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Community Planning □ Natural Resource Management □ Environmental Assessment

ENVIRONMENTAL ASSESSMENT
LEVINSON PROPERTY
BRISBANE

PREPARED FOR
ROYSTON, HANAMOTO, ALLEY, & ABEY

OCTOBER 1982

PREPARED BY

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LSA #82-040

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INTRODUCTION

This Environmental Assessment (EA) inventories the natural resources of the 26.5 acre Levinson property in Brisbane. Its purpose is to provide information to the property owner and their land planner to assist with any land planning which takes place on the project site.

This assessment has been compiled from a variety of sources, including published and unpublished studies, applicable plans, original research, and interviews by letter or phone. All factors assessed are described in terms of Setting and Planning Considerations.

Participants in the preparation of this EA include:

Malcolm J. Sproul	Project Manager
Jim Martin	Analyst
Stan Shelly (subcontractor)	Noise Analysis

Resumes and statements of experience for all personnel involved in this study are available on request from the offices of Larry Seeman Associates.

ENVIRONMENTAL ANALYSIS

HYDROLOGY

Setting. The Levinson property is located within the watershed of Visitation Valley. The site is divided into two hydrologic areas: an upland consisting of a portion of the northeastern edge of the Guadalupe Hills, and a lowland occupied by a seasonal freshwater marsh. The drainage ditch which runs through the site carries runoff from the northeastern slopes of the Guadalupe Hills. This water eventually reaches San Francisco Bay. Most runoff in the Visitation Valley watershed is directed to the Bay through a storm-drain network which bypasses the site.

No data on runoff quantity, quality, or timing is available. Quality is probably slightly degraded by active erosion, the stables and urban associated pollutants. The upland area of the property has several channels. The drainage originating in the southwestern corner of the lot receives runoff from Guadalupe Canyon Parkway to the south. Runoff from the Parkway is discharged into the drainage channel and has contributed to an actively eroding gully, in places reaching a depth of up to 10 feet. Stable channels occur along the eastern edge of the property in the vicinity of the old borrow area (Kaldveer and Associates, 1981).

The marsh vegetation in the lowland area indicates a high groundwater level for the area. Fluctuations in the groundwater level occur due to variations in rainfall and collected runoff. This fluctuation results in the seasonal drying of most of the marsh by late summer. Subsurface soil investigations in the marsh (Kaldveer and Associates, 1981) indicate extensive filling has occurred on the property. This portion of the site was once tidal salt marsh prior to urbanization of Visitation Valley (Nichols and Wright, 1971).

Planning Considerations. The quantity of runoff from the site would increase if development were to occur. Impervious surfaces would be created by new structures on the site. New runoff channels, such as streets and gutters, would also be impervious. Water that is prevented from soaking into the ground due to these impervious surfaces would become runoff.

There is currently a lag between peak precipitation and peak runoff. This lag is caused by water soaking into the ground in part rather than entering directly into runoff channels. More water would enter directly into runoff channels when development occurs. This would result in a concentration of runoff near peak precipitation times.

Water quality could be degraded both during construction and after development. Increased sedimentation resulting from ground disturbance is a typical result of construction activity. This potential adverse impact can be avoided or mitigated provided routine preventative measures in design and construction are observed. These should include:

1. Minimization of grading and cut slopes.

2. Revegetation of all cut slopes and exposed soil.

3. Minimization of construction activity near the marsh and drainage ditch.

4. Timing of construction and grading during the low rainfall period (April to October).

5. Provision of erosion protection at any drainage discharge location.

Degredation of water quality following development would be due to an influx of urban pollutants into runoff. Fertilizers, insecticides, petroleum products, soaps, and detergents are likely to enter the development's storm drainage system. Measures could be implemented to minimize these effects, including:

1. Regularly scheduled vacuum street sweeping.

2. Controlling the application and use of pesticides.

3. Controlling the direct dumping of pollutants into the storm sewers.

4. Reducing or eliminating the accumulation of pollutants in catch basins by periodically cleaning and maintaining them.

The water table is at or near the surface of the ground, in the vicinity of the marsh. This could cause problems with structures built on the high water table area as identified in a foundation investigation conducted in 1981 (Kaldveer and Associates, 1981). Problems could be mitigated by filling this portion of the site and providing subdrainage or by avoiding the marsh entirely. Any alteration of the drainage ditch and marsh on the property may be subject to Section 1603 of the Fish and Game Code or the States Wetlands policy. This will require a determination by Fish and Game personnel.

