CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
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Th12a

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Addendum

November 12, 2013

To: Commissioners and Interested Persons

From: California Coastal Commission
San Diego Staff

Subject: Addendum to **Item Th12a**, Coastal Development Permit **# 6-13-025 (Koman, Mariani and Upp)**, for the Commission Meeting of November 14, 2013

Staff recommends the following changes be made to the above-referenced staff report. Language to be added is underlined; language to be deleted is shown in ~~strikeout~~:

1. On Page 55 of the staff report, the first complete paragraph shall be revised as follows:

> The area affected by passive erosion can be approximated by multiplying the 150 linear feet of bluff, which is proposed to be armored, by the annual expected erosion rate. The applicant's geotechnical consultant estimated the average bluff recession for this site at 0.3 feet per year. The Commission's staff engineer and geologist concur with the applicant's estimated average bluff recession rate. Therefore, the average impacts from fixing the back beach will be the annual loss of 45 square feet of beach. Over a 20-year period, this would result in a loss of 900 sq. ft. of beach that would have been created if the back beach had not been fixed by the seawall.
>
> Surfrider, as an interested party, has suggested that the estimated average bluff recession rate has been erroneously under-reported and should instead be 1.2 feet per year, consistent with the proposed Army Corps of Engineers 50-Year Coastal Storm Damage Reduction and Beach Nourishment Project (reference CD-0203-13 which is also on the Commission's November 2013 hearing agenda).
>
> The Commission geologist and engineer disagree with Surfrider's contentions. The estimated average bluff recession rate is a best estimate of the erosion rate to be expected over the life of the seawall (about 20 years). Using a higher rate would likely overestimate the amount of sand retained by the seawall.

The estimated average bluff recession rate that the Coastal Commission typically applies to the calculation of setbacks for new bluff top development in this portion of Solana beach, 0.47 feet per year, is the upper bound of the historic rate (1932-1994) measured by Benumof and Griggs (1999) in a peer-reviewed FEMA-funded study making use of the then state of the art photogrammetic techniques. The upper bound is used as a proxy for the average rate expected over the life of proposed new bluff top development (75 years) to account for increases in bluff retreat rate due to sea level rise.

The USACE study does make use of more recent data, including the 1997-1998 El Nino. However, the Commission notes that the estimates are not based on rigorous photogrammetic techniques such as those used by Benumof and Griggs, but rather on a variety of quantitative and qualitative methods that are sensitive to varying time scales. Further, these results have not been peer-reviewed. It may be appropriate to use the USACE data as the best estimates for estimated average bluff recession rate in the area after further review, but at the current time, the Commission continues to believe that the best, most defensible, estimates for the future coastal erosion rates at the subject site are the high end historic rates for Solana Beach reported in Benumof and Griggs (1999) for the next 75 years, and the average historic rates for Solana Beach reported in Benumof and Griggs (1999) for the next 20 years.

Th12a

Th

Agenda No. 12 a.
Application No.6-13-025
R. Rexford Upp, PhD
Against (Special Conditions)

R. REXFORD UPP, PhD
Geotechnical Consultant
P.O. Box 725, Campbell, CA 95009-0725
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Dear California Coastal Commissioner,

INTRODUCTION

I am opposed to some of the Special Conditions included in the Motion and Resolution of the Coastal Development Permit Application No. 6-13-025: specifically Special Conditions **a. Impacts to Public Access and Recreation** and **b. Sand Supply**. These conditions impose fines (disguised as fees) that are not based on scientific facts, are illogical, and are discriminatory.

My father, General Robert Upp (US Army retired), is 98 years old and has owned his house at 341 Pacific Avenue for over 40 years. I have been observing and studying the bluff below his house over that time. I am not a causal observer. I am a practicing Engineering Geologist and Geotechnical Engineer with almost 40 years experience. I have a PhD in Engineering Geology and a MS in Geotechnical Engineering from Stanford University. I am licensed as an Engineering Geologist and Geotechnical Engineer by the State of California. I owned and operated a geotechnical consulting company, Upp Geotechnology, Inc. for 30 years before turning ownership over to staff. Over that time I consulted to Californians about their engineering geology and geotechnical engineering problems including ocean bluff erosion and stabilization. So you may better understand my qualifications, I have attached a copy of my resume.

EXECUTIVE SUMMARY

a. Impacts to Public Access and Recreation

Coastal Commission Staff contends that the retaining wall below the subject site "*...is located on sandy beach area that, if not for the seawall, could be available for public use.*" [Staff report, page 37] For this "impact on public access" they (you) want to fine my father $50,000. This fine is absurd for multiple reasons:

- The bluff collapsed in the early 2000s because the lack of sand on the beach allowed the waves to cause unusual and accelerated erosion of the bluff.

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- The wall was built, not on the "sandy beach" but rather in the space formerly occupied by the sandstone bluff. Furthermore, the wall is founded on the sandstone bedrock underlying the sand and is not "on the beach."
- With the wall in place, beach goers now can safely use the beach up to the base of the wall (the former base of the bluff) without fear of the bluff collapsing upon them. Such bluff failures have killed at least five San Diego County beach goers in recent years.

b. Sand Supply

Only a very small percentage of the sand on the beach comes from the bluff above. The sand on the beach is deposited by southerly flowing ocean currents that carry the sand from the rivers to the north. The lack of sand on the beach over the last 15 years has virtually nothing to do with the seawall construction. Yet you want to fine my father $8,996.41 for the missing sand. This fine also is absurd, for multiple reasons.

- The increased residential development of the watershed areas north and northeast of Solana Beach over the past 40 years has covered much of the erodible surfaces with streets, driveways, houses, and lawns, thereby removing the soil surface from erosion and greatly reducing the amount of sand carried to the rivers.
- The rivers have been damned so that much of the sand that is eroded is deposited in the reservoirs rather than being carried to the ocean and beaches.
- Highway 1, Interstate 5, and Amtrack causeways and narrow bridges restrict the sand to the lagoons and prevent much of it from reaching the ocean.
- The State Water Quality Control Board has mandated that new developments keep their storm run-off on site to prevent "pollution" of the rivers with sediment. With reduced storm runoff there is, of course, reduced sediment carried to the ocean.
- Several major shoreline construction projects that contributed sand to the long-shore currents have been completed.

In addition, my father is being fined more than the other two parcels, presumably because the two other parcels to the north have had recent large upper bluff failures. Staff apparently has assumed that those parcels have already contributed a significant amount of sand to the beach before the seawall was built and the equivalent sand on my father's property is now retained. In actuality, the upper bluff on his property (and the parcel to the south) failed back to its current stable angle of repose decades ago, before the house was built. The two parcels to the north had significantly steeper upper slopes that failed after the lower bluff collapsed.

341 Pacific Forced to Build Seawall

I have been advising my father on the stability of his bluff and house for many years. I advised him that he did not need a seawall to protect his house as it, and all his

improvements, have an adequate bluff setback. However, when permits were granted for all the nearby and adjacent parcels to the south and north, his would be the **ONLY** remaining parcel without the seawall protection. This lack of protection in that narrow section of natural bluff (coupled with the lack of protective sand on the beach) would have resulted in accelerated bluff erosion and increased risk to his house. Therefore, I advised him that he had to join the others in the seawall project. If he had not built the wall, would the California Coastal Commission or the City of Solana Beach, have compensated him for the resulting damage to his property, due to the accelerated erosion caused by the adjacent permitted seawalls?

THE BLUFF AND BEACH AT SOLANA BEACH

The diagram (Figure 1) shows the physical relationship between the bluff at Solana Beach and the sand on the beach itself. The lower 20 to 25 feet of the bluff consists of sandstone bedrock. The sandstone is well cemented and resistant to erosion. The sandstone forms the near vertical cliffs at the base of the bluff. The top of the sandstone is a platform that was eroded about 120,000 years ago during a warm interglacial period when the sea level was about 20 feet higher than now. Lying on top of the sandstone is 50 to 60 feet of sand that was formed as ancient sand dunes. This sand portion of the bluff slopes back at the sand's naturally stable angle of about 45 degrees.

The sand on the beach is a few feet thick and rests on the platform (surface) that has been eroded into the sandstone bedrock over the past thousands of years. This beach sand is carried in – and out – by the action of the waves and the long-shore current. My personal observations and my study of historic photographs and old topographic maps show that the amount of sand on the beach below my dad's house varied with the season, with narrow beaches in the winter as the heavier winter storms carried the sand off shore, and more sand and wider beaches in the summer as the gentle waves carried it back.
The wide sand beach protected the bluff from wave attack and only rarely did the waves crash against the sandstone bluff itself. In the El Nino winter storm years of 1978 and 1982, the heavy surf occasionally carried the protective sand away, but the beach sand always returned in the spring. The photographs show the condition of the beach and bluff over the 1970s and 1980s (see Figures 2 – 7). By the late 1980s, the beach was narrowing, due to lack of sand replenishment (see Figure 8). There were no seawalls yet, so lack of beach sand was not due to seawalls preventing erosion. No measurable erosion occurred along the bluff below my dad's house for the decades leading up to the late 1990s (see Figure 9).

By the late 1990s, however, the protective beach sand was carried away by winter storms, particularly the 1998 El Nino winter, which was the most severe winter since the 1982 El Nino. This time the sand did not return in the summer (see Figure 10). With the protective sand beach gone, the surf now struck directly on the base of the bluff throughout the year, even in the summer. This wave impact eroded a notch at the base of the bluff (see Figure

11) and eventually the slab of sandstone above the notch collapsed onto the beach (see Figure 12). Collapse of the sandstone bluff removed support from the sand above, which also sloughed onto the beach. This is the first cliff slab failure in decades.

The sand from the bluff, of course, doesn't remain on the beach, but gets washed off shore into the long-shore currents. The sand from the bluff, therefore, does not contribute to the size of the beach. The amount of this bluff sand is simply too small a volume to make a difference on the beach size.

With the surf striking on the bluff, my Dad and adjacent property owners had to install seawalls to protect their homes. These walls protect the homes, but they DO NOT prevent a significant amount of sand from reaching the beach and **have no measurable affect on the size of the beach!**

SOURCE OF THE BEACH SAND

The beach sand is provided to the ocean by the rivers draining the inland areas north of Solana Beach, where the sand is derived by erosion of the upland areas. Figure 13 shows the watersheds and rivers that are the general source of this erosion and sand. Only a very small amount of the sand on the beach historically came from the bluffs. Since the late 1990s, however, the sand on the beach has not been replaced.

Some of the many reasons for the lack of sand recovery are:

- The rivers have been damned so the sand is deposited in the reservoirs rather than being carried to the ocean and beaches.
- Highway and railroad causeways and narrow bridges restrict the sand to the lagoons and prevent it from reaching the ocean.
- The increased residential development of the watershed areas (County population more than tripled between 1950 and 2000) has covered much of the erodible surfaces with streets, driveways, houses, and lawns, thereby removing the soil surface from erosion and greatly reducing the amount of sand carried to the rivers.
- The State Water Quality Control Board has mandated that new developments keep their storm run-off on site to prevent "pollution" of the rivers with sediment.
- Several major shoreline construction projects that contributed sand to the long-shore currents have been completed.

A recent, often cited study by UC San Diego researchers apparently concluded that about 70% of the beach sand was derived from the sea cliffs. According to newspaper reports (I haven't reviewed the original research), this conclusion was based on measuring the amount of bluff retreat (erosion) that occurred between 1998 and 2004 and comparing

that amount to the volume of sand on the beach. **The conclusion of this research is significantly flawed for three obvious reasons:**

- Prior to 1998, the expansive beach sand protected the bluff from wave impact and for decades there was no significant bluff erosion. Virtually all the beach sand was derived from upland erosion.

- By 1998 the remaining beach sand was a small percentage of the former beach and the sand no longer protected the bluff. As a result, portions of the bluff collapsed onto the beach for the first time in decades. This newly collapsed bluff material could amount to 70 percent of the total sand when compared to the remnant of the beach sand that remains.

- The period between 1998 and 2004 had below normal rainfall, so what was left of the rivers was even smaller and less able to carry sediment to the ocean.

The sea walls that citizens built to protect their property do prevent the erosion of the sandstone bluff onto the beach. But that erosion has only been occurring since the late 1990s. Historically, the bluff has not contributed a significant amount of sand to the size of the beach. Even without the walls, the bluff erosion would not contribute much sand to the beach because the waves carry most of this "new" bluff sand off shore into the long-shore current and away.

Fining the bluff property owners for protecting their property is groundless and discriminatory. In addition, my father is being fined more than the other two parcels, presumably because the two other parcels to the north have had large upper bluff failures that have not occurred in the recent past. Staff apparently has assumed that those parcels have already contributed a significant amount of sand before the seawall was built and the equivalent sand on my father's property is now retained. In actuality, the upper bluff on his property (and the parcel to the south) failed back to its current stable angle of repose decades ago, before the houses were built. The two parcels to the north, as well as those to the south, had significantly steeper upper slopes and the bluff top edges much closer to the ocean before the recent collapses (see Figure 14). After the beach sand disappeared and the sandstone cliff failed, these steeper bluffs to the north and south also failed as the sand tried to reach its nature stable angle. My father should not be fined for not providing sand to the beach, when the sand has not been on his property since before his house was built.

BEACH ACCESS

To suggest that the sea wall occupies beach space and has limited the beach access and therefore my father should be fined $50,000.00, is a stretch of logic and apparently is based on a hidden agenda. A letter dated 10/12/2004, by Soil Engineering Construction, and quoted on page 27 of the Staff report, notes that the collapsed section was *"...2' to 6' in*

depth." Since the wall is only about 2 feet thick at its base (and less upward), the wall clearly is occupying bluff space and not beach space (see Figure 15).

At least 5 people have been killed by the collapse of coastal bluffs in San Diego since 2000. The Coastal Act emphasizes the need to protect public safety (e.g., page 46 of staff report). Building the seawall, at his own expense, does in fact protect the public safety. The public should be paying my father for the benefits the wall provides for public safety of the beach-goers. I suggest a payment of $50,000.00 would be appropriate.

Yours very truly,

R. Rexford Upp, PhD
Geotechnical Engineer: GE 2046
Certified Engineering Geologist: CEG 1083
Certified Hydrogeologist: CHG 62
Professional Engineer: CE 37340
Professional Geologist: PG 3641

Attachments: Figure 1, Bluff Cross-Section
Figures 2 – 8, Photos of beach
Figure 9, Stable bluff below 341 Pacific Ave.
Figure 10, Photos of no beach
Figure 11, Photo of wave-cut notch
Figure 12, Photo of collapsed cliff
Figure 13, Source of Beach Sand
Figure 14, Topographic map of bluff
Figure 15, Photo of base of seawall under construction.
Resume

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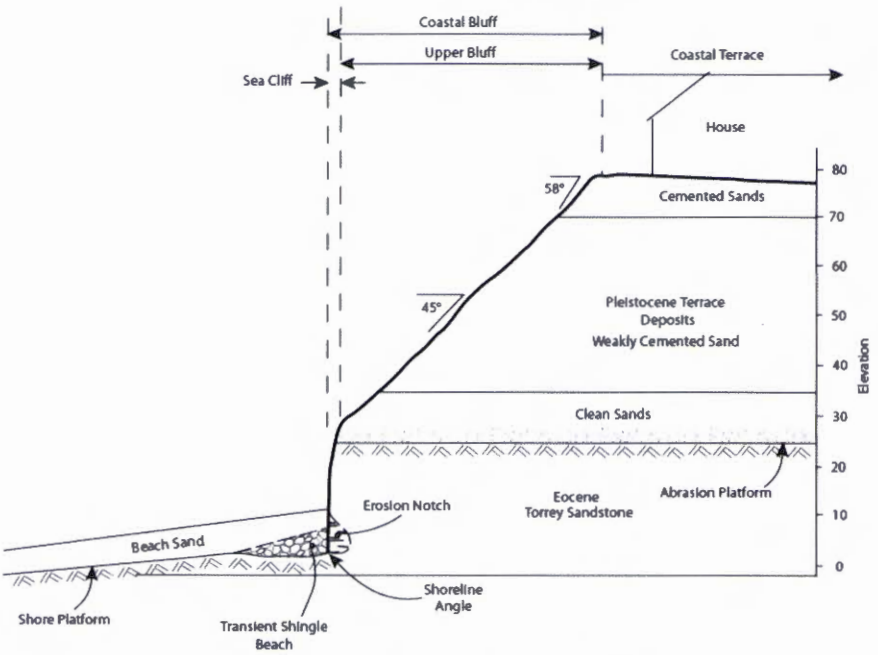

Figure 1. Beach and bluff relationship.

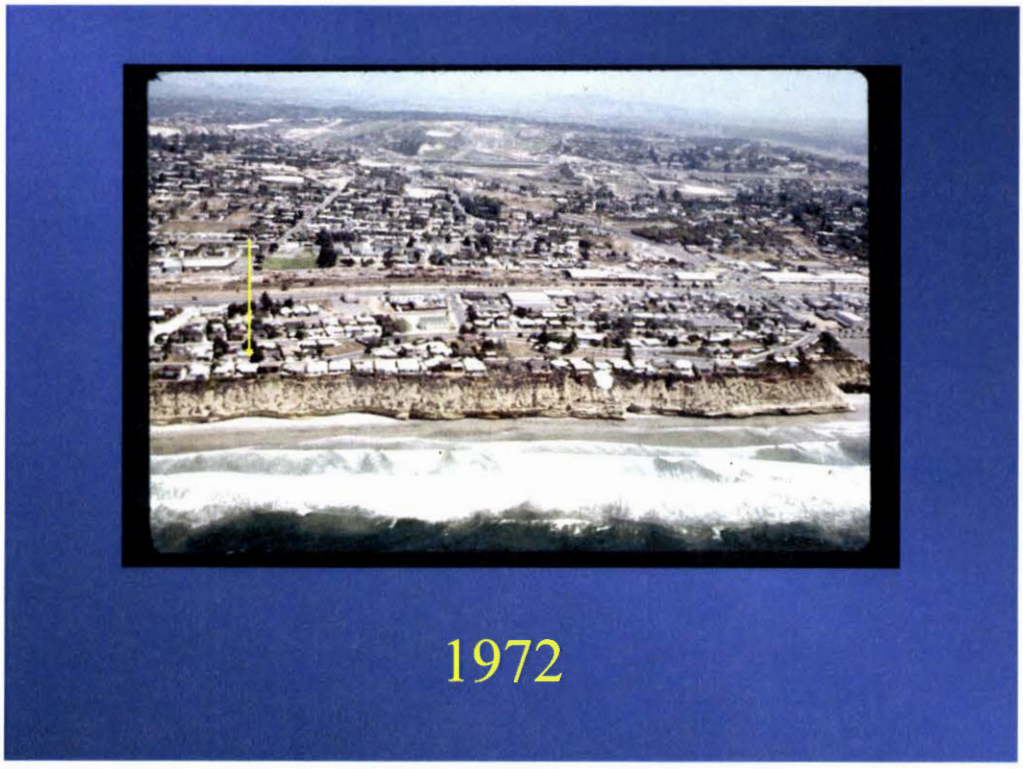

Figure 2: El Nino year. Note smaller beach. Arrow to 341 Pacific Ave.

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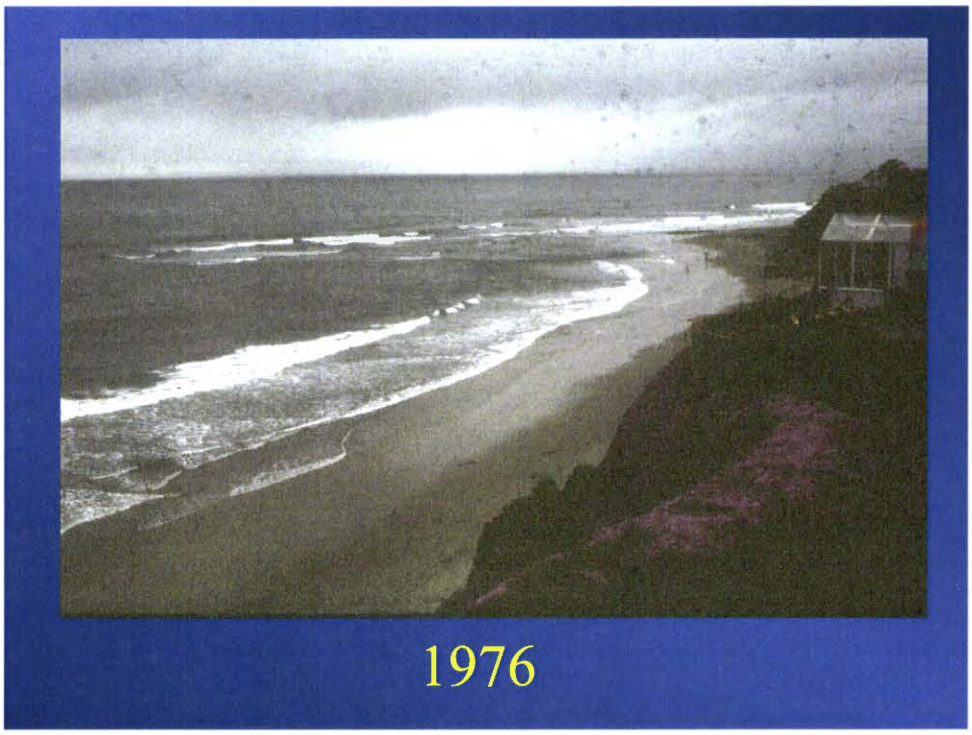

Figure 3: Beach has recovered: Photo from 341 Pacific Ave.

Figure 4: Beach below 341 Pacific Ave.

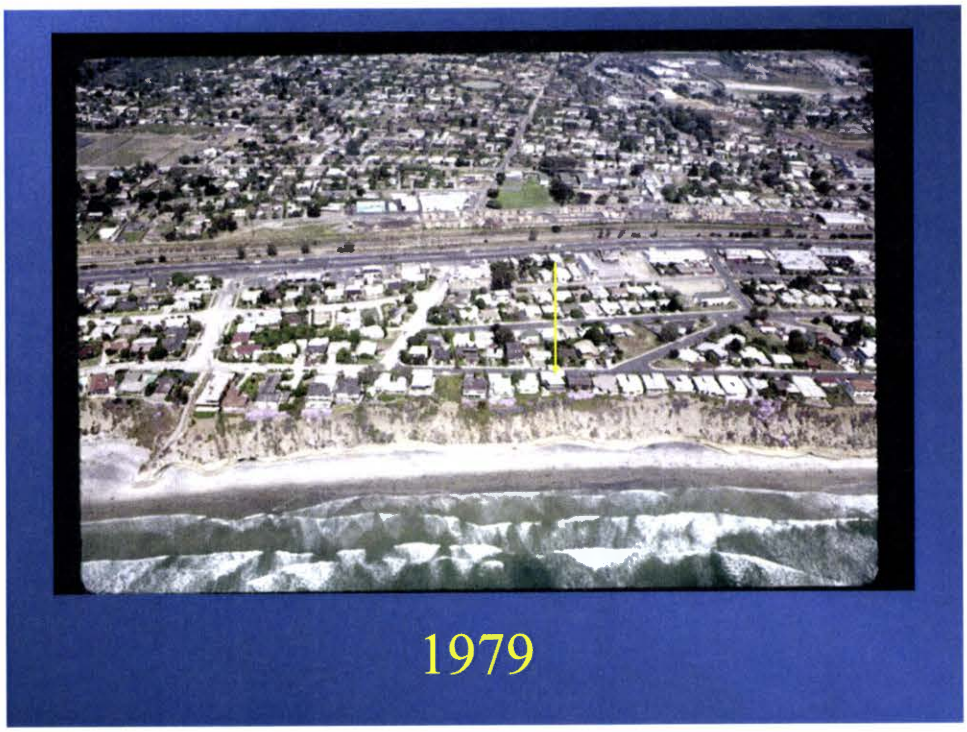

Figure 5: Arrow to 341 Pacific Ave. Note wide beach.

Figure 6: 1983 -After beach recovery from 1982 El Nino.

27

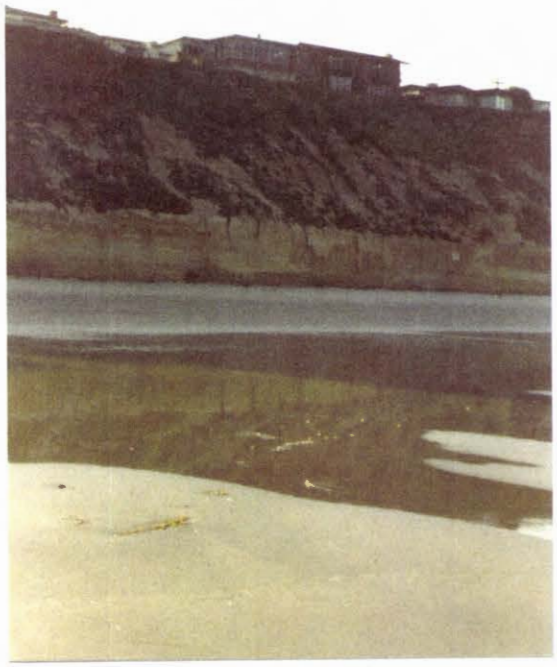

Figure 7: 1983

Figure 8: 1989 Beach is narrowing, but no sea walls yet.

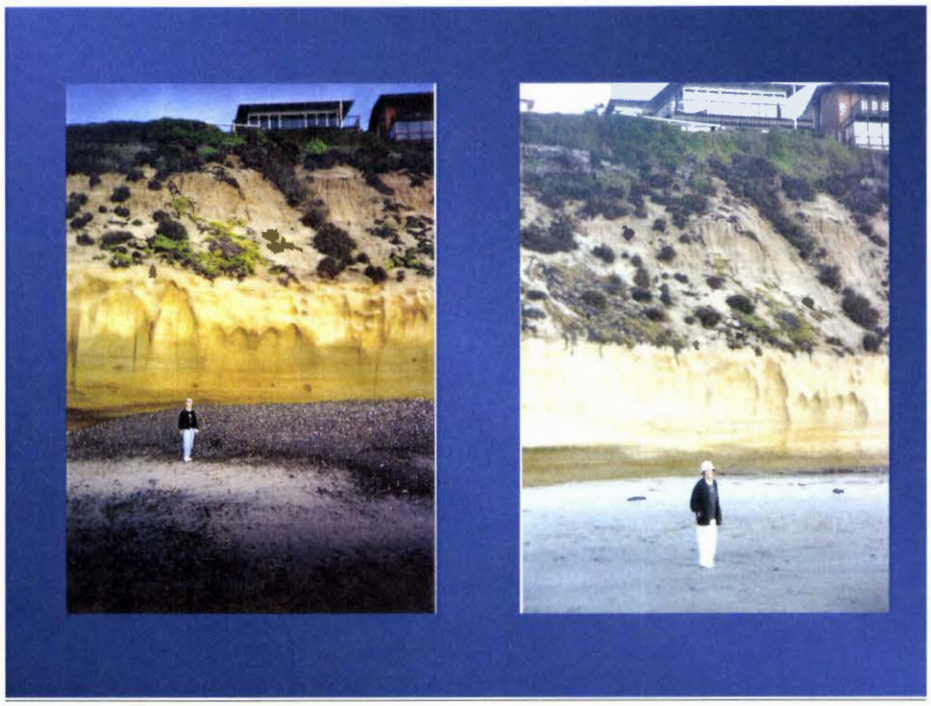

Figure 9: 1980s - The beach changes, but there is no measurable bluff erosion.

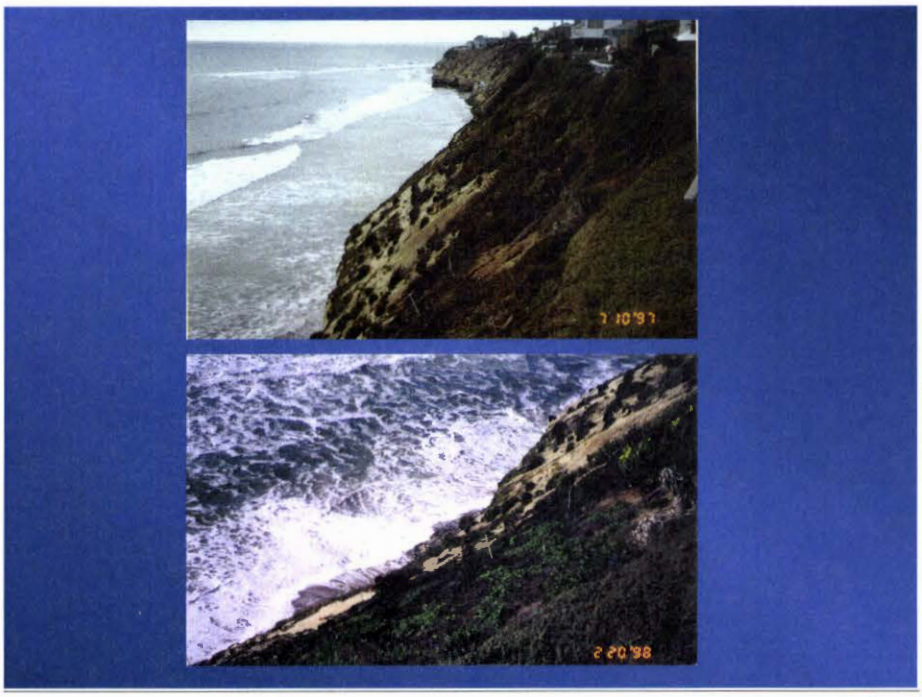

Figure 10: After the 1997 El Nino, the beach did not return.

