# **CALIFORNIA COASTAL COMMISSION**

South Coast District Office 301 E Ocean Blvd., Suite 300 Long Beach, CA 90802-4302 (562) 590-5071



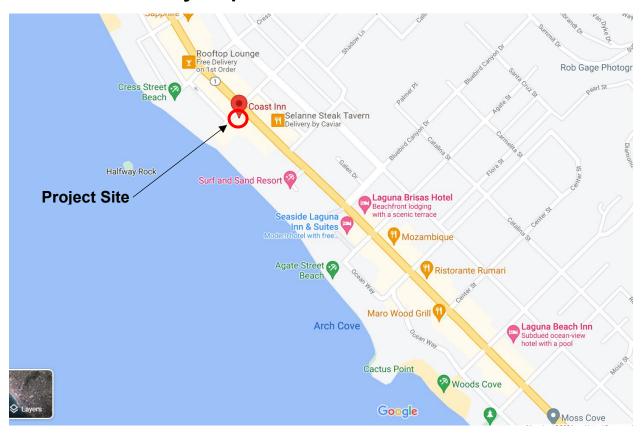
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# A-5-LGB-20-0050 (DIG COAST INN, LLC) JULY 28, 2021

# **EXHIBITS**

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# **Exhibit 1—Vicinity Map**





# **Exhibit 2 - Project Plans**



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A1.6 ROOF REVER PLAE WITCH
A1.6 ROOF REVER PLAE
A1.6 ROO

#### CONDITIONED AREA INCREASE

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	TOTAL
Existing Interior Floor Area	1,143 SF	1,211 SF	7,900 SF	4,554 SF	14,808 SF
Total Interior Floor Area	1,157 SF	2,313 SF	7,958 SF	4,802 SF	16,230 SF
% Increase (Utility SF)	0.0%	90.97%	0.0%	0.0%	7.44%
% Increase (Guest Amenity SF)	1.22%	0.0%	0.73%	5.45%	2.16%
Total Interior Area % Increase (SF)	1.22%	90.97%	0.73%	5.45%	9.60%

#### INTERIOR + EXTERIOR AREA INCREASE

	LEVEL 1	LEVEL	LEVEL 3	LEVEL 4	TOTAL
Total Int Floor Area	1,157 SF	2,313 SF	7,958 SF	4,802 SF	16,230 SF
Total Ext Floor Area	1,004 SF	648 SF	718 SF	3,560 SF	5,930 SF
Total Floor Area	2,161 SF	2,961 SF	8,676 SF	8,362 SF	22,160 SF
% Increase (Utility SF)	0.0%	59.26%	0.0%	0.0%	5.91%
% Increase (Guest Amenity SF)	0.65%	0.0%	0.67%	39.34%	13.06%
Total Int + Ext Area % Increase (SF)	0.65%	59.26%	0.67%	39.34%	18.98%

#### EXTERIOR WALL RENOVATION CALCULATIONS (sf)

% of existing elevation to remain:	62.75%

#### ROOF RENOVATION CALCULATIONS (sf)

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	ROOF	TOTAL
% of Roof to Remain			0%	25.87%	67.63%	52.73%
% of Roof to be Removed		-	100%	72.21%	15.08%	35.34%
% of Anticipated Repair & Maintenance		-	0%	1.92%	17.29%	11.92%
Total % of roof removal/alteration/anticipated			100%	74.13%	32.37%	47.27%
repair & maintenance						

FOUNDATION RENOVATION CALCULATIONS (sf)

LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 TOTAL

(PENDING PROJECT DEVELOPMENT -See attached letter from Wright Engineering)

A0.1

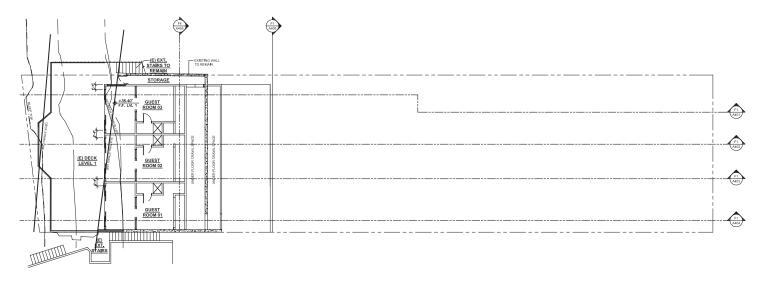


21 JULY 2021 PROJECT NO: 20021

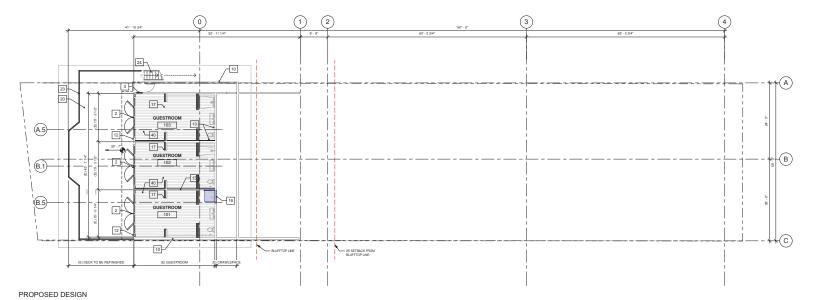
18004 Sky Park Circle, Suite 200 Irvine, California 92614

California Coastal Commission

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#### PREVIOUS DESIGN



LEVEL 1 PLANS

LEVEL 1 PREVIOUS DESIGN:

PREVIOUS DESIGN (PER MIDG): Existing Hotel + Crawl Space Area: 1,622.81 SF Existing Deck Area: 951.22 SF

2,574.03 SF 0 SF 2,574.03 SF 0%

LEVEL 1 CONDITIONED FLOOR AREA

Existing Guestroom Area 1,143 SF

Added Int. Guestroom Area 14 SF
Final Interior Floor Area 1.157 SF
% Interior Increase 1.23%

LEVEL 1 INT + EXT FLOOR AREA INCREASE

Existing Interior Floor Area 1,143 SF
Existing Deck Floor Area 1,004 SF
Total Existing Floor Area 2,147 SF
Added Square Footage 14 SF
Final Floor Area (Mint + St Increase 2,161 SF

#### FLOOR AREA INCREASE LEGEND

Added Usable Square Footage

#### KEYNOTE LEGEND

- New door
   New woor and sidelights
   New window
   New window
   New window
   New woor in existing opening
   New door in existing window opening
   New door in existing window opening
   New window in existing opening
   New wrought iron gate to match historic decisting gate's location
- 10. Existing geterior wail
  11. New exterior wail
  12. Patch and repair cement plaster as needed on existing wail
  13. New finishes on existing partition
  14. New witerior partition
  15. New Child partition to match adjacent
  17. New Chard popering within existing structural wail