VEGETATION AND WILDLIFE

Setting

Vegetation. The vegetation on the subject property is of three principal types. These are annual grassland, freshwater marsh and ornamental vegetation, composed primarily of eucalyptus. The annual grassland occupies most of the property and varies in species composition depending on soil depth and the degree of past disturbance. A freshwater marsh is located north of Main Street. Marsh vegetation is also found in and along the drainage ditch, which parallels Main Street. Ornamental vegetation surrounds the old ranch complex on the property and has also been planted along Bayshore Highway at the eastern boundary of the site.

Annual grassland occupies over 60% of the property and is located on the slopes south of Main Street. The condition of the grassland varies with the degree of disturbance the type has experienced in the past. The entire grassland area has been subjected to grazing pressure. Selective grazing has modified the native perennial grassland to the existing grassland composed primarily of introduced annual grass species. Annual grass species include slender wild oats, silvery hair grass and farmer's foxtail. A list of plant species observed on the property is included in this report as Appendix A.

Many species of wildflowers and forbs, both native and introduced, are associated with annual grassland. Some of the native species include Johnny jump-up, goldfields, California poppy, California buttercup and coast iris. Introduced species include: vetches, wild radish, mustards, filarees, bull thistle, milk thistle, and sweet fennel. Wildflowers and forbs are a major botanical and aesthetic resource of the project site and form a stable subtype to the annual grassland in the southern upper slopes of the site.

The upper slopes of the property have received less disturbance than the lower slopes and consequently support a number of well established perennial grasses and forbs. These species include: pearly everlasting, soap plant, coast iris, blue-eyed grass, golden aster, wild buckwheat, sticky cinquefoil, sky lupine, and harding grass. This distinction in species composition is also a reflection of the difference in soil properties between the upper and lower slopes of the property. The soil of the upper slopes is thin and rocky. A number of rock outcrops occur in this portion of the site. The presence of well established perennial grasses and forbs indicates the requirement of a deep tap root or well established root system if an individual is to survive in the well drained soil. Introduced annual species have difficulty becoming established in this area due to the prevalence of the well established perennials. These annuals prefer the deeper soils of the lower slopes where soil

moisture availability is greater and past disturbance such as plowing and grading has removed the native perennial species.

Ornamental vegetation grows along Bayshore Highway and also surrounds the ranch complex south of Main Street. This type consists primarily of blue gum eucalyptus and also includes date palm and other species of eucalyptus. Understory vegetation in this type is composed of grassland species. Ornamental vegetation along Bayshore Highway was planted as landscaping. The blue gum eucalyptus surrounding the ranch complex was probably planted as a windbreak, or to provide shade.

Freshwater marsh occurs on the site, north of Main Street. Marsh vegetation is also found along the drainage channel. This vegetation is extremely dense and includes arroyo willow, celery and broadleaved cat-tail. A thicket of California blackberry surrounds the channel. The actual marsh is located to the north of the channel. Common species include water plantain, cat-tail, brass buttons, willow, sedges and rushes. The cover of vegetation is less dense than the vegetation which grows along the channel. Gorse is found with the willow in the northwestern corner of the property growing at the fringe of the marsh.

The freshwater marsh on the property, although artificially created, represents most of the remaining wetlands habitat in Visitacion Valley. Marshland habitat was more common on the valley floor prior to development particularly to the east where salt marsh fringed the the Bay. Development in the valley required extensive filling as indicated by the findings of soil borings on the property. (Kaldveer and Associates, 1981).

Fill on the lower portion of the property has eliminated some of the marsh. The fill presently supports a variety of weed species, the most common of which is valley pineappleweed. Filaree, plantain, and bird's foot trefoil are also found in the fill area.

Wildlife. Wildlife species are associated with those vegetation types in which their requirements for survival and reproduction can be met. Some species are found in only a single type while other species must use the resources of a number of types to satisfy their requirements. The environment in which the needs of an animal are met, whether it consists of a single or of many vegetation types, is considered the habitat of that organism.

The habitat types present on the property support a variety of animal species. Species dependant on the annual grassland as preferred habitat predominate, reflecting the large amount of grassland occurring on the proper-

ty and the surrounding areas. Other habitat types on the site include freshwater marsh and eucalyptus windbreak.