29

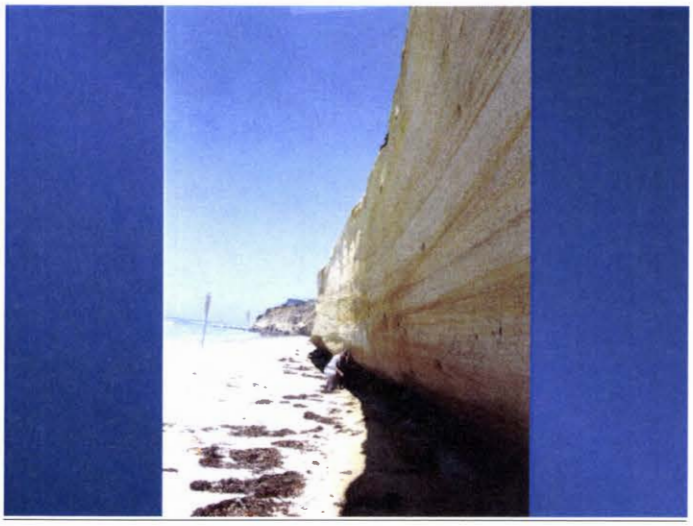

Figure 11: 2002 - Wave-cut notch at base of sandstone cliff

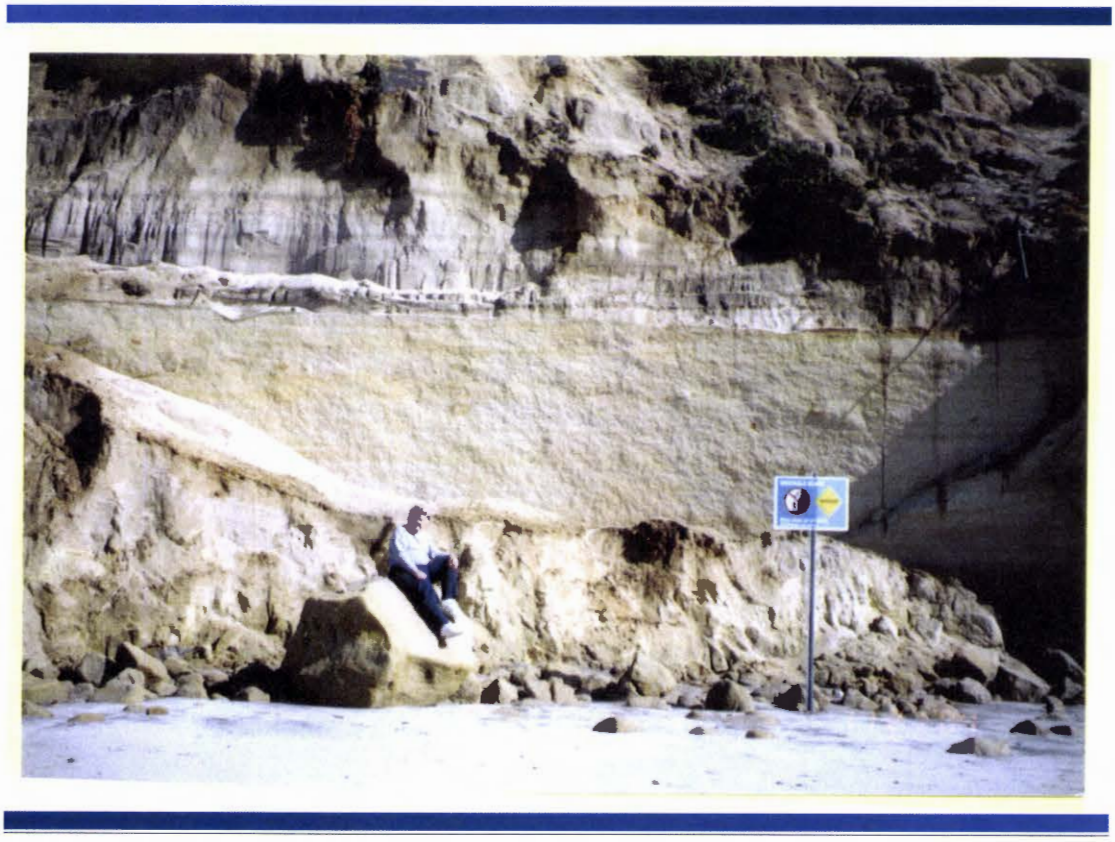

Figure 12: 2002 - Slab has collapsed from base of bluff allowing failure of sand above.

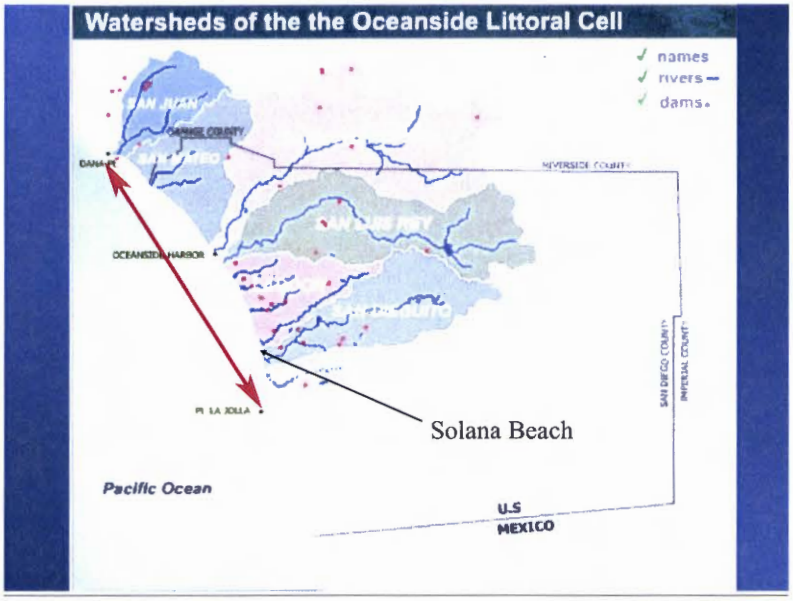

Figure 13: Watersheds that contribute sand to Solana Beach

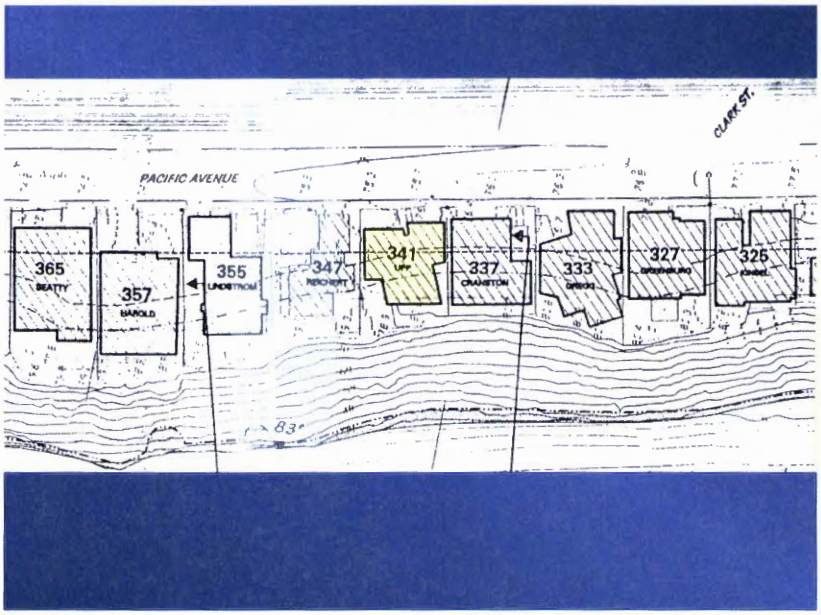

Figure 14: Topography map showing less steep bluff below 341 Pacific Ave.

Figure 15: Base of seawall under construction

R. REXFORD UPP, PhD

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rex@rexpertwitness.com

RESUME

Education:

Ph.D.	ENGINEERING GEOLOGY, Stanford University	
M.S.	CIVIL ENGINEERING (Soil Mechanics and Foundations), Stanford University	
M.S.	WATERSHED MANAGEMENT, Humboldt State University	
B.A.	GEOLOGY, Humboldt State University	
B.S.	ENVIRONMENTAL RESOURCES ENGINEERING, Humboldt State University	
B.S.	MECHANICAL ENGINEERING, University of California at Berkeley	

Professional California Licenses:

Professional Geologist:	PG 1361	(1981)
Certified Engineering Geologist:	EG 1083	(1981)
Professional Civil Engineer:	PE C37340	(1983)
Registered Soil Engineer:	GE 2046	(1987) *
Certified Hydrogeologist:	HG 62	(1995) *

All licenses obtained by examination * = Year license first became available

Experience:

Independent Consultant - Expert Witness: 2012 to Present. Provides consultation and litigation support for issues relating to geotechnical engineering and engineering geology.

Founder and Principal of Firm: UPP GEOTECHNOLOGY, INC. (1983 to 2011). Conducted all phases of engineering geology and geotechnical (soil) engineering studies including site development evaluations for residential, commercial, and industrial properties; forensic and insurance investigations of distressed properties; landslide evaluations and repairs; erosion and surface drainage problems; subsurface drainage, water intrusion, and groundwater studies; reservoir/pond development; leachfield evaluations; fault hazard evaluations; swimming pool and basement design; roadway and bridge abutment design; rock quarry development and reclamations; and environmental impact studies.

Senior Engineering Geologist/Geotechnical Engineer: CLEARY CONSULTANTS (1977 to 1979 and 1980 to 1983). Supervised engineering geology and geotechnical engineering investigations for a variety of commercial, industrial, and residential developments.

GS 11 Geologist: U.S. GEOLOGICAL SURVEY (1979 to 1980). Responsible for research on the location and activity of the Maacama Fault System in Mendocino County, California. (This study served as the basis for zoning portions of the Maacama Fault as active under the jurisdiction of the State of California Alquist-Priolo Special Studies Act).

Instructor: SAN JOSE STATE UNIVERSITY (1983 to 1986), taught Soil Engineering and Rock Mechanics. HUMBOLDT STATE UNIVERSITY (1974 to 1975), taught various geology courses.

Consultant: NORTHERN CALIFORNIA SAVINGS (1976 TO 1978), responsible for evaluation of geologic hazards and foundation conditions for properties under consideration for mortgage loans. CITY OF EUREKA, CALIFORNIA (1975), responsible for investigation to assess seismic and flood hazards to the City; also wrote the Seismic Safety Element and other portions of the Eureka General Plan.

Memberships:

CalGeo: The California Geotechnical Engineering Association - (President 2011-2012)
AEG: Association of Environmental and Engineering Geologists – (President 2000-2001)
FEWA: Forensic Expert Witness Association - (Director – San Francisco Chapter)
ASCE: American Society of Civil Engineers (Life Member 2010)
GSA: Geological Society of America (Senior Member)
ASFE: The Geoprofessional Business Association

Th 12a

SOIL ENGINEERING CONSTRUCTION INC.

November 11, 2013

TO: Eric Stevens, Coastal Planner
California Coastal Commission
San Diego Office

FROM: John Niven, R.C.E.
Soil Engineering Construction, Inc.

RE: Response to Two (2) Surfrider Letters dated November 8, 2013;
Item 12a; CDP #6-13-025; Hearing Date: November 14, 2013
Item 13a; CDP #6-02-084-A3; Hearing Date: November 14, 2013

Item 12a; CDP#6-13.025

Soil Engineering Construction, Inc. is the engineering firm of record for all coastal bluff protective work proposed and/or completed under Coastal Emergency Permit at the subject site (CDP #6-13-025).

In their communication to your office, the Surfrider Foundation, San Diego Chapter claims that the erosion rate has been erroneously under-reported. They cite a statement, taken out of context from an appendix of a draft Army Corps of Engineer report which states ".. average maximum erosion rates of 1.2 ft. per year have been assigned to the south portion of this reach …". We believe that the Surfrider Foundation is aware of what constitutes a realistic annual erosion rate and believe their communication on this project to be intentionally misleading.

It is our understanding that the Corp of Engineers report addressed annual erosion between 1996 and 2010 and the "maximum erosion rate", acknowledging that an El Niño event in the late-1990's accounted for a significant volume of erosion / failure over a very short period of time. The report was prepared in a manner that would assist in qualifying for funding for sand restoration / retention projects.

The annual erosion rate for the purposes of calculating mitigation for a coastal bluff protective structure is established to address long-term annual erosion anticipated to be experienced over the life of the structure. The coastal bluffs do not experience a consistent level of annual erosion. Years of little or no erosion can be followed by a single episodic event that would result in a substantial level of "annual erosion" if framed in a short window of time. That is why an accurate level of annual erosion must continue to be calculated, at a minimum, utilizing a longer period of time that is more equivalent to the projected life of the structure.

Item 13a; CDP# 6-02-084-A3

Soil Engineering Construction, Inc., is the engineering firm of record for the original coastal bluff protective measures at the subject site and for the proposed worked encompassed in CDP #6-02-074-A3.

In their communication to your office, the Surfrider Foundation, San Diego Chapter has asserted that the "… mid and upper bluff devices" can extend the life of the lower seawall. Such an assertion is completely false and lacks any merit.

560 N. Hwy 101, Suite 5, Encinitas, California (760) 633-3470 Fax (760) 633-3472

Letter in Agreement w/ Staff Rec. 35

SOIL
ENGINEERING
CONSTRUCTION INC.

The work proposed by the applicant on the mid- and upper bluff at 357 Pacific Avenue, and the changes to that proposal offered by Coastal Commission staff in their recommendation for project approval, have absolutely no impact on the structural efficacy of the lower coastal bluff seawall. Such work will not extend the life of the lower seawall, nor will such work in any way enhance its engineering design or performance.

Thank you for your review and consideration of this brief response to issues raised by the San Diego Chapter of the Surfrider Foundation. We have worked extensively with Coastal Commission staff on both of the above-referenced projects and we thank staff for their time and responsiveness throughout this process. We believe the projects' merits and potential impacts have been fully analyzed and vetted by staff and we support your staff's recommendations on both CDP #6-13-025 and CDP #6-02-084-A3.

Respectfully submitted,

Soil Engineering Construction, Inc.

John Niven, R.C.E.

560 N. Hwy 101, Suite 5, Encinitas, California (760) 633-3470 Fax (760) 633-3472

Th12a

Surfrider Foundation, San Diego County Chapter
9883 Pacific Heights Blvd, Suite D
San Diego, CA 92121
Phone (858) 622-9661 Fax (858) 622-9961

November 8, 2013

Delivered via email

To: Eric Stevens
California Coastal Commission
7575 Metropolitan Drive Ste 103
San Diego, CA 92108-4402

Re: Item Th12a: Application No. 6-13-025, William Koman, Marjorie Mariani, & Robert Upp for Commission Meeting of November 14, 2013

Dear Mr. Stevens,

In this CDP, the erosion rate has been erroneously under-reported. On the following pages of the staff report the erosion rate is estimated to be between 0.15 to 0.47 ft./yr:

- p 30 "These authors report an average long- term retreat rate ranging from 0.15 to 0.47 ft./yr. for the Solana Beach area over the period 1932 - 1994."
- p 53 "The project site is located in Solana Beach where average annualized bluff erosion rates are best estimated at 0.15 to 0.47 feet per year (Benumof and Griggs, 1999)."
- p 55 "The applicant's geotechnical consultant estimated the average bluff recession for this site at 0.3 feet per year."

The area affected by passive erosion can be approximated by multiplying the 150 linear feet of bluff, which is proposed to be armored, by the annual expected erosion rate. **The applicant's geotechnical consultant estimated the average bluff recession for this site at 0.3 feet per year.** Therefore the average impacts from fixing the back beach will be the annual loss of 45 square feet of beach. Over a 20-year period, this would result in a loss of 900 sq. ft. of beach that would have been created if the back beach had not been fixed by the seawall.

This calculation is shown in the fee study worksheet (6-13-025 Appendix B):

The Surfrider Foundation is a non-profit grassroots organization dedicated to the protection and enjoyment of oceans, waves and beaches through a powerful activist network. Founded in 1984 by a handful of visionary surfers in Malibu, California, the Surfrider Foundation now maintains over 50,000 members and 90 chapters worldwide. For an overview of the San Diego Chapter's current programs and events, log on to our website at http://sandiego.surfrider.org/ or contact us at info@surfridersd.org or (858) 622-9661.

Letter of Opposition

Surfrider Foundation, San Diego County Chapter
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Phone (858) 622-9661 Fax (858) 622-9961

50' Seawall

W	=	50.0
E	=	2.0
v	=	.9
R	=	.30
L	=	20 yrs.
S	=	.74
Hs	=	35
Hu	=	44
Rcu	=	.30
Rcs	=	0

As estimated in the recent 50-Year Coastal Storm Damage Reduction and Beach Nourishment Project proposed by the Army Corps of Engineers (ACOE), the actual erosion rate is 1.2ft/yr. This should be corrected in the CDP and the necessary adjustments to loss of sand recalculated for a new sand-loss mitigation fee and for Land Lease and Recreation Fees. The applicants assumed a retreat rate of 0.3ft/yr to calculate the sand mitigation and recreation fee. This is in contrast to the ACOE study which states the erosion rate is from 0.4-1.2ft/yr. Here are the quotes from the ACOE Appendix C (http://www.spl.usace.army.mil/Portals/17/docs/civilworks/encinitas_solanabeach_appendixCdraft.pdf) which indicate retreat rates of 1.2ft/yr in the area specific to this CDP (south of Tide Park):

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7.2.8 Reach 8

Reach 8 has locally experienced significant erosion since the 1997-98 El Niño storm season, almost entirely as a result of a pervasive loss of its one time fairly healthy protective sand beach. Even in the summer months, since the El Niño storms, this protective sand beach has not seasonally recovered and this reach of coastline is assailed on a daily basis from waves. The shore platform elevation has been surveyed at the base of the sea cliff along this entire reach, and with the exception of the north end, the cliff-platform junction elevation is near -1 foot MSL. The Torrey Sandstone comprising the majority of the sea cliff along Reach 8 appears to exhibit some variability in its lithology, with faulting more prevalent north of Tide Park and notable variations in cementation of this Eocene cliff-forming unit existing to the south. These notable variations in cementation have allowed the formation of non-fault controlled sea caves. The growth of the sea caves is suggestive of lithologic variations in cementation, most likely associated with minor variations in its subaqueous depositional environment 45 million years ago. These variations have allowed erosion rates to locally approach 1½ ft per year adjacent to areas within the sea cliff exhibiting only one-third to one-half of these erosion rates. The north end of Reach 8, most notably the fault-controlled Table Tops Reef, has provided a modest amount of sheltering immediately to the south where estimated erosion rates, even in the absence of a protective sand beach, are on the order of 0.4 foot per year. Table Tops Reef is actually the Torrey Sandstone which has been dissected by a short length strike-slip type of fault that extends along the shoreline at the reef. The fault is mapped as inactive, which means it has moved more than 200 years ago. The faulting has caused local uplift of the reef in this reach to the point where the reef is somewhat higher than the average elevation of the wave cut platform in this reach. As a result, the reef exists as a semi-resistant erosion cap-nodule that

slightly rises above the platform. Average maximum erosion rates of 1.2 ft per year have been assigned to the south portion of this reach, extending south of Tide Park down to the fault-controlled offset in the coastline at 231 Pacific Avenue.

The lowest the retreat rate could be is 0.4ft/yr but that is in the north behind Table Tops Reef and not at the location of the subject site. The 1.2ft/yr rate is needed to justify the ACOE project. Consistency in retreat rates should be applied across projects. The retreat rate in the ACOE study is more current than the Benumof study.

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Additionally, the staff report (page 40) makes the following troubling statement:

> "It may be the case that reliance of adjacent structures on the subject shoreline armoring may make removal of the subject shoreline armoring infeasible at the termination of the authorization for the shoreline armoring. If the subject shoreline armoring must be retained, a new CDP could be approved with a term of authorization that requires reassessment and removal of the shoreline armoring at the earliest feasible opportunity."

Given this fact, we prefer that it be specified that even if a seawall is justified for adjacent properties (and therefore the adjacent property should pay for the fees/upkeep associated with the adjacent seawall), this will not allow redevelopment over 50% of the direct property or any sort of new development due to the existence of a seawall. Stated another way, the seawall may be attached to the life of neighboring property, but should not be allowed to justify new development behind the seawall.

We also object to the poor precedent that is set by this CDP. The owners of these properties were granted an emergency permit by the Commission on April 13, 2005. This CDP should not be automatically approved simply because an emergency permit was granted almost 10 years ago. The current CDP lacks any in-depth analysis of alternatives. Instead, since the seawalls exist because of an emergency permit, the CDP only addresses improvement of the existing seawall and bluff retention devices. No consideration was given to the relocation of the existing structure to a safer location, which is required by the currently certified LUP (4.54). The lack of analysis of alternatives is discussed on pages 31-33 of the staff report. This should be addressed before the CDP for further development is approved. Furthermore, the staff report states that "The Commission feels strongly that approval of the proposed project should not send a signal that there is no need to address a range of alternatives to armoring for other existing development." pg 59 of staff report.

Please resolve these discrepancies before moving forward with this CDP.

Sincerely,

Jim Jaffee
Co-chair of the Beach Preservation Committee Member, San Diego County Chapter of the Surfrider Foundation
Resident of Solana Beach

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Julia Chunn-Heer
Campaign Coordinator, San Diego County Chapter of the Surfrider Foundation

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Th12a

Filed:	4/12/2013
270th Day:	1/7/2014
Staff:	E. Stevens-SD
Staff Report:	10/31/2013
Hearing Date:	11/14/2013

STAFF REPORT: REGULAR CALENDAR

Application No.:	**6-13-025**
Applicant:	**William Koman, Marjorie Mariani, & Robert Upp**
Agent:	The Trettin Company, Attn: Bob Trettin
Location:	341, 347 & 355 Pacific Avenue, Solana Beach (San Diego County) 263-301-06, 263-301-07, 263-301-08
Project Description:	Approval of a 150 ft. long (35 ft. high) lower coastal bluff seawall, a geogrid structure on the mid and upper bluff with landscaping and a 36 ft. long lateral keystone wall as follow-up to multiple emergency permits.
Staff Recommendation:	Approve with Conditions

STAFF NOTES

This item was originally scheduled for the October 2013 Commission agenda, but was subsequently postponed such that it could be heard at the same Commission meeting as a pending City of Solana Beach Land Use Plan amendment.

SUMMARY OF STAFF RECOMMENDATION

The proposed project is located on a public beach and public bluff fronting three existing single family residences in the City of Solana Beach. The site currently contains a seawall on the public beach at the toe of the bluff (fronts 341, 347, and 355 Pacific Avenue), three below-ground underpinning caissons (located at the southwest corner of 355 Pacific Avenue), and a mid and upper bluff geogrid structure (fronting 347 and 355 Pacific Avenue) supported by a lateral keystone return wall (located along the northern property line of 355 Pacific Avenue), all of which were constructed pursuant to emergency permits. This CDP seeks to obtain a follow-up CDP for the construction of the seawall and the geogrid structure/lateral return wall. The applicants are not proposing to obtain a follow-up CDP for the three below-ground underpinning caissons. Approval of this CDP would result in the complete armoring of the bluff fronting 355 Pacific Avenue and partial armoring of the bluff fronting 341 and 347 Pacific Avenue. The development proposal also includes an extensive bluff face landscaping plan that will be implemented in coordination with adjacent property to the north of the subject site. The adjacent property to the north of the subject site also has a pending CDP application with the Commission for the construction of a geogrid structure on the mid and upper bluff (ref CDP 6-02-084-A3).

Staff has concluded that the project meets the armoring need tests of the Coastal Act. Staff, including the Commission's coastal engineer and geologist, have evaluated the relevant project materials, have visited the site, and have determined that the three existing single family residences would be in danger from erosion and bluff collapse, without the proposed seawall and geogrid structure/lateral wall. The Commission's senior engineer and geologist have also found that although the three underpinning caissons cannot be removed at this time, with the other proposed protection measures, the caissons are not necessary to protect the subject sites. Although the three underpinning caissons may have been needed prior to construction of the additional armoring at the site, the Commission must only approve the minimum necessary amount of armoring and the minimal amount of alteration of the natural bluff to protect the subject sites. Regardless, this application does not propose to obtain a follow-up CDP for the caissons, nor does the applicant propose to remove them; and as such, they will remain as unpermitted development. Special Condition 1 requires the applicant state on the revised project plans that the caissons are unpermitted and a CDP will be required if in the future the caissons are proposed to be retained or removed.

The subject site and the sites adjacent to the site represent an older pattern of shoreline armoring and present a stark example of the adverse visual impacts and substantial alteration of natural landforms associated with complete armoring of coastal bluffs along the California coastline and in Solana Beach in particular. The City's recently certified Land Use Plan (LUP) mandates that prior to approval of any mid or upper bluff protection, relocation of threatened structures away from the bluff edge through use of a caisson foundation, if necessary, that will not become exposed as a result of continued bluff erosion, must first be considered in order to

minimize adverse visual impacts and further alteration of the natural bluff. In this particular case, due to the extensive armoring that has already occurred on the subject site and on the adjacent sites and the additional armoring that would still be needed to stabilize the adjacent structures, relocation of the structures at 347 and 355 Pacific Avenue further away from the bluff edge was found not to be the least environmentally damaging alternative. This is an example of a development pattern the certified LUP seeks to avoid by not allowing caissons located too close to the bluff edge, that will fix the seaward line of development and lead to additional armoring to stabilize that home, thereby eliminating options that are less environmentally damaging. No mid or upper bluff protection is being requested at 341 Pacific Avenue.

In this case, staff recommends that the Commission find it is appropriate to mitigate for the project's beach access and sand supply impacts in two ways. First, by addressing the beach area itself that would be lost due to encroachment of the seawall and passive erosion, through a payment based on the City's interim in-lieu fee program. The City's interim fee shall be in place until such time that the City completes a public access and recreation program and the Commission has certified the City's mitigation program through adoption of an LCP. The interim program requires that a fee of $1,000.00 per linear foot be assessed to mitigate for adverse impacts to public access and recreation from shoreline armoring. As such, the public access and recreation fee will be $150,000 for the proposed 150 ft. long seawall. Second, by addressing the sand retention loss through the provision of an in lieu fee based on the cost to replace the retained sand that would no longer go into the system due to the proposed project. Based on the applicants' calculations, over the course of the proposed shoreline armoring's 20-year design life, approximately 1,579 cubic yards of beach quality sand will be retained. As such, the required sand supply mitigation fee will be $21,864.72.

Staff has determined that adverse impacts to coastal resources can be appropriately mitigated through conditions of approval. In this particular case, 20 years is the projected design life of the seawall proposed by the applicants. However, adverse impacts will continue to occur for the full time that the approved system is in place, including beyond twenty years if it continues to be necessary to protect the existing endangered structures. As such, additional mitigation will be required after the 20-year period. Due to the fact that the existing seawall was approved via an emergency permit by the Commission on April 13, 2005 and constructed soon thereafter, the 20 year mitigation period commenced on April 13, 2005 and ends on April 13, 2025. Prior to the completion of the 20-year design-life, the applicants are required to obtain a CDP amendment to assess the continued impacts on public access and sand supply as a result of the shoreline armoring built on the publicly-owned beach and bluff. This re-assessment will include all of the approved shoreline protection of the subject site, including the seawall and the geogrid structure/lateral return wall.

An additional Coastal Act issue associated with this project is the adverse impact to visual resources of the natural bluff face. To date, geogrid reinforced slope

reconstruction projects in Solana Beach have resulted in structures that are very linear and unnatural with little or no vegetation on them. To address this adverse visual impact, Commission staff is recommending Special Conditions 1 and 2, which require that the proposed geogrid structure undulate and that extensive landscaping be installed to closely match the appearance of nearby natural bluffs.

