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CALIFORNIA COASTAL COMMISSION
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STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 4-97-162

APPLICANT: Pepperdine University **AGENT:** Envicom Corporation

PROJECT LOCATION: 26800 Pacific Coast Highway and 26755 Latigo Shore Drive, City of Malibu, Los Angeles County

PROJECT DESCRIPTION: Landslide remediation including: installation of 27 shear pin caissons ranging from 26 to 43 ft. long; excavation and recompaction of 6,000 cu. yds. of material; export of 18,000 cu. yds. of cut; construction of 253-foot long shotcrete retaining wall (15 ft. max. height); construction of drainage facilities; installation of inclinometers and dewatering systems; removal of existing non-native vegetation and installation of native and non-native vegetation with irrigation; removal and reconstruction of stairs; demolition and reconstruction of existing pool; repairs to Latigo Shore Drive, including installation of curb/gutter. (This is a follow-up permit to Emergency Permit 4-97-162-G)

LOCAL APPROVALS RECEIVED: City of Malibu Approval in Concept; Building Permits; Grading Permits; Pool and Spa Permit

SUBSTANTIVE FILE DOCUMENTS: 4-97-017 (Pepperdine); 4-97-162-G (Pepperdine), 1) Hydrology and Hydraulics Report, dated 7/21/97, Addendum to the Hydrology and Hydraulics Report, dated 9/9/97, and Addendum to the Hydrology and Hydraulics Report, dated 10/14/97, all prepared by Robert Bein, William Frost, and Associates; and 2) Preliminary Geotechnical Investigation, dated 7/22/97, Supplemental Geotechnical Review of Revised Grading Plans and Response to City of Malibu Geology and Geotechnical Engineering Review Sheet, dated 8/8/97, Recommendations for Stabilization Fill Construction, dated 11/5/97, Review of Stabilization/Fill Revision to Grading Plans, 11/14/97, Geotechnical Recommendations for Pool Construction, dated 8/26/97, and Geotechnical Observation, Testing, and As-Built Report for the South Annex Landslide Stabilization, dated 5/6/98, all prepared by Stoney-Miller Consultants, Inc.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with special conditions relating to assumption of risk, maintenance of drainage and erosion control facilities, and landscape monitoring. As conditioned, the proposed project will minimize risks from geologic hazard and minimize landform alteration and impacts to visual resources, consistent with Sections 30253 and 30251 of the Coastal Act.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with conditions.

The Commission hereby **grants** a permit, subject to the conditions below, for the proposed development on the grounds that the development, as conditioned, will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, is located between the sea and the first public road nearest the shoreline and is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse effects on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions:

1. **Notice of Receipt and Acknowledgement.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Compliance.** All development must occur in strict compliance with the proposal as set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. **Inspections.** The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions.

1. Assumption of Risk.

Prior to the issuance of the coastal development permit, the applicant as landowner shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide that: (a) the applicant understands that the site may be subject to extraordinary hazard from landsliding and the applicant assumes the liability from such hazards; and that (b) the applicant unconditionally waives any claim of liability on the part of the California Coastal Commission and agrees to indemnify and hold harmless the California Coastal Commission, its officers, agents and employees relative to the California Coastal Commission's approval of the project for any damage due to natural hazards. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens which the Executive Director determines may affect the interest conveyed and any other encumbrances which may affect said interest.

2. Drainage and Erosion Control.

The applicant shall monitor and maintain all surface and subsurface drainage and erosion control facilities in proper working order per the original design specifications. Should any erosion result from drainage from the project site, the applicant shall be responsible for any necessary repairs and restoration.

3. Landscaping Monitoring.

All planting shall be adequate to provide 90 percent coverage within (2) years. Plantings shall be maintained in good growing condition throughout the life of the project and, whenever necessary, shall be replaced with new plant materials to ensure continued coverage. The applicant shall monitor the landscaping on the project site for a period of five (5) years. The applicant shall submit to the Executive Director an annual report on the status of the revegetation, prepared by a qualified biologist, detailing the success of the plantings, including recommendations, if necessary, for additional plantings or other corrective measures. Said reports shall be submitted no later than May 1st of each year. The first report shall be submitted no later than May 1, 1999.

If the consulting biologist determines that additional or different plantings are required, the applicant shall be required to install such plantings by the beginning of the rainy season of that year. If at the completion of the fifth year of monitoring, the consulting biologist determines that the revegetation has, in part or whole, been unsuccessful, the applicant shall submit a revised landscaping plan to remedy

those aspects of the original plan that were not successful. The revised plan shall be processed as an amendment to this permit.

IV. Findings and Declarations.

The Commission hereby finds and declares:

A. Project Description and Background.

The applicant proposes the remediation of an active landslide, including:

- installation of 27 shear pin caissons ranging from 26 to 43 ft. long;
- excavation and recompaction of 6,000 cu. yds. of material;
- export of 18,000 cu. yds. of cut;
- construction of 253-foot long shotcrete retaining wall (15 ft. max. height);
- construction of drainage facilities;
- installation of inclinometers and dewatering systems;
- removal of existing non-native vegetation and installation of native and non-native (non-invasive) vegetation with irrigation;
- removal and reconstruction of stairs;
- demolition and reconstruction of existing pool; and
- repairs to Latigo Shore Drive, including installation of curb/gutter.

The proposed remediation was approved under an Emergency Permit (4-97-162G) and the applicant has already completed the work. The property is comprised of two parcels, 5.9-acres and 4.9-acres in size. While the property is owned by Pepperdine University, the site is not located at the university's Malibu Campus. Rather, the property is located on the seaward side of Pacific Coast Highway and descends to Latigo Shore Drive. The 5.9-acre parcel (known as the "Gull's Way parcel") is developed with a single family residence, garage, guesthouse, pool, greenhouse, and landscaping. The 4.9-acre parcel (known as the "Annex parcel") is largely undeveloped, with the exception of a graded road and pad. An uninhabited mobile trailer was removed from this site. Figure 1 shows the project site vicinity. An aerial view of the project site and the approximate limits of the landslide are shown on Figure 2. Finally, Figure 3 is a photograph of the project site during the grading operation.

The subject landslide affects the southern portion of the Annex parcel, and a very small portion of the eastern edge of the Gull's Way parcel, as well as offsite beachfront parcels along Latigo Shore Drive.

