Street
Salinas, CA 93901

Dear Mr. Etienne:

This is a confirmation of our meeting on September 4, 1985, 9:00 a.m. at my office to discuss the water and wastewater management plans of the Monterra Ranch development. As agreed upon, we will require that you submit to me a water and wastewater management plan prior to the tentative map.

Following is an outline of the tasks that must be included in the water and wastewater management plan:

1. Forty-eight (48) hour pump test.
 2. Wastewater management plan for the disposal of wastewater. By review of M. Jacob's reports: The filterable soil must be at least ten feet in depth.
 3. Water Management Plan
 - a. Specific treatment process.
 - b. Specific amounts of wastage and means of disposal.
 - c. What is water balance if onsite disposal of brine is used? and no liner on ponds?
 - d. Routine removal as an alternative.
 - e. Develop and test the back-up well.
 4. A governmental entity will be required to maintain and operate the water and wastewater facility.
 5. The wastewater management plan will require a third party review.
- Submit detailed outline of the above work project as soon as possible.
- If you have further questions, please feel free to contact me.

Sincerely,

Walter Wong
Walter Wong, M.P.H., R.S.
Chief, Environmental Health Division

WW:jh

cc: Bruce Buell, Manager, M.P.W.M.D.
Wallace Holm, Architect
Al Friedrich, Senior Sanitarian

9/4-3

C
O
P
Y

MEMORANDUM

MONTEREY COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Lynne Mounday, Senior Planner
TO: Planning Department
FROM: Owen Stewart, Development Services Engineer
SUBJECT: Monterra Ranch, Draft EIR

DATE: 12/23/85

Comment
#3

Our water quality section points out that reviews have not been completed by the independent engineering firm Anderson-Nichols (pg. 48, par. 1). We trust that these reviews will be completed and included in the final EIR.

20

On page 47, par. 4 it is stated that the site is not located within the California-American Water Company District, but that it is adjacent to the District. Perhaps there should be a discussion in the EIR considering annexation to and service by Cal-Am as an alternative, should on-site water supplies not prove to be viable.

21

On page 42, Figure 2.6 the 100 year flood plain is not depicted accurately and should be revised for the Final EIR.

22

The letter from the WWD Corporation (page 157) recognizes the need for designing the detention ponds to accommodate silt storage. This should be discussed in the text of the Final EIR in the soils and drainage sections.

23

OS/tc

W3:lynnemem.os



December 11, 1985

Mr. Lynne H. Mounday, Senior Planner
Monterey County Planning Department
P. O. Box 1208
Salinas, Ca 93902

SUBJECT: DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE MONTERRA RANCH SUBDIVISION
(EIR No. 84-007), NOVEMBER 1985

Dear Lynne:

Comment
#5

Thank you for the opportunity to review the Draft EIR (DEIR) for the Monterra Ranch project. The following are our comments on the document:

1. Figure 1.3 (follows page 5) shows the project area to include the Monterey Peninsula Unified School District (MPUSD) property, while Figure 1.2 excludes it. It is presumed that this property is not part of the project area; thus, Figure 1.3 needs to be corrected. 24
2. Within Section 2.4.2.1, Existing Conditions (page 47), the fourth paragraph discusses groundwater. This section states that there is no water service to the Monterra Ranch at this time. The City of Monterey Highway 68 Area Plan Policy 2 states: "Water sources should be from other than presently existing Cal-Am sources for areas not presently in Cal-Am service jurisdiction unless Cal-Am service capacity is increased." This policy should be pointed out in the DEIR. 25
3. On page 78, it is suggested that an annual management/assessment fee be required for forestry programs, wildlife habitat protection, and an oak tree management program. Such a requirement could be set forth within mitigations #21 through #33. 26
4. On page 83, Mitigation #32 states: "A controlled burning program should be considered to minimize fire hazards." It is suggested that this mitigation offer an alternative as set forth by the City's General Plan Environmental Resource Policy #9 which states: "Minimize the loss of life and property from fire by achieving the greatest practical level of built-in fire protection to confine the fire problem in structures constructed or altered." In addition, Environmental Resource Policy #10 states: "Achieve effective 27

Comment
#5

emergency access to all developments, installations, and fire protection equipment for emergency apparatus, and for evacuation." Program 10-a of that policy states: "Discourage roads that do not continue through or cul-de-sac longer than 700 feet." Program 10-b states: "When determined safe, and through roads are not possible for roads greater than 700 feet, alternative second access roads will be encouraged as emergency access for emergency vehicles.: These policies should be considered as appropriate mitigations for fire hazards in the DEIR. Finally, Environmental Resource Policy #12 states: "Fire retardant roofing, brush clearance, planting or non-flammable vegetation, and provision of access to steep lots within buildings should be required in hazardous fire areas." This is another mitigation which should be considered for noted fire hazard impacts in the DEIR.

27

5. On page 85, the City supports Mitigation #34 which requires that Lots 227 and 235 through 239 be eliminated as they impact the rare Hickman's Onion.

6. On page 86, Mitigation #35 states that the rare Hickman's Onion population "...should be monitored after construction to evaluate the adequacy of the protection measures implemented and the vitality of the species." This mitigation does not specify any protection measures, and does not identify who the responsible party will be to monitor the success of such measures if implemented.

28

7. On Figure 2.8, which follows page 86, the project site's Major Landforms and Visual Exposure from Highway 68 map appear to wrap around the MPUSD site and not include it. Figure 1.2 identifies the project's site as lying south of the MPUSD site and not extending around it to Highway 68 on its north side. Clarification/correction is needed.

29

8. Within the first paragraph on page 87, the last sentence references a figure, but no figure number is given. The context implies that this should be Figure 2.8.

30

9. Within Section 2.6, Aesthetic Considerations, on page 91, the impact section (2.6.1.2) states, under intensity of uses: "Approximately 102 acres (3.6%) of the project site would be buildings, roadways, or other paved areas. Another 2.7% of the site would be landscaping, with the remaining 93.7% proposed to remain in its existing natural state." This appears to be contrary to what is stated in Impact #9 on page 73 which states: "Approximately 53.5% of the Monterra Ranch property would be directly affected to some degree by the proposed subdivision development.

31

In addition, Impact #10 on page 74 identifies the fact that "...nearly 72% of tree habitat may be affected..."

The discrepancies between percentages of habitat impacted needs to be clarified.

32

10. Within the third paragraph on page 91, the DEIR references a figure number, but no figure number is given.

11. Within Mitigation #36 on page 94, it is stated: "Residential and other types of development in areas viewed from State Route 68 should be inconspicuous in order to maintain the natural rural character along this scenic

Comment
#5

corridor. Visually sensitive areas include Work Ranch Ridge, Del Rey Ridge, and north-facing slopes and meadows along Canyon Del Rey." An alternative mitigation which should be offered in the DEIR would be that no development on these prominent ridge areas be allowed.

33

12. On page 95, Mitigation #43 states: "...grading in hillside areas should be minimized to the portion of the site covered by the structure." As identified on page 39, Impact #6 states that eleven lots have less than 4,000 square feet of land with slopes for building sites less than 30%. The DEIR offers a mitigation (#7 on page 40) which states: "Building envelopes would be required on lots which include slopes greater than 30%." Development on slopes greater than 30% is a significant impact which is not clearly identified in Impact #6, nor which is adequately mitigated within Mitigation #7. Mitigation #7 appears to accommodate the potential development which might occur on slopes greater than 30%.

34

The City of Monterey supports mitigation #14 on page 46 which states: "There should be a complete and careful County review of the entire grading plan for the proposed project, before project approval. If it is found that there would be extensive cuts and fills, especially on slopes exceeding 30%, thereby increasing potential for excessive erosion and siltation, then the project should be redesigned to eliminate such plans." In addition, the City would suggest that the DEIR include Environmental Resource Policy #3 of the City General Plan, which states: "New development is prohibited on slopes of 25% grade except for existing lots of record." The City clearly objects to the development of lots on 30% slope. The Highway 68 Area Plan states: "The prevailing slope of land shall be used as a criterion in evaluating land use activities. No building construction shall take place on slopes over 25%." (page 8, Policy 2)

34

13. Within Mitigation #64(g) on page 98, it is stated: "New development in open grassland areas shown as 'sensitive' or 'highly sensitive' on the Visual Sensitivity Map should minimize its impact on the uninterrupted viewshed." It is unclear whether this is referring to Figure 2.8, Major Landforms and Visual Exposure from Highway 68 map. If so, please note that there is no reference to 'sensitive' or 'highly sensitive' areas on this map.

35

14. On page 100, Impact #22 states that numerous residential lots adjacent to the two entrance roads off of Highway 68 will experience annoyance from aircraft-generated noise levels exceeding the County General Plan standard of 55 dBA. The impact statement then goes on to say: "All residential lots in the subdivision will also experience annoyance from noise levels less than 55 dBA Ldn caused by various aircraft operations such as engine run-up before take-off." The impact language is inconsistent, and is probably intended to read: "...more than 55 dBA." In addition, the 1980 ANCLUC Study adopted a threshold of 60 dBA for acoustical study and sound insulation requirements as needed for noise sensitive land uses.

36

15. Within Mitigation #67 on page 102, a requirement for acoustical studies and sound insulation, if necessary for noise sensitive land uses within the 55 dBA CNEL contour and above, is inconsistent with the 1980 ANCLUC Study which established such a requirement for the 60 dBA CNEL and above.

36

Comment
#s

16. Within the traffic section on page 106, the second paragraph discusses the probability that 25% of the homes in Monterra Ranch would most likely be second homes and, therefore, not occupied as normal homes throughout the year. This statement is unsubstantiated. Although not used as a traffic reduction factor in the DEIR, this implication is set forth by the inclusion of this statement in the DEIR.

37

17. On page 107, the projected traffic volume of 2,830 daily trips from 283 homes in Monterra will add approximately 6% to 8% more traffic to Highway 68 west of the Monterra Ranch after a 1990 base year when Monterra traffic will be generated. This would result in a LOS 'E' on Highway 68 in that area. Both the City and the County have adopted a LOS 'C' as desirable for Highway 68. In addition, Policy 4 of the City's Highway 68 Area Plan states: "No new development will be permitted once level of service D is reached unless increased capacity is provided." This threshold for needed additional traffic capacity should be mentioned in the DEIR, given the significant impact LOS 'E' will create on Highway 68.