In addition, staff is recommending an approval that ties the length of armoring authorization to the life of the existing endangered structures the armoring is required to protect; and requires the applicants to submit a complete coastal development permit application to remove or modify the terms of authorization of the armoring when the existing structures warranting armoring are redeveloped, are no longer present, or no longer require armoring. Furthermore, staff is requiring a maintenance and monitoring program, restrictions on future development, and other related conditions to address coastal resource impacts and issues.

The proposed shoreline armoring is within the Commission's coastal development permit jurisdiction. The Commission recently certified the City's Land Use Plan (LUP); however, the City of Solana Beach does not yet have a certified LCP. Therefore, the Chapter 3 policies of the Coastal Act are the standard of review, with the City's certified LUP used as guidance.

Commission staff recommends **approval** of coastal development permit 6-13-025 as conditioned.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 6-13-025 subject to the conditions set forth in the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves coastal development permit 6-13-025 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. 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. **Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **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.

5. **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

This permit is granted subject to the following special conditions:

1. **Revised Final Plans.** Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit for review and written approval of the Executive Director, final plans for the mid and upper bluff geogrid structure and the lateral wall that are in substantial conformance with the submitted plans dated August 10, 2005 (seawall), January 5, 2007 (geogrid structure and lateral wall), and September 12, 2013 (geogrid structure and lateral wall) by Soil Engineering Construction, Inc. The revised plans shall first be approved by the City of Solana Beach and be revised to include the following:

    a. Any existing permanent irrigation system located on the subject properties shall be removed or capped.

    b. All runoff from impervious surfaces on the top of the bluff shall be collected and directed away from the bluff edge towards the street and into the City's stormwater collection system.

    c. Existing and any proposed accessory improvements (i.e., decks, patios, walls, windscreens, etc.) located in the geologic setback area at 341, 347, and 355 Pacific Avenue shall be detailed and drawn to scale on the final approved site plan and shall include measurements of the distance between the accessory improvements and the natural bluff edge (as defined by Title 14 California Code of Regulations, Section 13577) taken at 3 or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, or other method that enables accurate determination of the location of all structures on the site. The seaward edge of all existing and proposed accessory improvements shall be located no closer than 5 feet landward of the natural bluff edge or approved reconstructed bluff edge. Any new Plexiglas or other glass wall shall be non-clear, tinted, frosted or incorporate other elements to prevent bird strikes. Any existing

improvements located closer than 5 feet landward of the reconstructed or natural bluff edge **shall be removed within 60 days of approval of the coastal development permit**.

d. The geogrid structure on the bluff face fronting 347 and 355 Pacific Avenue shall be constructed to undulate to closely match the appearance of the nearby natural bluff face. The geogrid structure shall include variable thicknesses to provide visual undulations that mimic the nearby natural bluff conditions. At a minimum, the geogrid structure at 347 and 355 Pacific Avenue shall include 5 non-evenly spaced, tapered, undulating drainage features, with non-linear edges, that are approximately 2 feet deep and approximately 5 feet wide. The geogrid structure at 355 Pacific Avenue shall be incorporated, if technically feasible, into the junction with 357 Pacific Avenue.

e. The lateral wall on the northern property line of 355 Pacific Avenue shall be lowered to maximize undulations that mimic the nearby natural bluff conditions.

f. Technical details regarding the construction method and technology utilized for undulating the geogrid structure. Said plans shall be of sufficient detail to ensure that the Executive Director can verify that the geogrid structure will closely mimic natural bluff conditions.

g. The revised plans shall clearly state the three concrete underpinning caissons at 355 Pacific Avenue are unpermitted and a CDP shall be required if in the future the caissons are proposed to be retained or are proposed or required to be removed.

The permittees shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. **Final Landscape Plans.** Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit for review and written approval of the Executive Director, final landscape plans for the landscaping on the coastal bluff that are in substantial conformance with the submitted plans received February 28, 2012 by David Reed Landscape Architects. The revised plans shall first be approved by the City of Solana Beach before submittal for the Executive Director's review and approval and include the following:

a. Only drought tolerant native or non-invasive plant materials may be planted on the subject property. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as 'noxious weed' by the State of California or the U.S. Federal Government shall be planted within the property.

b. The landscaping shall be installed in coordination with the property to the north at 357 Pacific Avenue and shall incorporate both container stock and hydroseeding. Temporary low pressure irrigation may be used for a maximum of 12 months and all temporary irrigation components shall be removed within 26 months.

The permittees shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

3. **Mitigation for Impacts to Public Access and Recreation and Sand Supply**.

a. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall provide evidence, in a form and content acceptable to the Executive Director, that the full interim mitigation fee of $150,000, required by the Commission to address adverse impacts to public access and recreational use, has been deposited in a Shoreline Account established by the City of Solana Beach.

Within 180 days of the Commission's certification, as part of the certified LCP, a program addressing the impacts associated with shoreline devices and its method of calculating such fees, the applicants shall submit to the Executive Director for review and written approval, documentation of the final mitigation fee amount required by the City to address impacts of the proposed shoreline protection on public access and recreation for the shoreline armoring structure's design life of 20 years. If the amount differs from the interim amount required above, then the applicants shall submit an application for an amendment to this permit to adjust the mitigation fee to be paid to the City to address adverse impacts to public access and recreational use resulting from the proposed development.

b. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall provide evidence, in a form and content acceptable to

the Executive Director, that a fee of $21,864.72 has been deposited in an interest bearing account designated by the Executive Director, in-lieu of providing the total amount of sand to replace the sand and beach area that will be lost due to the impacts of the proposed protective structures. All interest earned by the account shall be payable to the account for the purposes stated below.

The purpose of the account shall be to establish a beach sand replenishment fund to aid SANDAG, or an alternate entity approved by the Executive Director, in the restoration of the beaches within San Diego County. The funds shall be used solely to implement projects which provide sand to the region's beaches, not to fund operations, maintenance or planning studies. The funds shall be released only upon approval of an appropriate project by the Executive Director of the Coastal Commission. The funds shall be released as provided for in a MOA between SANDAG, or an alternate entity approved by the Executive Director, and the Commission, setting forth terms and conditions to assure that the in-lieu fee will be expended in the manner intended by the Commission. If the MOA is terminated, the Executive Director may appoint an alternate entity to administer the fund for the purpose of restoring beaches within San Diego County.

4. **Duration of Armoring Approval**.

a. Authorization Expiration. This CDP authorizes the bluff retention devices (consisting of the seawall, geogrid structure, and lateral wall) until the time when the currently existing bluff top structures requiring protection are redeveloped as that term is defined in Special Condition 5, are no longer present, or no longer require a protective device. Prior to the anticipated expiration of the permit and/or in conjunction with redevelopment of the property, the Permittee(s) shall apply for a new CDP to remove the protective device or to modify the terms of its authorization.

b. Modifications. If, during the term of this authorization, the Permittees desire to enlarge the shoreline armoring or to perform repair work affecting more than 50 percent of the shoreline armoring, the Permittee shall apply for a new CDP. Additional mitigation requirements for the impacts of the enlarged or reconstructed armoring on public views, public recreational access, shoreline processes, and all other affected coastal resources that have not already been mitigated through this permit will be addressed and required at that time.

c. Amendment Required Proposing Mitigation for Retention of Armoring Beyond the 20 Year Design-Life**.** If the Permittees intend to keep the armoring in place after April 13, 2025, the Permittees must submit a complete CDP amendment application prior to April 13, 2025 proposing

mitigation for the coastal resource impacts associated with the retention of the armoring beyond 20 years.

5. **Future Development.** No future development, which is not otherwise exempt from coastal development permit requirements, or redevelopment on the bluff top portion of the subject property, shall rely on the permitted armoring system (geogrid structure, seawall, or the lateral wall) to establish geologic stability or protection from hazards. Such future development and redevelopment on the site shall be sited and designed to be safe without reliance on shoreline armoring. As used in these conditions, "redeveloped" or "redevelopment" is defined to include: (1) additions; (2) exterior and/or interior renovations, or; (3) demolition which would result in alteration to 50 percent or more of the exterior walls and/or other major structural components, or a 50 percent increase in floor area, both totaled cumulatively over time, as further defined in the certified Solana Beach LCP Land Use Plan.

6. **Monitoring and Reporting Program**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit to the Executive Director for review and written approval, a monitoring program prepared by a licensed civil engineer or geotechnical engineer to monitor the performance of the seawall, geogrid structure, and lateral wall which requires the following:

   a. An annual evaluation of the condition and performance of the shoreline armoring structures addressing whether any significant weathering or damage has occurred that would adversely impact the future performance of the structures. This evaluation shall include an assessment of the color and texture of the structures compared to the surrounding native bluffs.

   b. Annual measurements of any differential retreat of bluff material between the face of the natural bluff or the face of the geogrid structure and the seawall face, at the north and south ends of the seawall and at 20-foot intervals (maximum) along the top of the seawall face/bluff face intersection. The program shall describe the method by which such measurements shall be taken.

      Provisions for submittal of a report to the Executive Director of the Coastal Commission by May 1 of each year (beginning the first year after construction of the project is completed) for a period of three years and then, each third year following the last annual report, for the 20 years for which this seawall is approved. In addition, reports shall be submitted in the spring immediately following either:

      1. An "El Niño" storm event – comparable to or greater than a 20-year storm.

2. An earthquake of magnitude 5.5 or greater with an epicenter in San Diego County.

Thus, reports may be submitted more frequently depending on the occurrence of the above events in any given year.

c. Each report shall be prepared by a licensed civil engineer, geotechnical engineer or geologist. The report shall contain the measurements and evaluation required in sections a and b above. The report shall also summarize all measurements and analyze trends such as erosion of the bluffs, changes in sea level, the stability of the overall bluff face, including the upper bluff area, and the impact of the structures on the bluffs to either side of the wall. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the seawall.

d. An agreement that, if after inspection or in the event the report required in subsection c above recommends any necessary maintenance, repair, changes or modifications to the project including maintenance of the color of the structures to ensure a continued match with the surrounding native bluffs, the permittee shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance within 90 days of the report or discovery of the problem.

The applicants shall undertake monitoring and reporting in accordance with the approved final monitoring and reporting program. Any proposed changes to the approved final monitoring and reporting program shall be reported to the Executive Director. No changes to the approved final monitoring and reporting program shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. **Storage and Staging Areas/Access Corridors**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit to the Executive Director for review and written approval, final plans indicating the location of access corridors to the construction site and staging areas. The final plans shall indicate that:

a. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces. During the construction stages of the project, the permittee shall not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise

located in the intertidal zone at any time, except for the minimum necessary to construct the structures. Construction equipment shall not be washed on the beach or public parking lots or access roads.

b. Construction access corridors shall be located in a manner that has the least impact on public access to and along the shoreline.

c. No work shall occur on the beach on weekends, holidays or between Memorial Day weekend and Labor Day of any year.

d. The applicants shall submit evidence that the approved plans and plan notes have been incorporated into construction bid documents. The applicants shall remove all construction materials/equipment from the staging site and restore the staging site to its prior-to-construction condition immediately following completion of the development.

The permittees shall undertake the development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the final plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

8. **Water Quality--Best Management Practices**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit for review and written approval of the Executive Director, a Best Management Plan that effectively assures no construction byproduct will be allowed onto the sandy beach and/or allowed to enter into coastal waters. All construction byproduct shall be properly collected and disposed of off-site.

The applicants shall undertake the development in accordance with the approved plan. Any proposed changes to the approved Plan shall be reported to the Executive Director. No changes to the plan shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

9. **Storm Design**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit to the Executive Director, for review and approval, certification by a registered civil engineer that the proposed shoreline protective devices have been designed to withstand storms comparable to the winter storms of 1982-83 that took place in San Diego County.

10. **Other Permits**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the permittees shall provide to the Executive Director copies of all other required local, state or federal discretionary permits, for the development authorized by CDP 6-13-025. The applicants shall inform the Executive Director of any changes to the project required by other local, state or federal agencies. Such changes shall not be incorporated into the project until the applicants obtains a Commission amendment to this permit, unless the Executive Director determines that no amendment is legally required.

11. **State Lands Commission Approval**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit to the Executive Director for review and written approval, a written determination from the State Lands Commission that:

    a. No state lands are involved in the development; or

    b. State lands are involved in the development, and all permits required by the State Lands Commission have been obtained; or

    c. State lands may be involved in the development, but pending a final determination of state lands involvement, an agreement has been made by the applicants with the State Lands Commission for the project to proceed without prejudice to the determination.

12. **Construction Site Documents & Construction Coordinator**. DURING ALL CONSTRUCTION:

    a. Copies of the signed coastal development permit and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site at all times, and such copies shall be available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the coastal development permit and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

    b. A construction coordinator shall be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and the coordinator's contact information (i.e., address, phone numbers, etc.) including, at a minimum, a telephone number that will be made available 24 hours a day for the duration of construction, shall be conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with an indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator

shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

13. **As-Built Plans.** within 180 days of completion of construction, or within such additional time as the Executive Director may grant for good cause, the Permittees shall submit two copies of As-Built Plans, approved by the City of Solana Beach, showing all development completed pursuant to this coastal development permit; all property lines; and all residential development inland of the structures. The As-Built Plans shall be substantially consistent with the approved revised project plans described in Special Condition 1 above, including providing for all of the same requirements specified in those plans, and shall account for all of the parameters of Special Condition 6 (Monitoring and Reporting). The As-Built Plans shall include a graphic scale and all elevation(s) shall be described in relation to National Geodetic Vertical Datum (NGVD). The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show all components of the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall be from representative viewpoints from the beaches located directly upcoast, downcoast, and seaward of the project site. The As-Built Plans shall be submitted with certification by a licensed civil engineer with experience in coastal structures and processes, acceptable to the Executive Director, verifying that the shoreline armoring has been constructed in conformance with the approved final plans.

14. **Public Rights**. The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. By acceptance of this permit, the applicants acknowledge, on behalf of himself/herself and his/her successors in interest, that issuance of the permit and construction of the permitted development shall not constitute a waiver of any public rights which may exist on the property.

15. **Assumption of Risk, Waiver of Liability and Indemnity**. By acceptance of this permit, the applicants acknowledge and agree (i) that the site may be subject to hazards from erosion and coastal bluff collapse (ii) to assume the risks to the applicants and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

16. **Other Special Conditions of the City of Solana Beach Permit Nos. 17-04-13 CUP and DRP 17-11-21)**. Except as provided by this coastal development permit, this permit has no effect on conditions imposed by the City of Solana Beach pursuant to an authority other than the Coastal Act.

17. **Condition Compliance**. Within 180 days of approval of this CDP, or within such additional time as the Executive Director may grant for good cause, the applicants shall have complied with all of the Special Conditions of this permit. Within 270 days of approval of this CDP, or within such additional time as the Executive Director may grant for good cause, the applicants shall have completed the contouring of the geogrid structure and the lowering of the lateral wall as detailed in the revised final plans for the subject site. Failure to comply with this condition may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

18. **Deed Restriction**. Within 180 days of approval of this coastal development permit, or within such additional time as the Executive Director may grant for good cause, the applicants shall submit to the Executive Director for review and approval documentation demonstrating that the applicants have executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION/HISTORY

The proposed development involves after-the-fact approval of a 150-foot long (35 feet high) lower coastal bluff seawall on the beach and bluff fronting 341, 347, and 355 Pacific Avenue (previously constructed pursuant to Emergency CDP #6-05-023-G). Also proposed is the construction of a geogrid structure on the mid and upper bluff face fronting 347 and 355 Pacific Avenue with a lateral 36-foot long keystone wall on the northern border of 355 Pacific Avenue (previously constructed

pursuant to Emergency CDP #6-06-037-G). The mid and upper bluff geogrid structure is made of plastic and incorporates the use of soil nails and imported soil. The applicants propose to lower the existing lateral keystone wall to the south approximately 16 inches at the bottom portion and approximately 52 inches at the top portion in order to create a more natural appearance. In addition, the applicants are also proposing extensive native landscaping of the geogrid structure, including the use of container plants. The landscaping plan is designed to be implemented concurrently with proposed landscaping on the bluff fronting 357 Pacific Avenue (ref: 6-02-084-A3/Ocean Ventures, LLC).

The location of the proposed seawall and geogrid structure is on publicly owned bluff and beach.

Pursuant to Emergency CDP #6-05-003-G, the applicants also installed three caisson underpinnings below the southwest corner of the foundation at 355 Pacific Avenue. These three caisson underpinnings are not required to protect the primary bluff top structure from erosion and are not a part of this application (as explained below).

- **Site History**

In February of 2005, the Executive Director authorized an emergency permit to construct three concrete caisson underpinnings (approximately 2 ft. in diameter, 30 ft. in length) located in the southwest corner of the existing residence at 355 Pacific Avenue below the foundation slab (6-05-003-G/Island Financial Corporation).

In April of 2005, the Executive Director authorized an emergency permit for the construction of an approximately 150 foot long, 2 foot wide, 35 foot-high tiedback concrete seawall located at the base of the bluff below 341, 347, and 355 Pacific Avenue (CDP 6-05-023-G/Upp, Reichert, & Island Financial Corporation).

In June of 2006, the Executive Director authorized an emergency permit for the reconstruction of the bluff face fronting 347 and 355 Pacific Avenue through the installation of a geogrid soil reinforced structure incorporating the use of soil nails, installation of erodible concrete directly behind and not extending above the existing approximately 150 foot-long, 35 foot-high seawall with a small section of erodible concrete (approx. 15 feet in length) that extends up to approximately 5 feet above the seawall at its southern end. This section of the concrete is colored and sculpted to match the natural surrounding bluff. The project also involved the installation of an approximately 36 foot-long keystone retaining wall extending from the north end of the existing seawall to the top of the bluff along the northern property of 355 Pacific Avenue (6-06-037-G/Totten and Reichert).

The three subject residences were all constructed in the 1950's. The southernmost home at 341 Pacific was constructed in 1952 and the Commission approved the construction of a second floor addition in 1974 (CDP F1843). The center home at 347 Pacific was constructed in 1955 and the Commission has no record of any

additional development activity on the subject lot, other than described above, since the effective date of the Coastal Act. The northern most home at 355 Pacific was constructed in 1952 and the Commission has no record of any additional development activity on the subject lot, other than described above, since the effective date of the Coastal Act.

The property owner at 355 Pacific Avenue has begun to process an application with the City to construct a 767 sq. ft. first and second floor addition to the existing 1,380 sq. ft. home (with an existing attached 240 sq. ft. garage). The addition would be located approximately 50 ft. from the bluff edge. The proposed addition has not been approved by the City and therefore a complete CDP application has not been submitted to the Commission. The majority of the proposed addition is located seaward of the Geologic Stability Line and thus appears to be inconsistent with the policies of the City's certified LUP that do not allow existing bluff retention devices to be factored into setback calculation and require that all new development be sited a safe distance from the bluff edge to eliminate the need for bluff retention devices.

Other Shoreline Armoring in the Surrounding Area

The properties directly to the south of the three subject properties (333 & 337 Pacific Avenue) contain a lower bluff seawall, and partial mid and upper bluff geogrid armoring (Ref. CDP #6-02-002/Gregg & Santina).

The property to the north of the three subject properties (357 Pacific Avenue) contains a lower bluff seawall and a below-grade upper bluff retention system consisting of 9 piers (Ref. CDP #6-02-084/Scism). The property owner at 357 Pacific Avenue currently has a pending application, which is also on the Commission's November 2013 agenda to install a geogrid mid bluff structure and to aesthetically and architecturally treat the below-grade upper bluff retention system (ref. CDP #6-02-084-A3/Ocean Ventures, LLC).

The subject development is proposed to be located on the beach and bluff face of an approximately 80 ft.-high coastal bluff fronting three existing single family residences. The Tide Beach Park public access stairway is located approximately 500 feet north of the site, and Fletcher Cove, the City's central beach access park, is located approximately ¼ mile to the south.

The Commission recently certified the City's Land Use Plan; however, the City of Solana Beach does not yet have a certified LCP. Therefore, the Chapter 3 policies of the Coastal Act are the standard of review, with the certified LUP used as guidance.

B. GEOLOGIC CONDITIONS AND HAZARDS.

As described above, the standard of review is Chapter 3 of the Coastal Act, with the City's LUP providing non-binding guidance. As such, applicable Coastal Act policies are cited in this report, as well as certain LUP policies for guidance as relevant. Coastal Act Section 30235 addresses the use of shoreline protective devices:

> *Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.*

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and to avoid landform altering protective measures. Section 30253 provides, in applicable part:

> *New development shall do all of the following:*
>
> *(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(b) 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...*

In addition, the following certified City of Solana Beach Land Use Plan (LUP) language, although not the standard of review, provides additional information regarding geologic hazards and shoreline protection:

Pages 13-14 of the Hazards and Shoreline/Bluff Development chapter state the following, in part:

> *The following describes types of the City's preferred upper bluff retention systems that may be utilized with a lower seawall when collapse of the mid and upper bluff threatens an existing principal structure:*
>
> - ***Seawall and Upper Bluff Repair (See Appendix B Figure 3)** – This retention system is an all-encompassing bluff stabilization measure and shall only be used when bluff failures have caused exposure of the clean sand lens and significant erosion of the mid and upper bluff. Encapsulation of the clean sand lens is needed to protect the bluff top*

principal structure from potential damage. This repair consists of a structurally engineered seawall (with tiebacks into the sandstone) approximately 35' high to protect and encapsulate the clean sand lens at the base of the terrace deposits. The upper bluff is reconstructed at a stable angle by bringing in additional soil which is then reinforced with a geogrid fabric. The lower seawall is textured to simulate the existing bluff material and the upper soil is similar to the existing soil and is hydro-seeded with native, drought tolerant, non-invasive, and salt tolerant vegetation.

- ***Upper Bluff Repair**…*
- ***Caisson and Tieback Alternative (See Appendix B Figure 5)** – This bluff retention system, consists of drilled reinforced concrete caissons (24 inches or greater in diameter). These structurally designed caissons are drilled down to or into the lower sandstone bedrock, shall be below grade, and as far landward as possible to avoid exposure of the drilled caisson in the future. In many cases, to avoid future exposure, the structure requiring stabilization can also be moved further inland to a location that, in connection with the lower seawall, will assure stability of the structure and avoid alteration of the natural landform of the bluffs. In any event, it is required, as a condition of approval that the homeowner post a bond for a future reinforced concrete face to be constructed when the caissons are exposed. Additional tiebacks may be required at that time.* [Emphasis Added]

Prior to approval of any upper bluff retention system, a detailed alternative analysis must be performed, consistent with Policy 4.54. In addition, per Policy 4.54, on sites where there is existing lower bluff protection, no upper bluff retention system shall be approved unless it has been determined that removing and relocating/rebuilding the principal bluff top structure with a caisson foundation system in a location that will avoid future exposure and alteration of the natural landform is infeasible, resulting in a taking of private property for public use without just compensation. [Emphasis Added]

***Policy 4.32**: When bluff retention devices are unavoidable, encourage applicants to pursue preferred bluff retention designs as depicted in Appendix 2 of the LUP when required to protect an existing principal structure in danger from erosion. All future bluff retention device applications should utilize these designs as the basis of site-specific engineering drawings to ensure consistency with the LUP.*

***Policy 4.47**: The City has adopted preferred bluff retention solutions (see Appendix B) to streamline and expedite the City permit process for bluff retention devices. The preferred bluff retention solutions are designed to meet the following goals and objectives:*

(1) Locate bluff retention devices as far landward as feasible;

(2) Minimize alteration of the bluff face;

(3) Minimize visual impacts from public viewing areas;

(4) Minimize impacts to adjacent properties including public bluffs and beach area; and,

(5) Conduct annual visual inspection and maintenance as needed; […]

Policy 4.51: *Coastal structures shall be approved by the City only if all the following applicable findings can be made and the stated criteria satisfied. The permit shall be valid for a period of 20 years commencing with the date of CDP approval and subject to an encroachment removal agreement approved by the City. (A) Based upon the advice and recommendation of a licensed Geotechnical or Civil Engineer, the City makes the findings set forth below.*

(1) A bluff failure is imminent that would threaten a bluff home, city facility, city infrastructure, and/or other principal structure.

(2) The coastal structure is more likely than not to preclude the need for a larger coastal structure or upper bluff retention structure. Taking into consideration any applicable conditions of previous permit approvals for development at the subject site, a determination must be made based on a detailed alternatives analysis that none of the following alternatives to the coastal structure are currently feasible, including:

- *A Seacave/Notch Infill;*
- *A smaller coastal structure;*
- *Other remedial measures capable of protecting the bluff home, city facility, non-city-owned utilities, and/or city infrastructure, which might include or other non-beach and bluff face stabilizing measures, taking into account impacts on the near and long term integrity and appearance of the natural bluff face, and contiguous bluff properties;*

(3) The bluff property owner did not create the necessity for the coastal structure by unreasonably failing to implement generally accepted erosion and drainage control measures, such as reasonable management of surface drainage, plantings and irrigation, or by otherwise unreasonably acting or failing to act with respect to the bluff property. In determining whether or not the bluff property owner's actions were reasonable, the City shall take into account whether or not the bluff property owner acted intentionally, with or without knowledge, and shall consider all other relevant credible scientific evidence, as well as, relevant facts and circumstances.

(4) The location, size, design and operational characteristics of the proposed coastal structure will not create a significant adverse effect on adjacent public or private property, natural resources, or public use of, or access to, the beach, beyond the environmental impact typically associated with a similar coastal structure and the coastal structure is the minimum size necessary to protect the principal structure, has been designed to minimize all environmental impacts, and provides mitigation for all coastal and environmental impacts, as provided for in this LCP.

(B) The coastal structure shall meet City Design Standards, which shall include the following criteria to ensure the coastal structure will be:

(1) Constructed to resemble as closely as possible the natural color, texture and form of the adjacent bluffs;

(2) Landscaped, contoured, maintained and repaired to blend in with the existing environment;

(3) Designed so that it will serve its primary purpose of protecting the bluff home or other principal structure, provided all other requirements under the implementing ordinances are satisfied, with minimal adverse impacts to the bluff face; (4) Reduced in size and scope, to the extent feasible, without adversely impacting the applicant's bluff property and other properties; and

(5) Placed at the most feasible landward location considering the importance of preserving the maximum amount of natural bluff and ensuring adequate bluff stability to protect the bluff home, City facility, or City infrastructure.

***Policy 4.54**: An upper bluff system shall be approved only if all the following applicable findings can be made and the stated criteria will be satisfied. The permit shall be valid for a period of 20 years commencing with the date of CDP approval and subject to an encroachment agreement approved by the City.*

(A) Based on the advice and recommendation of a licensed Geotechnical or Civil Engineer, the City makes the findings set forth below.

(1) A bluff failure is imminent that would threaten a bluff home, city facility, city infrastructure, and/or other principal structure in danger from erosion and, that

(2) The bluff home, city facility, city infrastructure, and/or principal structure is more likely than not to be in danger within one year after the date an application is made to the City.

Taking into consideration any applicable conditions of previous permit approval for development at the subject site, determination must be made based on a detailed alternatives analysis that none of the following alternatives to the upper bluff system are then currently feasible, including:

- *No upper bluff system;*
- *Vegetation;*
- *Controls of surface water and site drainage;*
- *A revised building footprint and foundation system (e.g., caissons) with a setback that avoids future exposure and alteration of the natural landform;*
- *A smaller upper bluff system;*
- *Other remedial measures capable of protecting the bluff home, city facility, non-city-owned utilities, and/or city infrastructure which might include tiebacks, other feasible non-beach and bluff face stabilizing measures, taking into account impacts on the near and long term integrity and appearance of the natural bluff face, the public beach, and, contiguous bluff properties; and,*
- *Removal and relocation of all, or portions, of the affected bluff home, city facilities or city infrastructure.* [Emphasis Added]

(4) The bluff property owner did not create the necessity for the upper bluff system by unreasonably failing to implement generally accepted erosion and drainage control measures, such as reasonable management of surface drainage, plantings and irrigation, or by otherwise unreasonably acting or failing to act with respect to the bluff property. In determining whether or not the bluff property owner's actions were reasonable, the City shall take into account whether or not the bluff property owner acted intentionally, with or without knowledge, and shall consider all other relevant credible scientific evidence as well as relevant facts and circumstances.

(5) The location, size, design and operational characteristics of the proposed upper bluff system will not create a significant adverse effect on adjacent public or private property, natural resources, or public use of, or access to, the beach, beyond the environmental impact typically associated with a similar upper bluff system and the upper bluff system is the minimize size necessary to protect the existing principal structure, has been designed to minimize all environmental impacts, and provides mitigation for all coastal and environmental impacts, as provided for in this LCP.