The project site is part of the range of a butterfly species, the mission blue, which is listed as endangered by the U.S. Fish and Wildlife Service. A second butterfly species, the callippe silverspot, which is found on the site has been considered for listing by the Federal government. Critical habitat has been designated for the mission blue and it does not include this property. The property is included within the area covered by the San Bruno Mountain Area Habitat Conservation Plan (HCP), and will be subject to its regulations. Detailed information regarding these species biology, habitat requirements, and host plant relationships is available in the Endangered Species Survey, San Bruno Mountain (1982) prepared by Thomas Reid Associates for San Mateo County. Site specific information regarding these two species is presented here and the reader is referred to the Reid study for further information about these butterflies.

As described in the Vegetation Section, grassland on the site can be divided into two subtypes based primarily on soil depth and moisture storage capability. The upper (western) portion of the property has steep slopes and shallow rocky soils which do not retain large amounts of soil moisture. The "dry" grassland which is found on these slopes is suitable habitat for the two species of concern. Larval food plants (Viola pedunculata lupinus albifrons) and nectar plants (Eriogonum latifolium, Horkelia californica) are present in this portion of the property. This area is part of a band of suitable butterfly habitat located below Guadalupe Canyon Parkway.

The HCP states that this property is marginal habitat for both the mission blue and callippe silverspot. Distribution maps in the HCP indicate that they have primarily been recorded from the upper, western portion of the property which corresponds to the dry, grassland habitat we identify as suitable butterfly habitat. We observed mission blue in this area during our field work.

The remainder of the property supports the "moist" grassland habitat found on deeper soils with greater soil moisture retention capacity. This grassland subtype is not suitable butterfly habitat. Larval host plants are not found here and nectar plants are not as common.

The mammals associated with annual grassland are primarily small herbivores. The California vole is the most abundant species. Trails and burrows of this species can be found throughout areas supporting dense grass on the project site. Botta pocket gophers are common in sparser grass. Western harvest mice, California mice and possibly kangaroo rats have been observed on

the Guadalupe Hills south of Guadalupe Canyon Parkway (URS, 1975) and may inhabit the grassland areas of the site. Blacktail jackrabbits are common where tall forbs or shrubs provide cover. Marsh vegetation and the blackberry thicket provide suitable cover for jackrabbits which feed in the grassland to the south. Larger mammals are limited due to a lack of suitable hiding cover and the sites proximity to developed areas. Gray fox may occasionally move on and off of the property by crossing Guadalupe Canyon Parkway from the Guadalupe Hills to the south. A long-tailed weasel was observed during the field reconnaissance.

Birds are the most conspicuous and diverse group of vertebrates present. Raptors, or birds of prey, are often seen over the project site. Turkey vultures and red-tailed hawks are common in the area. Other raptors sighted include American kestrel and sharp-shinned hawk. All of these species are year-round residents of San Bruno Mountain and the site serves as a portion of the range of these species.

Annual grassland provides primary habitat for only a few bird species. These include western meadowlark, loggerhead shrike, and savanna sparrow. A much larger number of species roost in adjacent trees and feed in the grassland. These include mourning dove, Brewer's blackbird, starling, and house finch. Several others are commonly seen feeding on insects over the grassland such as the white-throated swift, barn swallow and cliff swallow.

A number of reptiles are found in the annual grassland habitat. Western fence and alligator lizards are found near rock outcrops in the southern portion of the property and along the western edge of the site where tree trunks and fence posts provide suitable sunning areas. Terrestrial garter snakes, gopher snakes, and common racers are common in and around rock outcrops and in open areas where ground cover is poorly established.

The freshwater marsh supports a number of species indiginous to it. The resources of the marsh maintain large populations of freshwater snails, dragonflies and other water dependent crustaceans, mollusks and insects in spring and early summer. As the summer progresses surface water in the marsh evaporates and eventually results in the death of most of the adult snails. Snail populations are sustained by large quantities of eggs which are deposited in the mud and which survive the dry summer under a layer of hardened mud.

The marsh is also potentially suitable habitat for the San Francisco garter snake. This species is listed as endangered by agencies of the State and Federal governments. The nearest reported population of this species is from the saddle area of San Bruno Mountain. No snakes were observed during a field reconnaissance of the site, but the species of concern is known to be

llusive (Brode, 1982). The potential does exist for the occurrence of a population of this species in and around the marsh.

The marsh and open ditch on the property serve as an important source of cover and water for wildlife species in the area. Many species which obtain food in other habitat types rely on the water available on the property. Barn swallows and cliff swallows nest in and on buildings in the vicinity of the site, obtaining mud for nests from the marsh. The large insect population at the marsh serves as a major food source for the swallows. In addition, the dense marsh vegetation provides signicant cover to wildlife, particularly the large species found in the area such as the black-tail jackrabbit and occasional grey fox.

