Keith Higgins

Traffic Engineer

June 3, 2021

Prakash Patel, President
Lotus Management Inc.
6030 Hellyer Ave,Suite 150
San Jose, CA 95138

Re: Seacliff Village Hotel Trip Generation and Vehicle Miles Traveled Study, Santa Cruz County, California

Dear Prakash:

As you requested, this is a traffic analysis for the Seacliff Village Hotel, 270 North Avenue, Aptos, California (Project). The Project will include 19 guest rooms. The project location and site plan are included as **Exhibits 1** and **2**, respectively. The scope of work includes a Project trip generation estimate and a discussion regarding whether the Project should be exempt from being required to prepare traffic impact and vehicle-miles traveled (VMT) analyses.

1. Project Trip Generation Estimate

Santa Cruz County requires a formal traffic impact analysis if the Project would generate 20 or more AM or PM peak hour vehicle trips.

The Project is called a hotel but does not include any ancillary facilities. However, as indicated by the descriptions of hotels and motels below, it is better classified as a motel. This is the primary factor on determining the appropriate trip generation estimate for the project.

a. Hotel Description

The following is a description of "Land Use 310: Hotel" in "Trip Generation Manual," Institute of Transportation Engineers, 10th Edition, 2017.

"A hotel is a place of lodging that provides sleeping accommodations ***and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops***. All suites hotel (Land Use 311), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses." **Appendix A** provides the relevant page from the Trip Generation Manual. It will be noted by the text in italics and bold type above that a hotel has full-service visitor accommodations that include a variety of ancillary facilities such as restaurants, cocktail lounges, etc. These ancillary uses generate trips associated with additional employees, deliveries, and customers in addition to those generated by the guest rooms.

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b. Motel Description

The following is the description of "Land Use 320 – Motel" in the "Trip Generation Manual."

"A motel is a place of lodging that provides sleeping accommodations and often a restaurant. Motels generally offer free on-site parking and provide little or no meeting space and few (if any) supporting facilities. Exterior corridors accessing rooms—immediately adjacent to a parking lot—commonly characterize motels. Hotel (Land Use 310), all suites hotel (Land Use 311), business hotel (Land Use 312), and resort hotel (Land Use 330) are related uses."

The Project will not have any ancillary facilities and is best classified as a Motel. It does not have a restaurant, which is included in many of the sites from which the Trip Generation Manual trip rates are derived. As tabulated on **Exhibit 3**, the Project's estimated trip generation is expected to include about 83 daily trips with 10 AM peak hour trips and 10 PM peak hour trips. This is less than the 20-peak hour trip threshold that would require a traffic impact analysis.

2. Project VMT Compliance Discussion

The "Analyzing Vehicle Miles Traveled for CEQA Compliance SB 743 – Implementation Guidelines for the County of Santa Cruz," Santa Cruz County Planning Department, Implemented July 2020, Updated May 2021 (VMT Guidelines), requires the use of vehicle-miles traveled (VMT) as the basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA) for all pending and future development projects in Santa Cruz County. According to Page 3 of the VMT Guidelines, one screening criteria for determining if a project will have a less-than-significant impact is if the project will generate less than 110 trips per day. Based on the trip generation estimate in **Exhibit 3**, the Project will generate about 83 daily trips. This assumes a worst-case 100% occupancy. On an annual average basis, the daily trip generation would be lower. It will therefore have a less-than-significant VMT impact and require no additional VMT analysis.

In conclusion, the Project will generate peak hour trips below the threshold requiring a transportation impact analysis. It will also generate daily trips below the threshold requiring a VMT analysis. No further transportation-related impact analysis is therefore required.

If you have any questions regarding this analysis, please do not hesitate to contact me.

Thank you for the opportunity to assist you with this project.

Respectfully submitted,

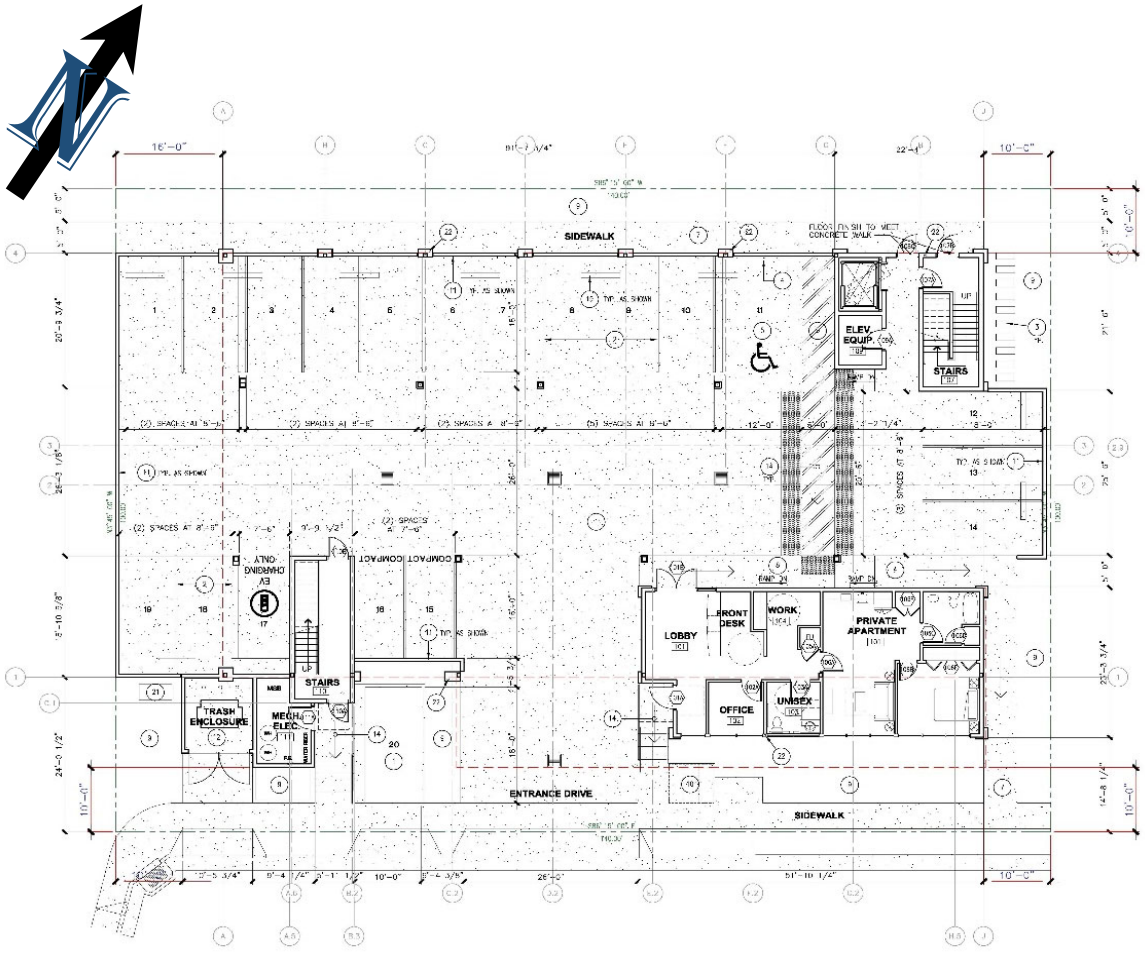
Keith Higgins

Keith B. Higgins, PE, TE
Enclosures

Basemap Source: Google Maps, 2021.

Keith Higgins
Traffic Engineer

Exhibit 1
Project Location Map



Source: Design Resources Architects, November 2018.

		WEEKDAY								
			AM PEAK HOUR				PM PEAK HOUR			
TRIP RATES	**ITE LAND USE CODE**	DAILY TRIP RATE	PEAK HOUR RATE	% OF ADT	% IN	% OUT	PEAK HOUR RATE	% OF ADT	% IN	% OUT
Motel (per room)	320	4.37	0.51	12%	36%	64%	0.50	11%	53%	47%

		WEEKDAY								
			AM PEAK HOUR				PM PEAK HOUR			
PROJECT TRIPS	**PROJECT SIZE**	DAILY TRIPS	PEAK HOUR TRIPS	% OF ADT	TRIPS IN	TRIPS OUT	PEAK HOUR TRIPS	% OF ADT	TRIPS IN	TRIPS OUT
Motel	19 rooms	83	10	12%	4	6	10	12%	5	5

Notes:

1. Trip generation rate source: Institute of Transportation Engineers (ITE), *Trip Generation Manual,* 10th Edition, 2017.

Keith Higgins
Traffic Engineer

Exhibit 3
Project Trip Generation

Appendix A

Excerpts from

Trip Generation Manual,

10th Edition,

Institute of Transportation

Engineers,

2017

Land Uses

310 Hotel and

320 Motel

Land Use: 310
Hotel

Description

A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops. All suites hotel (Land Use 311), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.

Additional Data

Studies of hotel employment density indicate that, on the average, a hotel will employ 0.9 employees per room.[1]

Twenty-five studies provided information on occupancy rates at the time the studies were conducted. The average occupancy rate for these studies was approximately 82 percent.

Some properties contained in this land use provide guest transportation services such as airport shuttles, limousine service, or golf course shuttle service, which may have an impact on the overall trip generation rates.

Time-of-day distribution data for this land use are presented in Appendix A. For the one center city core site with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 8:30 and 9:30 a.m. and 3:15 and 4:15 p.m., respectively. On Saturday and Sunday, the peak hours were between 5:00 and 6:00 p.m. and 10:15 and 11:15 a.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, District of Columbia, Florida, Georgia, Indiana, Minnesota, New York, Pennsylvania, South Dakota, Texas, Vermont, Virginia, and Washington.

For all lodging uses, it is important to collect data on occupied rooms as well as total rooms in order to accurately predict trip generation characteristics for the site.

Trip generation at a hotel may be related to the presence of supporting facilities such as convention facilities, restaurants, meeting/banquet space, and retail facilities. Future data submissions should specify the presence of these amenities. Reporting the level of activity at the supporting facilities such as full, empty, partially active, number of people attending a meeting/banquet during observation may also be useful in further analysis of this land use.

Source Numbers

170, 260, 262, 277, 280, 301, 306, 357, 422, 507, 577, 728, 867, 872, 925, 951

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[1] Buttke, Carl H. Unpublished studies of building employment densities, Portland, Oregon.

Land Use: 320
Motel

Description

A motel is a place of lodging that provides sleeping accommodations and often a restaurant. Motels generally offer free on-site parking and provide little or no meeting space and few (if any) supporting facilities. Exterior corridors accessing rooms—immediately adjacent to a parking lot—commonly characterize motels. Hotel (Land Use 310), all suites hotel (Land Use 311), business hotel (Land Use 312), and resort hotel (Land Use 330) are related uses.

Additional Data

Typically, the average employment at motels is much lower than at hotels.

Sixteen studies provided information on occupancy rates at the time the studies were conducted. The average occupancy rate for these studies was approximately 82 percent.

Time-of-day distribution data for this land use are presented in Appendix A. For the four general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 5:30 and 6:30 a.m. and 5:15 and 6:15 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Florida, Indiana, New Jersey, New York, Oregon, South Dakota, and Texas.

For all lodging uses, it is important to collect data on occupied rooms as well as total rooms in order to accurately predict trip generation characteristics for the site.

Source Numbers

172, 187, 191, 277, 295, 300, 357, 439, 443, 598, 877, 915

GEOTECHNICAL INVESTIGATION

On

PROPOSED NEW HOTEL

At

270 North Avenue
Aptos, California

For

Lotus Management Inc.

By
Quantum Geotechnical, Inc.

Project No. F041.G
September 10, 2019

ATTACHMENT 3

QUANTUM GEOTECHNICAL INC.

Project No. F041.G
September 10, 2019

Mr. Prakash Patel
President
Lotus Management Inc.
6030 Hellyer Ave., Ste. 150
San Jose, CA 95138

Subject: Proposed New Motel
270 North Avenue
Aptos, California
GEOTECHNICAL INVESTIGATION

Dear Mr. Patel:

In accordance with your authorization, ***Quantum Geotechnical, Inc.,*** has investigated the geotechnical conditions at the subject site located in Aptos, California, for a proposed new Motel.

The accompanying report presents the results of our field investigation. Our findings indicate that development of the site for the proposed new motel is feasible provided the recommendations of this report are carefully followed and are incorporated into the project plans and specifications.

Should you have any questions relating to the contents of this report or should additional information be required, please contact our office at your convenience.

Sincerely,
Quantum Geotechnical, Inc.

Simon Makdessi, P.E., G.E.
President

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GEOTECHNICAL INVESTIGATION

PURPOSE AND SCOPE

The purpose of the investigation for the proposed new hotel development located at 270 North Avenue in Aptos, California, was to determine the surface and subsurface soil conditions at the subject site. Based on the results of the investigation, criteria were established for the grading of the site, the design of foundations for the proposed development, and the construction of other related facilities on the property.

Our investigation included the following:

a. Field reconnaissance by the Soil Engineer;
b. Determine the general seismicity of the site in accordance with the 2016 CBC;
c. Drilling and sampling of two soil borings;
c. Laboratory testing of soil samples;
d. Analysis of the data and formulation of conclusions and recommendations; and
e. Preparation of this written report.

PROPOSED DEVELOPMENT

It is our understanding that the proposed project consists of developing the site for the construction of a new three-story motel consisting of 19 rooms. The lower ground level will be mainly covered parking with a manager's office and apartment, while the upper two levels will be motel rooms. Specific development details are currently not yet known, but it is assumed cuts and fills will be minimal given the level nature of the site at present.

SITE LOCATION AND DESCRIPTION

The site is located in the southwestern portion of the town of Aptos, south of Highway 1 and located near Seacliff State Beach, within level terrain at approximately 102 feet above mean sea level (7), as shown on the "Site Vicinity and Fault Map", Figure 1, attached to Appendix A. The site is rectangular in shape, elongated in the west to east direction, and is approximately 0.25 acres in area. The site is bounded by railroad tracks to the north, existing apartments to the east,

North Avenue to the south, and a parking lot on the west. The site currently consists of vacant field. Site ground cover includes mid to low height vegetation.

GENERAL GEOLOGIC CONDITIONS

The site is located within the Coast Ranges Geomorphic Province of California. Throughout the Cenozoic Era, the western part of California has been affected by tectonic forces associated with lateral or transform plate motion between the North American and Pacific crustal plates, which has produced a complex system of northwest-trending faults - the San Andreas, Hayward, and Calaveras Fault systems being the most prominent. Uplift, erosion and subsequent re-deposition of sedimentary rocks within this province have been driven primarily by the northwest-southeast directed strike-slip movement of the tectonic plates and the associated northeast oriented compressional stress. The northwest-trending coastal mountain ranges are the result of an orogeny believed to have been occurring since the Pleistocene epoch (approximately 2-3 million years before present).

The site resides in level terrain at approximately 102 feet above mean sea level (7) in the town of Aptos, CA. Based on a review of geologic maps (3), the site is underlain by marine terrace deposits of the mid to late Quaternary. These deposits locally tend to consist of moderately consolidated very fine sands, with interspersed lenses of coarser sand and gravel. Site and regional geology are displayed in the "Regional Geologic Map", Figure 2, Appendix A.

The California Geological Survey has not yet completed a seismic hazard zone report, along with the associated earthquake hazard zone map, for the site vicinity. According to the California Department of Water Resources, Water Data Library (2), one groundwater well in the Aptos area north of the site indicates that groundwater may be encountered greater than 100 feet below ground surface within the site vicinity.