(B) The upper bluff system shall meet City Design Standards applicable to bluff retention devices, including ensuring the natural bluff face is preserved to the greatest extent feasible, by using soft systems such as Geogrid, Geoweb, and planted with native species. The upper bluff system shall be designed to minimize alterations of natural landforms and shall not have a material adverse visual impact. The upper bluff slope shall be designed to have both vertical and horizontal relief. [Emphasis Added]

(C) All upper bluff systems shall be subject to the same permitting time frames as specified for a coastal structure, and may be subject to removal based upon the same time frames and similar criteria set forth for removal of coastal structures, as reasonably determined by the City.

***Policy 4.62**: Existing bluff retention devices which are not considered preferred bluff retention solutions and do not conform to the provisions of the LCP, including the structural or aesthetic requirements may be repaired and maintained to the extent that such repairs and/or maintenance conform to the provisions of the LCP. Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" solutions alter natural shoreline processes. Thus, such devices are required to be approved only when necessary to protect existing structures and when designed to eliminate or mitigate adverse impacts on shoreline sand supply. In addition, Section 30253 addresses new development and requires that it be sited and designed to avoid the need for protective devices that would substantially alter natural landforms along the bluffs and cliffs or result destruction of the site.*

Thus, Coastal Act Sections 30235 and 30253 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" methods designed to forestall erosion may also alter natural landforms and natural shoreline processes. Accordingly, with the exception of new coastal dependent uses, Section 30235 limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion. The Coastal Act provides these limitations because shoreline structures can have a variety of negative impacts on coastal resources including adverse effects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, including ultimately resulting in the loss of beach.

In addition, the Commission has interpreted Section 30235 to apply only to existing principal structures in its past actions of approving the construction of shoreline protective devices. The Commission must always consider the specifics of each individual project, but has found that accessory structures (such as patios, decks, gazebos, stairways, etc.) are not required to be protected under Section 30235, or can be protected from erosion by relocation or other means that do not involve

shoreline armoring because these structures have relatively shallow foundation elements and, thus, are more easily movable than primary structures (i.e., houses and garages). The Commission has at times historically permitted at-grade structures within geologic setback areas, if such structures are expendable and capable of being removed rather than requiring a protective device that would alter natural landforms and processes along bluffs, cliffs, and beaches.

These Coastal Act policies are reflected in the City's LUP policies in similar ways, including in terms of requiring that landform alteration be minimized, and that development be setback an adequate distance as to provide stability over the project lifetime. In terms of armoring, the LUP likewise reflects Coastal Act tests for considering armoring, including in terms of required mitigation for allowable armoring, including explicitly in terms of providing public access mitigation.

Under Coastal Act Section 30235, shoreline protective structures may be approved if: (1) there is an existing structure; (2) the existing structure is in danger from erosion; (3) shoreline construction that alters natural shoreline processes is required to protect the existing threatened structure; and (4) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply. The first three questions relate to whether the proposed armoring is required to protect the existing structure in danger from erosion. The fourth question applies to mitigation for the shoreline sand supply impacts of armoring.

The Commission may also impose conditions of approval to mitigate for other impacts that a shoreline protective device may have on coastal resources. Even where a shoreline protective device is determined to be necessary and designed in a manner protective of shoreline sand supply, the structure will often result in significant adverse impacts, to beach access and recreation. The mitigation that is required to address the impacts of the proposed armoring on public beach access and recreation are separately addressed further below in the section on Public Access and Recreation.

Existing Structures to be Protected

For the purposes of shoreline protective structures, the Coastal Act distinguishes between development that is allowed shoreline armoring, and development that is not. Under Section 30253, new development is to be designed, sited, and built to allow the natural process of erosion to occur without creating a need for a shoreline protective device. Coastal Act 30235 authorizes shoreline protection in limited circumstances) for "existing" structures, such as structures that were in place prior to the effective date of the Coastal Act. Coastal zone development approved and constructed prior to the Coastal Act going into effect was not subject to Section 30253 requirements.

In this case, the three single family homes at the site location are existing structures for purposes of Section 30235 of the Coastal Act because they were originally permitted and built prior to November 8, 1972 (see former Public Resources Code, section 27404), thereby predating the enactment of The California Coastal Zone

Conservation Act of 1972 (Prop 20).[1]

Danger from Erosion

The Coastal Act allows shoreline armoring to protect existing structures in danger from erosion, but it does not define the term "in danger". There is a certain amount of risk involved in maintaining development along a California coastline that is actively eroding and can be directly subject to violent storms, wave attack, flooding, earthquakes, and other hazards. These risks can be exacerbated by such factors as sea level rise and localized geography that can focus storm energy at particular stretches of coastline. As a result, some would say that all development along the immediate California coastline is in a certain amount of "danger". The Commission evaluates the immediacy of any threat in order to make a determination as to whether an existing structure is "in danger". While each case is evaluated based upon its own particular set of facts, the Commission has in some previous actions interpreted "in danger" to mean that an existing structure would be unsafe to occupy within the next two or three storm season cycles (generally, the next few years) if nothing were to be done (i.e., in the "no project" alternative) (Ref: CDP 2-10-039/Lands End).

The proposed project involves the construction of an approximately 150 ft.-long, 35 ft.-high, 2 ft.-wide concrete seawall on the beach directly below three single-family residences (341, 347, and 355 Pacific Ave.), the reconstruction of the mid and upper bluff using a vegetated geogrid structure on the bluff face above the seawall below two of the residences (347 and 355 Pacific Ave.) with a lateral keystone wall going up the face of the bluff on the northern property line of 355 Pacific Avenue, and construction of the 3 under pinning caissons below one of the residences (355 Pacific Ave.). The structures as designed (except for the request for the 3 under pinning caissons), will provide protection to all three residential structures at 341, 347, and 355 Pacific Avenue that are currently threatened by erosion. Special Condition 1 requires the applicant state on the project plans that the caissons are unpermitted and a CDP amendment will be required if in the future the caissons are proposed to be retained or proposed or required to be removed.

The bluffs to the south and north of the subject site have already been afforded protection in the form of seawalls and, in some cases, below-grade retention systems at the top of the bluff and geogrid-reinforcement on the face of the bluffs. Seawalls of similar design to that proposed with this application have been constructed at the toe of the bluff to protect multiple homes to both the north and south of the subject site. After construction of the subject 150 ft.-long seawall, the interconnecting seawalls along this section of shoreline will comprise a single continuous wall greater than 1,000 feet in length.

[1] Prop20's effective date for coastal permitting requirements is February 1, 1973. The subject sites would have been subject to Prop 20 jurisdiction because they are within 1000 yards inland of the mean high tide line. (Former Public Resources Code, section 27104)

In the case of the immediately adjacent properties, a 35 ft.-high seawall and 35 ft.-deep below-grade retention system has been installed seaward of the northern residence at 357 Pacific Ave. (Ref. CDP 6-02-84/Scism) and a CDP request for mid and upper bluff shoreline armoring is also likely to come before the Commission for the November 2013 Commission meeting. The property directly to the south of the three subject properties (337 Pacific Avenue) contains a lower bluff seawall, but no mid or upper bluff armoring (ref. CDP #6-02-002/Gregg & Santina).

The proposed shoreline protective devices at the subject site have been designed to connect to both adjacent seawalls and to tie into the proposed (but not yet approved) geogrid reconstructed bluff below 357 Pacific Ave. Specifically, the proposed lateral keystone wall, which was built pursuant to a previous emergency permit, will be lowered to increase the potential for undulation of the geogrid structures between the properties. Had the subject properties and the property at 357 Pacific Avenue been able to coordinate their proposed geogrid projects, it is likely that the keystone lateral return wall between 355 and 357 Pacific Avenue would not have been necessary. Unfortunately, the timing was such that the subject sites required mid and upper bluff protection through the form of the geogrid immediately, while the property at 357 Pacific has only been determined to be threatened by erosion and in need of the mid and upper bluff geogrid structure recently. However, the proposed project includes a comprehensive landscaping plan that will be implemented in coordination with the 357 Pacific Avenue property, which combined with the lowering of the keystone lateral return wall will help to mitigate the impacts of the keystone wall. The proposed landscaping plan and the required undulation of the mid and upper bluff geogrid structure, in concert with the mid and upper bluff armoring proposed at 357 Pacific Avenue, will effectively hide the lateral keystone wall from view.

A geotechnical letter from the applicants in regards to the need for an emergency permit for the placement of three underpinning caissons along the southwestern portion of 355 Pacific Avenue in 2004 identifies that:

> *"Based on substantial, additional mid and upper coastal bluff failure that has occurred at this site during the past 6 weeks, it is our opinion that…without the immediate underpinning of the structure's [355 Pacific] foundation there will be a near-term failure that will result in foundation damage/failure along the southwestern portion of the residence…The work being proposed is considered temporary, in that it is designed to protect the foundation until the lower bluff seawall and mid and upper bluff repair is completed…*(Ref: Letter from Soil Engineering Construction, Inc., dated 7/21/2004)

A geotechnical letter from the applicants in regards to the need for the emergency seawall permit in 2004 identifies that:

> *"…It is our professional opinion that the need for emergency construction of a lower bluff seawall at 341, 347 and 355 Pacific Avenue*

> *is urgent…The most recent failure occurred within the past several days. The lower coastal bluff experienced a "shear" resulting in the failure of a section of the lower coastal sandstone approximately 150' in length, 25' in height and 2' to 6' in depth. Substantial additional mid- to upper-bluff materials also failed as a result of the lower bluff failure. In total approximately 1,000 to 1,500 tons of materials were deposited on the beach…* (Ref: Letter from Soil Engineering Construction, Inc. Dated 10/12/2004)

A geotechnical letter from the applicants in regards to the need for an emergency permit for the geogrid mid and upper bluff structure fronting 347 and 355 Pacific Avenue in 2006 identifies that:

> *"…the lateral wall is necessary at the property line boundary at 355 Pacific – but the lateral wall will effectively be buried at such time that 357 undertakes its mid-bluff reconstruction project…The sudden and unexpected failure of the mid-bluff area has resulted in the loss of substantial rear yard area at 355 Pacific Avenue. There is now a remaining range of approximately 4' to 8' between the failed top of bluff and residential structure…"* (Ref: Letter from The Trettin Company, dated 3/24/2006)

An additional geotechnical letter from the applicants in regards to the need for an emergency permit for the geogrid mid and upper bluff structure fronting 347 and 355 Pacific Avenue in 2006 identifies that:

> *"…The failure extends approximately 20' north along the bluff face, encompassing approximately 40% - 50% of the slope adjacent to 347 Pacific Avenue (Reichert). The failure does not presently extend further to the south and the third applicant on this permit (341 Pacific Avenue; Upp) has not been impacted as of this date…The failure has extended to the north to encompass area of the bluff adjacent to 357 Pacific Avenue (not a participant on this permit). This has resulted in SEC proposing the placement of a lateral return wall between 355 Pacific Avenue and 357 Pacific Avenue. This wall will retain the geogrid placement at 355 Pacific until such time as the mid-bluff at 357 Pacific also completes a reconstruction of the mid- and upper bluff…"* (Ref: Letter from The Trettin Company, dated 3/24/2006)

Thus, based on the above, the various emergency permits were authorized by the Executive Director and all of the proposed protection devices have been constructed.

In the majority of the City of Solana Beach there is a clean sands lens located between the Torrey Sandstone and Marine Terrace deposits at approximately elevation +25 to 35 feet Mean Sea Level (MSL). According to the Commission's staff geologist, the clean sands lens consists of a layer of sand with a limited

amount of capillary tension and a very minor amount of cohesion, which causes the material to erode easily, making this clean sands layer, once exposed, susceptible to windblown erosion and continued sloughing as the sand dries out and loses the capillary tension that initially held the materials together. Geotechnical reports associated with developments near this site have stated that gentle sea breezes and any other perturbations, such as landing birds or vibrations from low-flying helicopters, can be sufficient triggers of small- or large-volume bluff collapses, since the loss of the clean sands eliminates the support for the overlying, slightly more cemented, terrace deposits.

The presence of this clean sands layer within the bluffs along the Solana Beach shoreline has previously been identified in geotechnical reports submitted in conjunction with seawall, seacave and notch infill projects in Solana Beach (ref. CDP Nos. 6-00-9/Del Mar Beach Club, 6-99-100/Presnell, et. al, 6-99-103/ Coastal Preservation Association, 6-00-66/Pierce, Monroe, 6-02-02/Gregg, Santina, 6-02-84/Scism, 6-03-33/Surfsong, 6-04-83, Cumming, Johnson, 6-05-72/Las Brisas and 6-07-134/Brehmer, Caccavo). According to the Commission's staff geologist, the typical mechanism of sea cliff retreat along the Solana Beach shoreline involves the slow abrasion and undercutting of the Torrey Sandstone bedrock, which forms the sea cliff at the base of the bluffs, from wave action which becomes more pronounced in periods of storms, high surf and high tides. Other contributing factors to sea cliff retreat include fracturing, jointing, sea cave and overhang collapse and the lack of sand along the shoreline. When the lower sea cliff is undercut sufficiently, it commonly fails in blocks. The weaker terrace deposits are then unsupported, resulting in the collapse of the terrace deposits through circular failures. Such paired, episodic failures eventually result in a reduction in the steepness of the upper bluff, and the landward retreat of the bluff edge. Such retreat may threaten structures at the top of the slope. When failures of the upper bluff have sufficiently reduced the overall gradient of the upper bluff, a period of relative stability ensues, which persists until the lower bluff becomes sufficiently undercut to initiate a block failure once more, triggering a repetition of the entire process.

The mechanism of bluff retreat that occurs in conjunction with the exposure of the clean sands layer is somewhat different than the paired, episodic failure model described above. Because of the cohesionless character of the clean sands, once they are exposed, they continue to slump on an ongoing basis as a result of very small triggers such as traffic vibrations or wind erosion. Continued sloughage results in the further exposure of more clean sand, and ongoing upper bluff collapse. This cycle occurs so quickly (over months or days, rather than years) that the upper bluff may never achieve a stable angle of repose. Unless the base of the bluff is afforded shoreline protection and the clean sands lens is contained, additional bluff failures can further expose the layer of clean sands and result in a potential upper bluff failure and an immediate threat to the structures at the top of the bluff.

To encapsulate the exposure of this clean sands layer, the applicants propose to construct a 150 ft.-long, 35 ft.-high seawall and reconstruct the bluff face using a geogrid structure that will be planted with native vegetation.

According to the Commission's staff geologist, the best regional estimate of historical long-term bluff retreat for Solana Beach is from a FEMA-funded study summarized in Benumof and Griggs (1999). These authors report an average long-term retreat rate ranging from 0.15 to 0.47 ft./yr. for the Solana Beach area over the period 1932 - 1994. Episodic erosion events such as sea cave or notch overhang collapses, and erosion related to severe winter storms, can lead to short-term bluff retreat rates well above the long-term average. These short-term retreat rates are inherently included in the estimation of the long-term retreat rate for Solana Beach and, therefore, are included in the methodology used for the in-lieu fee sand replenishment calculations.

Based on the applicants' geotechnical findings that continued collapse of the coastal bluff was imminent, it has been demonstrated that all three residences are threatened by erosion. Following construction of the proposed 150 ft.-long seawall and geogrid reconstructed bluff, the applicants' engineer has demonstrated that the three homes will meet an adequate level of stability and will no longer be in immediate danger from bluff collapse. The Commission's engineer and geologist, having personally observed the site and having reviewed the applicants' geotechnical assessment of the site, concur with its conclusions and recommendations on the subject site's endangerment from erosion. Therefore, the three existing single family homes are "in danger from erosion" as that term is understood in a Coastal Act context, and thus the project meets the second test of Section 30235 of the Coastal Act.

Feasible Protection Alternatives

The third Section 30235 test that must be met is that the proposed armoring must be "required" to protect the existing structures in danger from erosion. In other words, shoreline armoring may only be permitted if it is the only feasible alternative capable of protecting the existing endangered structures.[2] Other, less environmentally damaging alternatives typically considered include, but are not limited to: the "no project" alternative; planned retreat, including abandonment and demolition of threatened structures; relocation of threatened structures; beach and sand replenishment programs; foundation underpinning; drainage and vegetation measures on the blufftop; and combinations of each.

- **Non-armoring Alternatives**

The existing seawall, geogrid structure, and three underpinning caissons are unpermitted development, and must be analyzed as if they do not exist. The "no project" alternative in this case is to not construct any shoreline armoring on the subject site and for the bluff to remain in a natural unaltered state (due to the existing armoring already constructed on the subject site, this would involve removal of the seawall, geogrid structure, and three underpinning caissons). As

[2] Coastal Act Section 30108 defines feasibility as follows: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

indicated above, there are existing structures in danger from erosion (per Coastal Act Section 30235) at this location. Continued erosion would adversely impact the foundation of the existing bluff top structures and would likely lead to an expansive upper bluff failure that would impact neighboring properties. Therefore, the "no-project" alternative would not provide any protection to the endangered primary structures at the site, and is not by itself a feasible alternative in this case.

Improved drainage and landscaping atop the bluffs is another option that is typically considered. Appropriate drainage measures coupled with planting long-rooted native bluff species can help to stabilize some bluffs and extend the useful life of setbacks. This option can be applied as a stand-alone alternative, but it is most often applied in tandem with other measures. In this case, the applicants will be required to direct all runoff away from the bluff edge and are proposing an extensive landscaping plan for the bluff face. These kinds of measures are appropriate adjuncts to other alternatives because they will help increase stability in all cases, and have and will continue to be applied here. However, these measures, implemented alone, will not address the threat to the existing blufftop structures.

Relocation is another alternative that is typically considered a reasonable and feasible alternative to consider. The LUP policies, as currently certified, require that once a property is protected by a lower seawall, if the existing principal structure on the bluff is determined to still be at risk in the future, the first and preferred means of stabilizing an existing home, must be to install caissons underneath the structure no closer than 40 feet from the bluff edge.

The applicants' alternative analysis for the two properties that propose to construct mid and upper bluff armoring (347 and 355 Pacific Avenue) asserts that it would be infeasible to remove and relocate the principal bluff top structures with caisson foundations in a location that will avoid future exposure for a number of reasons. The applicants provided the following rationale against the preferred LUP alternative of moving the existing structures back at least 40 feet from the bluff edge.

First, the applicants contend that this alternative would be substantially more expensive than the proposed project and would create a financial hardship. The applicants have not provided an estimate as to how much this alternative would cost. However, they state "…the cost would have far exceeded the proposed project costs and would have created a financial hardship for the owners…" No details were provided to support this statement.

Second, the applicants contend that the subject lots are too small to accommodate reasonable relocation or replacement of the structure. The applicants contend that moving the structures to a location of at least 40 ft. back from the bluff edge would only allow an approximate building pad of 1,100 sq. ft. not including the garage for 347 Pacific Avenue and an approximate building pad of 780 sq. ft. not including the garage for 355 Pacific Avenue.

Third, the applicants contend that if no action is taken to prevent the bluff failure fronting the homes, the property owners would potentially be subject to civil litigation if the failure spread north and south, damaging neighboring properties and existing coastal armoring structures.

Fourth, the applicants contend that the existing temporarily permitted geogrid structure and 3 underpinning caissons have already been constructed and it would not be possible to remove the armoring without immediately destabilizing the bluff and adversely impacting the subject homes and the homes to both the north and south of the subject site. In addition, the applicants contend that the process of removing the existing caisson system would jeopardize the safety of the workers.

Commission staff has reviewed the applicants' contentions and disagrees with the validity of the majority of them. First, the applicants' contention that the cost of relocating the homes would create a financial hardship is likely not entirely accurate. Based on a review of homes currently for sale and homes that have sold in the past three years, the average bluff top home value in Solana Beach is $2,539,000[3]. Thus, even if the cost to relocate the homes was substantial, it would still likely result in less than half the value of the majority of the properties in the area. In addition, the homes at 347 and 355 Pacific Avenue are 58 and 61 years old, respectively; and a substantial amount of money will likely be invested in the homes as they continue to age. Second, the applicants did not provide any explanation as to how the size of the potential building pads landward of 40 feet was determined. However, it is clear that the subject sites are relatively small lots. According to a past analysis done by the City, the average bluff top home size in the city is approximately 2,000 sq. ft. with an additional 400 sq. ft. garage. Thus, it may be the case that the subject sites would not be large enough to build what the City has determined to be an average sized home. Third, the applicants do not own the bluff upon which the development is proposed. Rather, considering the property as if the unpermitted development had not occurred, the bluff face is unimproved public property owned by the City. Thus, it is highly unlikely that the applicants would be liable for impacts to neighboring properties as a result of a naturally occurring event such as erosion of a coastal bluff that they do not own. Moreover, Government Code, sections 831.2[4] and 831.25[5] provides public entities

[3] Two blufftop homes are currently for sale in the City of Solana Beach. 529 Pacific Avenue and 311 Pacific Avenue have asking prices of $2,695,000 and $2,650,000, respectively. Three blufftop homes have sold during the past three years in the City of Solana Beach. 601 West Circle Drive sold for $2,000,000 on 5/4/2011, 533 Pacific sold for $4,250,000 on 8/10/2011, and 235 Pacific sold for $1,100,000 on 12/13/2010. Sale date and price information was obtained from www.redfin.com on 9/17/2013.

[4] Government Code, section 831.2

Neither a public entity nor a public employee is liable for an injury caused by a natural condition of any unimproved public property, including but not limited to any natural condition of any lake, stream, bay, river or beach.
(Added by Stats. 1963, Ch. 1681.)

and employees indemnity from damage or injury to property off of the public entity's property "caused by land failure of any unimproved public property if the land failure was caused by a natural condition of the unimproved public property." Furthermore, a row of lateral below-grade caisson could be constructed on the northern and southern property lines of the subject sites to ensure that the adjacent properties would not be adversely impacted. Fourth, prior to relocating the subject home 40 feet from the bluff edge, the applicants could construct below-grade caisson systems to support the homes. Thus, relocating the subject primary structures 40 feet from the bluff edge may be a possible alternative to mid and upper bluff armoring.

However, in this particular case, due to the fact that substantial alterations of the mid and upper bluff at the subject sites and adjacent sites has already occurred, relocating the existing primary structures 40 feet from the bluff edge would not be the preferred alternative. Relocating the subject homes to 40 feet from the bluff edge would either immediately or in the near future result in the need to install below-grade caissons on the northern and southern property lines of the subject sites to protect adjacent development and would also mean that the existing lateral

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Government Code, section 831.25

(a) Neither a public entity nor a public employee is liable for any damage or injury to property, or for emotional distress unless the plaintiff has suffered substantial physical injury, off the public entity's property caused by land failure of any unimproved public property if the land failure was caused by a natural condition of the unimproved public property.

(b) For the purposes of this section, a natural condition exists and property shall be deemed unimproved notwithstanding the intervention of minor improvements made for the preservation or prudent management of the property in its unimproved state that did not contribute to the land failure.

(c) As used in this section, "land failure" means any movement of land, including a landslide, mudslide, creep, subsidence, and any other gradual or rapid movement of land.

(d) This section shall not benefit any public entity or public employee who had actual notice of probable damage that is likely to occur outside the public property because of land failure and who fails to give a reasonable warning of the danger to the affected property owners. Neither a public entity nor a public employee is liable for any damage or injury arising from the giving of a warning under this section.

(e) Nothing in this section shall limit the immunity provided by Section 831.2.

(f) Nothing in this section creates a duty of care or basis of liability for damage or injury to property or of liability for emotional distress.

(Amended by Stats. 1988, Ch. 1034, Sec. 1.)

wall on the bluff face would remain exposed. Thus, even greater visual impact and alteration of the bluff would result than would be the case with the proposed alternative.

There are 53 existing single family bluff top residences in the City of Solana Beach. Approximately 70 percent of the single family bluff top residences already have a seawall at the base of the bluff. However, only approximately 20 percent have geogrid structures on the mid and upper bluff. Therefore, the current situation is relatively unique and represents a previous pattern of shoreline armoring the policies in the certified LUP have been developed to acknowledge and avoid. For the majority of properties in the City of Solana Beach, relocation or removal of the portions of existing homes within 40 feet of the bluff edge will likely be the preferred option when threatened by mid and upper bluff erosion and will result in the least impact to coastal resources.

Another option often considered is planned or managed retreat. This option has been long debated and discussed more generally as well as in terms of specific individual sites like this. Planned retreat can lead to the abandonment and demolition of the threatened structures. This concept posits that instead of allowing continued armoring, once the existing structures have been removed then the shoreline is allowed to retreat. Beach formation in this respect is partly assisted by the sand-generating material in the bluffs as they erode, but more importantly there is space for the natural equilibrium between the shoreline and the ocean to establish itself and for beaches to form naturally. Over the longer run, a more comprehensive strategy to address shoreline erosion and the impacts of armoring may be developed (e.g. planned or managed retreat, relocation of structures inland, abandonment of structures, etc.). However, including as discussed above, such options are infeasible at this location at this time. In order for planned retreat to work comprehensively in the future, the removal of hard armoring structures at the project location would occur in conjunction with the removal of other shore-fronting development.

Thus, there do not appear to be feasible non-armoring alternatives that could be applied in this case to protect the existing structures in danger from erosion.

- **Armoring Alternatives**

In terms of armoring alternatives, there are a variety of measures that could be used. One common option often considered is a riprap revetment. These structures can be relatively quickly installed and can protect the base of the bluff. However, they also require significant maintenance to ensure they continue to function in the approved state, leading to significant adverse resource impacts each time. Because their foundations are wide, revetments normally occupy a large area of beach. Migrating boulders can also lead to isolated impacts over time, expand the loss of beach area and cumulatively can lead to larger impacts. In addition, a revetment would only protect the lower bluff from wave action and would do nothing to encapsulate the clean sands lens or address the potential for a landslide. In addition, with a revetment, the mid and upper bluff would continue to erode and the home

would still be threatened. Thus, a rip rap revetment would not be a preferred alternative to a seawall and would not resolve the threat to the three subject homes.

A second alternative involves the construction of a seawall and an undulated geogrid structure all the way from the top of the existing seawall to the bluff edge, without the installation of the three underpinning caissons below the home at 355 Pacific Avenue. Although the three underpinning caissons may have been needed in the past, prior to construction of the additional armoring at the site, this CDP must only approve the minimum necessary amount of armoring and the minimal amount of alteration of the natural bluff to protect the subject sites. The Commission engineer and geologist have found that although the three underpinning caissons cannot be removed at this time, with the other proposed protection measures, they are not necessary to protect the subject sites. As stated above by the applicant's geotechnical engineer, the underpinnings were only proposed on a temporary basis and would no longer be necessary once the lower seawall and geogrid bluff structure was constructed. This alternative would adequately protect the primary bluff top structures from erosion. Thus, construction of a seawall and an undulated geogrid structure from the top of the existing seawall to the bluff edge, without the installation of the three underpinning caissons below the home at 355 Pacific Avenue is a feasible alternative.

In summary, a 'no project' alternative would not address the erosion threat to the existing primary structures and would also not ameliorate the adverse visual impacts of the adjacent lateral return wall. The Commission engineer and the Commission geologist have reviewed the potential alternatives and concur that the construction of a seawall and an undulated geogrid structure all the way from the top of the existing seawall to the bluff edge will best reduce adverse visual impacts and minimize alteration of the natural bluff. In addition, The Commission engineer and the Commission geologist have found that the three existing underpinning caissons below the home at 355 Pacific Avenue are not necessary to support the bluff top structures and should not be approved, but that they cannot be removed at this time. Therefore, Special Condition 1 requires that the applicants submit revised plans noting that the three underpinning caissons are unpermitted and that any future proposal to retain or requirement or proposal to remove the caissons will require a CDP amendment from the Commission.

Duration of Armoring Approval

Section 30235 only authorizes seawalls and other shoreline armoring when required to protect an existing structure in danger of erosion, so, to ensure consistency with the Coastal Act, the coastal armoring can no longer be authorized after the existing structure it is required to protect is redeveloped, no longer exists or no longer requires armoring.

In certain past cases, the Commission has required a fixed armoring authorization term, such as twenty years. The concept is based on addressing certain inherent uncertainties associated with the length of time shoreline protection might exist in any particular case without major repairs or replacement in a dynamic coastal

environment, and to address the changing and somewhat uncertain nature of decisions related to shoreline armoring, such as the state of the art for design of such devices, sea level rise and other physical changes, legislative change, or new judicial determinations. For example, with respect to sea level rise and other physical changes, there is a growing body of evidence that there has been an increase in global temperature and that acceleration in the rate of sea level rise can be expected to accompany this increase in temperature (some shoreline experts have indicated that sea level could rise by as much as 4.5 feet to over 6 feet by the year 2100)[6]. On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore, leading to a faster loss of the beach, as the beach is squeezed between the landward migrating ocean and the fixed backshore. This will expose the back bluff or seawall to more frequent wave attack, increasing the rate of erosion of unarmored bluffs. Concerns have been raised that addressing such uncertainties through identifying a fixed term (i.e. 20 years) for the authorization of armoring projects, may not be the appropriate way to address such uncertainties, including those related to both armoring design lifetimes and the lifetimes of development being protected by the armoring, as well as concerns that this condition could cause significant investments of staff and permittee time and resources to process additional authorizations when the twenty years is over.