38

18. Mitigation #71 on page 112 states: "An approach lane to Highway 68 on the east entrance should be provided to separate right and left-turn traffic. In addition, a left-turn pocket on Highway 68, with an adequate deceleration lane, should be provided to facilitate access to the east entrance of and to the western entrance off of Olmsted Road." Stacking and turning lanes should be considered an interim solution to a much larger impact. Rather than a piecemeal approach to accommodating additional traffic on Highway 68, the DEIR should discuss a mitigation which would address the needed added capacity in an all-encompassing expansion of Highway 68 capacity. Working with the City and County, the project should pay its proportionate share of the overall expansion of Highway 68 traffic capacity.

39

19. Section 2.9.2 Wastewater Disposal on page 115, should mention the Highway 68 Area Plan policy which states: "Highway 68 area development must annex to the regional sewer district or provide an adequate wastewater system." (Policy 1, page 18)

20. Mitigation #84 on page 177 states: "Septic systems should not be built on slopes in excess of 30% or, if deemed necessary, should be specifically engineered for each site." As identified in Impact #6 on page 39, there are eleven lots which have less than 4,000 square feet of land with slopes for building sites less than 30%. Should a mitigation that no development be allowed for areas greater than 30% slope be offered in a future revision of the DEIR (as per recommendation in Comment #12) this will eliminate the potential of having houses and septic tanks on slopes greater than 30%.

40

21. Section 2.9.3 on page 117, which discusses fire protection, the DEIR identifies the Salinas Rural Fire Protection District as the most appropriate agency to provide fire protection to the Monterra homes, stating that the City of Monterey normally serves only city limits lands. Impact #86 identifies the existing Salinas Rural Fire Station on Highway 68 near Salinas as being too far away to adequately service the Monterra Ranch site, and that an additional station should be built in the Laguna Seca area. The DEIR needs to address the fact that the area is identified by LAFCO as part of the City of Monterey's Sphere of Influence for the logical provision of municipal services such as fire protection if the area is ever annexed into the city limits. This is a viable mitigation for significant impact.

41

Comment
#5

22. Within Table 3.1 on page 128 (Recent Development Proposals in the Project Area), Tarpey Flats is not included. There is an 802,000 square foot office park proposed on 120 acres in Tarpey Flats. In addition, Table 3.1 refers to the Laguna Seca Office Park as a 206,000 square foot office park on fifty-four acres, which is incorrect. The Laguna Seca Office Park would be 260,000 square feet on thirty-eight acres, with eighteen lots (not nineteen). Finally, the Ryan Ranch Industrial Park is thirty lots on 234 acres, not twenty lots on 285 acres, as referenced in Table 31. 42
23. On page 130, within the Cumulative Impacts section, Impact #9 states: "Annexation to the City of Monterey and development at higher densities will be precluded." As stated in Comment #21, IAFCO has identified the Monterra Ranch as being part of the City of Monterey's Sphere of Influence. Thus, the project could still be annexed to the City sometime in the future to apply for urban densities and urban services. 43
24. Within the last paragraph on page 131, the DEIR states that implementation of a 15% affordable to moderate-income housing requirement would be difficult in light of other transportation and public sewer improvements required if the site were developed under the City's Highway 68 Area Plan. This is unsubstantiated and is a subjective statement. The City's Moderate-Income Housing Ordinance and Highway 68 Area Plan both require 15% low to moderate-income housing if the site were developed under the City's jurisdiction. 44
25. Within Section 3.3.4 (Project that Minimizes Environmental Impacts, on page 132, the City supports all noted mitigations with the exception of #9 and #10 with respect to development on slopes greater than 30%. As stated in Comment #12, the City strongly suggests that new development be prohibited on slopes over 25% grade except for existing lots of record.
26. Within Section 3.3.3 in the second paragraph, the statement "...it is highly unlikely that there will be any additional housing proposed for the project site" is unsubstantiated. Future revisions for increased density could be proposed by the developer through the County or the City of Monterey. 45
27. Within Section 3.3.5 on page 134, the DEIR should mention that the County's inclusionary housing requirement can be provided for by paying an in-lieu fee of \$2,000 per unit. Thus, an alternative to meet the inclusionary housing requirement would be 15% of 283 units, which would be forty-two units at \$2,000 per unit (\$2,000 x forty-two units). Since the inclusionary housing plan in Figure 3.1 (following page 184) is shown as an alternative, the DEIR implies that the in-lieu fee will be paid, yet makes no mention of it.

This concludes our comments on the Draft EIR for the proposed 283-unit Monterra Ranch residential project. We have also reviewed AMBAG's comments on the DEIR and support their findings, which are attached. Again, thank you for the opportunity to provide input which the City of Monterey feels is valuable and imperative for a project as sensitive as this one.

Sincerely,

Bill Wojtkowski *CMF*

Bill Wojtkowski
Community Development Director

LEAGUE OF WOMEN VOTERS
OF THE MONTEREY PENINSULA

Box 1995
Monterey, California 93942

Comment
#5

Att: Lynne Moundy

December 20, 1985

Re: Monterra Ranch Subdivision

The League of Women Voters of the Monterey Peninsula recognizes that the reduced density of the proposed Monterra Ranch Subdivision poses fewer problems than plans previously submitted for that area. Certainly 283 single family units would have far less impact upon limited natural resources and the scenic corridor of the Monterey Peninsula than several thousand units as previously proposed.

However, in reviewing the Draft EIR, we find that we have the following concerns:

1. The Draft EIR (2.4.2.2 p. 50) states that "There is enough uncertainty regarding water quality to require additional testing." Consistent with Policy 53.1.7 (GMP), we believe that all tests and documentation indicating that sufficient water supply is available for this project should be submitted to the Monterey Peninsula Water Management District and the Environmental Health Officer of Monterey County for verification and assurance that an adequate supply of quality water is, indeed, available. Costs of water purification must be borne by the developer and subsequent owners.

2. To preserve existing land forms and visual features in harmony with the rural, natural setting and considering that Highway 68 is a recognized state scenic highway, development should be kept off the ridgeline. (EIR 2.6.1.2 p.91) We do not consider Measure 37 (EIR 2.6.1.3 p.94) to be sufficiently mitigating. Additionally, Mitigation Measure 46 (EIR 2.6.1.3) should be changed to state: "Structures should not exceed the height of the existing forest canopy", thus omitting the word "greatly" from the sentence and adding the word "existing." 46

3. The League believes that Policy 26.1.10 (GMP) should be strictly adhered to and that development on slopes greater than 30% must be prohibited. We do not consider Mitigation Measure 7 (EIR 2.3.3 p.40) satisfactory. 47

4. Highway 68 is currently operating at Level of Service 5 -- beyond its design capacity. The EIR indicates a 15.7 percent increase over existing traffic volumes; it offers no satisfactory mitigating measures for this situation. In accordance with Policy 39.1.1 (GMP) we propose that the County work with the state, local agencies, and citizens to alleviate the existing traffic congestion prior to allowing any more development along this section of Highway 68. County officials should act now to prevent the development of congestion such as that existing on Highway 1 from the Carmel Hill to the river. 48

Sincerely,

Lorita Fisher

LF:mb

Lorita Fisher, President
League of Women Voters
of the Monterey Peninsula
205.



ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

MAIL ADDRESS: P.O. BOX 190, MONTEREY, CALIFORNIA 93942 • TELEPHONE (408) 624-2117
OFFICE LOCATION: 23845 HOLMAN HIGHWAY, SUITE 227

December 11, 1985

Mr. L. Mounday
Monterey County Planning Department
P. O. Box 1208
Salinas, CA 93902

Re: MCH #118511 Environmental Impact Report
Monterra Ranch Subdivision

Dear Mr. Mounday:

AMBAG's Regional Clearinghouse circulated a summary notice of your environmental document to our member agencies and interested parties for review and comment.

The AMBAG Board of Directors considered the project on December 11, 1985. We are forwarding the enclosed comments.

Thank you for complying with the Clearinghouse process.

Sincerely,

A handwritten signature in dark ink, appearing to read "N. Papadakis", is written over a horizontal line. The signature is fluid and cursive, with the first letter "N" being large and prominent. The line underneath the signature is a simple horizontal stroke.

Nicolas Papadakis
Executive Director



ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

MAIL ADDRESS P.O. BOX 190 MONTEREY CALIFORNIA 93942 • TELEPHONE (408) 624-2117
OFFICE LOCATION 23845 HOLMAN HIGHWAY, SUITE 227

December 11, 1985

118511

Mr. Lynne H. Mounday
Senior Planner
Monterey County Planning
P.O. Box 1208
Salinas, CA 93902

Comment
#s

Dear Mr. Mounday:

AMBAG staff has had an opportunity to review the Monterra Ranch Subdivision EIR. In general, the EIR is a thorough and a well prepared document. The following additions would enhance the usability of the document:

1. Differentiation of those mitigation measures proposed as part of the project, those recommended by the consultant and those required by existing ordinances or regulations.

49

2. Determination of project consistency with general and regional plan policies.

The following specific comments are also submitted for your considerations:

1. Page 6, General Plans

Implementation of the project would conflict with County General Plan Policies 3.7.2.1 and 3.9.1.4.

50

"3.7.2.1 Transportation demands of proposed development shall not exceed an exceptable level of service for existing transportation facilities unless appropriate increases in capacities are provided."

"3.9.1.4 New development shall be located where there is existing road and highway capacity or where adequate road and highway capacity will be provided."

No increase in capacity along Highway 68 is planned within the time frame of this development. Highway 68 currently operates at level of service F, and traffic from this development will worsen the situation.

2. Page 20, Monterey Peninsula Airport Plan

According to the Draft Final FAR Part 150 Noise Compatability Study for the Monterey Penninsula Airport the existing "South

Comment
#5

Pattern and Preferred General Aviation VFR Departure Pattern" pass over the subject property, and in 1989 (with the proposed runway improvements) the "Preferred General Aviation VFR Departure" will pass over the southern section of the proposed development. The safety impacts of these overflights should be addressed.

