

ALTERNATIVES WORKING PAPER

for the

REID-HILLVIEW AIRPORT

CLOSURE EVALUATION PROJECT

Prepared for

THE COUNTY OF SANTA CLARA

March 1993

ARIES CONSULTANTS LTD.

Redwood City, California

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1

 1.1 Statement of Work 1-1

2.0 SUMMARY OF ALTERNATIVES 2-1

 2.1 Assumptions Regarding Alternatives 2-1

 2.2 Alternative Future Land Uses for Reid-Hillview Airport Site 2-2

3.0 DESCRIPTION OF ALTERNATIVES 3-1

 3.1 No Project Alternative 3-1

 3.2 Safety Improvement Alternatives 3-1

 3.3 Close Reid-Hillview Airport 3-5

 3.3.1 No Replacement General Aviation Reliever Airport 3-5

 3.3.2 Replacement General Aviation Airport 3-5

APPENDIX A

TABLES

1 Compliance with/use of FAA/ALUC Criteria and Other Considerations . . . 3-4

FIGURES

1	Declared Distance Concept	A-9
2	Relocate Runways to North	A-10
3	North Safety Area	A-11
4	South Safety Area	A-12
5	Airport Layout Plan	A-13
6	Runway Object Free Areas and Safety Areas	A-14
7	Tax Parcel Map - Site A	A-15
8	Tax Parcel Map - Site B	A-16
9	Tax Parcel Map - Site C-1	A-17
10	Tax Parcel Map - Site C-2	A-18

1.0 INTRODUCTION

The County of Santa Clara is evaluating the closure of the Reid-Hillview Airport. The Phase I Study will produce a technical report of aviation data for use by the Safety Assessment consultant in preparing a Safety Assessment. The main objective of this phase of the work is to determine where based aircraft and operations could relocate, in the event Reid-Hillview Airport is closed and what the safety implications are of the various alternatives identified within this report. It will also assist in determining if the closure of Reid-Hillview Airport will cause a demand for a new reliever/relocated airport.

Preparation of an Environmental Impact Report is considered a second phase of this project and will not be conducted until completion of the Phase I Study and the Safety Assessment.

1.1 Statement of Work

This working paper identifies and describes the alternative scenarios for which forecasting data are to be generated. The Safety Assessment consultant will determine the comparative safety probabilities for each alternative scenario. This alternatives working paper references the Land Use Plan for Area Surrounding Santa Clara County Airports of the Santa Clara County Airports Land Use Commission and identifies whether each alternative scenario is in conformity with ALUC criteria. It also references appropriate FAA airport planning and design criteria. This Alternatives Working Paper has been prepared for review and approval by the Agency prior to commencement of Task 3, Technical Report of Aviation Data.

There are numerous "alternatives" which could be identified and evaluated for a study such as this. For purposes of analysis, we have attempted to identify a range of alternatives so that a comparison of the alternatives can be made.

As noted earlier, this Phase I study is a preliminary study. Phase II would be the preparation of an Environmental Impact Report (EIR), and, although the alternatives included in this Phase are intended to represent a range of possible alternatives, the CEQA EIR process would formally address alternatives in greater detail, with input from various resource agencies as well as the public.

2.0 SUMMARY OF ALTERNATIVES

The alternatives identified for analysis in Phase I are identified below. Please refer to the individual sections later in this working paper dedicated to each alternative for an in-depth description and explanation as to how the components of that particular alternative were derived.

1. No Project
2. Safety Improvement Alternative A
Relocate and extend both runways to the north using the FAA declared distance concept, but still remain within the present airport boundary. Investigate the feasibility of a non-precision approach procedure to the Airport. (See Figure 1 in Appendix A).
3. Safety Improvement Alternative B
Relocate the airfield about 500 feet to the north so that the "object free areas" for Runways 31L and 31R are north of Tully Road. Realign Ocala Avenue across the north side of the Airport. Acquire most of Hillview Park. Acquire and relocate the community library and community center. (See Figure 2 in Appendix A).
4. Safety Improvement Alternative C
Remove approximately 72 residences to the north of the Airport. Acquire and relocate the community library and community center. Remove Eastridge Mall parking lot and World Savings building. (See Figures 3 and 4 in Appendix A).
5. Close Reid-Hillview Airport assuming that no replacement airport is provided.
6. Close Reid-Hillview Airport assuming a new or existing replacement general aviation airport is available.

2.1 Assumptions Regarding Alternatives

For each of the alternatives described above, this Phase I study will include aviation demand forecasting and, subsequently, comparative safety analysis, based upon four different levels of general aviation use at San Jose International Airport. For example, for the "No Project" alternative, information will be provided for the following:

- No Project, assuming current general aviation use at San Jose International Airport (SJIA)
- No Project, assuming "minimal" downsizing of general aviation use at SJIA

- No Project, assuming "maximum" downsizing of general aviation use at SJIA
- No Project, assuming expansion of general aviation use at SJIA

These assumptions regarding general aviation use at SJIA are considered necessary because the City of San Jose is currently updating the SJIA Master Plan and, at this time, future general aviation use varies under the different alternatives to be identified in the Master Plan and associated EIR. Conversations with City staff indicate that the range of assumptions identified above approximately coincides with the alternatives under consideration in the Master Plan process.

With the list of alternatives summarized above, and taking into account the various assumptions identified above, this study will provide an analysis of up to 24 alternative scenarios.

2.2 Alternative Future Land Uses for Reid-Hillview Airport Site

For the "Close Reid-Hillview Airport" alternatives, future land uses at the Reid-Hillview site would need to be considered during the environmental analysis phase. A variety of possible future land uses exists for the site, but for the purposes of this Phase I study, the following three possible future land use scenarios are identified:

1. Public use/passive park use;
2. Mixed use: A combination of medium high-density residential (8-16 dwelling units/net acre) along the northwest boundary and Ocala Avenue (30 to 40 acres); low density residential (8-10 single family dwellings/net acre) on Ocala Avenue and through the center of the site (80 to 90 acres); high density residential (12-25 dwelling units/net acre) at the southwest corner of Ocala Avenue and Capitol Expressway (30 to 40 acres); very high density residential (25-40 dwelling units/net acre) along Tully Road (20 to 30 acres); and
3. Commercial/industrial

These scenarios reflect a range of possible impacts, but are not intended to preclude other possibilities. These land use assumptions will enable the Safety Assessment consultant to analyze the comparative safety to the community of airport uses versus these future land uses if the airport were closed.

3.0 DESCRIPTION OF ALTERNATIVES

3.1 No Project Alternative

The "No Project" alternative assumes that the airport facilities at the Reid-Hillview Airport will remain the same as at present--through the year 2000. It assumes that no new airport improvements will be made other than necessary maintenance projects. It assumes that similar aviation services will be provided through the year 2000 at the Airport as are currently provided (e.g., hangars, tiedowns, fixed based operator services). The existing airport facilities are illustrated on the current Airport Layout Plan on Figure 5 in Appendix A.

3.2 Safety Improvement Alternatives

There are literally countless improvements and/or combinations of improvements that could be implemented at Reid-Hillview Airport that could affect airport and aircraft operations and/or safety. The cost range varies tremendously between the Safety Improvement alternatives, and this study is intended to identify the relative differences in terms of general aviation demand and safety. If, for instance, all residential/commercial/public uses surrounding Reid-Hillview Airport were to be relocated, an improvement in safety would be achieved. However, that is not realistic.

The range of potential safety improvements that could be considered by the County for more detailed analysis, based on the ALUC policies and FAA criteria presented in Appendix A, are described below:

ALUC Criteria

1. Remove development in Area I to the north (remove about 72 residences) and in Area III (relocate community library and community center) and in Area I to the south (remove Eastridge Mall parking lot and World Savings building).
2. Remove about 487 homes and the community library and community center in the North Safety Area.
3. Establish a 500-foot wide Emergency Touchdown Zone to the north (remove up to 200 homes).

FAA Criteria

- 4a. Relocate the airfield about 500 feet to the north so the object free areas for Runways 31L and 31R are north of Tully Road. Realign/close Ocala Avenue across the northside of the Airport. Acquire most of Hillview Park and relocate community library and community center.
- 4b. Acquire approved runway protection zones to south and remove Eastridge Mall parking lot and World Savings building. Realign Tully Road by about 500 feet to the south. (See Figure 6 in Appendix A.)
- 4c. An intermediate alternative of Alternatives 4a and 4b with a partial relocation of the runways to the north but would still require realignment of Tully Road and Ocala Avenue.
5. Relocate and extend the runways to the north using FAA declared distance concept and still remain within present airport boundary.

For purposes of this analysis, it was determined that three "Safety Improvement" alternatives--one being relatively low-impact, one in a moderate-impact range and one in a high-impact range--be formulated and evaluated. It should be noted that providing cost estimates is not included in the scope of this study.

The alternatives described below are believed to represent a credible and reasonable range of potential alternatives for purposes of analysis.