- Refinish existing deck
   New balcony to match existing
   New balcony to match historical images
   Sidass guardrall at edge of existing deck
   Refinish existing stairs
   New elevinor
   New externs

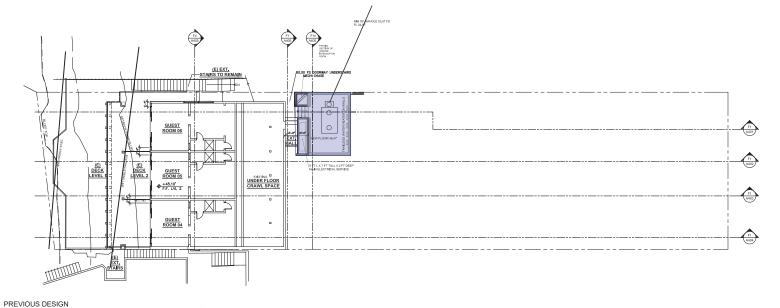
- 30. New awnings to match historical images
  31. New corbels to match historical images
  31. New corbels to match historical images
  32. Salvage existing historical corbels
  33. New raffertals to match historical images
  34. New post to support raffertals above
  35. New clay to off tie over existing roof structure
  36. New clay ten off the over existing roof structure
  37. Signage to match historical images
  30. Turets to match historical images

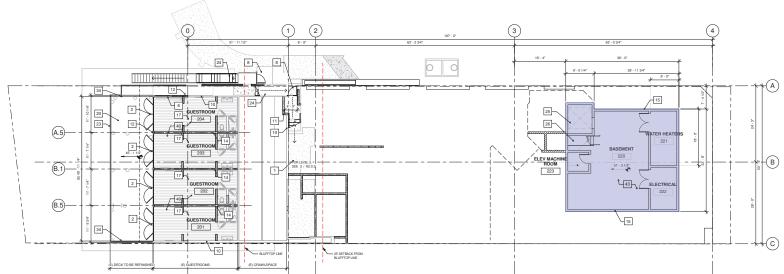
- 40. New floor finishes over existing structure
  41. New concrete over metal deck
  42. Compact earth for future tenant slab
  43. Excavate as needed for finish floor heights
  44. New pedestal paver system over new structure



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PROPOSED DESIGN

LEVEL 2 PREVIOUS DESIGN:

PREVIOUS DESIGN (PER MIDG): Existing Hotel + Crawl Space Area: 2,021.00 SF Existing Deck Area: 556.74 SF

2,577.74 SF 550.88 SF 3,128.62 SF 21.37%

1,211 SF Existing Guestroom Area

Added Int. Utility/BOH Area 1,102 SF Final Interior Floor Area % Interior Increase

LEVEL 2 INT + EXT FLOOR AREA INCREASE

Existing Interior Floor Area 548 SF Existing Deck Floor Area 648 SF Total Existing Floor Area 1,859 SF Added Square Footage 1,102 SF Final Floor Area 57 Int = 25 Increase 1

FLOOR AREA INCREASE LEGEND

Added Usable Square Footage

#### KEYNOTE LEGEND

- New door
   New door and sidelights
   New window
   New window
   New window
   New door in existing opening
   New door in existing window opening
   New door in existing window opening
   New window in existing opening
   New window it is obtained.
- 10. Existing selection wall
  11. New exterior wall
  12. Patch and repair coment plaster as needed on existing wall
  13. New finishes on existing partition
  14. New writerior partition
  14. New writerior partition
  15. New Chall by partition to match adjacent
  17. New framed opening within existing structural wall

- Refinish existing deck
   New balcony to match existing
   New balcony to match historical images
   Slass guardrall at edge of existing deck
   Refinish existing stairs
   See we develor

- 30. New awnings to match historical images
  31. New corbeis to match historical images
  32. Salvage existing historical corbeis
  33. New rafferfails to match historical images
  34. New post to support raffertials above
  35. New day roof life over existing roof structure
  36. New day life roof
  37. Signage to match historical images
  37. Turels to match historical images

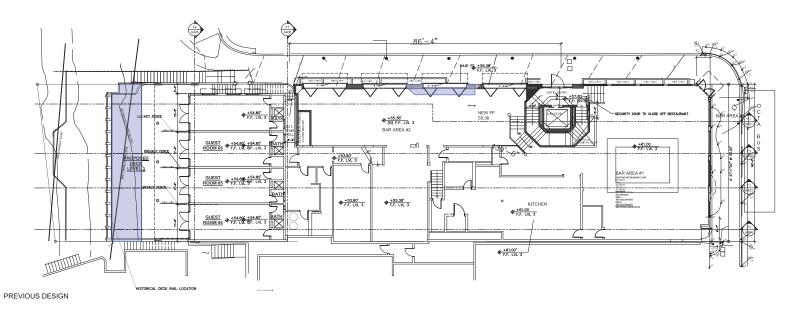
- 40. New floor finishes over existing structure
  41. New concrete over metal deck
  42. Compact earth for future tenant slab
  43. Excavate as needed for finish floor heights
  44. New pedestal paver system over new structure

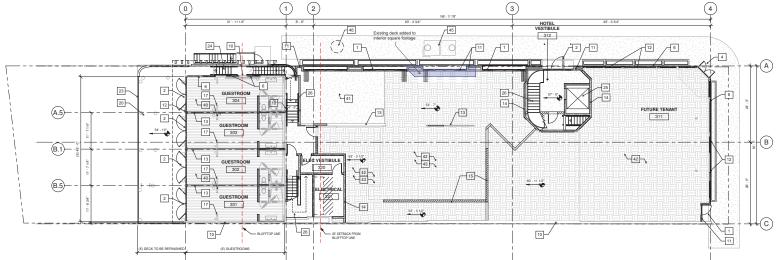
LEVEL 2 PLANS



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LEVEL 3 PREVIOUS DESIGN:

PREVIOUS DESIGN (PER MIDG):
Existing Hotel Area: 2,085.43 SF
Existing Restaurant Area: 5,755.38 SF
Existing Deck Area: 748.00 SF

8,588.81 SF 479.37 SF 9,068.18 SF 5.58%

LEVEL 3 CONDITIONED FLOOR AREA

Existing Guestroom Area Existing Hotel Accessory Area Existing Restaurant Area

LEVEL 3 INT + EXT FLOOR AREA INCREASE

Existing Deck Floor Area
Total Existing Floor Area
Added Square Footage 718 SF 8.618 SF

#### FLOOR AREA INCREASE LEGEND

Added Usable Square Footage

#### KEYNOTE LEGEND

- New door
   New door and sidelights
   New window
   New window
   New window
   New door in existing opening
   New door in existing window opening
   New door in existing window opening
   New window in existing opening
   New window it is not start to the content of th
- 12. Patch and repair cement praster as needed on existing wall 13. New finishes on existing partition 14. New interfor partition 15. New CMU wall 16. Infill partition to match adjacent 17. New framed opening within existing structural wall

- 20. Refinish existing deck
  21. New balcony to match existing
  22. New balcony to match historical images
  23. Glass guardrall at edge of existing deck
  24. Refinish existing stairs
  25. New elevator

- 30. New awnings to match historical images
  31. New corbeits to match historical images
  32. Salvage existing historical corbeits
  33. New raflertalis to match historical images
  34. New post to support raflertalis above
  35. New clay roff life over existing roof structure
  36. New clay to match historical images
  37. Sinange in match historical images

- 40. New floor finishes over existing structure
  41. New concrete over metal deck
  42. Compact earth for future tenant slab
  43. Excavate as needed for finish floor heights
  44. New pedestal paver system over new structure
  45. New Grease Interceptor below grade.
  46. New manhole per SCE requirements.