In this case, the Commission does not impose a twenty-year term, but instead (a) ties the length of armoring authorization to the life of the existing endangered structures the armoring is required to protect; (b) requires the Applicants to submit a complete application for a CDP to remove or to modify the terms of authorization of the armoring when the existing structures warranting armoring are redeveloped, no longer present, or no longer require armoring; and (c) requires the Applicants to submit a complete application for a permit amendment to mitigate for impacts attributable to the armoring beyond the initial 20-year design-life upon which initial impact mitigation is based (see Mitigation of Shoreline Sand Supply Impacts Section below).

Section 30235 and Section 30253

Based on the above discussion, at this point in time, there is no feasible alternative to the proposed armoring that could both protect the endangered structures and remain consistent with all applicable provisions of the Coastal Act. Although the armoring in this case cannot be found consistent with all other applicable

[6] In 2010, the California Climate Action Team evaluated possible sea level rise for the California coast and, based on several of the Intergovernmental Panel on Climate Change (IPCC) scenarios, projected sea level rise up to 1.4 meters (4.5 feet) by 2100. In 2011, the Ocean Protection Council adopted interim guidance on sea level rise that recommends state agencies consider similar amounts of sea level rise for deliberations on coastal projects (http://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20110311/12. SLR_Resolution/SLR-Guidance-Document.pdf, last consulted April 15, 2012). A 2012 analysis by a National Research Council committee (http://www.nap.edu/catalog.php?record_id=13389) projects sea level for the central California could rise up to 5.5 feet from 2000 to 2100. A 2012 NOAA Technical Report (NOAA Tech Memo OAR CPO-1) projects, with high confidence, that global sea level will rise at least 0.6 feet (0.2 meters) and no more than 6.6 feet (2.0 meters) from 1992 to 2100.

provisions of the Coastal Act, Coastal Act provision 30235 mandates that shoreline armoring shall be approved when required to protect existing structures if specified criteria are met.

Specifically, this armoring impedes public access to and along the shoreline, destroys beaches and related habitats and visually impairs coastal areas. The proposed seawall is located on sandy beach area that, if not for the seawall, could be available for public use. The proposed armoring is inconsistent with several Chapter 3 policies of the Coastal Act and, as detailed herein, will cause impermissible adverse impacts to coastal resources that are protected by the Coastal Act, including but not limited to substantial alteration and destruction of natural landforms inconsistent with the requirements of Sections 30251 and 30253. Additionally, although in-lieu mitigation fees can help mitigate sand supply and beach access impacts, by allowing for the purchase of comparable recreational opportunities, these impacts can never be entirely eliminated or mitigated because the existing beach cannot be maintained, new beach cannot be created, and there is no private beach available to acquire. The proposed armoring is nevertheless being approved by the Commission, however, based on the provision of Section 30235 that instructs the Commission to approve a shoreline protective device to protect an existing structure if specified criteria are satisfied.

In such a circumstance, the only applicable basis for the Commission to approve proposed armoring such as this that is otherwise inconsistent with the Coastal Act in these ways is when it is required to protect an existing structure in danger from erosion. If there was no existing structure in danger from erosion and the armoring was not required to protect it, the seawall would be denied. That the project satisfies the tests of Section 30235, and thereby must be authorized despite its other impacts that cannot be fully mitigated, therefore presumes the existence of a legally authorized existing structure that the armoring is required to protect.

Accordingly, one reason to limit the length of a shoreline protective device's development authorization is to ensure that the armoring is only being authorized as long as it is required to protect a legally authorized existing structure. If an applicant must seek reauthorization of the armoring before the structure that it was constructed to protect is demolished or redeveloped, then Section 30235 instructs the Commission to approve the shoreline protective device if it is still required to protect an existing structure in danger of erosion. However, once the existing structure that the armoring is required to protect is demolished or redeveloped, the armoring is no longer authorized by the provisions contained in Section 30235 of the Coastal Act. Accordingly, if there is no existing structure in danger from erosion, then the Commission cannot approve an otherwise inconsistent shoreline protective device relying on the provisions of Section 30235 of the Coastal Act.

In the City of Solana Beach's LUP amendment submittal (SOL-MAJ-1-13**,** to be heard at the November 2013 hearing), the City provided data showing the age of the 53 bluff top homes and whether or not a home has been remodeled and or added sq.

ft. in the past. The data is summarized as follows (**This data has not been verified by Commission staff):

- The average year built is 1970
- The oldest home was built in 1949 and the newest home was built in 1998
- 3 of the homes have been re-constructed in the past 20 years
- 29 of the homes have either remodeled or constructed an addition to the original home
- 24 of the homes have not remodeled or constructed any additions

Due to the age of many of the bluff top structures in Solana Beach, including the subject properties (built between 1952 and 1955), applications for redevelopment and additions to existing homes are reasonably foreseeable and illustrate the importance of regulating shoreline armoring in a manner that ties the authorization period to the existing structure it is designed to protect. In this way, the authorization period tracks the language in section 30235 because that provision allows for protective devices only if it is required to protect the existing home in danger from erosion; once the existing home is no longer there or no longer needs protection, section 30235 does not support the continued existence of the shoreline protection.

As noted, above, the property owner of 355 Pacific Avenue has begun the process to apply for an addition to his home with the City which illustrates the likely trend of future development on some of the bluff top homes in Solana Beach. Given this reasonably foreseeable trend, it is important to ensure that the need for shoreline armoring is evaluated when an applicant proposes an alteration to his or her home to determine if the proposed alteration triggers the end of the authorization period for any shoreline protection that is approved to protect the existing structure being altered and requires removal of that shoreline protection. Notably, there are several coastal resource benefits that would result from the removal of shoreline armoring after the authorization period including, but not limited to, restoration of the bluff's natural visual integrity, removing the seawall's physical impediments to access, allowing the bluff material trapped behind a seawall to return to the littoral cell and potentially restoring marine habitat within the intertidal zone (if the seawall is sited or will be sited in the intertidal zone with rising sea levels).

Another reason to limit the authorization of shoreline protective devices is to ensure that the Commission can properly implement Coastal Act Section 30253 together with Section 30235. If a landowner is seeking new development on a blufftop lot, Section 30253 requires that such development be sited and designed such that it will not require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. Sections 30235 and 30253 prohibit such armoring devices for new development and require new development to be sited and designed so that it does not require the construction of such armoring devices. These sections do not permit landowners to rely on such armoring devices when siting new structures or additions to existing structures on

bluff tops and/or along shorelines. If a shoreline protective device exists in front of a lot, but is no longer required to protect the existing structure it was authorized to protect, it cannot accommodate future redevelopment of the site in the same location relying on the provisions of 30235. Otherwise, if a new structure is able to rely on shoreline armoring which is no longer required to protect an existing structure, then the new structure can be sited without a sufficient setback, perpetuating an unending reconstruction/redevelopment loop that prevents proper siting and design of new development, as required by Section 30253. By limiting the length of development authorization of a new shoreline protective device to the existing structure it is required to protect, the Commission can more effectively apply Section 30253 when new development is proposed. Special Condition 5 defines redevelopment as an addition, renovation, or demolition that results in a 50 percent or greater demolition of a major structural component or a 50 percent increase in floor area, cumulatively over time.

Therefore, as an alternative to limiting the length of development authorization to a specific timeframe, such as twenty years, the Commission here authorizes the proposed armoring in this case coincident with the existing structures it is authorized to protect, and requires the Permittees to obtain a CDP for removal or modification to the terms of authorization of the armoring when the structures it was authorized to protect are demolished or redeveloped. In this manner, new development will not be able to rely on armoring that no longer meets the provisions of Section 30235 of the Coastal Act.

In terms of impact mitigation for the approved project, and as discussed further below, the in-lieu fees designed to mitigate for the impacts associated with the proposed shoreline protection system have used a 20-year time period to calculate passive erosion and sand retention impacts, both of which are tied to the future rates of erosion and are time dependent. In addition, in this particular case, 20 years is the projected design life of the seawall proposed by the applicant. These impacts will continue to occur, though, for the full time that the approved system is in place, including beyond twenty years if it continues to be necessary to protect the existing endangered structures identified. And as such, additional mitigation will be required after the 20-year period. In this particular case and as will be discussed in a subsequent section of this report, due to the fact that the existing seawall was approved via an emergency permit by the Commission on April 13, 2005 and constructed soon thereafter, the 20 year mitigation period commenced on April 13, 2005. Therefore, the 20 year mitigation period ends on April 13, 2025.

Using a twenty-year period for initial impact mitigation is appropriate in this case. Such initial twenty-year mitigation framework uses available information on historic trends for the projection of future erosion. In siting new development, proposed setbacks attempt to anticipate future acceleration of erosion through using the highest historic erosion rate or by developing relationships between erosion and sea level. And, on an eroding coastline, if the proposed erosion rate is higher than the actual rate, the result is only that the development will be safe from erosion for

a longer time period than initially assumed. However, for shoreline armoring mitigation, the Commission has often based the fee calculations upon average or moderate historic erosion rates so that the mitigation is unlikely to cover unanticipated impacts over the mitigation period (e.g., associated with higher actual erosion rates and associated problems than anticipated and applied in a mitigation context). While the erosion rates used for mitigation calculations in this case can be expected to provide a reasonable estimate of future erosion for the coming one or two decades, projections much farther into the future are far more uncertain. And, the uncertainty concerning future erosion only increases with time. Using a time period of twenty years for the mitigation calculations ensures that the mitigation will cover the likely initial impacts from the seawall, and then allows a recalculation of the impacts based on better knowledge of future erosion rates and associated impacts accruing to the armoring when the twenty years is up. Efforts to mitigate for longer time periods would require the use of much higher erosion rates and would bring a higher amount of uncertainty into a situation where a single, long-term mitigation effort is not necessary to be effective. Regardless, in this particular case, the mitigation is based on the 20 design-life of the proposed shoreline armoring.

Therefore, Special Condition 4 ties the length of development authorization to the timeframe of the structure being protected and requires the Applicants to submit an application for a new CDP to remove or modify the terms of authorization of the armoring when the currently existing structures warranting armoring are redeveloped, are no longer present, or no longer require armoring. It may be the case that reliance of adjacent structures on the subject shoreline armoring may make removal of the subject shoreline armoring infeasible at the termination of the authorization for the shoreline armoring. If the subject shoreline armoring must be retained, a new CDP could be approved with a term of authorization that requires reassessment and removal of the shoreline armoring at the earliest feasible opportunity.

However, since the in-lieu mitigation fees are calculated based on the first twenty years of impact proposed as the design-life (again see Mitigation of Shoreline Sand Supply Impacts Section below), Special Condition 4 also requires the Applicants to submit an application for a permit amendment prior to the expiration of the twenty-year period proposing mitigation to address the impacts of the armoring beyond the twenty-year period.

Special Condition 10 requires that the applicant inform the Executive Director of any changes to the project required by other agencies and Special Condition 16 clarifies that, unless otherwise provided, the conditions of this permit have no effect on those imposed by the City of Solana Beach pursuant to an authority other than the Coastal Act.

Designed to Eliminate or Mitigate Sand Supply Impacts

The fourth test of Section 30235 (previously cited) that must be met in order to allow Commission approval is that shoreline structures must be designed to

eliminate or mitigate adverse impacts to local shoreline sand supply. As described in the Public Access/Recreation and Sand Supply Mitigation findings later in the staff report, the applicants have proposed to pay a sand supply mitigation fee for the volume of sand that will be prevented from reaching the public beach and littoral cell as a result of the proposed shoreline armoring during the expected design life of the shoreline armoring. The sand supply fee serves as mitigation for the sand retention impacts in this case.

Thus, as conditioned, the project meets all Section 30235 tests for allowing such armoring.

Long-Term Stability, Maintenance, and Risk

Coastal Act Section 30253 requires the project to assure long-term stability and structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. For the proposed project, the main Section 30253 concern is assuring long-term stability. This is particularly critical given the dynamic shoreline environment within which the proposed project would be placed. Also critical to the task of ensuring long-term stability, as required by Section 30253, is a formal long-term monitoring and maintenance program. If the shoreline armoring is damaged in the future (e.g. as a result of landsliding, wave action, storms, etc.) it will lead to a degraded public access condition by resulting in debris on the beach and/or creating a hazard to the public using the beaches or ocean.

Therefore, in order to find the proposed project consistent with Coastal Act Section 30253, the proposed project must be maintained in its approved state. Further, in order to ensure that the applicants and the Commission know when repairs or maintenance are required, the applicants must regularly monitor the condition of the approved project, particularly after major storm events. Such monitoring will ensure that the applicants and the Commission are aware of any damage to or weathering of the armoring and other project elements and can determine whether repairs or other actions are necessary to maintain the project in its approved state before such repairs or actions are undertaken. To assist in such an effort, monitoring plans should provide vertical and horizontal reference distances from armoring structures to surveyed benchmarks for use in future monitoring efforts. In addition, Special Condition 9 requires that the applicants verify that the proposed structures are built to sufficiently withstand storms comparable to the winter storms of 1982-83 that took place in San Diego County.

To ensure that the proposed project is properly maintained to ensure its long-term structural stability, Special Condition 6, requires monitoring and reporting plans. Such plans shall provide for evaluation of the condition and performance of the proposed project and overall bluff stability, and shall provide for necessary maintenance, repair, changes or modifications. The applicants are required to maintain the project in its approved state, subject to the terms and conditions identified by the special conditions. Such future monitoring and maintenance activities must be understood in relation to clear as-built plans. Therefore, Special Condition 1 and 13 of this approval requires the submittal of revised final and as-

built plans.

In terms of recognizing and assuming the hazard risks for shoreline development, the Commission's experience in evaluating proposed developments in areas subject to hazards has been that development has continued to occur despite periodic episodes of heavy storm damage and other such occurrences. Development in such dynamic environments is susceptible to damage due to such long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) in the millions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden for damages onto the people of the State of California, Applicants are regularly required to acknowledge site hazards and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed. Accordingly, this approval is conditioned for the applicants to assume all risks for developing at this location (see Special Condition 15).

To ensure that future property owners are properly informed regarding the terms and conditions of this approval, this approval is also conditioned for a deed restriction to be recorded against the properties involved in the application (see Special Condition 18). This deed restriction will record the conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the property.

Conclusion
In this case and for this site and this fact set, the proposed project, as conditioned, can be found consistent with Coastal Act Sections 30235 and 30253 because it is required to protect existing structures that are in danger, is the least damaging feasible alternative and is designed to eliminate or mitigate impacts on shoreline sand supply. However, the proposed 3 caissons are not necessary to provide protection and therefore are required to be deleted from the project. The sand supply in lieu fee helps mitigate for the loss of sand to the littoral cell due to retention in this case. These fees and additional aforementioned special conditions mitigate the identified impacts to the extent feasible, consistent with the requirements of Section 30235.

C. VISUAL RESOURCES

Sections 30240, 30250 and 30251 of the Coastal Act require that the scenic and visual qualities of coastal areas be protected, that new development adjacent to park and recreation areas be sited so as to not degrade or impact the areas and that new development not significantly adversely affect coastal resources:

Section 30240

[. . .]

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30250 (a)

a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

Section 30251

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 land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

In addition, the following certified City of Solana Beach LUP language, although not the standard of review, can provide pertinent information and guidance regarding the protection of coastal zone visual resources:

Policy 4.30*: Limit buildings and structures on the sloped face and toe of the bluff to lifeguard towers, subsurface public utility drainage pipes or lines, bluff retention devices, public stairs and related public infrastructure which satisfy the criteria established in the LCP. No other permanent structures shall be permitted on a bluff face. Such structures shall be maintained so that they do not contribute to further erosion of the bluff face and are to be visually compatible with the surrounding area to the maximum extent feasible.*

Policy 4.39*: Maximize the natural, aesthetic appeal and scenic beauty of the beaches and bluffs by avoiding and minimizing the size of bluff retention devices, preserving the maximum amount of unaltered or natural bluff face, and minimizing encroachment of the bluff retention*

device on the beach, to the extent feasible, while ensuring that any such bluff retention device accomplishes its intended purpose of protecting existing principal structures in danger from erosion.

***Policy 4.57**: To achieve a well maintained, aesthetically pleasing, and safer shoreline, coordination among property owners regarding maintenance and repair of all bluff retention devices is strongly encouraged. This may also result in cost savings through the realization of economies of scale to achieve these goals by coordination through an assessing entity. All bluff retention devices existing as of the date of certification of the LCP, to the extent they do not conform to the requirements of the LCP, shall be deemed non-conforming. A bluff property owner may elect to conform his/her/its bluff property or bluff retention device to the LCP at any time if the City finds that an existing bluff retention device that is required to protect existing principal structures in danger from erosion is structurally unsound, is unsafe, or is materially jeopardizing contiguous private or public principal structures for which there is no other adequate and feasible solution, then the City may require reconstruction of the bluff retention device.*

Analysis

Much of the bluff along the Solana Beach coastline has been armored at its base, primarily by seawalls, many of which have not been camouflaged to replicate the look of a natural bluff face. The properties adjacent to the north and south of the subject site contain tiedback concrete seawalls, which are similar in design and appearance to the seawall proposed by the applicants.

The subject development proposal involves the construction of a 150 ft. long, 35 ft. high seawall and a mid and upper bluff geogrid structure made up of multiple layers of plastic which are tied into the bluff using concrete grade beams, soils nails and then topped with soil. The soil is then proposed to be planted with native vegetation in an attempt to mitigate the appearance of the man-made reconstructed bluff face. The geogrid structure is proposed to include an approximately 36 ft.-long keystone wall on the northern property line of the project site. The lateral wall extends from the proposed 35 ft. high seawall up the bluff face to the top of the bluff. In addition, three below grade underpinning caissons currently exist at the site. Although the underpinning caissons cannot be removed at this time, Special Condition 1, requires that revised plans note that they are unpermitted and a CDP will be required if they are proposed or required to be removed in the future. The caissons are not necessary to provide protection to the existing residential structure given approval of the seawall and geogrid reinforced slope reconstruction. This section analyzes visual impacts of a seawall, geogrid structure covering the entire mid and upper bluff, and a lateral return wall.

Immediately south of the subject site, a 35 ft. high seawall and geogrid structure with a keystone retaining wall that reaches to the top of the bluff has been constructed on the bluff face beneath two existing residences (CDP 6-02-002/Gregg

& Santina). The geogrid structure below 333 and 347 Pacific Avenue was hydroseeded to mask its appearance; however, the hydroseeding was of limited success and the face of the bluff below the two properties is relatively barren and appears as a flat (1:1 slope) unnatural surface.

To the north of the subject site, at 357 Pacific Avenue, the Commission approved the construction of a 35 ft.-high seawall and an upper bluff below-grade caisson retention system. The property owner to the north of the subject site has applied for a CDP to construct additional armoring of the mid and upper bluff face. Substantial landscaping will be required to be installed and maintained so as to help mask the unnatural appearance of the geogrid structure (Ref. CDP No. 6-02-084-A3/Ocean Ventures, LLC.). It is anticipated that the CDP will be heard by the Commission at the same Commission meeting as this item (November 2013).

The Commission has previously approved several geogrid structures along the Solana Beach shoreline after the applicants demonstrated that, along with a seawall, the geogrid structures were necessary to protect the existing development. Geogrid structures have only been approved by the Commission in conjunction with or following the construction of seawalls since without lower support and encapsulation of the clean sands lens the geogrid structures would fail. In each case, the Commission has required that the structures be designed to be as natural in appearance as possible using undulating features instead of simply a flat surface and the addition of native landscaping to cover the surface. In each case along the Solana Beach shoreline, the final products have not been constructed as undulating and the landscaping has failed to thrive (ref. CDP Nos. 6-99-100/Colton, et. al, 6-02-2/Gregg, 6-04-83/Cumming, 6-03-33-A5/Surfsong, 6-06-37-G/Totten, et. al. and 6-08-122/Winkler). In addition, each of these approved and installed geogrid systems have not been maintained as required and elements of their structures have become exposed resulting in additional adverse visual impacts. As the subject applicant's own engineer has previously identified:

> Landscaping has been limited to hydroseed treatments, with very little of the mixture actually taking root. The result has been near-barren, featureless slopes which have little in common with the visual appearance of pre-failure coastal bluffs (Ref. Letter from Soil Engineering Construction, Inc., dated October 14, 2009).

In the case of the approved geogrid structure 2 properties to the north of the subject site at 365-371 Pacific Avenue, the Commission required a more extensive landscape plan be submitted to assure the geogrid structure will be adequately landscaped. Although this geogrid structure on the bluff face does appear more natural than previously approved geogrid structures, it still results in an adverse visual impact to the bluff. The subject applicants have proposed to install extensive landscaping, including container plants and hydroseeding, throughout the proposed geogrid structure, similar to the landscaping that has been installed on a geogrid structure of the properties to the north. If geogrid structures are installed with elements of undulation and extensive landscaping, and if the structures are

maintained on a regular basis, then the adverse visual impacts associated with their construction might be reduced, but even with these features, they do not look "natural." At this time, the Commission has not been afforded substantial evidence that geogrid structures in the City of Solana Beach can be installed and properly maintained without significant adverse visual impacts to the shoreline.

The proposed seawall and geogrid structure introduce new massing into the viewshed as compared to the natural bluff face, but the seawall is encapsulated in a faux bluff design and extensive landscaping is proposed on the geogrid structure that attempts to approximate the look of natural bluffs in the vicinity. The camouflaging treatment is required to reduce the visual impacts of this massive new seawall and mid and upper bluff geogrid structure in this area, although it still presents a significant change from the appearance of a natural bluff. The applicants proposed to design and construct the seawall to mimic, blend and be compatible with the surrounding natural landform to the maximum extent feasible, including in texture and color to create the concrete facing of the proposed seawall to approximate natural bluffs. When done correctly, such sculpting can help to camouflage large slabs of concrete, although even then, there may be a significant change to the current natural aesthetic; when done poorly, however, it just reinforces the unnatural element present in the back beach area. This approval is conditioned to ensure that the seawall and geogrid reinforced slope reconstruction is made to mimic natural undulating bluff landforms in the vicinity in terms of integral mottled color, texture, and undulation to the maximum extent feasible (Special Condition 1). As shown by the current site photographs, the vertical seawall construction is now complete and, for the most part, effectively blends in with the existing natural bluff face. However, the geogrid structure continues to create a severe adverse visual impact.

Thus, the seawall and the geogrid structure are inconsistent with Coastal Act policies that require protection of public views, minimization of alteration of natural landforms and prevention of impacts to recreational areas. But because the shoreline armoring must otherwise be approved under Section 30235 of the Coastal Act, these adverse impacts have been mitigated to the extent feasible, by the conditions requiring that it be designed to mimic the look of natural bluffs. The subject site currently also has a geogrid structure on the mid and upper bluff face above the seawall that was temporarily approved per emergency permits. The existing geogrid is barren of vegetation and appears as an unnatural 1:1 artificial slope. In addition, a lateral keystone wall exists that also results in significant adverse visual impacts. Special Condition 1 requires that the lateral return wall be lowered to the extent feasible and also requires that the existing geogrid be undulated to more closely mimic a natural bluff face. The applicants' representative has agreed that undulation of the existing geogrid structure is possible and has provided initial plans and a simulation. The applicants have also proposed an extensive landscaping plan for the geogrid structure that will be undertaken in coordination with the property to the north at 357 Pacific Avenue.

The reconstruction of bluffs as a preferred alternative in conjunction with seawalls raises concerns that the coastal bluffs along most of the Solana Beach Shoreline could eventually be structurally fortified from toe to top of bluff, thereby eliminating most of the City's naturally occurring bluffs. Although much of the Solana Beach shoreline does contain seawalls at the base of the bluff, the natural, largely unaltered, face of the bluff that extends along the approximately 1 ½ mile long shoreline in Solana Beach provides an important visual amenity to residents and coastal visitors alike. Its reconstruction by artificial means would significantly and adversely affect the recreational experience at the shoreline. At the least, such an approach is premature because each of the geogrid structures installed to date have failed to adequately mitigate their visual obtrusiveness and have not been adequately maintained.

As discussed above, the proposed project will create significant adverse visual impacts to views to and along the ocean. In addition, it does not protect scenic visual qualities of coastal areas, nor does it minimize alteration of natural landforms. Given that the project must be approved under coastal act section 30235, however, the commission is requiring special conditions to mitigate these adverse impacts to the extent feasible consistent with the requirements of section 30235.

D. PUBLIC ACCESS/RECREATION AND SAND SUPPLY MITIGATION

Pursuant to Section **30604 (c)**, the Coastal Act emphasizes the need to protect public recreational opportunities and to provide public access to and along the coast. Section **30210** of the Coastal Act is applicable to the proposed development and states:

> *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.*

In addition, Section **30212** of the Act is applicable and states, in part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*
>
> *(l) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,*
>
> *(2) adequate access exists nearby....*

Additionally, Section **30220** of the Coastal Act provides:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

The City's certified LUP polices related to public access state:

***Policy 4.18**: A legally permitted bluff retention device shall not be factored into setback calculations. Expansion and/or alteration of a legally permitted bluff retention device shall include a reassessment of the need for the shoreline protective device and any modifications warranted to the protective device to eliminate or reduce any adverse impacts it has on coastal resources or public access, including but not limited to, a condition for a reassessment and reauthorization of the modified device in 20 years.*

***Policy 4.15**: Implement a City-wide, long-term comprehensive shoreline management strategy which includes, but is not limited to, the following:*

- *An examination of local and regional long-term erosion rates and trends in order to reflect and plan for shoreline changes.*
- *An examination of mean sea level elevation trends and future sea level rise projections in order to include these conditions in future erosion rates and to plan for potential shoreline changes.*
- *Standard plans defining the preferred bluff retention solutions that would be acceptable or preferable, and where appropriate, identification of the types of armoring that should be avoided for certain areas or beaches in order to minimize risks and impacts from armoring to public access and scenic resources along the shoreline and beach recreation areas…*

***Policy 4.52:** The bluff property owner shall pay for the cost of the coastal structure or Infill and pay a Sand Mitigation Fee and a Public Recreation Fee per Policy 4.40. These mitigation fees are not intended to be duplicative with fees assessed by other agencies. It is anticipated the fees assessed as required by this LCP will be in conjunction with, and not duplicative with, the mitigation fees typically assessed by the CCC and the CSLC for impacts to coastal resources from shoreline protective devices.*

Sand Mitigation Fee - to mitigate for actual loss of beach quality sand which would otherwise have been deposited on the beach. For all development involving the construction of a bluff retention device, a Sand Mitigation Fee shall be collected by the City which shall be used for beach sand replenishment and/or retention purposes. The mitigation fee shall be deposited in an interest-bearing account designated by the City Manager of Solana Beach in lieu of providing sand to replace the

sand that would be lost due to the impacts of any proposed protective structure. The methodology used to determine the appropriate mitigation fee has been approved by the CCC and is contained in LUP Appendix A. The funds shall solely be used to implement projects which provide sand to the City's beaches, not to fund other public operations, maintenance, or planning studies.

Public Recreation Fee – Similar to the methodology established by the CCC for the sand mitigation fee, the City and the CCC are jointly developing a methodology for calculating a statewide public recreation fee. To assist in the effort, the City has shared the results of their draft study with the CCC to support their development of a uniform statewide Public Recreation / Land Lease Fee. Until such time as an approved methodology for determining this fee has been established, and the methodology and payment program has been incorporated into the LCP through an LCP amendment, the City will collect a $1,000 per linear foot interim fee deposit. In the interim period, CCC will evaluate each project on a site-specific basis to determine impacts to public access and recreation, and additional mitigation may be required. The City shall complete its public recreation/land lease fee study within 18 months of effective certification of the LUP.

The project site is located on a public beach owned and administered by the City of Solana Beach and is utilized by local residents and visitors for a variety of recreational activities such as swimming, surfing, jogging, walking, surf fishing, beachcombing and sunbathing. The site is located approximately ¼ mile north of Fletcher Cove, the City' primary beach access location, and approximately ¼ mile south of Tide Beach Park public stairway.