The Commission has previously acted on permit requests for the subject site. In April 1997, the Commission approved Permit 4-97-017 (Pepperdine University) for the installation of an eductor well point system with above ground pipes for the purpose of dewatering and stabilizing the active landslide. The eductor well system consisted of 25 individual well points spaced approximately 10 feet on center. The total depth of the well casings was 50 feet below grade. The pumped ground water was conveyed in above-

ground pipes into an existing storm drain. Dewatering of the site was to occur for six months to two and a half years to evaluate the dewatering effect on the landslide. The project also included the placement of a 10 ft. high "bakers tank" to hold water temporarily. The water held in this tank was tested for water quality prior to release to the storm drain. In the event that the groundwater was not suitable for discharge, it was to be transported to an appropriate wastewater treatment facility for treatment. The Regional Water Quality Control Board issued a permit allowing the applicant to discharge up to 72,000 gallons per day of pumped groundwater to the storm drain. The dewatering system was in place by June 1997 and was operating while the preliminary work for slide remediation was underway. This dewatering system was dismantled in October 1997 to allow for construction of the caissons, retaining wall, and drainage devices.

In August 1997, the Executive Director approved emergency work, under Emergency Permit 4-97-162-G (Pepperdine University). This emergency work included all of the caissons, shotcrete wall, grading, drainage, revegetation, road improvements and other development proposed herein. The Executive Director determined that an unexpected occurrence in the form of continuing displacement of landslide mass causing damage to Latigo Shore Drive and occupied downslope residential structures at 26750, 26758, 26766, and 26770 Latigo Shore Drive required immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. The landslide remediation was approved and construction was inspected by the City of Malibu. The construction was carried out throughout Fall 1997 and was completed by April 1998. As a condition of the Emergency Permit, the applicant was required to apply for a regular Coastal Permit to have the emergency work be considered permanent.

B. Hazards.

Section **30253** of the Coastal Act states, in part, that:

> New development shall:
>
> (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
>
> (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The proposed development would be located in the Santa Monica Mountains, an area that is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property.

The applicant proposes the remediation of an active landslide, including the partial removal of the landslide, the provision of lateral support to the landslide through the use of caissons as shear pins, the construction of a shotcrete wall supported on soldier piles to retain the slope above the area of slide debris removal, and the installation of hydraugers.

The applicant has submitted the following reports regarding the proposed project: 1) Hydrology and Hydraulics Report, dated 7/21/97, Addendum to the Hydrology and Hydraulics Report, dated 9/9/97, and Addendum to the Hydrology and Hydraulics Report, dated 10/14/97, all prepared by Robert Bein, William Frost, and Associates; and 2) Preliminary Geotechnical Investigation, dated 7/22/97, Supplemental Geotechnical Review of Revised Grading Plans and Response to City of Malibu Geology and Geotechnical Engineering Review Sheet, dated 8/8/97, Recommendations for Stabilization Fill Construction, dated 11/5/97, Review of Stabilization/Fill Revision to Grading Plans, 11/14/97, Geotechnical Recommendations for Pool Construction, dated 8/26/97, and Geotechnical Observation, Testing, and As-Built Report for the South Annex Landslide Stabilization, dated 5/6/98, all prepared by Stoney-Miller Consultants, Inc.

The subject landslide affects the southern portion of the Annex parcel, and a very small portion of the eastern edge of the Gull's Way parcel, as well as offsite beachfront parcels along Latigo Shore Drive. The approximate boundaries of the subject slide are shown on Figure 2. There is also a landslide complex which, in part, affects the east side of the Annex parcel. The geologists state that:

> These geologically ancient but periodically re-activated landslides, informally known as the Latigo Shore Landslide, extend to the east beneath existing residential buildings and are believed to extend to the south beneath residences along Latigo Shore Drive and beyond the shoreline. The South Annex Landslide *[the subject slide]* is located south of the Latigo Shore Landslide complex, separated by an intact bedrock "ridge". (Stoney-Miller Consultants, Inc. 7/22/97)

The subject slide, referred to as the "South Annex Landslide" is also a geologically ancient but recently re-activated slide which is less than 1½ acres in area. The slide is composed of blocks of siltstone, claystone, and sandstone bedrock, overlain by silt and sandy surficial deposits. The geologists estimate the maximum thickness of the slide to be approximately 40 feet.

As stated above, the applicants installed an eductor well system to dewater the slide, slowing its movement in order to provide time to develop remediation plans and to provide site safety during the initial construction. The applicants also monitored the movement of the slide through the use of piezometers to measure groundwater levels and inclinometers to measure ground movement. As of July 1997, the applicant stated that: "the failure has translated horizontally 17.26 inches in an easterly direction, with apparent vertical ground displacement of approximately one foot". As discussed above, the applicant requested an emergency approval to proceed with the slide remediation in August 1997, stating that: "failure to institute on-site emergency work to stabilize the

landslide will result in continuing displacement of the slide mass and damage to Latigo Shore Drive and occupied downslope residential structures..." An Emergency Permit (4-97-162-G) was granted and the slope repair project was carried out. The applicant now proposes a regular permit to make the remediation work permanent.

SPECIFIC PROJECT ELEMENTS

As detailed in the Geotechnical Observation, Testing, and As-Built Report for the South Annex Landslide Stabilization, dated 5/6/98, prepared by Stoney-Miller Consultants, Inc. and as shown on the as-built plans, the specific elements included in the proposed slope remediation project are:

The **installation of 27 shear pin caissons ranging from 26 to 43 ft. long**. The three foot diameter caissons were drilled and poured in place in two parallel rows perpendicular to the direction of slide movement. These shear pins provide lateral support to the landslide and are used in lieu of a buttress fill. The caissons range in length from 26.3 feet to 44.1 feet. The location of the caissons is shown on Figure 4.

The **construction of a 253-foot long shotcrete retaining wall (15 ft. max. height)**. This wall is supported on 44, two-foot diameter H-beam reinforced soldier piles. The wall is located along the eastern edge of the Gull's Way parcel and accommodates the grade change between developed upper parcel and the slope resulting from the landslide removal. In order to construct this wall, the project includes the **demolition and reconstruction of the existing pool** that is part of the Gull's Way estate. The pool has not yet been reconstructed.

The **excavation and recompaction of 6,000 cu. yds. of material** and the **export of 18,000 cu. yds. of cut**. The 18,000 cu. yds. of material was cut to remove a portion of the slide material. The geology report states that: "...in conjunction with the shear pins previously installed and the dewatering provisions, this partial removal of the landslide provides adequate mitigation of potential gross instability within this portion of the Annex property". Just upslope of the shear pin caissons, a stabilization key was excavated and recompacted to support the fill slope from the point up to the soldier-pile retaining wall. Figure 4 shows the limits of the grading. Latigo Shore Drive and the Gull's Way roadway were regraded and paved and **repairs were made to Latigo Shore Drive, including installation of curb/gutter**. The excess cut material was transported to Kanan Dume Road and utilized in the repair of that facility.

The **construction of drainage facilities**, including both surface and subsurface drainage in order to improve site surface drainage and to maintain groundwater conditions near or below design stability levels. Surface drainage from the reconstructed slope, behind the retaining wall, and from the pool area is conveyed in v-ditches, intercepted into subsurface pipes and conveyed to an existing storm drain which crosses under Latigo Shore Drive. Additionally, a permanent **dewatering system**, consisting of 21 hydraugers was installed just above Latigo Shore Drive. The hydraugers provide for the drainage of groundwater in order to ensure that groundwater

levels do not destabilize the reconstructed slope. The groundwater flow is also conveyed to the existing storm drain. Figure 5 shows the drainage plan.