Planning Considerations

Vegetation. Depending on project plans, development of the site would result in a reduction and possibly the elimination of the existing vegetation types on the property. The development of grassland areas would reduce the botanical and aesthetic resources contributed by the wildflowers associated with the grassland.

Disturbance to the upper slopes of the site would adversely affect the condition of the existing stable subtype of the annual grassland. Any grading in this area would eliminate the well established perennials which characterize this subtype. A competitive advantage is currently maintained over the introduced annual species by the fact that the perennials are well established in this area. Grading would remove this competitive advantage and may result in the replacement of the perennial species by the introduced annuals. This replacement would destroy the botanical value this subtype holds and would also eliminate suitable habitat for the mission blue and callippe silverspot butterflies. Grading or any disturbance of the upper slopes should therefore be restricted from this area.

Previous plans for the property have included filling the marsh and lining the drainage ditch with concrete. Present plans include preserving at least portions of the marsh which would greatly reduce impacts to the marshland. Any modification of the marsh or existing drainage channel may be subject to the Department of Fish and Game codes on streambed alteration and the States wetlands policy. This will require a determination by Fish and Game personnel.

Development of the project site could result in the spread of gorse and French broom. Both of these plants are noxious weeds, well known for their invasive potential. They currently have a limited distribution on the project

site, with little invasion occurring. Invasion of these weeds commonly occurs in disturbed areas such as soil stripped of its vegetative cover by construction activity. A plan to prevent the spread of gorse and French broom after construction will be necessary. This should include replanting of all slopes to be left in open space with a mix of grassland species to reduce the amount of area suitable for seedling establishment and a program of manually pulling all seedlings which do appear.

Wildlife. Development on the upper slopes of the property would eliminate marginal grassland habitat of the callippe silverspot and the endangered mission blue butterfiles. In ecological terms this area should be considered part of a band of suitable butterfly habitat located north of (below) Guadalupe Canyon Parkway.

The Habitat Conservation Plan (HCP) makes no specific recommendation regarding this property, indicating that specific site development plans are necessary before recommendations can be made. It does state that the property owner will be required to participate in the regulatory provisions (and funding, if development takes place) of the HCP. An amendment to the HCP will be required to develop this property, which will be part of the development review process. The primary concern to be evaluated for an HCP amendment is that development does not conflict with the primary purpose of the HCP; to provide for the indefinite, long-term perpetuation of the mission blue, callippe silverspot, and other species of concern.

It is likely that the landowners obligations under the HCP will be very similar to those listed in the HCP for the adjacent Alisal parcel. The most important of these are to dedicate all ungraded areas to the County, to participate in the HCP funding program, and to reclaim all exposed graded slopes with native and host plant species. There is a possibility that the suitable butterfly habitat may be placed in retained habitat. The upper portions of the parcel to the north (Rio Verde Heights) are shown as retained habitat and the suitable butterfly habitat on this parcel is similar to and contiguous with this adjacent area.

The reduction of grassland would affect the numerous bird species and reptiles which are associated with this habitat type. Loss of foraging habitat for raptors would result if the site were developed. All raptor species currently using the property would no longer be found here under almost any development scenario. Suitably sized foraging areas would no longer be present, eliminating the sites habitat value. Reptiles and most of the seed-eating and insect-eating birds would be extirpated from development areas. Undeveloped areas of the site would continue to support individuals assuming requirements of survival and reproduction can be met. Proposed

undisturbed portions of the site should be situated adjacent to undeveloped land on the surrounding properties to increase the wildlife habitat value of the undisturbed areas.

Although the eucalyptus are introduced, the trees on the site are important to a number of wildlife species. Raptors use the trees for perching and nesting. Hummingbirds feed on nectar from the eucalptus flowers and also nest in the trees as do morning doves. Trees on the site should be preserved wherever possible to retain the wildlife resources they provide.

The marsh on the property is a significant resource to wildlife in the area due primarily to the elimination of most other wetland habitat in Visitation Valley. Filling portions of the marsh and reconstruction of the drainage ditch would restrict access to an important source of water for wildlife in the area. Vegetation removal would reduce or eliminate protective cover for wildlife species. Development of the land occupied by the marsh would destroy suitable habitat for the endangered San Francisco garter snake and may eliminate an undetected population of this species.