51

3. Page 106, Trip Generation

An error was made in the reference to the ITE Trip Generation Manual. The outbound trips per dwelling unit should be .37 not .31, resulting in 105 outbound trips per dwelling unit in the P.M. peak hour, not the 84 indicated.

52

4. Page 112, Paragraph 69

This mitigation measure includes the statement: "... eliminate conflicting turning movements on Highway 68 by changing the proposed western entrance to an emergency exit only until an interchange is constructed there." The ultimate fate of this emergency access should be specified. Will the exit be closed completely when an interchange is constructed at Olmsted Road or will it serve some other purpose?

53

5. Page 112, Funding

Funding participation by the developers should be specified for Highway 68 improvements identified as mitigation measures. These include the roadway widening identified in Paragraph 70 as well as the intersection improvements identified in Paragraph 69 and the approach lane identified in Paragraph 70.

54

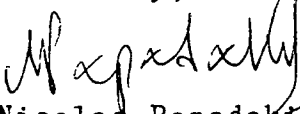
6. Transit/Ridesharing

Mitigation measures should include the provision of transit facilities in the roadway layout and design as requested by Monterey-Salinas Transit and school transportation authorities.

55

Thank you for the opportunity to review the EIR. If you have any questions, do not hesitate to call Janet Brennan or George Gerstle.

Sincerely,


Nicolas Papadakis
Executive Director

NP:jb



Monterey-Salinas Transit

Mr. Nick Papadakis, Executive Director
AMBAG
P.O. Box 190
Monterey, California 93942

December 5, 1986

Re: December Regional Clearinghouse

Dear Nick,

Monterey-Salinas Transit has reviewed the December regional clearinghouse and we have the comments noted below.

MCH 118505: Notice of Preparation, Beach Station

The scope of the EIR for this visitor accommodation located at Jewell and Briggs Avenues should include traffic, parking, and transit services. Also, the scope of work should include the need to upgrade the existing bus stop at this location.

MCH 118506: New Monterey/Cannery Row Traffic Improvements

Each of the three alternative improvements proposed will affect the FreeShuttle route operating between downtown Monterey, Cannery Row, and the Monterey Bay Aquarium. It will be necessary for the city, Cannery Row interests, and MST to coordinate both on the date of implementation and the routing and bus stop changes that will be necessary. MST also recommends that the city purchase traffic signal controllers that are capable of eventual transit pre-emption.

MCH 118511: Draft EIR, Monterra Ranch Subdivision

~~The proposed~~ subdivision will generate 2,830 daily automobile trips onto an already congested Highway 68 and will add to traffic volumes turning at Olmstead Road onto and off of Highway 68. The design of the internal road system plus the fact that roadways will be private prohibits entirely the prospect of any sort of direct, on-site transit service. Given the dispersed nature of the trip ends presented in Table 2.6 of the Draft EIR, a park-and-ride lot capable of accommodating 100 vehicles would be an appropriate mitigation measure both for traffic and for air quality. The park-and-ride lot should also contain a covered passenger waiting area, and a drop off area for automobile, van, and transit vehicle access. Signage should be provided for transit and ridesharing marketing.

The park-and-ride lot as well as the access improvements to reach it should be paid for by the developer. The developer should be required to contact MST to be certain that his planned facility will meet the needs of transit coaches and passengers.

ONE RYAN RANCH ROAD, MONTEREY, CALIFORNIA 93940. (408) 899-2558 / 424-7695

Page 2
Mr. Papadakis

The reference to distribution of local transit, bicycling, and carpooling marketing materials is good; however in the absence of a park-and-ride lot will not be realistically useful to the purchasers of ranch sites. The wording of the reference to park-and-ride lots calls for the developer to "consider provision of a park-and-ride lot, bus stop," etc. The wording in the EIR should require the provision of a park-and-ride lot as well as sufficient roadway access for a full size transit coach. A protected turning movement to access Highway 68 will also be required from the park-and-ride lot location. 56

MST requests that it be put on the list of affected agencies to review the specific plans for the Monterra Ranch development.

Thank you for the opportunity to comment on these items.

Sincerely,

Patrice M. Goodchild
Planning/Marketing Officer

PMG:pmg

cc: Lynne Mounday, Senior Planner, County of Monterey
Tony Lobay, Planning Director, Pacific Grove
L.W. McIntyre, Public Works Director, City of Monterey

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Department of Public Works
County of Monterey

MEMORANDUM

December 13, 1985

To: Planning Department
ATTN: Lynne Mounday
From: Transportation and Development - Ron Lundquist
Subject: DRAFT ENVIRONMENTAL IMPACT REPORT FOR MONTEERRA
RANCH SUBDIVISION EIR # 84-007

We have reviewed the above mentioned document and have the following comments:

Page X111

Comment #s

Mitigation # 69

This mitigation measure does not specify the amount of money to be contributed to the interchange nor the method of cost distribution to the residents.

57

Mitigation # 70

Same as # 69

Mitigation # 71

The funding and timing of this measure should be discussed.

58

Page 6

Policy 3.7.2.1 is not addressed in the impact and mitigation analysis.

59

Page 21

The Route 68 Study to Develop Program of Improvements was issued by the Monterey County Department of Public Works, not the Monterey County Transportation Commission.

60

Page 23

There is no mention of the 1984 Update of the Regional Transportation Plan.

61

Page 109

Canada de la Segunda Road - Consideration should be given to the developer's participation in Canada de la Segunda. Mitigation could include dedication of right-of-way and construction of or contribution to roadway improvements. Actual mitigation will be determined in the subdivision process. 62

MF/cw

BH/cw

T-105-Monterra.memcw

Lynne

SALINAS RURAL FIRE DISTRICT

19900 Portola Drive
Salinas, California 93908
(408) 455-1828

December 10, 1985

Monterey County Planning Dept.
P.O. Box 1208
Salinas, Ca. 93902

Attn: Lynne H. Mounday

Re: Monterra Ranch; Subdivision; EIR # 84-007

Dear Lynne:


In reviewing the Draft Environmental Impact Report I would like to change Section 2.9.33, 89.F to read:

- F. Roof coverings for buildings shall be fire retardant, as defined in the latest edition of the Uniform Fire Code, as adopted by Ordinance #1 of the Salinas Rural Fire Protection District. #63

If you have any questions about the above, please do not hesitate to contact me at your convenience.

Thank you.

Sincerely,


Ron Zeise,
Fire Chief

RZ/bs

PAUL M. HAMERLY
MYRON E. ETIENNE, JR.
PETER T. HOSS
JAMES D. SCHWEFEL, JR.
MARTIN J. MAY
STEPHEN W. PEARSON
LLOYD W. LOWREY, JR.
ANNE SECKER
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AREA CODE 408
SALINAS TELEPHONE 424-1414
MONTEREY TELEPHONE 372-7525

OUR FILE No. _____

December 6, 1985

HARRY L. NOLAND
OF COUNSEL

Mr. Lynn Mounday
Monterey County Planning Department
P. O. Box 1208
240 Church Street
Salinas, California 93902

Re: Response to Traffic Analysis in the Draft Environmental
Impact Report for the Monterra Subdivision (EIR 84-007)

Dear Lynn:

This letter responds to the Traffic Analysis in the LLS
Draft EIR.

We disagree with the conclusion reached in the Draft EIR that the additional traffic generated by the Monterra Subdivision will be a significant impact on the traffic on Highway 68. Our reasons for disagreeing with the conclusions of the Environmental Impact Report are set forth in a report prepared by WWD Engineering, which is included with this letter as Attachment A. The conclusion of that report is that the Highway 68 roadway is capable of accepting the traffic from the Monterra Ranch Subdivision without exceeding the acceptable level of service for Highway 68.

Comment

64

The Draft Environmental Impact Report also concludes on page 112 that as a mitigation measure, the subdivision entry road opposite Ragsdale Drive should be removed in order to reduce the impact of the turning movements from the Monterra Subdivision on Highway 68. As stated in the previous paragraph, we believe that the impact of traffic from the Monterra Subdivision will be much less severe than concluded in the EIR. Also, it must be kept in mind that the build-out of the Monterra Subdivision will not take place in the short period of time postulated in the Draft Environmental Impact Report. A period of ten to fifteen years to build-out is much more reasonable, which will allow roadway improvements to be completed prior to the subdivision having its full impact on Highway 68.

The Draft Environmental Impact Report concludes on page 107 that the majority of the traffic movements from the subdivision

Mr. Lynn Mounday
December 6, 1985
Page Two

Comment:
#5

would enter either the easterly roadway at York School or the westerly Olmstead Road entryway, not the center entry road, which logically would therefore have little effect on Highway 68.

Considering all of the above mentioned factors, the impact of the entryway opposite Ragsdale Drive will be insignificant. This roadway, however, provides an important safety feature for the development in that removing this entryway would require emergency vehicles to traverse the entire length of the subdivision in responding to police or fire assistance calls. Traversing low speed residential street for hundreds of acres instead of being able to enter the subdivision via Highway 68 to the portion of development which takes place in the central area of the Ranch creates a far more significant public safety impact than the minor amount of traffic which this entryway would cause to enter and exit Highway 68. From a public safety perspective, it is also unwise to unnecessarily increase internal traffic flow on the residential streets of the subdivision of all types when those trip lengths through the subdivision could be reduced by having the entry road opposite Ragsdale Drive.

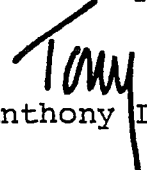
65

Finally, we believe the additional traffic impact of this development will be further reduced by the improvement of Highway 68. The Environmental Impact Report suggests that the only improvement which is likely to occur on Highway 68 will be the eventual construction of a non-access freeway. In reality, an alternative proposal for a four lane "parkway" has been proposed by the property owners along Highway 68 and has been presented to the County of Monterey and City of Monterey. This alternative is both affordable and a substantial portion of its cost would be paid for by the property owner along Highway 68.

66

I have enclosed an outline of that proposal as Attachment B to this letter for your consideration. This alternative would further reduce the traffic impact of this project and the subdivider of Monterra is willing to pay its proportionate share to this project as suggested in Mitigation Measure 70 of the Draft EIR.