The USGS Quaternary Fault database (6) provides a record of quaternary fault surface traces based on historic mapping and observations. Table I, below, lists the USGS Quaternary active fault traces located within 10 miles of the site location. Nearby fault traces are as indicated on Figure 1, "Site Vicinity and Fault Map", attached to Appendix A.

Table I
List of Quaternary Faults

Fault ID	Distance from Site (mi)	USGS Activity Level (yrs)
Zayante	4.3	1.6 Mya – 15 Kya
San Andreas	6.6	< 150 ya
Tularcitos	6.9	< 1.6 Mya

Note: Mya and Kya are abbreviations for million years (MYA) and thousand years (KYA) ago.

INVESTIGATION

The field investigation was performed on July 25, 2019, and included a reconnaissance of the site and the drilling of two exploratory borings at the approximate locations shown on Figure 3, "Site Plan" in Appendix A. The borings extended to depths ranging from 26.5 to 41.5 feet below current ground surface.

The borings were advanced using a truck mounted Simko 2400K longstroke drill rig utilizing 6.0 inch solid flight augers. Visual classifications were made from auger cuttings and samples in the field. As the drilling proceeded, relatively undisturbed core samples were obtained by means of a lined 3.0 inch O.D. Modified California split-tube sampler, and a 2.0 inch O.D. standard pin split tube sampler. The sampler was advanced into the soils at various depths under the impact of a 140-pound hammer having a free fall of 30 inches. The number of blows required to advance the sampler 12 inches into the soil, after seating the sampler 6 inches, were recorded on the boring logs.

The stratification of the soils, descriptions, location of undisturbed soil samples and blow counts are shown on the respective "Logs of Test Borings" contained within Appendix A.

Laboratory testing was conducted for moisture density, and gradation analysis. The data received from the lab are presented on the boring logs, Appendix A.

SUBSURFACE CONDITIONS

The subsurface conditions as encountered in the two borings were found to vary in the upper 20 feet and consistent below 20 feet. Boring Q-1 encountered 20 feet of medium dense very fine silty sand, while in boring Q-2, 9.5 feet of medium dense very fine silty sand, overlies 9.5 feet of medium stiff silt, underlain by medium dense sand to a depth of 25 feet. Below 20 feet in boring Q-1 and below 25 feet in boring Q-2, the subsurface conditions consisted of very dense silty sand to the maximum depth explored of 41.5 feet.

Groundwater was encountered at 16 foot depth below ground surface in both of the borings at the time of our exploration. Fluctuations in the groundwater table may occur due to tidal influences, seasonal rainfall and urbanization or nearby development activities.

A more thorough description and stratification of the soil conditions are presented on the respective "Logs of Test Borings" in Appendix A. The approximate locations of the borings are shown on Figure 3, "Site Plan" in Appendix A.

2016 CBC SEISMIC DESIGN CRITERIA

The potential damaging effects of regional earthquake activity should be considered in the design of structures. As a minimum, seismic design should be in accordance with Chapter 16 of the 2016 California Building Code (CBC). The 2016 CBC utilizes the design procedures outlined in the 2010 ASCE 7-10 Standard. Using the criteria in Chapter 20 of ASCE 7-10, although soil we encountered within the top 25 feet may be subject to liquefaction settlement, in our estimate within the top 100 feet of soil, the site soil will be stiff. As a result, the site can be classified as Site Class D for stiff soil. The seismic design parameters have been developed using the online "Seismic Design Maps" tool (5) by the Structural Engineering Association (SEA) and Office of Statewide Health Planning and Development (OSHPD) and a site location based on longitude and latitude. The parameters generated for the subject site for a latitude of 36.97512° N, and longitude of 121.91092° W, are presented in the following Table II:

Table II
2016 CBC Seismic Design Criteria

Seismic Parameter	Coefficient	Value
Site Class – Stiff Soil		D
Peak Ground Acceleration (Site Modified)	PGA_M	0.581
Mapped MCE Spectral Acceleration at Short-Period 0.2 secs	S_S	1.536
Mapped MCE Spectral Acceleration at a Period of 1.0s	S_1	0.605
Adjusted MCE, 5% Damped Spectral Response Acceleration at Short Period of 0.2s	S_{MS}	1.536
Adjusted MCE, 5% Damped Spectral Response Acceleration at Period of 1.0s	S_{M1}	0.907
Design 5% Damped Spectral Response Acceleration at Short Period of 0.2s for Occupancy Category I/II/III	S_{DS}	1.024
Design 5% Damped Spectral Response Acceleration at Period of 1.0s for Occupancy Category I/II/III	S_{D1}	0.605

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

GENERAL

1. From a geotechnical point of view, the site is suitable for the construction of the proposed motel development, provided the recommendations presented in this report are incorporated into the project plans and specifications.

2. The most prominent feature of the site is the potential to undergo liquefaction. The medium dense sands and lean silt below the water table are potentially liquefiable. It is estimated that liquefaction induced settlements of 0.5 inches in boring Q-1 and up to 1 inches in boring Q-2, could occur. Due to variability, it is estimated that a differential settlement of 0.5 inches over 50 feet, could occur. The estimated liquefaction induced differential settlement is to be considered in the design of foundations and gravity utilities.

3. The proposed structure may be satisfactorily supported on a spread footing foundation system. Specific foundation design recommendations are provided under the heading Foundations.

GRADING

4. The grading requirements presented herein are an integral part of the grading specifications presented in Appendix B of this report and should be considered as such.

5. Grading activities during the rainy season on the silty soils will be hampered by excessive moisture. Grading activities may be performed during the rainy season, however, achieving proper compaction may be difficult due to excessive moisture; and delays may occur. In addition, measures to control potential erosion may need to be provided. Grading performed during the dry months will minimize the occurrence of the above problems.

6. In areas to receive fill stripping of the topsoil and surface vegetation must be performed to remove all organic soil. In addition, any areas of loose soil, old fill or yielding subgrade must be excavated until non-yielding native soil is encountered.

7. After site preparation, the top 8 inches of exposed ground should be scarified and compacted to a degree of relative compaction of at least 90% at 2 to 3 percent above optimum moisture content as determined by ASTM D1557-12 Laboratory Test Procedure.

8. The site may be brought to the desired finished grades by placing fill material in lifts of 8 inches in uncompacted thickness and compacted to 90% relative compaction at a moisture content 2 to 3 percent above optimum moisture content as determined by ASTM D1557-12 Laboratory Test Procedure.

9. All soil encountered during our investigation, are suitable for use as engineered fill when placed and compacted at the recommended moisture content and provided it does not contain any debris or vegetation.

SURFACE AND SUBSURFACE DRAINAGE

10. All finish grades should be provided with a positive gradient to an adequate discharge point in order to provide rapid removal of surface water runoff away from all foundations. No ponding of water should be allowed on the pad or adjacent to the foundations. Surface drainage must be designed by the project Civil Engineer and maintained by the property owners at all times. The pad should be graded in a manner that surface flow is to a controlled discharge system.

11. Lot slopes and drainage must be provided by the project Civil Engineer to remove all storm water from the pad and to minimize storm and/or irrigation water from seeping beneath the structure. Should surface water be allowed to seep under the structure, foundation movement resulting in structural cracking and damage will occur. Finished grades around the perimeter of the structure should be compacted and should be sloped at a minimum 2% gradient away from the exterior foundation. Surface drainage requirements constructed by the builder should be maintained during landscaping. In particular, the creation of planter areas confined on all sides

by concrete walkways or decks and the structure foundation is not desirable since any surface water due to rain or irrigation becomes trapped in the planter area with no outlet. If such a landscape feature is necessary, surface area drains in the planter area or a subdrain along the foundation perimeter must be installed.

12. Continuous roof gutters are recommended. According to local government requirements, roof downspout and drain flows should be directed to bio-filtration areas next to the building perimeter, where possible. From a geotechnical and maintenance point of view it is undesirable to discharge water into bio-filtration areas near foundations, because of the possibility of water ponding for sustained periods of time. Typically, the bio-filtration areas consist of an 18 inch layer of sandy loam over 18 inches of permeable gravel material. The top of the bio-filtration area is typically approximately 1 foot below pad grade, therefore, the base of the bio-filtration area will be approximately 4 feet below pad grade. The base of the bio-filtration area will typically contain a perforated pipe to drain any water that may collect within 24 hours. In some situations, the bio-filtration areas may be located as close as 2 to 3 feet from the building perimeter. If such a system is employed, we must be consulted to evaluate the impact of these systems when located in close proximity to the foundation and provide supplemental recommendations including deepened footings or waterproofing. In addition, the property owners must always maintain the bio-filtration area to ensure that it is performing as designed and that water does not pond in the area for longer than 48 hours.

13. As an alternate to discharging roof water or surface water into bio-filtration areas, these may be directed into landscape areas adjacent the building perimeter. From a geotechnical and maintenance point of view it is undesirable to discharge water into landscape areas near foundations, as these areas generally are not maintained well enough to prevent water ponding. If this must be implemented, we recommend that the project civil engineer or landscape architect provide an adequate number of area drains in the landscape areas close to the discharge areas to minimize ponding of water, and that the property owners always maintain positive drainage away from the foundation. Ground cover and vegetation must be maintained to allow easy flow of water to the area drains.

FOUNDATIONS

14. Provided the site is prepared as recommended in the "Grading" section, spread footing foundations may be used to support the proposed structure building. A section of the ground level of the building may utilize an interior concrete slab-on-grade floor. The foundations must be designed to tolerate the estimated total and differential settlements due to liquefaction provided earlier.

Spread Footing Foundations in Conjunction with or without Interior Concrete Slab-on Grade Floor

15. Continuous and spread footing foundations should extend to a minimum depth of 24 inches below the lowest adjacent pad grade (trenching depth below slab subgrade elevation). At this depth, continuous footings may be designed for an allowable bearing pressure of 2,800 p.s.f. due to dead plus sustained live loads, and 3,700 p.s.f. due to all loads which include wind or seismic. Isolated spread footings for columns may be designed for an allowable bearing pressure of 3,000 p.s.f. due to dead plus sustained live loads, and 4,000 p.s.f. due to all loads which include wind or seismic. The specification of structural reinforcement for all foundations is to be performed by a structural engineer.

16. Elastic static settlements of footings designed and constructed in accordance with the aforementioned criteria are estimated to be less than one-half inch. The differential settlement between individual column or wall footings can be estimated as the difference between the settlements at any two points and should not exceed one-quarter inch.

17. Lateral loads resulting from wind or earthquake may be resisted in the form of passive pressure on the site of footings and friction between the bottom of the footings and soils on which these are supported. The passive soil resistance against footings may be taken equal to a fluid having an equivalent fluid pressure of 250 p.c.f, below a depth of 1 foot. This assumes that the footings are placed neat against the soil face or that properly compacted backfill is placed in the space between the footings and the soil faces. A coefficient of friction of 0.30 may be used at the base of the footing.

18. Where used, it is expected that the interior concrete slab-on-grade floor may experience some cracking due to normal concrete shrinkage. To reduce the potential cracking of the concrete slab floor, the following are recommended:

a. The surficial soil is non-expansive and therefore no slab subgrade saturation is required. Prior to construction of the slab, the slab subgrade should be observed by the Soil Engineer to verify that all under-slab utility trenches greater than 18 inches in width have been properly backfilled and compacted, and that no loose or soft soils are present on the slab subgrade.

b. Slabs should be underlain by a minimum of 4 inches of angular gravel or clean crushed rock material placed between the finished subgrade and the slabs to serve as a capillary break between the subsoil and the slab. The gravel or crushed rock material should consist of broken stone, crushed or uncrushed gravel, quarry waste, or a combination thereof. The aggregate shall be free from deleterious substances. It shall be of such quality that the absorption of water in a saturated dry condition does not exceed 3% of the oven dry weight of the sample. The material shall be ¾" minus material with no more than 3% passing the #200 sieve.

c. The thickness of the slab and reinforcement is to be determined by the project Structural Engineer. We recommend that the slabs be reinforced with reinforcing bars or welded wire fabric sheets. Wire mesh must not be used for reinforcement.

d. It is expected that moisture sensitive floor coverings will be used on the slab, and we recommend that a 15-mil or thicker vapor retarder membrane should be placed between the rock cushion and the slab to provide an effective vapor barrier and to minimize moisture condensation under floor coverings. It is further recommended that a two inch thick sand layer be placed on top of the membrane to assist in the curing of the concrete and to prevent puncture of the membrane. During winter construction, the sand may become saturated due to rainy weather prior to pouring. Saturated sand is not desirable because the sand cushion may become over saturated, and boil into the concrete causing undesirable structural monopolies of sand pockets within the slab. As an alternate, a sand-fine gravel mixture that is stable under saturated conditions may be used. However, the material must be approved by the Soil Engineer prior to use.

MISCELLANEOUS CONCRETE FLATWORK

19. Miscellaneous flatwork, and walkways may be designed with a minimum thickness of 4.0 inches. Control joints should be constructed to create squares or rectangles with a maximum spacing of 15 feet on large slab areas. Walkways should be separated from foundations with a thick expansion joint filler. Control joints should be constructed into walkways at a maximum of 5 feet spacing.

PAVEMENT AREAS

20. R-value tests were not performed as part of this investigation, as the soil expected at subgrade level is not known and depends on the planned grading. Assuming the subgrade material will consist of the silty sand soil, we will assume an R-value of 15 for preliminary design.

21. Based on an R-Value of 15, the following flexible pavement sections are recommended.

Traffic Index	AC (inches)	Class II[1] AB (inches)
4.5	3.0	7.0
5.0	3.0	8.5
5.5	3.0	10.0
6.0	4.0	10.0

Notes: [1]Minimum R-Value = 78
R-Value = Resistance Value
All Layers in compacted thickness to Cal-Trans Standard Specifications

22. After underground facilities have been placed in the areas to receive pavement and removal of excess material has been completed, the upper 6 inches of the sub-grade soil shall be scarified, moisture conditioned, and compacted to a minimum relative compaction of 95% in accordance with the grading recommendations specified in this report.

23. All aggregate base material placed subsequently should be compacted to a minimum relative compaction of 95% based on the ASTM Test Procedure of D1557-12 (latest edition). The construction of the pavement areas should conform to the requirements set forth by the latest Standard Specifications of the Department of Transportations of the State of California and/or City of Aptos, Department of Public Works.

24. If planter areas are provided within or immediately adjacent to the pavement areas, provisions should be made to control irrigation water from entering the pavement subgrade. Water entering the pavement section at subgrade level, which does not have a means for discharge, could cause softening of this zone.

UTILITY TRENCHES

25. Applicable safety standards require that trenches in excess of 5 feet must be properly shored or that the walls of the trench slope back to provide safety for installation of lines. If trench wall sloping is performed, the inclination should vary with the soil type. The underground contractor should request an opinion from the Soil Engineer as to the type of soil and the resulting inclination.

26. With respect to state-of-the-art construction or local requirements, utility lines are generally bedded with granular materials. These materials can convey surface or subsurface water beneath the structures. It is, therefore, recommended that all utility trenches which possess the potential to transport water be sealed with a compacted impervious cohesive soil material or lean concrete where the trench enters/exits the building perimeter.

