



**City of Santa Barbara  
Community Development**

**Memorandum**

**DATE:** March 10, 2015  
**TO:** Building & Fire Code Appeals Board  
**FROM:** Andrew Stuffer, Chief Building Official  
**SUBJECT:** 1146 Nirvana Rd – Appeal of Decision Regarding City Water Meter

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On October 28, 2014, the appellant's representative made a written request to the City's Water Distribution Superintendent seeking a waiver of the City requirement to install a City water meter to serve their second unit dwelling unit that was built without permits. The basis for their request were lack of notice during the Planning approval process, site soils stability and the cost of installation of the separate water service to the dwelling unit. On December 10, 2014, the City's Water Resources Manager denied their request sighting the City's long-standing requirement for individual water meters (equitable enforcement of water metering standards) and the reduction of City access to dwelling unit water usage as the basis for the City's denial.

On January 22, 2015, the appellant's representative proposed an alternate method of compliance to the City Building Official pursuant to State Plumbing Code section 301.2. The basis for the use of an alternate method of compliance was the same as their prior request to the City's Water Distribution Supervisor (above). On February 17, 2015, the City's Building Official denied the proposed alternate method of compliance sighting that the reduction in "effectiveness" of the proposed alternate. ("Effectiveness" is one of seven criteria that the State Plumbing Code requires be deemed equivalent in order to approve an alternate method of compliance.) The water usage per dwelling metrics that are available to the City's water utility due to the installation of regularly read City water meters is not the same as the proposed private water meter branching off of the City metered water service to the main dwelling at this property.

It is important to note that the City's Building Official dismissed the owner's claim that the site soils stability was insufficient to support a carefully installed single water service pipe from the City water meter box to the illegal second dwelling now seeking legalization by permit. This dismissal was made after reviewing the permit file and observing that a main home, detached garage, swimming pool and driveway have all be installed on the property with permits and subject to the same soils condition as the required second dwelling unit water service piping. This dismissal, while important, was not necessary to include in the February 17, 2015 letter to the owner's representative.

On March 6, 2015, the appellant requested that the decision of the Building Official be appealed before the Building & Fire Code Board of Appeals.

**Copy:** Street File  
1146 Nirvana Property Owner  
Joshua Haggmark, City Water Resources Manager

**Attachments:** Referenced Letters and Decisions  
2013 CPC Section 301.2

## CHAPTER 3 GENERAL REGULATIONS

### 301.0 Materials – Standards and Alternates.

**301.1 Minimum Standards.** Pipe, pipe fittings, traps, fixtures, material, and devices used in a plumbing system shall be listed or labeled (third-party certified) by a listing agency (accredited conformity assessment body) and shall comply with the approved applicable recognized standards referenced in this code, and shall be free from defects. Plastic pipe and the fittings used for plastic pipe, other than those for gas, shall meet the requirements of NSF 14. Unless otherwise provided for in this code, materials, fixtures, or devices used or entering into the construction of plumbing systems, or parts thereof, shall be submitted to the Authority Having Jurisdiction for approval.

**301.1.1 Marking.** Each length of pipe and each pipe fitting, trap, fixture, material, and device used in a plumbing system shall have cast, stamped, or indelibly marked on it the manufacturer's mark or name, which shall readily identify the manufacturer to the end user of the product. Where required by the approved standard that applies, the product shall be marked with the weight and the quality of the product. Materials and devices used or entering into the construction of plumbing and drainage systems, or parts thereof, shall be marked and identified in a manner satisfactory to the Authority Having Jurisdiction. Such marking shall be done by the manufacturer. Field markings shall not be acceptable.

**301.1.2 Standards.** Standards listed or referred to in this chapter or other chapters cover materials that will conform to the requirements of this code, where used in accordance with the limitations imposed in this or other chapters thereof and their listing. Where a standard covers materials of various grades, weights, quality, or configurations, the portion of the listed standard that is applicable shall be used. Design and materials for special conditions or materials not provided for herein shall be permitted to be used only by special permission of the Authority Having Jurisdiction after the Authority Having Jurisdiction has been satisfied as to their adequacy. A list of accepted plumbing material standards is referenced in Table 1401.1. IAPMO Installation Standards are referenced in Appendix I for the convenience of the users of this code. They are not considered as a part of this code unless formally adopted as such by the Authority Having Jurisdiction.

**301.1.3 Existing Buildings.** In existing buildings or premises in which plumbing installations are to be altered, repaired, or renovated, the Authority Having Jurisdiction has discretionary powers to permit deviation from the provisions of this code, provided that such proposal to deviate is first submitted for proper determination in order that health and safety requirements, as they pertain to plumbing, shall be observed.

**301.2 Alternate Materials and Methods of Construction Equivalency.** Nothing in this code is intended to prevent the

use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code. Technical documentation shall be submitted to the Authority Having Jurisdiction to demonstrate equivalency. The Authority Having Jurisdiction shall have the authority to approve or disapprove the system, method, or device for the intended purpose. *[HCD 1] (See Section 1.8.7).*

However, the exercise of this discretionary approval by the Authority Having Jurisdiction shall have no effect beyond the jurisdictional boundaries of said Authority Having Jurisdiction. An alternate material or method of construction so approved shall not be considered as in accordance with the requirements, intent, or both of this code for a purpose other than that granted by the Authority Having Jurisdiction where the submitted data does not prove equivalency.

**301.2.1 Testing.** The Authority Having Jurisdiction shall have the authority to require tests, as proof of equivalency.

**301.2.1.1 Tests.** Tests shall be made in accordance with approved or applicable standards, by an approved testing agency at the expense of the applicant. In the absence of such standards, the Authority Having Jurisdiction shall have the authority to specify the test procedure.

**301.2.1.2 Request by Authority Having Jurisdiction.** The Authority Having Jurisdiction shall have the authority to require tests to be made or repeated where there is reason to believe that a material or device no longer is in accordance with the requirements on which its approval was based.

**301.3 Flood Hazard Areas.** Plumbing systems shall be located above the elevation in accordance with the building code for utilities and attendant equipment or the elevation of the lowest floor, whichever is higher.

**Exception:** Plumbing systems shall be permitted to be located below the elevation in accordance with the building code for utilities and attendant equipment or the elevation of the lowest floor, whichever is higher, provided that the systems are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to such elevation.

**301.3.1 Flood Hazard Areas Subject to High-Velocity Wave Action.** Plumbing systems in buildings located in flood hazard areas subject to high-velocity wave action shall be in accordance with the requirements of Section 301.3, and plumbing systems, pipes, and fixtures shall not be mounted on or penetrate through walls that are intended to breakaway under flood loads in accordance with the building code.

Andrew Stuffer, Building Official  
Building & Safety Division  
City of Santa Barbara  
630 Garden Street  
Santa Barbara, CA 93101

March 6, 2015

1146 Nirvana Road (APN 043-060-013)  
Code Alternate for Separate Water Meter Service  
MST2014-00046/BLD2014-011360

Dear Mr. Stuffer:

We are writing to appeal your denial of our request for an exemption from the City's requirement that we install a separate water line and meter to service the 482 sf. ADU that we are remodeling to meet the City's code requirements.