- A. In accordance with Criteria 5 above, relocate and extend the runways to the north using the FAA declared distance concept and still remain within the present airport boundary. (See Figure 1 in Appendix A.) Investigate the feasibility of a non precision approach procedure to the Airport.
- B. In accordance with Criteria 4(a) above, relocate the airfield about 500 feet to the north so the object free areas for Runway 31L and 31R are north of Tully Road. Realign/close Ocala Avenue across the north side of the Airport. Acquire most of Hillview Park and relocate the community library and community center. (See Figure 2 in Appendix A.) (Alternatively, relocating the airfield to the south and realigning Tully Road could be analyzed.)

- C. In accordance with Criteria 1 above, remove development in Area I to the north (remove about 72 residences) and in Area III (relocate community library and community center) and in Area I to the south (remove Eastridge Mall parking lot and World Savings building). (See Figures 3 and 4 in Appendix A).

These alternatives were arrived at by referencing current FAA and ALUC criteria and policies as discussed in Appendix A. Although the ALUC criteria listed apply only to proposed land uses, and not existing land uses, this section identifies various compatibility criteria and indicates which of those criteria are in conformity for the alternatives under study.

A comparison of how the Alternatives comply with and/or use FAA and ALUC criteria and other considerations is presented in Table 1. The comparison is presented for the No Project Alternative and Safety Improvement Alternatives A, B and C.

For the ALUC criteria a "Yes" indicates that the alternative calls for modifying existing conditions by removing development and facilities to bring the safety areas into strict compliance with the recommended ALUC criteria. This means bringing the area up to the criteria as though it were new development. A "No", for ALUC criteria, indicates that the alternative does not consider changing existing conditions, therefore leaving the existing non-conforming uses.

For the FAA criteria a "Yes" indicates compliance with the criteria and a "No" indicates that it does not comply. For Other Considerations a "Yes" indicates required action is included in that alternative; a "No" indicates no action is required.

Although Reid-Hillview Airport does not currently have an instrument approach procedure, instrument departures are legal with an air traffic control (ATC) clearance. For this reason it is important to point out that the runway lengths given for takeoff in Table 1 are usable for visual flight rules (VFR) takeoffs. However, it is the pilot's responsibility to ensure clearance of objects during an instrument flights rules (IFR) departure. The practical distance of the takeoff run, to clear all obstacles, will vary with aircraft type and gross takeoff weight. This means that some departing aircraft will not be able to use the full length given in Table 1 for takeoff, and ensure clearance of all obstacles in the departure path.

A discussion of the potential for installing additional navigational aids at the Airport is presented in Appendix A on pages A-6 and A-7. Based on preliminary analyses, there may be a potential for an offset localized approach, offset about 2.5 degrees counterclockwise. This offset would provide a 3NM separation from the ILS approach to

Table 1

COMPLIANCE WITH/USE OF FAA/ALUC CRITERIA
AND OTHER CONSIDERATIONS

Criteria	No Project	Safety Improvement Alternatives		
		A	B	C
<u>ALUC Criteria¹</u>				
Safety Area I to the North	No	No	No	Yes
Safety Area II to the North	No	No	No	No
Safety Area I to the South	No	No	No	Yes
Safety Area II to the South	No	No	No	No
<u>FAA Criteria/Concept</u>				
Runway Protection Zone (RPZ)	Yes	Yes	Yes	Yes
Runway Object Free Area (OFA)	No	Yes	Yes	No
Runway Safety Area (RSA)	No	Yes	Yes	No
Runway Takeoff to the North (ft)	3,100	3,250	3,100	3,100
Runway Takeoff to the South (ft)	3,100	3,250	3,100	3,100
Runway Landing to the North (ft)	2,700	2,700	3,100	2,700
Runway Landing to the South (ft)	2,600	2,700	3,100	2,600
<u>Other Considerations to Meet Above Criteria</u>				
Acquire Land for Airport	No	No	Yes	No
Relocate Homes and People	No	No	Yes	Yes
Relocate Community Facilities	No	No	Yes	Yes
Relocate Roads	No	No	Yes	No
Relocate Eastridge Parking	No	No	No	Yes

1. "Yes" indicates that the alternative modifies existing conditions to meet strict application of the recommended ALUC criteria. "No" indicates no change to existing conditions for that alternative.

Source: Aries Consultants Ltd.

San Jose International in the intermediate approach prior to crossing the final approach fix to Reid-Hillview Airport. This would allow simultaneous IFR approaches in certain inclement meteorological conditions. However, when missed approach airspace would need to be protected (i.e., during lower ceilings and/or visibility) staggered approaches would be required. The requirement for staggered approaches would be on the order of less than 5 percent of the time. For the purpose of a comparative analysis, investigation of the feasibility of a non-precision approach procedure to the Airport has only been included in Safety Alternative A.

3.3 Close Reid-Hillview Airport

For this study, two options are assumed for the "Close Reid-Hillview Airport" alternative as follows: 1) assume no replacement general aviation reliever airport is available and 2) assume a new or existing replacement general aviation airport is available.

3.3.1 No Replacement General Aviation Reliever Airport

In this alternative, it is assumed that aircraft at Reid-Hillview Airport would be relocated to other existing airports in the Bay Area. Any proposed improvements at these airports by the year 2000 will be identified based on discussions with airport management at these Airports. This alternative assumes general aviation demand would be accommodated at existing airport facilities that could include the following:

Buchanan Field (Concord)	Palo Alto Airport
Frazier Lake Airpark	Salinas Municipal Airport
Half Moon Bay Airport	San Carlos Airport
Hayward Air Terminal	San Jose International Airport
Hollister Municipal Airport	South County Airport
Livermore Municipal Airport	Tracy Municipal Airport
Monterey Peninsula Airport	Watsonville Municipal Airport
Oakland International Airport North Field	

3.3.2 Replacement General Aviation Airport

This alternative assumes a new (or existing) facility may become available for general aviation use in the future as well as relocation to other Bay Area airports noted above.

The City of San Jose General Aviation Task Force presented its recommendations to the San Jose City Council in April 1992. As part of its efforts, two potential "new" general aviation facilities have been discussed. One is to establish civil aviation activity at NAS Moffett Field and the other is to identify a future reliever airport site in the southern part of Santa Clara County.

NAS Moffett Field is scheduled to be closed in its present military use by the end of 1994, at which time the National Aeronautical Space Administration (NASA) will take over operation of the facility.

In a November 24, 1992, Position Statement on Moffett Field,

"The City of San Jose supports the transfer of Moffett Field to the National Aeronautical Space Administration (NASA) as recommended by the Defense Base Closure and Realignment Commission. ... Further, the City believes that in these times of rapidly changing government priorities and economic uncertainties, there may come a time when NASA's mission and/or flight programs at Moffett Field may cease or become compatible with civil aviation uses. In that event, the City believes it is in the best interests of long-term regional aviation transportation to have in place a contingency plan that spells out the alternative aviation uses of Moffett Field in a post-NASA era. This could best be achieved by conducting a Master Plan consistent with the long-term planning efforts of the Metropolitan Transportation Commission and the cities of Santa Clara County."

Any consideration of civil general aviation at NAS Moffett Field is likely to be opposed by the surrounding communities (e.g., Mountain View and Sunnyvale), based on comments-to-date, as well as by the Federal Government and contractors currently using NAS Moffett Field. However, since the City of San Jose is interested in assessing the potential availability of NAS Moffett Field for civil aviation in the long term, NAS Moffett Field could be analyzed as a potential "new" general aviation facility, as part of this study, while acknowledging the opposition of the surrounding communities.

At their meeting on December 15, 1992, the City Council decided to accept the Phase 2 Report of the General Aviation Reliever Airport Site Selection Study and directed the City Administration to terminate the study and table its findings to date.

The supplemental information provided to the City Council by the Director of Aviation, noted that, "All four alternative sites are technically feasible, with no site particularly superior to the others, and each site has airspace and environmental issues that would have to be addressed if selected for study in Phase 3. Most importantly, however, a new airport in the southern portion of the County would only be viable if existing general aviation capacity is significantly reduced (through airport closures or activity constraints) and without corresponding capacity expansion at other existing airports. Unless such a

scenario is pursued, selection of a new airport site, and therefore further work on the study, does not appear to be warranted at this time." The sites are described in Appendix A and illustrated on Figures 7, 8, 9 and 10.

There are still many questions to be addressed regarding a potential new general aviation reliever airport in Santa Clara County. Given the opinions expressed to-date, it is highly unlikely that a new airport site will be developed and in operation by the year 2000; the future year used for the Reid-Hillview Airport Closure Evaluation Project. However, as part of this study, the potential impacts of a new airport generally located in the southern part of the County, on relocating aircraft from Reid-Hillview Airport, will be analyzed.

APPENDIX A

APPENDIX A

This Appendix provides more detail on 1) Land Use Plan for Areas Surrounding Santa Clara County Airports, 2) FAA Airport Design Criteria, 3) Additional Navigational Aids and 4) General Aviation Reliever Airport Sites. The figures referred to in this working paper are presented at the end of this Appendix.