27. Utility trenches extending underneath all traffic areas must be backfilled with native or approved import material and compacted to a relative compaction of 90% to within 6 inches of the subgrade. The upper 6 inches should be compacted to 95% relative compaction in accordance with Laboratory Test Procedure ASTM D1557 (latest edition). Backfilling and compaction of these trenches must meet the requirements set forth by the City of Aptos, Department of Public Works. Utility trenches within landscape areas may be compacted to a relative compaction of 85%.

PROJECT REVIEW AND CONSTRUCTION MONITORING

28. All grading and foundation plans for the development must be reviewed by the Soil Engineer prior to contract bidding or submitted to governmental agencies so that plans are reconciled with soil conditions and sufficient time is allowed for suitable mitigative measures to be incorporated into the final grading specifications.

29. ***Quantum Geotechnical, Inc.*** should be notified at least two working days prior to site clearing, grading, and/or foundation operations on the property. This will give the Soil Engineer ample time to discuss the problems that may be encountered in the field and coordinate the work with the contractor.

30. Field observation and testing during the demolition and/or foundation operations must be provided by representatives of ***Quantum Geotechnical, Inc.*** to enable them to form an opinion regarding the adequacy of the site preparation, the acceptability of fill materials, and the extent to which the earthwork construction and the degree of compaction comply with the specification requirements. Any work related to the grading and/or foundation operations performed without the full knowledge and under the direct observation of the Soil Engineer will render the recommendations of this report invalid. This does not imply full-time observation. The degree of observation and frequency of testing services would depend on the construction methods and schedule, and the item of work.

REFERENCES

1. California Department of Water Resources. Water Resources Library. Accessed on August 8, 2019 via website: http://wdl.water.ca.gov/waterdatalibrary/.

2. Graymer, R.W., Moring, B.C., Saucedo, G.J., Wentworth, C.M., Brabb, E.E., and Knudsen, K.L. 2006. "Geologic Map of the San Francisco Bay Region". U.S. Geological Survey. Scientific Investigations Map 2918.

3. Nationwide Environmental Title Research, LLC. 2019. Historic Aerials. Accessed on August 8, 2019 from website: https://www.historicaerials.com/viewer.

4. Structural Engineers Association and Office of Statewide Health Planning and Development. 2018. "Seismic Design Maps". Accessed August 8, 2019 from web site: https://seismicmaps.org/.

5. U.S. Geological Survey and California Geological Survey. 2006. "Quaternary fault and fold database for the United States". Accessed August 8, 2019 from USGS web site: http//earthquakes.usgs.gov/regional/qfaults/.

6. U.S. Geological Survey. 2019. "The National Map - Elevation". Accessed August 8, 2019, from USGS website: https://viewer.nationalmap.gov/theme/elevation/##bottom

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. It should be noted that it is the responsibility of the owner or his representative to notify ***Quantum Geotechnical, Inc.,*** in writing, a minimum of two working days before any clearing, grading, or foundation excavations can commence at the site.

2. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings and from a reconnaissance of the site. Should any variations or undesirable conditions be encountered during the development of the site, ***Quantum Geotechnical,*** will provide supplemental recommendations as dictated by the field conditions.

3. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the Architect and Engineer for the project and incorporated into the plans and the necessary steps are taken to see that the Contractor and Subcontractors carry out such recommendations in the field.

4. At the present date, the findings of this report are valid for the property investigated. With the passage of time, significant changes in the conditions of a property can occur due to natural processes or works of man on this or adjacent properties. In addition, legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may render this report invalid, wholly or partially. Therefore, this report should not be considered valid after a period of two (2) years without our review, nor should it be used, or is it applicable, for any properties other than those investigated.

5. Not withstanding all the foregoing, applicable codes must be adhered to at all times.

APPENDIX A

Figure 1 - Site Vicinity and Fault Map

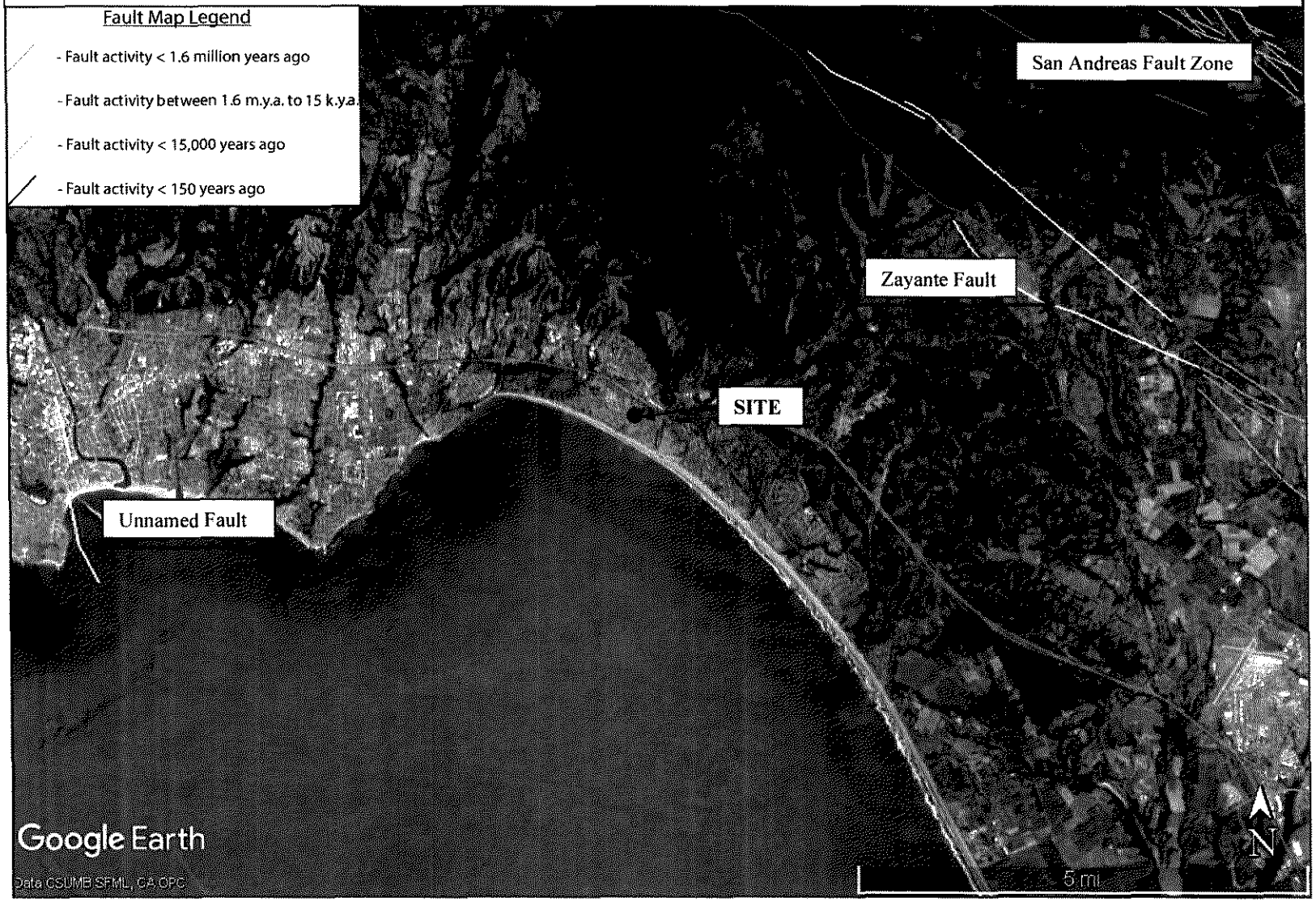
Figure 2 - Regional Geologic Map

Figure 3 - Site Plan

Logs of Test Borings

Key to Boring Logs

1. Base Map: Google Earth, 2019
2. Fault Map Overlay: U.S. Geological Survey and California Geological Survey. 2006. Quaternary fault and fold database for the United States. Accessed August 7, 2019 from USGS web site: http//earthquakes.usgs.gov/regional/qfaults/.

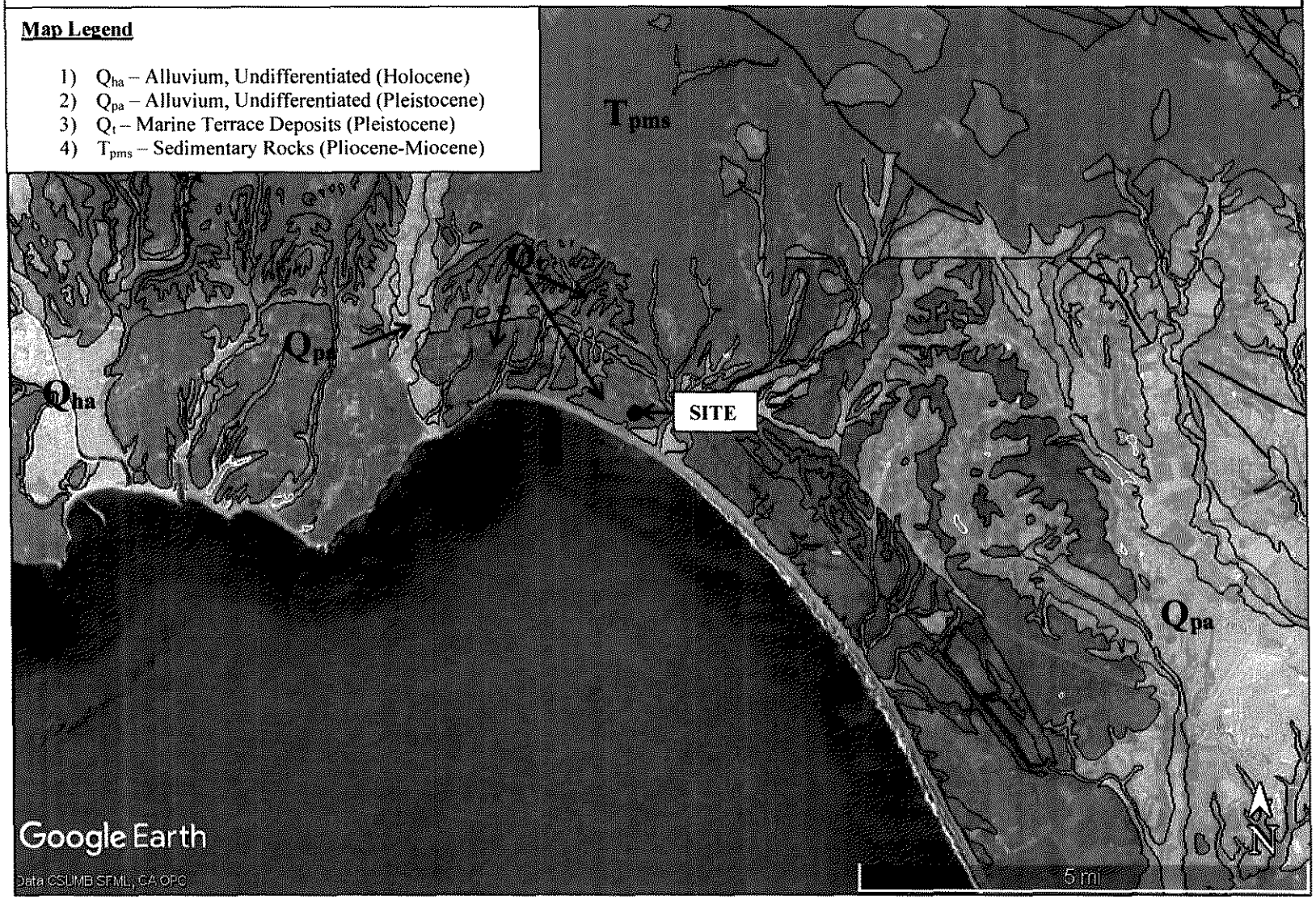


QUANTUM GEOTECHNICAL, INC.	SITE VICINITY AND FAULT MAP			
	Proposed New Hotel 270 North Ave., Aptos	Project No. F041.G	Drawn by: D.T.	Figure No. 1

1. Base Map: Google Earth, 2019
2. Geologic Map Overlay: Graymer, R.W., Moring, B.C., Saucedo, G.J., Wentworth, C.M., Brabb, E.E., and Knudsen, K.L. 2006. "Geologic Map of the San Francisco Bay Region". USGS. Scientific Investigations Map 2918.

Map Legend

1) Q_{ha} – Alluvium, Undifferentiated (Holocene)
2) Q_{pa} – Alluvium, Undifferentiated (Pleistocene)
3) Q_t – Marine Terrace Deposits (Pleistocene)
4) T_{pms} – Sedimentary Rocks (Pliocene-Miocene)

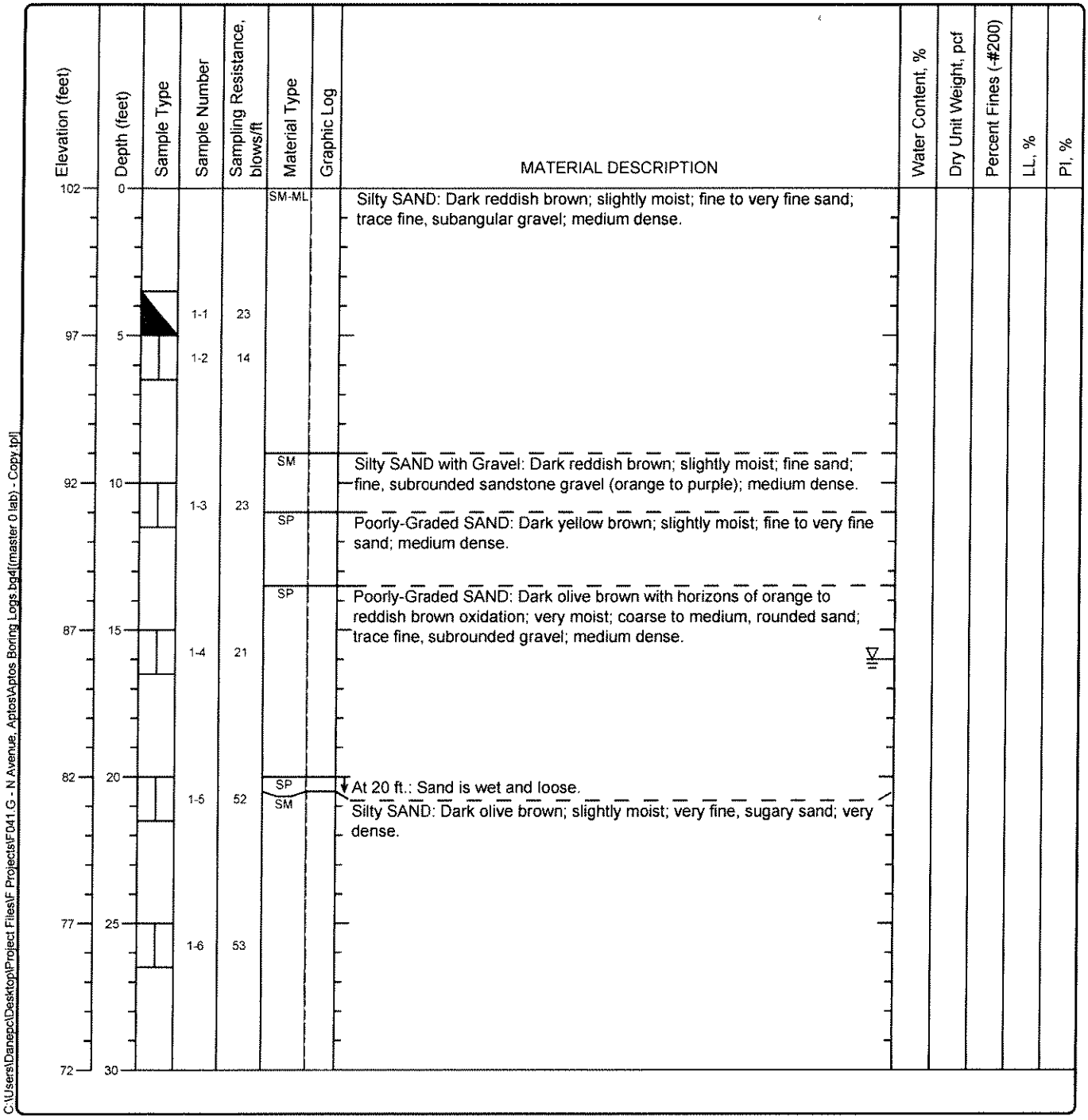


QUANTUM GEOTECHNICAL, INC.	REGIONAL GEOLOGIC MAP			
	Proposed New Motel 270 North Ave., Aptos	Project No. F041.G	Drawn by: D.T.	Figure No. 2