CLIMATE

Setting. The climate of the area, as with all California coastal environs, is largely controlled by the semi-permanent high pressure center to located offshore the southwest and the interaction of marine air blowing onshore across the complex topography of the Bay Area. In summer, when this high center is strongest and farthest north, it produces very strong onshore flow and low stratus clouds (coastal fog) that dominate weather patterns. In winter, when the high is found farther south, weather patterns become more variable as clear days alternate with the clouds and rain from mid-latitude storms. The moderating influence of the ocean prevents extremes of hot and cold, maintaining a very limited range of temperature and moisture.

Temperature at the Levinson site is expected to closely parallel conditions at San Francisco International Airport, located a few miles southeast, where long-term records are available. The annual average temperature of 57°F undergoes only small fluctuations about the mean. Summer afternoons average in the low 70s and winter minima drop to the low 40s. Lowest temperatures are observed in January, with the summer maximum delayed until September because of fog in July and August that moderates temperatures during these months. Daily temperature ranges are at a minimum in January (15°F. variation per day) and vary by almost 20°F from minimum to maximum in September.

While the annual variation in temperature in the vicinity of the property is small, the variation in relative humidity is kept even smaller by the

strong maritime influence. There is less than a 10 percent variation between the dampest month (January) and the driest (October), with daily fluctuations averaging slightly over 20 percent from the early morning maximum to the late afternoon minimum. Humidity maxima are at 80 percent or higher every month of the year, with monthly minima well above 50 percent even during the "dry" season.

The mean wind speed closely parallels the mean pressure difference between the oceanic high cell and the low-pressure thermal trough in the Central Valley. Average day time winds are over 15 mph and often reach 20 to 25 mph. Mean monthly wind speed doubles from the minimum in winter to the maximum in early summer. While the average wind speed peaks very strongly in summer, the maximum monthly wind speed has just the opposite distribution with the strongest winds occurring in winter, associated with storms passing through the area.

Sustained winds in the area have reached almost 60 mph, but peak gusts have been considerably higher, reaching about 80 mph. Most strong gusts are simply from wind variation during winter storms. A few strong gusts have been recorded during years with lighter winds. These may be from occasional thunderstorm activity when isolated gusty winds develop whirlwinds surrounding thunderheads. Such storm phenomena are quite rare in the area and usually cause little damage except to trees and landscaping. The location of the site at the base of the Guadalupe Hills provides shelter against peak and sustained high wind levels which are strongest on the ridgetops.

The clouds and fog of the San Francisco Bay Area are a well-known characteristic of the interaction of warm marine air passing over cool coastal ocean currents. The base of these clouds is usually well above the bay itself, but creates a high frequency of fog in elevated terrain. This low stratus and fog demonstrates considerable diurnal and seasonal variation. During the summer months, the clouds often arrive in the evening, thicken during the night, and burn off during the morning hours. Only three days per month during the summer are classified as "mostly cloudy" from sunrise to sunset. About half of all winter days are classified as mostly cloudy or overcast, but the overcast is generally considerably higher than the low marine stratus of the summer months, and is associated with the passage of storm fronts. Only rarely does the winter "Tule" fog extend to this portion of the bay.

San Francisco has an average annual rainfall total of 18.7 inches. About 90 percent of all rain falls from November through April, with many summer months completely dry. Winter clouds generally correlate with periods of rainfall, while summer stratus clouds yield considerable sky cover without any corresponding rainfall.

Because the area is on the fringe of the mid-latitude storm track, precipitation amounts tend to be highly variable from year to year. The 24-hour maximum of over 4 inches and the one month record of 12.3 inches occurred during a peak rainfall year. In contrast, there are some prolonged drought periods. While killing frosts are extremely rare, they do occur once every two or three decades.

Lowest temperatures recorded near the project site are generally near 28°F at the lowest elevations and slightly warmer near the hilltops where the cold air flows downhill and leaves warmer air behind. Burlingame experiences about 320 days between the spring and fall freeze, while at Half Moon Bay there is only a 50 percent probability of 32°F being reached at all during the winter season. Because of the moderating ocean influence and elevation protection, the higher portions of the property probably have a growing season of 365 days per year.

Planning Considerations. Some moderation of wind velocity on the site may be required if outdoor uses are to be feasible. Strong winds occur to the south on the ridge above the site. Some strong winds originating from the northwest pass across the site but for the most part it is sheltered from high wind velocities. While wind impact on taller buildings is an important consideration, it is equally critical to control winds near the ground for safety and comfort. Such wind control is best accomplished by vegetative windbreaks. Generally, windbreaks are effective up to 10 tree heights downwind with about a 50 percent velocity reduction.