Our exemption request was denied by Public Works staff without consideration of the existing site conditions, or the recommendation of the soils engineer. Now our appeal has been denied based on the City's policy of requiring separate metering. Your rejection of our appeal still does not address our case for an exemption, which we believe is compelling.

As stated in the engineer's report, the installation of a new water line along 180 feet of a steep hillside driveway to service the ADU would likely destabilize the already precarious hillside driveway and increase the risk of a major water loss, in an area where two water line breaks have occurred in the last five years due to soil movement.

Installing a second water line in the same area could potentially double the amount of water lost in the event of a rupture. Additionally, we would be held liable for damage to downhill properties.

We are willing to comply with the City's need to monitor water usage. If our existing meter is inadequate for this purpose, we are willing to install a sub-meter to the ADU. However, we cannot understand how any reasonable person would insist that we increase the risk of a major water loss and create a legal liability for ourselves.

Additionally, we contend that the estimated cost of \$40,000-plus to install a new meter and water line is a significant and unreasonable financial hardship.

Thank you for your consideration.

Sincerely,



Anthony A. Allina and Christiane Schlumberger, Homeowners

Attachments: Exemption request package and following correspondence

Andrew Stuffer  
Chief Building Official  
Building & Safety Division  
City of Santa Barbara  
630 Garden Street  
Santa Barbara, CA 93101

March 12, 2015

1146 Nirvana Road (APN 043-060-013)  
Code Alternate for Separate Water Meter Service  
MST2014-00046/BLD2014-011360

Dear Mr. Stuffer,

We received notice yesterday that our appeal is scheduled to be heard by the Building and Fire Code Appeals Board next Thursday, March 19<sup>th</sup>. Unfortunately, we had planned a family vacation for next week and will be out of town. We are requesting that our appeal be rescheduled to the next Appeals Board meeting on April 17<sup>th</sup>.

Thank you for your consideration.

Sincerely,

The image shows two handwritten signatures in black ink. The signature on the left is 'Anthony A. Allina' and the signature on the right is 'Christiane Schlumberger'. Both signatures are written in a cursive, flowing style.

Anthony A. Allina and Christiane Schlumberger, Homeowners

MAR 18 2015

RECEIVED

Andrew Stuffer, Chief Building Official  
Building & Safety Division  
City of Santa Barbara  
630 Garden Street  
Santa Barbara, CA 93101

March 13, 2015

1146 Nirvana Road (APN 043-060-013)  
Code Alternate for Separate Water Meter Service  
MST2014-00046/BLD2014-011360

Dear Mr. Stuffer,

As an addendum to our letter of March 6, 2015, we would like to address two key points that have been cited as the basis for denying our appeal.

**1. The Appeals Board cannot waive City Code requirements.**

Please see 2013 California Residential Code Section R104 Duties and Powers of the Building Official as adopted by the City of Santa Barbara:

"R104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, provided the building official shall first find that a special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the department of building safety."

**2. A second water meter is necessary to provide the City with more accurate direct water consumption information.**

We currently have a one-inch City-issued water meter. AWWA standards\* call for one-inch meters to exceed 95% accuracy at various flow rates. The least accurate meter reads occur at "minimum" flow rates which are less than 0.75 gpm, but these are still in excess of 95%. At "normal" flow rates (4 to 40 gpm), the accuracy is in excess of 98%.

The proposed ADU adds only a fixture unit count of 7: (shower = 2, lav sink = 1, kitchen sink = 1.5, toilet = 2.5), with a corresponding peak flow rate of 4.3 gpm. The peak flow rate would occur only if all fixtures were running at the same time. More likely, only one or a few would be operating simultaneously, so a "minimum" flow condition would occur essentially at all times.

The City's intent to achieve accurate accounts of water usage is best achieved with normal (rather than minimum) flow rates. A second water meter serving an ADU with a peak flow rate of 4.3 gpm is likely to jeopardize this intent. Therefore, the City's intent to achieve a more accurate meter reading would actually be undermined by requiring a second meter.

Additionally, the water service lateral into the meter is oversized (1.5" to 2"), which would reduce the flow velocities into the meter. This has the significant advantage of drawing fewer particulates into the meter. It is these particulates that tend to degrade meters prematurely and, thus, render them less accurate.

We believe that our single meter with its oversized service lateral will afford the City its very best opportunity to get a very accurate accounting of our water usage.

Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Anthony A. Allina and Christiane Schlumberger". The signature is fluid and cursive, with the first names being more prominent.

Anthony A. Allina and Christiane Schlumberger  
Homeowners

\*Source: "Accuracy of In-Service Water Meters at Low and High Flow Rates,"  
Water Research Foundation (formerly AWWA Research Foundation, 2011).  
[http://www.allianceforwaterefficiency.org/uploadedFiles/Resource\\_Center/Library/water\\_loss/WRF-Meter-Accuracy-2011.pdf](http://www.allianceforwaterefficiency.org/uploadedFiles/Resource_Center/Library/water_loss/WRF-Meter-Accuracy-2011.pdf)



**City of Santa Barbara**  
**Community Development Department**

[www.SantaBarbaraCA.gov](http://www.SantaBarbaraCA.gov)

**February 17, 2015**

**Director's Office**  
Tel: 805.564.5502  
Fax: 805.564.5506

Trish Allen, SEPPS  
1625 State St  
Santa Barbara, CA  
93101

**Building & Safety**  
Tel: 805.564.5486  
Fax: 805.564.5478

RE: **AMENDED** Response to 1/22/15 Code Alternate Construction or Material Proposal

**Housing &  
Redevelopment**  
Tel: 805.564.5481  
Fax: 805.564.5477

Dear Trish Allen,

**Planning**  
Tel: 805.564.5470  
Fax: 805.897.1904

Our office has reviewed your proposal and cannot approve it because a privately owned/managed water meter does not provide the direct water consumption information that the City obtains with a City issued water meter. Private water meters also eliminate the ability of the City to use the City water billing system to alert the dwelling unit occupant of excessive water flow. This reduced effectiveness in monthly City water billing, hurts City water conservation awareness efforts.

**Rental Housing  
Mediation Task Force**  
Tel: 805.564.5420  
Fax: 805.564.5477

While this decision is appealable to the Local Building and Fire Code Appeals Board, please be aware that that Board cannot waive City Code requirements. Thus, the appellant would need to convince the majority of the Board that private water meter effectiveness is the same as, or better than, City water meters in order to over-turn the decision of this office.

630 Garden Street  
PO Box 1990  
Santa Barbara, CA  
93102-1990

Sincerely,

Andrew Stuffer  
Chief Building Official  
City of Santa Barbara

CC: Street File – 1146 Nirvana Rd  
Joshua Haggmark  
Catherine Taylor

S U Z A N N E  E L L E D G E  
P L A N N I N G & P E R M I T T I N G S E R V I C E S , I N C .

