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Filed:	06/29/2011
180 th day:	12/26/2011
Staff report prepared:	08/18/2011
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Staff report approved by:	D.Carl
Hearing date:	09/09/2011

 COASTAL DEVELOPMENT PERMIT APPLICATION

Application number3-09-029, **Rusconi Seawall and Exterior Improvements**

Applicant.....**Bill Rusconi**

Project locationOn the blufftop and bluffs at 105 Seabright Avenue (APN 110-286-04) fronting the Seabright Beach unit of Twin Lakes State Beach in the City of Santa Cruz.

Project descriptionRecognize a 62-foot sculpted concrete soil nail seawall (previously permitted through emergency coastal development permit (CDP) 3-09-017-G) and make minor exterior blufftop improvements for residence and beach access.

File documents.....*Geotechnical Engineering Investigation* by Haro, Kasunich and Associates, Inc., dated December 2008; *Permanent Soil Nail Retaining Wall Structural Design Calculations* by Drill Tech, dated February 6, 2009; *Geologic Investigation Rusconi Property* by Bayside Geology, dated December 26, 2008; City of Santa Cruz Certified Local Coastal Program (LCP); Emergency CDP 3-09-017-G.

Staff Recommendation ..**Approval with Conditions**

A. Staff Recommendation

1. Summary of Staff Recommendation

The proposed project is located at the end of and just west of Seabright Avenue, seaward of East Cliff Drive and along the Seabright Beach unit of Twin Lakes State Beach in the Seabright area of the City of Santa Cruz. The existing residence on the site consists of an upcoast (to the west) unit and a downcoast (to the east) unit that are part of one single-story structure that operates as a duplex and that is located just inland of the blufftop edge. A portion of the bluff below and seaward (to the south) of the duplex is presently armored with a 62-foot long, full bluff, sculpted concrete seawall that was previously authorized under emergency CDP 3-09-017-G after a significant fissure formed in the bluff and



threatened bluff collapse under the duplex structure.¹ The seawall portion of the project was approved on a temporary basis pursuant to the Commission's emergency permit regulations and has been in place since 2009. For the Commission's follow-up regular CDP review purposes, however, the seawall must be treated as a proposed seawall as if it weren't already in place.

In this case, the Commission's staff geologist and staff engineer have determined that the duplex is in danger from erosion (including imminent bluff collapse) as that term is understood in relation to the Coastal Act due to the bluff fissure, and that the seawall structure is the least environmentally damaging alternative to protect that existing endangered structure. In terms of impacts, the seawall has a number of impacts on the coast, including, but not limited to, impacts from encroachment, fixing the back of the beach, and preventing the natural erosion of coastal bluffs that provide sandy material to the nearby beaches. Some of these cannot be avoided, but they can be reduced and mitigated by conditions, including conditions such as limiting its approval to 20 years, faux bluff finish, mitigation for shoreline sand supply and beach process impacts, and bluff landscaping and restoration. In addition to the seawall, the Applicant is also proposing some modifications designed to maximize the utility of the remaining blufftop area in light of the loss of bluff and development associated with the seawall itself.² These improvements include a lateral connection between the downcoast and upcoast units, and a replacement accessway from the upcoast unit's patio down the low bluff on the western side of the property (where it curves inland). The lateral connection would be about 42 inches wide and would skirt the blufftop and seawall edge. The replacement accessway would be constructed inland of the location of an existing retaining wall within an area of the existing patio that is presently occupied by a planter box on the far western edge of the patio. Provided these blufftop developments are appropriately conditioned and camouflaged, they should not result in impacts inconsistent with the Coastal Act.

Staff has worked closely with the Applicant to work through the coastal resource issues created by the proposed development, and to help craft a project that can best respond to the constraints and the history at this location. As of the date of this staff report, the Applicant is in agreement with the staff recommendation. Staff recommends that the Commission approve a CDP with conditions for the proposed development. The motion to act on this recommendation is found on page 3 below.

¹ In 2009, a 4-inch wide by 15-foot deep fissure of the terrace deposits and Purisima sandstone was found to be jeopardizing the residential structures, a portion of which were positioned between 3-5 feet from the edge of the near vertical bluff.

² The blufftop improvements are within the City's CDP jurisdiction, but they have been consolidated in the Commission's CDP application as is allowed by the Coastal Act.



2. Staff Recommendation on Coastal Development Permit

Staff recommends that the Commission, after public hearing, **approve** the proposed project subject to the standard and special conditions below.

Motion: I move that the Commission approve coastal development permit number 3-09-029 pursuant to the staff recommendation. I recommend a yes vote.

Staff Recommendation of Approval: Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve the Permit: The Commission hereby approves a coastal development permit for the proposed development 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. 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.

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B. Findings and Declarations

The Commission finds and declares as follows:

1. Project Location and Description

A. Project Location

The Applicant's residential development, consisting of two units that form a single one-story duplex structure, sits atop a coastal bluff fronting the Pacific Ocean and Monterey Bay in the City of Santa Cruz in the northern Monterey Bay region of California (see Exhibit A). The duplex and related residential development fronts the Seabright Beach unit of Twin Lakes State Beach, and is located about halfway along this beach between the San Lorenzo River (at San Lorenzo Point) and the Santa Cruz Harbor. The bluffs at the Applicant's property, which trend east-west, range in height from 22 feet on the downcoast side (to the east) to 11 feet high on the upcoast side of the property (to the west). Presently, a 62-foot seaward portion of the bluffs is armored with a concrete seawall which is flanked on either side by unarmored bluff, where the bluff area on the upcoast side extends inland from the general orientation of the shoreline.³ The seawall on the armored portion of bluff was authorized via emergency CDP in 2009 (emergency CDP 3-09-017-G), and this application is proposed as the required regular follow up authorization.⁴

The geography in the area is such that there are bluffs on two sides of the duplex: one that faces west and fronts a beach level sandy area near the main entrance to Seabright Beach, and one that faces south and toward the ocean. On the ocean side of the duplex, the beach is broad and expansive with widths reported to be as much as almost 500 feet in certain locations. On the beach entrance side, a sandy inlet extends some 100 feet to East Cliff Drive, and is a landform remnant of the mouth of Pilkington Creek, which still flows onto the beach near the base of the beach access ramp. The bluffs slope down at the site towards the sandy inlet such that the lower portion of the duplex and its patio (supported by a wood retaining wall) is about 10 feet lower than the elevation of the upper portion, and is only some 10 feet or so above the elevation of the beach sand. Ice plant generally covers the bluff landform except where the seawall is located, including covering a bluff materials "debris fan" at the base of the bluffs that is approximately 2 feet high (generated from erosion of both the marine terrace deposits and the Purisima sandstone), and a series of short wood retaining walls are located in the upper bluff downcoast of the seawall.⁵ The duplex is set back from the bluff edge as much as 15 feet at the sandy inlet, 25 feet on its most downcoast end, and as little as 4 feet along its southern side near the seawall. The blufftop ranges

³ The site is located at a knoll where the orientation of the bluff shifts inland and perpendicular to the shoreline at the upcoast portion of the bluffs associated with the Applicant's property.

⁴ Emergency CDPs authorize temporary development needed to abate emergencies. If such development is to be retained, it must be recognized by a regular CDP authorization.

⁵ Three wood post and lagging retaining walls ranging from 1 to 3 feet in height above ground (and an estimated 4 feet below) and spaced 18 to 24 inches upslope of each other with horizontal 2 x 12 inch wood lagging. The Commission has found no evidence indicating that these retaining walls were permitted, and for purposes of this report they are considered unpermitted.



from 36 feet NGVD⁶ to 23 feet NGVD.

The bluffs at this site are typical of this region, composed of well consolidated weakly cemented sands and silts of the Purisima sandstone formation overlain by easily eroded marine terrace deposits. Because the coastline between the Santa Cruz Municipal Wharf and the Santa Cruz Harbor trends roughly east-west (and perpendicular to the dominant direction of approach for waves within the northern portion of Monterey Bay) littoral drift is generally slow, allowing formation of fairly continuous and protective beaches. These beaches include Main Beach fronting the Boardwalk and Seabright Beach at this location. The Seabright Beach formation has also benefitted from the installation of the Santa Cruz Harbor jetties, which have helped to form the generally wide beach that fronts the site. Downcoast of the Santa Cruz Harbor, the beaches become generally narrower and more discontinuous, with a historically documented rate of long-term average annual erosion of approximately 1-foot per year in some places. Along the subject property, the rates of erosion are generally less, with much of the reduced rate of erosion due to the construction of the downcoast Harbor jetties between 1962 and 1964. When the west jetty was completed in late 1962, the annual littoral flow of sand, totaling about 300,000 cubic yards, was significantly blocked, causing the upcoast beaches to trend toward expansion and the downcoast beaches to tend towards contraction. By 1965, the upcoast Seabright Beach had widened to over 300 feet and the downcoast Capitola Beach had been reduced by almost 90 percent to an average of only 20 feet. Ultimately, beaches downcoast from the Harbor generally recovered to a certain degree after a few years as a buildup of sand on the upcoast side of the Harbor jetties peaked and littoral drift began bypassing the jetties. Now, long-term average annual erosion rates along the subject property have slowed, although the bluff continues to retreat, primarily due to erosion, slumping, and bedrock block failure. This retreat is driven primarily by storm induced saturation and earthquakes and now averages roughly 0.3 feet per year.⁷

See Exhibit A for location maps and Exhibit C for site photos.

B. Project Description

The Applicant proposes to have the emergency seawall construction from 2009 recognized (with no expansion of its footprint and/or profile),⁸ to construct a lateral connection between the two units (with risers) and a replacement accessway from the upcoast unit's patio down the bluff, and to landscape bluff areas and atop railings.

⁶ The Sea Level Datum of 1929 was the vertical control datum established for vertical control surveying in the United States by the General Adjustment of 1929. The datum was used to measure elevation (altitude) above, and depression (depth) below, mean sea level (MSL). It was renamed the National Geodetic Vertical Datum of 1929 (or NGVD) in 1973. NGVD can also be understood in relation to the North American Vertical Datum of 1988 (NAVD 88), which is based upon the General Adjustment of the North American Datum of 1988.

⁷ Although bluff retreat is generally episodic, typically occurring every few seasons in response to large storms or when surf cut notches at the base of the bluffs intercept planes of structural weakness in the bedrock, long-term average annualized rates have historically been used to average out such acute events over time, and to provide a tool for understanding historic erosion trends.

⁸ Because the seawall portion of the project was approved on a temporary basis pursuant to the Commission's emergency permit regulations, it must be treated as a proposed seawall as if it weren't already in place for the Commission's follow-up regular CDP review purposes. Thus, while it is "existing" in a physical sense, this report addresses the seawall as proposed for analytic purposes.



The proposed seawall spans 62 feet across the bluff face, from its most southwesterly corner eastward to just past the western edge of the downcoast unit. The proposed seawall extends from the toe to the top of the bluff. Because of the sloping nature of the bluff from east to west, the height of the proposed seawall ranges from 8 to 18 feet in height, and follows the existing topographical contours of the bluff. The proposed seawall is 2 feet wide and includes a reinforced concrete facing, colored, textured, and sculpted to mimic the surrounding bluff.

The proposed lateral connection between the two units would be a 3.5-foot wide wooden deck that would span approximately 50-feet of blufftop from the edge of the existing brick patio between the two units to the existing brick patio west of the upcoast unit. This connection would include a 12-step stairway to connect to the existing lower west brick patio of the upcoast unit. A 42-inch railing would extend along its entire length. The proposed replacement accessway would be built inland of the existing wood retaining wall where a planter box is located so as not to extend over the bluff or be visible to the public from the beach. Approximately 19 steps would be built in the planter box area extending inland behind the retaining wall to the base of the bluff. The existing retaining wall, which makes up the outer edge of the planter box and supports the patio, is proposed to remain intact or be repaired as necessary to continue to provide support to the patio. Additionally, the seaward portion of this wall would be extended inland (to the north, roughly 6-feet) so as to hide the lower portion of the stairs from view of the beach. A new railing would also be constructed along the outer edge of the patio for safety.

The Applicant also proposes to place planter boxes with overhanging native drought tolerant salt resistant vegetation at the top of all railings. Similar landscaping is also proposed along the bluff and the base of the retaining wall after removal of iceplant during construction. In addition, the Applicant has proposed a drainage plan designed to take all runoff and related stormwater from the site to Seabright Avenue. All roof gutters, downspouts and drain inlets tied into closed conduits will be used to divert roof and patio runoff away from the structural foundation and all runoff over the bluff top and ravine side will be limited to incidental runoff from rain fall on landscaped areas. All existing exposed black corrugated drain lines on the property will be removed off the west and south (i.e., bluff) sides of the residence. Finally, all gravity flow lines are proposed to discharge into a V64 sump pump located below the far northeast section of the existing west brick patio and directed to Seabright Avenue.

See Exhibit B for project plans and Exhibit C for photographs of the proposed project.

2. Coastal Development Permit Determination

The proposed project spans the CDP jurisdiction of both the Commission and the City of Santa Cruz. The CDP application has been consolidated pursuant to Coastal Act Section 30601.3, and thus the standard of review is the Coastal Act. As relevant, the City of Santa Cruz's certified LCP can provide non-binding guidance.