Heavy fog (visibility less than 0.25 mile) occurs on 16 days per year (mainly in winter) when traffic may be affected, especially during the early morning hours. Because of this occasional thick fog, it is important that traffic signalization and control utilize multiple methods visible from several different viewing angles to prevent accidents. Warning flashers and curbside signalization may be more effective in fog than stop signs or overhead signals in directing the driver unfamiliar with the local street system.

AIR QUALITY

Setting. Project area air quality is remarkably good, as determined from measurements taken at the Bay Area Air Pollution Control Districts (BAAQMD) 23rd Street monitoring station in San Francisco, the nearest to the site. In the last four years of published data (1977-80), the Federal clean air standard for ozone has not been exceeded. The Federal standard for carbon monoxide was exceeded three times in four years, which is below the frequency of exceedance allowed by the EPA in a designated clean air area. California

State standard for nitrogen dioxide has not been violated in four years. A few violations of the dust standard have been observed, but it is difficult to distinguish regional particulate levels from any localized effects such as construction or remodeling. These air pollution levels are summarized in Table B.

While air quality in the vicinity of the site is good, the same is not true of the remainder of the Bay Area Air Basin. The basin has been designated by the EPA as a non-attainment area for oxidants (ozone), carbon monoxide, and particulates. Carbon monoxide levels are expected to continue to improve as emission control programs exceed rates of vehicular traffic growth. Particulate control strategies are awaiting new Federal guidelines on distinguishing between small, respirable particulates and large, inert dust particles readily filtered by human breathing passages. The one pollutant that presents a continuing immediate problem is ozone. Some encouraging trends have been noted with only one first-stage alert in the basin in the last two years but ozone levels are still about 50% above allowable concentrations.

Planning Considerations. In order to bring the basin into compliance with a mandated 1987 attainment deadline for all pollutants, an air quality plan (AQP) was prepared by ABAG, the BAAQMD, and the MTC. The basic assumption of the AQP was that the basin can continue to have growth such as the proposed project and still attain clean air standards so long as certain assumptions were realized. These assumptions included provisions for a mandatory vehicle inspection and maintenance program, new standards for unregulated sources, and new technology development for certain sources. The AQP also assumed that the rate of growth as forecast in the ABAG Series III projections was generally correct. A number of assumptions in the AQP have not proven viable or anticipated programs such as inspection and maintenance have not been implemented. In its current revision to the AQP, including revised growth projections, additional pollution-reducing tactics will need to be considered if the deadline is to be met. In order to conform with the AQP any project on the Levinson property must conform to the San Mateo County General Plan. So long as the specific development plan is consistent with the General Plan, the project will not create an adverse regional air quality impact. If the project represents a significant increase in development intensity over present plans, there are serious air quality consequences of such action that should be given consideration.

Air pollution from residential growth derives primarily from the automobile. The very mobile nature of vehicular emissions that disperses these emissions in space and time generally precludes any one residential development from threatening clean air standards by itself. Rather, the emissions

TABLE B

SAN FRANCISCO AIR QUALITY
SUMMARY (23RD STREET) - DAYS STANDARDS WERE EXCEEDED

Pollutant Standard	1977	1978	1979	1980
OZONE				
1 hr. > 0.08 ppm	0	-	-	-
1 hr. ≥ 0.10 ppm	0	1	1	0
1 hr. ≥ 0.12 ppm	0	0	0	0
1 hr. ≥ 0.20 ppm	0	0	0	0
Max. hourly conc.	0.06 ppm	0.11 ppm	0.10 ppm	0.10 ppm
CARBON MONOXIDE				
1 hr. > 35 ppm	0	0	0	0
8 hrs. > 9 ppm	1	1	1	0
Max. hourly conc.	16.0 ppm	16.0 ppm	17.0 ppm	10.0 ppm
Max. 8-hr. conc.	10.0 ppm	13.8 ppm	9.9 ppm	7.5 ppm
NITROGEN DIOXIDE				
1 hr. ≥ 0.25 ppm	0	0	0	0
Max. hourly conc.	0.18 ppm	0.20 ppm	0.11 ppm	0.24 ppm
PARTICULATES				
24 hrs. ≥ 100 ug/m^3	3/58	3/54	5/54	6/59
24 hrs. ≥ 150 ug/m^3	0	0	3/54	1/59
24 hrs. > 260 ug/m^3	0	0	0	0
Max. daily conc.	122 ug/m^3	122 ug/m^3	249 ug/m^3	173 ug/m^3
Annual average	56 ug/m^3	48 ug/m^3	52 ug/m^3	52 ug/m^3

from one project mix with those from hundreds of similar projects. The impact of any one project is incrementally small while the cumulative impact of many such projects ultimately is a major factor in regional air quality degradation.