PRINCIPAL PLANNERS  
SUZANNE ELLEDGE • LAUREL F. PEREZ

28 October 2014

Matt Ward, Water Distribution Superintendent  
Water Distribution  
Public Works Department, City of Santa Barbara,  
625 Laguna Street  
Santa Barbara, CA 93101

Subject: 1146 Nirvana Road (APN 043-060-013) – Water Meter Service Exception for  
an Additional Dwelling Unit MST2014- 00046/BLD2014-011360

Dear Mr. Ward,

On behalf of the property owners, Christiane Schlumberger & Anthony Allina, we are requesting a hardship exception to install a separate water meter to serve an additional dwelling unit located at the subject property which was approved through the City's Performance Standard Permit planning process.

Property Information

The subject parcel is located in the R-1 zone district (One-Family Residence Zone), with a General Plan land use designation of Hillside Residential (maximum 3 du/acre), and in the City's Hillside Design District. The property is approximately 1.78 acres in size (77,706 square feet) and according to the estimate from City's GIS System the parcel has an average slope of 27%. The property is developed with a single story single family residence (approximately 2,009 square feet) and a detached three-car garage that includes an accessory area (see Attachment 1, site plan).

Additional Dwelling Unit/Performance Standard Permit

An additional dwelling unit (ADU) is a permitted use in the R-1 zone district upon issuance of a Performance Standard Permit (PSP). A PSP permit for an additional unit may be approved provided the parcel meets the minimum lot area requirements to serve each residence, the other provisions of the zone district (setbacks, parking requirements, open yard, etc.) and the requirement for adequate egress and ingress. It is important to note that the development standards necessary to allow an ADU are stringent; very few properties located in the Single Family Zone contain adequate lot area to support an additional dwelling unit. In fact, since 2006 the City's Planning Division has only processed twelve PSP's for ADU's.

On March 13, 2014, an application was filed for consideration of the additional dwelling unit through the PSP process. During the application review process prior to obtaining

the PSP approval, City staff did not advise the applicant or owners of the requirement to provide a separate water meter and installation of a water line to serve the ADU, a 482 square foot residential studio located on a single family residential zoned property. Despite exhaustive research of code requirements prior to filing the PSP application, including a building code analysis and evaluation with the fire department to ensure adequate fire access, the applicants were not advised of the need to install a separate meter. On April 16, 2014, the Staff Hearing Officer (SHO) reviewed and approved the PSP application to permit the ADU (Attachment 2, Resolution 019-14).

Following the SHO approval, the project was reviewed and received final approval by the Single Family Design Board for the proposed exterior alterations. On June 20, 2014, the building permit application was submitted and plan check corrections were issued on July 17, 2014 which included the requirement to install a water meter to serve the additional unit.

#### Basis for Exception Request

The basis for our request to relieve the property owners of the requirement to install a separate water meter to serve the 482 square foot studio Additional Dwelling Unit are outlined below:

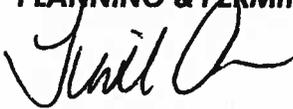
1. To install a new water line and meter for the ADU will require trenching below the already narrow driveway which is on a steep hillside. The distance of trenching along the driveway is approximately 180 linear feet. The installation has the great potential to further destabilize the already unstable Mesa uplift sand base of the driveway.
2. There have already been two major water leaks from the main water line because of land movements which broke the pipe. These ruptures did not occur, fortunately, along the portion of the water main that runs under the edge of the driveway. This, however, is the area that will be further destabilized by trenching to install another water main.
3. The property has been inspected by two geologic engineer/soil consultants. On their advice, the owners drilled a bore hole into the sand in order to determine if the soil would support a swimming pool. Due to the soil conditions, the pool construction would have necessitated the installation of 10 caissons, two (2) feet in diameter and 20 feet deep; for these reasons, the owners choose to abandon construction of a pool (Attachment 3, Preliminary Geotechnical Investigation for Proposed Swimming Pool, August 15, 2013 & Addendum, October 2, 2014).
4. The soil engineers noted that the entire property is slowly sinking, sagging, resting, subsiding, and the most vulnerable location is the only entrance to the property, along the driveway.
5. Finally, preliminary construction estimates are expected to exceed \$30,000 to trench for the new water line. Along with the City's buy-in fees to purchase a new meter (5/8" meter, over \$10,000), the owners consider the costs for the

installation in a location with significant site constraints to pose an unreasonable hardship.

The owners are willing to meet the objective of monitoring the ADU's water use by installing a second meter between the main residence and the ADU which will avoid the hazards of trenching on the hillside.

On behalf of the owners, we thank you for your consideration of the request to grant an exception to install a separate water meter for the 482 square foot studio unit. We would be happy to schedule a meeting with you to further discuss this request.

Sincerely,  
**SUZANNE ELLEDGE**  
**PLANNING & PERMITTING SERVICES, INC.**



Trish Allen, AICP  
Senior Planner

**Attachments**

1. Site plan
2. Resolution 019-14
3. Preliminary Geotechnical Investigation for Proposed Swimming Pool, prepared by Pacific Materials Laboratory, August 15, 2013; Addendum, prepared by Pacific Materials Laboratory, October 2, 2014

Cc: Christiane Schlumberger and Anthony Allina  
Cathy Taylor, Water System Manager



# City of Santa Barbara

Public Works Department

[www.SantaBarbaraCA.gov](http://www.SantaBarbaraCA.gov)

December 10, 2014

**Main Office**

630 Garden Street  
P.O. Box 1990  
Santa Barbara, CA  
93102-1990

Ms. Trish Allen, AICP  
Senior Planner, Suzanne Elledge Planning & Permitting Services, Inc.  
1625 State Street  
Santa Barbara, CA 93101

**Administration**

Tel: 805.564.5377  
Fax: 805.897.2613

**SUBJECT: REQUEST FOR WATER METER SERVICE EXEMPTION FOR  
ADDITIONAL DWELLING UNIT LOCATED AT 1146 NIRVANA ROAD  
(MST2014-00046/BLD2014-011360)**

**Engineering**

Tel: 805.564.5363  
Fax: 805.564.5467

Dear Ms. Allen:

This letter is written in response to your request for an exemption from the City's separate metering requirement for a proposed additional dwelling unit at 1146 Nirvana Road (APN 043-060-013), received by the City Water Resources Division on October 28, 2014. City staff has reviewed the documentation provided and has found an exemption is not warranted.