A. Geologic Conditions and Hazards

1. Applicable Policies

Coastal Act Section 30235 addresses the use of shoreline protective devices:

30235. 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. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

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

Section 30253. New development shall do all of the following:

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

Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins, seacave infill/plugs and other such structural or “hard” methods designed to forestall erosion 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 affects 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 generally interpreted Section 30235 to apply only to existing principal structures. The Commission must always consider the specifics of each individual project, but has generally 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. The Commission has at times historically permitted at-grade structures within geologic setback areas, recognizing that they 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.

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 altering construction



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 necessary. The fourth question applies to mitigating some of the impacts from armoring.

2. Analysis

A. Existing Structure 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 development permittees for new shorefront development are thus making a commitment to the public (through the approved action of the Commission, and its local government counterparts) that, in return for building their project, the public will not lose public beach access, offshore recreational access, sand supply, visual resources, and natural landforms, and that the public will not be held responsible for any future stability problems.

Coastal Act 30235 allows for shoreline protection in certain circumstances (if warranted and otherwise consistent with Coastal Act policies) for “existing” structures. One class of “existing structures” refers to those structures in place prior to the effective date of the Coastal Act. Coastal zone development approved and constructed prior to the Coastal Act went into effect was not subject to Section 30253 requirements. Although some local hazard policies may have been in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been built in such a way as to avoid the future need for shoreline protection (in contrast to those evaluated pursuant to Section 30253 and similar LCP policies since).

In some cases, the Commission has required applicants for blufftop structures to waive any right to a seawall that may exist pursuant to Section 30235; in other words to stipulate that they are not existing structures for 30235 purposes because the structures have been sited and designed to not need shoreline armoring in the future (pursuant to Section 30253 and LCP counterpart policies).

In this case, the existing duplex was built prior to the 1940s, and is clearly present in a photograph taken from offshore in 1972 (see Exhibit C). Thus, the duplex predates the coastal permitting requirements of both 1972’s Proposition 20 (the Coastal Initiative)⁹ and the 1976 Coastal Act. As such, the residence qualifies as an existing structure for the purposes of Section 30235.

B. 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, large waves, flooding, earthquakes, and other geologic hazards. These risks can be exacerbated

⁹ Proposition 20’s coastal permitting requirements began in 1973.



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.” It is a matter of the degree of threat that distinguishes between danger that represents an ordinary and acceptable risk, and danger that requires shoreline armoring per 30235. Lacking Coastal Act definition, the Commission’s long practice has been to evaluate 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 generally 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).

The construction of the Santa Cruz Harbor in the 1960s has changed the way in which the bluffs interact with the ocean at this location. Prior to the Harbor being built, the site was subject to regular wave attack and generally higher rates of erosion.¹⁰ After the Harbor was built, its jetties captured large quantities of sand on the upcoast side (because the littoral flow is from west to east) and a wide beach formed at this location, generally decreasing erosion rates.¹¹ Such erosion does not occur as small incremental amounts each year, but more often as multiple feet of retreat during a significant winter storm and then only small amounts of retreat during other years. While the subject site is generally not subject to heavy wave action on a regular basis any longer, erosion does still occur as indicated by the Applicant’s geotechnical representatives. According to the Applicant’s geotechnical consultant, “the bluff has continued to retreat at a relatively slow rate due to erosion, slumping and bedrock block failure. This retreat is driven primarily by storm-induced saturation and earthquakes.”¹² The Applicant’s geotechnical consultant estimates the average annual long term bluff recession for this site at 0.3 feet per year, consistent with past reports applicable to this area.¹³ The Applicant’s geotechnical consultant indicates that the seawall at this location is necessary to protect the existing residence from immediate erosion danger due to the fissure in the bluff. The Commission’s staff geologist and senior engineer concur with this assessment. Thus, the existing structure is “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.

C. Feasible Protection Alternatives to a Shoreline Structure

The third Section 30235 test that must be met is that the proposed armoring must be “required” to protect the existing threatened structure. In other words, shoreline armoring can be permitted if it is the

¹⁰ Griggs and Johnson (1979) established 60 stations along the California coastline and measured the rate of retreat at each station using maps and aerial photographs generally covering the period between 1853 and 1973. Their station number 6 was located at the end of Seabright Avenue, immediately adjacent to the subject property. The average rate of erosion at station number 6 prior to construction of the Harbor jetties was estimated to be about 0.9 feet per year.

¹¹ Griggs and Johnson estimated that after ten years following jetty construction the rate of erosion dropped to an average of 0.3 feet per year.

¹² Geologic Investigation Rusconi Property by Bayside Geology, dated December 26, 2008.

¹³ Id (Griggs and Johnson, 1979).



only feasible alternative capable of protecting the existing endangered structure.¹⁴ When read in tandem with other applicable Coastal Act policies cited in these findings, this Coastal Act 30235 evaluation is often conceptualized as a search for the least environmentally damaging feasible alternative that can serve to protect existing endangered structures. Other alternatives typically considered include: the “no project” alternative; abandonment of threatened structures; relocation of threatened structures; sand replenishment programs; drainage and vegetation measures on the blufftop; and combinations of each.

Because this application is for follow-up recognition of the existing seawall, the “no project” alternative is in this case the “remove the seawall” alternative. As indicated above, there is an existing structure in danger from erosion (per Coastal Act Section 30235) at this location. The ‘no-project, remove the seawall’ alternative would not provide any protection to the endangered duplex and cannot alone suffice as the approvable alternative in this case.

Abandonment or relocation of the endangered duplex inland is another alternative typically considered. Relocation is a reasonable and feasible alternative to consider in some cases, particularly where the relocation envisioned is relatively minor in relation to the structure and the site. In this case, the property is fully developed with structures and little space is present outside of the building footprint (see photos in Exhibit C). Thus, there is no reasonable location on site to relocate the endangered duplex. Outright removal would serve to abate the danger, but would not protect the duplex. It is possible that the upcoast unit could be removed (as it is the closest to the most dangerous portion of the bluff), and this would continue to allow and protect a residential use of the site. Even if such a unit were removed, however, the remaining unit would be in danger from erosion within a relatively short period of time due to its location relatively close to the edge of the blufftop. As it is, the far east section of bluff is eroding and temporary retaining walls were put in to protect the adjacent brick patio which is directly adjacent to the downcoast unit. In any case, removal of the upcoast unit wouldn’t really delay the necessity for a shoreline device for long to protect the downcoast unit, and as such a similar finding of danger from erosion could be found. In addition, removal of one of the units would be a significantly lesser residential use of the site than that which is currently endangered, and is not considered feasible due to economic factors in this case. Therefore, in this case, based on the site constraints and the existing development present on site and infeasibility to abate the danger through removal or relocation, an abandonment or relocation option does not appear to be a feasible alternative for protecting this existing endangered duplex.

Another alternative 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. This concept posits that instead of allowing continued armoring, the shoreline should be allowed to retreat naturally. In this way, as the shoreline naturally erodes and sea level rises, new beaches can form. 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

¹⁴ 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.



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, such options appear not to be feasible at this location at this time.¹⁵

Finally, another non-shoreline structure alternative would be to recreate the vegetated bluff ‘debris’ fan, or sand shelf, that existed prior to the construction of the emergency seawall, and which appears to have acted as protection of sorts for the bluff slope during that time. This alternative would require import of a sand-soil mix, and intensive planting. It is likely that some form of temporary structural retaining wall would be required until the sand shelf became self-sustaining and cohesive. This option can be considered a permutation of a type of single property sand replenishment program with the added element that the imported sand here would be vegetated to form a more stable back beach area. Although this alternative is attractive for its potential visual impact mitigation potential, and its soft armoring approach to erosion, it doesn’t mitigate the danger to the residence from the fissure. Further, it isn’t clear that such a bench could be recreated in a manner that effectively mimicked the natural toe buttress previously evident, nor that it could be constructed large enough or solid enough to work effectively in this case.

Given all the above, the proposed project is the least environmentally damaging alternative “required” to protect the existing endangered duplex and it thus meets the third test of Section 30235 of the Coastal Act.

D. 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.

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. Coastal dunes are almost entirely beach sand, and wind and wave action often provide an ongoing mix and exchange of material between beaches and dunes. 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

¹⁵ Of course, if, in the future, the State or even local governments embrace planned retreat as a strategy, the removal of a hard armoring structure at the project location would be a small part of that program inasmuch as many miles of hard armoring would need to be removed and other shore-fronting development retired to allow for the strategy to work comprehensively.



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 within the Santa Cruz Littoral Cell. The Santa Cruz Littoral Cell is a high volume cell with annual longshore transport estimated between 300,000 and 500,000 cubic yards of beach quality materials annually.¹⁶ The dominant direction of longshore transport in this sand supply system is north north-west to south south-east (roughly from upcoast to downcoast in relation to the site).¹⁷ Materials in this system have been estimated to come mainly from coastal streams (roughly 75%), with 20% coming from bluffs, and 5% coming from coastal ravines and sand dunes.¹⁸

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 material that would have been supplied to the beach if the back-beach or bluff were to erode naturally.¹⁹

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 a loss of access to such beach areas as well as 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, or in the case of a revetment,

¹⁶ United States Army Corps of Engineers (USACOE), San Francisco District, 1994.

¹⁷ Id (USACOE, 1994).

¹⁸ Griggs and Best, 1991.

¹⁹ 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.



as it spreads seaward over time. 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 proposed seawall will cover approximately 124 square feet of sandy beach area (62 feet long by 2 feet wide). The loss of a square foot of beach area can be roughly converted to the volume of sand that would be required to nourish an equivalent area of beach. There is a rough rule of thumb that it takes between 0.5 to 1.5 cubic yards of sand to establish 1 square foot of dry beach through nourishment.²⁰ The Commission has not been able to establish an actual conversion factor for this specific site, and would normally use a conversion factor of 1.²¹ Here, the Applicant's geotechnical consultants are in agreement with the Commission's senior engineer that a value of 1 is an appropriate approximation for this area. Thus, using the conversion factor, the sand volume equivalent for the direct loss of beach due to encroachment by the proposed project would be 124 cubic yards of beach-quality sand.²²

Fixing the back beach

Experts generally agree that where the shoreline is eroding and/or sea level is rising and armoring is installed, the armoring will eventually define the boundary between the sea and upland areas. On an eroding shoreline, a beach will exist between the shoreline/waterline and the bluff as long as sand and space are available to form a beach. As bluff erosion and sea level rise 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 beach as a direct result of the armor.

In this case, the site is experiencing a relatively minor erosion rate due to the lack of significant wave attack or wave run-up during most times of the year because it fronts a fairly expansive sandy beach. Yet, as has been described in more detail above, the bluff is still actively eroding. In addition, experts generally agree that sea level has been rising slightly 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).²³ Mean sea level affects shoreline

²⁰ This conversion value is based on the regional beach and nearshore profiles, and overall characteristics. When there is not regional data to better quantify this value, it is often assumed to be between 0.5 and 1.5, the basis being that to build a beach seaward one foot, there must be enough sand to provide a one-foot wedge of sand through the entire region of onshore-offshore transport.

²¹ As has been the case for most armoring projects in this area (e.g., recent CDPs 3-09-042 (O'Neill), 3-07-019 (Pleasure Point), etc.).

²² Per the Commission's long-standing methodology, this is calculated as a one-time encroachment impact as opposed to a yearly impact.

²³ 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. These projections are in line with 2007 projections by Stefan Rahmstorf ("A Semi-Empirical Approach to Projecting Future Sea-Level Rise",



erosion 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. This, too, leads to loss of the beach as a direct result of the armor as the beach is squeezed between the landward migrating ocean and the fixed backshore.

Such passive erosion impacts can be calculated over the time the proposed armoring is expected to last. In this case, the Applicant indicates that the proposed seawall will have a 50-year lifetime over which time such impacts will be in effect. However, it has been the Commission's experience that the actual expected lifespan of shoreline armoring projects is often substantially less than 50 years due to the need for major maintenance or modifications, or entire redevelopment of an armoring structure within a much shorter timeframe. In other words, despite the Applicant's 50-year projection, it has been the Commission's experience that shoreline armoring tends to need to be augmented, replaced, and/or substantially changed within about twenty years. Rising sea levels and attendant consequences will tend to further delimit such time period in the future, potentially dramatically, depending on how far sea level actually rises.

The other factor that is appropriate to consider when identifying a particular horizon for a seawall in an approval is the changing and somewhat uncertain nature of the context affecting coastal development decisions regarding armoring (including not only climate change and sea level rise, but also legislative change, judicial determinations, etc.). A twenty-year period better responds to such potential changes and uncertainties, including to allow for an appropriate reassessment of continued armoring and its effects at that time in light of what may be differing circumstances than are present today, including with respect to its physical condition after twenty years of hard service. In addition, with respect to climatic change and sea level rise specifically, the understanding of these issues should improve in the future, given better understanding of the atmospheric and oceanic linkages and more time to observe the oceanic and glacial responses to increased temperatures, including trends in sea level rise. Such improved understanding will almost certainly affect CDP armoring decisions, including at this location. Of course it is possible that physical circumstances as well as local and/or statewide policies and priorities regarding shoreline armoring are significantly unchanged from today, but it is perhaps more likely that the baseline context for considering armoring will be different – much as the Commission's direction on armoring has changed over the past twenty years as more information and better understanding has been gained regarding such projects, including their affect on the California coastline.