Sincerely,


Anthony L. Lombardo

ALL/mr
Enclosure

CAPACITY ANALYSIS - HIGHWAY 68AN ALTERNATE METHOD BASED ON EXISTING TRAFFIC VOLUMES ON
SIMILAR ROADWAYS:

The EIR statements pertaining to traffic levels of service on Highway 68 were obtained from the County. The analysis of the existing levels of service on Highway 68 from which the EIR statements were derived was done in 1978 by State of California personnel, using the Highway Capacity Manual (HCM) (1965). Formulas and tables therein were used to arrive at these conclusions. The existing peak hour used was 1650 VPH. The capacity was determined to be 1780 VPH. The ratio of 1650 to 1780 was 0.93 and subsequent level of service was determined from the HCM to be E. Furthermore, the operating speed was determined to be 31 MPH. To summarize, the following was the determination by the State:

Capacity = 1780 VPH both directions.

Actual Peak Hour = 1650 VPH both directions.

Level of Service E - operating speed 31 MPH.
(Level E is defined in the HCM as Capacity.)

All the above are legitimate conclusions arrived at through use of the 1965 Highway Capacity Manual's Method of Computation. The question is: Does the Highway Capacity Manual method yield results that truly reflect the conditions and capacities of this particular highway? In this particular case, I think not.

To illustrate, compare the capacity determination done by the HCM Method (1780 VPH) to actual volumes being experienced on other highways in this area (which are similar in classification; (i.e.: 2-lane arterials with left-turn lanes).

The following is observed:

Highway 68 between Highway 1 and Pacific Grove:

Existing Peak Hour Traffic	=	2,460 VPH
HCM Capacity	=	1,780 VPH
	=	680 VPH difference

Highway 1 between Ocean Ave. and Carmel Valley turnoff:

Existing Peak Hour Traffic	=	3,030 VPH
HCM Capacity	=	1,780 VPH
	=	1,250 VPH difference

Highway 1 between Moss Landing and Jensen Road:

Existing Peak Hour Traffic	=	2,800 VPH
HCM Capacity	=	1,780 VPH
	=	1,020 VPH difference

With the exception of Highway 1 between Ocean Avenue and Carmel Valley turnoff, these highways are relatively free-flowing at peak hours; i.e.: no stopping and speeds between 35 and 50 miles per hour. Furthermore, these existing volumes are 1.4 to 1.7 times as high as the capacity values arrived at through the use of the Highway Capacity Manual method of calculation.

These comparisons are offered to point out the obvious; i.e.: although the HCM would indicate through calculation that the peak hour capacity (limit) of Highway 68 is 1780 VPH, it can be deduced through observation of actual traffic on similar highways to be somewhere between 2,400 VPH and 3,030 VPH.

It is suggested in reference to Highway 68 that capacity will not be reached until lane volumes approach or surpass at least 1200 VPH per lane.

It is further suggested that 2400 VPH be used as the peak hour practical limit. This figure should be used to compute the reserve capacity that could be utilized by future development along Highway 68.

To illustrate, please note the following example calculation:

Existing Peak Hour	=	1,600 VPH
Capacity (Peak Hour)	=	2,400 VPH
Reserve Capacity = 2400 - 1600	=	800 VPH

Therefore, 800 VPH reserve peak hour capacity available for future development. It should be noted also that peak hour usually occurs for only 2 or 3 hours of each day. The remainder of the day, traffic is considerably less.

COMMENTS:

It is not the intent of this report to discredit the HCM. However, the evidence in this particular instance is overwhelming and leaves serious doubt as to the conclusions arrived at through the HCM method of calculations for capacity of Highway 68 when compared with actual volumes on similar highways. The use of 2400 VPH (peak hour) as a practical capacity limit is, by observation, more realistic than the 1780 VPH (peak hour) arrived at through the HCM method of calculation.

Attachment "B"

TRAFFIC RESPONSE - MONTERRA RANCH EIR

The majority of the property owners along the Highway 68 corridor between Highway 1 and Laureles Grade have jointly studied and propose an alternate solution to the expensive undertaking of building a Freeway.

They believe a freeway is not the answer for the following reasons:

1. The alignment, right of way required, and excessive cuts and fills would be devastating to maintaining the requirements of the scenic corridor.
2. The cost is prohibitive and unnecessary if, in fact, other less expensive options exist.

In reviewing alternate solutions to the traffic situation, the owners and developers along Highway 68 first set out specific criteria which they believe absolutely necessary to preserve the environmental integrity and ensure economic feasibility and highway safety.

1. Safety: Any alternate designs should be safe and in compliance with State and local standards for highway design.
2. Minimize environmental visual impacts by minimizing right-of-way requirements and confining construction as much as possible to the existing highway alignment.
3. Accommodate projected traffic demands.

After thorough review of several alternatives, a design was selected which does meet the above criteria, and at less than half the cost of a freeway design.

The basic design provides for the following improvements to various sections of Highway 68:

1. Highway 1 to Olmsted Road (1.1 miles): Four-lane no access highway following the existing alignment, with frontage roads connecting Josselyn Canyon to Olmsted and connecting residences west of the Church with existing Montsalas Frontage Road.
2. Olmsted to Ryan Ranch Entry (1.88 miles): 6-lane arterial.
3. Highway 218: Retain 2-lane roadway, since capacity is limited to intersection capacities at both ends.

4. Ryan Ranch Entry to Laureles Grade and Beyond (3.79 miles):
4-lane arterial.
5. Intersections: All intersections to be signalized with added lanes for intersection capacity (6 total).

The above design will accommodate a major portion of the total projected build-out traffic along the Highway 68 corridor plus a 20-year 3% through traffic increase.

Approximately 80% of the land area owners have indicated they would agree not to build beyond 76% of their build-out figures until studies are made in the future to determine actual rates of traffic generation for this area.

The above highway design and voluntary restrictions on building meets the criteria set out above. Its cost is less than half of what a freeway would cost and it is adequate, at least for the next 20 years and probably beyond.

If, in the future, added capacity is required, it will be required only at intersections. At that time, grade separations could be installed to replace or amplify signalized intersection capacities.

The concept of a modified freeway design is from a TJKM traffic consultant study done for the City of Monterey in 1982 for Highway 68. It is termed in that report a "modified freeway design" and is recommended as an alternate to be considered in lieu of the expensive option of a freeway. Its main features are: reduced alignment; less right-of-way; lower construction cost; less environmental impacts; signalized intersections now to accommodate major portions of build-out traffic with grade separations at major intersections if and when required in the future.

The basis of the traffic analysis relates directly to the January 1984 "Traffic Impact Analysis, Highway 68 Area Plan" by Joseph Holland. The impact to overall traffic generated by reduced on deferred development densities was considered in arriving at the above "modified freeway design".

The construction costs for the "modified freeway design" will be approximately \$14,500,000. Approximately 58 acres of additional right-of-way will be required at a cost of about \$3,000,000. Overall construction cost and right-of-way would be approximately \$17,500,000. The developers have indicated that their share could be as high as \$5,000,000 plus 34% of the right-of-way costs. This share is based on a study which assumes that if no development occurs, certain improvements will be required.

Improvements that will be required whether or not there is development along Highway 68 would cost about \$10,000,000 (4-lane divided highway). Right-of-way costs would be about \$3,000,000. The developers should not be responsible for these costs which will be necessary whether development occurs or not.

However, the added traffic lanes and signalization which are part of the modified freeway design are direct requirements of the development traffic.

If the developers provide \$5,000,000 construction costs plus 34% of the right-of-way costs, this leaves \$9,500,000 construction costs plus 66 percent of the right-of-way cost to be provided by City and County and State entities.

It is suggested this be a 50-50 split between local and state entities.

Developers' funding would be accommodated through an assessment district set up on the basis of traffic generation.

WALLACE HOLM, ARCHITECTS, INC.

WWD ENGINEERS; DAVID K. FULLER, P.E.

PAUL M. HAMERLY
MYRON E. ETIENNE, JR.
PETER T. HOSS
JAMES D. SCHWEFEL, JR.
MARTIN J. MAY
STEPHEN W. PEARSON
LLOYD W. LOWREY, JR.
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MONTEREY TELEPHONE 372-7525

OUR FILE NO. _____

November 27, 1985

HARRY L. NOLAND
OF COUNSEL

Mr. Lynne Mounday
Monterey County Planning
Department
P. O. Box 1208
Salinas, California 93902

Re: Response to EIR No. 84-007
Monterra's Ranch Subdivision
Environmental Impact on Hickman Onion

Dear Lynne:

The draft Environmental Impact Report for Monterra recommends in Mitigation Measure No. 34 the redesign and relocation of certain lots and roadways to avoid the areas of occurrence of the Hickman Onion.

We have commissioned Larry Seeman & Associates to review this proposed mitigation, and they have proposed, in the attached report, an alternative mitigation measure which we believe will reduce the impact of the project on the Hickman Onion to a level of insignifi-
cance.

#67

Instead of redesigning the subdivision, the Report proposes that the Hickman Onion population be moved and replanted away from the proposed lots and roadways. We believe this mitigation measure which protects the Hickman Onion population, while at the same time not requiring the redesign of the subdivision.

We request therefore that the final EIR incorporate this measure as an alternative mitigation measure to the impact on the Hickman Onion.

Sincerely,



Myron E. Etienne, Jr.
NOLAND, HAMERLY, ETIENNE & HOSS

MEE/mr

cc: Richard Stevens



Natural Resource Management
Transportation Engineering
Environmental Assessment
Community Planning

November 18, 1985

Mr. Myron E. Etienne, Jr.
Noland, Hamerly, Etienne & Hoss
P. O. Box 849
Salinas, CA 93802

**SUBJECT: TRANSLOCATION OF HICKMAN'S ONION FROM PROPOSED DEVELOPMENT AREAS ON
MONTERRA RANCH**

Dear Doc:

This letter responds to your request for an assessment of the possibility of transplanting Hickman's onion on the Monterra Ranch. The plants would be moved from sites within the proposed area of development to sites to remain undisturbed as a means of mitigating the effects of development on the species. We believe that it is possible to transplant Hickman's onion. We have developed a plan which shows how this method of mitigation would be undertaken. This plan is presented below.