1. Land Use Plan for Areas Surrounding Santa Clara County Airports

The Airport Land Use Commission (ALUC) recently updated the "Land Use Plan for Areas Surrounding Santa Clara County Airports" and adopted the plan in September 1992. (The previous Land Use Plan was adopted in August 1973.) The ALUC Plan establishes a comprehensive land use plan that provides for the orderly growth of the area surrounding each public airport in Santa Clara County. It is also intended to minimize the public's exposure to excessive noise and safety hazards. In formulating the plan, the ALUC established provisions for the regulation of land use, building height, safety, and noise insulation within areas adjacent to each of the public airports in the County.

The ALUC has no jurisdiction over existing incompatible land uses. It is the responsibility of the airport operator and the appropriate local jurisdictions to work together to bring existing land uses into conformance.

The policies in the 1992 Plan are now grouped by type of airport, rather than by airport name as in the 1973 Plan. This is intended to insure that all general aviation airports are treated equally and that separate provisions are made for San Jose International Airport.

The policies of the ALUC are intended to provide a means for land use planning for additional safety. Airport safety areas are established around each airport for which new land uses will be restricted as to use and population density. The ALUC designates "airport safety areas," generally rectangular in shape, contiguous to the ends of each runway at each airport in Santa Clara County. Each airport safety area is comprised of two parts:

- 1) The inner safety area which is adjacent to the runway and which should preferably remain undeveloped.
- 2) The outer safety area which is separated from the runway by the first area, in which land use and population density are restricted to specified non-residential land uses, as exemplified by the following:
 - a. Agriculture or its equivalent
 - b. Recreational parks

- 7
- c. Storage of seasonal equipment
 - d. Parking of automobiles
 - e. Single-story warehousing
 - f. Municipal activities, such as sewage-treatment plants.

The outer portion of the safety zone is further limited to the presence of no more than ten persons on an annual average and no more than 25 persons at any one time on each net acre (a population density hereinafter designated as the "10/25 population density" rule).

Above ground storage of more than 100 gallons of flammable liquids or toxic materials on any one net acre in a designated safety zone is prohibited.

No object shall be permitted to be erected or grow above the primary surface of the runway within designated inner safety areas, directly adjacent to the ends of the runway.

At Reid-Hillview Airport, the safety zones shall be restricted as follows:

a. North Safety Areas.

Area I—No new objects should be permitted to be erected above the elevation of the primary runway surface.

Area II—Only non-residential uses permitted, with a population density that does not exceed the "10/25" rule described above.

Area III—The bleachers in the baseball facility in Hillview Park shall not be expanded to seat more than 100 people. No new trees are to be placed in the central 300 foot wide corridor running northward from Ocala Avenue to Alfred Way, with the exception of those trees which are planted in the immediate vicinity of the library and recreation center and along the edges of the park to provide a buffer.

b. South Safety Areas:

Area I—The Airport Land Use Commission will not consider the construction of any new buildings in Area I. Parking lots, preferably covered, are permissible uses in this area.

Area II—Only non-residential uses permitted, with a population density that does not exceed the "10/25" rule described above.

Area III—Includes all land within the existing Eastridge Shopping Center. Any future building onto the main structure will be reviewed on a case-by-case basis, and will not be considered if it exceeds the highest present roof line elevation.

The minimal total length of the airport safety area, beyond the end of a takeoff runway for general aviation aircraft, is 3,500 feet for airports with two-engine general aviation aircraft weighing no more than 12,500 pounds as at Reid-Hillview Airport.

The width of an airport safety area, in general, is 1,500 feet for a single runway. For parallel runways, the width of the airport safety area, in general, is 1,500 feet plus the distance between the centerlines of the parallel runways. At Reid-Hillview Airport the distance is 300 feet, and therefore, the Airport safety areas are 1,800 feet wide.

The airport safety areas adopted by the Santa Clara County ALUC in September 1992 consist of two 3,500-foot long by 1,800-foot wide rectangular areas located off each end of the parallel runways as shown on Figures 3 and 4 and each area is subdivided into three zones. The existing development is generally inconsistent with the airport safety area criteria described above.

The airport safety area to the north is illustrated on Figure 3. To purchase the north airport safety area would include part of the runway protection zones (formerly called the clear zones), if measured from the physical ends of the runways, part of two elementary schools and approximately 72 residences in Area I and 415 residences in Area II. As noted above, the area closest to the runways, Area I, should remain undeveloped. Area III is the Hillview Park which includes the community library and community center.

The airport safety area to the south is illustrated on Figure 4. The south airport safety area consists of part of the adopted existing runway protection zones (measured from the displaced runway thresholds), a substantial portion of the Eastridge Mall property, including parking lots and Mall buildings, plus undeveloped residential property to the south of Quimby Road and developed industrial property. It should be subject to the land use restrictions spelled out above. To fully apply the recommended 3,500-foot by 1,800-foot airport safety area to the south would be infeasible. Area I should remain undeveloped but includes part of the Eastridge Mall parking lot and the World Savings building. Area II includes commercial buildings and undeveloped property that is zoned for residential and commercial use. Area III is the Eastridge Mall shopping center building.

CalTrans Division of Aeronautics, in their Airport Land Use Planning Handbook, recommends a 500-foot wide Emergency Touchdown Zone centered on the existing runway centerline that extends the length of the safety area. It should be free of all

obstructions to allow for the emergency landing of aircraft. However, it should only be considered if the land is not already extensively developed.

Consideration should be given to acquiring property to the north along the extended runway centerline to provide an Emergency Touchdown Zone but this would involve removing up to about 200 homes. To the south, this would not be possible without relocating the Eastridge Mall building.

2. FAA Airport Design Criteria

There are also several "safety improvements" that could be considered in order to comply with the latest FAA regulations and airport design criteria described in FAR Part 77, Objects Affecting Navigable Airspace, and FAA AC 150/5300-13, Airport Design. These are as follows:

Runway Protection Zone

The runway protection zone is an area off the runway end, and centered along the extended runway centerline, used to enhance the protection of people and property on the ground. This is achieved through airport owner control over runway protection zones. Such control includes clearing runway protection zone areas (and maintaining them clear) of incompatible objects and activities. Control is preferably exercised through the acquisition of sufficient property interest in the runway protection zone by the Airport sponsor (the County).

While it is desirable to clear all objects from the runway protection zone, some uses are permitted, provided they do not attract wildlife, are outside of the runway obstacle free area, are below the approach surface and do not interfere with navigational aids. Golf courses (but not club houses) and agricultural operations (other than forestry or livestock farms) are expressly permitted under this proviso. Automobile parking facilities, although discouraged, may be permitted, provided the parking facilities and any associated appurtenances, in addition to meeting all of the preceding conditions, are located outside of the object free area extension. Land uses prohibited from the runway protection zone are residences and places of public assembly. Churches, schools, hospitals, office buildings, shopping centers and other uses with similar concentrations of persons typify places of public assembly.

The runway protection zone is trapezoidal in shape and is centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff or landing. The runway protection zone dimensions are functions of the type of aircraft and operations to be conducted on the runway. The standard dimensions of the runway

protection zones for Reid-Hillview Airport are 1,000-foot length, 250-foot inner width and 450-foot outer width.

The currently adopted and approved runway protection zones (see Figure 5) extend beyond the Airport property south of Tully Road. The currently approved runway protection zones are based on the displaced thresholds, and although they are consistent with approach runway protection zone criteria, they are not consistent with departure runway protection zone criteria. Ideally, the runway protection zones should be based on the physical ends of the runways. A safety improvement would be for the County to acquire the portion of the runway protection zones outside the present Airport property providing for both aircraft takeoff and landing. To accomplish this at Reid-Hillview Airport would involve acquisition of the Eastridge Mall parking lot to the south as far as the north side of the Eastridge Mall building and relocation of the World Savings building. To the north, part of Hillview Park would have to be acquired, as shown on Figure 5, for the entire runway protection zones to be within the Airport property.

Runway Object Free Area

The runway object free area is a two-dimensional ground area surrounding the runway. The runway object free area clearing standard precludes parked airplanes and objects, except objects whose location is fixed by function. The standard dimensions of the runway object free areas for the Reid-Hillview Airport extend 600 feet beyond the physical ends of the runways and are 500 feet wide. Extension of the object free area beyond the standard length to the maximum extent feasible is encouraged.

The runway object free areas at Reid-Hillview Airport are not object free. To fully implement runway object free areas at the Airport, with the existing runways, would require realignment of Tully Road by about 500 feet to the south, to the north edge of the Eastridge Mall parking lot, as shown on Figure 6. To the north, the runway object free areas would be entirely within the Airport property as shown on Figure 6.

Alternatively, this could be accomplished by relocating the airfield approximately 500 feet to the north so that the object free area is north of Tully Road, as shown on Figure 2. This would extend the Airport north of Ocala Avenue into the Hillview Park and require relocation of the library and community center.

An intermediate alternative would be a partial relocation of the runways to the north that would still require realignment of Tully Road to the south and realignment of part of Ocala Avenue and impacts on Hillview Park to the north.