Construction activity impacts include dust from soil disturbance and combustion emissions from heavy duty equipment. The California Air Resources Board recommends a dust emission factor of 4 pounds per day per unit under construction and further suggests this factor can be reduced by 50 percent through regular watering for dust control. Much of the generated dust will settle out on nearby homes, cars, and trees. Construction dust is usually of a large diameter particle size, easily filtered by the human breathing passage. Construction dust constitutes more of a soiling nuisance than an adverse health impact.

Secondary emission sources from electric power generation and diffuse population-related sources such as paints, solvents, landscaping equipment, pesticide sprays, recreational boat, aircraft or ORV use by residents, gasoline station evaporative emissions, etc. are much smaller than the vehicular sources. Any corresponding ambient air quality impacts from these sources will thus be less than the already small incremental degradation from the motor vehicle sources.

Standards. In order to determine the significance of the air quality impact of a proposed development, that impact, together with existing baseline levels, must be compared to the applicable ambient air quality standards (AAQS). These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. AAQS are designed to protect those people sensitive to further respiratory distress such as asthmatics, the elderly, young children, hospitalized or convalescing patients, or persons engaging in heavy exercise. Healthy adults can tolerate occasional exposures at somewhat above the standards before adverse effects are observed.

National AAQS were promulgated by the EPA in 1970 with States retaining the right to set standards more stringent than the Federal criteria. Because California had unique air quality problems and since State AAQS pre-dated the Federal action, there is considerable diversity between State and Federal guidelines. State standards have a requirement for reasonable progress toward attainment, whereas Federal AAQS have a definite deadline of 1982 for some standards and 1987 for all standards with possible penalties and sanctions for non-compliance.

ARCHAEOLOGY

Setting. Although no archaeological survey has been conducted on the Levinson property, a survey of San Bruno Mountain was conducted in 1974 (Chavez, D. and M.P. Holman, 1974). This survey included a records search which indicated that no known archaeological sites occur on the property. No visible or subsurface indications of archaeological resources were encountered during LSA's field reconnaissance of the property in June and July of 1982.

The remains of the ranch complex south of Main Street are potentially of historic value. The complex consisted of a house, a large barn and at least one out-building (one confirmed foundation).

Planning Considerations. Due to the possibility of finding previously undetected archaeological remains, persons engaged in construction activities on the property should be instructed to halt all construction work in the vicinity of a suspected archaeological site uncovered during grading operations. The suspected site should then be evaluated by a qualified archaeologist to determine the significance and the appropriate measures to be followed in treating the find.

Mr. Herbert Garcia of the College of San Mateo Historical Museum recommends that an in-depth historical study of the ranch complex be conducted to determine the nature, function and significance of the complex in historical terms, particularly if plans call for its removal.

NOISE

Setting. The major source of noise affecting the site is generated by traffic on Bayshore Boulevard. Other sources of noise in the area include noise from air traffic and from Bayshore Freeway and the rail lines east of the site. A fourth secondary source of noise on the site is produced by the wind as it blows across trees, grass and structures.

Bayshore Boulevard is located at the eastern edge of the property. Noise contours for the 55, 60, 65, and 70 dBA contours on the project site have been established by field measurements (Appendix B). These contours are valid (+ 2 dBA) for present conditions of topography, traffic, and vegetation. They indicate that approximately 1/3 of the site is within an area which exceeds 60 dBA.

Increased traffic volumes on Bayshore Boulevard are anticipated in the future, due in part to further development in the vicinity of the site. Proposed developments in the area include the Northeast Ridge, Sierra Point and the Southern Pacific Railroad project east of the site. The increase in

traffic volumes on the Boulevard will result in higher noise levels along this roadway and will extend the 65, 70, and 75 dBA contours further into the site.

Secondary sources of noise on the site are less noticeable than the levels generated by traffic on Bayshore Boulevard. Detectable noise levels from secondary sources greater than those from Bayshore Boulevard occur as individual trains travel through the Southern Pacific property east of the site or as low flying planes pass over the site. It should be noted that noise levels at the upper elevations of the property from the Bayshore Freeway and railroad line noise sources may be slightly higher in relation to those in the lowland area. This is due to the fact that the hillside area has a direct line of sight to the freeway and railroad line and there is no opportunity for attenuation of sound across the ground surface.