Introduction

Hickman's onion is a small perennial plant which possesses round-to-oval underground bulbs varying from an eighth to one-half inch in diameter. The above-ground portion of the plant, which is typically no more than four inches tall, dies back each year (late summer), leaving the bulb to sustain the plant until the following growing season. These bulbs vary in depth in the soil but are generally found at less than six inches. In the spring the inflorescence (flowering stalk) and leaves emerge from the bulb, producing a blooming, field-visible plant in April and May. Seed matures and becomes collectible in mid- to late summer after the plant has dried out and become brown. At that time, the small plants are obscured by taller, dried grass and are difficult to find. By late summer the bulbs are dormant and in condition to be dug up.

Hickman's onion was found by us in four locations on the Ranch. Other sites which appear similar based on slope, aspects, and soil type were surveyed and did not support the plant. Field observations indicate that the plant is abundant where it occurs and is otherwise entirely absent. The species has been found in both moist and dry sites with north and south exposures. Although the species was found only in the grassland type on Monterra Ranch, the Rare Plant Status Report for Hickman's onion available

through the California Native Plant Society indicates that it occurs in closed-cone pine forest as well.

Additional information on soil conditions within the rooting zone (the top six inches), and site microclimate and hydrology would be valuable in defining the conditions within which the species is found and to provide a basis for identifying and accepting or rejecting candidate outplanting sites.

Hickman's onion can be transplanted using either whole plants or bulbs. Because the risk of plant loss is greater in transplanting whole plants than in transplanting bulbs, especially in the absence of irrigation water, we recommend that bulbs be transplanted according to the procedure described below. Plants can also be grown from seed but this requires a much longer period of time and it is uncertain if a sufficient quantity of plants could be grown.

Transplant Plan

This section describes the plan for establishing Hickman's onion outside the developed area of Monterra Ranch. The four steps or work items of the plan, listed in chronological order, are as follows:

1. Identify Potential Transplant Sites. Potential transplant sites include sites that currently support the species (but which would not be developed) and new, currently unoccupied sites identified through site evaluation. Transplanting into new sites is desirable because occurrence at a number of locations makes the population less susceptible to elimination through disturbance. Transplanting into sites where the species is established is also desirable because success is likely to be high.

Two currently occupied sites on Monterra Ranch are candidate transplanting sites. The first is the "ledge" above the steep slope southeast of the proposed detention basin in the northwest corner of the property. The second is south of the proposed intersection of Canada Vista and Romero Vista Roads. A third site is located on the adjacent Monterey Unified School District parcel along the same ledge.

These locations, which are the locations where Hickman's onion was found during the rare plant survey, are sites at which measurements would be made to describe "suitable environment" for the species. Data collected at these sites would include: a) aspect and exposure (slope direction and steepness); b) soil texture and water-holding capacity, pH, and nutrient status within the rooting zone; and c) terrain position (base of slope, top of ridge, margin of ledge, etc.). Together, aspect, exposure, and terrain position provide an

index to available water and evapotranspirational stress. They would be measured in the field. Soil data would be obtained through a battery of laboratory tests taken on samples removed from the field.

Candidate or potential transplanting sites would be identified on a site map. These would include areas adjacent to sites where the species occurs now, other sections of the strip along the rock ledge, other grassland areas, and open grassy sites in the middle of Monterey pine forests. Equivalent data would be acquired at each to assess their similarity with known "suitable" environments and to select from the several candidate sites those that appear most amenable to transplanting. The locations of potential transplanting sites are shown on the accompanying map.

2. Photograph and Mark the Location of Each Donor Site. Because bulbs would be excavated at a time of the year when the plants are not visible, areas containing plants and individual plant locations would have to be marked during the period when the species is bloom. Large concentrations (primary donor areas where plant density is greatest) would be marked with metal stakes driven into the ground to a depth of 24 inches. These large stakes would provide a more permanent marker less easily removed by trespassers or knocked over by cattle. Individual plant would be marked with a 12-inch, red-flagged pin pushed into the soil adjacent to the plant. This standard marking procedure would permit easier relocation at the time the bulbs are excavated. Photographs would be taken at the time the stakes and pins are set to document locations. Each photograph would contain an easily locatable "permanent" feature such as a tree, gully, fence post, large shrub, or one of the metal stakes. Donor areas would be revisited periodically to replace pins and stakes as necessary.

3. Excavate Bulbs and Collect Seed. The success of reproduction from seed is unknown for this species but spreading seed at the transplant sites could increase the number of plants that become established. Seeds can be collected at the time the bulbs are excavated by clipping the flowers and placing them into a standard seed collection sack or paper bag. The seed is treated with a fungicidal powder and stored uncleaned in a dry, cool location until the bulbs are transplanted. The bulbs would be excavated by hand with a small trowel and stored in a cool, dry environment until outplanting. At the time the bulbs are excavated, the depth of the bulb would be measured. The average depth would be used to establish the depth at which the bulbs would be transplanted.

4. Prepare the Transplant Site, Transplant the Bulbs, and Spread the Seed. Transplant sites would be prepared by removing the vegetation in small patches where the seed is spread. The holes into which the bulbs are trans-

planted would be excavated to a depth one inch greater than the average depth from which they are removed and would be at least three times as wide as the diameter of the bulb. The soil at the bottom of the hole would be loosened and would be covered with one inch of native soil before the bulb is set. Then the bulb would be covered and the hole would be filled with native soil. Transplanting would be conducted after the fall rains have saturated the surface six inches of soil at the transplant sites.

The above four steps are the primary steps in the transplanting plan. Additional implementation details can be developed and provided at your request. This plan can be carried out for any number of plants up to the total number occurring in the area to be developed.

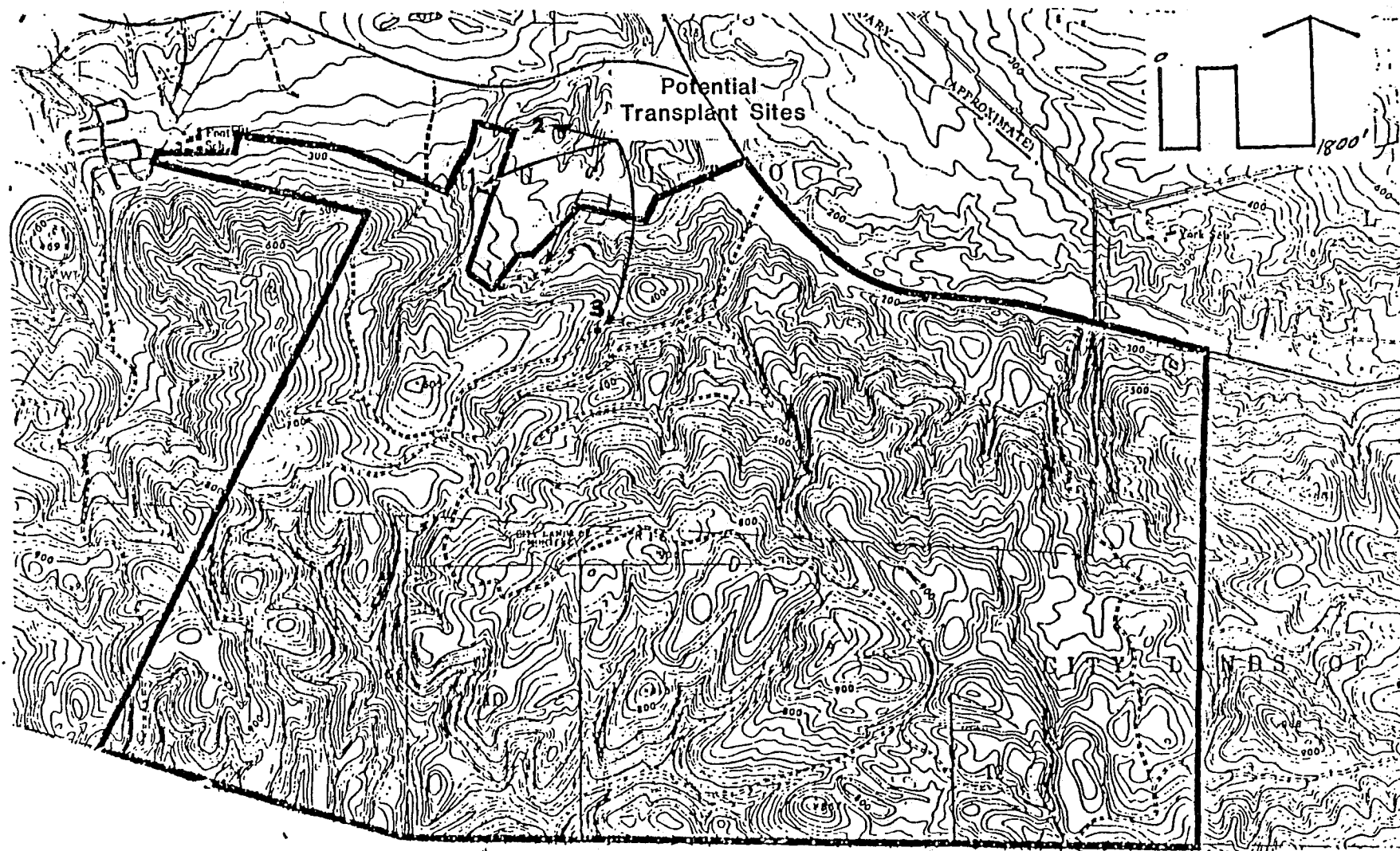
Please call us if you have any questions about the information presented in this transplanting plan.

Sincerely,

LARRY SEEMAN ASSOCIATES, INC.

Larry Stromberg *of MTS*
Larry Stromberg, Ph.D.
Project Scientist

LS:mmq



POTENTIAL HICKMAN'S ONION TRANSPLANT SITES

DEPARTMENT OF FORESTRY

401 Canal Street
King City, CA. 93930
(408) 385-5412



November 19, 1985

Lynne H. Mounday, Senior Planner
Monterey County Planning Department
P. O. Box 1208
Salinas, CA. 93902

Dear Lynne:

The information contained in Draft EIR No. 84-007, Subdivision #815, Monterra Ranch Subdivision, regarding fire protection Section 2.9.3 is correct with one minor exception. On Page 118 the 1st sentence at the top of the page is incorrect and contains assumptions not valid. The sentence should read:.... CSA No. 39 (serving Josselyn, Aguajito and Del Monte Fairways) is dependent upon CSA 43 and Pebble Beach CSD to exist, and its sphere of influence does not cover the area. And Monterey City normally serves only lands within the city limits. #68

Sincerely,

A handwritten signature in cursive script that reads 'Tom Perkins'.