Runway Safety Area

The runway safety area is a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runways. Runway safety areas are currently not required by the FAA unless some modifications are made to the runways. However, they are recommended criteria by FAA.

The runway safety areas for Aircraft Design Group B-II at the Reid-Hillview Airport, as indicated on the current Airport Layout Plan (See Figure 5), extend 150 feet beyond the physical ends of the runways to the south and are 150 feet in width. To fully implement runway safety areas of 300 feet by 150 feet to the south would require realignment of Tully Road as the runway safety areas would extend about 150 feet to the south of the Airport property as shown on Figure 6. The runway safety areas are entirely within the Airport property to the north.

Declared Distance Concept

Appendix 14 of FAA AC 150/5300-13 provides further guidance on the location and size of the runway protection zones at constrained airports such as Reid-Hillview. The declared distance concept, as described in AC 150/5300-13, Appendix 14, could be applied to the Reid-Hillview Airport. Not all aspects of this concept would be applicable to the Airport, but displaced thresholds with declared distances for takeoffs and landings would allow the runway safety areas and the runway object free areas to be entirely within the existing airport boundary. Figure 1 illustrates the application to Reid-Hillview Airport with a runway extension to the north.

The published landing distance available could be up to 2,700 feet, the distance between the displaced thresholds, providing the required runway safety areas and object free areas at both ends for either undershoot or overshoot. This compares to the 2,600 and 2,700 feet presently available for landing. The published takeoff distance could be greater, up to 3,250 feet, compared to the present 3,100 feet, because the takeoff roll could begin at the pavement end leaving the runway safety area and object free area at the far end in the event of an aborted takeoff. Additionally, this allows adequate clearance of the roadways to the north and south after liftoff and initial climb.

3. Additional Navigational Aids

The potential for installing additional navigational aids at the Airport, while not considered a safety improvement, should also be considered to improve the operational capabilities of the Airport. Based on a preliminary evaluation, a precision instrument approach procedure from the south to Runways 31L or 31R does not appear feasible

because of the obstructions in the approach (i.e., Eastridge Mall). However, a possible improvement that might be investigated at the Airport would be a nonprecision approach procedure to the Airport with straight-in minimums and installing the appropriate navigational aids. This would reduce the chance of error in the present practice of flying ILS to San Jose International Airport and then breaking off and flying special VFR to the Reid-Hillview Airport. It would be beneficial for those periods of time when there are IFR weather conditions. Based on preliminary analyses, there may be a potential for an offset localizer approach, offset about 2.5 degrees counterclockwise. This offset would provide a 3NM separation from the ILS approach to San Jose International Airport in the intermediate approach prior to crossing the final approach fix to Reid-Hillview Airport. This would allow simultaneous IFR approaches in certain inclement meteorological conditions. However, when missed approach airspace would need to be protected (i.e., during lower ceilings and/or visibility) staggered approaches would be required. The requirement for staggered approaches would be on the order of less than 5 percent of the time.

The approach surface slope (20:1) and length of the runway protection zones (1,000 feet) would remain the same for the nonprecision approach. However, the inner and outer widths of the runway protection zones would increase from 250 feet to 500 feet and from 450 feet to 800 feet, respectively, for Runway 31R. For Runway 13L the inner and outer widths of the runway protection zone would increase from 250 feet to 500 feet and from 450 feet to 650 feet, respectively.

The County's Airport Master Plan recommended that a visual approach slope indicator (VASI) be provided on all runways to help assure pilot's adherence to the proper approach slope for landing beyond the displaced threshold. There are VASIs on Runways 13L, 31L and 31R. A precision approach path indicator (PAPI) should be considered for Runway 13R. (Note: PAPIs are now being installed rather than VASIs.)

It is estimated that it would cost about \$300,000 to install a localizer approach and about \$30,000 to install a PAPI.

4. General Aviation Reliever Airport Sites

The site areas that were analyzed as potential long-term general aviation reliever airport sites in the recent study conducted by the City of San Jose are described below and illustrated on Figures 7, 8, 9 and 10.

Site A is in the central part of the County, west of U.S. Highway 101, east of Monterey Highway, south of the Riverside Golf Course and north of the east-west Pacific Gas & Electric (PG&E) transmission lines. This area is within the City limits of San Jose. The site is illustrated on Figure 7 and it would include the following features:

- Potential for a 100-acre Basic Utility Airport (BU-1) with a runway length of at least 2,500 feet.
- Visual Flight Rules (VFR) airport only.

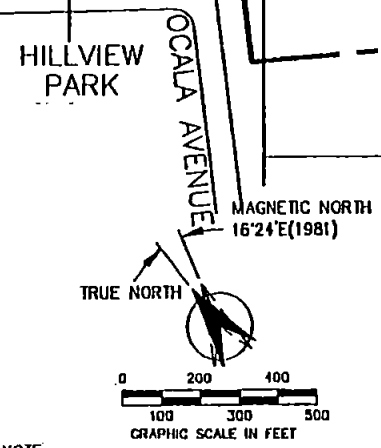
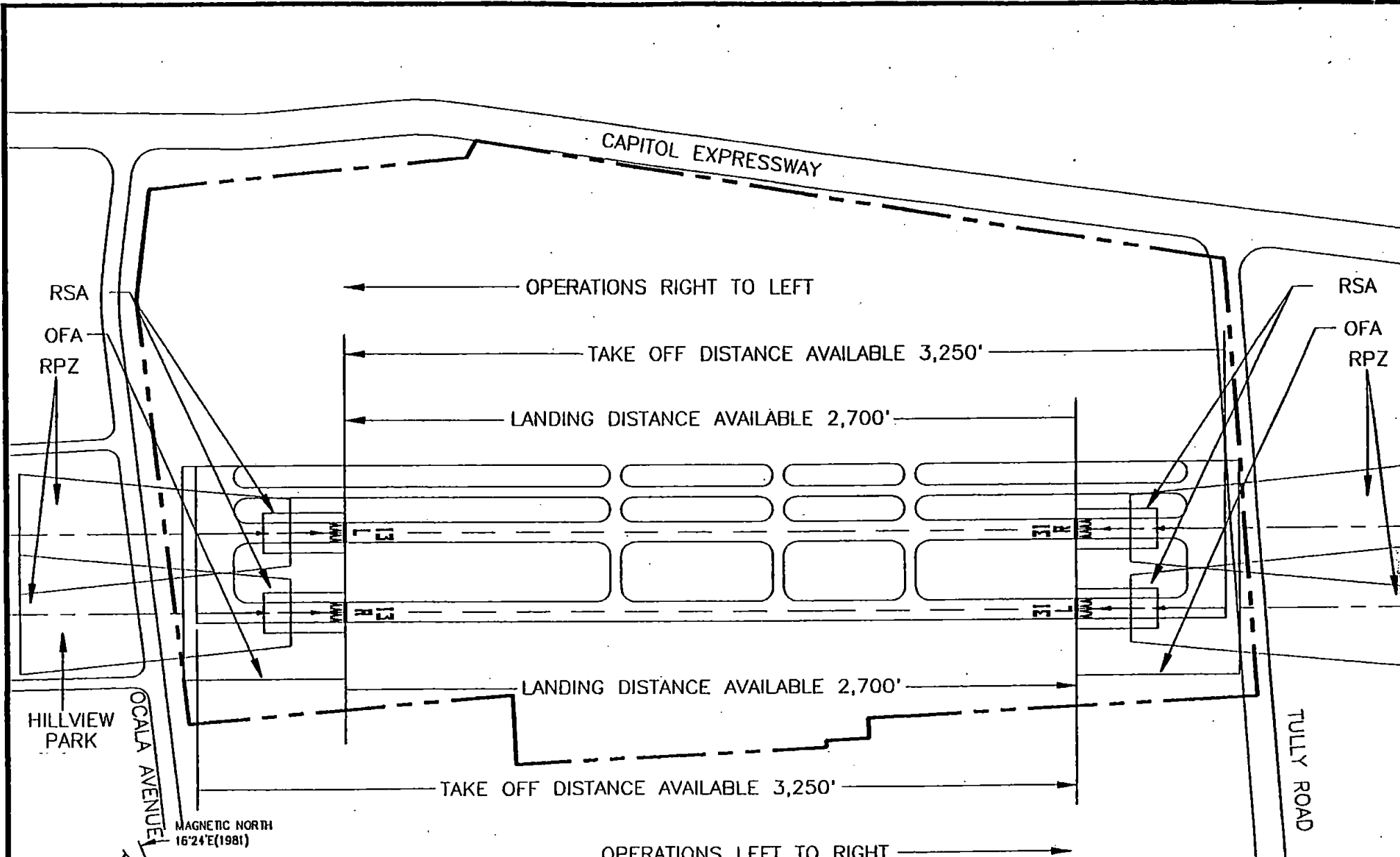
Site B is in the central part of the County, north of the Morgan Hill city limits, west of U.S. Highway 101, east of the Monterey Highway, north of Burnett Avenue, west of Coyote Creek, and south of the east-west PG&E transmission lines. This area is within the City limits of San Jose and borders on City of Morgan Hill land on the south side. The site is illustrated on Figure 8 and it would include the following features:

- Potential for up to a 150-acre General Utility Airport (GU-1) with up to a 3,700-foot runway.
- Visual flight rules (VFR) airport only.