For these reasons, the Commission uses a design life of 20 years for the proposed seawall in these findings, and implements the 20-year period through conditions (see Special Condition 4). In addition, Special Condition 4 also recognizes that the proposed seawall is being approved under Section 30235 to protect the existing structure in danger from erosion. Coastal Act consistency is only maintained in this scenario when such existing structure is present and in danger. If, for whatever reason, the now existing structure warranting armoring is no longer present and/or no longer requires armoring for such protection before the twenty years is up, then the approval will no longer be valid. In other words, this

Science; Vol 315, 368 – 370). 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.



approval is for a twenty-year period or the time when the existing structure is no longer present and/or no longer requires armoring, whichever comes first. Further, the approval is specific to the structure as it now exists, and not for a replacement or significantly redeveloped duplex. Any such future replacement or redevelopment must be considered independent of the armoring allowed here that is specific to the current situation and current existing structure. See Special Condition 4.

The Commission has established a methodology for calculating passive erosion, or the long-term loss of beach due to fixing the back beach. This impact is equivalent to the footprint of the bluff area that would have become beach due to erosion and sea level rise and is equal to the long-term average annual erosion rate multiplied by the width of property that has been fixed by a resistant shoreline protective device.²⁴ In this case, the proposed seawall will extend along the seaward base of the bluff upon which the duplex sits. The proposed armoring will also cover some areas of sandy beach and for purposes of determining the impacts from fixing the back beach, it is assumed that some new beach area would result from landward retreat of the bluff absent armoring. The shoreline is irregular, but the area affected by passive erosion can be approximated as a 62-foot-long curvilinear bluff. The Applicant's geotechnical consultant estimated the average annual long term bluff recession for this site at 0.3 feet per year.²⁵ Therefore the passive erosion impacts from fixing the back beach will be the annual loss of 18.6 square feet of beach. Over the 20-year permit horizon, this would result in a loss of 372 square feet of beach that would have been created if the back beach had not been fixed by the proposed seawall. Using the beach-area to beach-volume conversion discussed above, this would be equivalent to an annual loss of 18.6 cubic yards of beach quality sand per year, and a loss over twenty years of 372 cubic yards of beach quality sand that can be attributed to fixing of the back beach. Because the seawall has been in place for approximately 2 years (since April 2009), the loss of beach quality sand is adjusted accordingly, for a total of approximately 409 cubic yards.²⁶

Retention of Potential Beach Material

If natural erosion were allowed to continue at the project site, 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

²⁴ The area of beach lost due to long-term erosion (A_w) 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: $A_w = R \times L \times W$. The annual loss of beach area can be expressed as $A_w' = R \times W$.

²⁵ This rate is generally below the typical regional range identified in the north Monterey Bay area (generally between 6 and 12 inches per year), but it is reasonable in this case due to the presence of the Santa Cruz Harbor jetties and the beach landform.

²⁶ That is, an additional 37.2 cubic yards attributable to the past 2 years that the seawall has been in place.



were not installed. The Commission has established a methodology for identifying this impact.²⁷ The Applicant indicates (and the Commission's senior engineer concurs) that this impact is roughly 5.3 cubic yards of beach quality sand per year for the proposed project. Over the course of the identified 20-year horizon, this equates to a retention impact of 106 cubic yards of beach quality sand. Because the seawall has been in place for approximately 2 years, the retention impact is adjusted accordingly, for a total of approximately 117 cubic yards.²⁸

Beach and Sand Supply Impacts Conclusion

The proposed project would result in quantifiable shoreline sand supply impacts as follows: 1) beach encroachment equal to 124 cubic yards of sand (when converted for volume); 2) passive erosion equal to 409 cubic yards over twenty-two years;²⁹ and 3) sand material retention of 117 cubic yards of sand over twenty-two years. For the project, these shoreline sand supply impacts equate to a loss of 650 cubic yards of sand, including the way it interacts with the system.³⁰

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. There are no readily available properties of this sort in the vicinity.

Other types of mitigation typically required by the Commission for such direct sand supply impacts have been in-lieu fees and/or beach nourishment, and in some cases compensatory beach access improvements. With regards to beach nourishment, a formal sand replenishment strategy can introduce an equivalent amount of sandy material back into the system over time to mitigate the loss of sand that would be caused by a protective device over its lifetime. Obviously, such an introduction of sand, if properly planned, can feed into the Santa Cruz Littoral Cell sand system to mitigate the impact of the project. If these impacts were to be mitigated through a beach nourishment effort, the impacts would be comparable to the deposition of approximately 150.5 cubic yards of beach quality sand at the start of the project (or roughly 15 large truck loads), and about 25 cubic yards (or roughly 2.5 large truck loads) of beach-quality sand yearly after that. However, absent a larger comprehensive program that provides a

²⁷ The equation is $V_b = (S \times W \times L) \times [(R \times h_s) + (1/2 h_u \times (R + (R_{cu} - R_{cs})))] / 27$. Where: V_b is the volume of beach material that would have been supplied to the beach if natural erosion continued (this is equivalent to the long-term reduction in the supply of bluff material to the beach resulting from the structure); S is the fraction of beach quality material in the bluff material; W is the width of property to be armored; L is the design life of structure, if assumed a value of 1, an annual amount is calculated; R is the long term average annual erosion rate; h_s is the height of the shoreline structure; h_u is the height of the unprotected upper bluff; R_{cu} is the predicted rate of retreat of the crest of the bluff during the period that the shoreline structure would be in place, assuming no seawall were installed (this value can be assumed to be the same as R unless the Applicant provides site-specific geotechnical information supporting a different value); R_{cs} is the predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming the seawall has been installed (this value will be assumed to be zero unless the Applicant provides site-specific geotechnical information supporting a different value); and divide by 27 (since the dimensions and retreat rates are given in feet and volume of sand is usually given in cubic yards, the total volume of sand must be divided by 27 to provide this volume in cubic yards, rather than cubic feet).

²⁸ That is, adding 11 cubic yards for the past two years that the seawall has been in place.

²⁹ Id (over the two years to date and the next twenty years).

³⁰ That is, 124 cubic yards from encroachment, 409 cubic yards from passive erosion, and 117 cubic yards from retention of materials.



means to coordinate and maximize the benefits of several mitigation efforts in the area now and in the future, the success of piecemeal mitigation efforts, such as an Applicant-only project to drop this type of equivalent amounts of sand over time at this location, is uncertain.

With respect to using beach access improvements to offset impacts, such mitigation is typically applied by the Commission to public agencies that are in the beach management business when they have applied for armoring projects.³¹ It is more difficult to put the burden for a public project on a private applicant and thus such mitigation is atypical.³²

Another option sometimes considered is dedication of an easement or fee title to portions of an Applicant's property that are appropriate for beach and public recreational access. In these scenarios, the utility of such mitigation is case-specific inasmuch as some property lends itself to this type of mitigation while others don't. In this case, the Applicant has fee-title ownership over approximately 6,000 square feet of the beach and bluff sloughing area at the base of the bluffs. This beach area, while elevated due to bluff slumping and erosion, has been, and is generally used by the public using Seabright Beach because the property boundaries are not evident and it is physically indiscernible from the adjacent State Beach property (see Exhibit C for site photos of the area). As such, the utility of such an easement for offsetting shoreline sand supply impacts is questionable.

As an alternative mitigation mechanism, the Commission oftentimes uses a mitigation payment when in-kind mitigation of impacts is not available.³³ In situations where ongoing sand replenishment or other appropriate mitigation programs are not yet in place, the mitigation payment is directed to particular projects and/or deposited into an account until such time as an appropriate program is developed, and the funds can then be used to offset the designated impacts. When mitigation funds are pooled in this way for multiple projects in a certain area, the cumulative impacts can also be better addressed inasmuch as the pooled resources can sometimes provide for a greater mitigation impact than a series of smaller mitigations based on individual impacts and fees. Based on an estimated range of costs for beach quality sand in this vicinity ranging from \$25 to \$50 per cubic yard delivered (or possibly more),³⁴ a mitigation payment in this case would range from about \$16,250 to \$32,500 or more.³⁵ Based on recent estimates from a commercial sand supplier in the area, a rate of \$42 per cubic yard of beach quality sand represents a fair estimate for delivered sand cost in this case.³⁶ Thus, at \$42 per cubic yard delivered, the

³¹ For example, as recently required with respect to recreational access improvements along the Pleasure Point shoreline area of Santa Cruz County as part of the Commission's approval of a seawall fronting East Cliff Drive (CDP A-3-SCO-07-015/3-07-019, approved December 13, 2007).

³² Although the Commission has applied such a requirement for this type of impact before (see, for example, CDP 3-02-107, Podesto).

³³ See, for example, CDP 3-10-044 (Crest Apartments), CDP A-3-SCO-06-006 (Willmott), CDP A-3-SLO-01-040 (Brett), CDP 3-98-102 (Panattoni), and CDP 3-97-065 (Motroni-Bardwell).

³⁴ According to 2011 estimates from Graniterock, a large local supplier of such materials.

³⁵ Based on 650 cubic yards of such sand purchased today for \$25 per cubic yard (\$16,250) or \$50 per cubic yard (\$32,500).

³⁶ Id (Graniterock).



650 cubic yards of sand would translate into a mitigation payment of \$27,300.³⁷

The project's shoreline sand supply impacts translate directly into degradation of public access to and along the Seabright Beach.³⁸ As such, a mitigation payment that can be used to improve such access at this location and thus offset such impacts is proportionate and appropriate in this case. State Parks has indicated that there are a series of improvements necessary and appropriate at the entrance to the beach adjacent to the site (including adding aggregate to the public access trail, upgrades to the sewer lift station system, general facility maintenance and upkeep, and replacement of several fire rings on the beach) and that the mitigation payment would mean that these projects could be funded and completed, whereas current State Parks budget issues would not allow for these projects to be undertaken. Fortunately in this case, State Parks has identified two critical needs at this location through which money can be directly dedicated to: upgrades to the current sewer pumps which have outlived their design life (approximately \$20,000) and additional aggregate material to improve the public access trail at the entranceway to Seabright Beach (approximately \$7,000). Thus, as conditioned, the project satisfies the Coastal Act Section 30235 requirements regarding mitigation for sand supply impacts, and thus also meets all Section 30235 tests for allowing such armoring.

E. 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 seawall were damaged in the future (e.g. as a result of flooding, landsliding, wave action, storms, etc.) it would lead to a degraded public access condition. In addition, such damages could adversely affect nearby beaches by resulting in debris on the beaches and/or creating a hazard to the public using the beaches or the offshore surfing area. 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 Applicant and the Commission know when repairs or maintenance are required, the Applicant must regularly monitor the condition of the subject armoring, particularly after major storm events. Such monitoring will ensure that the Applicant and the Commission are aware of any damage to or weathering of the armoring and can determine whether repairs or other actions are necessary to maintain the seawall structure 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.

To ensure that the proposed project is properly maintained to ensure its long-term structural stability,

³⁷ And if the Applicant submits three valid bids for the cost of delivered beach quality sand that average to an amount less or more than \$42 per cubic yard and the bids have been reviewed and approved by the Executive Director, this payment may be adjusted to the average for these three bids applied to 650 cubic yards of sand.

³⁸ See also Public Access and Recreation findings below for further discussion.



Special Condition 9 requires monitoring and reporting programs. Such programs will provide for evaluation of the condition and performance of the proposed project and overall bluff stability, and will provide for necessary maintenance, repair, changes or modifications. Special Condition 10 allows the Applicant 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 8 of this approval requires the submittal of as-built plans to define the footprint and profile of the proposed seawall portion of the permitted development.

With respect to the replacement accessway along the upcoast side of the site, the 30253 consistency question also extends to ensuring that this portion of the development does not itself require shoreline altering development in the future, such as more armoring. In order to ensure that this is the case, this approval is conditioned to require the Applicant to stipulate that this accessway won't constitute an existing structure for which armoring can be pursued in the future (see Special Condition 11).

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 Applicant to assume all risks for developing at this location (see Special Condition 11). This acknowledgement, as well as the other conditions of the permit, must be recorded through a deed restriction recorded against the subject property to ensure that future property owners are aware of the terms and conditions of this permit that restrict the use and enjoyment of it (see Special Condition 14).

F. Geologic Conditions and Hazards 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. That said, even with the 20-year horizon applied to this project, it is clear that the proposed project firmly commits this site to being armored for the foreseeable future. As indicated, such an outcome is consistent with the manner in which the Commission has historically treated armoring projects in the Santa Cruz area, including most recently with the Pleasure Point and O'Neill seawall projects, which are located downcoast of the site. As also indicated, such an outcome does not mean that parallel and more global efforts to better address urban shorelines in light of erosion and sea level rise are not relevant or should not be pursued. On the contrary, it is clear that the State must come to grips with issues related to shoreline armoring as it relates to urban and largely armored areas and rising sea levels. The individual and cumulative effect of such armoring is that, over time, beaches in these areas will be lost. Mitigations can be imposed on armoring projects to reduce such impacts, but mitigation for the long-term impacts to the public, both as



a result of individual armoring projects and the overall cumulative effect of armoring projects together with all the existing armoring along the coastline, has proven more difficult. Some of these long-term impacts were “inherited” by the people of the State because many such urban coastlines, such as urban Santa Cruz City and County, were already largely armored to a certain degree when the coastal permitting requirements of Proposition 20 and the Coastal Act were instituted in the early 1970s. With sea level continuing to rise and the shoreline continuing to erode, it is expected that the beaches fronting these areas, like all California beaches on which armoring is located and on which the back-beach has thus been effectively “fixed” in location, will eventually disappear over time. However, absent a more comprehensive strategy, including relevant updates to the City of Santa Cruz’s LCP, resolving the larger planning and cumulative impact questions related to shoreline erosion and armoring is not readily addressed through an individual project. Projects such as the one proposed are probably best shaped to provide the best possible Coastal Act outcome for a site, including providing for long-term impact mitigation, as is the case here.