During the construction of the project, several existing monitoring instruments were removed or destroyed. New **inclinometers and piezometers** have been installed and the applicant will continue to read these new instruments as well as others previously in place in order to monitor slope movement and groundwater levels. Readings taken since completion of the project indicate: "the landslide movement has effectively halted with a nominal current average rat of approximately 0.02 inch per month..." A pronounced drop in the groundwater level has also been recorded since the installation of hydraugers.

The **removal of existing non-native vegetation and installation of native and non-native vegetation with irrigation**. All existing vegetation was removed in the areas of grading and construction. The landscaping plan shown in Figure 7 was prepared and submitted for staff review prior to implementation, as required by a special condition of the emergency permit. The plan consists primarily of native vegetation. The planting plan consists of "islands" of trees and shrubs planted across the reconstructed slope with a grass mix hydroseeded in the areas between. Additionally, fast-growing vines are provided adjacent to the retaining wall area.

The **removal and reconstruction of stairs** which provide access from the Gull's Way parcel down the slope to Latigo Shore Drive. These stairs had to be removed for the construction of the retaining wall and site grading. When the construction was completed, new stairs were constructed.

PROJECT ALTERNATIVES

The applicant states that in developing the landslide repair plan, four alternatives were also considered which include:

1. Complete site regrading;
2. Tiered tieback wall system;
3. Overall site dewatering; and
4. Buttress key and soldier pile retaining wall.

The complete site regrading alternative included the complete removal of the landslide from Latigo Shore Drive to the west. This alternative was not chosen because of the infeasibility of conducting earthwork operations at grades below sea level and the significant potential for destruction of the adjacent residences as a result of such work.

The tiered tieback wall system alternative involved the construction of up to ten retaining walls from Latigo Shore Drive upslope to the west. The constraints to implementation of this alternative included the infeasibility of constructing multiple walls in an area of active ground movement, the necessary overall height of the walls, and the visual impact of such walls.

The overall site dewatering concept alternative included the installation of sufficient dewatering wells to more thoroughly remove groundwater from the slide mass. This alternative was not chosen because adequate engineering factors of safety could not be achieved with this alternative alone.

Finally, the buttress key and soldier pile retaining wall design would have included export of 20,000 cu. yds. of landslide debris, and removal and recompaction of approximately 22,000 cu. yds. of material for the construction of a buttress key structure intersecting the slide plane. This alternative also included laying back the upper slope, terminating into a retaining wall near the location of the existing swimming pool. Although this alternative was considered feasible, the proposed project substitutes caissons for the buttress key structure, reducing site grading while achieving the same safety factors.

ANALYSIS

Section 30253 of the Coastal Act requires that new development minimize risks to life and property in areas of high geologic, flood, and fire hazard and that it assure stability and structural integrity, and neither create nor contribute significantly to erosion, or geologic instability. As discussed above, the proposed project involves the remediation of an active landslide which endangered existing structures both above and below the slide area. The applicant considered the four alternative methods of slope repair described above. The proposed project was determined to be the most effective means of repair that could minimize landform alteration and visual impact. The applicant's geologic engineering consultants determined that the proposed project would minimize risks from geologic hazard and would assure stability. The consulting geotechnical engineers concluded that:

1. Based on our review, we consider the proposed stabilization of the South Annex Landslide to be feasible from a geotechnical engineering standpoint, provided that the recommendations of this report are implemented during design, grading, and construction. Three primary constraints must be addressed with respect to this project. They are:

    - The protection of existing improvements during and after construction.
    - Excavating large diameter caissons in the hard bedrock, below groundwater. Caving conditions should be anticipated in landslide debris.
    - Adequate long-term monitoring and maintenance of the horizontal drain system.

2. We consider that the anticipated grading will not adversely affect, nor be adversely affected by, the adjoining properties if due precautions are taken as recommended herein... (Stoney-Miller Consultants, Inc. 7/22/97)

In addition to the applicant's consultants, the project design specifications were reviewed and approved by the City of Malibu. The applicant has submitted an approved Geologic Review Sheet. Furthermore, the City permitted and inspected all aspects of

the remediation project as it was carried out. Finally, in the consulting geotechnical engineer's As-Built Report (5/6/98) for the project, the consultants conclude that:

> Based on our observations as presented herein, the subject construction was performed in accordance with our recommendations and with the City of Malibu Building Code. The subject installation and grading are considered to be geotechnically acceptable.

Based on the findings and recommendations of the consulting geotechnical engineers, the approval of the City of Malibu, and the incorporation of the consultant's recommendation during the construction of the project, the Commission finds that the slope remediation can minimize risks to life and property from geologic hazards and assure stability and structural integrity, as required by Section 30253 of the Coastal Act.

Even though the consultants have determined that the slope remediation will assure stability and minimize risks from geologic hazards, the site is still subject to risk from landsliding. There are other landslides in the immediate area. The risk of harm cannot be completely eliminated. As such, the Commission finds it necessary to require the applicant to assume the risk of development. Special Condition No. 1 requires the recordation of an assumption of risk deed restriction. As conditioned to assume risk of failure, the applicant is required to waive any claim of liability against the Commission or any damage or economic harm suffered as a result of the permitted development. The applicant's assumption of risk, when executed and recorded on the property deed, will show that the applicant is aware of and appreciates the nature of hazards which exist on the site and which may adversely affect the stability or safety of the proposed development.

As described above, the proposed project includes the installation of drainage and erosion control facilities designed to ensure that surface and subsurface drainage is controlled. Additionally, hydraugers are included to maintain groundwater levels. These measures contribute greatly to the continuing stability of the site. In order to ensure that these facilities remain in good condition and operate properly, the Commission finds it necessary to require the applicant to monitor and maintain all drainage and erosion control facilities on the site. This requirement is set out in Special Condition No. 2.

In conclusion, based on the analysis discussed above, the Commission finds that the proposed development, as conditioned to assume the risk of development and to monitor and maintain all drainage and erosion control devices, will minimize risk to life and property from geologic hazard, and will assure stability and structural integrity. As such, the Commission finds that the proposed development, as so conditioned, is consistent with Section 30253 of the Coastal Act.

C. Visual Resources.

Section **30251** of the Coastal Act states that:

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to

protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

As described above, the proposed slide remediation project includes grading, the removal of 18,000 cu. yds. of slide material, and the construction of a 253 foot long retaining wall which is a maximum of 15 feet in height. The proposed project is located downslope of Pacific Coast Highway and, as such, would not be visible from the highway adjacent to the project site. However, the reconstructed slope and retaining wall are visible from northbound Pacific Coast Highway south of the project site.