Site C is an extensive area in the southern part of the county, generally east and south of Gilroy toward the County line, south of Leavesley Road, west of Ferguson Road/Pacheco Pass Highway and east of U.S. 101. This is an unincorporated County area, but within the City of Gilroy's Sphere of Influence. It would include the following features:


- Potential for up to a 200-acre General Utility Airport (GU-1) with up to a 3,700 foot runway.
- Long-range potential for parallel runway airport which would require a total of approximately 350 acres.
- Nonprecision instrument (IFR) airport capability.

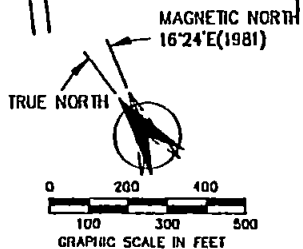
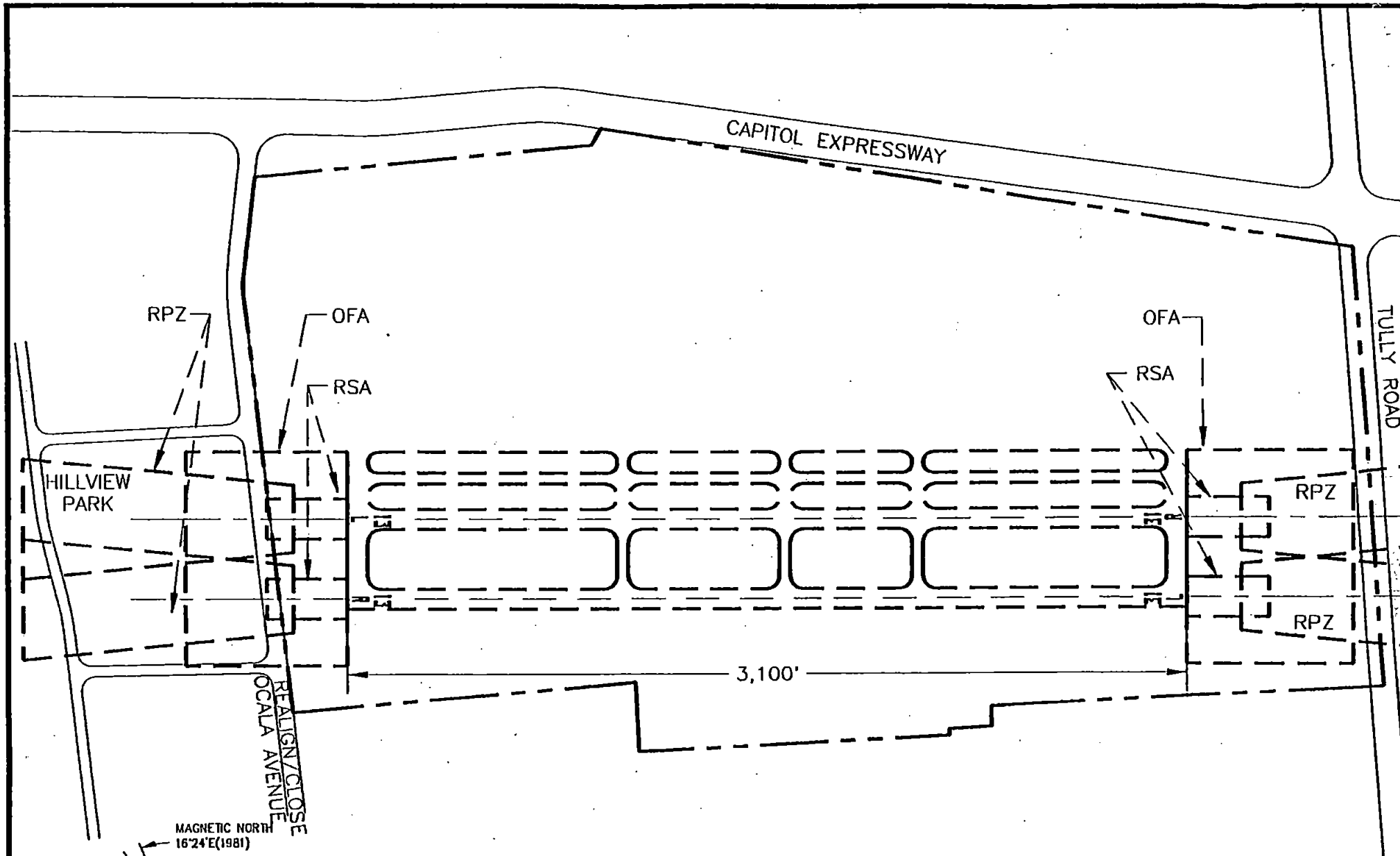
Site C-1 is located southeast of the Gilroy Wastewater Treatment Facility, west of Frazier Lake Road and north of Bloomfield Avenue and is illustrated on Figure 9. Site C-2 is located east of Llagas Creek, west of Furlong Avenue, south of Dunlap Avenue, and north of the "Old Gilroy" area along Route 152 and is illustrated on Figure 10.



RPZ=RUNWAY PROTECTION ZONE (250'X450'X1,000')
 OFA=OBJECT FREE AREA (600'X500')
 RSA=RUNWAY SAFETY AREA (300'X150')

NOTE:
 THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES.

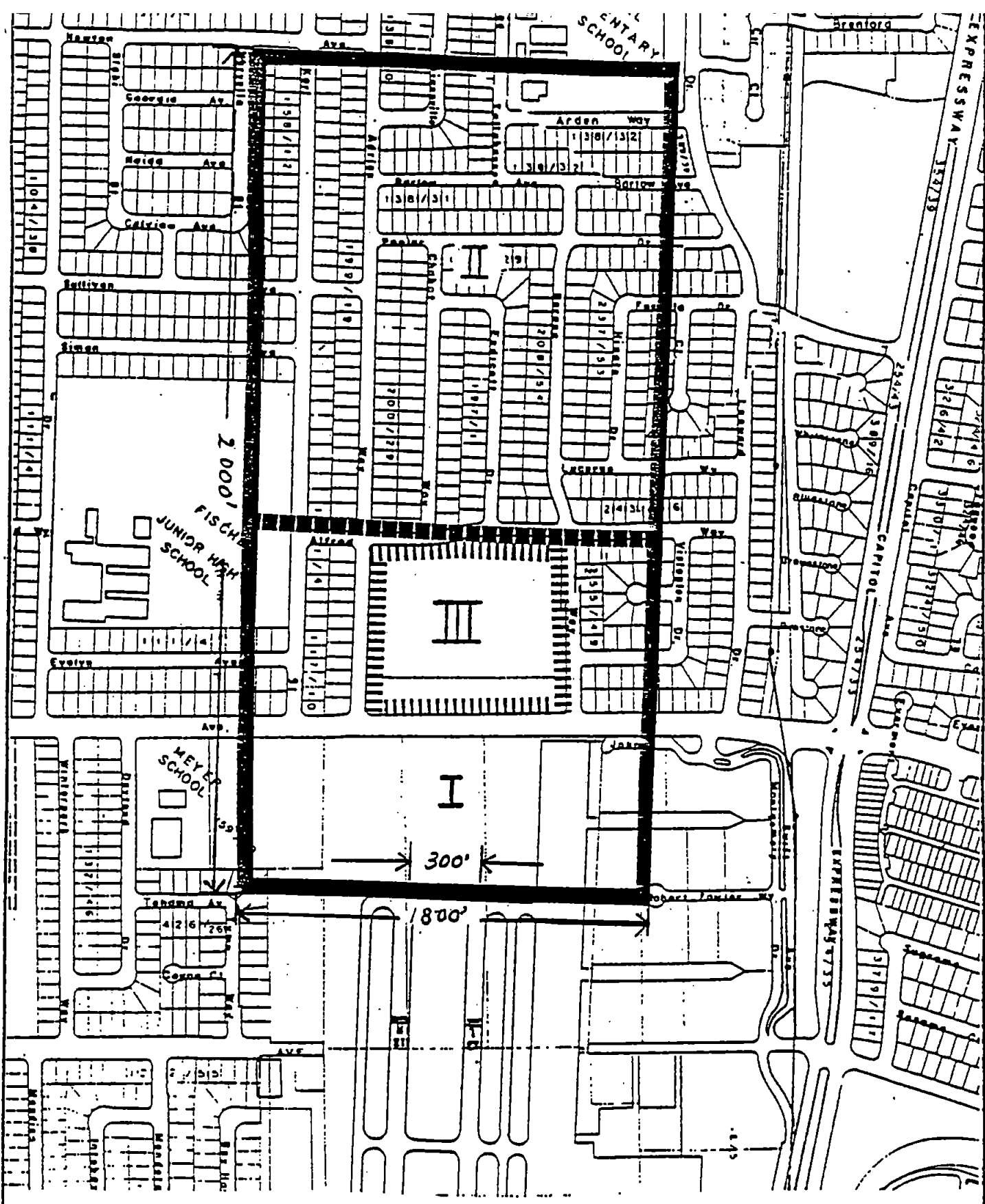
1993 FIGURE
 REID-HILLVIEW AIRPORT SANTA CLARA COUNTY CALIFORNIA
DECLARED DISTANCE CONCEPT
 ARIES CONSULTANTS LTD.