B. Public Access and Recreation

1. Applicable Policies

Coastal Act Section 30604(c) requires that every CDP issued for any development between the nearest public road and the sea “shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3.” The proposed project is located seaward of the first through public road (Seabright Avenue and East Cliff Drive). Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

***Section 30210.** 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.*

***Section 30211.** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

***Section 30213.** Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. ...*

***Section 30221.** Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

***Section 30223.** Upland areas necessary to support coastal recreational uses shall be reserved*



for such uses, where feasible.

Coastal Act Section 30240(b) also protects parks and recreation areas, such as Seabright Beach. Section 30240(b) states:

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.*

These overlapping policies clearly protect the beach (and access to and along it) and offshore waters for public access and recreation purposes, particularly free and low cost access.

2. Analysis

As discussed in the finding above, shoreline structures can have a variety of negative impacts on coastal resources including adverse affects on beaches and sand supply, which ultimately result in the loss of the beach with associated impacts to public recreational access. The proposed project's impact to shoreline processes, and ultimately to public access, were identified in the preceding finding. All such impacts would be located directly alongside a regionally significant State Parks public beach destination, Seabright State Beach, thus only increasing the magnitude of the impact to public beach access that would result.

Furthermore, in addition to the sand supply impacts described above and the way they affect beaches, the introduction of the proposed seawall would have other effects on the dynamic shoreline system and the public's beach use interests. Perhaps most clearly, in addition to the general narrowing of useable beach space over time in relation to erosion and sea level rise, changes in the shoreline profile (particularly changes in the slope of the profile that result from a reduced beach width) would also alter the useable beach area available for public access. A beach that rests either temporarily or permanently at a steeper angle than under normal conditions will have less horizontal distance available for the public to use. This reduces the actual area in which the public can pass along the beach. Ultimately, although there currently exists a fairly wide beach at this location at most times of the year because of the Santa Cruz Harbor jetties, this physical setting is expected to change over time in light of continuing erosion and sea level rise, and the armoring structure here will interact with such changes in such a way as to reduce the space available, the utility, and the public enjoyment associated with public use and recreation in this area.

In addition, during construction,³⁹ which is expected to last about a month or more, beach access would be adversely impacted at this site, including impacts to beachgoers accessing the beach from East Cliff Drive. The site is directly adjacent to the primary access point for Seabright Beach, and thus such impacts are magnified. In addition, the proposed project will require regular monitoring and maintenance, and such activities will also have these same types of public beach access impacts for each

³⁹ Id (including the time during which the emergency seawall was constructed).



such episode. To minimize these impacts to beach access, the project is conditioned to minimize construction and maintenance encroachment on the beach and all beach access points and to prohibit construction and maintenance activities from taking place during the summer or on weekends, when recreational use is generally highest. In addition, to provide maximum information to the beach-going public during all construction, the Applicant must maintain copies of the CDP and approved plans available for public review at the construction site, as well as provide a construction coordinator whose contact information is posted at the site to respond to any problems and/or inquiries that might arise (see Special Conditions 2 and 3). Although the required construction conditions can minimize the impacts of this project on beach goers, the conditions cannot completely compensate for the unavoidable degradation of the usual beach recreational experience available at this location, including the overall diminution of aesthetics and ambiance, due to the proposed project.

To offset impacts to public recreational beach use from shoreline process modifications and construction, mitigation is necessary. Therefore, the approved project includes a requirement for a mitigation payment of \$27,300 developed pursuant to the Commission's shoreline sand supply methodology (see previous finding). In other words, the mitigation payment has been calculated to compensate for lost sand supply, but it is the sand that will no longer enter the beach and ultimately the littoral system that will impact public access, so this mitigation addresses impacts to public access as well. See Special Condition 7.

In conclusion, including because the approval includes a twenty-year horizon which allows for an appropriate reassessment of continued armoring and its effects at that time in light of what may be differing circumstances than are present today (see Special Condition 4), these mitigations can appropriately offset the public recreational access impacts associated with the proposed project. As conditioned, the project is consistent with the Coastal Act access and recreation policies cited above.

C. Visual Resources

1. Applicable Policies

Coastal Act Section 30251 states:

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. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

Coastal Act Section 30240(b), previously cited, also protects the aesthetics of beach recreation areas such as those located directly adjacent to and at the project site. Section 30240(b) states:

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.

2. Analysis⁴⁰

In terms of public viewshed impacts due to the project, both the seawall and the exterior improvements will unavoidably create visual impacts in an area of significant public views. The proposed seawall would cover and alter a natural, undulating coastal landform located adjacent to a heavily used and extremely popular State beach, and as a result, it would negatively impact the public viewshed as seen from these vantage points by replacing the natural landform with a concrete landform. The blufftop improvements, including the railings and stairs, will likewise introduce additional clutter in the back beach viewshed. The replacement accessway will be designed to be almost completely hidden from view and built within existing infrastructure on the property, but its design would still result in approved development in the lower bluff area, negatively impacting the public viewshed as seen from the sandy inlet side of the property and along Seabright Beach upcoast. In addition, during construction, public views would be both blocked and degraded.

In terms of the seawall, it is proposed (and built) to be designed to mimic the natural and undulating bluff forms in the area (see photos in Exhibit C). However, it is difficult to hide a concrete wall, no matter how effective the camouflaging. If successful in this respect, the impact is more in terms of eliminating natural landform topography, depth, and vegetation, and replacing that natural progression with more of a linear and static bluff appearance. If not successful, the proposed seawall would significantly adversely affect the overall public viewshed and aesthetic by introducing an obviously artificial structure along the lower bluff directly adjacent to the back beach area. The Commission has had experience with both successful camouflaging and unsuccessful camouflaging in this respect, and much of the outcome is predicated on the skill of the contractors performing the work as much as anything else. In this case, the fact that the seawall has already been constructed under an emergency CDP provides a unique opportunity for the Commission to know ahead of time whether it will be visually intrusive or not. Site review indicates that the wall effectively blends in with the bluff colors and contours (again, see photos in Exhibit C). The lack of vegetation and bluff slough makes it appear somewhat discontinuous from the surrounding bluff in this respect, but the seawall itself has been camouflaged fairly successfully. So long as the wall structure continues to blend into the coastline as much as possible, including to mimic natural undulating bluff landforms in the vicinity, in terms of integral mottled color, texture, and undulation to the maximum extent feasible over time, this camouflaging can be maintained and should remain fairly effective (see Special Condition 1). Even so, although such measures can limit visual impacts, they cannot be completely avoided with a project like this. Fortunately, both by project design and by opportunity related to this site, there are sufficient

⁴⁰ For the purposes of the discussion that follows, there is little distinction made between the area seaward of the development and the area on the sandy inlet side of the development because both of these areas can be, and have been in the past, used for public access, and both contain beachgoers on a daily basis. Clearly the area seaward of the development provides for the more generally recognized type of public sandy beach access and directly faces the proposed seawall, but the sandy inlet side provides for entrance access to most of the public visiting this beach and faces the proposed 12-steps associated with the proposed replacement accessway.



offsetting mitigations available to ensure that unavoidable visual degradation is appropriately offset.

First, this approval is conditioned to require the removal of the unpermitted retaining walls in the downcoast portion of the bluff. This serves to both resolve the violation and to allow the bluff area in this location to provide a visual reprieve from the visual impacts of the project. In addition, any debris or non-functioning/abandoned elements in the area seaward/beachward of the duplex/walkways must be removed as well. It appears that there are some pipes and related development of this sort near the downcoast edge of the seawall whose removal will offset visual impacts as well. See Special Condition 1.

Second, all non-native and/or invasive species seaward/beachward of the duplex and upcoast patio/retaining wall must be removed and this area replanted with native bluff species. This will serve to help soften the visual impacts, and provide some screening at the edges of the approved development. In addition, all railings are required to include planter boxes planted with cascading species capable of trailing vegetation, and the railings and planters are required to blend into the background and not interfere with the visual screen provided by the cascading planting (i.e., use of colors and materials that do not stand out, but rather recede visually behind the plants). This will help to screen the railings and other development from public view, and will also provide for some screening of the seawall structure and the retaining wall in those areas as the trailing vegetation extends over time. Again, see Special Conditions 1 and 13.

Such measures should effectively offset impacts from the proposed seawall and related development on the public viewshed.

In terms of the proposed replacement accessway, private accessways and stairways such as this present visual and other questions. For one, and in general, private stairways generally serve to degrade beach aesthetics as a visible structure which blocks natural bluff or shoreline features. Existing private staircases visible up and down the coast almost inevitably contain various visual “pock-marks” such as fences, signs, gates, barbed wire, and other such things associated with keeping them “private”. Beyond physically marring the coastline and public views, such associated material can psychologically make the back beach seem even more “off-limits” and exclusive, thus presenting a different kind of barrier to access overall for beach users. Finally, private stairways can serve to make it so residents with private stairways have little, if any, incentive to help protect and enhance public access sites in other places, and specifically to public accessways which may be located near them.⁴¹

In this case, the proposed replacement accessway would be located within the existing planter box area and inland of the existing retaining wall on the upcoast edge of the property. To reduce its visual impacts the existing retaining wall would be extended approximately 6 feet. Landscaping and vegetative screening, including as described above in relation to the seawall impacts, will help to hide the accessway and help to screen the wall from above. Thus, the accessway would be essentially screened from public view, and should not result in the types of impacts that usually accrue to such development,

⁴¹ Although this is really an access impact, it derives from the view of the structures and thus is discussed here.



provided the landscape screening measures are maintained (see Special Condition 1). In addition, the accessway is proposed to seamlessly integrate and be as inconspicuous as possible, devoid of signs, gates, fences, and other similar structures, as described in Special Condition 1.

Thus as conditioned, the project will minimize visual impacts along this public beach area, and mitigate for those that are unavoidable. As such, the project, as conditioned, will not significantly alter scenic public views, nor significantly alter natural landforms. Thus, the project is consistent with Sections 30251 and 30240(b) of the Coastal Act.

D. Marine Resources

1. Applicable Policies

The Coastal Act protects the marine resources and habitat offshore of this site. Coastal Act Sections 30230 and 30231 provide:

***Section 30230.** Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

***Section 30231.** The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

2. Analysis

All project runoff is directed to inland storm drains, and no runoff is allowed to extend seaward of the blufftop edge, whether by pipe or surface flow, by project design. Such a system helps avoid marine resource impacts. However, as proposed by the Applicant, the proposed project would require the movement of large equipment, workers, and supplies during periods of low tides to gain access to the site, including large equipment operations on the beach area fronting the site, and including substantial concrete and other work on the beach.

To protect marine resources and offshore habitat, Special Conditions 2 and 3 require that these impacts be contained through construction parameters that limit the area of construction, clearly fence off the minimum construction area necessary, keep equipment out of Monterey Bay National Marine Sanctuary and State Lands Commission waters, require off-beach equipment and material storage during non-construction times, require construction documents to be kept at the site for inspection, require a



construction coordinator to be available to respond to inquires, and clearly delineate and avoid to the maximum extent feasible beach use areas. To further protect marine resources and offshore habitat, the project is also conditioned to require review and approval from the Monterey Bay National Marine Sanctuary and the State Lands Commission (Special Condition 5 and 6).

As conditioned, the project is consistent with Coastal Act Sections 30230 and 30231 regarding protection of marine resources and offshore habitat.

E. Violation

Development consisting of the installation of wood post and lagging retaining walls (ranging from 1 to 3 feet in height above ground (and an estimated 4 feet below) and spaced 18 to 24 inches upslope of each other with horizontal 2 x 12 inch wood lagging) has taken place without the benefit of a CDP. Although such development has taken place prior to submission of this CDP application, consideration of the application by the Commission has been based solely upon the policies of the Coastal Act. Action on this CDP does not constitute a waiver of any legal action with regard to the alleged violation, nor does it constitute an admission as to the legality of any development undertaken on the subject site without a CDP. Fortunately, in this case and these proposed project circumstances, this violation can be resolved as part of the visual impact mitigation associated with the proposed project. Specifically, the retaining walls are required to be removed and the bluff area in question restored with native bluff plantings (see Special Condition 1). Not only will this resolve the violation, but it will help mitigate for unavoidable viewshed impacts associated with the project. Provided this removal and restoration occurs (see Special Condition 13), the violation associated with the retaining walls will be considered resolved.