LEVEL 3 PLANS

A1.3 |

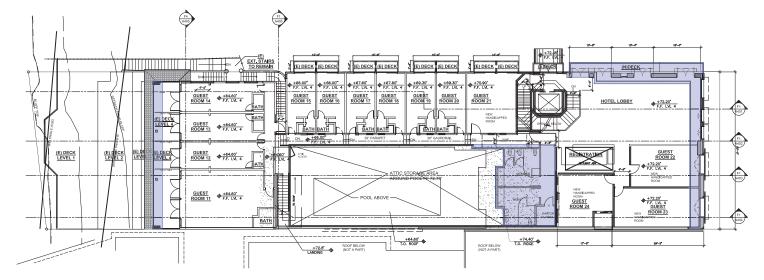
21 JULY 2021 18004 Sky Park Circle, Suite 200 Irvine, California 92614

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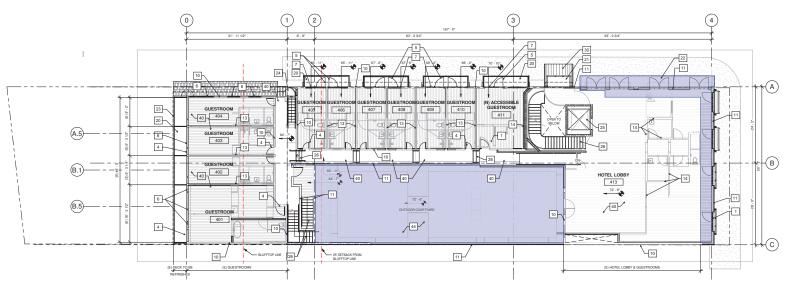
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COASTINN

PROPOSED DESIGN



#### PREVIOUS DESIGN



PROPOSED DESIGN

LEVEL 4 PREVIOUS DESIGN:

PREVIOUS DESIGN (PER MIDG):
Existing Hotel Area: 4,671.24 SF
Existing Hotel Office Area: 886.24 SF
Existing Deck Area: 440.47 SF

5,997.95 SF 1,055.20 SF 7,053.15 SF 17.59%

LEVEL 4 CONDITIONED FLOOR AREA

Final Interior Floor Area % Interior Increase

LEVEL 4 INT + EXT FLOOR AREA INCREASE Existing Interior Floor Area 4,554 SF Existing Exterior Hotel Area 1,012 SF 
 Existing Exterior Hotel Area
 1,012 SF

 Existing Deck Floor Area
 435 SF

 Total Existing Floor Area
 6,001 SF

 Added Int Square Footage
 248 SF

 Added Ext Square Footage
 2,113 SF

 Final Floor Area
 1,012 SF
 Final Floor Area

% Int + Ext Increase

FLOOR AREA INCREASE LEGEND

Added Usable Square Footage

#### KEYNOTE LEGEND

- New door
   New door and sidelights
   New window
   New window
   New window
   New door in existing opening
   New door in existing window opening
   New door in existing window opening
   New window in existing opening
   New and opening

- Tatch and repair cement plasser as needed on existing wall
   New finishes on existing partition
   New interior partition
   New incorp artition
   New incorp artition
   New CMU wall
   Infill partition to match adjacent
   New framed opening within existing structural wall
- 20. Refinish existing deck
  21. New balcony to match existing
  22. New balcony to match historical images
  23. Glass guardrall at edge of existing deck
  24. Refinish existing stairs
  25. New elevator
  26. New stairs

- 30. New awnings to match historical images
  31. New corbeits to match historical images
  32. Salvage existing historical corbeits
  33. New raflertalis to match historical images
  34. New post to support raflertalis above
  35. New clay roff life over existing roof structure
  36. New clay to match historical images
  37. Sinange in match historical images

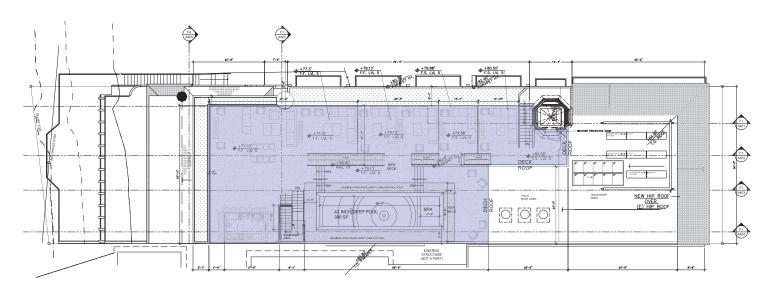
- 40. New floor finishes over existing structure
  41. New concrete over metal deck
  42. Compact earth for future tenant slab
  43. Excavate as needed for finish floor heights
  44. New pedestal paver system over new structure

**LEVEL 4 PLANS** 

**SMS**ARCH

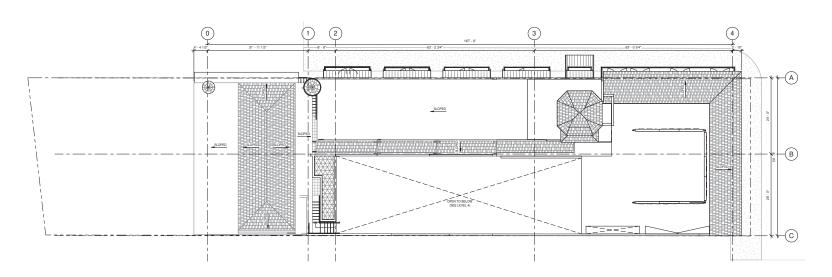
21 JULY 2021 18004 Sky Park Circle, Suite 200 Irvine, California 92614

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LEVEL 5 (ROOF DECK) PREVIOUS DESIGN: PREVIOUS DESIGN (PER MIDG):