**Facilities**

Tel: 805.564.5415  
Fax: 805.897.2577

The separate metering requirement for dwelling units can be found in Section 22.04.030.E of the Santa Barbara Municipal Code available at:

**Street Maintenance**

Tel: 805.564.5413  
Fax: 805.897.1991

<http://www.santabarbaraca.gov/gov/cityhall/municode.asp>

**Transportation**

Tel: 805.564.5385  
Fax: 805.564.5467

It specifies that each legal dwelling unit within the City shall be served by a separate City water meter. The requirement is a long standing provision of the City's Plumbing Code, which should be known by building designers. The fact that the owners were not advised of the requirement prior to plan check is not a basis for granting an exemption, nor is the expense of piping needed to comply with the metering requirement.

**Water Resources**

Tel: 805.564.5387  
Fax: 805.897.2613

Installation of a second water meter between the main residence and the new dwelling unit is not consistent with City standard water metering details and requirements and is therefore not a suitable alternative.

Thank you for your inquiry on behalf of the owners of 1146 Nirvana Road. If you have further questions, you can contact Dakota Corey, Water Resources Specialist, via email at [dcorey@SantaBarbaraCa.gov](mailto:dcorey@SantaBarbaraCa.gov), or by phone at (805) 564-5369.

Sincerely,

  
Joshua Haggmark  
Water Resources Manager

JH/rh

CC: Matthew Ward, Water Distribution Supervisor  
Kelley Dyer, Water Supply Supervisor

**Pacific**

**Materials**

**Laboratory**

**of Santa Barbara, Inc.**

35-A South La Patera Lane  
P.O. Box 96, Goleta, CA 93116  
Phone: (805) 964-6901  
FAX No.: (805) 964-6239  
E-mail: [pml@pml.sbcoxmail.com](mailto:pml@pml.sbcoxmail.com)

October 2, 2014  
Lab No: 105797-2  
File No: 14-13807-2

Tony Allina and Christiane Schlumberger  
1146 Nirvana Road  
Santa Barbara, CA 93101

**SUBJECT:** Preliminary Geotechnical Investigation Addendum  
Proposed Additional Dwelling Unit  
1146 Nirvana Road  
Santa Barbara, California

**REFERENCE:** This Laboratory's Preliminary Geotechnical Investigation Report  
Lab No. 101420-2, Dated August 15, 2013

Dear Mr. Allina and Ms. Schlumberger:

The geotechnical study referenced above determined that the level areas of the property supporting the house and driveway were created by a previous grading operation in which soil was cut from the uphill side of the slope and replaced as fill on the downhill side. The grading is believed to have been done prior to the City of Santa Barbara adopting a grading code and, therefore, it is considered an undocumented fill. It was for this reason that recommendations were provided in the reference report to support the proposed structures on a pile foundation. There was a concern that the fill soil will continue to settle and destabilize the proposed structure. The entrance driveway has a paved edge bordering the top of a steep descending slope. There are many such slopes in this neighborhood. The stability of these slopes, including the slope adjacent to the driveway, depends mostly on preventing disturbances of the soil on or near the slope, preventing surface water runoff from passing over the slope, and maintaining foliage cover with plants that have strong deep roots.

It is my understanding the City of Santa Barbara Planning Department is requesting the installation of a new buried water line for the proposed additional dwelling unit. Such an installation may be disruptive to the fill slope and it is my recommendation that you avoid disturbing the fill slope, opting for a logical alternative that would not involve an excavation.

**"We Test The Earth"**

October 2, 2014

-2-

Lab No: 105797-2  
File No: 14-13807-2

Thank you for the opportunity of providing this service. If you have any questions, please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.



Ronald J. Pike  
Geotechnical Engineer, G. E. 2291

RJP:vlh

√cc: Anthony Allina, Email: t.allina@me.com

**Pacific  
Materials  
Laboratory  
of Santa Barbara, Inc.**

35-A South La Patera Lane  
P.O. Box 96, Goleta, CA 93116  
Phone: (805) 964-6901  
FAX No.: (805) 964-6239  
E-mail: [pml@pml.sbcoxmail.com](mailto:pml@pml.sbcoxmail.com)

**PRELIMINARY GEOTECHNICAL INVESTIGATION**

**Proposed Swimming Pool**

**1146 Nirvana Road**

**City of Santa Barbara**

**California**

**CLIENT**

**Tony Allina and Christiane Schlumberger  
1146 Nirvana Road  
Santa Barbara, CA 93101**

**August 15, 2013  
Lab No: 101420-2  
File No: 13-13807-2**

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PLATE 1 - Site Plan

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## **INTRODUCTION**

This report presents the results of a preliminary geotechnical investigation performed at 1146 Nirvana Road, in the City of Santa Barbara, California. Existing at the site is a single-family residence with a detached garage. It is proposed to build a swimming pool in the yard located north of the detached garage and west of the house. The location is level and the surface vegetation consists of a manicured lawn. North of the level area is a descending slope.

## **SCOPE OF WORK**

It is the purpose of this investigation to classify the soil disclosed by the exploratory borings and excavations by observation and tests on selected samples. In addition, this study includes laboratory tests to evaluate soil strength, the effect of moisture variation on the soil-bearing capacity, compressibility, liquefaction, and expansiveness. Based upon this information, we will provide preliminary grading and foundation recommendations for the proposed swimming pool.

The scope of this investigation does not include the analysis of the corrosive potential of the soil, previous site construction, or analysis of geologic structures and their associated features, such as faults, fractures, bedding planes, strike and dip angles, ancient landslides, potential for earth movement in undisturbed or natural soil formations sloped or level, or other sources of potential instability which relate to the geologic conditions, as these items should be addressed by a qualified Engineering Geologist.

This exploration was conducted in accordance with presently accepted geotechnical engineering procedures currently applied in the local community in order to provide the appropriate geotechnical design characteristics of the foundations soils and of the proposed fill soils in order to properly evaluate the proposed structure with respect to differential settlement based upon the anticipated soil characteristics at the time of construction.

## **LIMITATIONS**

This Laboratory's basic assumption is that the soil borings presented herein are representative of the entire footprint of the proposed development, however, no warranty is implied. If, during the course of construction, soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

It is your responsibility to contact our office, providing at least 48 hours of notice for grading or foundation excavation observations and testing. The observation of excavations during the construction phase represents an opportunity by our firm either to confirm soil conditions estimated by the exploratory borings or to discover soil conditions which have not

been addressed. When such undisclosed conditions are encountered, opinions and recommendations addressing these conditions will be rendered at that time.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

## **FIELD INVESTIGATION**

The subsurface soil conditions were explored by one truck-mounted auger boring and one hand auger boring, which were drilled to depths of up to 17 feet, supplemented by two field density tests. The locations of the borings were selected as appropriate and representative. Representative relatively "undisturbed" tube soil samples were obtained during the drilling operation by the thin-walled sampling tube (ASTM D-1587) sampler method. Laboratory tests and analysis of representative soil samples, obtained during the drilling operation, were performed to estimate the engineering properties and determine the soil classification. The locations of the borings are shown on Plate 1; these locations are approximate and have not been located by surveyed measurements. The boring log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

## **SOIL CONDITIONS**

1. No groundwater was encountered in the exploratory borings which extended to depths of up to 17 feet. It should be recognized that water table elevations, even seasonal perched water tables, might fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.
2. The existing level yard was created by a previous grading operation during which time soil was removed from the uphill side of a north-facing slope and placed as fill on the downhill side. The cut/fill daylight transition line intersects the area proposed for the construction of the swimming pool. Boring No. 1 was located north of the cut/fill transition and penetrated approximately 7 feet of previously placed fill. Located below the fill was an approximate 2-foot layer of porous dry silt estimated to be the original topsoil layer. Below the topsoil layer is an approximate 3-foot-thick layer of brown sandy clay or clayey sand, becoming the tan sand of the Santa Barbara Formation below this depth. The brown sandy clay layer was found to have a medium potential for expansion. The other soil layers are primarily sand and judged to have a very low potential for expansion.