QUANTUM GEOTECHNICAL, INC.	SITE PLAN			
	Proposed New Hotel 270 North Ave., Aptos	Project No. F041.G	Drawn by: D.T.	Figure No. 3

Project: **North Avenue** Project Location: **270 North Ave., Aptos** Project Number: **F041.G**	Log of Boring Q-1 **Sheet 1 of 2**	**Quantum Geotechnical, Inc.** **1110 Burnett Ave., Ste B** **Concord, CA 94520**

Date(s) Drilled **07-25-19**	Logged By **DT**	Checked By **SM**
Drilling Method **Solid Flight**	Drill Bit Size/Type **6 in.**	Total Depth of Borehole **41.5 ft.**
Drill Rig Type **Simko 2400K Longstroke**	Drilling Contractor **Cenozoic Exploration**	Approximate Surface Elevation **102 ft. amsl.**
Groundwater Level and Date Measured **16 ft.**	Sampling Method(s) **Modified California, SPT**	Hammer Data **Rope and Cathead**
Borehole Backfill **Soil**	Location **See Site Plan**	



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Project: **North Avenue** Project Location: **270 North Ave., Aptos** Project Number: **F041.G**	Log of Boring Q-1 **Sheet 2 of 2**	**Quantum Geotechnical, Inc.** **1110 Burnett Ave., Ste B** **Concord, CA 94520**

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	Percent Fines (-#200)	LL, %	PI, %
72	30		1-7	42 50-5"	SM		Silty SAND: Dark olive brown; slightly moist; very fine, sugary sand; very dense.					
67	35		1-8	40 50-4"								
62	40		1-9	31 50-5"								
							Bottom of Boring at 41.5 ft. Groundwater was first encountered at 16 ft.					
57	45											
52	50											
47	55											
42	60											
37	65											

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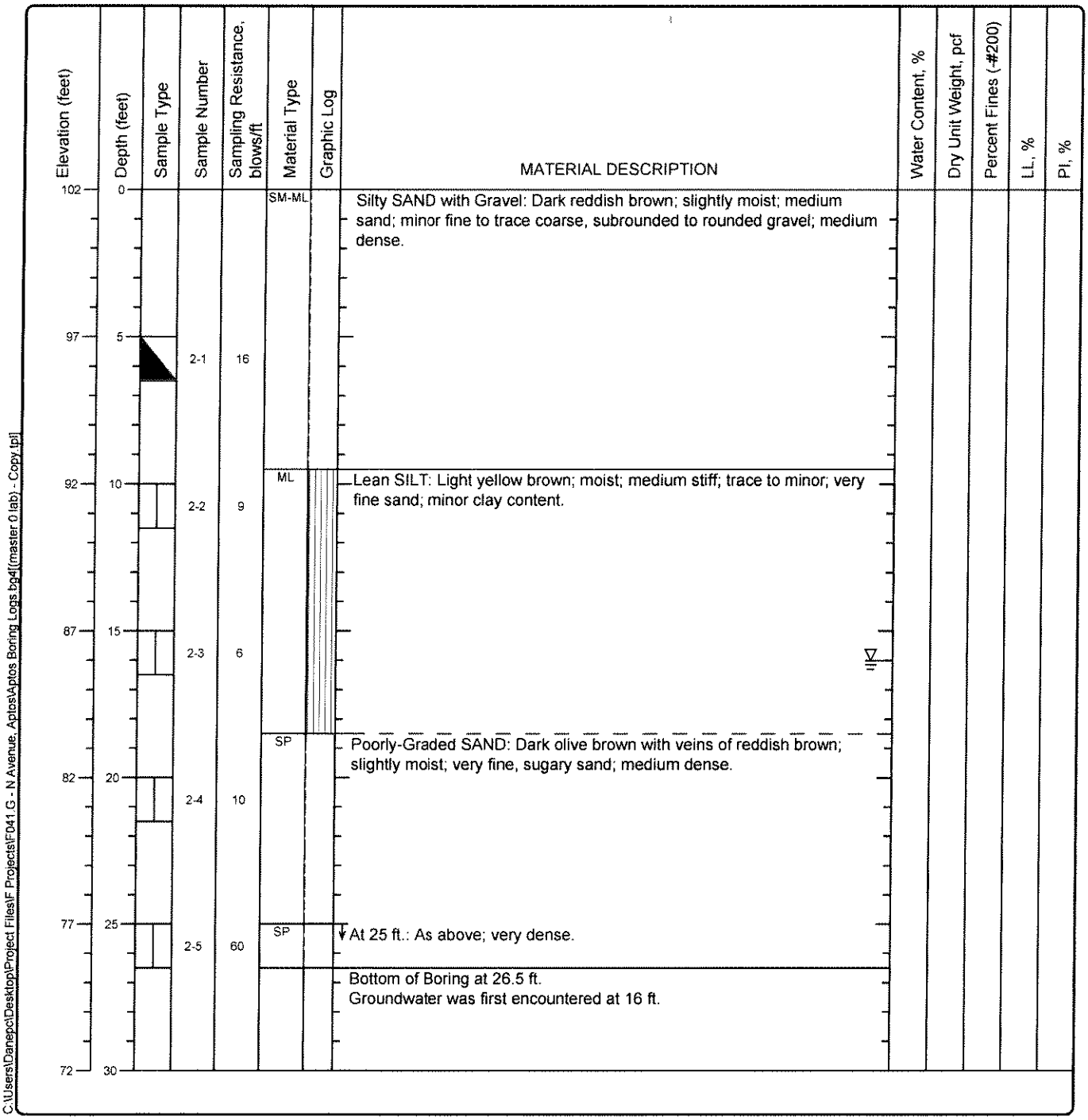
Project: **North Avenue** Project Location: **270 North Ave., Aptos** Project Number: **F041.G**	Log of Boring Q-2 **Sheet 1 of 1**	**Quantum Geotechnical, Inc.** **1110 Burnett Ave., Ste B** **Concord, CA 94520**

Date(s) Drilled **07-25-19**	Logged By **DT**	Checked By **SM**
Drilling Method **Solid Flight**	Drill Bit Size/Type **6 in.**	Total Depth of Borehole **26.5 ft.**
Drill Rig Type **Simko 2400K Longstroke**	Drilling Contractor **Cenozoic Exploration**	Approximate Surface Elevation **102 ft. amsl.**
Groundwater Level and Date Measured **16 ft.**	Sampling Method(s) **Modified California, SPT**	Hammer Data **Rope and Cathead**
Borehole Backfill **Soil**	Location **See Site Plan**	



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Project: **North Avenue** Project Location: **270 North Ave., Aptos** Project Number: **F041.G**	Key to Log of Boring **Sheet 1 of 1**	**Quantum Geotechnical, Inc.** **1110 Burnett Ave., Ste B** **Concord, CA 94520**

Elevation (feet) [1]	Depth (feet) [2]	Sample Type [3]	Sample Number [4]	Sampling Resistance, blows/ft [5]	Material Type [6]	Graphic Log [7]	MATERIAL DESCRIPTION [8]	Water Content, % [9]	Dry Unit Weight, pcf [10]	Percent Fines (-#200) [11]	LL, % [12]	PI, % [13]

COLUMN DESCRIPTIONS

[1] Elevation (feet): Elevation (MSL, feet).
[2] Depth (feet): Depth in feet below the ground surface.
[3] Sample Type: Type of soil sample collected at the depth interval shown.
[4] Sample Number: Sample identification number.
[5] Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
[6] Material Type: Type of material encountered.
[7] Graphic Log: Graphic depiction of the subsurface material encountered.
[8] MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
[9] Water Content, %: Water content of the soil sample, expressed as percentage of dry weight of sample.
[10] Dry Unit Weight, pcf: Dry weight per unit volume of soil sample measured in laboratory, in pounds per cubic foot.
[11] Percent Fines (-#200): The percent fines (soil passing the No. 200 Sieve) in the sample. WA indicates a Wash Sieve, SA indicates a Sieve Analysis.
[12] LL, %: Liquid Limit, expressed as a water content.
[13] PI, %: Plasticity Index, expressed as a water content.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

SILT, SILT w/SAND, SANDY SILT (ML)
Silty SAND (SM)
Silty SAND to Sandy SILT (SM-ML)
Poorly graded SAND (SP)

TYPICAL SAMPLER GRAPHIC SYMBOLS

2.5-inch-OD Modified California w/ brass liners
2-inch-OD unlined split spoon (SPT)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Appendix B

The Grading Specification

Guide Specifications for Rock Under Floor Slabs

THE GRADING SPECIFICATIONS
on
Proposed New Hotel
270 North Avenue
Aptos, California

1. General Description

1.1 These specifications have been prepared for the grading and site development of the subject residential development. ***Quantum Geotechnical Inc.***, hereinafter described as the Soil Engineer, should be consulted prior to any site work connected with site development to ensure compliance with these specifications.

1.2 The Soil Engineer should be notified at least two working days prior to any site clearing or grading operations on the property in order to observe the stripping of organically contaminated material and to coordinate the work with the grading contractor in the field.

1.3 This item shall consist of all clearing or grubbing, preparation of land to be filled, filling of the land, spreading, compaction and control of fill, and all subsidiary work necessary to complete the grading of the filled areas to conform with the lines, grades, and slopes as shown on the accepted plans. The Soil Engineer is not responsible for determining line, grade elevations, or slope gradients. The property owner, or his representative, shall designate the person or organizations who will be responsible for these items of work.

1.4 The contents of these specifications shall be integrated with the soil report of which they are a part, therefore, they shall not be used as a self-contained document.

2. Tests

The standard test used to define maximum densities of all compaction work shall be the ASTM D1557-12 Laboratory Test Procedure. All densities shall be expressed as a relative compaction in terms of the maximum dry density obtained in the laboratory by the foregoing standard procedure.

3. Clearing, Grubbing, and Preparing Areas To Be Filled

3.1 If encountered, all vegetable matter, trees, root systems, shrubs, debris, and organic topsoil shall be removed from all structural areas and areas to receive fill.

3.2 If encountered, any soil deemed soft or unsuitable by the Soil Engineer shall be removed. Any existing debris or excessively wet soils shall be excavated and removed as required by the Soil Engineer during grading.

3.3 All underground structures shall be removed from the site such as old foundations, abandoned pipe lines, septic tanks, and leach fields.

3.4 The final stripped excavation shall be approved by the Soil Engineer during construction and before further grading is started.

3.5 After the site has been cleared, stripped, excavated to the surface designated to receive fill, and scarified, it shall be disked or bladed until it is uniform and free from large clods. The native subgrade soils shall be moisture conditioned and compacted to the requirements as specified in the grading section of this report. Fill can then be placed to provide the desired finished grades. The contractor shall obtain the Soil Engineer's approval of subgrade compaction before any fill is placed.

4. Materials

4.1 All fill material shall be approved by the Soil Engineer. The material shall be a soil or soil-rock mixture which is free from organic matter or other deleterious substances. The fill material shall not contain rocks or lumps over 6 inches in greatest dimension and not more than 15% larger than 2-1/2 inches. Materials from the site below the stripping depth are suitable for use in fills provided the above requirements are met.

4.2 Materials existing on the site are suitable for use as compacted engineered fill after the removal of all debris and organic material. All fill soils shall be approved by the Soil Engineer in the field.

4.3 Should import material be required, it should be approved by the soil Engineer before it is brought to the site.

5. Placing, Spreading, and Compacting Fill Material

5.1 The fill materials shall be placed in uniform lifts of not more than 8 inches in uncompacted thickness. Each layer shall be spread evenly and shall be thoroughly blade mixed during the spreading to obtain uniformity of material in each layer. Before compaction begins, the fill shall be brought to a water content that will permit proper compaction by either (a) aerating the material if it is too wet, or (b) spraying the material with water if it is too dry.

5.2 After each layer has been placed, mixed, and spread evenly, either import material or native material shall be compacted to a relative compaction designated for engineered fill.

5.3 Compaction shall be by footed rollers or other types of acceptable compacting rollers. Rollers shall be of such design that they will be able to compact the fill to the specified density. Rolling shall be accomplished while the fill material is within the specified moisture content range. Rolling of each layer shall be continuous over its entire area and the roller shall make sufficient trips to ensure that the required density has been obtained. No ponding or jetting shall be permitted.

5.4 Field density tests shall be made in each compacted layer by the Soil Engineer in accordance with Laboratory Test Procedure ASTM D1556-15 or D6938-10. When footed rollers are used for compaction, the density tests shall be taken in the compacted material below the surface disturbed by the roller. When these tests indicate that the compaction requirements on any layer of fill, or portion thereof, has not been met, the particular layer, or portion thereof, shall be reworked until the compaction requirements have been met.

5.5 No soil shall be placed or compacted during periods of rain nor on ground which contains free water. Soil which has been soaked and wetted by rain or any other cause shall not be compacted until completely drained and until the moisture content is within the limits hereinbefore described or approved by the Soil Engineer. Approval by the Soil Engineer shall be obtained prior to continuing the grading operations.

6. Pavement

6.1 The proposed subgrade under pavement sections, native soil, and/or fill shall be compacted to a minimum relative compaction of 95% at 2% above optimum moisture content for a depth of 12 inches.

6.2 All aggregate base material placed subsequently should also be compacted to a minimum relative compaction of 95% based on the ASTM Test Procedure D1557-12. The construction of the pavement in the parking and traffic areas should conform to the requirements set forth by the latest Standard Specifications of the Department of Transportation of the State of California and/or City of Aptos, Department of Public Works.

6.3 It is recommended that soils at the proposed subgrade level be tested for a pavement design after the preliminary grading is completed and the soils at the site design subgrade levels are known.

7. Utility Trench Backfill

7.1 The utility trenches extending under concrete slabs-on-grade shall be backfilled with native on-site soils or approved import materials and compacted to the requirements pertaining to the adjacent soil. No ponding or jetting will be permitted.

7.2 Utility trenches extending under all pavement areas shall be backfilled with native or approved import material and properly compacted to meet the requirements set forth by the City of Aptos, Department of Public Works.*

7.3 Where any opening is made under or through the perimeter foundations for such items as utility lines and trenches, the openings must be resealed so that they are watertight to prevent the possible entrance of outside irrigation or rain water into the underneath portion of the structures.

8. Subsurface Line Removal

8.1 The methods of removal will be designated by the Soil Engineer in the field depending on the depth and location of the line. One of the following methods will be used.