The proposed 18,000 cu. yds. of cut is a substantial amount of grading. The resulting manufactured slope and retaining wall could potentially impact visual resources. As discussed above, it was necessary to remediate the subject landslide in order to protect existing structures. The applicant considered alternative projects to repair the slope. One alternative would have been to completely regrade the site to remove the landslide. Although the retaining wall could have been eliminated or lowered in height, this alternative would have resulted in substantially more landform alteration and was infeasible from a technical standpoint. Another alternative considered was the use of a tiered tieback wall system which involved the construction of up to ten retaining walls from Latigo Shore Drive upslope to the west. This alternative would have reduced the amount of grading but the constraints to implementation of this alternative included the infeasibility of constructing multiple walls in an area of active ground movement, the necessary overall height of the walls, and the visual impact of such walls. As such, the proposed project minimizes landform alteration.

As part of the project, the applicant proposes to revegetate the reconstructed slope, using primarily native vegetation. The landscaping plan shown in Figure **7** was prepared and submitted for staff review prior to implementation, as required by a special condition of the emergency permit. The plan consists primarily of native vegetation. The planting plan consists of "islands" of trees and shrubs planted across the reconstructed slope with a grass mix hydroseeded in the areas between. Additionally, fast-growing vines are provided adjacent to the retaining wall area. The landscaping plan has been implemented on the site. If the vegetation thrives on the site, over time the plants will soften and lessen the visibility of the manufactured slope and retaining wall. The vines will grow over the face of the retaining wall, softening the look of the wall and minimizing its visual impact. In order to ensure that the vegetation grows well and provides adequate coverage, the Commission finds it necessary to require the applicant to monitor the site. Should the plantings fail or should they fail to provide adequate coverage, replacement or supplemental plantings shall be required. Special Condition No. **3** requires the applicant to monitor the vegetation on the project site to ensure the success of the plantings.

In conclusion, the Commission finds that the proposed slope remediation is the preferred alternative, will minimize landform alteration, and will minimize adverse impacts to visual resources provided that the revegetation of the site is successful as required by Special Condition No. 3. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Section 30251 of the Coastal Act.

D. Public Access and Seaward Encroachment.

Coastal Act Section **30210** states that:

> In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Coastal Act Section **30211** states:

> Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Coastal Act Section **30212(a)** provides that in new shoreline development projects, access to the shoreline and along the coast shall be provided except in specified circumstances, where:

> (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources.
>
> (2) adequate access exists nearby, or,
>
> (3) agriculture would be adversely affected. Dedicated access shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

All projects between the first public road and the sea requiring a Coastal Development Permit must be reviewed for compliance with the public access provisions of Chapter 3 of the Coastal Act. The Commission has required public access to and along the shoreline in new development projects and has required design changes in other projects to reduce interference with access to and along the shoreline. The major access issue in such permits is the occupation of sand area by a structure or blockage of access to the beach, in contradiction of Coastal Act policies 30210, 30211, and 30212. However, a conclusion that access may be mandated does not end the Commission's inquiry. As noted, Section 30210 imposes a duty on the Commission to administer the public access policies of the Coastal Act in a manner that is "consistent with ... the need to protect ... rights of private property owners..." The need to carefully review the potential impacts of a project when considering imposition of public access conditions was emphasized by the U.S. Supreme Court's decision in the case of Nollan

vs. California Coastal Commission. In that case, the court ruled that the Commission may legitimately require a lateral access easement where the proposed development has either individual or cumulative impacts which substantially impede the achievement of the State's legitimate interest in protecting access and where there is a connection, or nexus, between the impacts on access caused by the development and the easement the Commission is requiring to mitigate these impacts.

The Commission's experience in reviewing shoreline residential projects in Malibu indicates that individual and cumulative impacts on access of such projects can include among others, encroachment on lands subject to the public trust thus physically excluding the public; interference with natural shoreline processes which are necessary to maintain publicly-owned tidelands and other public beach areas; overcrowding or congestion of such tideland or beach areas; and visual or psychological interference with the public's access to and the ability to use public tideland areas.

In the case of the proposed project, the project site, while located between the first public road and the sea, is not a beachfront parcel. Rather, the site extends from Pacific Coast Highway downslope to the inland edge of Latigo Shore Drive. There are beachfronting parcels on the seaward side of Latigo Shore Drive which are developed with single family residences. The proposed project therefore, would not occupy sandy beach area. Likewise, the proposed project will obviously not extend development any further seaward. Further, there are no beach access routes currently crossing the property. Finally, the Commission has previously found in Permit 4-97-017 (Pepperdine) for temporary dewatering wells, that the drainage from the site would not result in significant ponding on the beach which could adversely impact access along the beach. The drainage from the site after the subject project would be reduced so there would still be no impact from ponding of water on the beach.

For all of these reasons, the Commission finds that the project would have no individual or cumulative adverse impacts on public access. Therefore, the Commission finds that a condition to require lateral access is not appropriate and that the project, as proposed, is consistent with Coastal Act Sections 30210, 30211, and 30212.

E. Local Coastal Program.

Section **30604** of the Coastal Act states that:

> a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Development Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with

Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicant. As conditioned, the proposed development will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the City's ability to prepare a Local Coastal Program for Malibu which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

F. California Environmental Quality Act.

Section **13096(a)** of the Commission's Code of Regulations requires Commission approval of a coastal development permit to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect which the activity would have on the environment.

The previous sections of these findings contain extensive analysis of the potential significant adverse impacts that could be caused by the proposed development as well as proposed or required mitigation measures and alternatives. Four alternatives to the proposed slope remediation were considered. The complete site regrading alternative included the complete removal of the landslide from Latigo Shore Drive to the west. This alternative was not chosen because of the infeasibility of conducting earthwork operations at grades below sea level and the significant potential for destruction of the adjacent residences as a result of such work.

The tiered tieback wall system alternative involved the construction of up to ten retaining walls from Latigo Shore Drive upslope to the west. The constraints to implementation of this alternative included the infeasibility of constructing multiple walls in an area of active ground movement, the necessary overall height of the walls, and the visual impact of such walls.

The overall site dewatering concept alternative included the installation of sufficient dewatering wells to more thoroughly remove groundwater from the slide mass. This alternative was not chosen because adequate engineering factors of safety could not be achieved with this alternative alone.