3. Conditions of Approval

A. 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 or 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.

B. Special Conditions

- 1. Revised Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two full size sets of Revised Final Plans to the Executive Director for review and approval. The Revised Final Plans shall be in substantial conformance with the plans submitted to the Coastal Commission (dated received on May 5, 2011 in the Commission's Central Coast District Office entitled, "William Rusconi Deck/Stairs Rebuild" prepared by Dennis Grady, Residential Drafting and Design) except that they shall be revised and supplemented to comply with the following requirements:

- (a) Concrete Surfacing.** The Plans shall specify: that all concrete surfaces shall be faced with a sculpted concrete facing that mimics natural undulating bluff landforms in the vicinity in terms of integral mottled color, texture, and undulation to the maximum extent feasible, and seamlessly blends with the unarmored bluff downcoast; that any protruding concrete elements (e.g., corners, edges, etc.) shall be contoured in a non-linear manner designed to evoke natural bluff undulations; and that the color, texture, and undulations of all concrete surfaces shall be maintained throughout the life of the structure. In addition, the Plans shall also specify that the upcoast and downcoast portions of the seawall shall be modified during any maintenance event (see Special Condition 10) by "shaving" or otherwise removing portions as necessary to match the landward configuration of the surrounding natural bluff face, and to recontour such edges so that they maintain faux bluff camouflage. Any sizeable chunks (greater in size than gravel) of the seawall concrete that are the end result of such shaving shall be removed from the beach.
- (b) Retaining Wall and Other Removal.** The retaining walls and any debris or non-functioning/abandoned elements in the bluff seaward/beachward of the duplex and walkways above and downcoast of the seawall shall be removed.
- (c) Stairway.** The accessway from the west patio to the beach shall seamlessly integrate and be as inconspicuous as possible with the surrounding bluff and vegetation, and be devoid of signs, gates, fences, and other elements.
- (d) Railings.** All railings shall be topped with planter boxes along their seaward top edge, where the railings and planters shall be designed in such a way as to blend into the background and not interfere with the visual screen provided by the cascading planting (i.e., use of colors and materials that do not stand out, but rather recede visually behind the plants).
- (e) Landscaping.** All non-native and/or invasive plants (e.g., iceplant) currently present seaward/beachward of the duplex, patio, and walkways shall be removed and the area replanted with native bluff species endemic to the Santa Cruz area. All planter boxes shall be planted with native bluff species endemic to the Santa Cruz area capable of trailing vegetation sufficient to



cover the railings and, in the case of railings above the seawall and upcoast retaining wall, at least the top 3 feet of the seawall and retaining wall. If physical removal of the existing non-native invasive plants on the bluff face will compromise the integrity of the coastal bluff in the opinion of a licensed civil engineer or engineering geologist with experience in coastal structures and processes, such opinion and reasons for it shall be submitted to the Executive Director for concurrence. If the Executive Director concurs, then the majority of the tops of such plants shall be removed (by cutting or other appropriate methods), thus leaving minimum plant material intact. To ensure that these topped invasive species do not regrow, a natural herbicide shall be applied (in a manner to protect water quality and marine resources) to ensure that the root structures of the plants are destroyed. No non-native and/or invasive species shall be allowed to persist in these areas; all new plants shall be native plant species that are tolerant of salt air and salt spray; and all new plants shall be maintained in good growing conditions. Regular monitoring and provisions for remedial action (such as replanting as necessary) shall be provided for to ensure landscaping success.

All requirements above and all requirements of the approved Revised Final Plans shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with the approved Revised Final Plans.

2. **Construction Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION the Permittee shall submit two sets of a Construction Plan to the Executive Director for review and approval. The Construction Plan shall, at a minimum, include the following:
 - (a) **Construction Areas.** The Construction Plan shall identify the specific location of all construction areas, all staging areas, all storage areas, all construction access corridors (to the construction site and staging areas), and all public pedestrian access corridors. All such areas within which construction activities and/or staging are to take place shall be minimized to the maximum extent feasible in order to minimize construction encroachment on the beach, all beach access points, and the Monterey Bay, and to have the least impact on public access overall.
 - (b) **Construction Methods and Timing.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separated from public recreational use areas (including using the space available on the blufftop portions of the Permittee's property for staging, storage, and construction activities to the maximum extent feasible, and including using unobtrusive fencing (or equivalent measures) to delineate construction areas). All erosion control/water quality best management practices to be implemented during construction and their location shall be noted.
 - (c) **Property Owner Consent.** The Construction Plan shall be submitted with written evidence indicating that the owners of any properties on which construction activities are to take place, including properties to be crossed in accessing the site, consent to such use of their properties.
 - (d) **Construction Requirements.** The Construction Plan applies to initial construction as well as



future maintenance as described in Special Condition 10. The Construction Plan shall include the following construction requirements specified by written notes on the Construction Plan. Minor adjustments to the following construction requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

- All work shall take place during daylight hours and lighting of the beach area is prohibited.
- Construction work or equipment operations shall not be conducted below the mean high tide line unless tidal waters have receded from the authorized work areas.
- Grading of intertidal areas is prohibited.
- Only rubber-tired construction vehicles are allowed on the beach, except that track vehicles may be used if the Executive Director agrees that they are required to safely carry out construction. When transiting on the beach, all such vehicles shall remain as high on the upper beach as possible and avoid contact with ocean waters and intertidal areas.
- All construction materials and equipment placed on the beach during daylight construction hours shall be stored beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from the beach area by sunset each day that work occurs. The only other exceptions shall be for erosion and sediment controls and/or construction area boundary fencing where such controls and/or fencing are placed as close to the toe of the seawall/revetment as possible, and are minimized in their extent.
- Construction (including but not limited to construction activities, and materials and/or equipment storage) is prohibited outside of the defined construction, staging, and storage areas.
- No work shall occur during weekends and/or the summer peak months (i.e., from the Saturday of Memorial Day weekend through Labor Day, inclusive) unless, due to extenuating circumstances (such as tidal issues or other environmental concerns), the Executive Director authorizes such work.
- Equipment washing shall not take place on the beach; refueling and/or servicing of equipment shall be allowed only at a designated location as noted on the Plan. Appropriate best management practices shall be used to ensure that no spills of petroleum products or other chemicals take place during these activities.
- The construction site shall maintain good construction site housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the beach; etc.).



- All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday. At a minimum, silt fences, or equivalent apparatus, shall be installed at the perimeter of the construction site to prevent construction-related runoff and/or sediment from entering into the Pacific Ocean.
- All beach areas and all beach access points impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction. Any beach sand impacted shall be filtered as necessary to remove all construction debris from the beach.
- The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least three working days in advance of commencement of construction or maintenance activities, and immediately upon completion of construction or maintenance activities.

All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with the approved Construction Plan.

3. Construction Site Documents & Construction Coordinator. DURING ALL CONSTRUCTION:

(a) Construction Site Documents. Copies of the signed CDP and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site at all times during construction, 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 CDP and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

(b) Construction Coordinator. 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 their 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 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.

4. Twenty-Year Approval. This CDP authorizes the seawall for twenty years from the date of approval (i.e., until September 9, 2031) or until the time when the currently existing structure warranting armoring is no longer present and/or no longer requires armoring for such protection, whichever occurs first. If the Permittee intends to keep the seawall in place after that time, the



Permittee must apply for a new CDP authorization to allow the seawall (including, as applicable, any potential modifications to it desired by the Permittee). Provided such complete application is received before the twenty-year or earlier permit expiration, the expiration date shall be automatically extended until the time the Commission acts on the application. In addition, this CDP authorizes the seawall to protect the duplex structure as it now exists. Any future replacement or significantly redeveloped duplex or other project on the site shall be considered independent of the authorized seawall and shall not rely on the seawall to demonstrate Coastal Act and/or City of Santa Cruz LCP consistency.

5. **MBNMS Review.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit to the Executive Director for review a copy of the Monterey Bay National Marine Sanctuary (MBNMS) permit, letter of permission, authorization, or equivalent for the approved project, or evidence that no MBNMS authorization is necessary for the approved project. Any changes to the approved project required by the Sanctuary shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this CDP unless the Executive Director determines that no amendment is legally required.
6. **State Lands Commission Authorization.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit to the Executive Director for review a copy of the State Lands Commission permit, letter of permission, authorization, or equivalent for the approved project, or evidence that no State Lands Commission authorization is necessary for the approved project. Any changes to the approved project required by the State Lands Commission shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this CDP unless the Executive Director determines that no amendment is legally required.
7. **Public Access/Sand Supply Mitigation.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit to the Executive Director evidence that a public access/sand supply mitigation payment of \$27,300 has been provided to State Parks for the purposes identified in this CDP, or has been deposited into an interest-bearing account to be established and managed by State Parks for the purposes identified in this CDP, including where such account is required if the funds are not spent within one year of this CDP approval. The sole purpose of the funds/account shall be for public beach recreational access improvements, including upgrades to the sewer pump system and additional aggregate improvements for the public access entrance trail, at Seabright State Beach. If, prior to issuance of the CDP, the Permittee submits three valid bids for the cost of delivered beach quality sand that average to an amount less or more than \$42 per cubic yard and the bids have been reviewed and approved by the Executive director, this payment may be adjusted to the average for these three bids. All of the funds and any accrued interest shall be used for the above-stated purposes, in consultation with the Executive Director, within ten years of the funds being provided to State Parks or deposited into the account, whichever occurs first. PRIOR TO EXPENDITURE OF ANY FUNDS CONTAINED IN THIS ACCOUNT, the Executive Director must review and approve the proposed use of the funds as being consistent with the intent and purpose of this condition and this CDP.



- 8. As-Built Plans.** WITHIN TWO (2) MONTHS OF COMPLETION OF CONSTRUCTION, the Permittee shall submit two copies of As-Built Plans showing all development completed pursuant to this CDP; all property lines; and all residential development on APN 010-286-04. The As-Built Plans shall be substantially consistent with the approved final plans (see Special Condition 1), including providing for all of the same requirements specified there, and shall account for all of the parameters of Special Condition 9 (Monitoring) and Special Condition 10 (Future Maintenance). The As-Built Plans shall include a graphic scale and all elevation(s) shall be described in relation to National Geodetic Vertical Datum (NGVD 29). The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show 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 upcoast, seaward, and downcoast viewpoints, including from East Cliff Drive and the Seabright Beach accessway; and from a sufficient number of beach viewpoints as to provide complete photographic coverage of the seawall, replacement accessway, and required bluff restoration and landscaping at a scale that allows comparisons to be made with the naked eye between photographs taken in different years and from the same vantage points. 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 seawall has been constructed in conformance with the approved final plans described by Special Condition 1 above.
- 9. Monitoring.** The Permittee shall ensure that the condition and performance of the as-built project is regularly monitored by a licensed civil engineer with experience in coastal structures and processes with respect to the seawall and accessway, and by landscape professionals with experience in bluff restoration and landscaping for other approved project components. Such monitoring evaluation shall at a minimum address whether any significant weathering or damage has occurred that would adversely impact future performance, and identify any structural damage requiring repair to maintain the seawall and accessway in their approved state. Such monitoring evaluation shall also address whether the seawall is being outflanked by the surrounding unarmored bluff face and thus requires edge modifications (as described in Special Condition 1), and the degree to which required landscaping and concrete camouflaging continues to meet the terms and conditions of this CDP. Monitoring reports covering the above-described evaluations shall be submitted to the Executive Director for review and approval at three-year intervals by May 1st of each third year (with the first report due May 1, 2014, and subsequent reports due May 1, 2017, May 1, 2020, and so on) for as long as the approved project exists at this location. The reports shall identify any recommended actions necessary to maintain the approved project in a structurally sound manner and in its approved state, including providing for removal from the beach of any sizeable chunks (greater in size than gravel) of structural concrete and debris, removal and new contouring of any edges of the concrete that no longer seamlessly integrate with adjacent natural landforms, and replanting as necessary to achieve and/or maintain required landscape screening, and shall include photographs taken from each of the same vantage points as required in the As-Built Plans (see Special Condition 8) with the date and time of the photographs and the location of each photographic viewpoint noted on a site plan.



10. Future Maintenance. This CDP authorizes future maintenance as described in this special condition. The Permittee acknowledges and agrees on behalf of itself and all successors and assigns that it is the Permittee's responsibility (a) to maintain the seawall and required landscaping in a structurally sound manner and in its approved state; (b) to maintain all faux bluff camouflaging elements in a structurally sound manner and in their approved state; and (c) to remove all debris that may fall from the bluff top area onto the beach. Any such development, or any other maintenance development associated with the as-built seawall shall be subject to the following:

- (a) **Maintenance.** "Maintenance," as it is understood in this condition, means development that would otherwise require a CDP whose purpose is to repair, reface, and/or otherwise maintain the approved project in its approved state.
- (b) **Maintenance Parameters.** Maintenance shall only be allowed subject to the parameters of the approved Construction Plan required by Special Condition 2. Any proposed modifications to the approved construction plan and/or beach restoration requirements associated with any maintenance event shall be reported to planning staff of the Coastal Commission's Central Coast District Office with the maintenance notification (described below), and such changes shall require a CDP amendment unless the Executive Director deems the proposed modifications to be minor in nature (i.e., the modifications would not result in additional coastal resource impacts) and that an amendment is not legally required.
- (c) **Other Agency Approvals.** The Permittee acknowledges that these maintenance stipulations do not obviate the need to obtain permits from other agencies for any future maintenance and/or repair episodes.
- (d) **Maintenance Notification.** At least 2 weeks prior to commencing any maintenance event, the Permittee shall notify, in writing, planning staff of the Coastal Commission's Central Coast District Office. The notification shall include a detailed description of the maintenance event proposed, and shall include any plans, engineering and/or geology reports, proposed changes to the maintenance parameters, other agency authorizations, and other supporting documentation describing the maintenance event. The maintenance event shall not commence until the Permittee has been informed by planning staff of the Coastal Commission's Central Coast District Office that the maintenance event complies with this CDP. If the Permittee has not received a response within 30 days of receipt of the notification by the Coastal Commission's Central Coast District Office, the maintenance event shall be authorized as if planning staff affirmatively indicated that the event complies with this CDP. The notification shall clearly indicate that the maintenance event is proposed pursuant to this CDP, and that the lack of a response to the notification within 30 days of its receipt constitutes approval of it as specified in the permit.
- (e) **Maintenance Coordination.** Maintenance events shall be, to the degree feasible, coordinated with other maintenance events proposed in the immediate vicinity with the goal being to limit coastal resource impacts, including the length of time that construction occurs in and around the



beach area and beach access points at Seabright Beach. As such, the Permittee shall make reasonable efforts to coordinate the Permittee's maintenance events with other events, including adjusting maintenance event scheduling as directed by planning staff of the Coastal Commission's Central Coast District Office.