TOM PERKINS
Fire Warden
County of Monterey

TP:jan



CITY OF DEL REY OAKS

650 CANYON DEL REY ROAD • DEL REY OAKS, CALIFORNIA 93940

OFFICE OF The Mayor

TELEPHONE (408) 394-8511

November 13, 1985

Mr. Robert Slimmon, Jr.
Director of Planning
Monterey County Planning Department
P.O. Box 1208
Salinas, California 93902

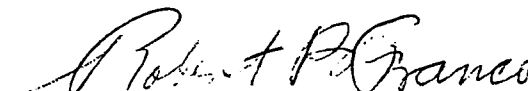
Dear Mr. Slimmon:

We feel that the Draft EIR for the Monterra Ranch Subdivision is incomplete as it lacks a detailed traffic impacts study on Canyon Del Rey Road (Highway 218). Only Table 2.6, p. 106 a of the draft report describes the impact on Highway 218 and on the City of Del Rey Oaks: a 15.7% increase, which is totally unacceptable to this City. We would like to see in the report a complete statement of traffic impacts on Highway 218 and their proposed mitigation. #69

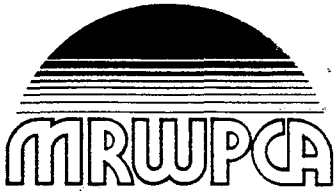
We agree with the statement No. 28, p. xiii, that "the new Ragsdale Drive access point represents a significant adverse impact compared to an alternate access point off Olmsted Road, which is now equipped with a traffic light at Highway 68".

We are strongly opposed to the "new" concept of both access points east of the junction of Highways 68 and 218, therefore, we support the mitigation measures 69-79, especially No. 69.

Sincerely,


Robert B. Franco
Mayor

RBf:njg



MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY

220 Country Club Gate Center, Suite 34—Pacific Grove, CA 93950
(408) 372-3367

November 14, 1985

Lynne H Mounday,
Senior Planner
Monterey County Planning Dept.
PO Box 1208
Salinas, CA 93902

RE: Monterra Ranch Subdivision

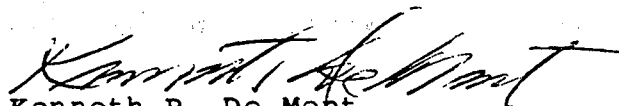
Dear Sir:

We have reviewed your Draft Environmental Report and wish to make the following comments.

Since our area of concern is wastewater disposal, we will only comment on that specific area. Item 2.9.2, Wastewater Disposal, pages 115 and 116, proposes disposal by septic tank systems. The Agency is presently planning for treatment capacity beginning between 1990 and 2000 for the Monterra Ranch development. Our planning documents include service for a population of 965 by 1995, 1930 by 2000 and an ultimate population of 2895. #70

If you have any questions, please contact me.

Sincerely,


Kenneth P. De Menth
Agency Manager

KD/kmb

MONTEREY COUNTY

PLANNING DEPARTMENT

(408) 422-9018 • P.O. BOX 1208 • SALINAS, CALIFORNIA 93902

ROBERT SLIMMON, JR.
DIRECTOR OF PLANNING



November 6, 1985

Bill Clarke
Mnty. Co. Building Dept.
P. O. Box 1208
Salinas, CA 93902

Re: Monterra Ranch
Subdivision, near
Monterey on Hwy. 68

Dear Mr. Clarke:

We are sending you a copy of a Draft Environmental Impact Report for your review and comment. If you, your department, or organization have any critical comments or suggestions about this report as it pertains to your field of expertise they must be received by our office in writing by December 23, 1985.

It should be noted that the comments received will be added to the Draft Environmental Impact Report which then becomes the final Environmental Impact Report. The final Environmental Impact Report is then used as an informational document in the decision making process.

Sincerely,

Lynne H. Mounday
Lynne H. Mounday
Senior Planner

LHM/ej

Nov 8. 85
OK.

Require all
mitigation measures
William Clarke



MONTEREY BAY UNIFIED
AIR POLLUTION CONTROL DISTRICT

1164 MONROE STREET, SUITE #10 • SALINAS, CALIFORNIA 93906-3596 • (408) 443-1135

December 20, 1985

Robert Slimmon, Director
Monterey County Planning Department
P. O. Box 1208
Salinas, CA 93902

Subject: Draft EIR For The Monterra Ranch Subdivision

Dear Mr. Slimmon:

We have reviewed the above project and have several concerns as follows:

Section 2.8. Air Quality

- recent air quality data should be used.
- mitigation measures are not quantified as presented.

Comment #5

71

Title 2.7.

This table should present the data in common units.

72

We appreciate this opportunity to comment.

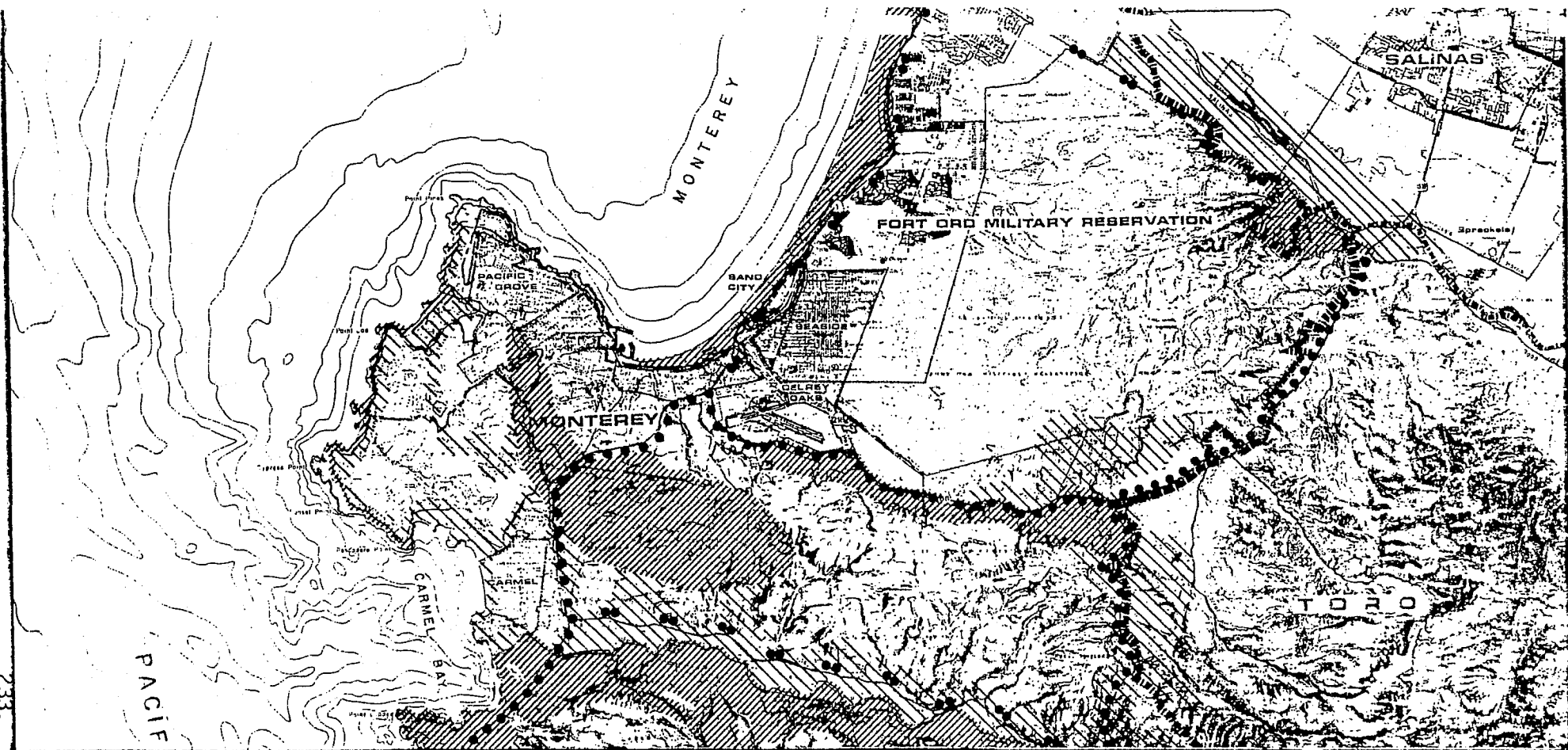
Sincerely,

LAWRENCE D. ODLE
EXECUTIVE OFFICER

By: *Douglas Quetin* / Ac
Douglas Quetin
Supervising Program Manager

DQ:ac
cc: AMBAG
File: 3442

233.