8.2 Remove the pipe and fill and compact the soil in the trench according to the applicable portions of sections pertaining to compaction and utility backfill.

8.3 The pipe shall be crushed in the trench. The trench shall then be filled and compacted according to the applicable portions of Section 5.

8.4 Cap the ends of the line with concrete to prevent entrance of water. The length of the cap shall not be less than 5 feet. The concrete mix shall have a minimum shrinkage.

9. Unusual Conditions

9.1 In the event that any unusual conditions not covered by the special provisions are encountered during the grading operations, the Soil Engineer shall be immediately notified for additional recommendations.

10. General Requirements

Dust Control

10.1 The contractor shall conduct all grading operations in such a manner as to preclude windblown dirt and dust and related damage to neighboring properties. The means of dust control shall be left to the discretion of the contractor and he shall assume liability for claims related to windblown material.

GUIDE SPECIFICATIONS FOR ROCK UNDER FLOOR SLABS

Definition

Graded gravel or crushed rock for use under slabs-on-grade shall consist of a minimum thickness of mineral aggregate placed in accordance with these specifications and in conformance with the dimensions shown on the plans. The minimum thickness is specified in the accompanying report.

Material

The mineral aggregate shall consist of broken stone, crushed or uncrushed gravel, quarry waste, or a combination thereof. The aggregate shall be free from deleterious substances. It shall be of such quality that the absorption of water in a saturated dry condition does not exceed 3% of the oven dry weight of the sample.

Gradation

The mineral aggregate shall be of such size that the percentage composition by dry weight, as determined by laboratory sieves (U.S. Sieves) will conform to the following gradation:

Sieve Size	Percentage Passing
¾''	90-100
No. 4	25-60
No. 8	18-45
No. 200	0-3

Placing

Subgrade, upon which gravel or crushed rock is to be placed, shall be prepared as outlined in the accompanying soil report.

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY, PLANNING DIRECTOR

12 March 2020

Patel Prakash
POB 41160
San Jose, CA 95160

Subject: Review of the Geotechnical Investigation for a Proposed New Motel at 270 North Avenue, Aptos, California dated 10 September 2019 by Quantum Engineering Inc. - Project No. F041.G

Project Site: 270 North Avenue
APN 042-022-12
Application No. REV201011

Dear Applicant:

The purpose of this letter is to inform you that the Planning Department has accepted the subject report for the Discretionary Permit Application REV201011, and the following items shall be required:

1. The subject report references the 2016 California Building Code. The 2019 California Building Code became effective 1 January 2020. Prior to the submittal of a Building Permit Application, the subject report must be updated to the current building code.

2. All project design and construction shall comply with the recommendations of the subject report and the required building code supplemental report.

3. Final plans shall reference the subject report and the required supplemental report by titles, author, and dates. Final plans should include a statement that the project shall conform to the reports' recommendations.

4. After plans are prepared that are acceptable to all reviewing agencies, please submit a completed Consultant Plan Review Form (Form PLG300 available on the Planning Departments webpage) to Environmental Planning. The author of the soils report shall sign and stamp the completed form. Please note that the plan review form must reference the final plan set by last revision date.

After building permit issuance the soils engineer *must remain involved with the project* during construction. Please review the Notice to Permits Holders (attached).

ATTACHMENT 4

Our acceptance of the report is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please note that this determination may be appealed within 14 calendar days of the date of service. Additional information regarding the appeals process may be found online at: https://www.sccoplanning.com/PlanningHome/ZoningDevelopment/Appeals.aspx

If we can be of any further assistance, please contact the undersigned at (831) 454-3168 or rick.parks@santacruzcounty.us

Sincerely,

Rick Parks, GE 2603
Civil Engineer – Environmental Planning Section
County of Santa Cruz Planning Department

Cc: Environmental Planning, Attn: Leah MacCarter
Quantum Engineering, Inc, Attn: Simon Makdessi, GE

Attachments: Notice to Permit Holders

NOTICE TO PERMIT HOLDERS WHEN A SOILS REPORT HAS BEEN PREPARED, REVIEWED AND ACCEPTED FOR THE PROJECT

After issuance of the building permit, the County requires your soils engineer to be involved during construction. Several letters or reports are required to be submitted to the County at various times during construction. They are as follows:

1. **When a project has engineered fills and / or grading**, a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Department prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.

2. **Prior to placing concrete for foundations**, a letter from the soils engineer must be submitted to the building inspector and to Environmental Planning stating that the soils engineer has observed the foundation excavation and that it meets the recommendations of the soils report.

3. **At the completion of construction,** a *Soils (Geotechnical) Engineer Final Inspection Form* from your soils engineer is required to be submitted to Environmental Planning that includes copies of all observations and the tests the soils engineer has made during construction and is stamped and signed, certifying that the project was constructed in conformance with the recommendations of the soils report.

Electronic copies of all forms required to be completed by the Geotechnical Engineer may be found on our website: www.sccoplanning.com, under "Environmental", "Geology & Soils", and "Assistance & Forms".

If the *Final Inspection Form* identifies any portions of the project that were not observed by the soils engineer, you may be required to perform destructive testing in order for your permit to obtain a final inspection. The soils engineer then must complete and initial an *Exceptions Addendum Form* that certifies that the features not observed will not pose a life safety risk to occupants.

SOQUEL CREEK WATER DISTRICT

March 11, 2019

Prakash and Paresh Patel
PO Box 41160
San Jose, CA 95160

SUBJECT: Conditional Water Service Application for 19 Room Hotel with Manager's Apartment at 270 North Ave, Aptos, APN 042-022-12

1/15/21: Will Serve Extension Granted - New expiration 3/5/2022. AA

Dear Prakash and Paresh Patel:

In response to the subject application, the Board of Directors of the Soquel Creek Water District (SqCWD) at their regular meeting of March 5, 2019 voted to grant you a Conditional Will Serve Letter for the proposed 19 room hotel with a manager's apartment to be located at 270 North Ave, Aptos, so that you may proceed through the appropriate land use planning entity.

This letter is specifically granted for the project as proposed in regard to uses and densities. Changes to the project that result in a change in use or an increase in water demand will require an application for a modification of this Will Serve Letter. Changes in ownership will also require modification of the Will Serve Letter. This conditional approval of water service for your project is valid for two years from the date of this Letter. A 1-year extension of the Conditional Will Serve may be requested using the attached 1-Year Extension Request Form. To be considered for a Conditional Will Serve Extension you must demonstrate that your development permit application with the appropriate land use planning agency is valid. Complete details of the terms and conditions of the Conditional Will Serve can be found in the "Water Demand Offset (WDO) Program Applicant Agreement" that you signed during your application process.

After you have received a tentative map or building permit from the land use planning agency, you will be required to meet all applicable SqCWD requirements defined in the attached Requirements Checklist before your application can be considered for final Board approval. If you meet all the applicable requirements (*including possible future requirements that arise prior to development approval of your project*), and final Board approval is granted, you will be issued an Unconditional Will Serve Letter, which would secure your water service. This present indication to serve is intended to acknowledge that, under existing conditions, water service would be available on the condition that the developer agrees to meet all of the requirements without cost to the District.

ATTACHMENT 5

The Board of Directors of the SqCWD reserves the right to adopt additional policies to mitigate the impact of new development on the local groundwater basins, which are currently the District's only source of supply. The subject project would be subject to any applicable conditions of service that the District may adopt prior to granting water service.

As new policies and/or requirements are developed, the information will be made available by the SqCWD.

Sincerely,
SOQUEL CREEK WATER DISTRICT

Taj A. Dufour, P.E.
Engineering Manager/Chief Engineer

Attachment: Requirements Checklist for APN **042-022-12**

Enclosures:

1. Overview of the SqCWD Water Use Efficiency Requirements for Tier II Single Family Residential, Multi-Family Residential, Commercial, Industrial & Public Development
2. Indoor Water Use Efficiency Checklist
3. Landscape Project Application Submittal Requirements Package
4. 1-Year Extension Request Form

Requirements Checklist for APN {042-022-12}

	Required	Not Required	Comments
Engineering:			
Record Water Waiver (required if water pressure is not between 40 psi – 80 psi) with the County Recorder of the County of Santa Cruz to ensure that any future property owners are notified of the conditions set forth herein		x	
Variance request for property not having frontage on a water main		x	
New water main to site (required if existing water main not sized to serve new project)		x	
LAFCO annexation		x	
Off-site water main extension		x	
On-site water system		x	
Backflow prevention	x		During Construction
New water storage tank		x	
Booster pump station		x	
Destroy any wells on the property in accordance with State Bulletin No. 74	x		
Satisfy all conditions imposed by the District to assure necessary water pressure, flow and quality	x		
Meter all units individually with a minimum size of 5/8-inch by 3/4-inch standard domestic water meter (except as prohibited by law)	x		
Complete fire service requirements form	x		
Sign Service Installation Agreement & pay all fees	x		
Conservation:			
Complete Indoor Water Use Efficiency Checklist	x		
Complete Landscape Plan	x		
Complete Residential Green Credit Application		x	**Recommended**
General:			
Allow SqCWD Staff to inspect the completed project for compliance with all the applicable project requirements prior to commencing domestic water service	x		
Other requirements that may be added as a result of policy changes.	x		

RI Engineering, Inc.

STORMWATER MANAGEMENT REPORT

for

New Hotel Development

at

270 North Avenue
Aptos, CA 95003
APN 042-022-12

October 28, 2020

Prepared For:
Lotus Management Inc.

Prepared By:
RI Engineering, Inc.

Project Number 18-093-1

10/28/2020

ATTACHMENT 6

Design Criteria

Storm drainage calculations described in this document have been done in conformance with the County of Santa Cruz Design Criteria June 2019 Edition.

Project Description

The project consists of constructing a new hotel development on an undeveloped lot. The lot size is approximately 13,370 square feet and is located near Seacliff Beach in Aptos. The project improvements will include: construction of a new hotel with a first floor covered concrete parking area, and a drainage system to meet the requirements of Santa Cruz County. The project will create approximately 10,200 square feet (sf) of impervious area and 1,900 sf of pervious pavers. This project is classified as a "large" sized project by Santa Cruz standards. BMPs will be incorporated to minimize and mitigate pollutants, provide detention storage sized to discharge from the site to the public storm drain system at a pre-development flow rate for smaller storm events, and to provide safe overflow from the site for larger storm events.

Existing Conditions

The 13,370 square foot lot is currently undeveloped and is within a developed neighborhood. The lot gradually slopes from the Northeast to the Southwest into the corner of Broadway and North Ave. Existing runoff flows have been calculated to be 0.041 cubic feet per second (cfs) for the 2-year 120-minute design storm and 0.156 cfs for the 10-year 15-minute design storm as determined by the Rational Method per County Design Criteria (Table 2). Currently the storm water runoff flows Southwest overland on a downhill slope southward on Broadway and into an existing storm drain inlet at the intersection of Broadway and Center Ave approximately 200 feet south of the site. Runoff is then conveyed through the public storm drain system approximately 300 feet eastward on Center Ave, then 900 feet to the southwest where the runoff discharges from a daylight end of a storm drain pipe onto the Pacific Ocean at Seacliff Beach near the bottom of State Park Drive.

Proposed Development

The project improvements will include: construction of a new hotel with a first floor covered concrete parking area, and a drainage system to meet the requirements of Santa Cruz County. The project will create approximately 10,200 sf of impervious area and 1,900 sf of pervious pavers. This project is classified as a "large" sized project by Santa Cruz standards.

Post-Development runoff flows have been calculated to be 0.106 cubic feet per second (cfs) for the 2-year 120-minute design storm and 0.409 cfs for the 10-year 15-minute design storm as determined by the Rational Method per County Design Criteria (Table 2).

Roof runoff (8,820 sf) will discharge from downspouts to a perimeter storm drain system located adjacent to the proposed building. Runoff that falls on the pervious paver parking areas w/ subdrains that are open to the sky (1,200 sf) will be sloped and piped to catch basins connected to the perimeter storm drain system. A 5 foot wide pervious paver walkway at the north end of

the hotel (540 sf) will be sloped away from the building to a grass-lined swale running along the northern property line that will convey runoff to a catch basin connected to the perimeter storm drain system. All the runoff entering the perimeter storm drain system will be conveyed to a combined retention/detention treatment system running along the eastern property line. The treatment system's retention layer is sized to retain the 2-year 120-minute storm event. Runoff exiting the treatment system will be discharged from a metered orifice within a U21 catch basin that will discharge at a 10-year 15-minute pre-development flow rate. The 1,170 sf of proposed public sidewalk, 210 sf of proposed driveway approaches, and a 160 sf paver parking space located on the property frontage will be graded to slope away towards North Avenue and will be mitigated, as much as feasibly possible, by a 4' wide landscape strip between the sidewalk and top of curb. Even though it will not be feasible for the runoff from the proposed frontage impervious areas to be routed to the onsite treatment system, the treatment system will consider these areas in the sizing calculations.

Downstream Assessment

The runoff will be conveyed through a new storm drain pipe to be installed within Broadway that will convey the runoff to an existing storm drain manhole at the intersection of Center Avenue and Broadway. The runoff with then be conveyed through the exiting storm drain system for approximately 1,200 feet where it will be discharged into the Pacific Ocean at Seacliff Beach per existing conditions.

There is an existing open channel that slightly encroaches onto the northwest property corner of the project. This open drainage channel receives approximately 110 acres of upstream runoff before entering an existing 60" RCP storm drain that conveys the upstream runoff under the neighboring western property and to an existing storm drain manhole at the corner of Center Avenue and State Park Drive. The flood elevation of the open drainage channel was analyzed for a 50-year storm event and was determined to be 106.77'. This analysis was completed using the SWM-6 County spreadsheet and is included as an attachment in this report.

Conclusions

The proposed drainage system has been designed to discharge runoff at predevelopment rate for the proposed impervious improvements. Water quality treatment has been achieved using on-site retention by way of a combined retention/detention system compliant with the. Runoff will be released from the detention layer of the treatment system and into a catch basin with a metered orifice sized to discharge into the public storm drain system at a pre-development rate compliant with the CDC. No impact to the public right of way or neighboring properties is anticipated.

Attachments

Appendix A - Project Information & Threshold Determination Form

COUNTY OF SANTA CRUZ DEPARTMENT OF Public WORKS

STORMWATER CONTROL PLAN (SWP) - Project Information & Threshold Determination Form

Completion of this form shall be used as guidance by the applicant

All projects shall maintain pre-development runoff rates & patterns

For any questions on this form, please contact DPW Stormwater Management at 831-454-2160.

PROJECT & CONTACT INFORMATION

270 North Avenue *Project Street Address*	TBD *Building Permit No. / Discretionary Application*
Prakash Patel *Property Owner's/Representative Name*	New Hotel Development *Project Name (Alias)*
042-022-12 *Assessor's Parcel No (APN)*	Lotus Management Inc. *Property Owner/Representative's Firm*
Richard Irish, PE *Applicant's Name (i.e. design professional)*	(669) 333-1880 *Property Owner/Representative's Phone No.*
	R.I. Engineering Inc. *Applicant's Firm Name*
Flood Control District *Flood Control District (if applicable):*	(831) 425-3901 *Applicant's Phone No.*

PROJECT DESCRIPTION

Lot Coverage (measured in square feet)	Actual (sq. ft.)	Adjusted (sq. ft.)*
A. Total lot size:	13,370	
B. Existing Permitted Impervious Area:	0	
C. Replaced permitted impervious area:	0	
D. Replaced permitted semi-impervious area*:	0	0
D. Proposed new self-treating area:	0	
E. Proposed new impervious area:	10,200	
F. Proposed new semi-impervious area*:	1,900	950

If 11,150 **is > than** 0**, project shall will be required to mitigate the entire site.****

Total replaced impervious & semi-pervious area: 0 sq.ft.