RPZ=RUNWAY PROTECTION ZONE (250'X450'X1,000')
 OFA=OBJECT FREE AREA (600'X500')
 RSA=RUNWAY SAFETY AREA (300'X150')

NOTE:
 THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES.

1993 FIGURE
 REID-HILLVIEW AIRPORT SANTA CLARA COUNTY CALIFORNIA
RELOCATE RUNWAYS TO NORTH
ARIES CONSULTANTS LTD.

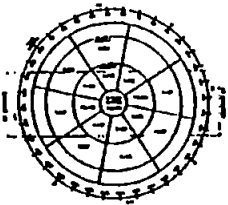


**NORTH SAFETY AREA
REID-HILLVIEW AIRPORT**

See Safety Policies for Specific Restrictions in areas I, II and III
September 1991



FIGURE 3



ALL WEATHER WIND ROSE

SOURCE: Records of San Jose Weather Station, Dept. of Public Works, Department of Public Safety of the U.S. Weather Bureau, 1950-1957.
 REMARKS: 10-15 MPH WINDS BLOWN CONTINUOUSLY WITH 15 MPH (15.4 KTS) RECORDING EQUIPMENT.

RESIDENTIAL

OPEN SPACE
(FUTURE PARK AREA)

BUILDING & FACILITY LEGEND	
1	1-BARRAGE
2	2-BUILDING
3	3-TERRAZZO
4	4-MAINTENANCE BUILDING
5	5-TRUCK TOWER
6	6-CONTROL TOWER (SEE 117' Hgt. of Building)
7	7-ELECTRICAL YARD
8	8-ELECTRICAL WPT. BUILDING
9	9-FUEL TANKS (SEE 117' Hgt. of Building)
10	10-FUEL TANKS (SEE 117' Hgt. of Building)
11	11-FUEL TANKS (SEE 117' Hgt. of Building)
12	12-FUTURE FUEL TANK
13	13-COMPASS ROSE (SEE 117' Hgt. of Building)
14	14-FUTURE COMPASS ROSE

DRAWING LEGEND		
	CURRENT	FUTURE
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14

RESIDENTIAL

PARK
(OPEN SPACE)

RESERVED OPEN SPACE
(LAND USE BUFFER)

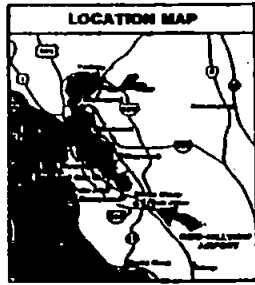
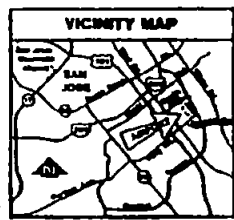
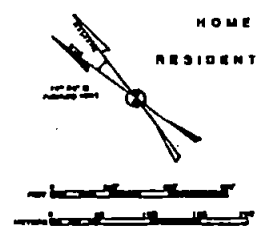
MOBILE HOME RESIDENTIAL

RESIDENTIAL

EASTRIDGE
SHOPPING CENTER

RUNWAY DATA				
	ASPHALT	CONCRETE	ASPHALT	CONCRETE
PHYSICAL LENGTH & WIDTH	3100' x 75'	3100' x 75'	3100' x 75'	3100' x 75'
SPACING BETWEEN RUNWAYS	75'	75'	75'	75'
SPACING BETWEEN TAXIWAYS	75'	75'	75'	75'
SPACING BETWEEN TAXIWAYS	75'	75'	75'	75'
FAIR WEAR BY MINIMUM	10000 & 100	10000 & 100	10000 & 100	10000 & 100
APPROACH COMPASS	10000 & 100	10000 & 100	10000 & 100	10000 & 100
APPROACH AID	10000 & 100	10000 & 100	10000 & 100	10000 & 100
REMARKS	SAME UTILITY S	SAME	SAME UTILITY S	SAME
REMARKS	SAME	SAME	SAME	SAME
REMARKS	SAME	SAME	SAME	SAME
REMARKS	SAME	SAME	SAME	SAME
REMARKS	SAME	SAME	SAME	SAME
REMARKS	SAME	SAME	SAME	SAME

AIRPORT DATA			
	EXISTING	FUTURE	
AIRPORT ELEVATION	110' MSL	110' MSL	
AIRPORT REFERENCE POINT	Lat 37° 19' 50" N	Lat 37° 19' 50" N	Long 121° 46' 50" W
MEAN SEA. TEMP., HOTTEST MONTH	60° F	60° F	
NAVIGATIONAL AID	None	None	
AIRPORT ROLE	General Utility	General Utility	
AIRPORT AREA	170 Acres	170 Acres	
AIRPORT TO-CENT POSITION	4410' MSL	4410' MSL	
1-BARRAGE/2-BUILDING	117'	142'	



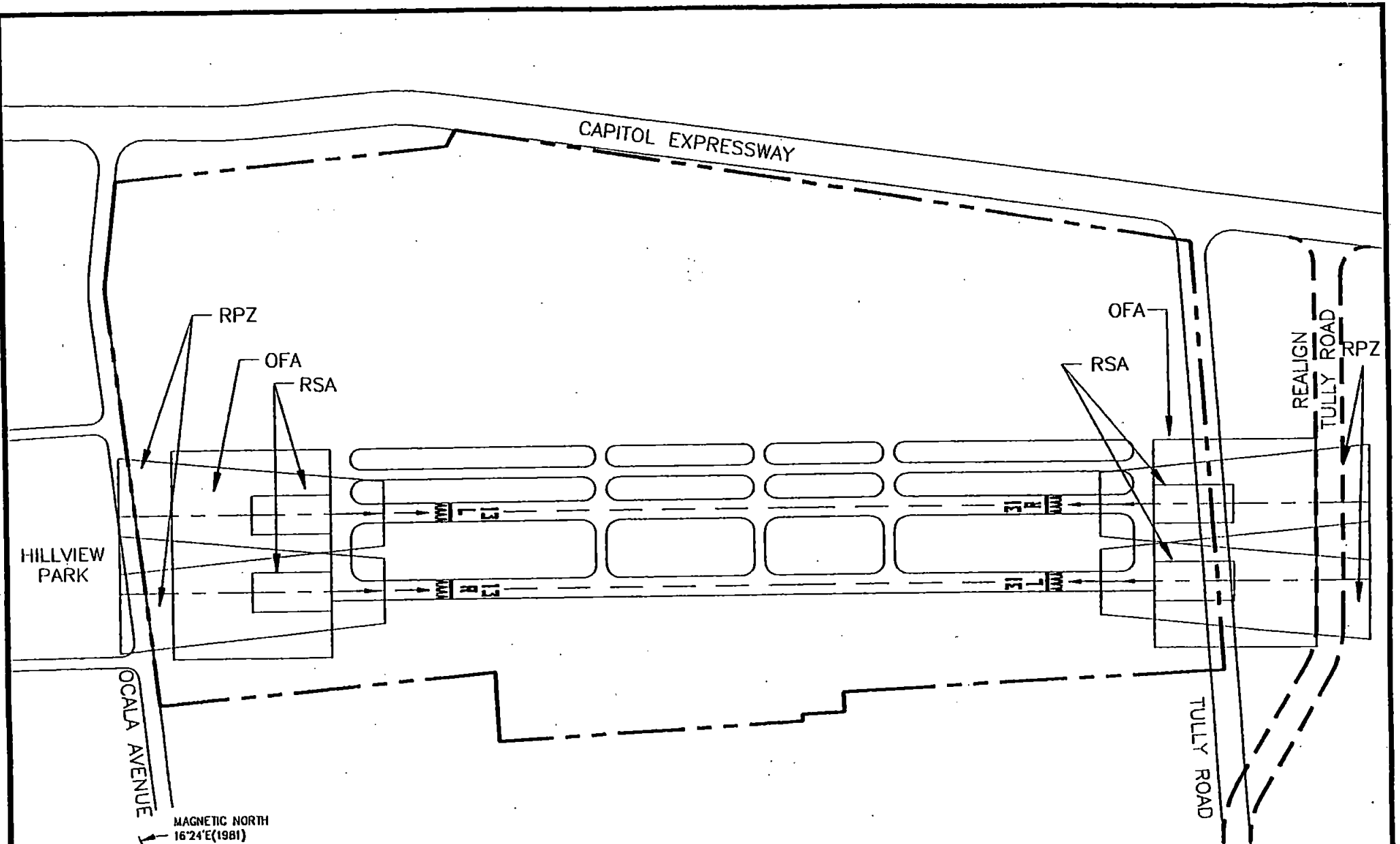
DESIGNED BY
 U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL AVIATION ADMINISTRATION
 OFFICE OF AIRPORTS
 SAN JOSE, CALIFORNIA

REID-HILLVIEW AIRPORT
 SANTA CLARA COUNTY, CALIFORNIA

AIRPORT LAYOUT PLAN

HOODGEE & BRITT
 AIRPORT PLANNING SERVICES
 1000 S. F STREET, SAN JOSE, CALIFORNIA 95128
 PREPARED BY: HOODGEE & BRITT
 DATE: 1961
 SHEET NO. 1 OF 2

FIGURE 5:



HILLVIEW PARK

CAPITOL EXPRESSWAY

RPZ

OFA

RSA

OFA

RSA

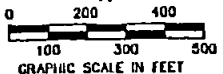
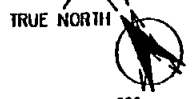
REALIGN
TULLY ROAD

RPZ

Ocala Avenue

TULLY ROAD

MAGNETIC NORTH
16°24'E(1981)



NOTE:

THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES.