GREATER MONTEREY PENINSULA PLANNING AREA

PLANNING AREA BOUNDARY - - - - -

COASTAL ZONE BOUNDARY - - - - -

FIGURE 17

VISUAL SENSITIVITY AND SCENIC ROUTES

SCENIC ROUTES

..... EXISTING

- - - - - PROPOSED



HIGHLY SENSITIVE
AREAS

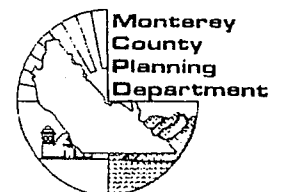


SENSITIVE AREAS



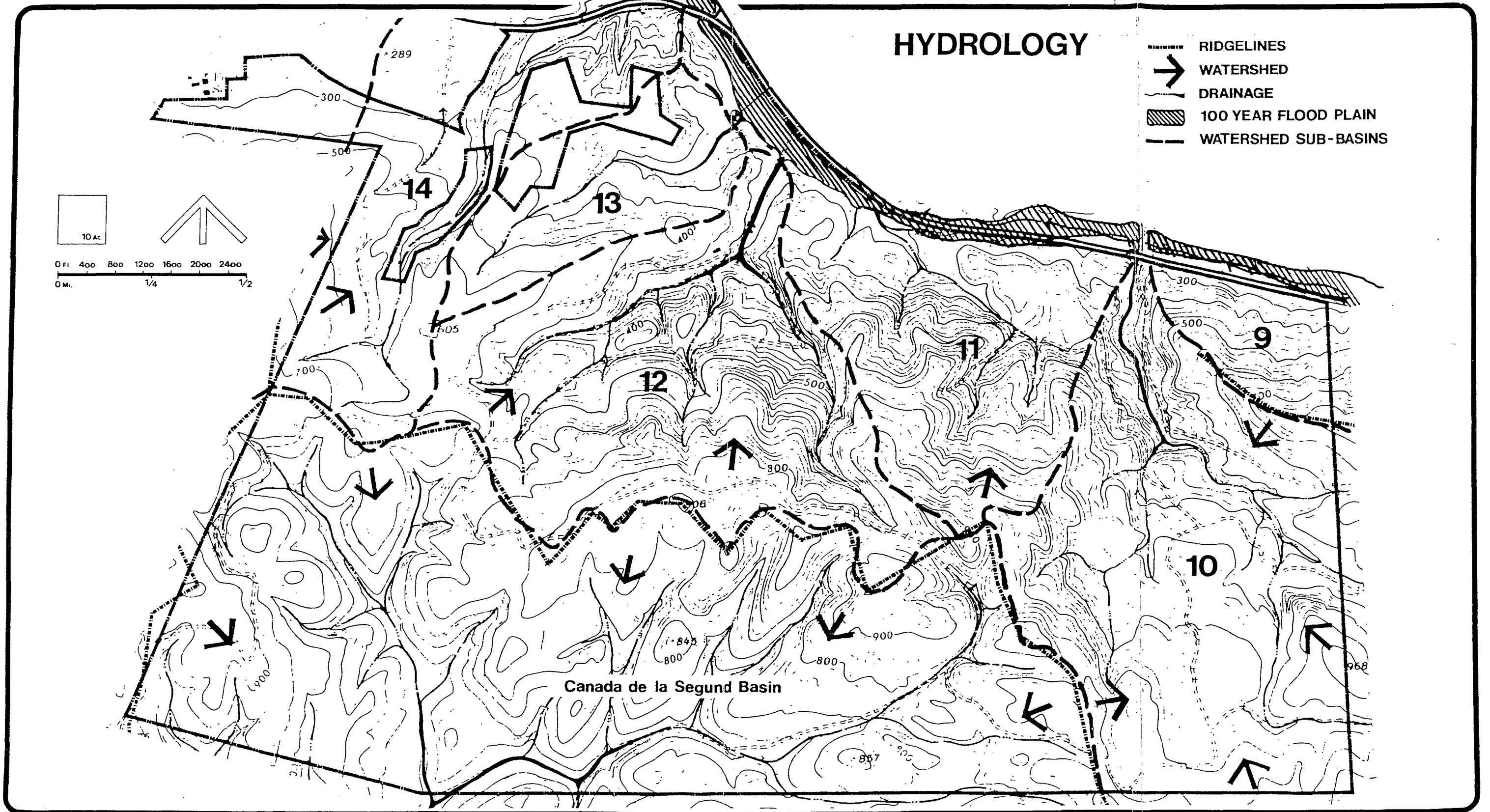
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FEET

OCTOBER 1981



Appendix E

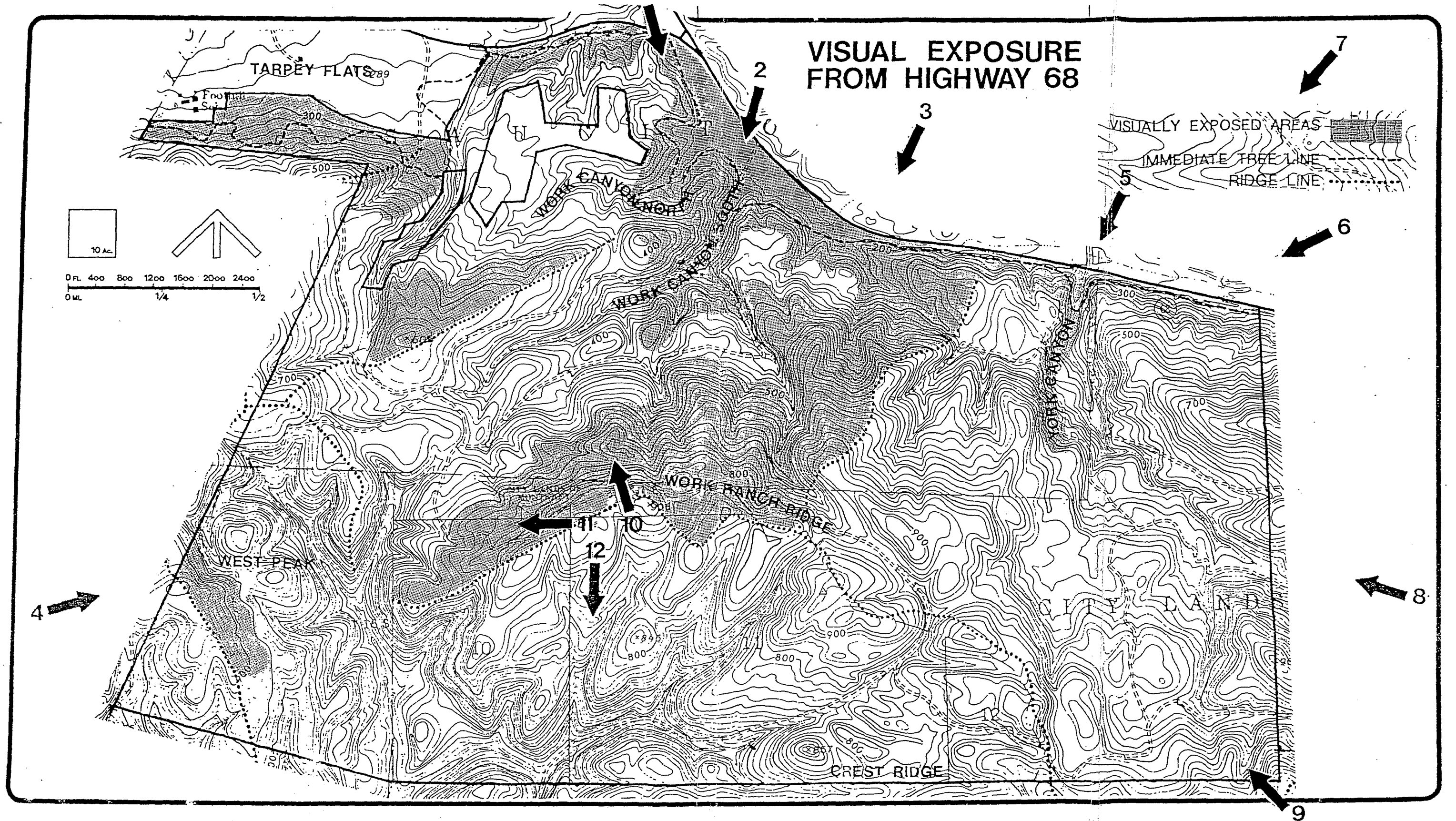
SOURCES: MONTEREY COUNTY PLANNING DEPARTMENT; GREATER MONTEREY PENINSULA PLANNING AREA CITIZENS ADVISORY COMMITTEE, 1983.