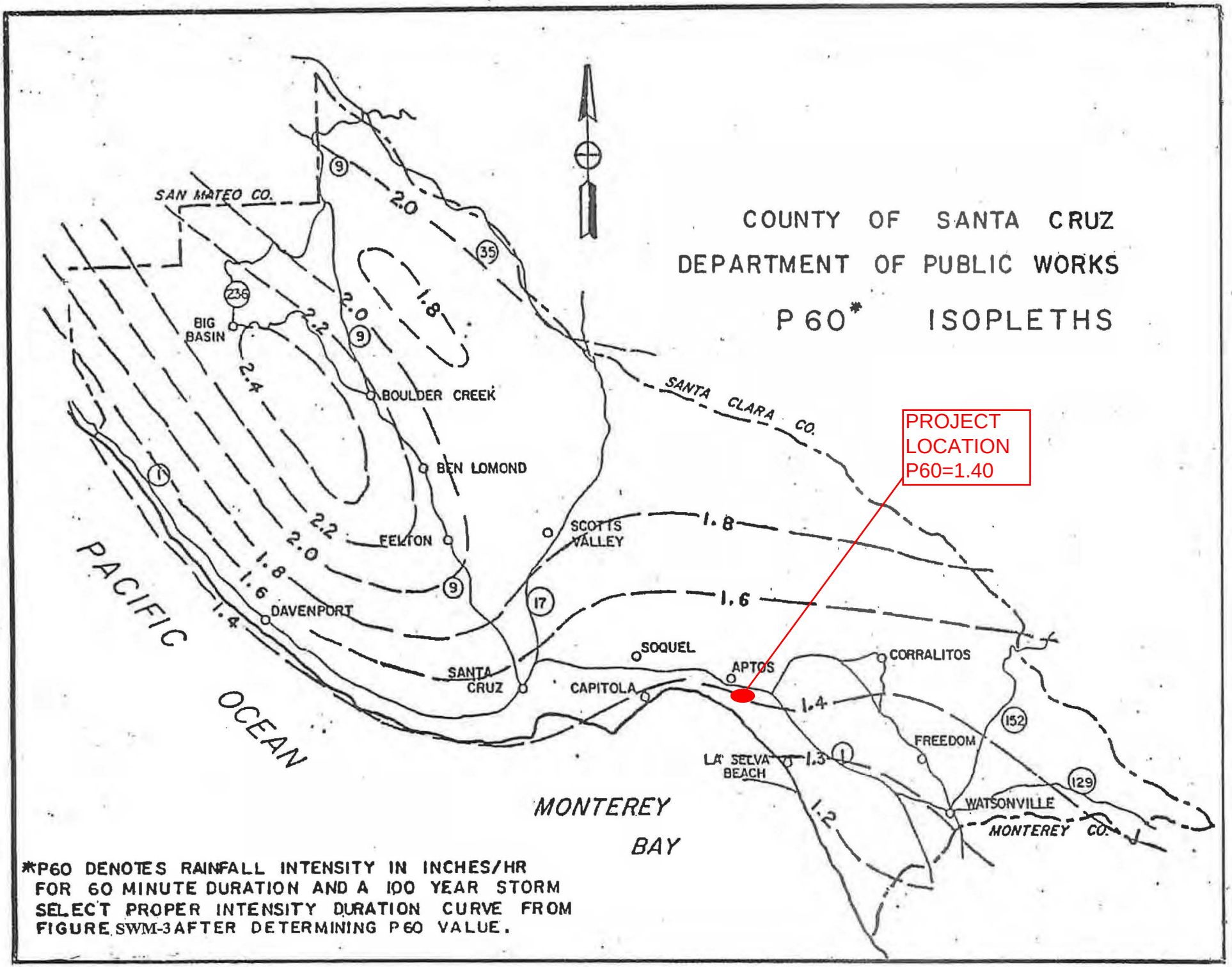
Total proposed impervious & semi-impervious area: 11,150 sq.ft.

Project Threshold Classification

- ☐ **Small Project** (less than 500 sq.ft. created and/or replaced) - Use *Appendix B 'Small Project Submittal Requirements'* for submittal requirement guidance.
- ☐ **Medium Project** (500 sq.ft. but less than 5,000 sq.ft. created and/or replaced) - Use *Appendix C 'Medium Project Submittal Requirements'* for submittal requirement guidance.
- ☑ **Large Project** (5,000 sq.ft. or more created and/or replaced **OR** 50% increase in permitted impervious area**) - Use *Appendix D 'Large Project Submittal Requirements'* for submittal requirement guidance.

Application is part of a phased project OR master plan?	*Yes* ☐	*No* ☑
Application will maintain pre-development runoff patterns?	*Yes* ☑	*No* ☐
Application is unable to comply with Part 3 of the Design Criteria requirements & is electing to request a waiver(s) Please provide a brief description (below):	*Yes* ☐	*No* ☑

*Form will apply a 50% credit for semi-impervious areas as final count. Applicant shall not apply the credit.
** Projects that add more than 50% impervious area coverage are required to mitigate the entire site.
***Disclaimer: Permit review is based the information provided, additional clarification may be required for undisclosed/unidentified areas. Unaccounted areas may reclassify the project threshold.



*P60 DENOTES RAINFALL INTENSITY IN INCHES/HR FOR 60 MINUTE DURATION AND A 100 YEAR STORM SELECT PROPER INTENSITY DURATION CURVE FROM FIGURE SWM-3 AFTER DETERMINING P60 VALUE.

FIG. SWM-2

Seacliff Hotel Development
270 North Avenue
Santa Cruz County
APN 042-022-12
Jan 2020

DRAINAGE AREA CALCULATIONS

Lot Area (sf)	13,370

Pre-Development Impervious Areas	Area (sf)
Building (Roof)	0
Impervious Flatwork	0
EXISTING IMPERVIOUS AREA SUM:	**0**

Post Development Impervious Areas	Area (sf)
Building (Roof)	8,820
Impervious Flatwork	1,170
POST IMPERVIOUS AREA SUM:	**9,990**

Post Development Semi-pervious Areas	Area (sf)
Pervious Pavers	1,900
POST SEMI-PERVIOUS AREA SUM:	**1,900**

50% Credit for Semi-Pervious Surfaces	-950
Concrete Driveway cuts in public ROW to be mitigated	210
TOTAL IMPERVIOUS SURFACE TO BE MITIGATED	**11,150**

Table 1

HYDROLOGY:

Total Drainage Basin: 2-year 120-minute & 10-year 15 minute storm event

P_{60} =	**1.40**	(SWM-2)
Ca=	1.00	
Ia=	1.00	
2-YEAR STORM		
2-yr Duration	120	mins
2 yr Conversion Factor=	0.64	(SWM-3)
$I_{2\text{-yr}}$=	**0.44**	(SWM-3)
10-YEAR STORM		
10-yr Duration	15	mins
$I_{10\text{-yr}}$=	**1.70**	(SWM-3)

Determine PRE Development (Existing) Runoff

Feature	Area (sf)	Area (acres)	C	AxC
Pervious	13,370	0.31	0.30	0.09
Pervious Pavers	-	-	0.55	-
Impervious	-	-	0.90	-
Totals:	**13,370**	**0.31**		**0.09**

Pre Development $C_{AVERAGE}$= 0.30

Q= (Ca) * C * (Ia) * I * A

$Q_{2\ Pre}$ = 0.041 cfs

$Q_{10\ Pre}$ = 0.156 cfs

Determine POST Development Runoff

Feature	Area (sf)	Area (acres)	C	AxC
Pervious	1,480	0.03	0.30	0.01
Pervious Pavers	1,900	0.04	0.55	0.02
Impervious	9,990	0.23	0.90	0.21
Total	**13,370**	**0.31**		**0.24**

Post Development $C_{AVERAGE}$= 0.78

Q= (Ca) * C * (Ia) * I * A

$Q_{2\ Post}$ = 0.106 cfs

$Q_{10\ Post}$ = 0.409 cfs

Table 2

Seacliff Hotel Development

270 North Avenue
Santa Cruz County
APN 042-022-12

Detention Outlet Control

Design Orifice to Discharge Pre Development Q

10-yr Predevelopment
Q Allowable release*: **0.156 cfs** *FROM Table 2 (Q10 pre)

Cd= 0.62
head, h = 2.5 ft

Orifice Diameter (in)	Area (Ao) (sf)	Q (cfs)
1.875	0.019	0.151

Orifice Flow Equation
Q=Cd*Ao*sqrt(2*g*h)

Cd=0.62 for sharp edge orifice
per Civil Engineering Reference Manual for PE Exam

Table 3

Seacliff Hotel Development
270 North Avenue
Santa Cruz County
APN 042-022-12

Check storage Volume for 10-year storm

Total Detention Storage for the 10-year Storm		
Length (ft)	55	
Width (ft)	6	
Depth (ft)	2.5	
Detention Section Volume (cf)	825	
Length of Stormtech SC-310 Chambers (ft)	50.0	
Cross section area of SC-310 Chamber (sf)	2.07	
Volume of Stormtech chambers (cf)	103.5	
Total Volume of Drain Rock in Detention Section (cf)	721.5	
Drain Rock void ratio	0.4	
Stormtech chamber void ratio	1.0	
Total Detention Storage in drain rock (cf)	288.6	
Total Detention Storage in Stormtech chambers (cf)	103.5	
Required Storage (cf)	**383.0**	(SWM-17)
Provided Storage (cf)	**392.1**	OK

Table 4

PROJECT: Seacliff Hotel - APN: 042-022-12 Application #: 201003 **Calc by:** CRV **Date:** 5/4/2020

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

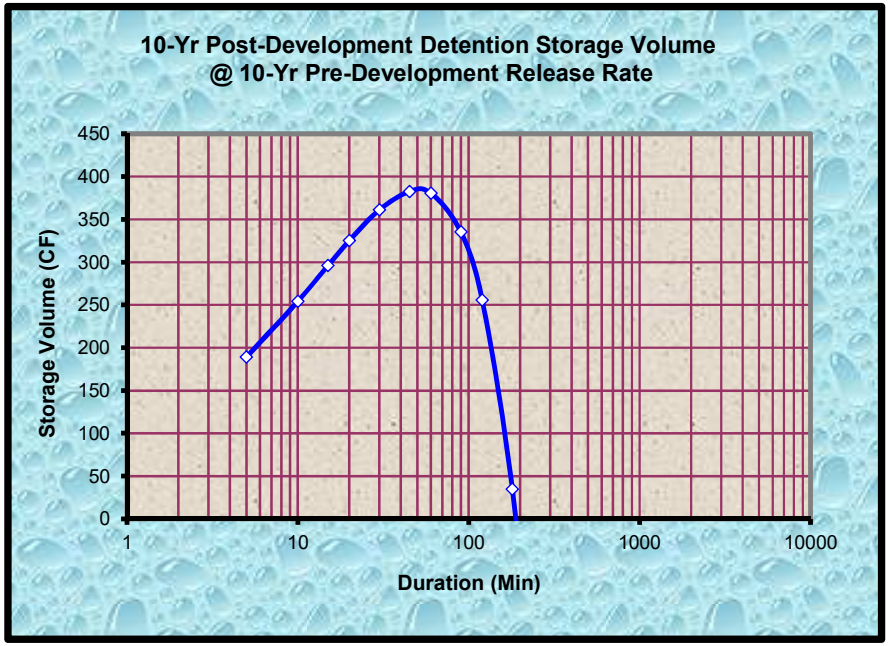
Data Entry: PRESS TAB & ENTER DESIGN VALUES SS Ver: 1.0

Site Location P60 Isopleth:	1.40		Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.30		See note # 2
Cpost:	0.90		See note # 2
Impervious Area:	11150	ft^2	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

383	ft^3 storage volume calculated			
47	% void space assumed			
814	ft^3 excavated volume needed			
Structure	Length	Width*	Depth*	*For pipe, use the square
Ratios	55.00	6.00	2.50	root of the sectional area
Dimen. (ft)	**54.76**	**5.97**	**2.49**	

10 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	10 - Year Intensity (in/hr)	10 - Yr. Release Qpre (cfs)	10 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.23	0.018	0.054	-0.077	-8337
1200	0.25	0.020	0.059	-0.073	-6544
960	0.28	0.022	0.065	-0.067	-4804
720	0.32	0.024	0.073	-0.058	-3137
480	0.38	0.029	0.088	-0.044	-1582
360	0.43	0.033	0.099	-0.032	-872
240	0.51	0.039	0.118	-0.013	-237
180	0.58	0.045	0.134	0.003	35
120	0.69	0.053	0.160	0.028	256
90	0.78	0.060	0.181	0.050	335
60	0.93	0.072	0.216	0.085	381
45	1.05	0.082	0.245	0.113	**383**
30	1.26	0.097	0.292	0.161	361
20	1.50	0.116	0.348	0.217	325
15	1.70	**0.132**	0.395	0.263	296
10	2.03	0.157	0.471	0.339	254
5	2.74	0.212	**0.636**	0.504	189



Notes & Limitations on Use:

1) The modified rational method, and therefore the standard calculations are applicable in watersheds up to 20 acres in size.
2) Required detention volume determinations shall be based on all net new impervious area both on and off-site, resulting from the proposed project. Pervious areas shall not be included in detention volume sizing; an exception may be made for incidental pervious areas less than 10% of the total area.
3) Gravel packed detention chambers shall specify on the plans, aggregate that is washed, angular, and uniformly graded (of single size), assuring void space not less than 35%.
4) A map showing boundaries of both regulated impervious areas and actual drainage areas routed to the hydraulic control structure of the detention facility is to be provided, clearly distinguishing between the two areas, and noting the square footage.
5) The EPA defines a class V injection well as any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, or a subsurface fluid distribution system. Such storm water drainage wells are "authorized by rule". For more information on these rules, contact the EPA. A web site link is provided from the County DPW Stormwater Management web page.
6) Refer to the County of Santa Cruz Design Criteria, for complete method criteria.

PROJECT: Seacliff Hotel - APN: 042-022-12 Application #: 201003 **Calc by:** CRV **Date:** 10/9/2020

RUNOFF RETENTION BY THE STORAGE PERCOLATION METHOD

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES

Notes & Limitations on Use:

SS Ver:1.0

Site Location P60 Isopleth:	1.40	Fig. SWM-2
Rational Coefficients Cpre:	0.30	
Cpost:	0.90	
Impervious Area:	11150	ft^2
Saturated Soil Permeability:	1.97	in/hr

Saturated soil permeability values may be used conservatively from the USDA-NRCS soil survey, or use actual test values.
Site selection and design shall give proper consideration to the path for excess flows downstream of the designated retention area.
Retention site location on, or immediately above, slopes exceeding 15% will require consulting a geotechnical engineer.
Gravel packed structures shall use washed, angular, uniformly graded aggregate providing not less than 35% void space.
Refer to the County of Santa Cruz Design Criteria, Stormwater Management - Section H, for complete method criteria.