The proposed seawall will extend 2 ft. seaward of the toe of the bluff. In addition, the beach along this area of the coast is narrow, and at high tides and winter beach profiles, the public may be forced to walk virtually at the toe of the bluff or the area could be impassable. As such, an encroachment of any amount especially 2 ft. for a length of 150 feet, onto the sandy beach reduces the small beach area available for public use and is therefore a significant adverse impact. This is particularly true given the existing beach profiles and relatively narrow beach where access is sometimes only available at low tides. In addition, however, were it not for the seawall and infill structure, the seaward face of the bluff would naturally recede, making additional beach area available for public use. During a 20 year period, as the beach area available to the public is reduced, dry sandy beach will become less available seaward of the seawall such that beachgoers will not want to sit or lay a towel in this area. In addition, over time, if the remaining unprotected bluffs in the vicinity of the project site are not permitted to recede, and seawalls are also constructed along the entire shoreline, such structures will likely impede or completely eliminate public access to the beach at the subject site.

Development along the shoreline which may burden public access in several respects has been approved by the Commission. However, when impacts cannot be avoided and have been reduced to the maximum extent feasible, mitigation for any remaining adverse impacts of the development on access and public resources is required. The Commission's permit history reflects the experience that development can physically impede public access directly, through construction adjacent to the mean high tide line in areas of narrow beaches, or through the placement or construction of protective devices, seawalls, rip-rap, and revetments. Since physical impediments adversely impact public access and create a private benefit for the property owners, the Commission has found in such cases (in permit findings of CDP 4-87-161,Pierce Family Trust and Morgan; CDP 6-87-371, Van Buskirk; CDP 5-87-576, Miser and Cooper; CDP 3-02-024, Ocean Harbor House; 6-05-72, Las Brisas, 6-07-133/Li, 6-07-134/Caccavo, 6-03-33-A5/Surfsong, 6-08-73/DiNoto, et.al, 6-08-122/Winkler, 6-09-033/Garber et. al.) that a public benefit must arise through mitigation conditions in order for the development to be consistent with the access policies of the Coastal Act, as stated in Sections 30210, 30211, and 30212.

Appropriate mitigation for the subject development would be creation of additional public beach area in close proximity to the impacted beach area. However, all of the beach areas in Solana Beach are already in public ownership such that there is not private beach area available for purchase. In addition to the more qualitative social benefits of beaches (recreational, aesthetic, habitat values, etc.), beaches provide significant direct and indirect revenues to local economies, the state, and the nation. There is little doubt that the loss of sandy beach area in an urban area such as Solana Beach represents a significant impact to public access and recreation, including a loss of the social and economic value of this recreational opportunity. The question becomes how to adequately mitigate for these qualitative impacts on public recreational beach use and in particular, how to determine a reasonable value of this impact to serve as a basis for mitigation.

In the past ten to fifteen years, the Commission has approved the construction of shoreline devices in San Diego County when they are necessary to protect an existing primary structure and when mitigation is provided according to a formula that the Commission developed to address some of the more easily quantifiable effects on local sand supply, as required by Section 30235 of the Coastal Act. In each of those decisions, the Commission recognized that the mitigation in the form of an in-lieu fee paid for the purchase of sand to offset the sand lost by the shoreline structure, provided some, but not all mitigation, associated with the adverse impacts of shoreline devices.

In recent years, the Commission has sought additional ways to quantify the adverse impacts to public access and recreation that result from shoreline protective devices and, thereby, develop more appropriate mitigation for those impacts. However, except in a few cases, the Commission has been unable to adequately quantify those impacts and thus has been unable to accurately evaluate the economic loss to public access/recreation associated with necessary shoreline protection projects.

However, as a filing requirement for seawall applications, applicants have been asked to address the adverse impacts of shoreline devices on public access and recreation opportunities and to consider ways those impacts could be mitigated. Mitigation might be in the form of a particular public access or recreational improvement to be located in close proximity to the project or might involve an in-lieu fee to be used sometime in the future for a public access/recreation improvement. In this case, because an established mitigation program is not in place, the applicants are proposing that the Commission make use of the methodology recently utilized for an in-lieu fee program adopted by the City of Solana Beach that addresses impacts of shoreline devices on public access/recreation and on sand supply.

In June of 2007, the City of Solana Beach adopted an interim in-lieu fee program to mitigate the adverse impacts associated with shoreline devices (Ref. Resolution 2007-042, City of Solana Beach). The program has been designed as "interim" in that until the City completes and the Commission certifies as part of an LCP a more precise way to determine impacts to public access and recreation from shoreline armoring. As such, the City's program requires the $1,000.00 per linear foot fee be assessed in the interim and requires an applicant to agree to modifications to the fee once the economic study is complete and certified and a more site specific fee is assessed. According to the City's program, the monies collected through the mitigation program will be directed for City use for public access and recreational projects. The applicants have proposed payment into the City's program as mitigation for adverse impacts of the proposed development on public access and recreation.

In the case of several recent seawall projects in the City of Solana Beach, the Commission has accepted the applicants' proposals for interim mitigation pursuant to the City of Solana Beach's program. As such, the recent seawall projects (Ref. CDP Nos. 6-07-134/Caccavo, 6-03-33-A5/Surfsong, 6-08-73/DiNoto, et. al., 6-08-122/Winkler, and 6-09-033/Garber et. al.) approved by the Commission in Solana Beach have been conditioned to require the payment of $1,000 per linear ft. to the City of Solana Beach as an interim temporary fee until the City completes and adopts and the Commission certifies a program which is intended to more accurately assess the financial impacts of shoreline devices on public access and recreation opportunities. Each of these recent coastal development permits for seawalls were also conditioned to require the applicants to apply for an amendment to their coastal development permit within 6 months of the Commission's certification of the City's economic study in order to reassess the in-lieu mitigation fee.

The Commission recently certified the City's Land Use Plan. The City's mitigation program to address loss of sand and public access/recreation will be included as part of the City's Implementation Plan, which will be reviewed by the Commission. The Commission's acceptance, in this case, of the applicants' proposed mitigation for the loss of public access and recreational opportunities associated with the

subject seawall should not be seen as Commission approval of a final mitigation plan. Instead, due to the lack of sufficient information concerning the economic loss to public access/recreation from the proposed shoreline armoring, the Commission agrees to accept the applicants' proposal, and requires them to pay the City's interim fee, until such time that the City completes a program and the Commission has certified the City's mitigation program through adoption of an LCP. In order to ensure that any subsequent modification of this mitigation fee is consistent with the Chapter 3 policies of the Coastal Act, the Commission imposes Special Condition 3, requiring the applicants to submit an application for an amendment to this permit to the Commission if the final mitigation fee certified as part of the LCP is different than the proposed $150,000 interim fee. The appropriateness of any reduction or increase in the fee amount will be addressed by the Commission at that time to assure compliance with the Coastal Act and the City's LCP.

The City's draft economic study provides information such as the number of beach users throughout the year, what the economic value of a "day at the beach" is, quantification of beach area lost over time and other information which can assist the Commission to more accurately estimate the economic loss associated with seawall devices. However, while the Commission is accepting payment into the City's program with this application, the Commission has not yet had the opportunity to review and address the City's mitigation program as a whole in the context of the LCP and as such, makes it clear that in approving the applicants' proposed mitigation, the Commission is not approving the City's interim ordinance or the findings of the as yet unfinished economic study.

- ***Shoreline Processes***

Beach sand material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs, becoming beach material when the bluffs or dunes lose material due to wave attack, landslides, surface erosion, gullying, etc. Many coastal bluffs are marine terraces – ancient beaches that formed when land and sea levels differed from current conditions. Since the marine terraces were once beaches, much of the material in the terraces is often beach-quality sand or cobble, and is a valuable contribution to the littoral system when it is added to the beach. While beaches can become marine terraces over geologic time, the normal exchange of material between beaches and bluffs is for bluff erosion to provide beach material. Bluff retreat and erosion is a natural process resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse of caves, saturation of the bluff soil from groundwater causing the bluff to slough off, and natural bluff deterioration. When the back-beach or bluff is protected by a shoreline protective device, the natural exchange of material either between the beach and dune or from the bluff to the beach will be interrupted and, if the shoreline is eroding, there will be a measurable loss of material to the beach. Since sand and larger grain material are the most important components of most beaches, only the sand portion of the bluff or dune material is quantified as sandy beach material.

These natural shoreline processes affecting the formation and retention of sandy beaches can be significantly altered by the construction of shoreline armoring structures because bluff retreat is one of several ways that beach quality sand is added to the shoreline, and is also one of the critical factors associated with beach creation/retention. Bluff retreat and erosion are natural processes that result from the many different factors described above. Shoreline armoring directly impedes these natural processes.

The project site is located in Solana Beach where average annualized bluff erosion rates are best estimated at 0.15 to 0.47 feet per year (Benumof and Griggs, 1999). However, as previously indicated, this is an average annualized rate; actual erosion is more episodic, and can increase dramatically as a result of winter storm events and sections of bluff material can slough several feet at a time. This erosion rate may be re-evaluated at a future date. This sandy beach material is carried off and redistributed through wave action along the shoreline and serves to nourish the beaches.

Some of the effects of engineered armoring structures on the beach (such as scour, end effects and modification to the beach profile) are temporary or are difficult to distinguish from all the other actions that modify the shoreline. Others are more qualitative (e.g., impacts to the character of the shoreline and visual quality). Some of the effects that a shoreline structure may have on natural shoreline processes can be quantified, however, including: (1) the loss of the beach area on which the structure is located; (2) the long-term loss of beach that will result when the back-beach location is fixed on an eroding shoreline; and (3) the amount of bluff material that would have been supplied to the littoral system if the back-beach or bluff were to erode naturally to renourish beach areas nearby with eroded bluff material.[7]

- **Encroachment on the Beach**

Shoreline protective devices are all physical structures that occupy space. When a shoreline protective device is placed on a beach area, the underlying beach area cannot be used as beach. This generally results in the privatization of the public beach and a loss of space in the public domain such that the public can no longer access that public space. The encroachment also results in a loss of sand and/or areas from which sand generating materials can be derived. The area where the structure is placed will be altered from the time the protective device is constructed, and the extent or area occupied by the device will remain the same over time, until the structure is removed or moved from its initial location. The beach area located beneath a shoreline protective device, referred to as the encroachment area, is the area of the structure's footprint. In this case, the seawall will cover approximately 300 sq. ft. (150 ft.-long * 2 ft.-wide) of sandy beach area.

[7] The sand supply impact refers to the way in which the project impacts creation and maintenance of beach sand. Although this ultimately translates into beach impacts, the discussion here is focused on the first part of the equation and the way in which the proposed project would impact sand supply processes.

- **Fixing the back beach**

Coastal shoreline experts generally agree that where the shoreline is eroding and armoring is installed, the armoring will eventually define the boundary between the sea and the upland. On an eroding shoreline, a beach will exist between the shoreline/waterline and the bluff as long as sand is available to form a beach. As bluff erosion proceeds, the profile of the beach also retreats and the beach area migrates inland with the bluff. This process stops, however, when the backshore is fronted by a hard protective structure such as a revetment or a seawall. While the shoreline on either side of the armor continues to retreat, shoreline in front of the armor eventually stops at the armoring. This effect is also known as passive erosion. The beach area will narrow, being squeezed between the moving shoreline and the fixed backshore. Eventually, there will be no available dry beach area and the shoreline will be fixed at the base of the structure. In the case of an eroding shoreline, this represents the loss of a beach as a direct result of the armor.

In addition, sea level has been rising for many years. Also, there is a growing body of evidence that there has been an increase in global temperature and that acceleration in the rate of sea level rise can be expected to accompany this increase in temperature (some shoreline experts have indicated that sea level could rise 4.5 to 6 feet by the year 2100[8]). Mean sea level affects shoreline erosion in several ways, and an increase in the average sea level will exacerbate all these conditions. On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore, leading to a faster loss of the beach as the beach is squeezed between the landward migrating ocean and the fixed backshore.

Such passive erosion impacts can be calculated over the time. As described previously, a time period of twenty years for the mitigation calculations will be used in this case as that is the estimated design life of the seawall. The twenty year time frame, which terminates on April 13, 2025, ensures that the mitigation will cover the likely initial impacts from the seawall, and then allows a recalculation of the impacts based on better knowledge of future erosion rates and associated impacts accruing to the armoring when the twenty years is up.

The passive erosion impacts of the seawall, or the long-term loss of beach due to fixing the back beach, is equivalent to the footprint of the bluff area that would have become beach due to erosion and is equal to the long-term average annual erosion

[8] The California Climate Action Team has evaluated possible sea level rise for the California coast and, based on several of the Intergovernmental Panel on Climate Change (IPCC) scenarios, projected sea level rise up to 1.4 meters (4.5 feet) by 2100. In 2011, the Ocean Protection Council adopted interim guidance on sea level rise that recommends state agencies consider similar amounts of sea level rise for deliberations on coastal projects (http://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20110311/12.SLR_Resolution/SLR-Guidance-Document.pdf, last consulted April 15, 2012). These projections are in line with 2007 projections by Stefan Rahmstorf ("A Semi-Empirical Approach to Projecting Future Sea-Level Rise", *Science*; Vol 315, 368 – 370) and by Vermeer and Rahmstorf ("Global sea level linked to global temperature", PNAS; 106 no. 51, 21527-21532). Research by Pfeffer et al. ("Kinematic Constraints on Glacier Contributions to 21st-Century Sea-Level Rise", *Science*, Vol, 321, 1340 – 1343) projects up to 2 meters of sea level rise by 2100.

rate multiplied by the width of property that has been fixed by a resistant shoreline protective device.[9] In this case, the seawall, that is proposed to be constructed, runs along the entire 150 ft. length of the properties at 341-355 Pacific Avenue. For purposes of determining the impacts from fixing the back beach; it is assumed that new beach area would result from landward retreat of the bluff.

The area affected by passive erosion can be approximated by multiplying the 150 linear feet of bluff, which is proposed to be armored, by the annual expected erosion rate. The applicant's geotechnical consultant estimated the average bluff recession for this site at 0.3 feet per year. Therefore the average impacts from fixing the back beach will be the annual loss of 45 square feet of beach. Over a 20-year period, this would result in a loss of 900 sq. ft. of beach that would have been created if the back beach had not been fixed by the seawall.

- **Retention of Potential Beach Material**

If natural erosion were allowed to continue (absent shoreline armoring structures), some amount of beach material would be added to the beach at this location, as well as to the larger littoral cell sand supply system fronting the bluffs. The volume of total material that would have gone into the sand supply system over the lifetime of the shoreline structure would be the volume of material between (a) the likely future bluff-face location with shoreline protection; and (b) the likely future bluff-face location without shoreline protection. Since the main concern is with the sand component of this bluff material, the total material lost must be multiplied by the percentage of bluff material which is beach sand, giving the total amount of sand that would have been supplied to the littoral system for beach deposition if the proposed device were not installed. The applicants indicate (and the Commission's Senior Coastal Engineer concurs) that sand retention impact over the next 20 years is roughly equal to 79 cubic yards of sand per year for the seawall. Over the course of the 20 years, this equates to a retention impact of about 1,579 cubic yards of beach quality sand.

The applicants have proposed to make a contribution to the mitigation program that would address the sand volume impacts from denial of sand to the littoral cell as a result of passive erosion, as discussed above. The applicants applied the calculations that the Commission has used for the past decade to estimate mitigation for this impact. Since the impacts from encroachment and fixing the back beach are being covered through estimates for recreational beach losses, the In-Lieu Beach Sand Mitigation calculations applied in this analysis only address the value of the sand that will not be contributed by the bluffs to the littoral cell due to the construction of the seawall. The amount of beach material that would have been added to the beach if natural erosion had been allowed to continue at the site for a period of 20 years from the date of approval by the Commission (April 13, 2005) has been calculated to be approximately 1,579 cubic yards. At estimated sand cost

[9] The area of beach lost due to long-term erosion (Aw) is equal to the long-term average annual erosion rate (R) times the number of years that the back-beach or bluff will be fixed (L) times the width of the property that will be protected (W). This can be expressed by the following equation: Aw = R x L x W. The annual loss of beach area can be expressed as Aw' = R x W.

of $13.85 per cubic yard (provided by the applicant, and based on three estimates from local contractors); this sand would have a value of $21,864.72 (Appendix B).

Beach and Sand Supply Impacts Conclusion

The project impacts over a 20-yeartime period from 2005 through 2025 are 300 square feet of beach lost due to encroachment, 900 square feet of beach area that will be "lost" through passive erosion of fixing the back beach, and 1,578 cubic yards of sand that would be retained behind the seawall. It has proven difficult over the years to identify appropriate mitigation for such impacts. Partly, this is because creating an offsetting beach area is not an easy task, and finding appropriate properties that could be set aside to become beach area over time (through natural processes, including erosion) is difficult both due to a lack of such readily available properties and the cost of such coastal real estate more broadly. As a proxy, other types of mitigation for such direct sand supply impacts include in-lieu fees and/or beach nourishment, and in some cases compensatory beach access improvements.

In this case, and as described, it is appropriate to mitigate for the project's beach and sand supply adverse impacts in two ways: firstly by addressing the beach area itself that would be lost due to encroachment (300 sq. ft.) and passive erosion (900 sq. ft.) through an in-lieu fee that is based on the City's interim deposit guidelines; and secondly, by addressing the sand retention loss through the provision of an in lieu fee based on the cost replace the retained sand. The interim in-lieu fee for public access and recreation impacts shall be deposited in a Shoreline Account established by the City and the in-lieu sand mitigation fee shall be deposited in a beach sand replenishment fund established by the San Diego Association of Governments (SANDAG).

The volume of sand that is calculated by the Beach Sand In-lieu Fee Mitigation Program currently utilized by the Commission is the quantification of the direct impacts to the existing recreational beach from the proposed seawall project. The mitigation that has been proposed by the applicants and recommended as a special condition for this project includes quantification of the impacts from wall resulting in denial of sand to the littoral cell. The purpose of the Beach Sand In-Lieu Fee Mitigation Program is to mitigate for the small, persistent loss of recreational beach such as will result from the proposed project by placing funds into a program that will be used for placement of sand on the beach in this area. This Beach Sand In-Lieu Fee Mitigation Program is administered by the San Diego Association of Governments (SANDAG) and has been in place in San Diego County for many years.

The project's direct encroachment and passive erosion sand retention impacts translate directly into a loss of beach area and degradation of public access to and along the beach, and to the surf area offshore. The required sand mitigation fee required in Special Condition 3 in this case serves as mitigation of the proposed project's adverse impacts on shoreline sand supply. As discussed above, the beach area itself that would be lost due to encroachment (300 sq. ft.) and passive erosion

(900 sq. ft.) are mitigated through an the City's interim in-lieu fee, which requires the applicants to pay an interim fee of $150,000 pursuant to Special Condition 3.

This stretch of beach has historically been used by the public for access and recreation purposes. Special Condition 14 acknowledges that the issuance of this permit does not waive the public rights that may exist on the property. The seawall may be located on State Lands property, and as such, Special Condition 11 requires the applicants to obtain any necessary permits or permission from the State Lands Commission to perform the work.

In addition, the use of the beach or public parking areas for staging of construction materials and equipment can also impact the public's ability to gain access to the beach. Special Condition 7 has been attached to mitigate the impact of such construction activities on public parking areas and public access. Special Condition 7 also prohibits the applicants from storing vehicles on the beach overnight, using any public parking spaces within Fletcher Cove overnight for staging and storage of equipment, and prohibits washing or cleaning construction equipment on the beach or in the parking lot. The condition also prohibits construction on the beach during weekends and holidays and during the summer months (between Memorial Day to Labor Day) of any year. Special Condition 8 mandates that no construction byproduct will be allowed onto the beach or into the ocean. Special Condition 12 requires that this CDP be kept onsite at all times during construction activities and the contact information of a representative shall be posted.

In each previous case that the Commission has approved the construction of a seawall on a public beach, the Commission has found that the mitigation did not fully mitigate for the loss of the public beach and, thereby, the loss of public access and recreational opportunities. In the case of the subject seawall, the loss of 1,200 sq. ft. of public beach cannot be fully offset by the required mitigation fee since the beach itself cannot be replaced. However, until a more direct form of mitigation is found, the Commission can accept the required in-lieu fee mitigation. The mitigation monies provide the opportunity to potentially purchase or contribute to the purchase of privately-owned beach or bluff top properties along the Solana Beach shoreline from which threatened structures could be removed along with the need for shoreline protective devices. In addition, the monies can be used to purchase privately-owned beach or beach-fronting property if it should become available for purchase that could be used for recreational and beach park amenities which will serve to offset the adverse impacts that result from the installation of the subject seawall. In addition, the monies can be used to purchase or assist with the purchase of public access or recreation uses within the City of Solana Beach.

Therefore, in order to adequately mitigate the loss of public access and recreational opportunities that will occur over the 20 design life, Special Condition 3 has been attached which requires the applicants to pay a mitigation fee based on a per linear foot recreational value of seawall impacts to the City of Solana Beach that will be used for restoration and/or enhancement of public access and recreational opportunities along the Solana Beach shoreline, or acquisition of property. Only

with this required mitigation can the proposed development be found to be consistent with the public access and recreation policies of the Coastal Act.

With Special Conditions that require mitigation for the adverse impacts to public access and recreation and authorization from the State Lands Commission, impacts to the public will be minimized to the greatest extent feasible. Thus, as conditioned, the Commission finds the project consistent with the public access and recreation policies of the Coastal Act.

E. UNPERMITTED DEVELOPMENT

Development has occurred on the subject site without the required coastal development permit, including, but not limited to non-compliance with Emergency CDP Nos. 6-05-003-G, 6-05-023-G, and 6-06-037-G (See Appendix C); specifically, with Special Conditions of the emergency permits that required a follow-up regular coastal development permit to authorize the seawall, geogrid structure, keystone lateral return wall, and below-grade underpinning caissons as permanent development or remove the structures subject to a specific time line. The deadlines for obtaining follow up CDPs to the emergency permits passed years ago.

Specifically, Special Condition No. 4 of 6-05-003-G states:

> *The emergency work carried out under this permit is considered TEMPORARY work done in an emergency situation.* ***In order to have the emergency work become a permanent development a regular coastal development permit must be obtained and issued from the Commission within 120 days (i.e., by May 18, 2005) of the date of this permit. Failure to comply with this deadline will result in a violation of the subject emergency permit and the commencement of enforcement proceedings.***

In addition, the applicants acknowledged the following through acceptance of emergency permit 6-05-003-G:

> *In acceptance of this emergency permit, I acknowledge that any work authorized under an emergency permit is temporary and subject to removal if a regular Coastal Permit is not obtained to permanently authorize the emergency work…* [Emphasis Added].

As stated previously in this report, the three caisson underpinnings below the southwest corner of the foundation of 355 Pacific Avenue are not required to protect the primary bluff top structure from erosion and therefore cannot be approved consistent with the Coastal Act. However, the Commission engineer and geologist have reviewed the site and supporting documentation and find that the caissons cannot be removed at this time. Since the three caissons are not a part of the proposed project, they remain as unpermitted development. However, Special

Condition 1 requires that if in the future, the caissons are ever proposed or required to be removed, the applicant must first obtain an amendment to this CDP.

Although development has taken place prior to submission of this permit application, consideration of the application by the Commission has been based solely upon the policies of the Coastal Act. Commission review and action on this permit does not constitute a waiver of any legal action with regard to the alleged violations, nor does it constitute an implied statement of the Commission's position regarding the legality of any development undertaken on the subject site without a coastal permit, or that all aspects of the violation have been fully resolved.

To assure the unpermitted development is resolved in a timely manner, Special Condition 17 has been attached to require the applicants to comply with all Special Conditions of approval within 180 days of Commission approval of this CDP or within such additional time granted by the Executive Director for good cause and to require that the applicants complete the reworking of the geogrid and installation of landscaping within 270 days of Commission approval of this CDP or within such additional time granted by the Executive Director for good cause.

F. LOCAL COASTAL PLANNING

Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

The subject site was previously in the County of San Diego's jurisdiction, but is now within the boundaries of the City of Solana Beach. Because of the incorporation of the City, the County of San Diego's LCP never became effectively certified. The Commission has recently approved the City's Local Coastal Program Land Use Plan. However, the City has submitted an application for an amendment to the LUP to modify some of the key provisions relating primarily to bluff top development and shoreline protection. The LUP amendment is expected to be heard at the same Commission hearing as this item (November 2013). In addition, the City has not yet completed nor has the Commission reviewed any implementing ordinances. Thus, the City's LCP is not certified.

In the case of the proposed project, site-specific geotechnical evidence has been submitted indicating that the existing principal structures at the top of the bluff are in danger. The approval of this mid and upper bluff shoreline retention structure instead of relocation of the primary structure is based on unique circumstances resulting from the already existing extensive armoring on the subject site and adjacent properties. The Commission feels strongly that approval of the proposed project should not send a signal that there is no need to address a range of alternatives to armoring for other existing development. Planning for comprehensive protective measures should include a combination of approaches

including limits on future bluff development, ground and surface water controls, and beach replenishment. Although the erosion potential on the subject site is such that action must be taken promptly, decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of such a decision on the entire City shoreline.

The location of the proposed shoreline armoring is designated for Open Space Recreation in the City of Solana Beach LUP and General Plan, and was also designated for open space uses under the County LCP. As conditioned, the subject development is consistent with these requirements. Based on the above findings, the proposed development is consistent with the Chapter 3 policies of the Coastal Act in that the need for the shoreline protective devices has been documented and its adverse impacts on beach sand supply and on adjacent unprotected properties will be mitigated.

Therefore, the Commission finds the proposed development, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act, and will not prejudice the ability of the City of Solana Beach to complete a certifiable local coastal program. However, these issues of shoreline planning will need to continue to be addressed in a comprehensive manner in the future through the City's LCP certification process

G. CONSISTENCY WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA).

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) 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 that the activity may have on the environment.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The preceding coastal development permit findings in this staff report have discussed the relevant coastal resource issues with the proposal, and the permit conditions identify appropriate mitigations to avoid and/or lessen any potential for adverse impacts to said resources. The Commission incorporates these findings as if set forth here in full.

As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects which approval of the proposed project, as conditioned, would have on the environment within the meaning of CEQA. Thus, if so conditioned, the proposed project will not result in any significant environmental effects for which feasible

mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

(G:\San Diego\Reports\2013\6-13-025 Koman Mariani and Upp Stf Rpt Nov 2013.docx)

APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

- City of Solana Beach certified LUP
- City of Solana Beach General Plan and Zoning Ordinance
- City of Solana Beach CUP 17-04-13 and DRP 17-11-21
- "Sand Mitigation Worksheet" for 341, 347, and 355 Pacific Ave. by Soil Engineering Construction, Inc., dated September 2013
- Letter from Soil Engineering Construction, Inc., dated October 14, 2009
- Letter from Soil Engineering Construction, Inc., dated February 27, 2012
- Landscaping plans by David Reed Landscape Architects, dated February 28, 2012
- Project plans by Soil Engineering Construction, Inc., dated January 3, 2013
- Letter from Soil Engineering Construction, Inc., dated April 2, 2013
- Letter from Soil Engineering Construction, Inc., dated April 15, 2013
- Letter from Soil Engineering Construction, Inc., dated August 2, 2013
- Monitoring Report – CDP 6-02-084 – 357 Pacific Avenue dated August 2013
- Photo Simulation and Plan dated September 12, 2013
- CDP Nos.: F1843, 6-04-063-G, 6-05-003-G, 6-05-009, 6-05-099, 6-06-068, 6-02-130-G, 6-03-008-G, 6-02-084, 6-02-084-A1, 6-02-084-A2, 6-02-084-A3, 6-06-037-G, 6-04-129-G, 6-04-063, 6-05-023-G, 6-08-073, 2-10-39

SAND MITIGATION FEE WORKSHEET

341 Pacific Avenue
Solana Beach
Revised – Sept. 2013

** Sand Mitigation Fees for the three properties are being calculated separately as the permit application included a request to segment the properties per the suggestion of coastal staff.

6-13-025
Appendix B
Sand Mitigation Fee Calculations

50' Seawall

W = 50.0
E = 2.0
v = .9
R = .30
L = 20 yrs.
S = .74
Hs = 35
Hu = 44
Rcu = .30
Rcs = 0

Vb = (S x W x L) X [(R x hs) + (1/2hu x (R + (Rcu – Rcs)))] / 27
(S x W x L) = (.74 x 50 x 20) = 740
Vb = (740) x [((R x hs) + (1/2hu x (R + (Rcu-Rcs)))] / 27
Vb = (740) X [(.30 x 35) + ((22) x (.30 + (.30-.0)) / 27
Vb = (740) x (10.5 + (13.2)) / 27
Vb = (740) x 23.7) / 27
Vb = 649.56

M= Vb x C
C = $13.85

M = 649.56 x $13.85 = ~~$8,988.65~~ 8,996.41

SAND MITIGATION FEE WORKSHEET

347 Pacific Avenue
Solana Beach
Revised – Sept. 2013

** Sand Mitigation Fees for the three properties are being calculated separately as the permit application included a request to segment the properties per the suggestion of coastal staff.