- (f) **Non-compliance Proviso.** If the Permittee is not in compliance with the conditions of this permit at the time that a maintenance event is proposed, then the maintenance event that might otherwise be allowed by the terms of this future maintenance condition shall not be allowed by this condition.
- (g) **Emergency.** Nothing in this condition shall serve to waive any Permittee rights that may exist in cases of emergency pursuant to Coastal Act Section 30611, Coastal Act Section 30624, and Subchapter 4 of Chapter 5 of Title 14, Division 5.5, of the California Code of Regulations (Permits for Approval of Emergency Work).
- (h) **Duration of Covered Maintenance.** Future maintenance under this CDP is allowed subject to the above terms for ten (10) years from the date of approval (i.e., until September 9, 2021). Maintenance can be carried out beyond the 10-year period if the Executive Director extends the maintenance term in writing.

11. Assumption of Risk, Waiver of Liability, and Indemnity Agreement, and No Future Armoring.

By acceptance of this permit, the Permittee acknowledges and agrees on behalf of himself and all successors and assigns:

- (a) That the site is subject to extreme coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunamis, coastal flooding, landslides, earthquakes, bluff and geologic instability, and the interaction of same;
- (b) To assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development;
- (c) To unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards;
- (d) 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;
- (e) That the Permittee shall not construct, now or in the future, any shoreline protective device(s) for the purpose of protecting the accessway to the beach from the west patio approved pursuant to this CDP including, but not limited to, the accessway steps, the retaining wall, the planter boxes, and other related elements in the event that these structures are threatened with damage or destruction from such hazards in the future, and that by acceptance of this permit, the Permittee



hereby waives any rights to construct such devices that may exist under Public Resources Code Section 30235 and the City of Santa Cruz LCP.

(f) That any adverse effects to property caused by the permitted project shall be fully the responsibility of the Permittee.

12. Deed Restriction. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit for Executive Director review and approval documentation demonstrating that the Permittee has executed and recorded against the subject property governed by this permit (i.e., the parcel depicted as APN 010-286-04 on Exhibit D) 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 and graphic description of the 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.

13. Condition Compliance. By January 1, 2012 or within such additional time as the Executive Director may grant for good cause, the Permittee shall remove all retaining walls and any debris or non-functioning/abandoned elements in the bluff seaward/beachward of the duplex and walkways above and downcoast of the seawall; shall remove all non-native and/or invasive plants (e.g., iceplant) currently present seaward/beachward of the duplex, patio, and walkways; and shall replant this area with native bluff species endemic to the Santa Cruz area (see Special Condition 1). Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

C. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with CDP 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 which the activity may have on the environment.

The City of Santa Cruz, acting as the lead CEQA agency, conducted an environmental review for the proposed project as required by CEQA and issued a Mitigated Negative Declaration.

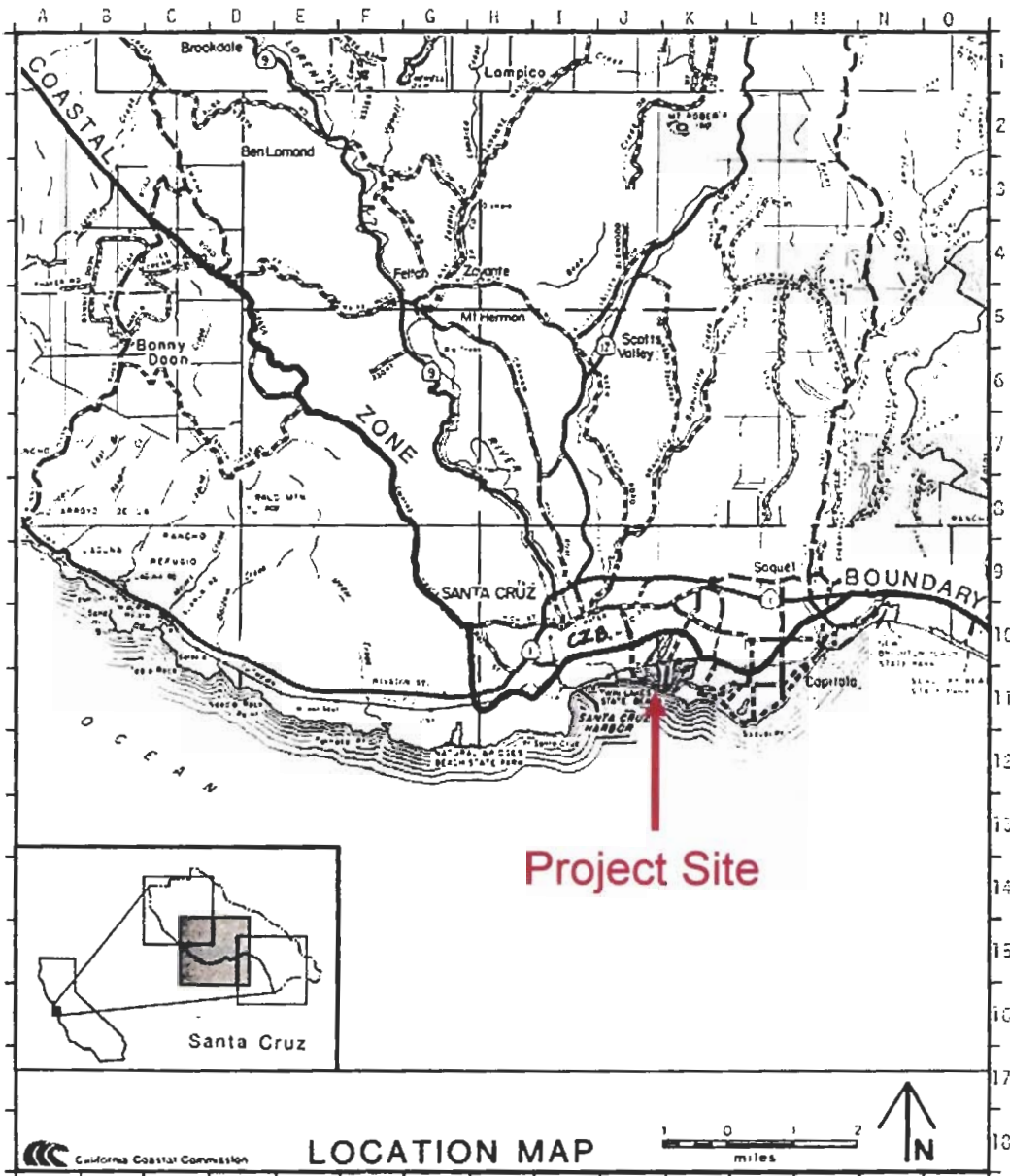
The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The Commission



has reviewed the relevant coastal resource issues with the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Commission finds that only as modified and conditioned by this permit will the proposed project avoid significant adverse effects on the environment within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. If so modified, 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).

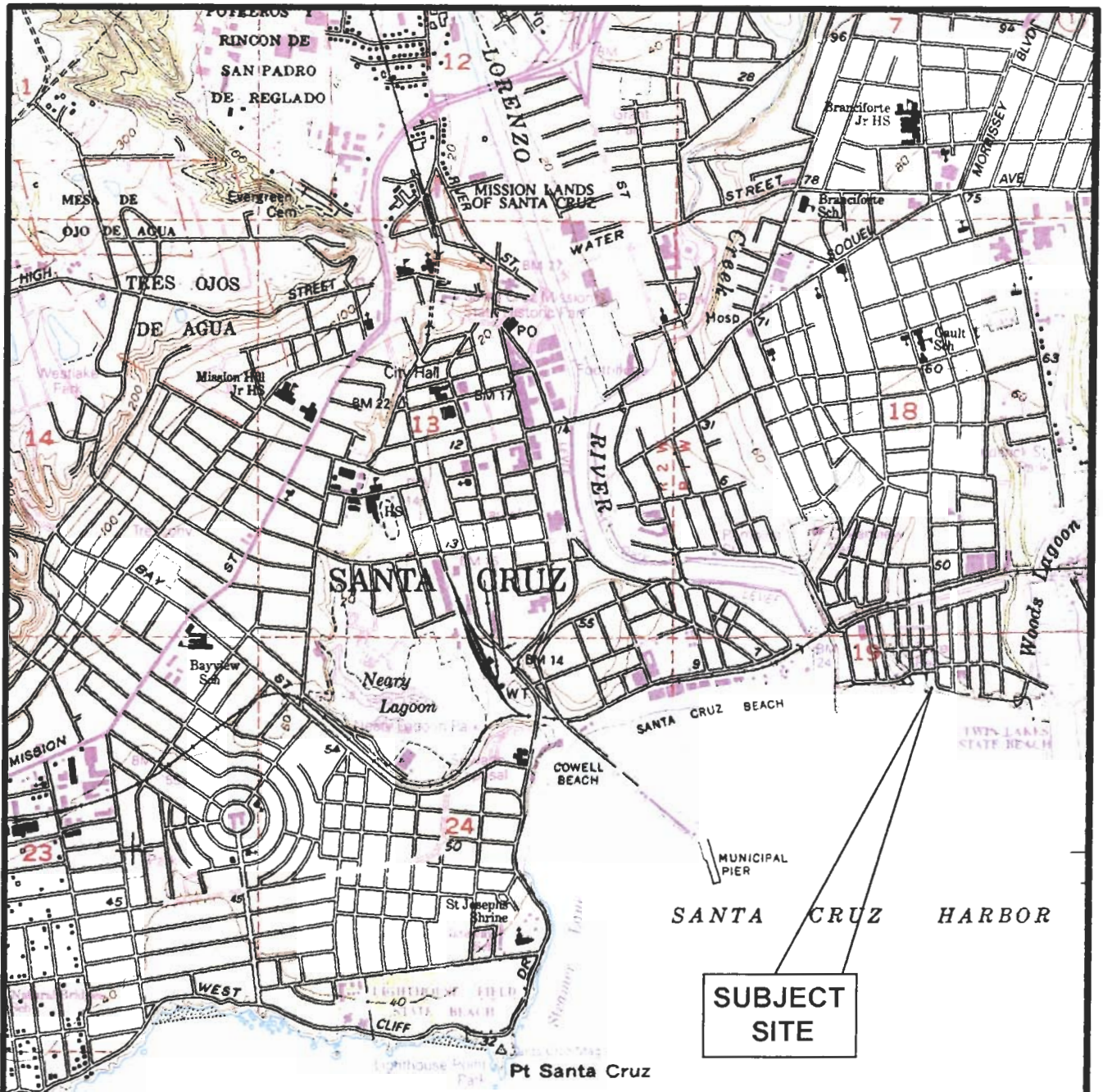




County of Santa Cruz

Sheet 2 of 3

CCC Exhibit A
 (page 1 of 2 pages)



CCC Exhibit A
 (page 2 of 2 pages)

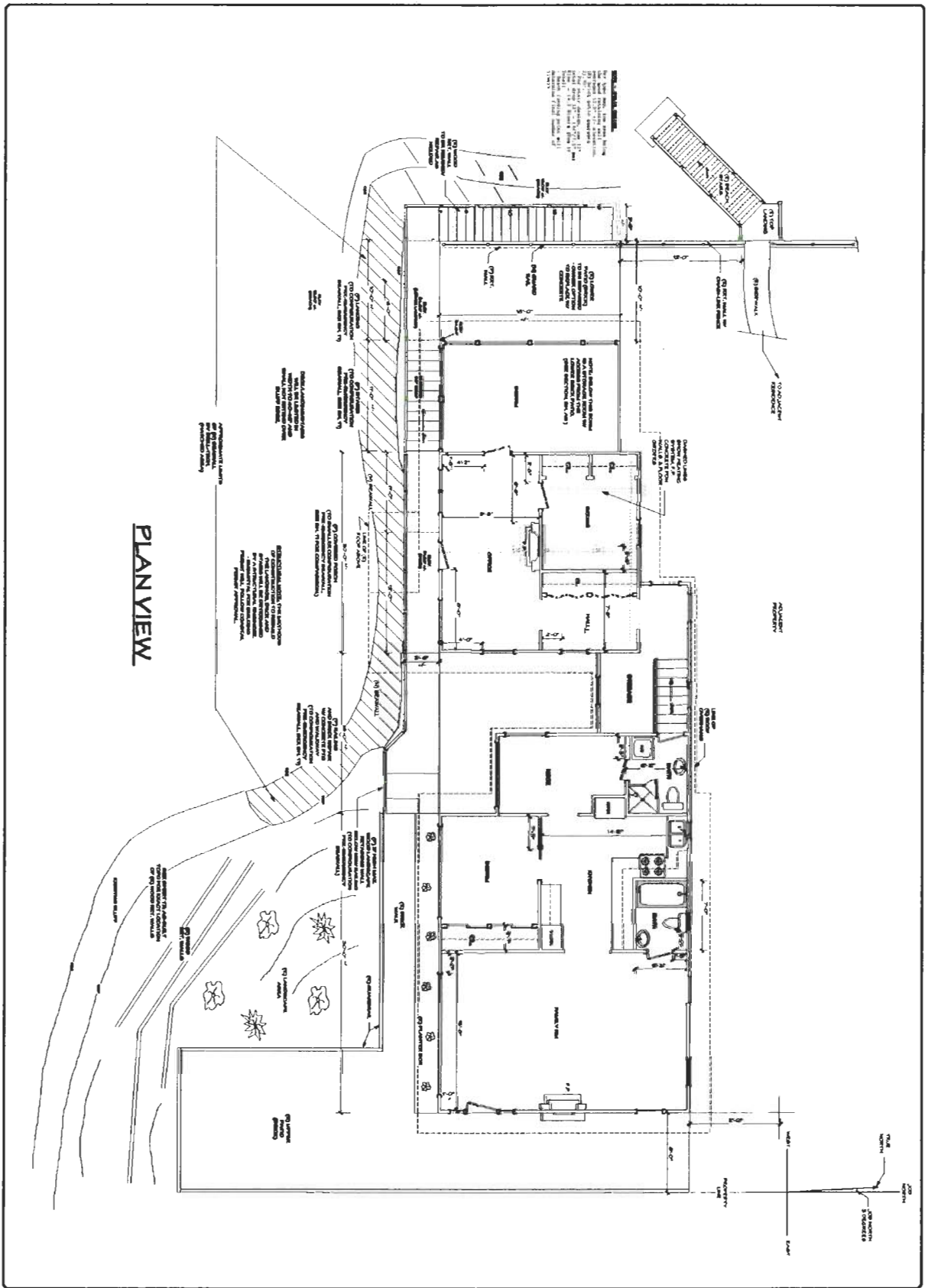
Base Map: SANTA CRUZ QUADRANGLE, California, 7.5 Minute Series, United States Geological Survey, 1954 (Revised 1994), scale 1:24,000.