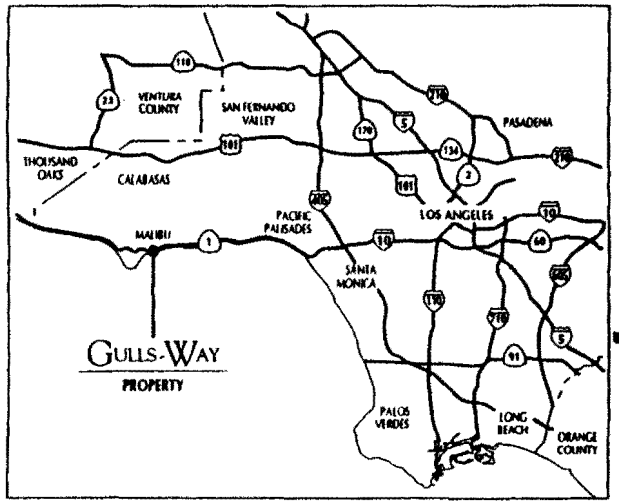
Finally, the buttress key and soldier pile retaining wall design would have included export of 20,000 cu. yds. of landslide debris, and removal and recompaction of approximately 22,000 cu. yds. of material for the construction of a buttress key structure intersecting the slide plane. This alternative also included laying back the upper slope, terminating into a retaining wall near the location of the existing swimming pool.

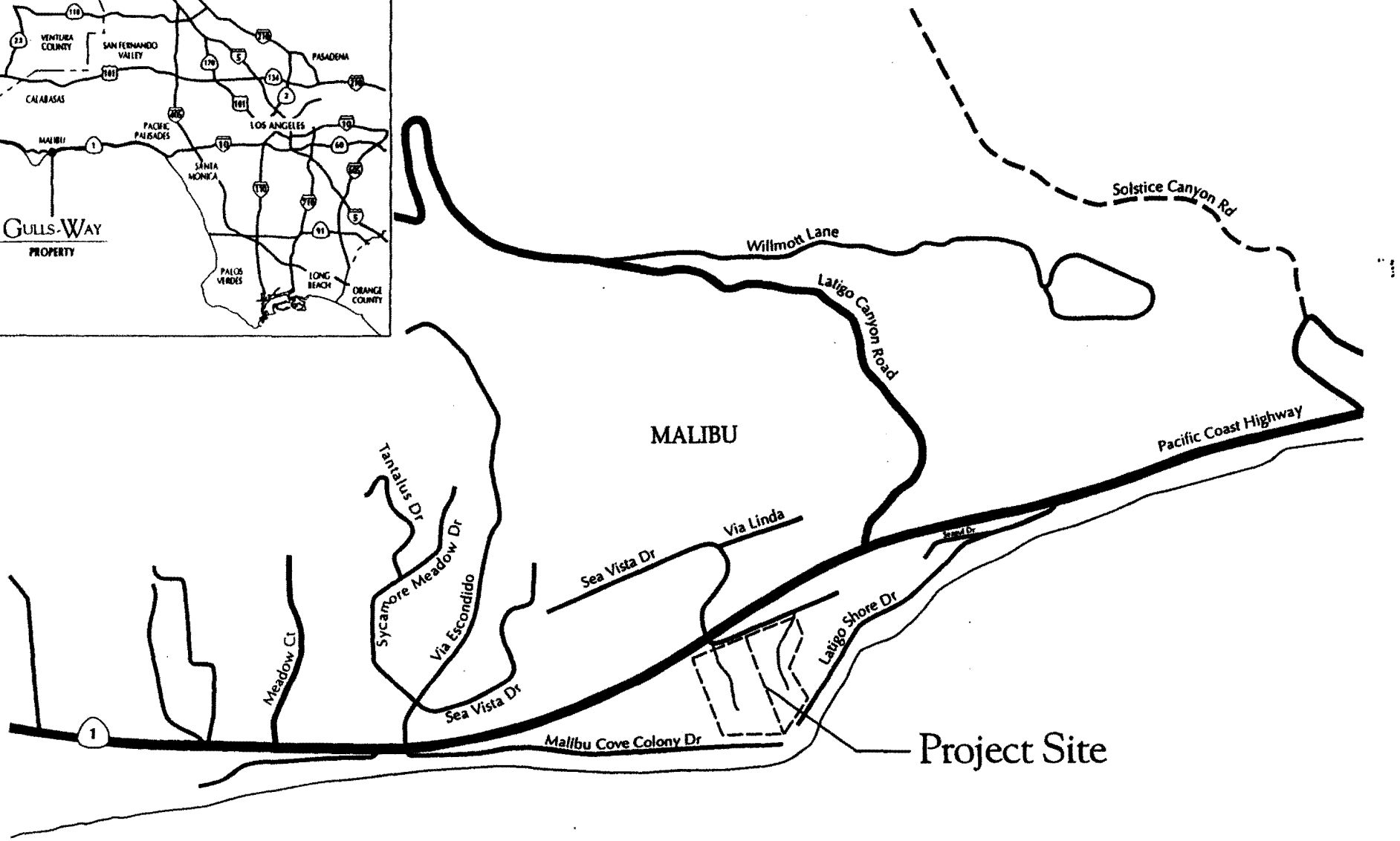
Although this alternative was considered feasible, the proposed project substitutes caissons for the buttress key structure, reducing site grading while achieving the same safety factors.

As such, the proposed project is the preferred alternative, minimizing landform alteration, visual impacts, and assuring structural stability. Conditions are included to require the applicant to assume the risk of development, to monitor and maintain all drainage and erosion control facilities, and to ensure the success of revegetation.

Therefore, for all the reasons discussed and cited in the above findings, the Commission finds that there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effects that the project would have on the environment. The proposed development would not cause significant, adverse environmental effects that would not be adequately mitigated by the conditions imposed by the Commission. Therefore, the proposed project, as conditioned, is found consistent with CEQA and the policies of the Coastal Act.

LIST OF FIGURES





LOCAL VICINITY

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ENVICOM CORPORATION

FEET 0 250 500 1000

FIGURE 1

GULLS-WAY
PERMIT APPLICATION

LEGEND

- Approximate Property and Parcel Boundaries
- Approximate Limits of South Annex Landslide