DRAINAGE SUB-BASINS & 100-YEAR FLOODWAY

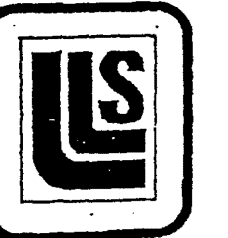
FIGURE 2.6

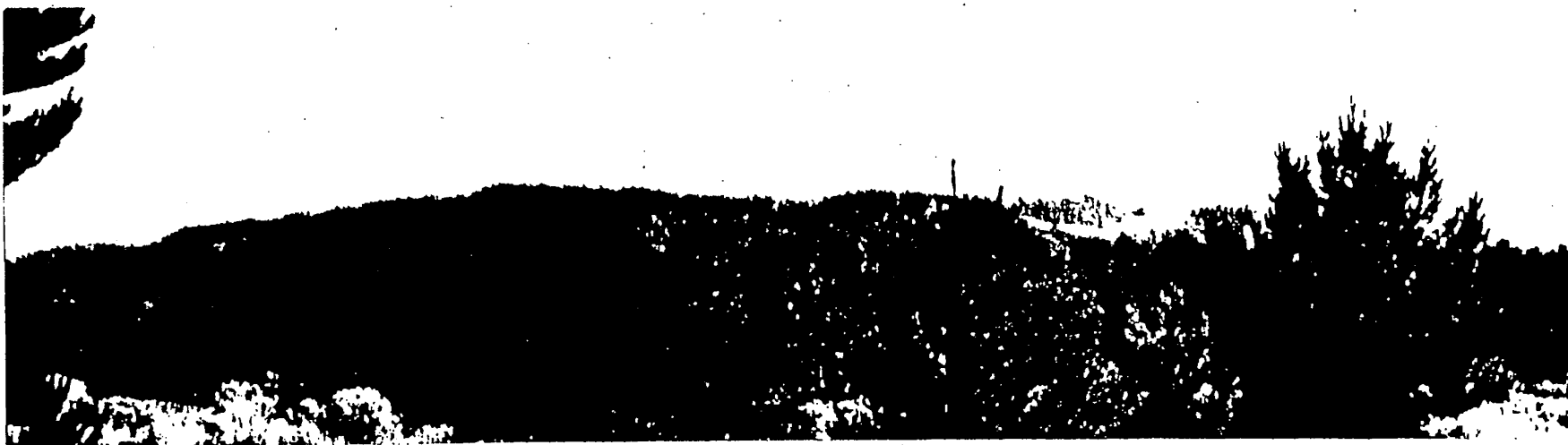




MAJOR LANDFORMS & VISUAL EXPOSURE FROM HIGHWAY 68

FIGURE 2.8





4



5

PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 4-5

FIGURE 2.9





6

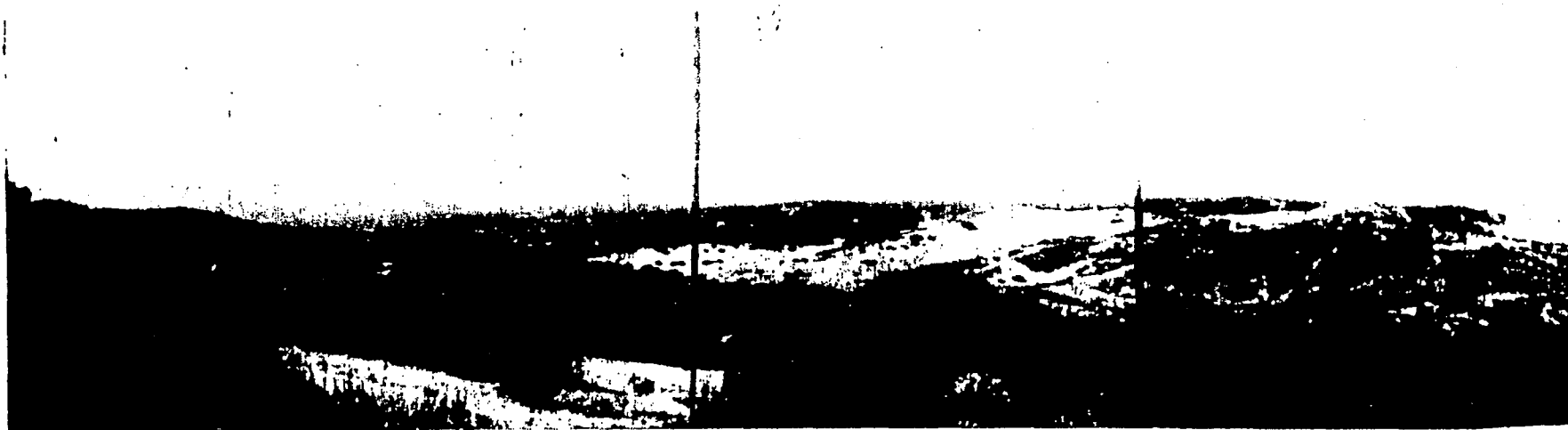


7

PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 6-7

FIGURE 2.9





8

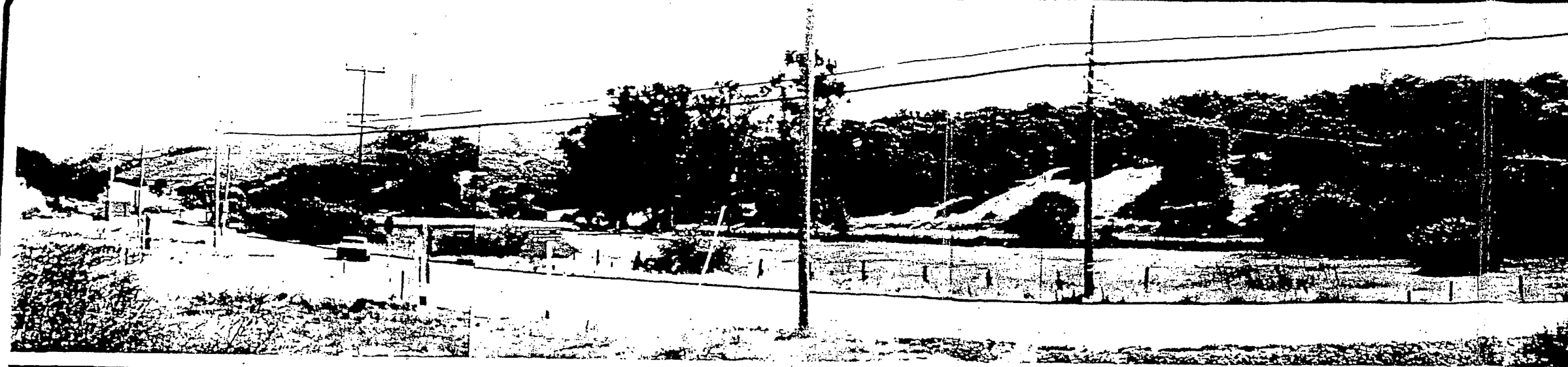


9

PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 8-9

FIGURE 2.9





1



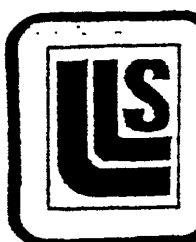
2



3

PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 1-3

FIGURE 2.9A

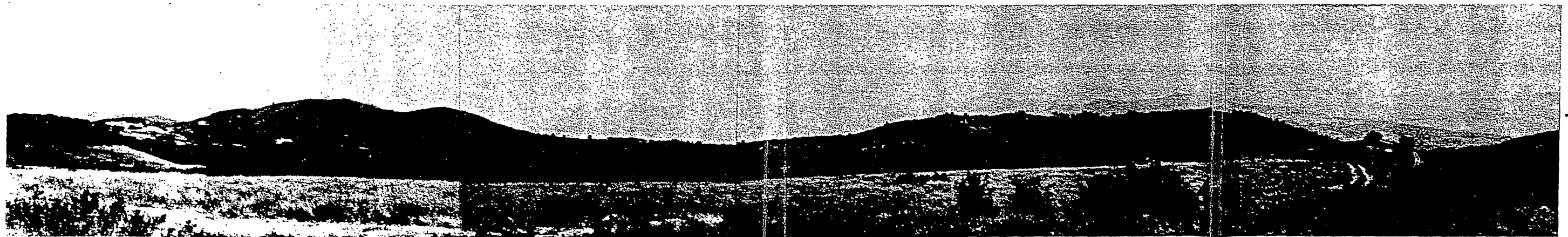




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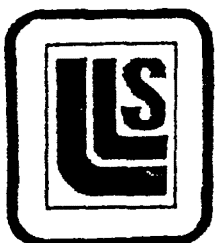
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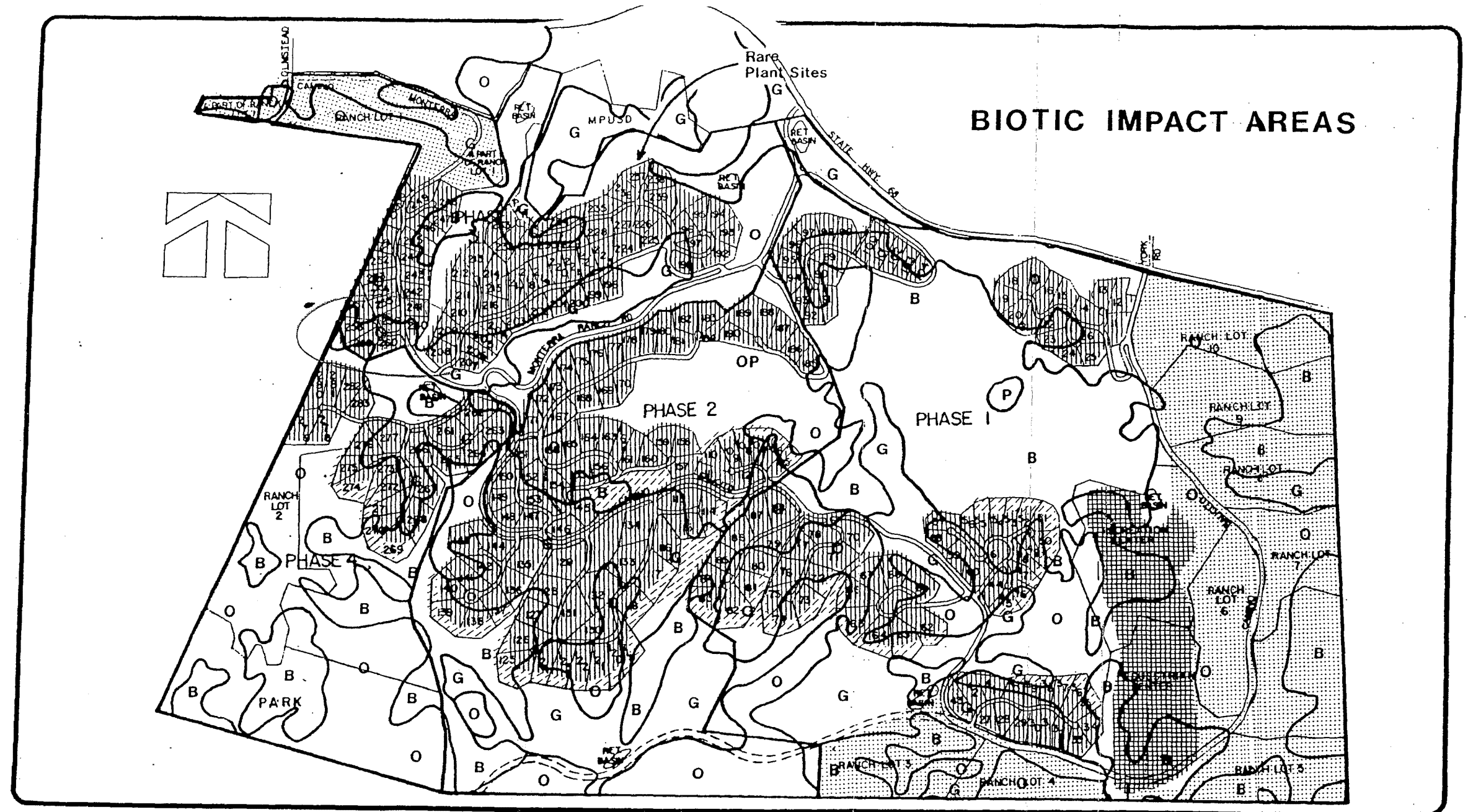


12

PHOTOGRAPHIC RECONNAISSANCE OF THE PROJECT AREA PLATES 10-12

FIGURE 2.9 B





BIOTIC IMPACT AREAS FIGURE 2.7

O OAK TREES
P PINE TREES

B BRUSH AREAS
G GRASSLANDS

High Biotic Impact
Medium Biotic Impact
Low Biotic Impact

Insignificant Biotic Impact
Undetermined Biotic Impact