0 feet 2,000
 Contour interval 20 feet

BAYSIDE GEOLOGY
 Engineering Geologists
 202 Anita Street
 Santa Cruz, California 95060
 Ofc (831) 421-9525 Fax (831) 421-0965

SITE LOCATION MAP
 Rusconi Property
 105 Seabright Ave., Santa Cruz, California
 Santa Cruz County APN 010-286-04

FIGURE #
1
 JOB #
 08008



PLAN VIEW

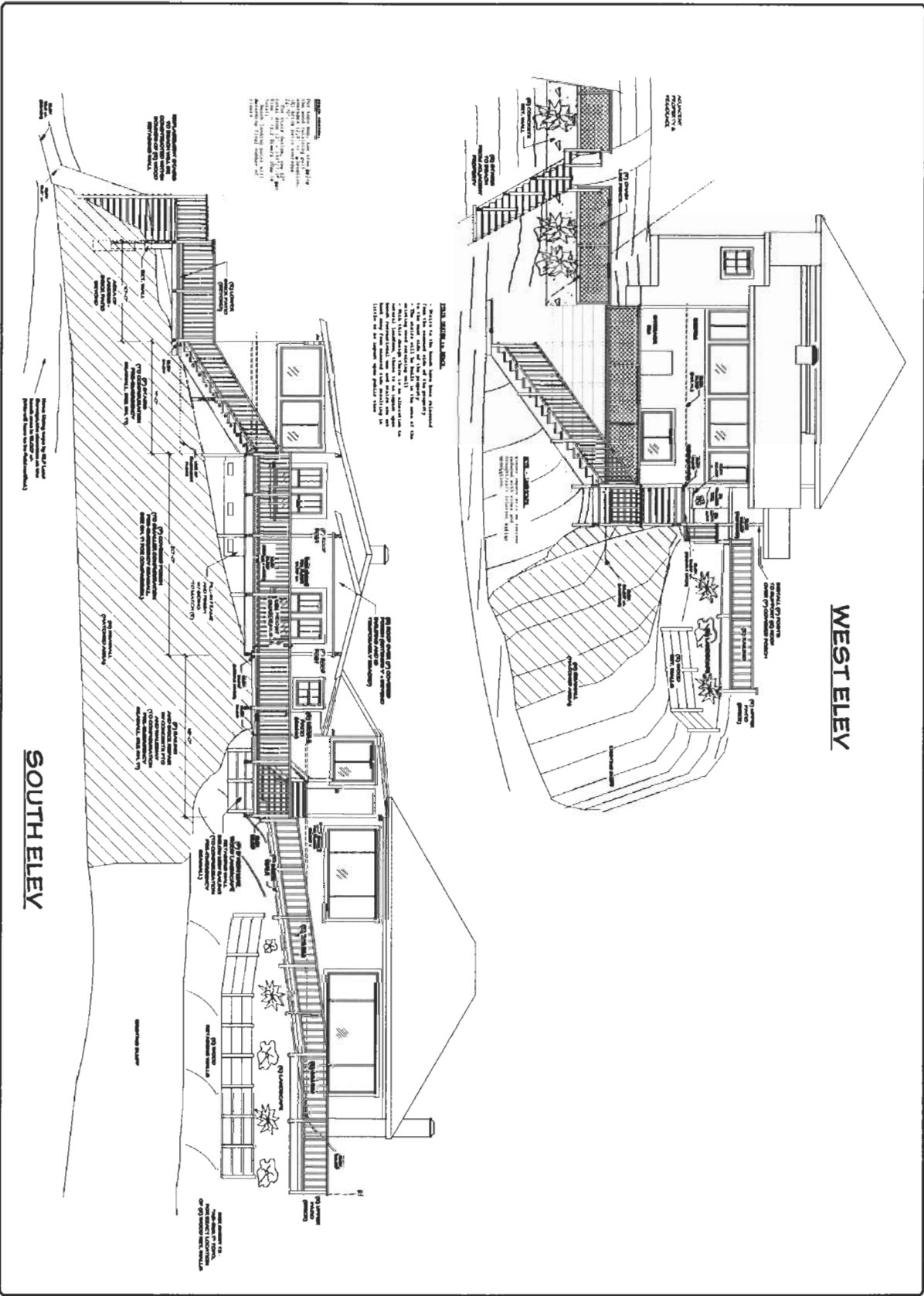
A3	OWNER	Shawntel Criffidy
	DESIGNER	
	DATE	30 APRIL 2008
	SCALE	1/4" = 1'-0"
	DATE	08/29/08
	SCALE	

WILLIAM RUSCONI
 DECK/STAIRS REBUILD
 105 SEABRIGHT AVENUE,
 SANTA CRUZ, CA. - APN: 010-286-04

RESIDENTIAL DRAFTING
 and DESIGN
 DENNIS G. ...
 TELEPHONE: (855) 478-1100
 3581 CUNIBON LANE, SOQUEL, CA. 95073

CCC Exhibit
 (page 1 of 3)

B
 pages)



A4

WILLIAM RUSCONI
 DECK/STAIRS REBUILD
 105 SEABRIGHT AVENUE,
 SANTA CRUZ, CA. - APN: 010-286-04

RESIDENTIAL DRAFTING
 and DESIGN.

DENNIS J. RUSCONI

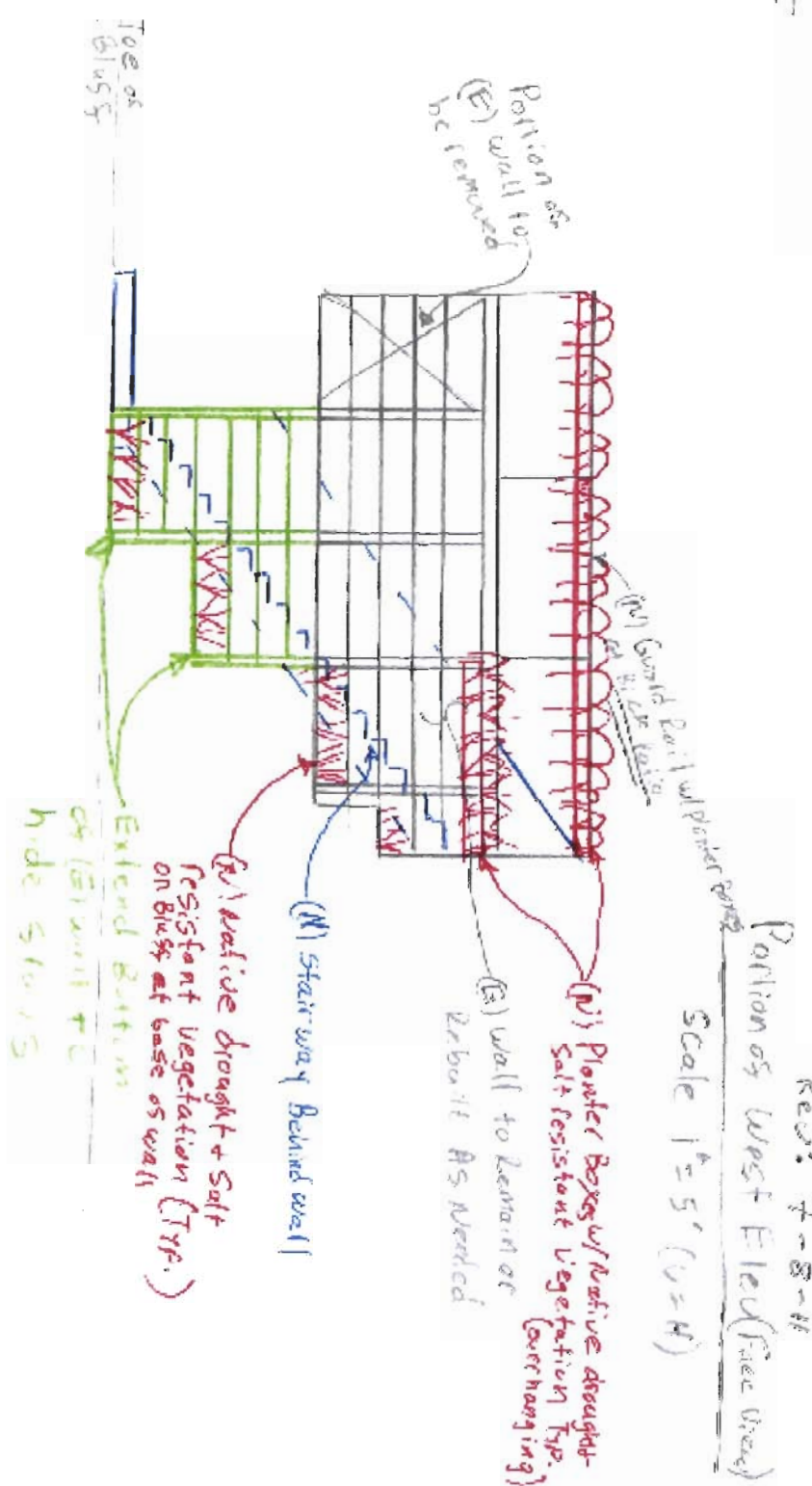
TELEPHONE: (831) 478-1100
 5561 CUNNINGHAM LANE, SOQUEL, CA 95076

FAX: (831) 478-0190

CCC Exhibit
 (page 2 of 3)

B
 pages)