50' Seawall

W = 50.0
E = 2.0
v = .9
R = .30
L = 20 yrs.
S = .74
Hs = 35
Hu = 44
Rcu = .30
Rcs = 0

Vb = (S x W x L) X [(R x hs) + (1/2hu x (R + (Rcu – Rcs)))] / 27
(S x W x L) = (.74 x 50 x 20) = 740
Vb = (740) x [((R x hs) + (1/2hu x (R + (Rcu-Rcs)))] / 27
Vb = (740) X [(.30 x 35) + ((22) x (.30 + (.30-.0)) / 27
Vb = (740) x (10.5 + (13.2)) / 27
Vb = (740) x 23.7) / 27
Vb = 649.56

VAC= Valume of Sand Already Contributed Via Failure
VAC= 124 cubic yards
Vt= Vb - VAC
M= Vt x C
C = $13.85

M = 525.56 x $13.85 = $7,279.00

* **Soil Engineering Construction, Inc. obtained the lost volume of beach quality sand based on the volume of replacement materials necessary to re-build the bluff under coastal emergency permit**

** **The value of "C" is based on three (3) attached bids from qualified, licensed contractors.**

SAND MITIGATION FEE WORKSHEET

355 Pacific Avenue
Solana Beach
July 2012

** Sand Mitigation Fees for the three properties are being calculated separately as the permit application included a request to segment the properties per the suggestion of coastal staff.

50' Seawall

W = 50.0
E = 2.0
v = .9
R = .30
L = 20 yrs.
S = .74
Hs = 35
Hu = 44
Rcu = .30
Rcs = 0

Vb = (S x W x L) X [(R x hs) + (1/2hu x (R + (Rcu – Rcs)))] / 27
(S x W x L) = (.74 x 50 x 20) = 740
Vb = (740) x [((R x hs) + (1/2hu x (R + (Rcu-Rcs)))] / 27
Vb = (740) X [(.30 x 35) + ((22) x (.30 + (.30-.0)) / 27
Vb = (740) x (10.5 + (13.2)) / 27
Vb = (740) x 23.7) / 27
Vb = 649.56

VAC= Volume of Sand Already Contributed Via Failure
VAC= 246 cubic yards
Vt= Vb – VAC
Vt= 403.56

M= Vt x C C = $13.85**

M 403.56 x $13.85 = $5,589.31

* **Soil Engineering Construction, Inc. obtained the lost volume of beach quality sand based on the volume of replacement materials necessary to re-build the bluff under coastal emergency permit**

** **The value of "C" is based on three (3) attached bids from qualified, licensed contractors.**

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

6-13-025
Appendix C
Emergency Permits

EMERGENCY PERMIT

Applicant: **Island Financial Corporation**
Attn: Don Totten
355 Pacific Avenue
Solana Beach, Ca 92075

Date: January 18, 2005

Agent: **Bob Trettin**

Emergency Permit No. **6-05-003-G**

LOCATION OF EMERGENCY WORK: 355 Pacific Avenue, Solana Beach, San Diego County. APN No. 263-301-06

WORK PROPOSED: Construction of three concrete caisson underpinnings (approximately 2 ft. diameter, 30 ft. in length) to be located in the southwest corner of the existing residence below the foundation slab. [This permit is a re-issuance of an emergency permit issued in September, 2004 (EP #6-04-63-G) which the applicant was unable to implement before the permit expired on November 23, 2004.]

This letter constitutes approval of the emergency work you or your representative has requested to be done at the location listed above. I understand from your information and our site inspection that an unexpected occurrence in the form of upper and mid-bluff collapse requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 Cal. Admin. Code Section 13009. The Executive Director of the Coastal Commission hereby finds that:

(a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 30 days unless otherwise specified by the terms of this permit;

(b) Public comment on the proposed emergency action has been reviewed if time allows;

(c) As conditioned, the work proposed would be consistent with the requirements of the California Coastal Act of 1976.

The work is hereby approved, subject to the conditions listed on the attached page.

Sincerely,

PETER M. DOUGLAS
Executive Director

By: DEBORAH LEE
Deputy Director

Emergency Permit Number: 6-05-003-G
Date: 1/18/05

CONDITIONS OF APPROVAL:

1. The enclosed Emergency Permit Acceptance form must be signed by the PROPERTY OWNER and returned to our office within 15 days.

2. Only that work specifically described in this permit and for the specific property listed above is authorized. The construction, placement, or removal of any accessory or protective structures, including but not limited to, seawall, notch/seacave infills, stairways or other access structures, walls, fences, etc. not described herein, are not authorized by this permit. Any additional work requires separate authorization from the Executive Director. **If during construction, site conditions warrant changes to the approved plans, the San Diego District office of the Coastal Commission shall be contacted immediately prior to any changes to the project in the field.**

3. The work authorized by this permit must be completed within 90 days of the date of this permit (i.e., by April 18, 2005).

4. The emergency work carried out under this permit is considered TEMPORARY work done in an emergency situation. **In order to have the emergency work become a permanent development a regular coastal development permit must be obtained and issued from the Commission within 120 days (i.e., by May 18, 2005) of the date of this permit. Failure to comply with this deadline will result in a violation of the subject emergency permit and the commencement of enforcement proceedings.**

5. The subject emergency permit is being issued in response to a documented emergency condition where action needs to be taken faster than the normal coastal development permit process would allow. By approving the proposed emergency measures, the Executive Director of the Coastal Commission is not certifying or suggesting that the structures constructed under this emergency permit will provide necessary protection for the blufftop residential structures. Thus, in exercising this permit, the applicant agrees to hold the California Coastal Commission harmless from any liabilities for damage to public or private properties or personal injury that may result from the project.

6. This permit does not obviate the need to obtain necessary authorizations and/or permits from other agencies (e.g. U.S. Army Corps of Engineers, State Lands Commission.)

7. Prior to the commencement of the construction, the applicant shall submit to the Executive Director, evidence that the project has been reviewed and approved by the City of Solana Beach. Said plans shall be in substantial conformance with the plans submitted for this application on 7/23/04 by Soil Engineering Construction, Inc. **In addition, Note 3 under "General Notes" on Soil Engineering Construction, Inc. plans submitted on 7/23/04 shall be revised to say "Exact location of drilled piers for partial foundation underpinnings may be adjusted as field conditions require, <u>but shall not be located any further seaward than shown on the plans of 7/23/04</u>." (See attached Exhibit No. 3).**

8. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces at Fletcher Cove. Construction materials or debris shall not be stored where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time. Construction equipment shall not be washed on the beach or in the Fletcher Cove parking lot.

9. Pre-construction site conditions shall be documented through photographs of the bluff at the time of construction and submitted to the San Diego District office **prior to commencement of construction.**

If you have any questions about the provisions of this emergency permit, please call the Commission's San Diego Coast Area Office at the address and telephone number listed on the first page.

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

EMERGENCY PERMIT ACCEPTANCE FORM

TO: CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370

RE: **Emergency Permit No. 6-05-003-G**

INSTRUCTIONS: After reading the attached Emergency Permit, please sign this form and return to the San Diego Coast Area Office within 15 working days from the permit's date.

Background

The City of Solana Beach is currently in the process of developing its Local Coastal Program which will include policies relating to development located in hazardous locations such as coastal bluffs and include comprehensive measures that address bluff erosion. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, removal of threatened portions of a residence, underpinning existing structures, ground and surface water controls, beach replenishment, and protective measures involving all portions of the bluffs. Decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of approving shoreline protection on the entire City's shoreline.

Acknowledgement

In acceptance of this emergency permit, I acknowledge that any work authorized under an emergency permit is temporary and subject to removal if a regular Coastal Permit is not obtained to permanently authorize the emergency work. I also acknowledge and understand that a regular coastal development permit would be subject to all of the provisions of the Coastal Act and may be conditioned accordingly. These conditions may include, but not be limited to, provisions for long term maintenance and monitoring of the structure, a requirement that a deed restriction be placed on the property assuming liability for damages incurred from bluff failures, and restrictions on future construction of additional shore or bluff protection.

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them.

_____
Island Financial Corporation

_____
Name

_____
Address

_____

_____
Date of Signing

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

EMERGENCY PERMIT

Date: March 14, 2005
Emergency Permit No. **6-05-23-G**

Applicants:

Robert Upp	**Myron and Paul Reichert**	**Island Financial Corporation**
341 Pacific Avenue	**347 Pacific Avenue**	**Attn: Don Totten**
Solana Beach, Ca	**Solana Beach, Ca**	**355 Pacific Avenue**
		Solana Beach, Ca

Agent: **Bob Trettin**

LOCATION OF EMERGENCY WORK: 341, 347 and 355 Pacific Avenue, Solana Beach, San Diego County. APN Nos. 263-301-06, 07 and 08.

WORK PROPOSED: Construction of an approximately 150 ft.-long, 2 ft.-wide, 35 ft.-high tiedback concrete seawall located at the base of the bluff below three existing single-family residences. No backfill, reconstructed bluff or other structure landward of the seawall is proposed or appoved as part of the subject emergency permit. [This is a re-issuance of an emergency permit first issued in November of 2004 which expired on February 6, 2005 before the applicant could commence construction; ref. 6-04-129-G]

This letter constitutes approval of the emergency work you or your representative has requested to be done at the location listed above. I understand from your information and our site inspection that an unexpected occurrence in the form of upper and mid-bluff collapse requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 Cal. Admin. Code Section 13009. The Executive Director of the Coastal Commission hereby finds that:

(a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 30 days unless otherwise specified by the terms of this permit;

(b) Public comment on the proposed emergency action has been reviewed if time allows;

(c) As conditioned, the work proposed would be consistent with the requirements of the California Coastal Act of 1976.

The work is hereby approved, subject to the conditions listed on the attached page.

Sincerely,

PETER M. DOUGLAS
Executive Director

By: DEBORAH LEE
Deputy Director

CONDITIONS OF APPROVAL:

1. The enclosed Emergency Permit Acceptance form must be signed by the PROPERTY OWNER and returned to our office within 15 days.

2. Only that work specifically described in this permit and for the specific property listed above is authorized. The construction, placement, or removal of any accessory or protective structures, including but not limited to, backfill, notch/seacave infills, stairways or other access structures, walls, fences, etc. not described herein, are not authorized by this permit. Any additional work requires separate authorization from the Executive Director. **If during construction, site conditions warrant changes to the approved plans (including the reduction in size or length of the seawall) the San Diego District office of the Coastal Commission shall be contacted immediately prior to any changes to the project in the field.**

3. The work authorized by this permit must be completed within **74** days of the date of this permit (i.e., by May 27, 2005).

4. The emergency work carried out under this permit is considered TEMPORARY work done in an emergency situation. **In order to have the emergency work become a permanent development a regular coastal development permit must be obtained and issued from the Commission within 120 days (i.e., by July 12, 2005) of the date of this permit. Failure to comply with this deadline will result in a violation of the subject emergency permit and the commencement of enforcement proceedings.**

5. The subject emergency permit is being issued in response to a documented emergency condition where action needs to be taken faster than the normal coastal development permit process would allow. By approving the proposed emergency measures, the Executive Director of the Coastal Commission is not certifying or suggesting that the structures constructed under this emergency permit will provide necessary protection for the blufftop residential structures. Thus, in exercising this permit, the applicant agrees to hold the California Coastal Commission harmless from any liabilities for damage to public or private properties or personal injury that may result from the project.

6. This permit does not obviate the need to obtain necessary authorizations and/or permits from other agencies (e.g. U.S. Army Corps of Engineers, State Lands Commission.)

7. Prior to the commencement of the construction, the applicant shall submit to the Executive Director, evidence that the project has been reviewed and approved by the City of Solana Beach. Said plans shall be in substantial conformance with the plans submitted for this application on 10/13/04 by Soil Engineering Construction, Inc. **In addition, Note 3 under "General Notes" on Soil Engineering Construction, Inc. plans submitted on 10/13/04 shall be revised to say "Exact location of concrete seawall may be adjusted as field conditions require at time of construction, but shall be located as close as possible to the base of the bluff." (See attached Exhibit No. 3).**

8. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces at Fletcher Cove. Construction materials or debris shall not be stored where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal

zone at any time. Construction equipment shall not be washed on the beach or in the Fletcher Cove parking lot.

9. Pre-construction site conditions shall be documented through photographs of the bluff at the time of construction and submitted to the San Diego District office **prior to commencement of construction.**

If you have any questions about the provisions of this emergency permit, please call the Commission's San Diego Coast Area Office at the address and telephone number listed on the first page.

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

EMERGENCY PERMIT ACCEPTANCE FORM

TO: CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370

RE: **Emergency Permit No. 6-05-23-G**

INSTRUCTIONS: After reading the attached Emergency Permit, please sign this form and return to the San Diego Coast Area Office within 15 working days from the permit's date.

Background

The City of Solana Beach is currently in the process of developing its Local Coastal Program which will include policies relating to development located in hazardous locations such as coastal bluffs and include comprehensive measures that address bluff erosion. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, removal of threatened portions of a residence, underpinning existing structures, ground and surface water controls, beach replenishment, and protective measures involving all portions of the bluffs. Decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of approving shoreline protection on the entire City's shoreline.

Acknowledgement

In acceptance of this emergency permit, I acknowledge that any work authorized under an emergency permit is temporary and subject to removal if a regular Coastal Permit is not obtained to permanently authorize the emergency work. I also acknowledge and understand that a regular coastal development permit would be subject to all of the provisions of the Coastal Act and may be conditioned accordingly. These conditions may include, but not be limited to, provisions for long term maintenance and monitoring of the structure, a requirement that a deed restriction be placed on the property assuming liability for damages incurred from bluff failures, restrictions on future construction of additional shore or bluff protection and the payment of an in-lieu fee for sand replenishment.

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them.

Robert Upp

Name

Address

Date of Signing

Emergency Permit Number: 6--**-G**
Date: **//****

EMERGENCY PERMIT ACCEPTANCE FORM

TO: CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370

RE: **Emergency Permit No. 6-05-23-G**

INSTRUCTIONS: After reading the attached Emergency Permit, please sign this form and return to the San Diego Coast Area Office within 15 working days from the permit's date.

Background

The City of Solana Beach is currently in the process of developing its Local Coastal Program which will include policies relating to development located in hazardous locations such as coastal bluffs and include comprehensive measures that address bluff erosion. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, removal of threatened portions of a residence, underpinning existing structures, ground and surface water controls, beach replenishment, and protective measures involving all portions of the bluffs. Decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of approving shoreline protection on the entire City's shoreline.

Acknowledgement

In acceptance of this emergency permit, I acknowledge that any work authorized under an emergency permit is temporary and subject to removal if a regular Coastal Permit is not obtained to permanently authorize the emergency work. I also acknowledge and understand that a regular coastal development permit would be subject to all of the provisions of the Coastal Act and may be conditioned accordingly. These conditions may include, but not be limited to, provisions for long term maintenance and monitoring of the structure, a requirement that a deed restriction be placed on the property assuming liability for damages incurred from bluff failures, restrictions on future construction of additional shore or bluff protection and the payment of an in-lieu fee for sand replenishment.

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them.

Myron Reichert	Paul Reichert
Name	Name
Address	Address
Date of Signing	Date of Signing

Emergency Permit Number: 6--**-G**
Date: **//****

EMERGENCY PERMIT ACCEPTANCE FORM

TO: CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370

RE: **Emergency Permit No. 6-05-23-G**

INSTRUCTIONS: After reading the attached Emergency Permit, please sign this form and return to the San Diego Coast Area Office within 15 working days from the permit's date.

Background

The City of Solana Beach is currently in the process of developing its Local Coastal Program which will include policies relating to development located in hazardous locations such as coastal bluffs and include comprehensive measures that address bluff erosion. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, removal of threatened portions of a residence, underpinning existing structures, ground and surface water controls, beach replenishment, and protective measures involving all portions of the bluffs. Decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of approving shoreline protection on the entire City's shoreline.

Acknowledgement

In acceptance of this emergency permit, I acknowledge that any work authorized under an emergency permit is temporary and subject to removal if a regular Coastal Permit is not obtained to permanently authorize the emergency work. I also acknowledge and understand that a regular coastal development permit would be subject to all of the provisions of the Coastal Act and may be conditioned accordingly. These conditions may include, but not be limited to, provisions for long term maintenance and monitoring of the structure, a requirement that a deed restriction be placed on the property assuming liability for damages incurred from bluff failures, restrictions on future construction of additional shore or bluff protection and the payment of an in-lieu fee for sand replenishment.

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them.

_____
Island Financial Corporation

_____
Name

_____
Address

_____

_____
Date of Signing

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

EMERGENCY PERMIT

Date: May 19, 2006 Emergency Permit No. **6-06-37-G**

Applicants: **Don Totten** **Paul Reichert** Agent: **Bob Trettin**
355 Pacific Ave. **347 Pacific Ave.**
Solana Beach, Ca **Solana Beach, Ca**

LOCATION OF EMERGENCY WORK: **On the bluff face below 355 and 347 Pacfic Avenue**
APN: 263-301-06 and 07

WORK PROPOSED: **Reconstruction of the bluff face through the installation of a geogrid soil reinforced structure incorporating the use of soil nails, installation of erodible concrete directly behind and not extending above the existing approximately 150 ft.-long, 35 ft.-high seawall with a small section of erodible concrete (approx. 15 ft. in length) that will extend up to approximately 5 ft. above the seawall at its southern end. This section of the concrete is proposed to be colored and sculpted to match the natural surrounding bluff. The project also involves the installation of an approximately 36 ft.-long keystone retaining wall extending from the north end of the existing seawall to the top of the bluff along the northern property of 355 Pacific Avenue. (Seawall was previously constructed pursuant to Emergency Permit #6-05-23-G/Island Financial, Upp and Reichert)**

This letter constitutes approval of the emergency work you or your representative has requested to be done at the location listed above. I understand from your information and our site inspection that an unexpected occurrence in the form of bluff sloughages requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 Cal. Admin. Code Section 13009. The Executive Director of the Coastal Commission hereby finds that:

(a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 30 days unless otherwise specified by the terms of this permit;

(b) Public comment on the proposed emergency action has been reviewed if time allows;

(c) As conditioned, the work proposed would be consistent with the requirements of the California Coastal Act of 1976.

The work is hereby approved, subject to the conditions listed on the attached page.

Sincerely,

PETER M. DOUGLAS
Executive Director

By: DEBORAH LEE

CONDITIONS OF APPROVAL:

1. The enclosed Emergency Permit Acceptance form must be signed by the PROPERTY OWNER and returned to our office within 15 days.

2. Only that work specifically described in this permit and for the specific property listed above is authorized. The construction, placement, or removal of any accessory or protective structure, including but not limited to, stairways or other access structures, walls, fences, etc. not described herein, are not authorized by this permit. Any additional work requires separate authorization from the Executive Director. **If during construction site conditions warrant changes to the approved plans, the San Diego District office of the Coastal Commission shall be contacted immediately prior to any changes to the project in the field.**

3. The work authorized by this permit must be completed within **120** days of the date of this permit (i.e., by **September 16, 2006**).

4. The emergency work carried out under this permit is considered TEMPORARY work done in an emergency situation. **In order to have the emergency work become a permanent development a regular coastal development permit must be obtained and issued from the Commission within 120 days (i.e., by September 16, 2006) of the date of this permit. Failure to comply with this deadline will result in a violation of the subject emergency permit and the commencement of enforcement proceedings.** If the application is not approved, the emergency work shall be removed in its entirety within 150 days of the date of this permit (i.e., by Otober 16, 2006), unless this requirement is waived in writing by the Executive Director.

5. The subject emergency permit is being issued in response to a documented emergency condition where action needs to be taken faster than the normal coastal development permit process would allow. By approving the proposed emergency measures, the Executive Director of the Coastal Commission is not certifying or suggesting that the structures constructed under this emergency permit will provide necessary protection for the blufftop residential structures. Thus, in exercising this permit, the applicant agrees to hold the California Coastal Commission harmless from any liabilities for damage to public or private properties or personal injury that may result from the project.

6. This permit does not obviate the need to obtain necessary authorizations and/or permits from other agencies (e.g. U.S. Army Corps of Engineers, State Lands Commission.)

7. Prior to the commencement of the construction, the applicant shall submit to the Executive Director, evidence that the project has been reviewed and approved by the City of Solana Beach. Said plans shall be in substantial conformance with the plans submitted for this application dated 5/2/06 by Soil Engineering Construction, Inc, **but shall be revised to include landscaping of the reconstructed bluff area using a hydroseed mix of native coastal species**.

8. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces at Fletcher Cove. **Construction materials, concrete or other debris shall not be located or allowed to remain in any area subject to wave erosion and dispersion**. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time. Construction equipment shall not be washed on the beach or in the Fletcher Cove parking lot.

9. No work shall occur on the beach on weekends or holidays after May 26, 2006.

10. Pre-construction site conditions shall be documented through photographs of the bluff at the time of construction and submitted to the San Diego District office **prior to commencement of construction.**

If you have any questions about the provisions of this emergency permit, please call the Commission's San Diego Coast Area Office at the address and telephone number listed on the first page.

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

EMERGENCY PERMIT ACCEPTANCE FORM

TO: CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370

RE: **Emergency Permit No. 6-06-37-G**

INSTRUCTIONS: After reading the attached Emergency Permit, please sign this form and return to the San Diego Coast Area Office within 15 working days from the permit's date.

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them.

I also understand that any work authorized by Emergency Permit #6-06-37-G is temporary and the minimal necessary to address the emergency until a regular coastal development permit is obtained for permanent retention of the emergency work (including the previously constructed seawall). In addition, I understand the temporary emergency work is subject to removal if a regular coastal permit is not obtained to permanently authorize the emergency work. The required follow-up application was submitted on June 28, 2004 (CDP #6-04-63), however, to date that application has remained unfiled pending submission of additional required information. I understand that as a filing requirement for that regular coastal permit, I must include, among other things, an alternative analysis for the project which includes, but is not limited to, other measures to reduce risk and provide for bluff stabilization, if required, in addition to the proposed retaining wall and geogrid structure. I also acknowledge and understand that a regular coastal development permit would be subject to all of the provisions of the Coastal Act and may be conditioned accordingly. These conditions may include, provisions for long term maintenance and monitoring of the structures and bluff, mitigation for the visual impacts of project, a sand mitigation fee and mitigation for public access and recreation impacts (of the seawall), a requirement that the property owners assume all liability for damages incurred from storm waves, and restrictions on future construction of additional shoreline protection.

_____
Signature by
Paul Reichert

_____
Name

_____
Address

_____

_____

_____
Date of Signing

PROJECT LOCATION

Google Maps

EXHIBIT NO. 1
APPLICATION NO.
6-13-025
Project Location
California Coastal Commission