AERIAL VIEW

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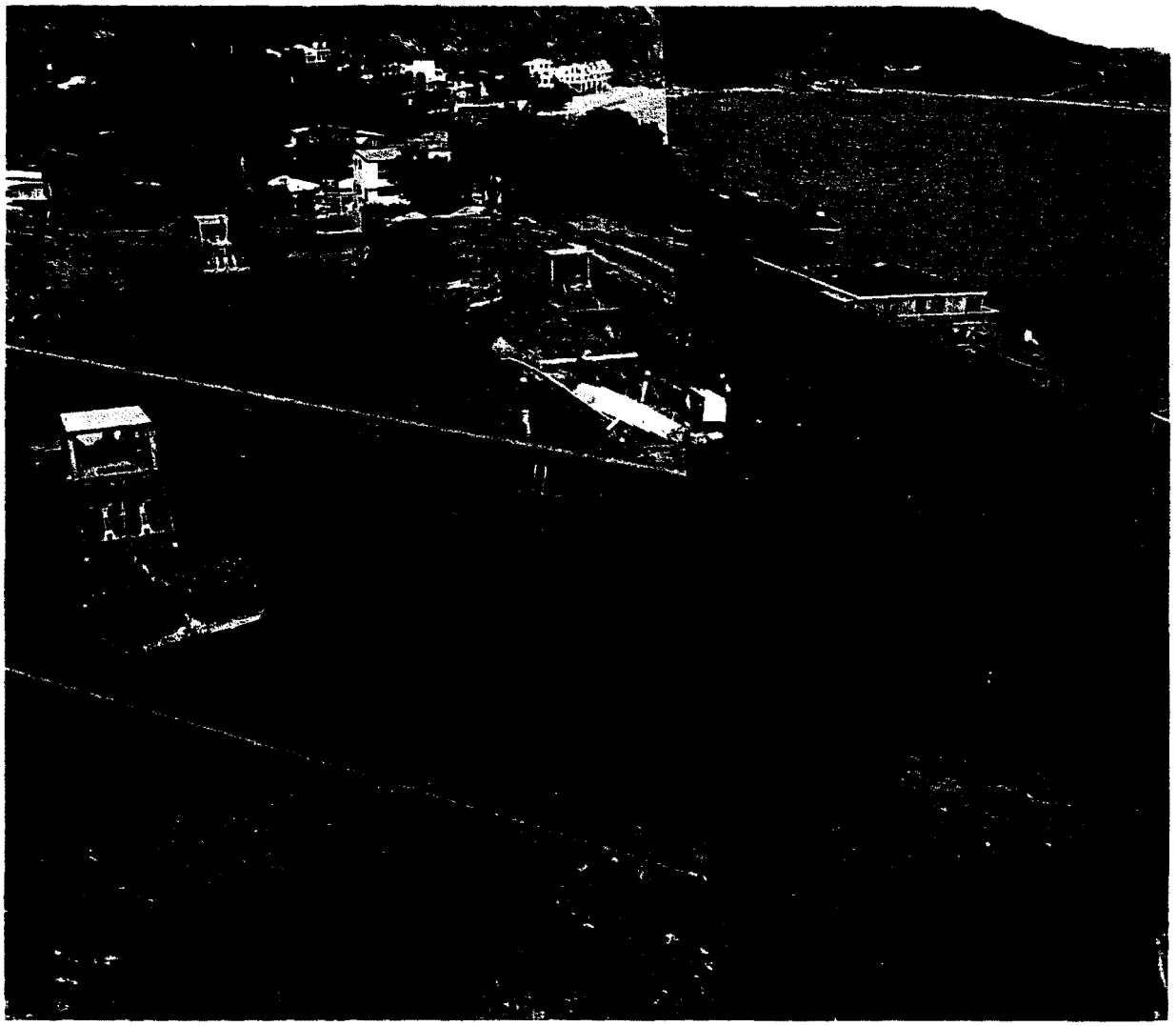
ENVICOM CORPORATION

MILES 0 50 100

FIGURE 2



Area of Stabilization Fill and Buried "Soldier" Pilings

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FIGURE 3

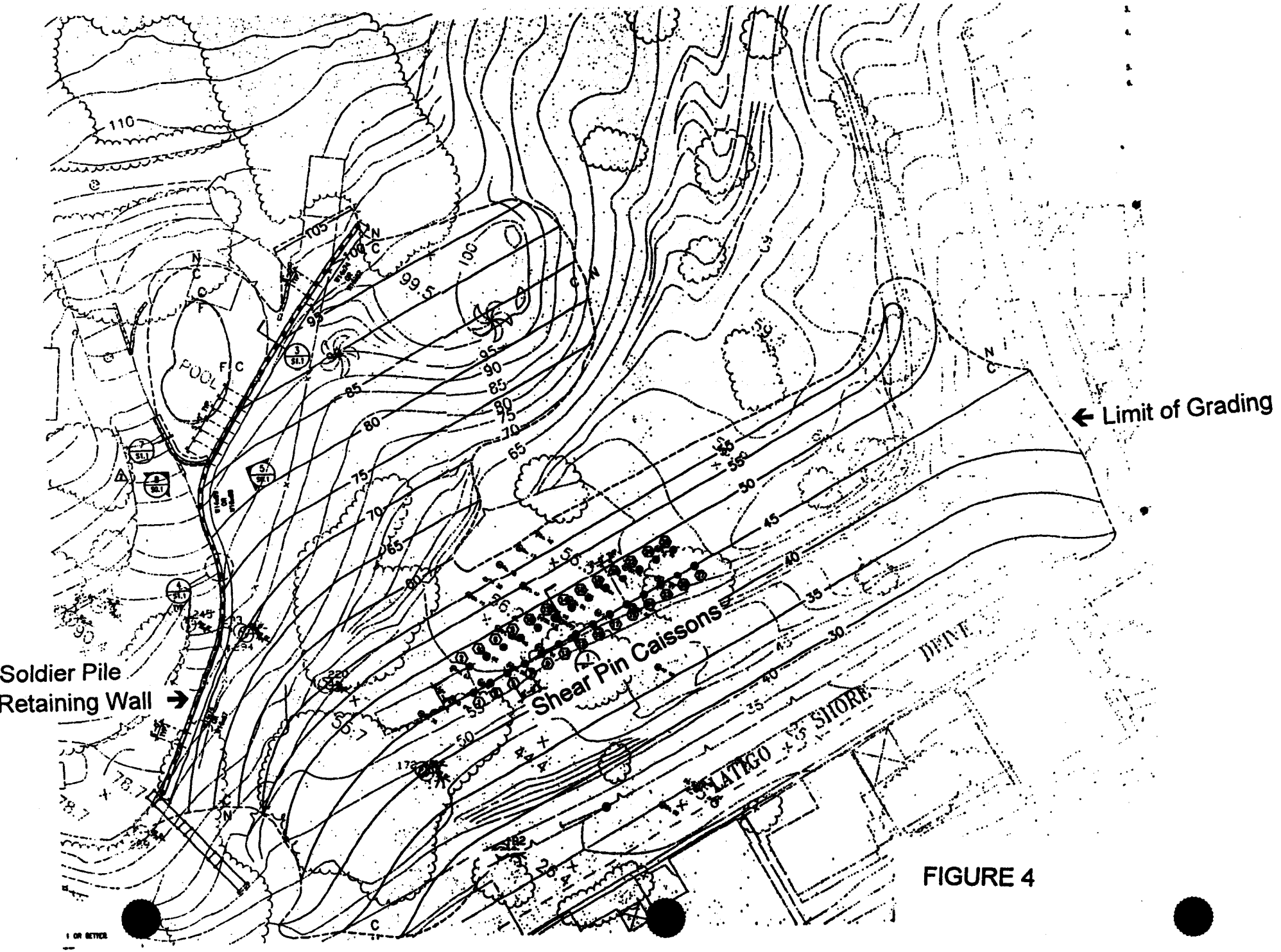
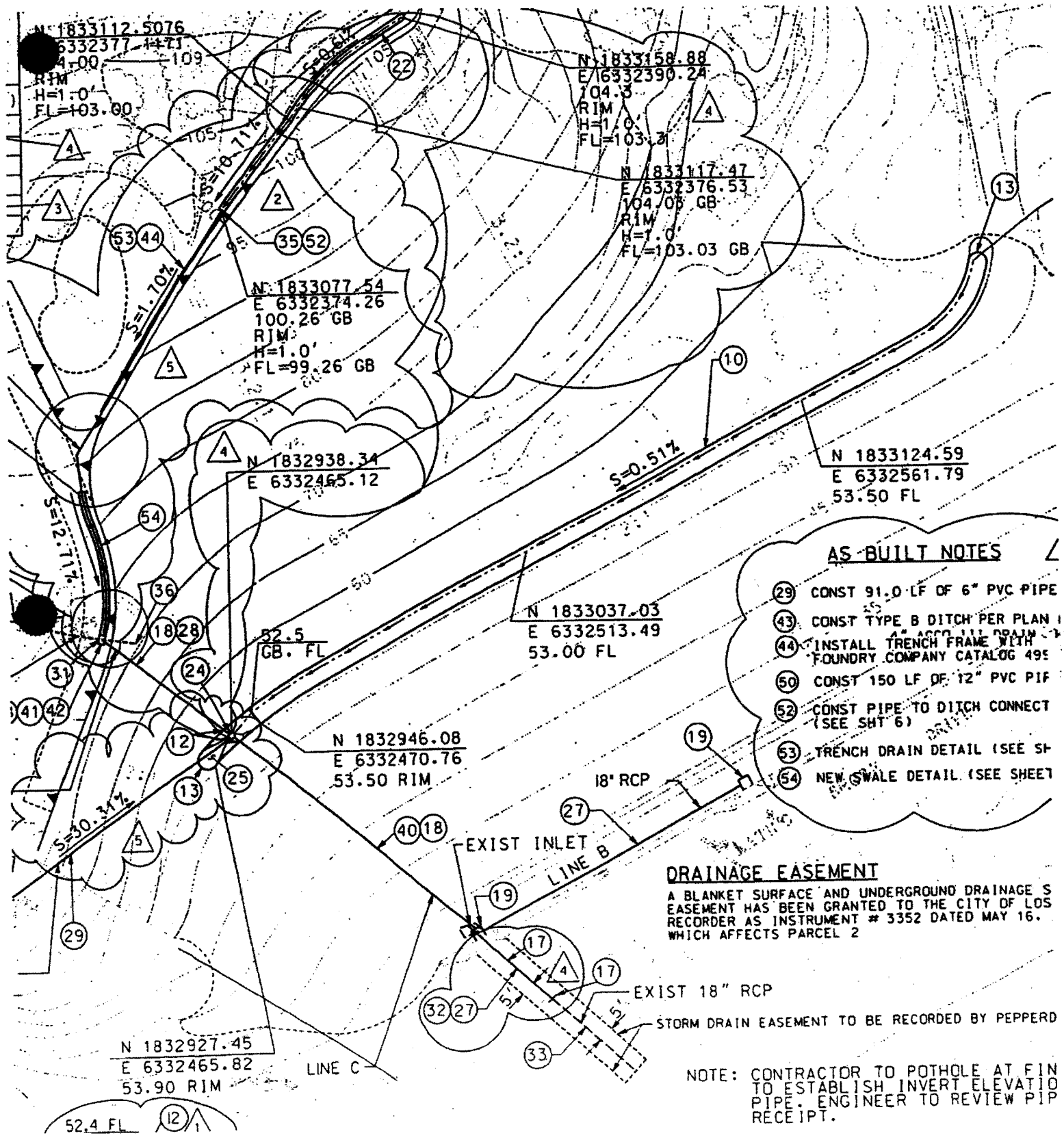