PREVIOUS DESIGN



LEVEL 5 (ROOF) USABLE FLOOR AREA INCREASE

Added Usable Square Footage

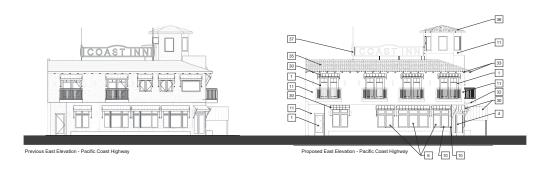
PROPOSED DESIGN

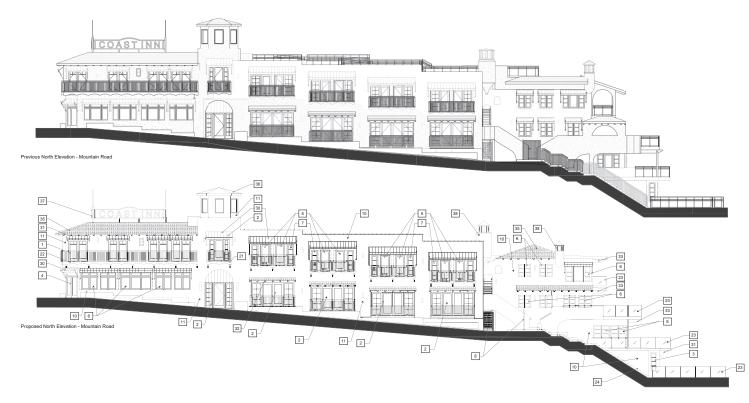
**ROOF PLANS** 



21 JULY 2021 18004 Sky Park Circle, Suite 200 PROJECT NO: 20021 Irvine, California 92614

California Coastal Commission A-5-LGB-20-0050





- KEYNOTE LEGEND

- Existing exterior wall
   New exterior wall
   Patch and repair cement plaster as
- wall
  13. New finishes on existing partition
  14. New interior partition
- New CMU wall
   Infill partition to match adjacen
- Refinish existing deck
   New balcony to match existing
   New balcony to match historical images
   Sides guardrail at edge of existing deck
   Refinish existing stairs
   New elevator
   New stairs

- 41. New concrete over metal deck 42. Compact earth for future tenant slab 43. Excavate as needed for finish floor he 44. New pedestal paver system over new

PROPOSED ELEVATIONS

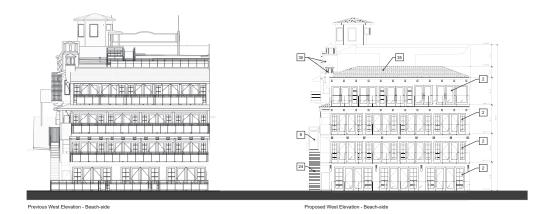
21 JULY 2021 PROJECT NO: 20021

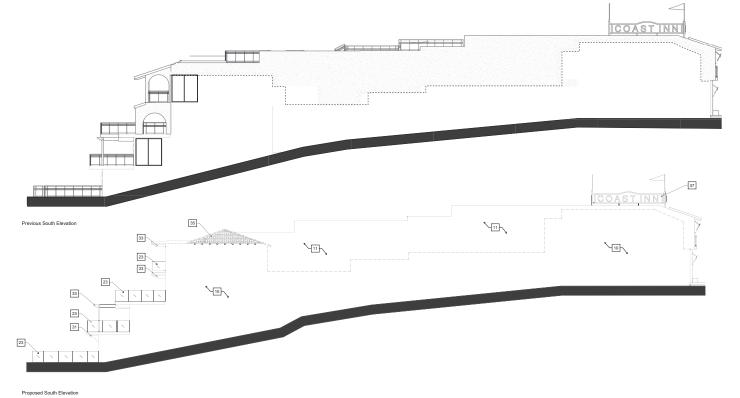
18004 Sky Park Circle, Suite 200 Irvine, California 92614

California Coastal Commission

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KEYNOTE LEGEND

Existing exterior wall
 New exterior wall
 Patch and repair cement plaster as

wall
13. New finishes on existing partition
14. New interior partition
15. New CMU wall
16. Infill partition to match adjacent

Refinish existing deck
 New balcony to match existing
 New balcony to match historical images
 Sides guardrail at edge of existing deck
 Refinish existing stairs
 New elevator
 New stairs

40. New floor finishes over existing structure

41. New noor minsnes over existing struct
41. New concrete over metal deck
42. Compact earth for future tenant slab
43. Excavate as needed for finish floor he
44. New pedestal paver system over new

PROPOSED ELEVATIONS



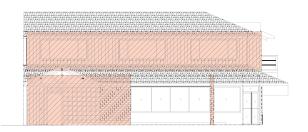
21 JULY 2021 PROJECT NO: 20021

18004 Sky Park Circle, Suite 200 Irvine, California 92614

California Coastal Commission

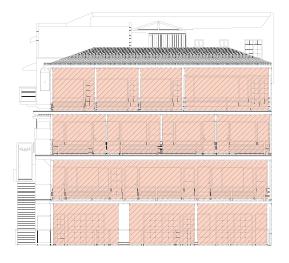
A-5-LGB-20-0050 Exhibit 2

PROPOSED REDESIGN & RENOVATION CALCULATIONS LAGUNA BEACH, CALIFORNIA



1) East Elevation - Pacific Coast Highway

Existing Exterior Walls: 966.47 SF Exterior Wall Renovation: 652.41 SF Walls Remaining: 32.50% Wall Renovation: 67.50%



2) West Elevation - Pacific Coast Highway

Existing Exterior Walls: Exterior Wall Renovation: Walls Remaining: Wall Renovation:



EXTERIOR ELEVATION RENOVATION CALCULATIONS

A3.1

966.47 SF 1,635.74 SF 4,439.82 SF 3,710.10 SF 456.61 SF 207.95 SF 1,067.84 SF 103.78 SF 195.06 SF

174.46 SF Total Exterior: 12,957.82 SF

Total Ext Walls Remaining: Total Ext Wall Renovation:

652.41 SF 1,496.47 SF 1,869.03 SF 0 SF 0 SF 334.96 SF 103.78 SF 195.06 SF 174.46 SF

4,826.17 SF

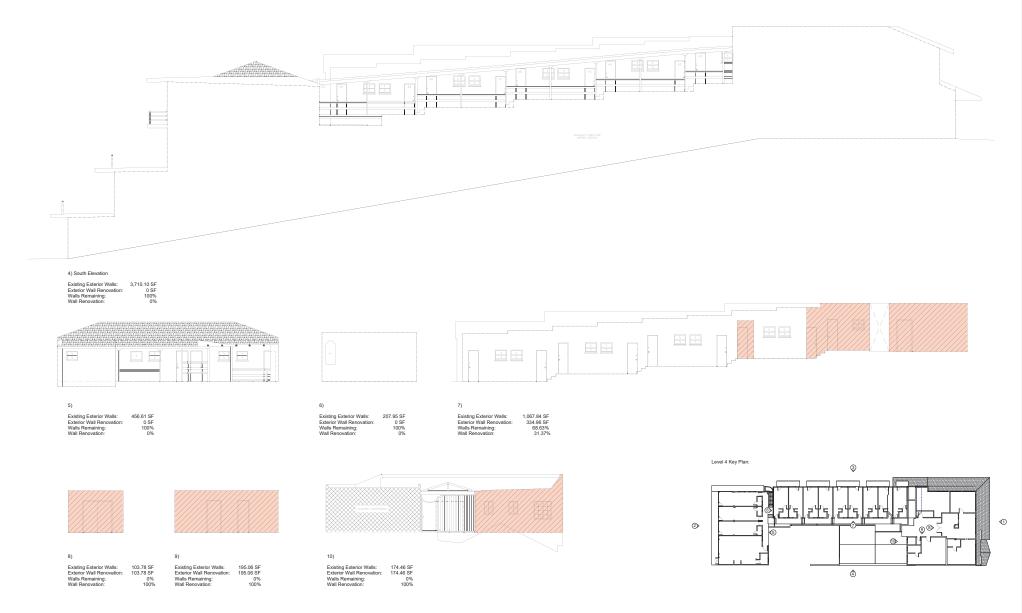
SMSARCH

21 JULY 2021 PROJECT NO: 20021

18004 Sky Park Circle, Suite 200 Irvine, California 92614

California Coastal Commission

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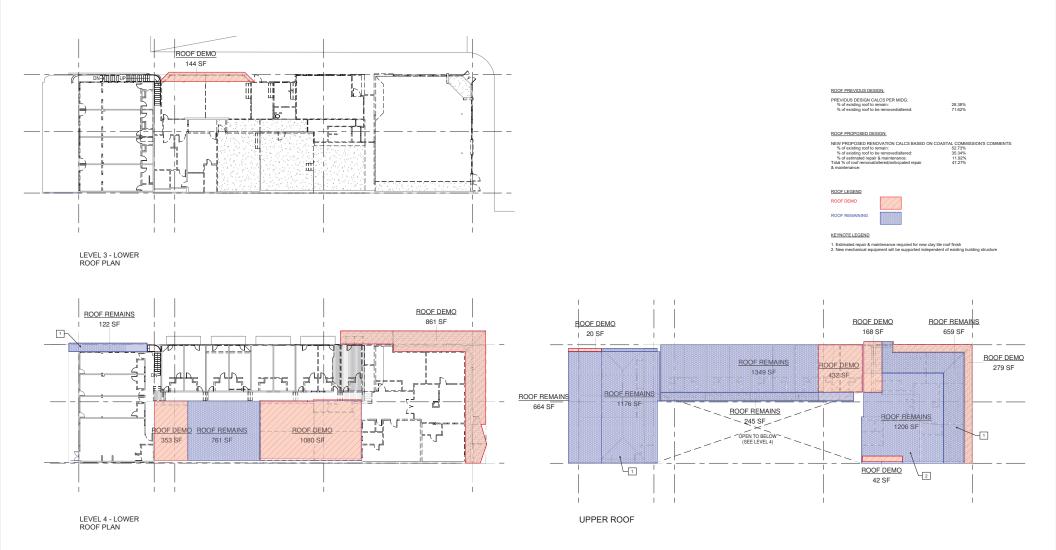
EXTERIOR ELEVATION RENOVATION CALCULATIONS

A3.2 SMSARCH

COASTINN

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California Coastal Commission



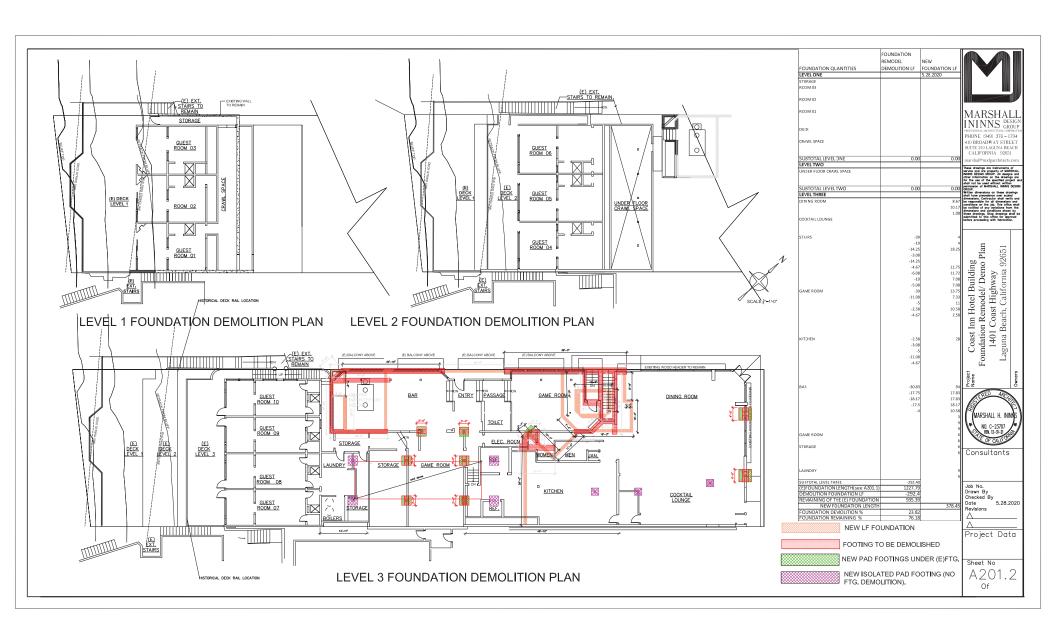
ROOF RENOVATION CALCULATIONS



18004 Sky Park Circle, Suite 200

21 JULY 2021 PROJECT NO: 20021 Irvine, California 92614 California Coastal Commission

A-5-LGB-20-0050 Exhibit 2 Page 11 of 12 **NOTE:** This sheet is from previous plans dated August 31, 2020. The scope of work has been reduced and new foundation plans are required by Special Condition 1 prior to permit issuance.



# **Exhibit 3 – Historic Photos**

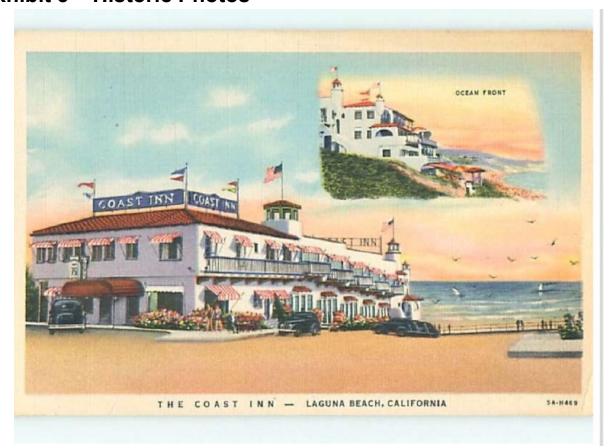


Figure 1- Postcard circa 1935.