3. The results of the soil compaction tests indicate the soil on the cut side of the cut/fill transition line have a relative compaction of 90% or greater. The old fill on the north side of the cut/fill transition line was found to have a relative compaction of only 82.5%, which may be an indication that the fill soil was placed prior to the time when the City of Santa Barbara had a grading code and was, therefore, not compacted to the standards enforced today.
4. The soil profile at this site is judged to be stiff soil corresponding to a Site Class D as defined by Table 1613.5.2 of the California Building Code (CBC). This estimate is based on the borings, which encountered the geologic formation known as the Santa Barbara Formation which is widely regarded as a Type D soil profile since the Standard Penetration Resistance typically results in blow counts having a range of between 15 to 50.
5. The potential for liquefaction is considered to be very low.

### **PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS**

It is the opinion of this Laboratory the proposed construction is feasible from a soil-engineering perspective provided the recommendations contained in this soil engineering report are incorporated into the design and implemented during construction.

It is the understanding of this Laboratory the proposed structure will be an in-ground swimming pool. Based upon this understanding, we present the following preliminary recommendations:

#### **SWIMMING POOL**

1. The foundation system for the proposed pool shall be reinforced concrete grade beams supported by reinforced concrete cast-in-place piles.
2. The reinforced concrete piles shall be a minimum of 18 inches in diameter and shall extend below artificial fill and topsoil, and shall extend a minimum distance of 10 feet into the yellow sand of the Santa Barbara Formation. The minimum depth of the pile shall be such a depth that the horizontal distance between the pile tip and the slope face is 40 feet. The depth of the yellow sand of the Santa Barbara Formation is anticipated to be approximately 12 feet below grade along the north edge and approximately 3 feet below grade along the south edge.
3. The vertical load capacity of the piles may be based on a skin friction value of 1,000 psf for the total length of the pile embedded into the yellow sand of the Santa Barbara Formation, plus 3,000 psf end bearing.
4. The piles, grade beams, walls, and floor of the pool shall be designed by a Civil or Structural Engineer.

5. The bottom of the pile excavation shall be cleaned of debris, using a pancake auger for the last pass, in order to provide end-bearing contact.
6. This Laboratory shall be requested to inspect all footing excavations prior to steel and concrete placement.
7. Concrete pool decks will move differentially with respect to the pool structure. This may be due to the difference in support elevations or due to the expansive characteristics of the sandy clay encountered in Boring No. 2 at the top 3 feet of the boring log. A flexible deck performs best and hides the differential movement. An example of a flexible deck is individual stone pavers with grass growing between the joints. It is recommended that a flexible surrounding deck be incorporated into the design.
8. The walls of the swimming pool shall be designed to resist a lateral earth load of 100 pcf.
9. The walls of the pool shall be designed as freestanding walls deriving no lateral support from the adjacent soil.
10. The owner or his agent shall request the Project Geotechnical Engineer to also observe all excavations prior to placement of compacted soil, or rebar and shotcrete.
11. We request the foundation plan be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

#### RESISTANCE TO LATERAL LOADS

Lateral loads may be resisted by frictional resistance along the foundation base and passive earth pressures along the foundation sides. An allowable friction coefficient of 0.35 may be used. The passive pressures of 350 pcf of footing may be used. A triangular distribution should be used. The frictional resistance and the passive pressure may be combined without reduction. The resistance may be increased by one-third for wind or seismic loading.

#### SETTLEMENT

The amount of settlement for the pile foundation is considered to be nominal to zero.

#### CONSTRUCTION OBSERVATION

The owner or his agent shall request the Project Geotechnical Engineer to observe all excavations prior to placement of compacted soil, gravel backfill, or rebar and concrete.

August 15, 2013

-5-

Lab No: 101420-2  
File No: 13-13807-2

## PLAN REVIEW

We request the grading and foundation plans be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

## CLOSURE

The recommendations contained herein are for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered, this Laboratory shall be requested to modify, as necessary, the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year, we recommend an update and review of the contents of this report be performed by this Laboratory.

The recommendations contained herein are based upon the assumption that Pacific Materials Laboratory shall be requested to perform the testing and observation services which will be required during the grading and foundation operations in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If this service is performed by others, only the technical correctness of the actual analytical soil tests described here is attested to by this Laboratory.

Thank you for the opportunity of providing this service. If you have any questions regarding this matter, please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.