Stairway Alternative
Case 1

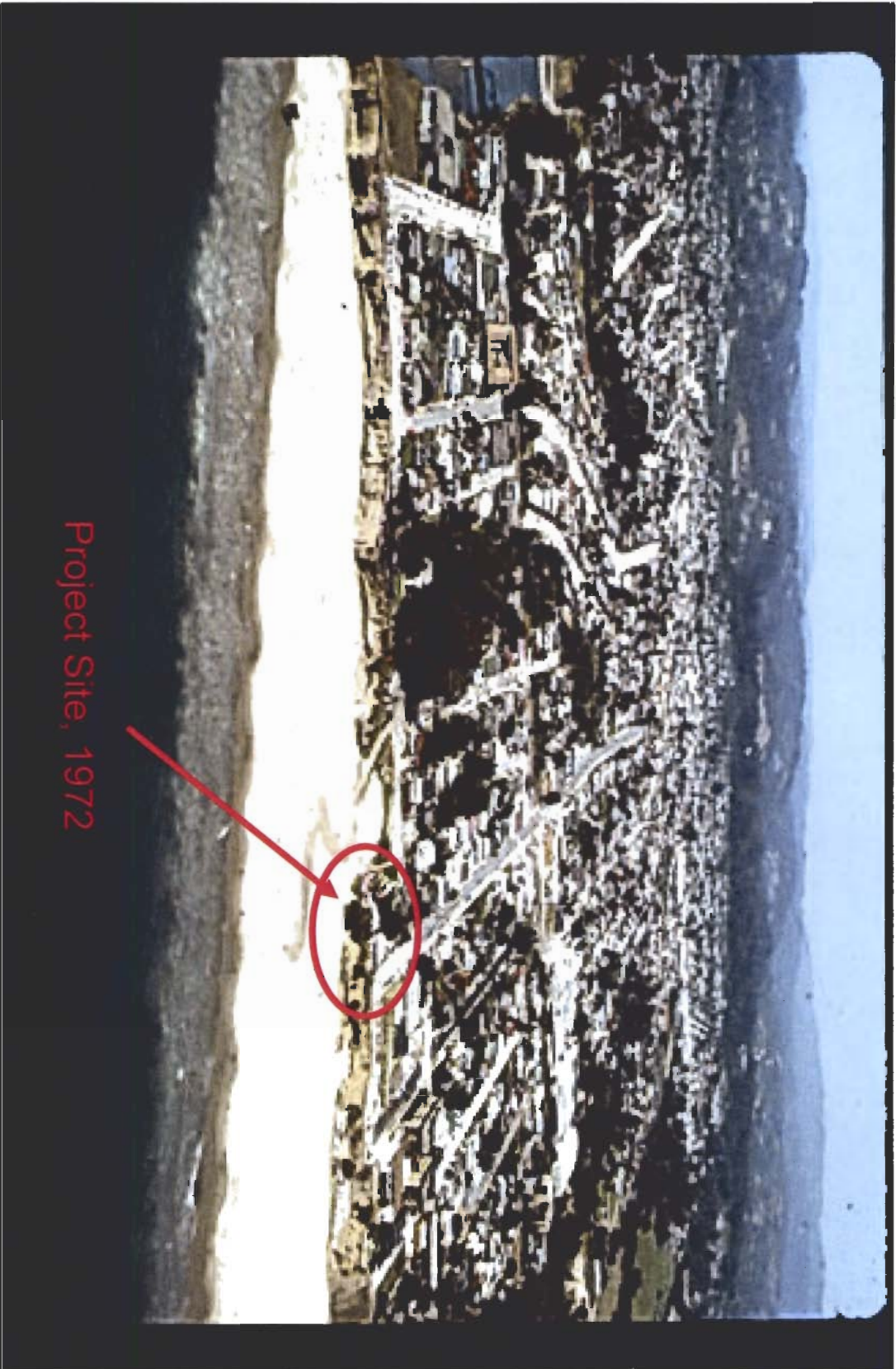


4-19-11
Rev: 7-8-11

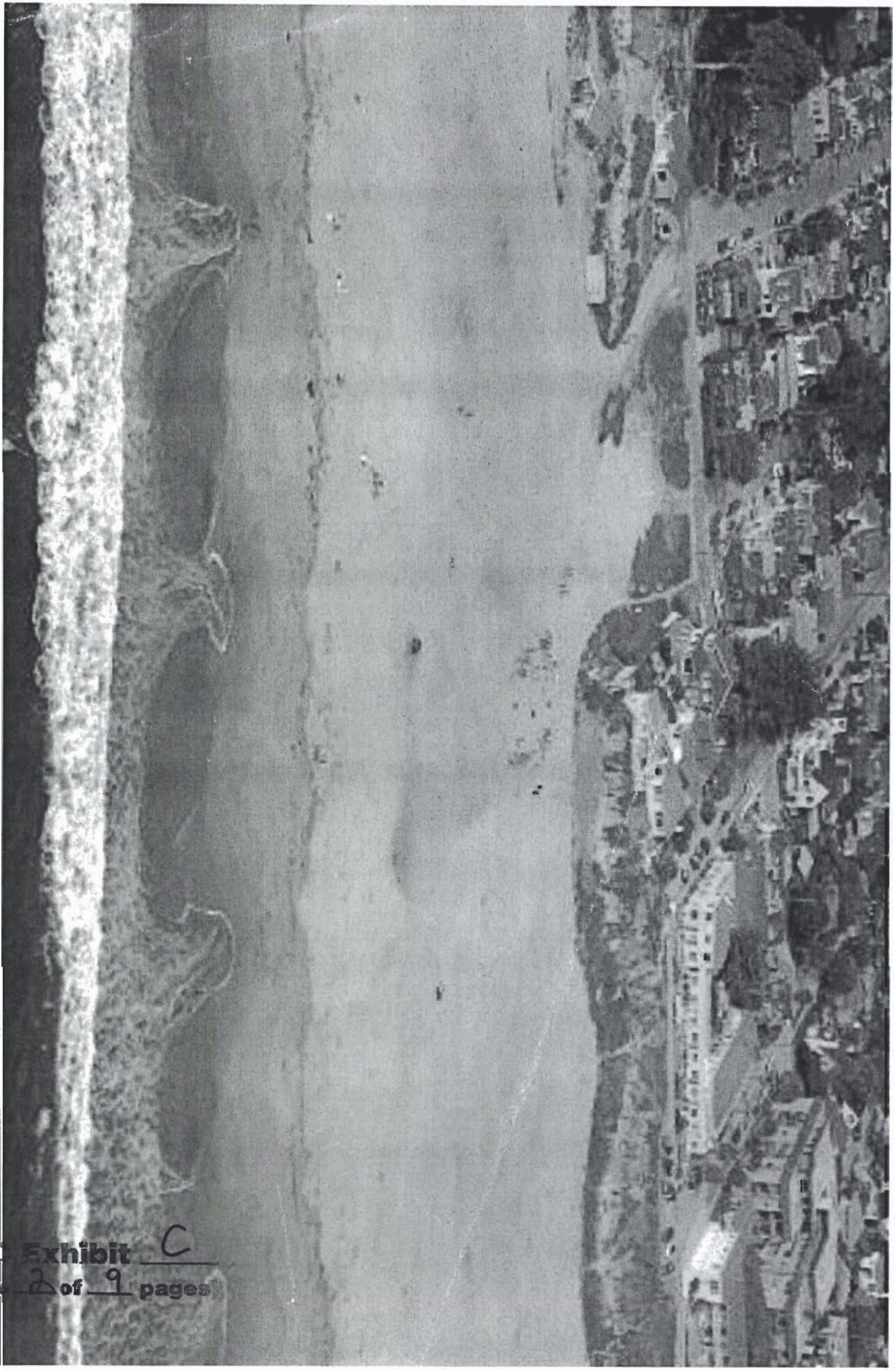
Portion of West Field (Face View)

APPROXIMATE GRADING VOLUMES:

C.V.T = 16 yd³ } To Be VERIFIED W/FINAL DESIGN
Fill = 0



Project Site, 1972



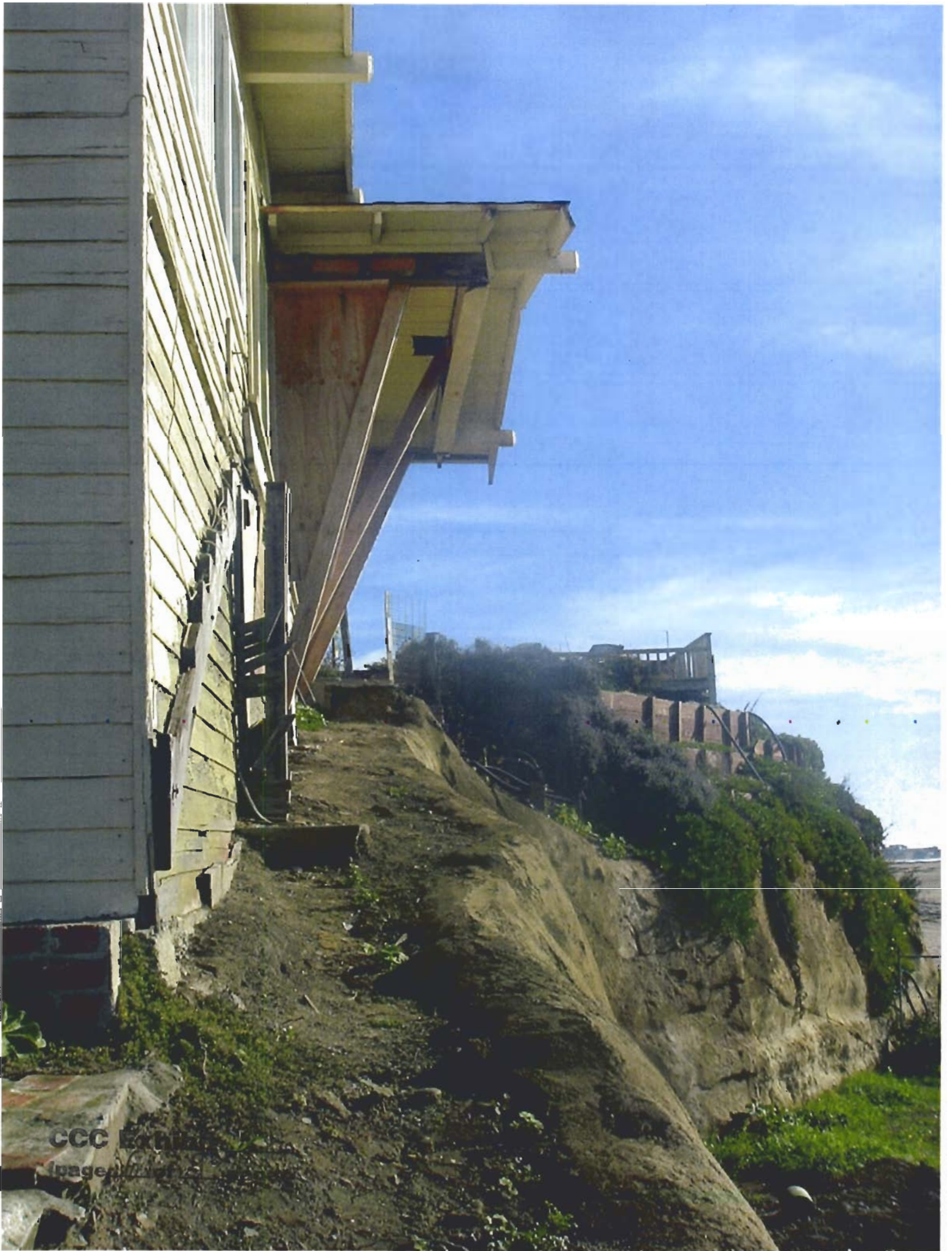
2008

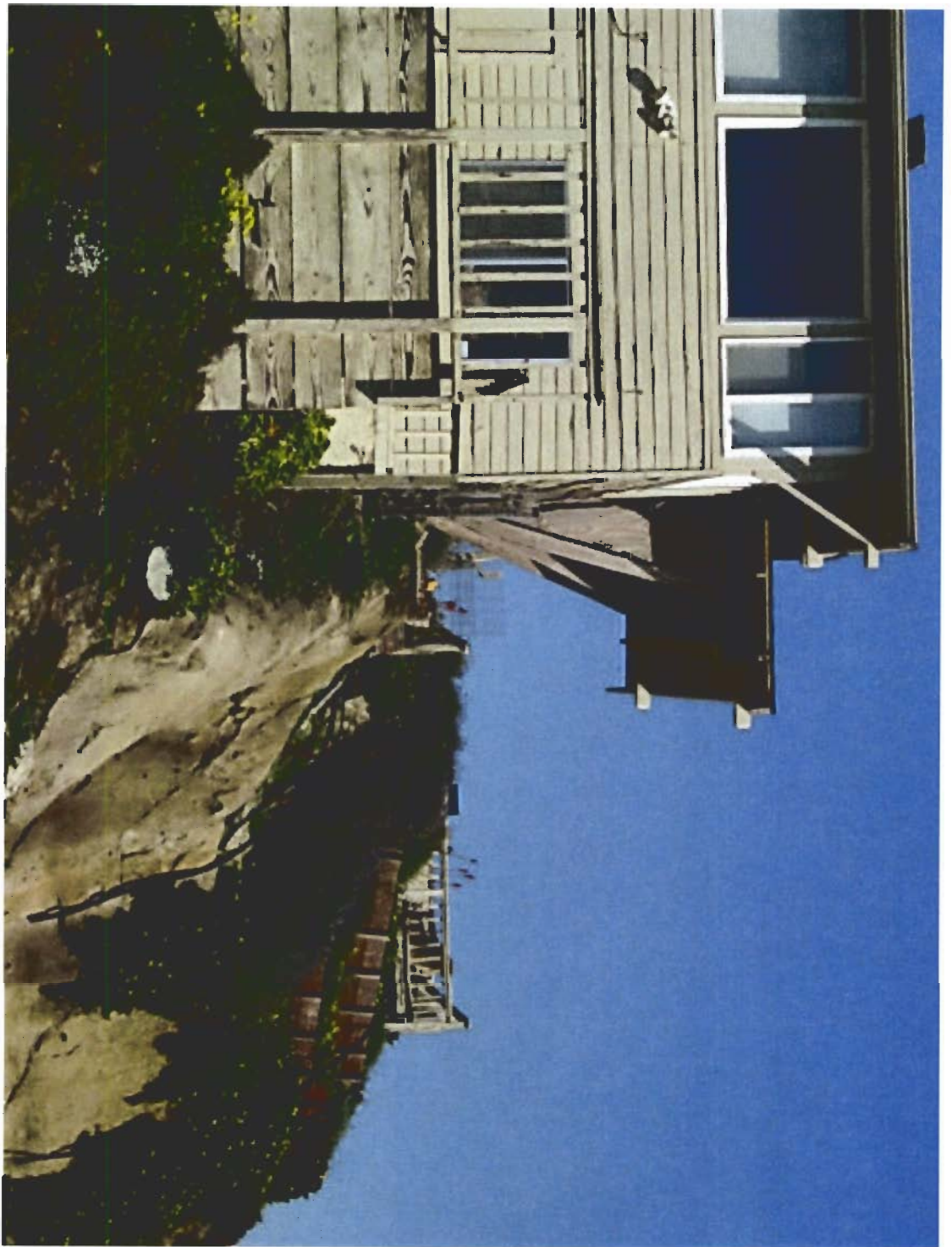
CCO Exhibit C
(page 2 of 9 pages)











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