Figure 2- Photo circa 1940's.

Exhibit 3
Page 1 of 3



Figure 3- Photo circa 1950's.



Figure 4- Photo of fire, circa 1956.

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Figure 4- Photo of reconstruction, dated 1960's.



**Figure 5**- Photo of existing condition, dated 2021.



Figure 6- Proposed condition.

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## **CALIFORNIA COASTAL COMMISSION**

455 MARKET STREET, SUITE 228 SAN FRANCISCO, CA 94105-2219 VOICE (415) 904-5200 FAX (415) 904-5400



July 7, 2021

### **BLUFF EDGE REVIEW MEMORANDUM**

To: Chloe Seifert, Coastal Program Analyst

From: Joseph Street, Ph.D., P.G., Staff Geologist Joseph Street

Re: 1401 S. Coast Highway, Laguna Beach (Coast Inn),

Appeal No. A-5-LGB-20-0050

In connection with the above-referenced appeal, I have reviewed the following documents directly related to the subject property:

- 1) Borella Geology, Inc., 2009, "Updated Preliminary Geotechnical Report for Hotel Remodel and New Additions, Including Subterranean Garage, Coast Inn, 1401 South Coast Highway, Laguna Beach, CA 92651", report dated June 17, 2009, signed by J. W. Borella, P. E. Borella, and D. A. Purkis.
- 2) Borella Geology, Inc., 2015, "Update and Addendum report for Preliminary Geotechnical Report for Hotel Remodel and New Additions, Including Subterranean Garage, Coast Inn, 1401 South Coast Highway, Laguna Beach, CA 92651", report dated January 31, 2015, signed by P. E. Borella and D. A. Purkis.
- 3) Borella Geology, Inc., 2018, "Site visits and Visual observations of Ocean Bluff Face, 1401 South Coast Highway, Coast Inn, Laguna Beach, California, 92651", report dated January 19, 2018, signed by P. E. Borella.
- 4) Borella Geology, Inc., 2019, "Site visits and Visual observations of Ocean Bluff Face (return visits and observations), 1401 South Coast Highway, Coast Inn, Laguna Beach, California, 92651", report dated May 1, 2019, signed by P. E. Borella.
- 5) GeoSoils, Inc., 2019, "Discussion of Coastal Hazards and Wave Runup, Coast Inn, 1401 S. Coast Highway, City of Laguna Beach, Orange County, California", report dated May 17, 2019, signed by D. W. Skelly.
- 6) Borella Geology, Inc., 2020a, "Third Response to City of Laguna Beach Geotechnical Report Review Checklist, updated report and Ocean bluff face, bluff top determination and stability, Coast Inn Hotel remodel, original report dated September 3, 2009, PN96044-687, 1401 South Coast Highway, Laguna Beach, California, 92651, dated August 25, 2020", signed by P. E. Borella.
- 7) Marshall Ininns Design Group, 2020, "Coast Inn Hotel Renovation, 1401 S. Coast Highway, Laguna Beach, CA 92651", plan set dated August 31, 2020, stamped by M. H. Ininns.
- 8) Borella Geology, Inc., 2020b, "Fourth Response to City of Laguna Beach, Ocean bluff face, bluff face top determination, Coast Inn Hotel remodel, original report dated September 3, 2009, PN96044-687, 1401 South Coast Highway, Laguna Beach, California, 92651, dated August 24, 2020", report dated October 29, 2020, signed by P. E. Borella.

9) SMSARCH, 2021, "Coast Inn Proposed Redesign & Renovation Calculations, Laguna Beach, California", plan set dated June 14, 2021.

I have also consulted oblique aerial photographs of the site provided by the California Coastal Records Project (<a href="https://www.californiacoastline.org">https://www.californiacoastline.org</a>), the two-foot contour topographic maps maintained by Orange County Public Works (OCPW) (<a href="https://www.ocgis.com/ocpw/landrecords/">https://www.ocgis.com/ocpw/landrecords/</a>), and historical photographs of the site (<a href="http://coastinnhistory.com">http://coastinnhistory.com</a>, accessed July 2, 2021). The purpose of this memorandum is to evaluate the position of the bluff edge on the subject property.

### Site Description

As described in the geotechnical reports provided by Borella Geology (Refs. 1-4, 6, 8), the coastal bluff at the site is composed of highly-competent San Onofre Breccia bedrock overlain unconformably by geologically-recent, sandy marine and non-marine terrace deposits and, in places, minor artificial fill associated with prior development of the site. Based the topographic information contained in several of the Borella reports and site plans (Refs. 1, 3, 6, 7) and the OCPW maps, the subject site extends from an elevation of approximately 10 feet above mean sea level (MSL) at the back of the beach to about +60 feet MSL at Coast Highway (**Fig. 1**).

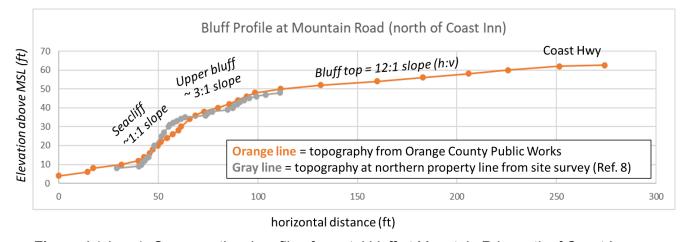


Figure 1 (above): Cross-sectional profile of coastal bluff at Mountain Rd., north of Coast Inn

Below approximately +30 feet MSL the San Onofre Breccia forms a relatively steep seacliff, with slopes of approximately 40 – 45 degrees (~1:1 horizontal: vertical, h:v). Where exposed, such as along the northern property line and below the Mountain Rd. street end, the upper bluff terrace deposits (approx. +30 – 50 feet MSL) are susceptible to subaerial erosion and are characterized by gentler slopes (20 – 22 degrees; 2.5:1 – 3:1 h:v). The natural bluff landform, consisting of the steeper seacliff and gently-sloped upper bluff (stepped/terraced in places), is apparent in historical photographs of the site (**Fig. 2**, below). The seaward portion of the existing Coast Inn building appears to descend the upper bluff slope in one or more steps; this is also evident in the site plans (Refs. 1, 7, 9; **Figs. 3, 4**). Above elevations of about +48 – 50 feet MSL, the slightly inclined bluff top has a slope of approximately 12:1 (h:v), or less than 5 degrees.