RPZ=RUNWAY PROTECTION ZONE (250'X450'X1,000')
 OFA=OBJECT FREE AREA (600'X500')
 RSA=RUNWAY SAFETY AREA (300'X150')

1993

FIGURE 6

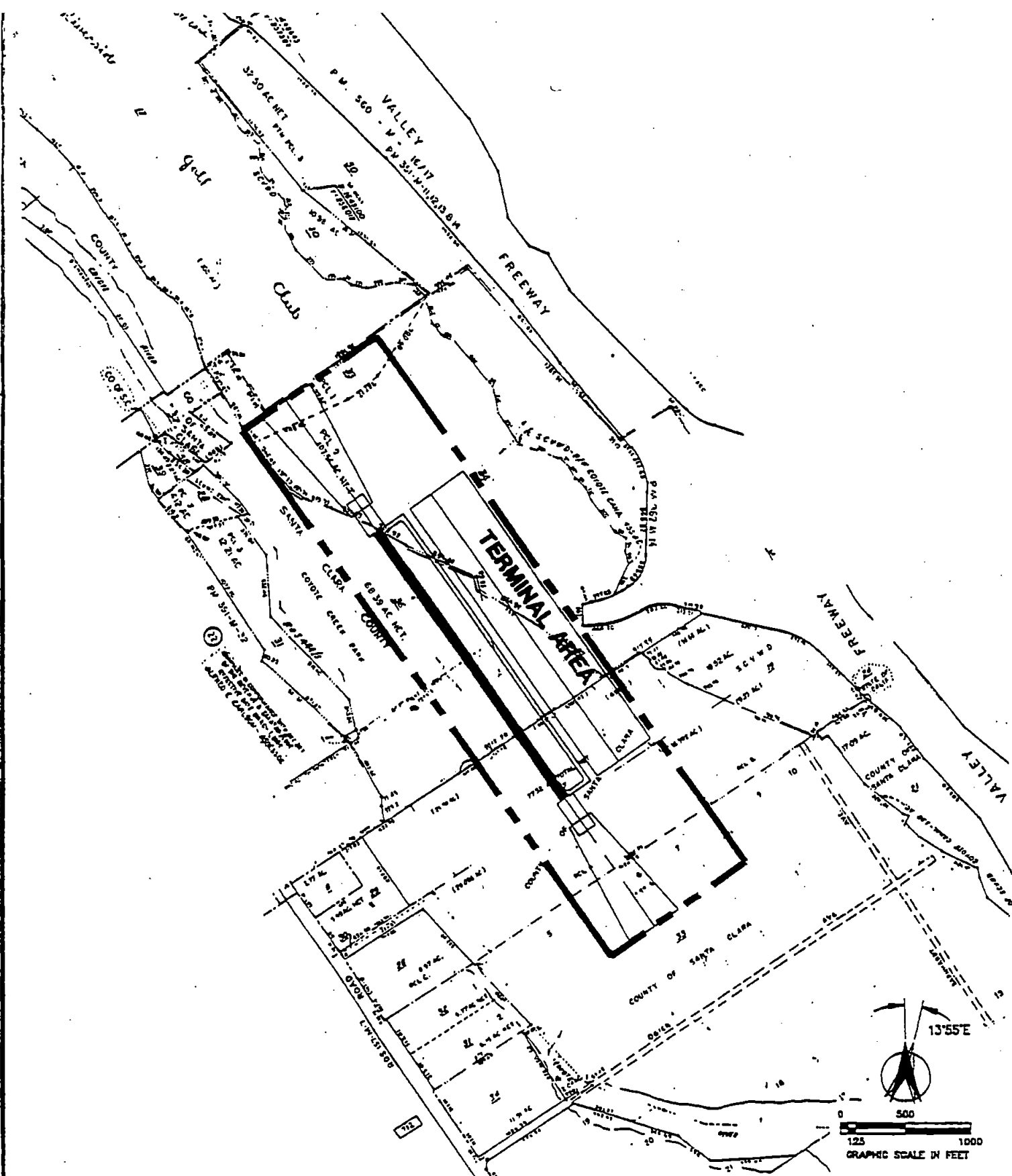
REID-HILLVIEW
AIRPORT

SANTA CLARA COUNTY,
CALIFORNIA

**RUNWAY OBJECT FREE
AREAS AND SAFETY AREAS**



ARIES CONSULTANTS LTD.



1991 FIGURE 6-4

SANTA CLARA COUNTY GENERAL AVIATION RELIEVER AIRPORT STUDY SAN JOSE, CALIFORNIA

TAX PARCEL MAP - SITE A


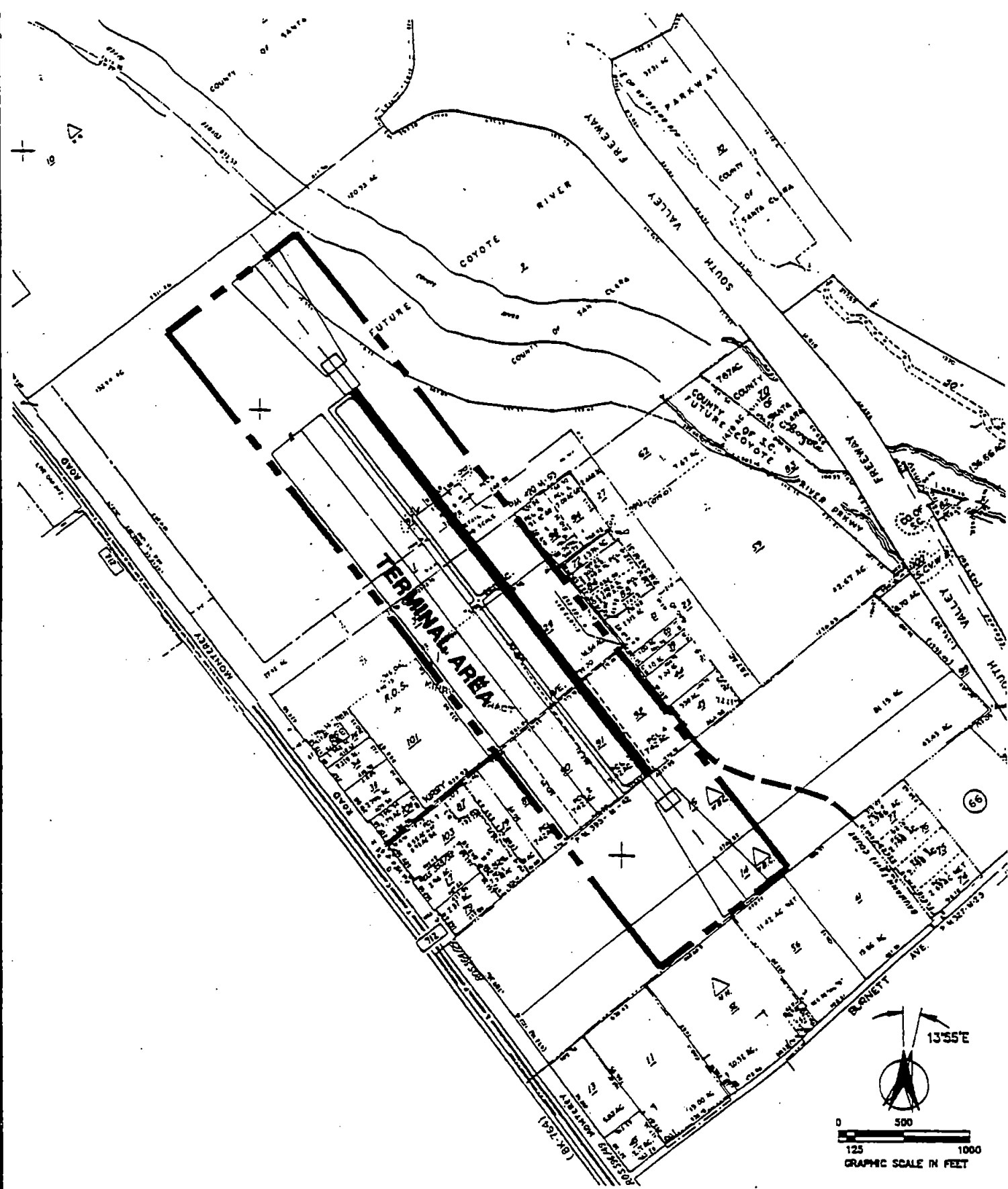

ARIES CONSULTANTS LTD.