Limit of Grading
Soldier Pile
Retaining Wall
Shear Pin Caissons
POOL
LATIGO ± S SHORE
DUNE

FIGURE 4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FL=103.00
N 1833158.88
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104.3
RIM
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52.5
GB. FL
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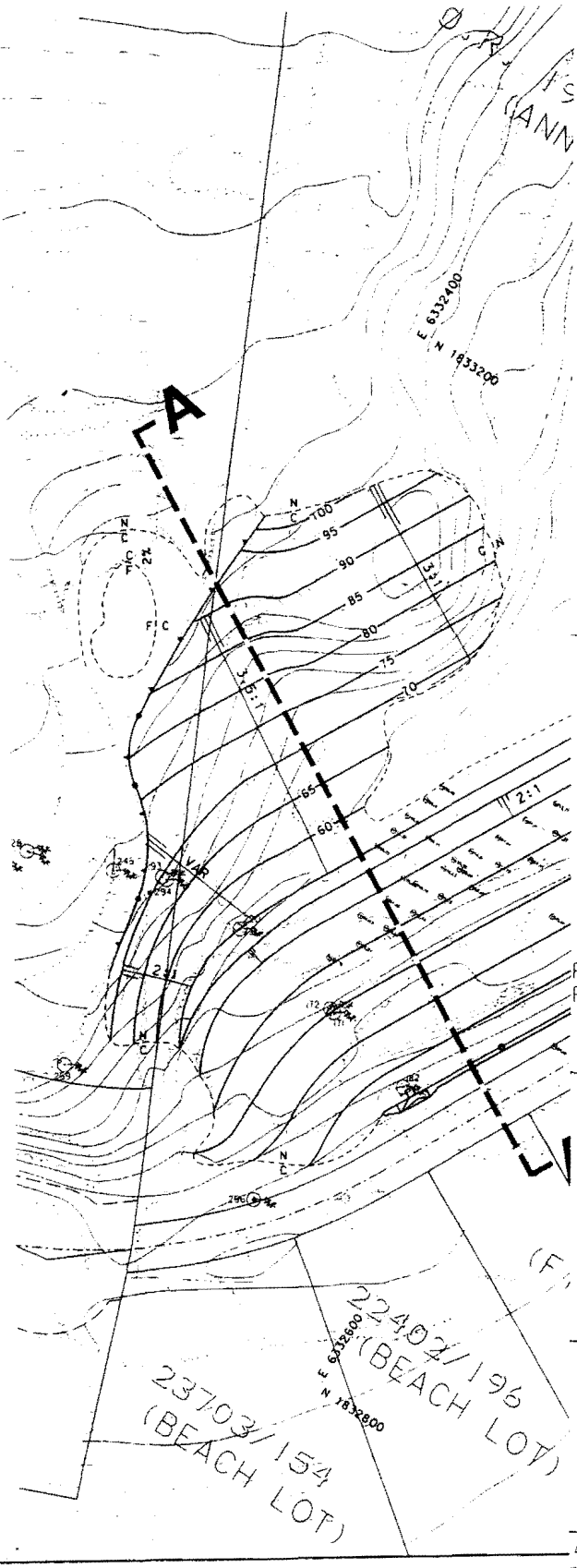
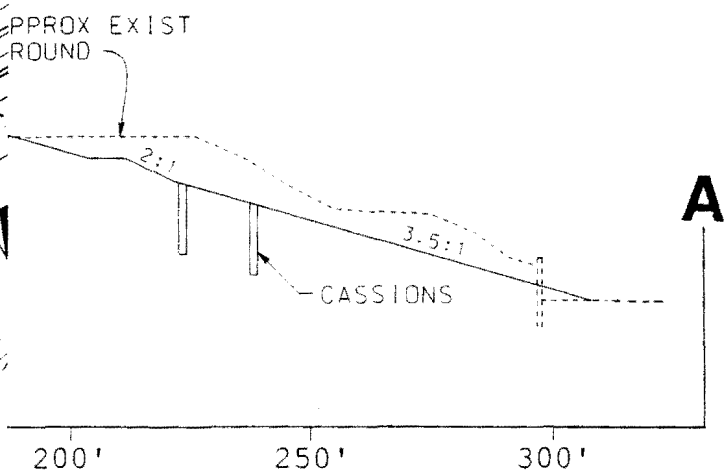
53.50 RIM
N 1832927.45
E 6332465.82
53.90 RIM
52.4 FL
S=18.71%
S=1.70%
S=12.71%
S=30.31%
S=0.51%
18" RCP
EXIST INLET
LINE B
LINE C
EXIST 18" RCP
5'
5'
STORM DRAIN EASEMENT TO BE RECORDED BY PEPPERD
AS BUILT NOTES
29 CONST 91.0 LF OF 6" PVC PIPE
43 CONST TYPE B DITCH PER PLAN
44 INSTALL TRENCH FRAME WITH
FOUNDRY COMPANY CATALOG 495
50 CONST 150 LF OF 12" PVC PIP
52 CONST PIPE TO DITCH CONNECT
(SEE SHT 6)
53 TRENCH DRAIN DETAIL (SEE SH
54 NEW SWALE DETAIL (SEE SHEET
DRAINAGE EASEMENT
A BLANKET SURFACE AND UNDERGROUND DRAINAGE S
EASEMENT HAS BEEN GRANTED TO THE CITY OF LOS
RECORDER AS INSTRUMENT # 3352 DATED MAY 16.
WHICH AFFECTS PARCEL 2
NOTE: CONTRACTOR TO POTHOLE AT FIN
TO ESTABLISH INVERT ELEVATIO
PIPE. ENGINEER TO REVIEW PIP
RECEIPT.