SITE PHOTO AND DISTANCE FROM BLUFF EDGE

EXHIBIT NO. 2

APPLICATION NO.
6-13-025

Site Photo/Distance

California Coastal Commission

CDP History

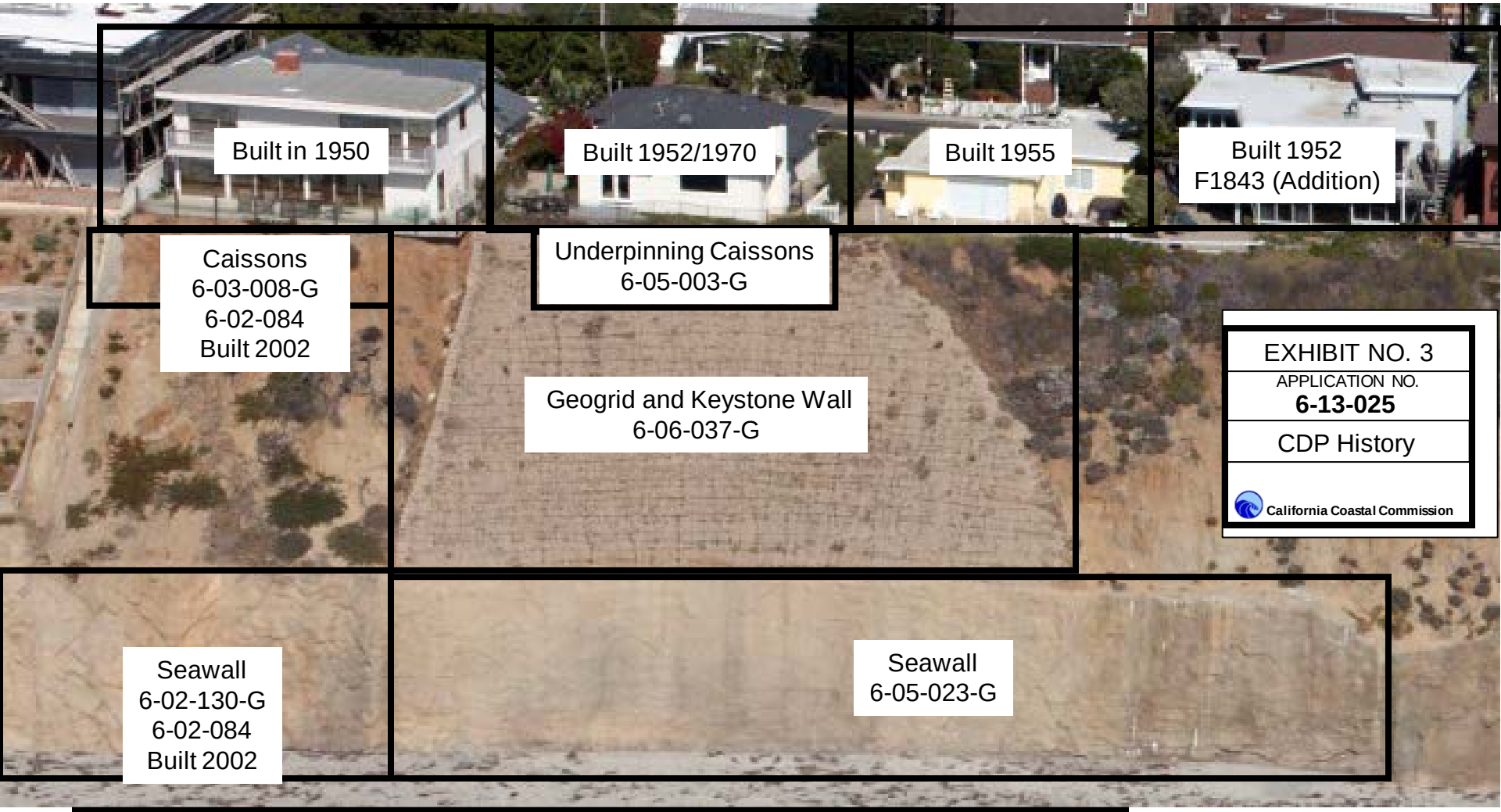


EXHIBIT NO. 3
APPLICATION NO.
6-13-025
CDP History
California Coastal Commission

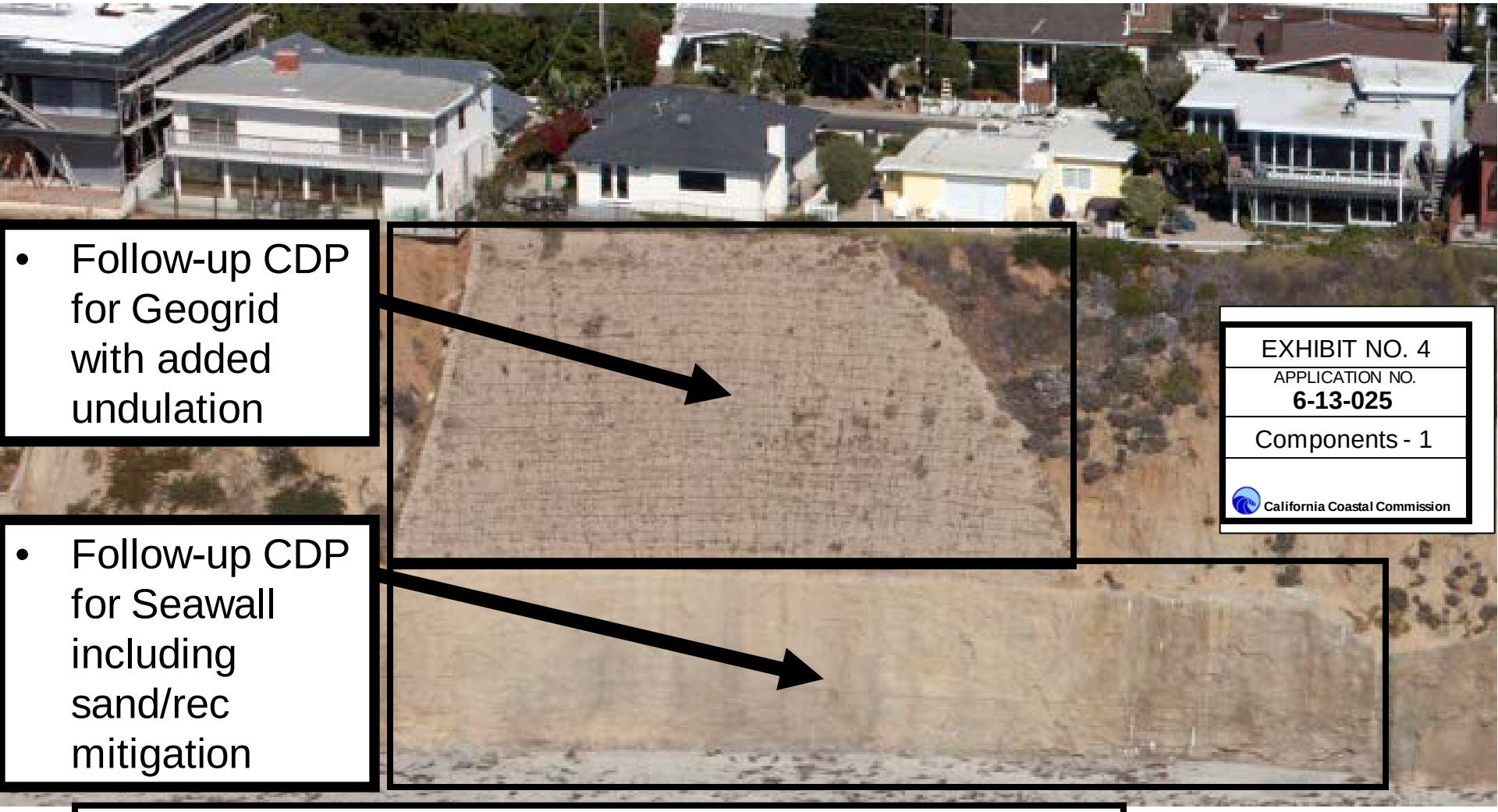
PROJECT COMPONENTS – 1

357 Pacific Ave.

355 Pacific Ave.

347 Pacific Ave.

341 Pacific Ave.



- Follow-up CDP for Geogrid with added undulation

- Follow-up CDP for Seawall including sand/rec mitigation

EXHIBIT NO. 4

APPLICATION NO.
6-13-025

Components - 1

California Coastal Commission

PROJECT COMPONENTS – 2

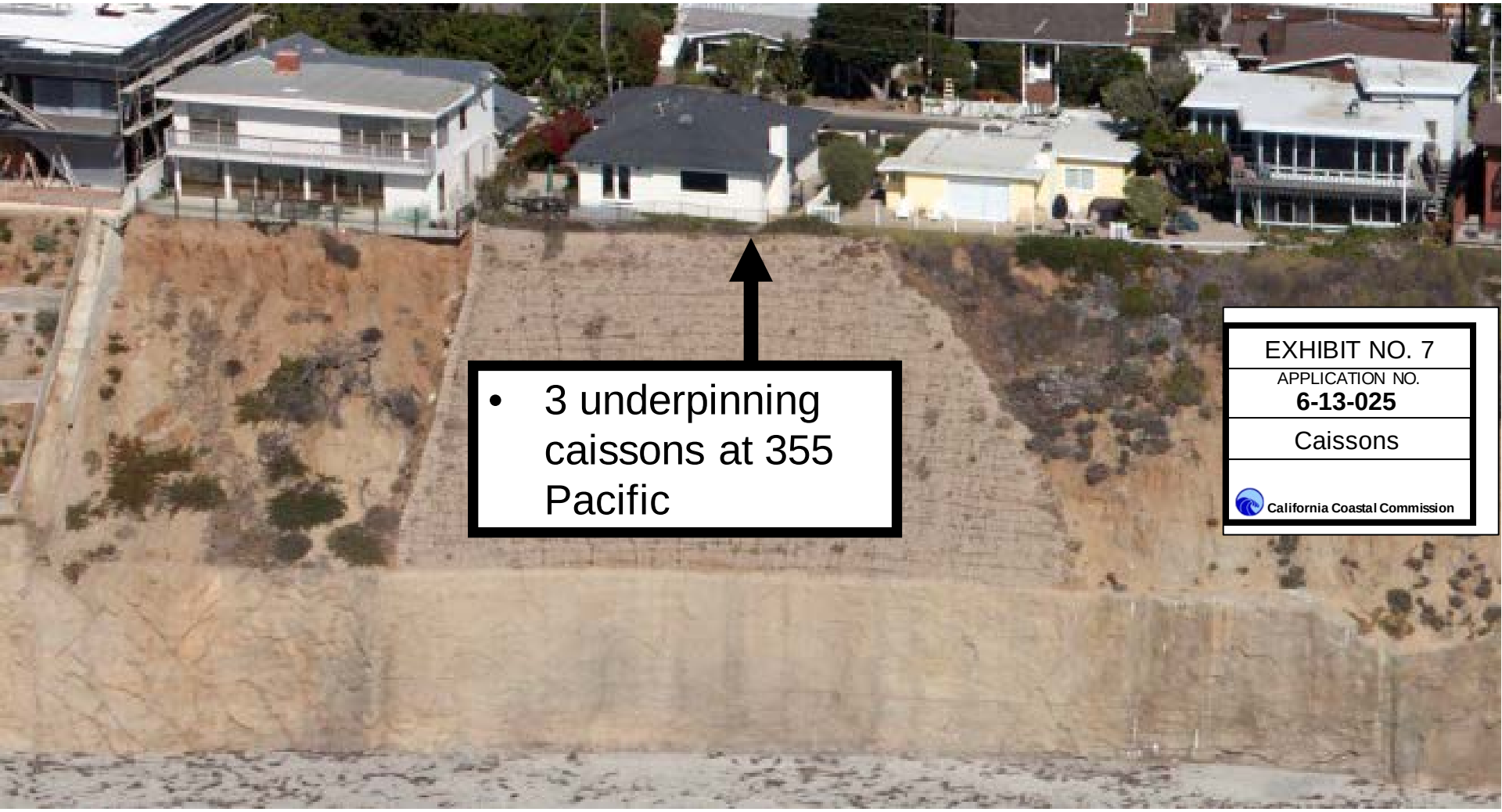
PROJECT COMPONENTS – 3

EXHIBIT NO. 6
APPLICATION NO.
6-13-025
Components – 3
California Coastal Commission

- New 3 property landscaping Plan - Planting, hydroseeding, temporary irrigation

3 UNDERPINNING CAISSONS

Caissons not a part of application and remain unpermitted



Post Project Simulation Provided by Applicant

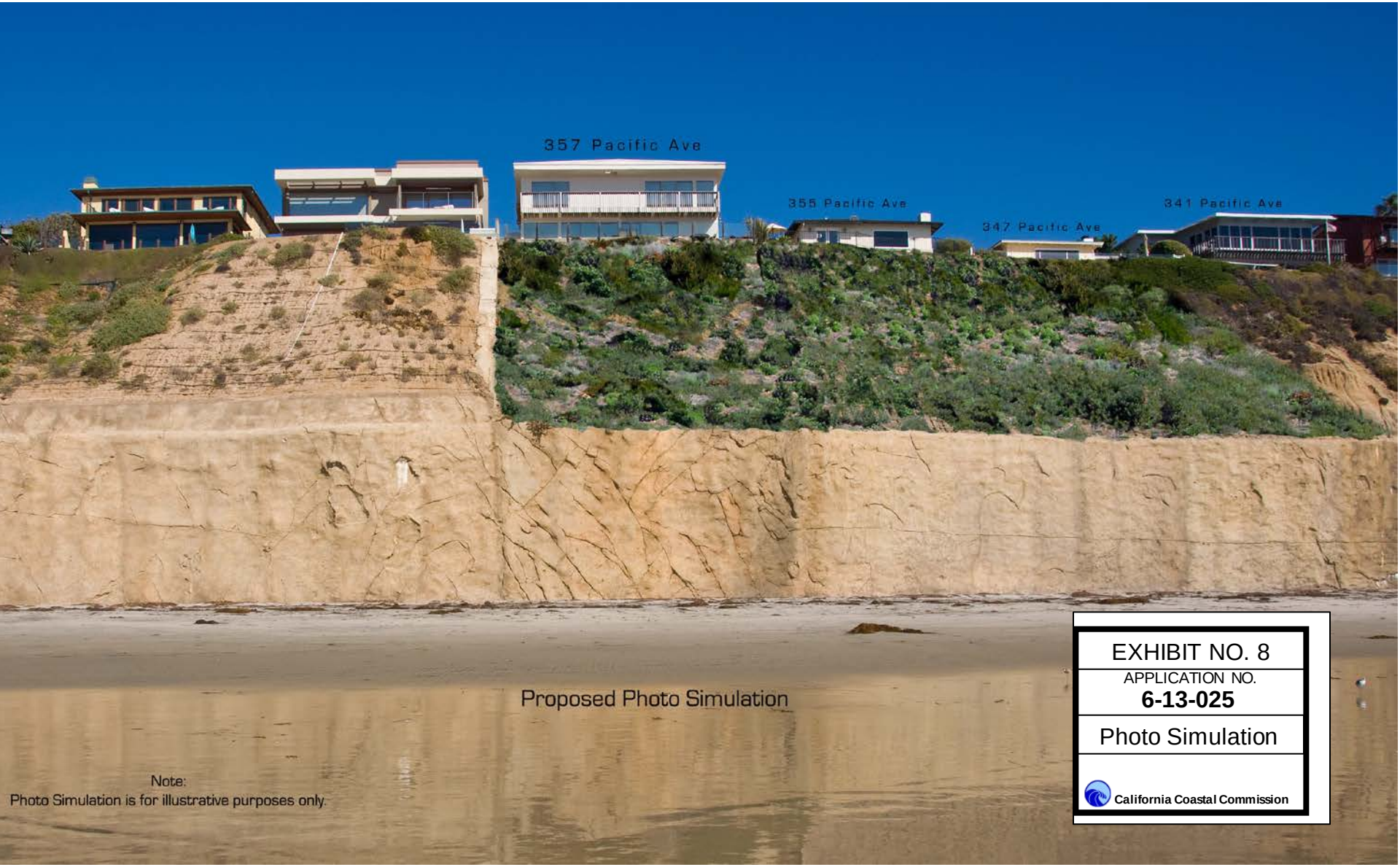


EXHIBIT NO. 8

APPLICATION NO.
6-13-025

Photo Simulation

California Coastal Commission

Upcoast Photo of Bluff

EXHIBIT NO. 9
APPLICATION NO.
6-13-025
Upcoast Bluff
California Coastal Commission

Downcoast Photo of Bluff

EXHIBIT NO. 10

APPLICATION NO.
6-13-025

Downcoast Bluff

California Coastal Commission

Public Comment Letter

EXHIBIT NO. 11
APPLICATION NO.
6-13-025
Public Comment
California Coastal Commission

SURFRIDER FOUNDATION
SAN DIEGO COUNTY CHAPTER

Surfrider Foundation San Diego County

9883 Pacific Heights Blvd, Suite D
San Diego, CA 92121
Phone: (858) 622-9661 Fax: (858) 622-9961

TO: Chairwoman Mary Shallenberger and California Coastal Commissioners
Eric Stevens, Coastal Program Analyst, Deborah Lee, District Manager, and all Coastal Commission Staff
FROM: Ralph Faust, Esq. and Angela Howe, Esq. on behalf of Surfrider Foundation San Diego Chapter
DATE: October 4, 2013
RE: Solana Beach Seawall Policies, especially in relation to October Agenda Items Th23b and Th24a

On behalf of the Surfrider Foundation San Diego Chapter, a non-profit, environmental organization dedicated to the protection and enjoyment of the world's oceans, waves and beaches through a powerful activist network, the following memorandum is submitted to discuss the California Coastal Commission's ("Commission" or "CCC") recent decisions and staff reports discussing seawall policy. Specifically, this letter will relate to upcoming Commission decisions on Items Th23b (Application No. 6-13-025, "Koman") and Th24a (Application No. 6-02-084-A3, "Ocean Ventures") at the October CCC Hearing in San Diego.

I. THE COMMISSION SHOULD ALLOW FOR RESPONSIVE COASTAL ADAPTATION

Surfrider Foundation ("Surfrider") advocates for sustainable coastal management, including the need for coastal adaptation to impending threats such as climate change and sea level rise. Surfrider's mission is to ensure that there are healthy, thriving and accessible beaches for the public to enjoy; however, with increasing armoring of the coast, Californians will experience reduced access to these treasured coastal resources and the loss of the sandy beach. Surfrider calls upon the California Coastal Commission, the preeminent governing body charged with protection and management of the beach, to implement strong resource protective policies, which allow for managed retreat of coastal development in the face of climate change.

Surfrider Foundation strongly disagrees with the departure from the previous Land Use Plan ("LUP") amendment recommended in the Koman and Ocean Venture staff reports, effectively stating that the 20 year permit[1] date on seawall permits is no longer in effect. (Note that there was similar decision and rationale reported in a last minute Addendum to the August Land's End staff report that Surfrider Foundation also strongly opposes. Surfrider would have liked to officially comment on the issue in August, but the last minute Addendum did not leave time for official comment).

Surfrider maintains that the 20-year provision on seawall permits is a very important decision that was negotiated for and won during the LUP amendment process. There should be no back-sliding on this important provision at this time and without specific discussion through the LUP and LCP process. The following factors help to explain the importance of the 20-year provision:

1) The 20-year provision offers a time certain for permit re-evaluation.

[1] Note that this provision has also been referred to as a "sunset" date or clause for the permit, connoting that the permitee can reapply for such permit.
[2] For instance the Carlsbad LCP Section 21.204.040 requires "Seawalls shall be constructed essentially parallel to the base of

SURFRIDER FOUNDATION
SAN DIEGO COUNTY CHAPTER

Surfrider Foundation San Diego County

9883 Pacific Heights Blvd, Suite D
San Diego, CA 92121
Phone: (858) 622-9661 Fax: (858) 622-9961

With the threat of sea level rise pending and the need for more proactive coastal management, the Coastal Commission should allow itself the flexibility to deal with major coastal management issues in a relevant time frame. In 20 years, coastal managers will know more about the rate and effects of sea level rise. There may be more responsive and well-thought-out Local Coastal Plans in place that govern coastal development. It will also give a time certain for re-evaluation of the property and any changes that have occurred to the protected structure.

2) The provision allows for adaptive management to occur when there are important issues facing our coast. In the Coastal Commission staff's words:

> "On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore, leading to a faster loss of the beach as the beach is squeezed between the landward migrating ocean and the fixed backshore. This will expose the back bluff or seawall to more frequent wave attack, increasing the rate of erosion of unarmored bluffs." (p. 28 Ocean Ventures staff report).
>
> "This [planned retreat] concept posits that instead of allowing continued armoring, once the existing structures have been removed then the shoreline is allowed to retreat. Beach formation in this respect is partly assisted by the sand- generating material in the bluffs as they erode, but more importantly there is space for the natural equilibrium between the shoreline and the ocean to establish itself and for beaches to form naturally. Over the longer run, a more comprehensive strategy to address shoreline erosion and the impacts of armoring may be developed (e.g. planned or managed retreat, relocation of structures inland, abandonment of structures, etc.)." (p. 34 Koman staff report).

Here, the staff acknowledges the need for a more comprehensive coastal planning effort, and yet recommends that a permanent hardened structure be permitted for what could be 75 years or more into the future.

If there is a complete loss of beach, there is no mitigation fee that would be able to compensate for such a scenario. The Commission should be in a position to analyze this scenario and have the discretion to remedy such a situation if it occurs at the end of a 20-year permit. Additionally, the 20-year time frame will allow for more accurate and conscientious response to sea level rise and the changing needs of the coast.

3) The 20-year permit date is not arbitrary.
The suggested 20-year timeframe that is required by the Solana Beach certified LUP originated from the timeframe noted as the engineered life of a seawall. Originally, this time period was included in the Coastal Development Permit for seawalls, including the Las Brisas Homeowners Association Application in Solana Beach (App No.: 6-05-072 (2010)). Engineers for these projects claimed that the seawalls were designed with a product life of 22 years. If a seawall lasts a mere 22 years, it is imprudent for the Commission to offer a seawall permit for a longer time period than the functional life of the seawall. In the Ocean Ventures (Th24a) staff report, the staff notes that due to the 22-year design life of

the seawall, "the entire site protection will be assessed to determine if it's necessary to protect the existing residential structure" (p.30). This is a logical reassessment of the site and the armoring device, and a provision that should be included in all seawall applications.

4) The 20-year permit provision is a mechanism to protect public access and prevent further encroachment on the beach. The Commission is charged with protecting public coastal resources and ensuring that public access to the coast is preserved and enhanced. (See Coastal Act Chapter 3, Article 2). By strengthening review and permitting of bluff retention devices the Commission is guarding against privatization of the public beach and loss of space in the public domain that can be caused by coastal armoring. Anything less could amount to a taking of public property for the benefit of private property owners, which Coastal Commissioners warned against at the March 2012 hearing regarding certification of the Solana Beach LUP. The Coastal Act reflects the fundamental California state constitutional emphasis on the public's right of access to the coast. The California Constitution Article X, Section 4 provides that no one shall be permitted to exclude the right of way to such water whenever it is required for any public purpose. Furthermore, Coastal Act Section 30210 states that "[i]n 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." Section 30211 specifically states that development shall not interfere with the public's right of access to the sea. Furthermore, Chapter 3, Article 3 of the Coastal Act also provides for protection of water-oriented activities, such as surfing. The right to permit a seawall conflicts with these provisions of the coastal act and should be used sparingly and with timely review, as provided for with the 20-year permit clause.

II. CONSISTENCY WITH PREVIOUSLY CERTIFIED LAND USE PLAN IS NEEDED FROM THE COMMISSION.

For over the past decade, a very labor-intensive Local Coastal Plan negotiation process has lead to the City Council and CCC's compromise position in the certified LUP. The Commission, through its current seawall permit decisions relating to Solana Beach, should honor the immense municipal, community and state resources that were expended in that LUP process in coming to the final agreement. The certified LUP represents a very delicate balance; to make further changes now without considering the entire LUP as a whole will jeopardize the immense amount of work done to date. The new use of "redevelopment" as a trigger for a new seawall permit is out of conformance with the Land Use Policy's call for a 20-year permit, specifically found in Policies 4.51, 4.54 and 4.18. A decision by the Commission to remove the 20-year seawall provision without re-addressing the overall LUP, especially when most of the Solana Beach seawalls are on public land, is premature at this point.

Policy 4.51 of Solana Beach LUP reads "*Coastal structures shall be approved by the City only if all the following applicable findings can be made and the stated criteria satisfied.* ***The permit shall be valid for a period of 20 years commencing with the date of CDP approval*** *and subject to an encroachment removal agreement approved by the City." (emphasis added).*

Policy 4.54 states "*An upper bluff system shall be approved only if all the following applicable findings can be made and the stated criteria will be satisfied.* ***The permit shall be valid for a period of 20 years commencing with the date of CDP approval*** *and subject to an encroachment agreement approved by the City....*" (emphasis added).

Policy 4.18 includes "*A legally permitted bluff retention device shall not be factored into setback calculations. Expansion and/or alteration of a legally permitted bluff retention device shall include a reassessment of the need for the shoreline protective device and any modifications warranted to the protective device to eliminate or reduce any adverse impacts it has on coastal resources or public access,* ***including but not limited to, a condition for a reassessment and reauthorization of the modified device in 20 years.***" (emphasis added).

The Commissioners and staff that diligently labored on the Land Use Plan amendments in previous years should also recognize that these policies need to be adhered to in future permits, such as the Koman and Ocean Ventures applications. On p. 18 of the Koman application (Th23b), the staff report notes that the certified Solana Beach LUP was used as guidance for the report, but the report did not use the 20 year permit period that the LUP called for repeatedly.

The City of Solana Beach has not indicated any departure from its commitment to the 20-year provision called for in the City's Land Use Plan. This 20-year permit requirement should be included in both the Solana Beach Koman (Th23b) and Ocean Ventures (Th24a) seawall application decisions that will be heard before the Commission on October 10, 2013.

III. THE DEFINITION OF "REDEVELOPMENT" SHOULD REMAIN STRONG AND CONSISTENT.

The Commission should also maintain consistency with the Solana Beach LUP in defining the terms of "redevelopment". Again, there was substantial debate and negotiation to arrive at the definitions used in the LUP and that definition should also appear in any future seawall application for Solana Beach. According to Solana Beach LUP, Chapter 8 definitions:

> "Bluff Top Redevelopment" shall apply to structures located between the sea and the inland extent of the sea and the first public road paralleling the sea (or lagoon) that consist of (1) additions; (2) exterior and/or interior renovations; (3) or demolition of an existing bluff home or other principal structure which results in:
> (1) Alteration of 50% or more of an existing structure, including but not limited to, alteration of 50% or more of exterior walls, interior load-bearing walls, or a combination of both types of walls, or a 50% increase in floor area.; or
> (2) Demolition, renovation or replacement of less than 50% of an existing structure where the proposed remodel would result in cumulative alterations exceeding 50% or more of the existing structure from the date of certification of the LUP.

The Commission staff's definition of "redevelopment" differs from the above definition in the instant reports. Additionally, the definition of "redevelopment" in the two staff reports for the Koman seawall application (Th23b) and that of Ocean Ventures (Th24a) are not consistent either. In the staff report for Ocean Ventures (Th24a), staff includes the following statement after the definition of "redevelopment"

on p.8: "Alterations are not additive or cumulative between major structural components; however, changes to individual major structural components are cumulative over time from the date of approval of this CDP amendment." The first clause of this statement is ambiguous and should be clarified by staff. The overall focus of this specific definition and description of "redevelopment" should be aimed at preventing a homeowner from substantially changing their structure, even if it is in a piecemeal fashion that results in a larger cumulative change over time.

IV. COASTAL ACT SECTION 30235 SHOULD NOT BE CHARACTERIZED AS AN "OVERRIDE" PROVISION.

The Commission in its recent Land's End decision for the first time took the position that section 30235 was an "override" provision within Chapter 3 of the Act. As an override provision, the Commission proposes to interpret section 30235 as requiring that a shoreline protective device be approved under the terms of that section regardless of whether there is a conflict with other Chapter 3 provisions. Previously, the Commission had only found specific Chapter 3 provisions to override other Chapter 3 provisions if they contained within themselves an indication of a Legislative intent to prescribe a specific result despite identified inconsistencies with other Chapter 3 policies.

For example section 30260, the override provision for coastal dependent industrial facilities, provides in part that:

> "...Where new or expanded coastal dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible."

This section specifically contemplates particular identification of one or more inconsistencies with other Chapter 3 policies, and permits approval of such a facility regardless of those inconsistencies if the other provisions of section 30260 are met. Section 30235, to the contrary, does not specifically contemplate any inconsistencies with other Chapter 3 policies. It merely directs that a shoreline protective device be approved if certain conditions are met, using the word "shall". In this respect it is more like sections 30230, 30231 or 30240 which use "shall" to mandate that certain resources be protected.

When the Commission in its review of proposed development has identified inconsistencies between policies such as 30230, 30231 or 30240 and other policies such as those in 30233 protecting wetlands or 30210 protecting access, it has not interpreted any of these as having the power to simply override the others, even though their application would appear, by use of the word "shall", to be mandated. Instead it has used the tool that the Legislature directed that it use to resolve conflicts between Coastal Act policies. Sections 30200 of the Act, titled "Policies as standards; resolution of policy conflicts", directs the Commission to resolve conflicts between policies of Chapter 3 using the test provided in section 30007.5. That section directs the Commission to resolve conflicts between one or more policies "in a manner which on balance is the most protective of significant coastal resources". Utilizing this test the Commission has approved a number of projects ranging from construction of a barn in wetlands because

the use of the barn would improve water quality in coastal streams and wetlands, to approval of Caltrans' reconstruction of freeway bridges in coastal lagoons because the Commission concluded that the access improvements were more protective of coastal resources than the impacts to the lagoon.

Contrast this with the process utilized when the Commission approves a coastal dependent industrial facility. There the Commission does not "balance" the protection of or impacts upon coastal resources; rather it simply applies the specific test directed by the Legislature, because the Legislature has specified that inconsistencies with other Coastal Act policies must be ignored so long as the tests of section 30260 are met. The Legislature knew, when it passed the Coastal Act, that coastal protection had to include some allowance for the approval of projects that were inconsistent with the policies of the law. Ports, for example, were given their own Chapter, one that contains its own special standards for the review and approval of port development projects. Of particular significance at the time that the law was being considered were facilities related to oil and gas development. Review and approval of the state's coastal management program under the federal Coastal Zone Management Act required specific accommodation of facilities for the oil and gas industry. This special treatment of coastal dependent industrial facilities is provided in sections 30260 through 30265.5 of the Act. This is the genesis of the "override" provisions applied through sections 30260, 30262 and 30263. Nothing similar exists elsewhere in Chapter 3 of the Act.

Section 30235, if it is interpreted as an "override", allows by its specific terms only the elimination or mitigation of adverse impacts on shoreline sand supply. However, not interpreting 30235 as an override provision allows for the consideration and elimination or mitigation of impacts under all of the applicable Chapter 3 policies. If the Commission continues to interpret section 30235 as an "override" provision, it risks property owner challenges to other mitigation, based upon other Chapter 3 policies, that it may choose to impose on projects for shoreline protective devices. The Commission may rely upon the case of Ocean Harbor House Homeowner's Association v. California Coastal Commission for the proposition that it can review all Chapter 3 impacts in cases involving section 30235. But this has not eliminated the Commission's litigation risk. The Ocean Harbor House case left open the question of whether, if the Commission could not deny the permit because to do so would be a taking, imposition of a mitigation fee would also constitute a taking. The Court in that case simply found that those plaintiffs had forfeited their taking claim for procedural reasons. If the Commission wants to eliminate this litigation risk it would be the safer course to approve the seawalls pursuant to section 30010.

When a property owner has argued in the past that not to approve proposed development would result in a taking under the 5th and 14th Amendments to the U. S. Constitution, the Commission, if it thought the claim met constitutional standards, approved the development, usually in quite limited form, using section 30010. That section provides that the law "shall not be construed as authorizing the Commission...to exercise their power to grant or deny a permit in a manner that will take or damage private property for public use..." The Commission has utilized this provision in relatively rare circumstances to approve development that was inconsistent with the policies of Chapter 3 where to deny the development was determined to constitute a take of the property. It has done this, for example, in its consideration of proposals for residential development on legal lots entirely within ESHA, in the pygmy forest of Mendocino County and on the dunes in Monterey and Pacific Grove in Monterey

County. These approvals utilized a test that constrained the development to maximize the protection of the coastal resource ESHA while still allowing development to the extent necessary to meet the appropriate constitutional standards. This analysis would work equally well if applied to shoreline protective devices. The Commission would approve what it thinks it must approve, but it would be able to apply the full range of Chapter 3 analyses and mitigation to the task without fear of litigation challenge. Considering all of the interests that the Commission has previously stated that it wants to further and protect when it considers shoreline protective devices, including shoreline retreat, this would probably prove a more fruitful line of analysis to pursue.

Choosing not to apply section 30235 as an "override" provision does not prevent the approval of shoreline protective devices that are otherwise inconsistent with Chapter 3. These projects can still be approved if they are on balance more protective of significant coastal resources, using section 30007.5; but if they are not more protective of coastal resources and are not otherwise approvable, then they should not be approved under the Act unless to do so would result in a constitutional take of the property. In that situation, section 30010 should be utilized to constrain and mitigate the approval using the full range of Chapter 3 analysis.

The Commission should abandon its ill-considered position in Land's End that section 30235 is an "override" provision, and instead return that section to its rightful place among the policies and apply the Act as the Legislature has directed. This will not prevent the approval of shoreline protective devices, but it will ensure that all of the policies of the Act are considered and applied appropriately and that approval of this development follows the analytic path established by the Legislature, one that best protects coastal resources.

In conclusion, the Surfrider Foundation suggests that the California Coastal Commission postpone these important seawall decisions until the larger discussion surrounding the LUP amendments and suggested modifications can be had. As the Commission knows, a City can elect to make their LCP and LUP more restrictive than the Coastal Act.[2] The Commission should not preclude the City of Solana Beach from making such a policy, especially since the LUP amendments will not be heard at the October CCC meeting, and many of the seawalls are on public land in Solana Beach, which gives the City additional authority. If the Commission will not make such a postponement, we request changes to the relevant permits as described herein that will bring them into conformance with the current Solana Beach Land Use Plan.

[2] For instance the Carlsbad LCP Section 21.204.040 requires "Seawalls shall be constructed essentially parallel to the base of the bluff **and shall not obstruct or interfere with the passage of people along the beach at any time.**" (emphasis added).