2 - YEAR DESIGN STORM				RETENTION @ 120 MIN.		DETENTION @ 60 MIN.	
Storm Duration (min)	2 - Year Intensity (in/hr)	Qpre (cfs)	Qpost (cfs)	Retention Rate To Storage (cfs)	Specified Retained Volume (cf)	Detention Rate To Storage (cfs)	Specified Detained Volume (cf)
1440	0.15	0.012	0.035	0.001	-1678	-0.011	-978
1200	0.16	0.013	0.038	0.004	-1185	-0.008	-608
960	0.18	0.014	0.041	0.007	-720	-0.005	-266
720	0.20	0.016	0.047	0.013	-294	0.001	39
480	0.24	0.019	0.056	0.022	74	0.010	287
360	0.27	0.021	0.064	0.029	222	0.017	376
240	0.33	0.025	0.076	0.042	330	0.030	427
180	0.37	0.029	0.086	0.052	360	0.040	**429**
120	0.44	**0.034**	0.102	0.068	**363**	0.056	405
90	0.50	0.039	0.116	0.082	348	0.070	377
60	0.60	**0.046**	0.138	0.104	315	0.092	332
45	0.67	0.052	0.157	0.123	288	0.111	299
30	0.80	0.062	0.187	0.153	248	0.141	253
20	0.96	0.074	0.223	0.189	210	0.177	212
15	1.09	0.084	0.253	0.218	185	0.206	186
10	1.30	0.100	0.301	0.267	153	0.255	153
5	1.75	0.136	**0.407**	0.373	110	0.361	108

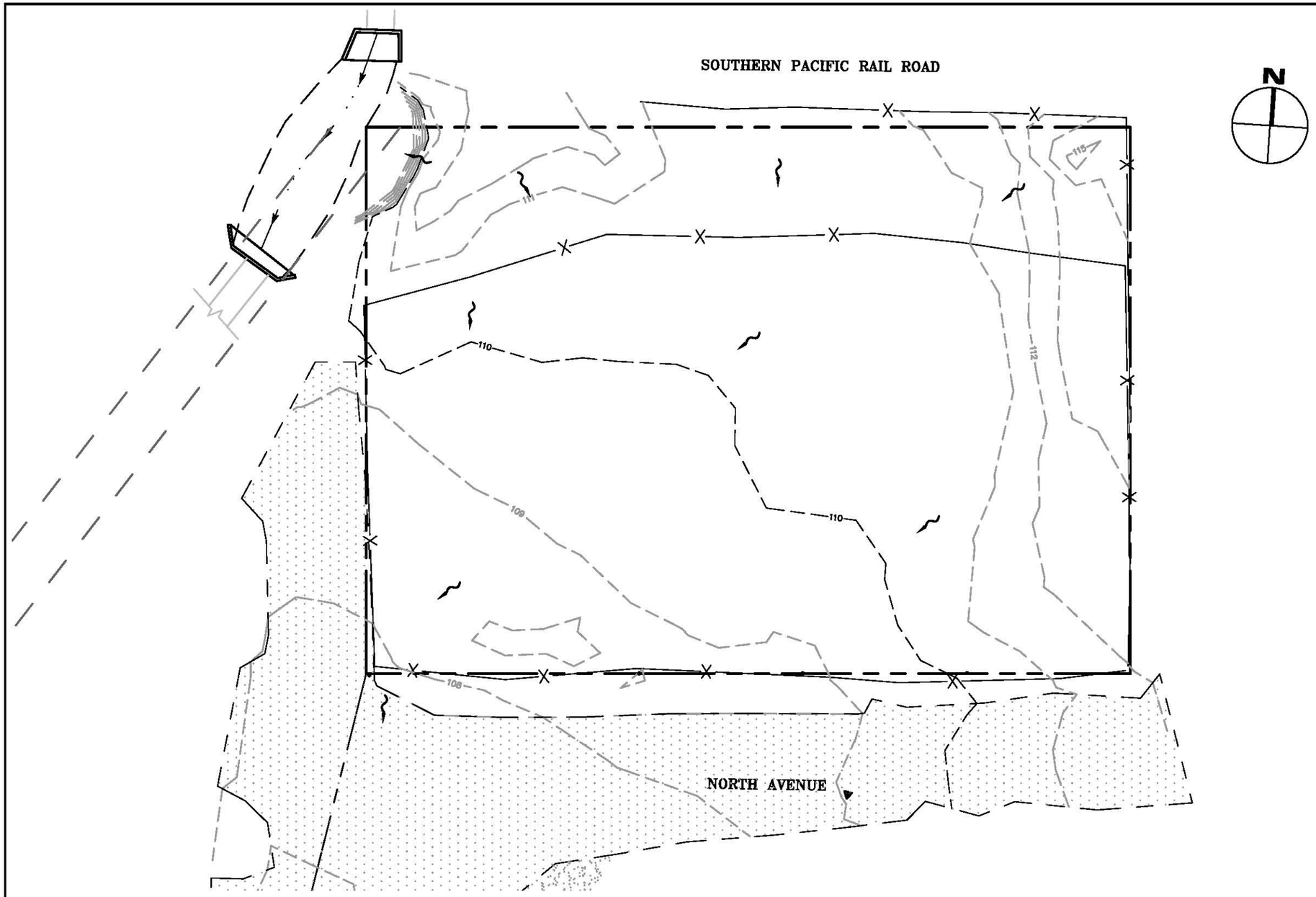
STRUCTURE DIMENSIONS FOR RETENTION

363	ft^3 storage volume calculated			
40	% void space assumed			
907	ft^3 excavated volume needed			
Structure Ratios	Length	Width*	Depth* #	
	55.00	6.00	2.75	
Dimen. (ft)	**54.99**	**6.00**	**2.75**	
665	ft^2 internal surface area			
466	ft^2 effective surface area			
4.7	hrs estimated structure drainage time			

* For pipe, use the square root of the sectional area.
\# If cell values displayed are corrupted, enter zero for depth, then re-enter a positive numeric value within allowed range.

STRUCTURE DIMENSIONS FOR DETENTION

429	ft^3 storage volume calculated		
100	% void space assumed		
429	ft^3 excavated volume needed		
Structure Ratios	Length	Width*	Depth*
	25.00	2.00	2.00
Dimen. (ft)	**40.63**	**3.25**	**3.25**



PLAN

20' 0 20' 40'

1 INCH = 20 FEET

EXISTING CONDITIONS

LOT	IMPERVIOUS AREA (sf)	PERVIOUS AREA (sf)	TOTAL AREA (sf)
A	0	13,370	13,370

R.I Engineering, Inc.
303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.riengineering.com

NEW HOTEL DEVELOPMENT
FOR
LOTUS MANAGEMENT INC.
270 NORTH AVENUE
APTOS, SANTA CRUZ COUNTY, CA
APN 042-022-12

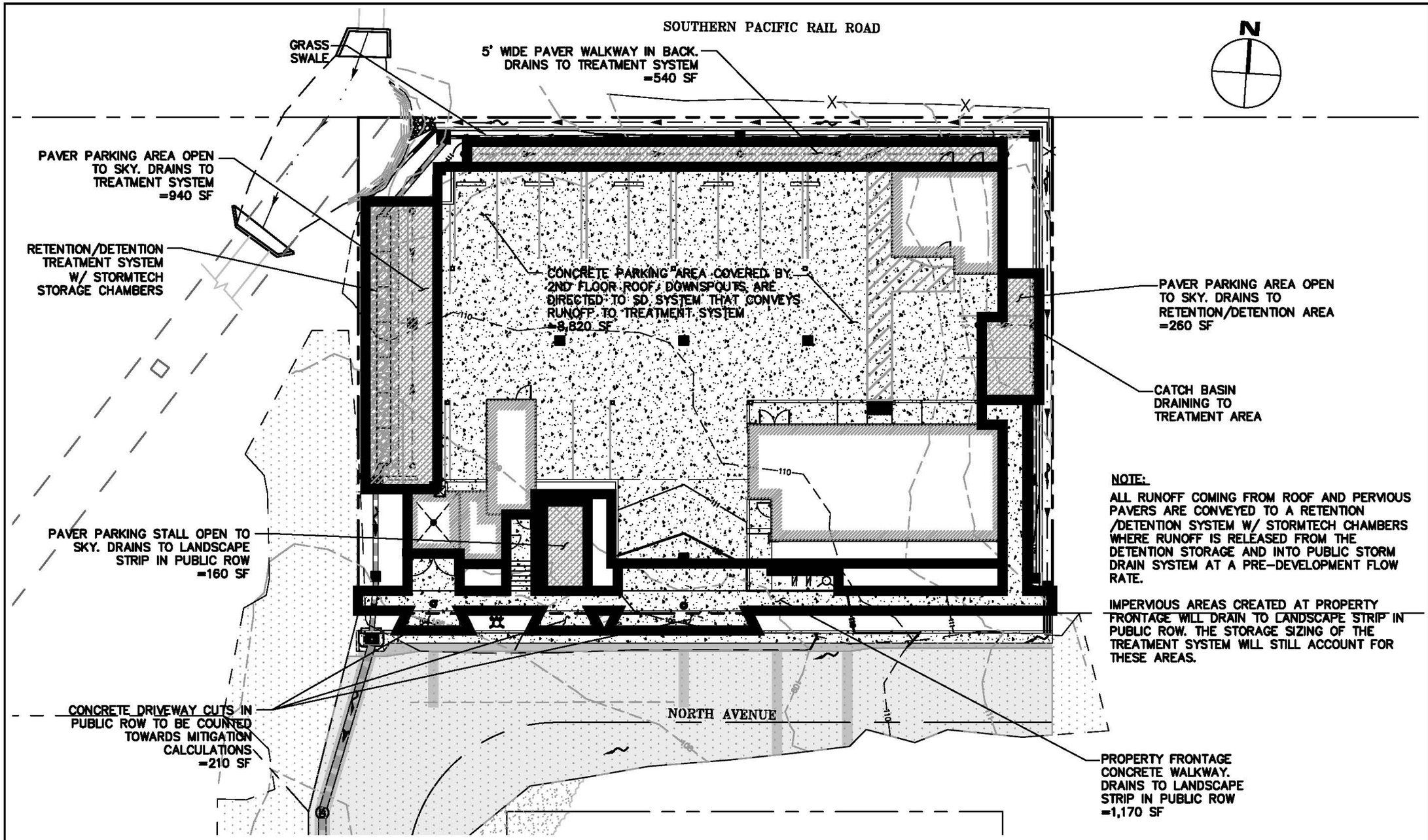
EXISTING DRAINAGE MAP

project no. 18-093-1

date MAY 2020

scale AS SHOWN

dwg name DrainageMap1.DWG



NOTE:

ALL RUNOFF COMING FROM ROOF AND PERVIOUS PAVERS ARE CONVEYED TO A RETENTION /DETENTION SYSTEM W/ STORMTECH CHAMBERS WHERE RUNOFF IS RELEASED FROM THE DETENTION STORAGE AND INTO PUBLIC STORM DRAIN SYSTEM AT A PRE-DEVELOPMENT FLOW RATE.

IMPERVIOUS AREAS CREATED AT PROPERTY FRONTAGE WILL DRAIN TO LANDSCAPE STRIP IN PUBLIC ROW. THE STORAGE SIZING OF THE TREATMENT SYSTEM WILL STILL ACCOUNT FOR THESE AREAS.

PLAN

20' 0 20' 40'

1 INCH = 20 FEET

PROPOSED CONDITIONS

LOT	IMPERVIOUS AREA (sf)	SEMI-PERVIOUS AREA (sf)	PERVIOUS AREA (sf)	TOTAL AREA (sf)
A	9,990	1,900	1,480	13,370

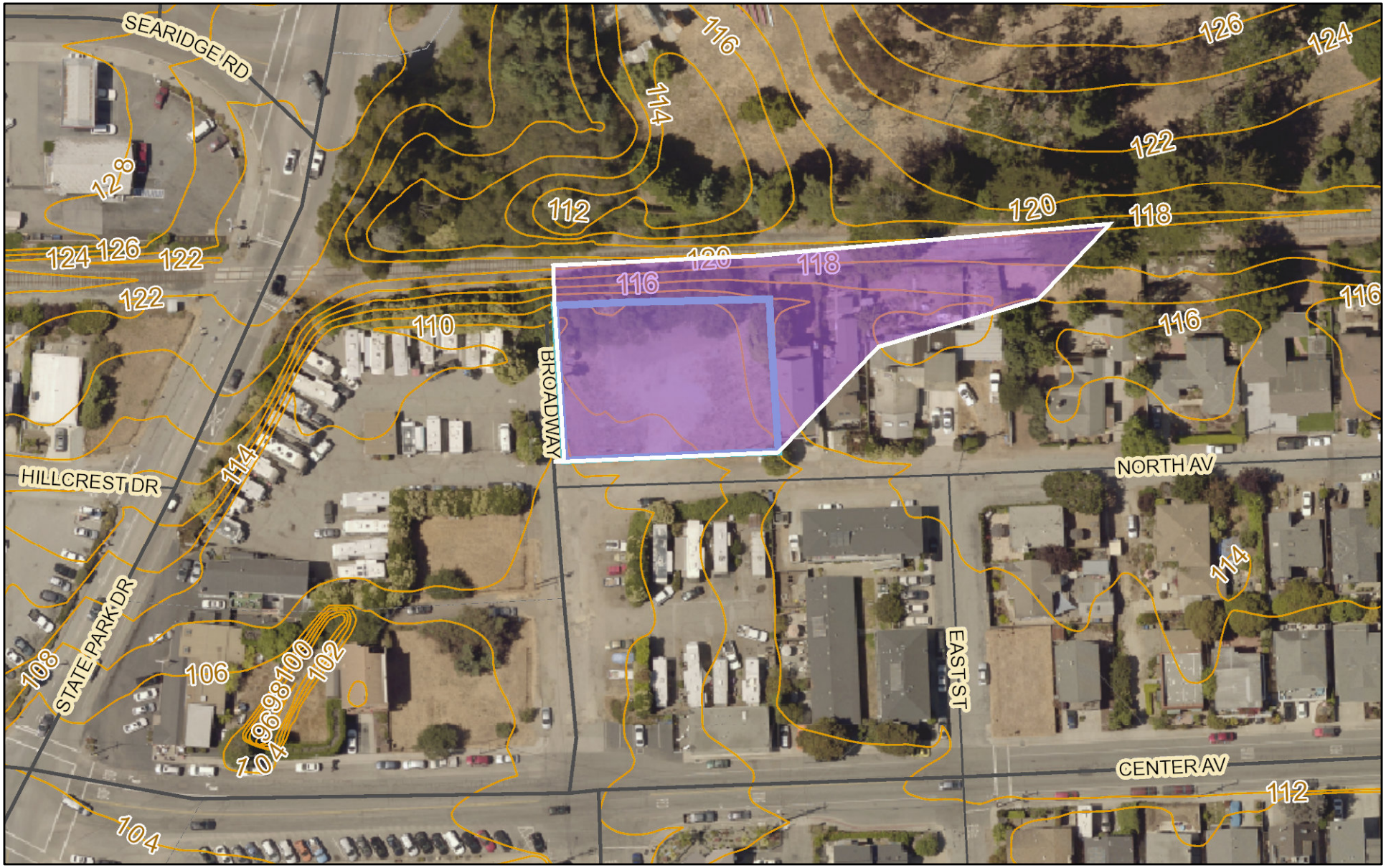
RJ Engineering, Inc.
303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.riengineering.com