Planning Considerations. City of Brisbane (Gryte, 1982) and State noise guidelines recommend a maximum exterior noise level of 60 dBA (CNEL[1]). Above this level a detailed noise study is required and special noise-abatement features must be incorporated into the design of a project. The California Administrative Code (Title 25) enforces these guidelines for single-family attached and multi-family units but not for single-family detached units. As part of the site is affected by noise levels above 60dBA a detailed noise study will be required before development on the property is allowed.

[1]CNEL (Community Noise Equivalent Level).

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PERSONS AND AGENCIES CONSULTED

John Brode, California Department of Fish and Game

Harry Dean, San Mateo County, Parks and Recreation Department

Herbert Garcia, College of San Mateo, Historical Museum.

Susan Gryte, City of Brisbane

LEVINSON PROPERTY

PLANT SPECIES LIST

Marsh

Alisima triviale	Water plantain
Apium graveolens	Celery
Carex amplifolia	Ample-leaved sedge
Cotula coronopifolia	Brass buttons
Salix lasiolepis	Arroyo willow
Plantago hirtella var Galeottiana	
Rubus ursinus	California blackberry
Scripus californicus	Bulrush
Typha latifolia	Broad-leaved cat-tail

Ornamental

Eucalyptus globulus	Blue gum
E. spp.	
Phoenix canariensis	Canary Island date palm

Grassland

Shrubs:

Baccharis pilularis var consanguinea	Coyote brush
B. p. var pilularis	Dwarf coyote brush
Lupinus nanus	Sky lupine
Rhus diversiloba	Poison oak
Sambucus caerulea	Elderberry
Ulex europoeus	Gorse

Herbs:

Achillea millefolium var californica	Yarrow
Agoseris grandiflora	California dandelion
Anaphalis margaritacea	Pearly everlasting
Artemesia douglasiana	California mug-wort
Brassica campestris	Field mustard
Brodiaea laxa	Common triteleia
Camissonia ovata	Suncup
Centaurea solstitialis	Star thistle
Chlorogalum pomeridianum	Soap plant
Chrysopsis villosa var echioides	Golden aster

Plant Species (continued)

Cirsium vulgare	Bull thistle
Convolvulus subacaulis	Hill morning-glory
Epilobium paniculatum var paniculatum	Panicled willow herb
Eriogonum latifolium	Wild buckwheat
Erodium botrys	Long-beaked filaree
E. cicutarium	Red-stemmed filaree
Eschscholzia californica	California poppy
Gilia clivorum	
Horkelia californica	
Iris longipetala	
Lotus corniculatus	Bird's foot trefoil
Malva parviflora	Cheeseweed
Matricaria occidentalis	Valley pineapple weed
Picris echioides	Bristly ox-tongue
Plantago erecta	California plantain
P. lanceolata	English plantain
Pontentilla glandulosa	Sticky cinquefoil
Rumex californicus	California dock
R. pulcher	Fiddle dock
Sisyrinchium bellum	Blue-eyed grass
Trifolium gracilentum	
Vicia americana	American vetch

Grasses:

Aira caryophyllea	Silvery hair grass
Avena barbata	Slender wild oat
Bromus mollis	Soft chess
Festuca megalura	
Hordeum leporinum	Farmer's foxtail
Phalaris tuberosa var stenoptera	Harding grass
Polypogon monspeliensis	Rabbit foot grass

Environmental Consulting Services

Noise
Air Quality
Energy

20430H Town Center Lane
Cupertino, CA 95014
(408) 257-1045

October 25, 1982

Mr. Malcolm Sproul
Larry Seeman Associates
2606 Eighth Street
Berkeley, CA 94710

Dear Malcolm:

Enclosed is a draft copy of the traffic noise contours for the Levinson property, per your recent request. The contours are based upon approximately nine hours of monitoring at 11 locations on site.

The site is more complicated than it at first appears, as shown by the final contours. This pattern is created by several site factors.

1. bowl-shaped middle
2. heavy foliage in several locations
3. depression of site relative to road at north end
4. ridge south of the center of site
5. turning of road away from site at north end

It should be noted that these contours are valid (± 2dBA) for present conditions of topography, traffic, and foliage. If these aspects change significantly during or after project implementation, the contours could change by several dB.

If you require further assistance on this project, please do not hesitate to contact me.

Sincerely,

Stan Shelly

H. Stanton Shelly
Principal Consultant

HSS/vr

Encl.