Ronald J. Pike  
Geotechnical Engineer, G. E. 2291

RJP:vlh

cc: Addressee (3)  
Christiane Schlumberger, Email: c.schlumberger@me.com



**APPENDIX A**  
**FIELD INVESTIGATION**

**August 15, 2013**

**Lab No: 101420-2**

**File No: 13-13807-2**

August 15, 2013

-A.1-

Lab No: 101420-2  
File No: 13-13807-2

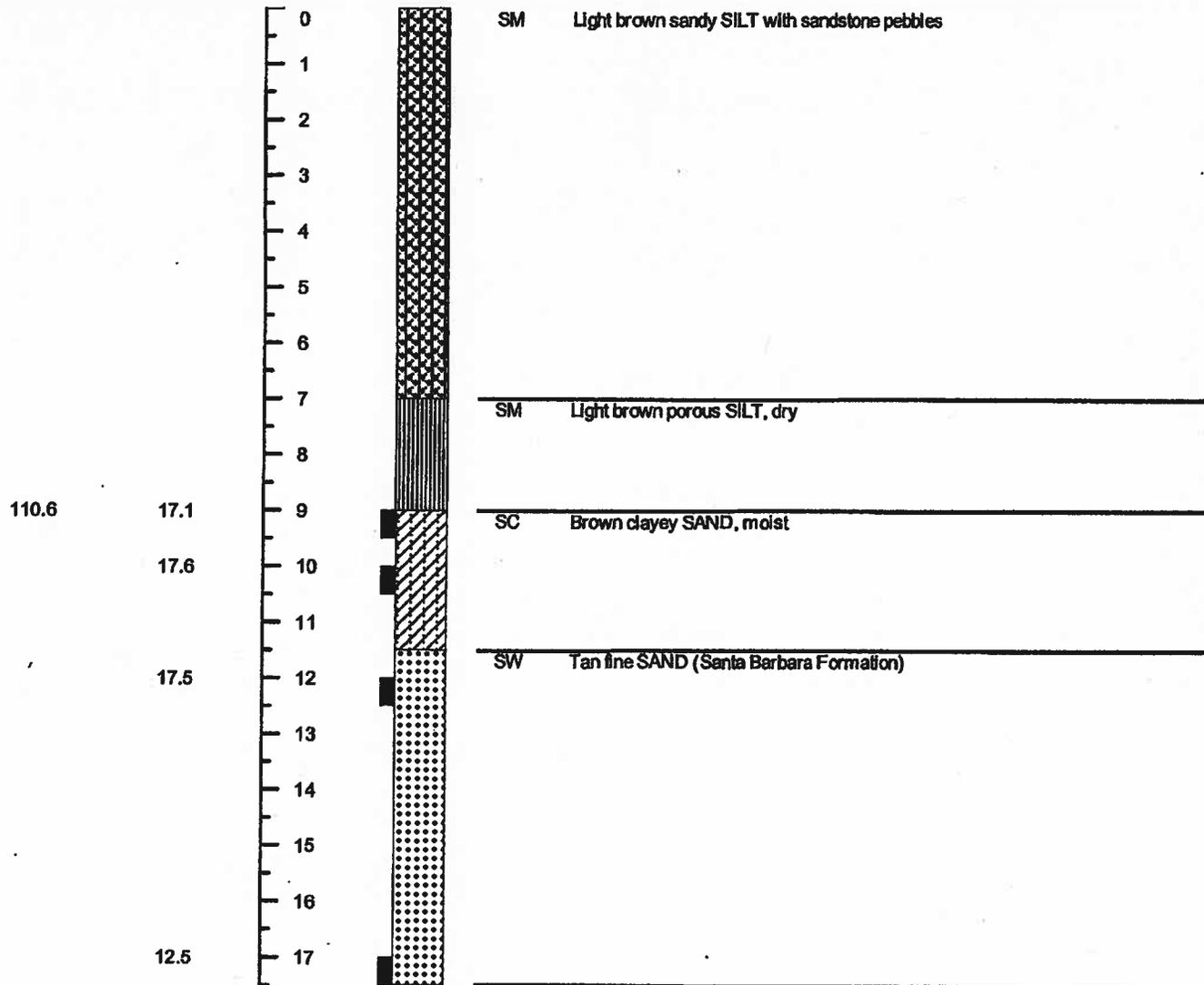
# BORING LOG DATA

BORING NO. B-1

Drill Rig Operator: Kump

Date Drilled: 7/29/13

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
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**LEGEND**  
 - Thin-Walled Tube Sample  
 ASTM D-1587

NOTE: Original ground encountered at 7 feet

August 15, 2013

-A.2-

Lab No: 101420-2

File No: 13-13807-2

# BORING LOG DATA

BORING NO. B-2

Drill Rig Operator: Kump

Date Drilled: 7/29/13

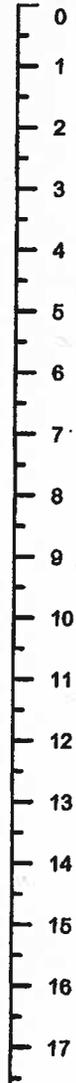
Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
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63.6

93.9

98.5

12.5



SC Brown-orange sandy CLAY with sandstone cobbles, moist

SW Tan SAND (Santa Barbara Formation)

**LEGEND**  
 - Thin-Walled Tube Sample  
 ASTM D-1587

**APPENDIX B**  
**LABORATORY TESTS**

**August 15, 2013**

**Lab No: 101420-2**

**File No: 13-13807-2**

**MOISTURE DENSITY DETERMINATIONS (ASTM D 1557)**

Maximum Density-Optimum Moisture data were determined in the laboratory from soil samples using the ASTM D-1557 Method of Compaction. The results of the Maximum Density-Optimum Moisture tests are tabulated below:

<u>SOIL TYPE</u>	<u>SOIL DESCRIPTION</u>	<u>MAXIMUM DRY DENSITY (pcf)</u>	<u>OPTIMUM MOISTURE (%)</u>
I	Brown clayey SILT and SAND	110.4	15.0
	Curve Points: ( 108.9 @ 13.3 ) ( 110.2 @ 15.5 ) ( 106.9 @ 18.0 )		
II	Brown SILT and SAND	116.0	11.3
	Curve Points: ( 111.1 @ 7.9 ) ( 114.7 @ 10.0 ) ( 115.6 @ 13.0 )		

**FIELD DENSITY SUMMARY (Sand Cone Method ASTM D 1556)**

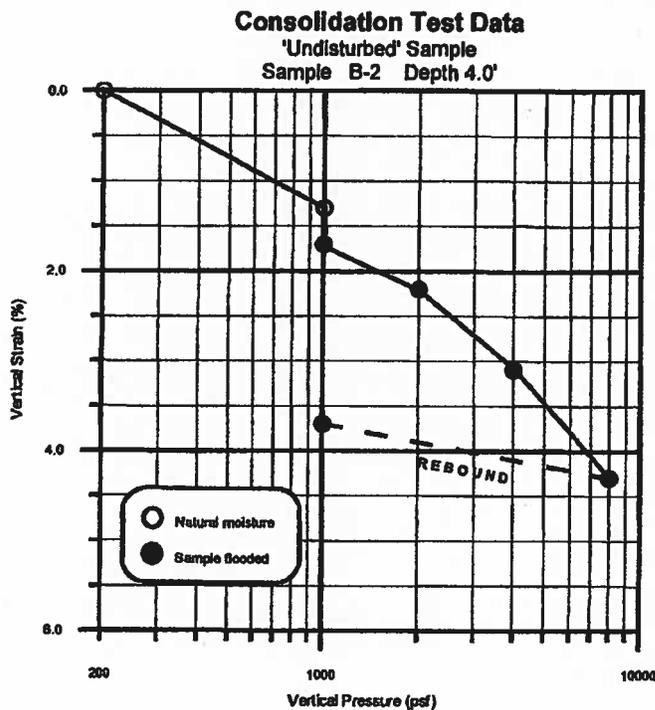
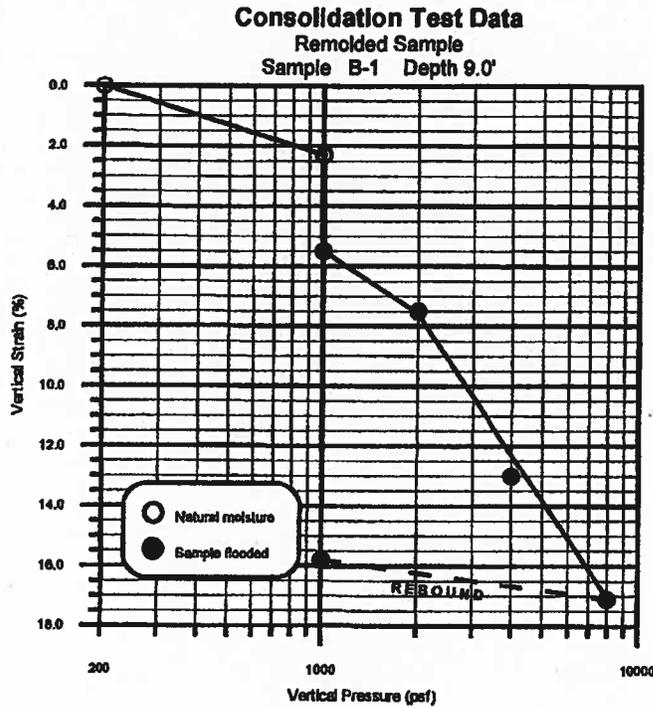
<u>SAMPLE LOCATION</u>	<u>DEPTH (in.)</u>	<u>SOIL TYPE</u>	<u>FIELD MOIST. CONTENT (%)</u>	<u>DRY DENSITY (pcf)</u>	<u>% OF MAX. DRY DENSITY</u>
D-1	12	I	14.0	104.6	94.7
D-2	12	II	14.7	95.7	82.5