NEW HOTEL DEVELOPMENT
FOR
LOTUS MANAGEMENT INC.
270 NORTH AVENUE
APTOS, SANTA CRUZ COUNTY, CA
APN 042-022-12

POST-DEVELOPMENT DRAINAGE MAP

project no. 18-093-1
date OCTOBER 2020
scale AS SHOWN
dwg name DrainageMap1.DWG

GIS Watershed Area Map - Aptos Hotel



April 30, 2020

CountyWideContours

CountyWideContours

1:1,067

0 50 100 200 ft

0 15 30 60 m

County of Santa Cruz

Seacliff Hotel NW Open Channel Drainage Basin Map

October 30, 2020

1:6,000

0 385 770 1,540 ft

0 115 230 460 m

County of Santa Cruz

OPEN SWALE @ NW CORNER OF SUBJECT PROPERTY

PROJECT LOCATION

DRAINAGE SYSTEM CALCULATION

PROJECT: **SEACLIFF HOTEL 18-093-1**

SS Ver: 1.0

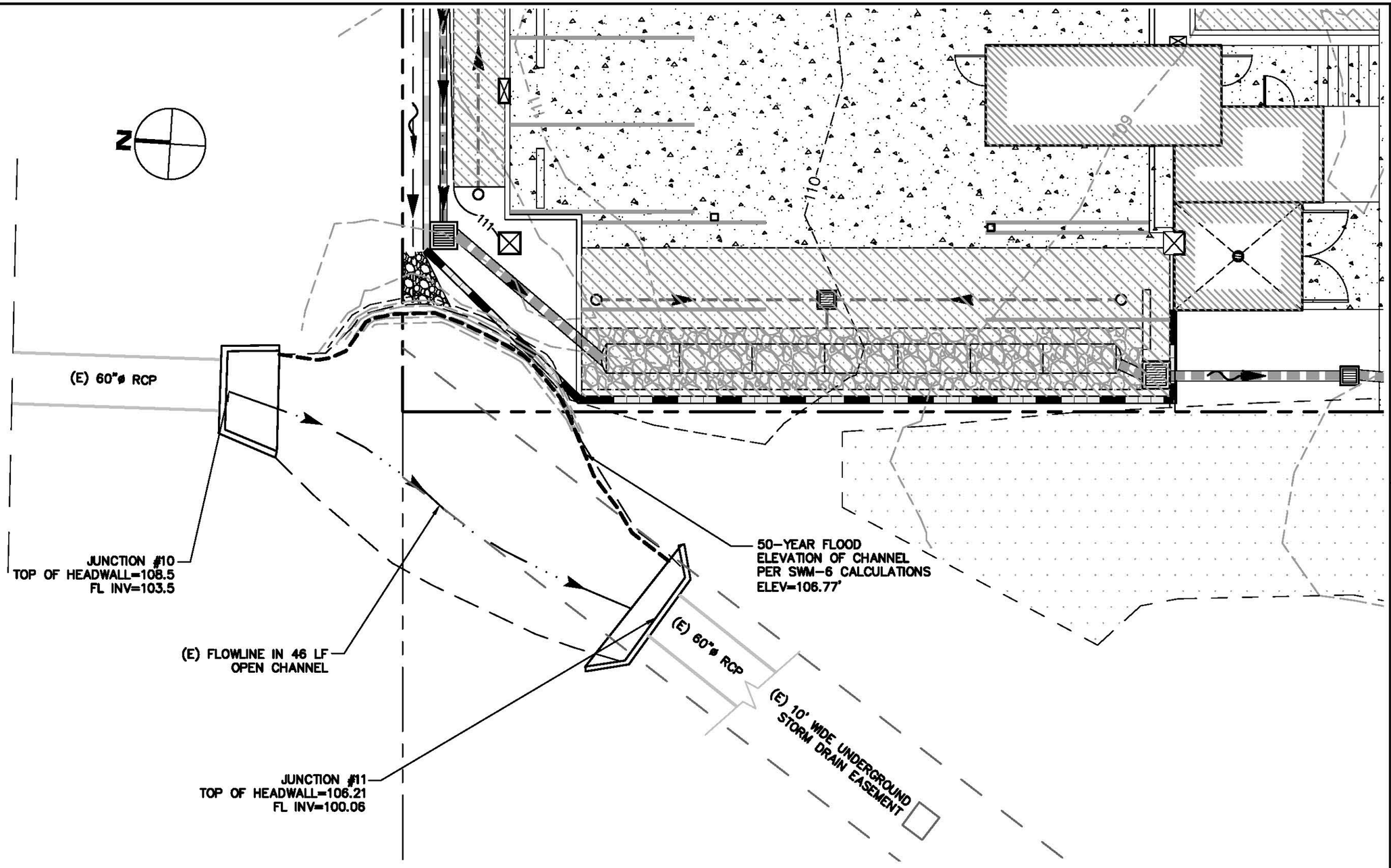
Calc by: CRV Date: 10/23/20

Check by: Date:

P60 = 1.40 Design Storm 50 Years Return Period Factor 1.35 Antecedent Moisture Factor (Ca) 1.20

INLET OR JUNCTION STRUCTURE							ACCUMULATED FLOW				PIPE FLOW													
AREA DESIGNATION (1)	Area A (ac) (2)	C (3)	A*C (4)	Tc (min) / I (in/hr) (5)	Q (cfs) CaCIA (6)	JUNCTION DESIGNATION (7)	Σ A*C (8)	Σ Tc / Tc (min) (9)	I (in/hr) (10)	Q (cfs) (11)	PIPE LINE DESIGNATION (12)	L (ft) (13)	D (in) / Type (14)	Pipe Area (sq ft) / n (15)	V (fps) / V (fpm) (16)	Sn (17)	LOSSES: FRIC. L*Sn (ft) (18)	LOSSES: Hi (ft) (19)	LOSSES: Σ H (ft) (20)	Outlet Control W.S. Elev. (21)	T.G. Elev. (22)	Inlet Control W.S. Elev. (23)	PIPE F.L. (24)	INLET FREEBOARD
AB	71.20	0.45	32.04	36.0	60.30	1	32.04	36.00	1.57	60.30										128.97	136.52	128.66	124.42	7.55
				1.57				0.60			1-2	307	36.0	7.07	8.53	0.00584	1.794	1.242	3.036					
CD	7.05	0.55	3.88	10.0	12.73	2	35.92	36.60	1.56	67.11			RCP	0.011	511.6					125.93	131.10	123.79	119.25	5.17
				2.74				0.33			2-3	188	36.0	7.07	9.49	0.00724	1.361	1.539	2.900					
		0.55		10.0		3	35.92	36.93	1.55	66.85			RCP	0.011	569.4					123.03	127.42	120.70	116.17	4.39
				2.74				0.29			3-4	163	36.0	7.07	9.45	0.00718	1.171	1.527	2.698					
EF	24.00	0.55	13.20	24.0	29.63	4	49.12	37.22	1.55	91.11			RCP	0.011	567.2					119.98	117.32	120.33	113.15	-3.01
				1.87				0.16			4-5	22	84.8	39.24	2.32	0.00072	0.016	0.117	0.133					
		0.55		10.0		5	49.12	37.38	1.54	90.95			OC	0.025	139.3					119.84	118.46	117.68	111.85	-1.38
				2.74				0.13			5-6	100	36.0	7.07	12.86	0.01330	1.330	2.825	4.155					
		0.55		10.0		6	49.12	37.51	1.54	90.81			RCP	0.011	771.7					112.19	118.46	115.69	109.85	2.77
				2.74				0.74			6-9	169	66.3	24.00	3.78	0.00516	0.873	0.311	1.184					
G	6.80	0.55	3.74	17.0	9.75	9	52.86	38.25	1.53	96.89			OC	0.035	227.0					111.01	110.02	110.62	105.20	-0.99
				2.17				0.13			9-10	39	60.0	19.64	4.93	0.00099	0.039	0.416	0.454					
		0.55		10.0		10	52.86	38.38	1.53	96.75			RCP	0.011	296.0					106.77	108.50	110.55	103.50	-2.05
				2.74				0.30			10-11	46	82.9	37.50	2.58	0.00178	0.082	0.145	0.227					
		0.55		10.0		11	52.86	38.68	1.52	96.43			OC	0.035	154.8					106.54	106.21	105.47	100.06	-0.33
				2.74				0.69			11-12	202	60.0	19.64	4.91	0.00098	0.198	0.412	0.610					
		0.55		10.0		12	52.86	39.36	1.51	95.69			RCP	0.011	294.5					101.64	102.14	105.93	97.14	-3.79
				2.74				1.04			12-13	100	104.9	60.00	1.59	0.00025	0.025	0.055	0.081					
		0.55		10.0		13	52.86	40.41	1.49	94.61			OC	0.025	95.7					101.56	96.77	96.24	90.97	-4.79
				2.74				0.07			13-14	25	54.2	16.00	5.91	0.00843	0.211	0.760	0.971					
H	26.90	0.55	14.80	24.0	33.21	14	67.65	40.48	1.49	121.00			OC	0.025	354.8					100.59	100.50	96.58	90.93	-0.09
				1.87				0.44			14-15	163	60.0	19.64	6.16	0.00128	0.208	0.648	0.856					
		0.55		10.0		15	67.65	40.92	1.48	120.43			PVC	0.010	369.6					99.73	99.13	92.62	86.98	-0.60
				2.74				0.07			15-15A	26	60.0	19.64	6.13	0.00126	0.033	0.642	0.675					
		0.55		10.0		15A	67.65	40.99	1.48	120.34			PVC	0.010	367.9					96.94	96.10	99.06	86.30	-2.96
				2.74				0.16			15A-16	237	30.0	4.91	24.51	0.06154	14.586	10.258	24.843					
		0.55		10.0		16	67.65	41.15	1.48	120.14			RCP	0.011	1470.4					55.08	69.41	72.09	59.37	-2.68
				2.74				0.38			16-OUT	556	30.0	4.91	24.46	0.06133	34.101	10.223	44.324					
		0.55		10.0		OUT	67.65	41.53	1.47	119.66			RCP	0.011	1467.9					1.05	11.84	10.76	5.00	1.08
				2.74				0.02			OUT	7	58.0	18.36	6.52	0.01832	0.128	0.924	1.052					
			#####	#####	#####		#####	41.55	1.47	#VALUE!			WEIR	0.035	391.1									
								#DIV/0!																

THE OPEN CHANNEL ADJACENT TO THE NORTHWEST CORNER OF THE PROPERTY LIES BETWEEN JUNCTIONS 10 AND 11. THE 50-YEAR FLOOD ELEVATION IS CALCAULATED TO BE 106.77' IN THIS LOCAITON.



PLAN

10' 0 10' 20'

1 INCH = 10 FEET

RJ Engineering, Inc.
303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.riengineering.com

NEW HOTEL DEVELOPMENT
FOR
LOTUS MANAGEMENT INC.
270 NORTH AVENUE
APTOS, SANTA CRUZ COUNTY, CA
APN 042-022-12

50-YEAR FLOOD ELEVATION MAP

project no.
18-093-1

date
OCTOBER 2020

scale
AS SHOWN

dwg name
DrainageMap1.DWG

SANTA CRUZ COUNTY SANITATION DISTRICT

701 OCEAN STREET, SUITE 410 · SANTA CRUZ, CA · 95060-4073
(831) 454-2160 · FAX (831) 454-2089 · TDD: (831) 454-2123 · WWW.SCCSD.US
MATT MACHADO, DISTRICT ENGINEER

SEPTEMBER 23, 2021

PARKASH PATEL
PO BOX 41160
SAN JOSE, CA 95160

SUBJECT: SEWER AVAILABILITY AND DISTRICT'S CONDITIONS OF SERVICE FOR THE FOLLOWING PROPOSED DEVELOPMENT
APN: 042-022-12
APPLICATION NO.: N/A
PARCEL ADDRESS: 270 NORTH AVE., APTOS
PROJECT DESCRIPTION: CONSTRUCT A 3-STORY BUILDING, PARKING AT THE GROUND LEVEL, WITH A 19 UNIT 2-STORY HOTEL ABOVE

Dear Mr. Patel:

The District has received your inquiry regarding sewer service availability for the subject parcel(s). Sewer service is available in North Avenue for the subject development.

No downstream capacity problem or other issue is known at this time. Note, however, that downstream sewer requirements will again be evaluated at time of Planning Permit review, at which time the District reserves the right to add or modify downstream sewer requirements, though none are anticipated at this time.

This notice is valid for one year from the date of this letter. If, after this time frame, this project has not yet received approval from the Planning Department, then this determination of availability will be considered to have expired. If that occurs or is likely to occur prior to an upcoming submittal or public hearing, please call us ahead of time for a new letter. At that time, we can evaluate the then proposed use, improvements, and downstream capacity, and provide a new letter.

Also, for your reference, we have attached a list of common items required during the review of sanitation projects.

Thank you for your inquiry. If you have any questions, please call Bryan Wardlow at **(831) 454-2160**.

Yours truly,

MATT MACHADO
District Engineer

By: DocuSigned by:
528D647137C44D4...
Ashleigh Trujillo
Sanitation Engineer

BW/arg:21-111.docx
Cc: Randall Adams, Planning Department

ATTACHMENT 7

Common Items Required During the Review of Sanitation Projects

What to show on the drawings: When you begin the design process, please show:

On the plot/site/utility plan:

1. Location of any **existing** on-site sewer lateral(s), clean-out(s), and connection(s) to existing public sewer on the site (plot) plan.
2. Location of any **proposed** on-site sewer lateral(s), clean-out(s), and connection(s) to existing public sewer on the site (plot) plan.

Place a note, *"Existing" or "(E)"*,on each existing item that is to be removed.
Place a note, *"To be removed"*, on each existing item that is to be removed.
Place a note, *"New" or "(N)"*, on each item that is to be new.

On a floor plan:

1. All plumbing fixtures both existing and new (label *"(E)"* or "*(N)*") on a floor plan of the entire building. Completely describe all plumbing fixtures according to table T-702.1 of the California Plumbing Code.

(Sanitation District Code sections 7.04.040 and 7.04.430)

Design and Construction Standards

The project sewer design and connection of the project to the Santa Cruz County Sanitation District system will be required to conform to the County of Santa Cruz Design Criteria (CDC) Part 4, Sanitary Sewer Design, February 2017 edition. Reference for County Design Criteria:
http://www.dpw.co.santa-cruz.ca.us/Portals/19/pdfs/Design%20Crit/DESIGNCRITERIA.pdf

New Connection

If the proposed plans will involve one or more new sewer connections, we must issue a new sewer connection permit for each new connection. The final connection charges can be determined only after the District and, as needed, other Department of Public Works divisions have reviewed and approved the final engineered sewer improvement plans. (Sanitation District Code section 7.04.410)

Non-residential water use

Provide to the District a written estimate the amount of domestic water (average gallons per day) that will be used on this parcel after it is fully developed. You may need to engage an engineer or other knowledgeable person to provide an accurate estimate. This information will be used in the determination of both fees and waste pretreatment requirements. Connection permits can only be issued after these requirements are determined. (Sanitation District Code section 5.04.100)

Backflow prevention device

A backflow preventive device may be required. While this determination is often made "in the field" at the time of installation, if you are engaging a surveyor, civil engineer, or knowledgeable contractor, there is nothing to prevent you from making that determination while in the design process. (Sanitation District Code section 7.04.100 and 7.04.375.A.4)