FIGURE 7



1991

FIGURE 6-6

SANTA CLARA COUNTY GENERAL
AVIATION RELIEVER AIRPORT STUDY

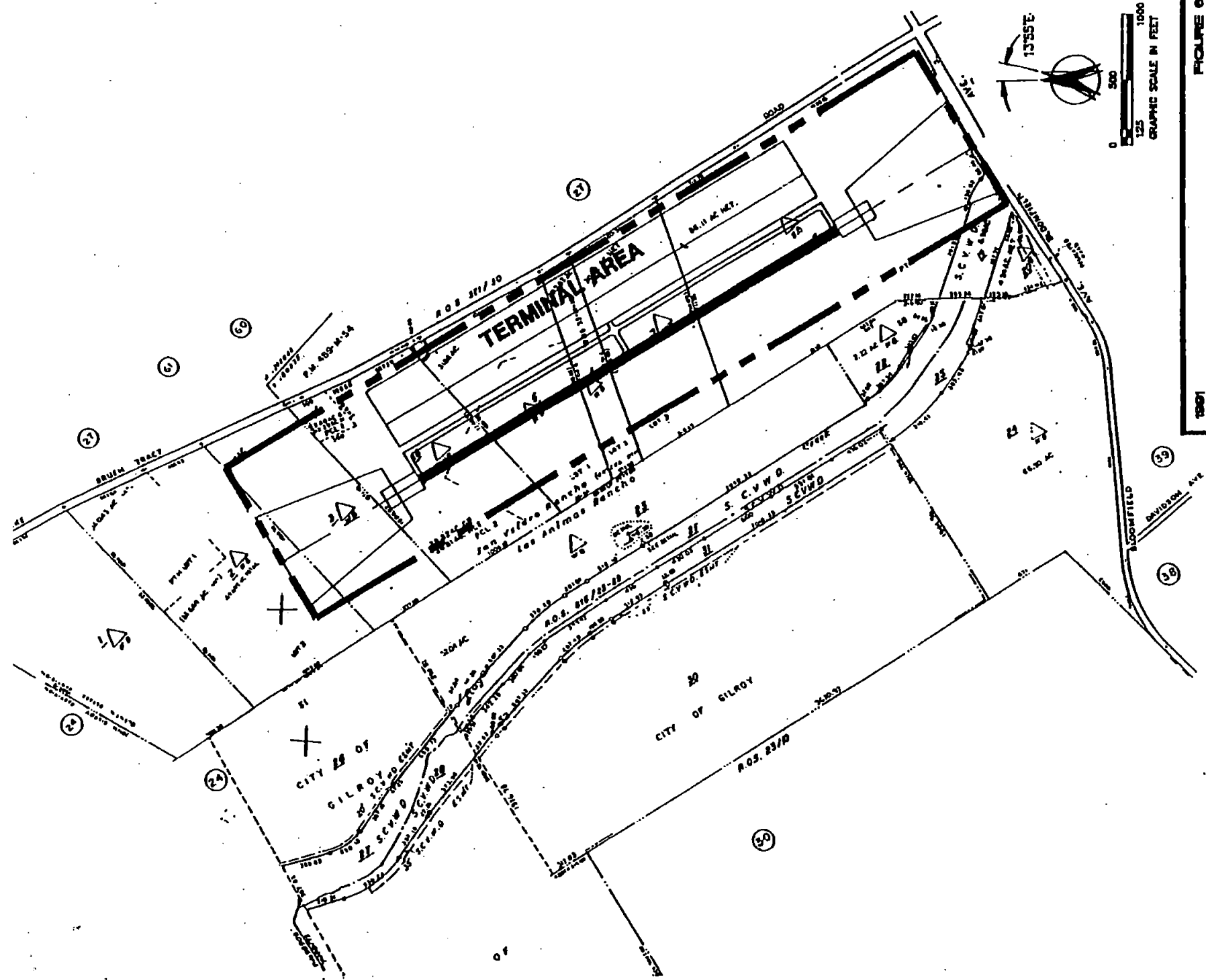
SAN JOSE, CALIFORNIA

TAX PARCEL MAP - SITE B

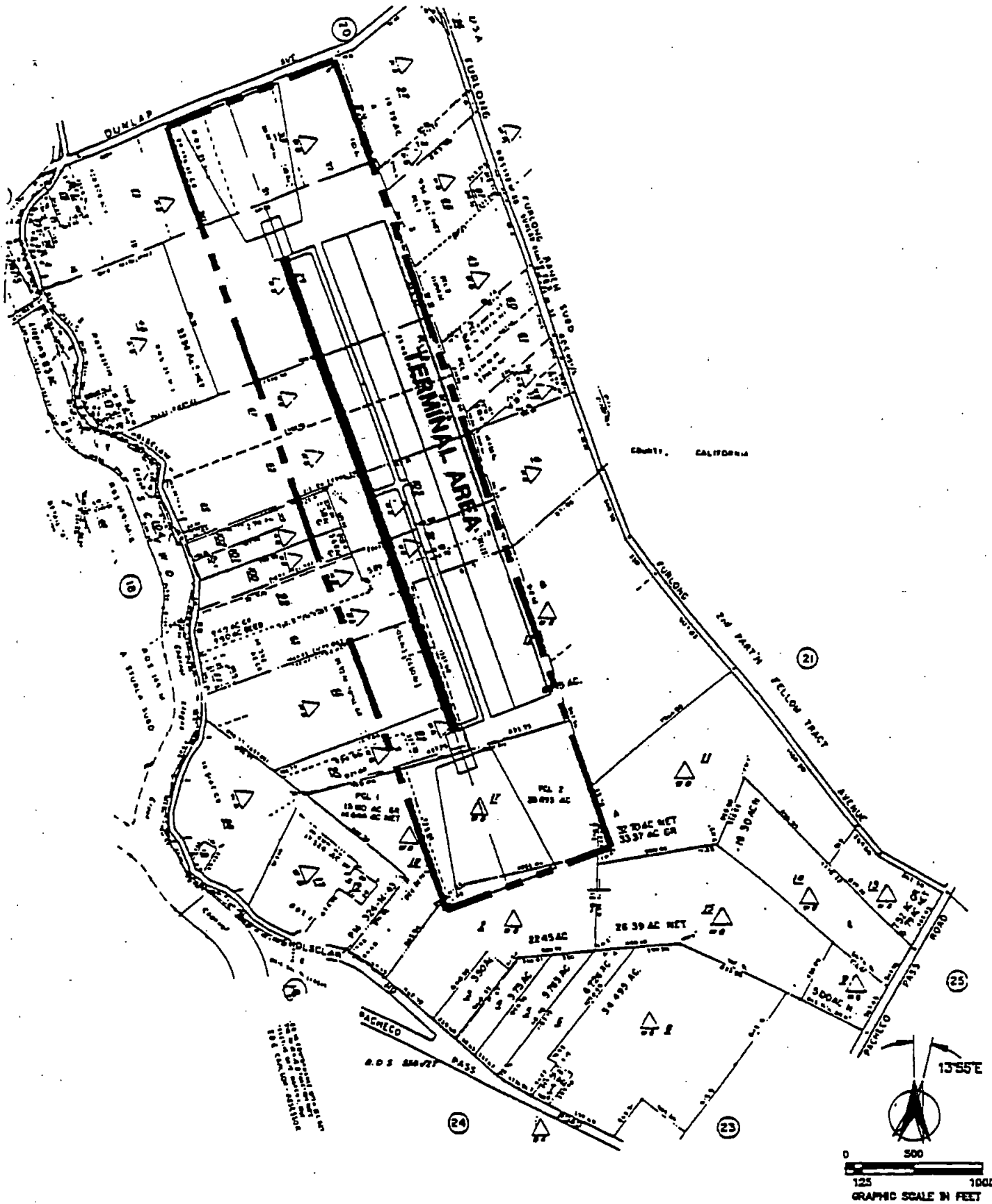


ARIES CONSULTANTS LTD.

FIGURE 6



1997
 FIGURE 6-12
 SANTA CLARA COUNTY GENERAL AVIATION RELIEVER AIRPORT STUDY
 SAN JOSE CALIFORNIA
T TAX PARCEL MAP - SITE C-1
 ARIES CONSULTANTS LTD.



1991 FIGURE C-16
 SANTA CLARA COUNTY GENERAL AVIATION RELIEVER AIRPORT STUDY SAN JOSE, CALIFORNIA
TAX PARCEL MAP - SITE C-2
 ARIES CONSULTANTS LTD.