**MECHANICAL ANALYSES (Values in Percent Passing ASTM D 422)**

<u>SIEVE SIZE</u>	<u>B-1 @ 9'</u>	<u>B-2 @ 2'</u>
1/2 Inch	100.0	100.0
3/8 Inch	100.0	100.0
No. 4	99.7	99.6
No. 8	99.5	99.1
No. 16	99.1	98.7
No. 30	97.0	98.0
No. 50	87.2	93.6
No. 100	62.1	79.5
No. 200	34.9	55.1

**CONSOLIDATION TESTS (ASTM D 2435)**

Two consolidation tests were performed on representative in-place tube soil samples in both the natural field and at increased moisture contents. The results of the consolidation tests are presented graphically below.



August 15, 2013

-B.3-

Lab No: 101420-2  
File No: 13-13807-2

**SAND-SILT-CLAY (By Hydrometer ASTM D 422)**

<u>SAMPLE LOCATION</u>	<u>DEPTH (ft.)</u>	<u>SAND %</u>	<u>SILT %</u>	<u>CLAY %</u>	<u>SOIL DESCRIPTION</u>
B-1	9	66	12	22	Clayey SAND
B-2	2	48	18	34	Sandy CLAY

**EXPANSION TESTS (ASTM D 4829)**

The Expansive Soil Index was determined by the present ASTM D 4829 Expansion Test Method. The results are tabulated below:

<u>SAMPLE LOCATION</u>	<u>DEPTH (ft.)</u>	<u>DRY DENSITY (pcf)</u>	<u>MOISTURE CONTENT (%)</u>	<u>EXPANSION INDEX</u>	<u>POTENTIAL FOR EXPANSION</u>
B-2	2	108.6	9.8	57	Medium

**ATTERBERG LIMITS (ASTM D 4318)**

<u>SAMPLE LOCATION</u>	<u>DEPTH (ft.)</u>	<u>SOIL TYPE</u>	<u>LIQUID LIMIT</u>	<u>PLASTIC LIMIT</u>	<u>PLASTICITY INDEX</u>
B-1	9	SC	23	14	9
B-2	2	CL	34	15	19

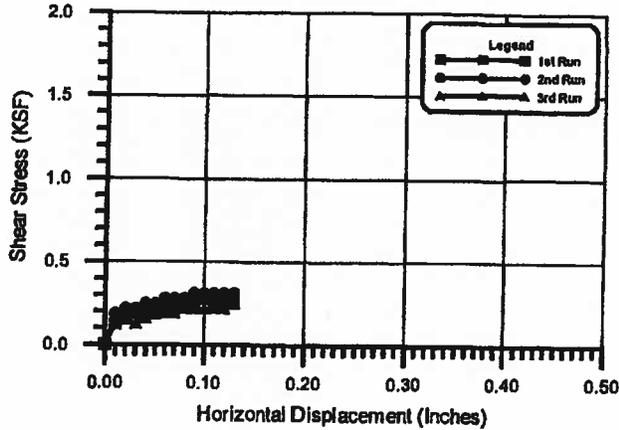
**DIRECT SHEAR TEST (ASTM D 3080)**

One direct shear test was performed on a representative "undisturbed" soil sample which was 2.365 inches in diameter and 1 inch thick. The test was performed under flooded conditions. The results are tabulated below:

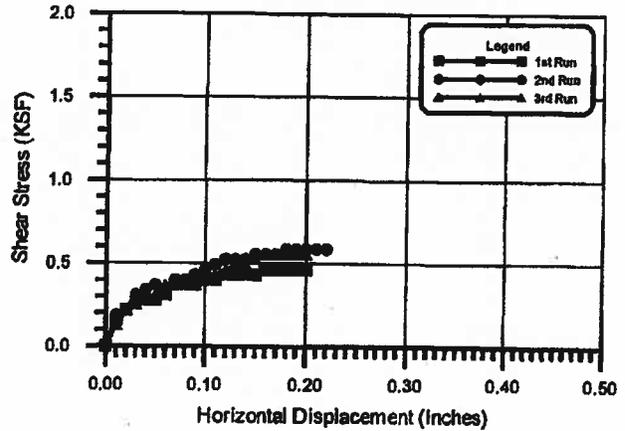
<u>SAMPLE LOCATION</u>	<u>DEPTH (ft.)</u>	<u>INTERNAL ANGLE OF FRICTION (degrees)</u>	<u>COHESION (psf)</u>
B-1	9	25	0

Sample B-1 @ 9'

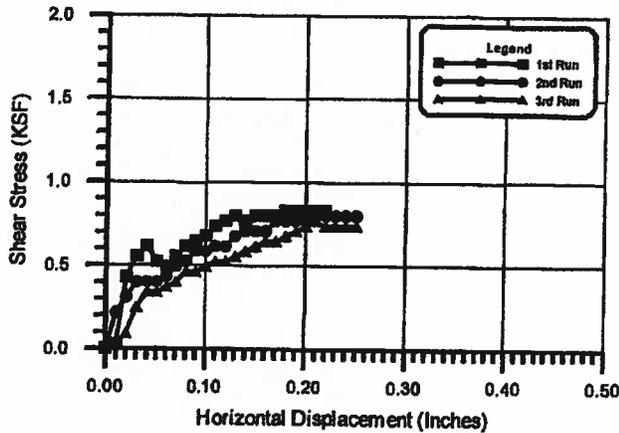
Stress-Displacement Curves  
Vertical Load 500 psf