Figure 2: 1941 Aerial Photograph of Coast Inn Site (Source: http://coastinnhistory.com)

## **Bluff Edge Determination**

The Land Use Element (LUE) of the City of Laguna Beach's certified Local Coastal Program includes the following definition of "Oceanfront Bluff Edge or Coastal Bluff Edge" (Glossary Definition 101) [emphasis added]:

The California Coastal Act and Regulations define the oceanfront bluff edge as the upper termination of a bluff, cliff or seacliff. In cases where the top edge of the bluff is rounded away from the face of the bluff, the bluff edge shall be defined as that point nearest the bluff face beyond which a downward gradient is maintained continuously to the base of the bluff. In a case where there is a step like feature at the top of the bluff, the landward edge of the topmost riser shall be considered the bluff edge. Bluff edges typically retreat over time because of erosional processes, landslides, development of gullies, or by grading (cut). In areas where fill has been placed near or over the bluff edge, the original bluff edge, even if buried beneath fill, shall be taken to be the bluff edge.

This definition is similar, though not identical to the definition of "bluff edge" contained in the Coastal Commission's regulations (Cal. Code Reg. Title 14, §13577(h)). The LUE (in Definition 102) further clarifies that a coastal bluff encompasses the entire slope between the upland area and the beach, and not just the steepest portion of the slope:

**Oceanfront Bluff/Coastal Bluff** – A bluff overlooking a beach or shoreline or that is subject to marine erosion. Many oceanfront bluffs consist of a gently sloping upper bluff and a steeper lower bluff or sea cliff. The term "oceanfront bluff" or "coastal bluff" refers to the entire slope between a marine terrace or upland area and the sea. The term "sea cliff" refers to the lower, near vertical portion of an oceanfront bluff.

At the project site, a bluff edge determination pursuant to these definitions must account for the relatively gentle gradient of the upper bluff and modifications to the site topography

<sup>&</sup>lt;sup>1</sup> Section 13577(h)(2) of the Commission's regulations defines the "bluff edge" as follows:

Bluff line or edge shall be defined as the upper termination of a bluff, cliff or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surfaces increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a steplike feature at the top of the cliff face, the landward edge of the topmost rise shall be taken as the cliff edge.

during past development. These modifications appear to include grading cuts associated with the construction of the existing Coast Inn building (**Figs. 3, 4**).

The bluff edge determination provided by the applicant (Ref. 8) identified the bluff edge at the contact between the San Onofre Breccia bedrock and the overlying upper bluff material, at an elevation of approximately +30 feet MSL (**Figs. 3, 5**). This bluff edge line corresponds to the most distinct slope change on the bluff, where the gentle upper bluff slope transitions to the steeper sea cliff. However, as noted above, the LUE definition of "Oceanfront/Coastal Bluff" expressly includes the entire slope between the upland area and the sea, not just the steeper sea cliff, which in Laguna Beach often corresponds to the lower bluff bedrock. The applicant's analysis does not account for the considerable elevation change that occurs between the identified bluff edge (at +30 ft MSL) and the top of the marine terrace (at 50 - 60 ft MSL), nor the gradient ( $\sim$ 2.5:1 to 3:1 h:v) of the upper bluff, which significantly exceeds the general slope of the bluff top ( $\sim$ 12:1 h:v) in this location.

As shown in **Figs. 1** & **2** (above), along the Mountain Rd. street end and the northern edge of the subject site, the transition from bluff top to bluff face is incremental – the bluff edge is "rounded away from the face of the bluff" – but the gradient increases noticeably at two points, the first at approximately +48 feet MSL and the second at about +30 feet MSL. Per the LUE definition, the bluff edge occurs at the higher elevation slope break at +48 feet MSL, which is "the point nearest the bluff face beyond which a downward gradient is maintained continuously" (accounting for the fact that the bluff top itself has a downward gradient of about 5 degrees).

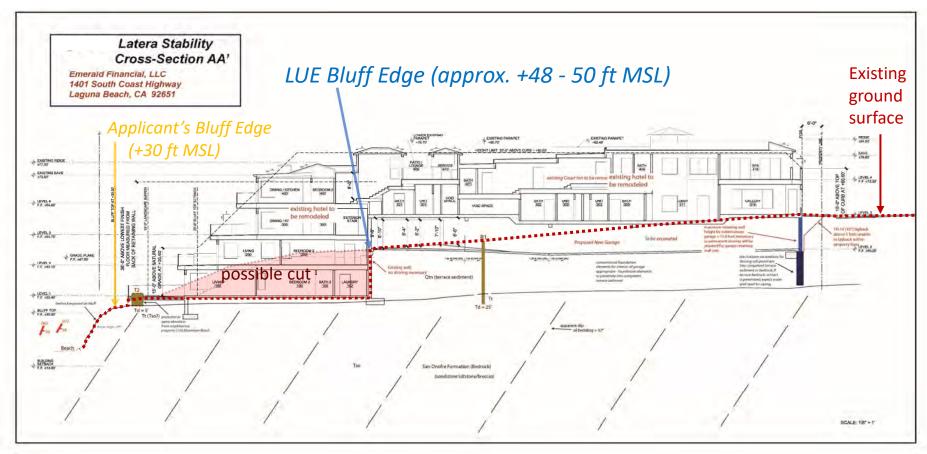
Across most of the subject site, however, the situation is complicated by the fact that the existing Coast Inn building appears to have been built on one or more graded "steps" cut into the bluff when the site was developed (**Figs. 2 - 4**). As noted above, the LUE bluff edge definition considers grading cuts to be equivalent to natural erosion as a "process" than can change the position of the bluff edge. It is likely that this prior grading of the upper bluff at the Coast Inn site removed a rounded natural bluff edge similar to that occurring along the Mountain Rd. street end. However, if even if the upper bluff "step" on which the hotel is built is of natural origin, the LUE Coastal Bluff Edge definition indicates that in cases where there is a "step like feature" at the top of the bluff, the bluff edge is the "landward edge of the topmost riser." At the project site, the edge of the topmost riser occurs at an elevation of approximately +48 – 50 feet MSL (**Figs. 3, 4**). This elevation is consistent with the LUE bluff edge on the less altered bluff along the northern property line (**Fig. 1**). The LUE bluff edge is shown in plan view in **Fig. 5**, more or less coincident with the retaining wall at the back of Level 2 of the hotel and approximately 65 feet inland of the western property line.