FIGURE 5





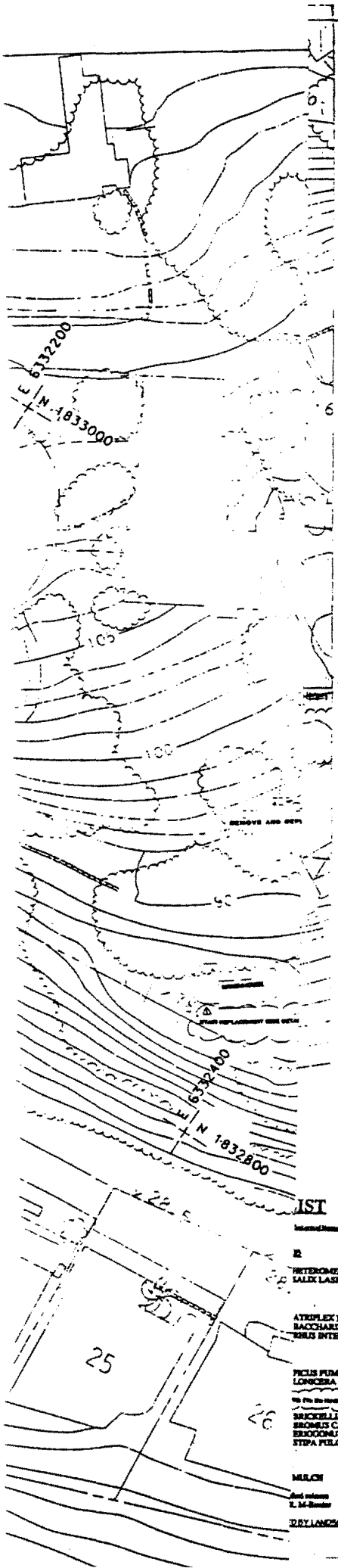
Robert Bein, William Frost & Associate

PROFESSIONAL ENGINEERS, PLANNERS & SURVEYORS

P.O. BOX 57057 - 14725 ALTON PARKWAY, IRVINE, CALIFORNIA 92619-7057

(714) 472-3505

AMW	GULL'S WAY LANDSLIDE REPAIR	**SECTION A-A** REPRODUCED FROM A PORTION OF SHEET 6
JS		
SMT	DRAINAGE DETAIL	
? 97		
= 20	CITY OF MALIBU	



IST

HETEROMELES ARBUTIFOLIA	Toyon		5 GAL.	15'X15'
SALIX LASIOLEPIS	Arroyo Willow		5 GAL.	25'X15'
ATRIPLEX LENTIFORMIS 'breweri'	Brewers Salt Bush		1 GAL.	6'X6'
BACCHARIS SALICIFOLIA	Mule Fat 'Pigeon Point'		1 GAL.	12'X8'
RHUS INTEGRIFOLIA	Lemonade Berry		1 GAL.	10'X10'
FICUS PUMILA 'minima'	Creeping Fig		5 GAL.	10'-15'
LONICERA SUBSPICATA	Chaparral Honeysuckle		5 GAL.	6'X6'
BRICKELLIA CALIFORNICA	California Brickell Brush	3 lb/ac.		
BROMUS CARINATUS	California Brome	12 lb/ac.		
ERIOGONUM FASCICULATUM	California Buckwheat	1 lb/ac.		
STIPA PULCHRA	Purple Needle Grass	9 lb/ac.		

MULCH 1000 lbs./ac.
Seed mixture 500 lbs./ac.
L. M-Binder 150 lbs./ac.

TO BY LANDSCAPE ARCHITECT

THE L.A. GROUP INC
LANDSCAPE ARCHITECTURE
30315 CANWOOD STREET SUITE 10
AGOURA HILLS CALIFORNIA 91301
818 • 889 • 9804 FAX 818 • 889 • 9807
1932 E. DEERE AVE. SUITE 100
SANTA ANA CALIFORNIA 92705
(714) 251-9685 FAX: (714) 251-9687

AS - BUILTS

Gull's Way Landslide Repair

26770 Latigo Shore Drive
Malibu, CA 90263

Prepared for:
Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263

AS-BUILTS 5/7/98

July 28, 1997

PLANTING PLAN

Job No. 2631

Sheet No. L-2