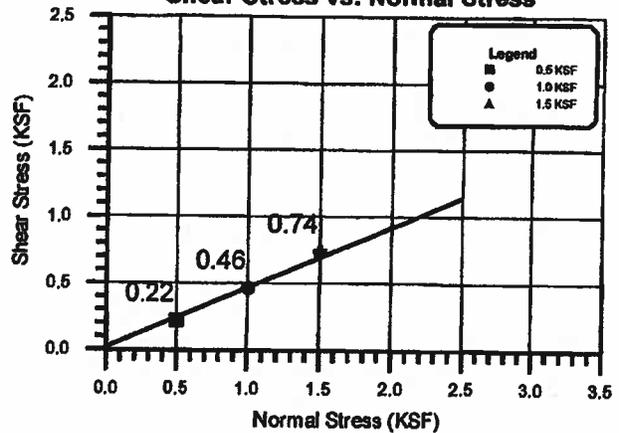
Stress-Displacement Curves  
Vertical Load 1,000 psf



Stress-Displacement Curves  
Vertical Load 1,500 psf



Shear Stress vs. Normal Stress





# City of Santa Barbara California

**CITY OF SANTA BARBARA STAFF HEARING OFFICER**  
**RESOLUTION NO. 019-14**  
**1146 NIRVANA ROAD**  
**PERFORMANCE STANDARD PERMIT AND MODIFICATIONS**  
**APRIL 16, 2014**

**APPLICATION OF SUSETTE NAYLOR, THOMPSON NAYLOR ARCHITECTS INC., FOR  
CHRISTIANE SCHLUMBERGER LIVING TRUST, 1146 NIRVANA RD, 043-030-016, R-1  
ONE-FAMILY RESIDENCE ZONE, GENERAL PLAN DESIGNATION: LOW DENSITY  
RESIDENTIAL (MAX 3 DU/ACRE) (MST2014-00046)**

The 1.78 acre site is developed is located in the Hillside Design District and is developed with 2,009 square foot, single-family residence with a 957 square foot, detached accessory structure containing a 565 square foot, three-car carport that has been converted to garage without permit, and 392 square foot accessory space that has been converted to a residential unit without permit. The proposal will abate violations listed in ENF2014-00135 and includes remodeling the 957 square foot accessory building resulting in a 482 square foot additional dwelling unit, a 377 square foot two-car garage, and 123 square feet of storage. The proposal also includes two new uncovered parking spaces. No alterations are proposed to the existing residence as a part of the application.

The discretionary applications required for this project are:

1. A Performance Standard Permit to allow an additional dwelling unit on a one-family residential lot (SBMC § 28.93.030 and SBMC § 28.92.110);
2. A Modification of the Minimum Distance Between Buildings to allow the garage/unit building to be located less than twenty feet (20') from the existing one-story residence (SBMC § 28.15.070 and SBMC § 28.92.110); and
3. A Parking Modification to provide two covered and two uncovered parking instead of the required four covered parking spaces for the residences (SBMC § 28.90.100.G and SBMC § 28.92.110).

The project activity is within the scope of the 2011 General Plan and the Program EIR analysis for the General Plan. No further environmental document is required for this project pursuant to the California Environmental Quality Act (Public Resources Code §21083.3 and Code of Regulations §15183). City Council environmental findings adopted for the 2011 General Plan remain applicable for this project.

**WHEREAS**, the Staff Hearing Officer has held the required public hearing on the above application, and the Applicant was present.

**WHEREAS**, no one appeared to speak either in favor or in opposition of the application thereto, and the following exhibits were presented for the record:

1. Staff Report with Attachments, April 10, 2014.
2. Site Plans

**NOW, THEREFORE BE IT RESOLVED** that the City Staff Hearing Officer:

- I. Approved the subject application making the following findings and determinations:
  - A. The project qualifies for an exemption from further environmental review under CEQA Guidelines Section 15183, based on the City staff analysis and the CEQA certificate of determination on file for this project.
  - B. The Parking Modification to allow two covered and two uncovered parking spaces is consistent with the purposes and intent of the Zoning Ordinance and will not cause an increase in the demand for parking space or loading space in the immediate area. The proposed uncovered parking spaces will be screened by the site topography and existing development on the lot. The uncovered parking is appropriate because it (in combination with the proposed garage) will provide sufficient off-street parking to meet the parking demand for both residences.
  - C. The Minimum Distance Between Buildings Modification is consistent with the purposes and intent of the Zoning Ordinance and is necessary to secure an appropriate improvement on the lot. The re-use of the existing "as-built" building and its conversion into an additional residential unit and two-car garage is appropriate because there is adequate separate of light and air between the two buildings, as described in Section IV of the written staff report, and for sustainability purposes, the re-use of existing buildings is preferable to demolition and reconstruction.
  - D. The Performance Standard Permit complies with all standards of SBMC §28.93.030.E., including adequate lot area for two residential units, with associated existing accessory space, and adequate ingress and egress for each residence as discussed in Section IV of the written staff report.
- II. Said approval is subject to the following conditions:
  - A. If the building is demolished beyond what is shown on the plans approved by the Staff Hearing Officer on April 16, 2014, then the construction of the project shall be halted, and the applicant and/or property owner shall contact Planning Division Staff for a determination on whether one, or both Modifications and the Performance Standard Permit are still valid.
  - B. No laundry facility and/or appliances shall be located in the garage.

This motion was passed and adopted on the 16<sup>th</sup> day of April, 2014 by the Staff Hearing Officer of the City of Santa Barbara.

I hereby certify that this Resolution correctly reflects the action taken by the City of Santa Barbara Staff Hearing Officer at its meeting of the above date.

  
Kathleen Goo, Staff Hearing Officer Secretary

4/17/14  
Date

**PLEASE BE ADVISED:**

1. This action of the Staff Hearing Officer can be appealed to the Planning Commission or the City Council within ten (10) days after the date the action was taken by the Staff Hearing Officer.
2. If the scope of work exceeds the extent described in the Modification request or that which was represented to the Staff Hearing Officer at the public hearing, it may render the Staff Hearing Officer approval null and void.
3. If you have any existing zoning violations on the property, other than those included in the conditions above, they must be corrected within thirty (30) days of this action.
4. Subsequent to the outcome of any appeal action your next administrative step should be to apply for Single Family Design Board (SFDB) approval and then a building permit.
5. **PLEASE NOTE:** A copy of this resolution shall be reproduced on the first sheet of the drawings submitted with the application for a building permit. The location, size and design of the construction proposed in the application for the building permit shall not deviate from the location, size and design of construction approved in this modification.
6. **NOTICE OF APPROVAL TIME LIMITS:** The Staff Hearing Officer's action approving the Performance Standard Permit or Modifications shall expire two (2) years from the date of the approval, per SBMC §28.87.360, unless:
  - a. A building permit for the construction authorized by the approval is issued within twenty four months of the approval. (An extension may be granted by the Staff Hearing Officer if the construction authorized by the permit is being diligently pursued to completion.) or;
  - b. The approved use has been discontinued, abandoned or unused for a period of six months following the earlier of:
    - i. an Issuance of a Certificate of Occupancy for the use, or;
    - ii. one (1) year from granting the approval.