## Slope Stability & Coastal Hazards

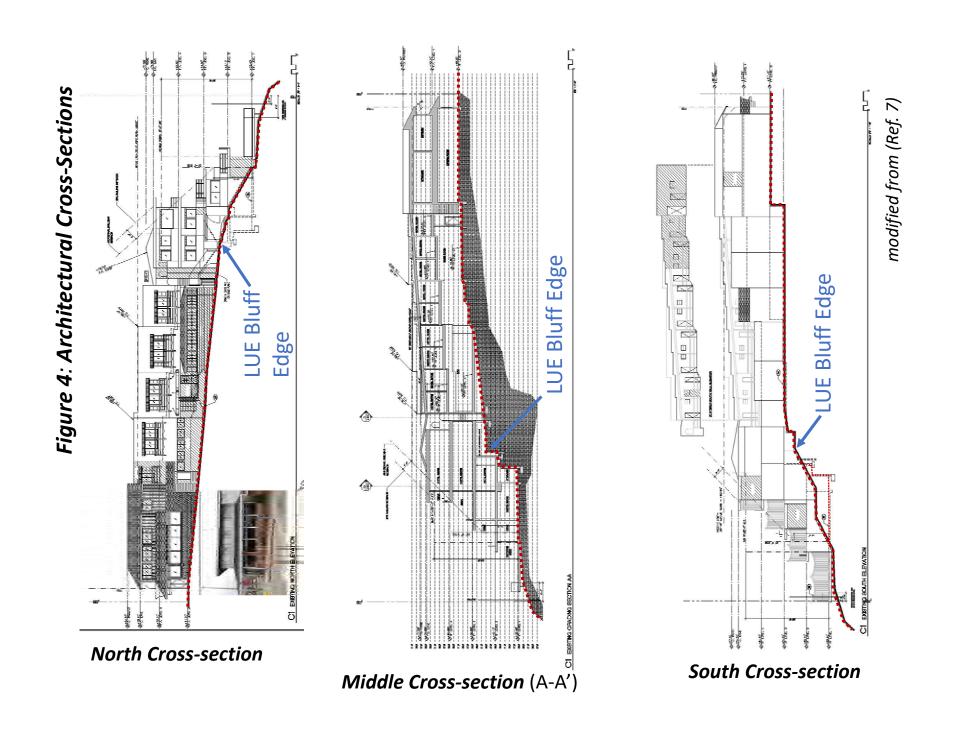
The slope stability analysis provided in Ref. (1) indicates that the bluff at the subject site is grossly stable, with a minimum factor of safety of 2.4 under static conditions and 1.9 under pseudostatic conditions ( $k_h$  = 0.15 g). Moreover, the San Onofre Breccia bedrock comprising the lower bluff is highly resistant to marine erosion. The applicant's coastal hazards analysis (Ref. 5) indicates that the proposed new development would be safe from wave runup and bluff erosion hazards over the next 75 years with up to 4.2 feet of SLR; higher SLR scenarios were not evaluated.

Attachments: Figures 3, 4, & 5

**Figure 3: Mid-Site Geologic Cross-Section** 



modified from Borella 2009 (Ref. 1)



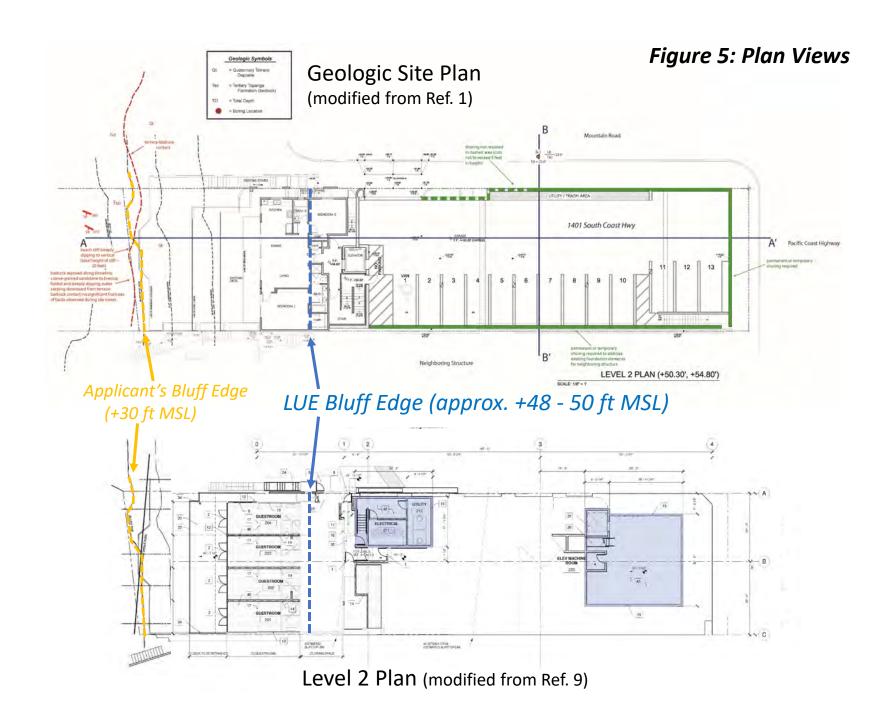
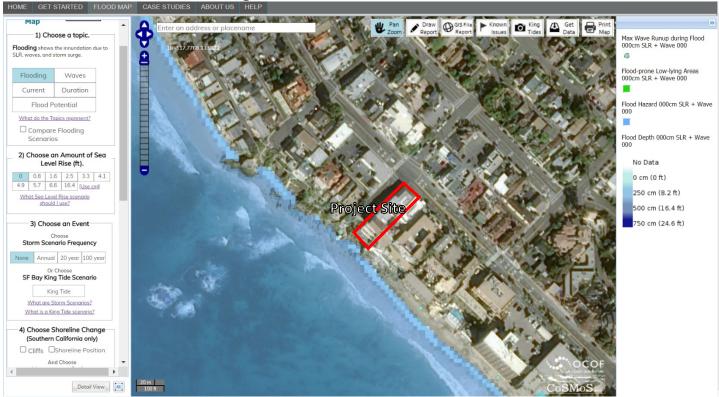
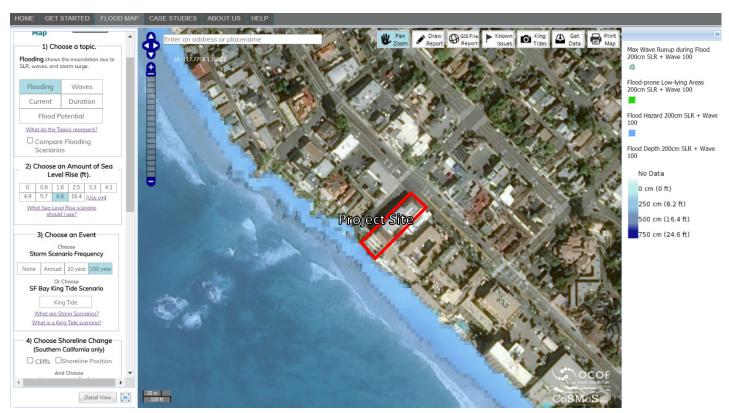


Exhibit 5 - CoSMoS Figures



Existing site condition (0 ft. of sea level rise and no coastal storms.)



Possible future site condition (6.6 ft. of sea level rise and 100-year coastal storm.)