APPLIED CONSULTANTS
environmental geology & engineering

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FAX(619) 258-9004
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June 20, 2018

Global Design & Construction
Shay Assaiag, President
shay@gdc5.com

Subject: Addendum Geotechnical report in response to 7 LDR- Geology Cycle Issues dated May 29, 2018 for the Subject Property located at 630 Gage Dr, San Diego, CA 92106

Dear Mr. Assaiag:

In accordance with your request we have provided this Addendum Geotechnical report in response to the City San Diego, Development Services Department - Geology, Cycle 7 Issues dated May 29, 2018 for the Subject Property located at 630 Gage Dr, San Diego, CA 92106

The following are our responses to the City of San Diego - Geology Cycle Issues:

Issue #17 Show the location of the geologic cross section on the geologic/ geotechnical map. Provide an explanation regarding the mapped geologic units. (New Issue)

See Figure A and Figure B of our addendum "Addendum Geotechnical report in response to 7 LDR- Geology Cycle Issues dated May 29, 2018 for the Subject Property located at 630 Gage Dr, San Diego, CA 92106" – The geologic / geotechnical map has been updated and revised so that the location of the geologic cross sections and explanation of mapped geologic units are shown on the map. We have prepared Figure A and Figure B to clarify this issue.

Issue #18 Provide representative geologic cross sections of the proposed construction and the relationship to geologic site conditions. Show the geologic structure on the cross sections. (New Issue)

See Figure A and Figure B of our addendum "Addendum Geotechnical report in response to 7 LDR- Geology Cycle Issues dated May 29, 2018 for the Subject Property located at 630 Gage Dr, San Diego, CA 92106" – Geologic cross sections have been prepared so that the proposed construction and relationship to the geologic site conditions is shown. We have prepared Figure A and Figure B to clarify this issue.

Issue #19 Clarify if the site has unfavorable geologic structure based on site specific geologic mapping. (New Issue)

According to the San Diego City's Seismic Safety Study Geologic Hazard Maps, the northeast one quarter portion of the lot exists in the geological hazard category (GHC) 53 which is characterized by: "Level or sloping terrain, unfavorable geologic structure, Low to moderate risk". The proposed construction is located in the western portion of the lot which is predominantly mapped in the GHC 51. GHC 51 is characterized by "Level mesas - underlain by terrace deposits and bedrock nominal risk". During our field investigation we did not observe offsets on sidewalks nor substantial cracks on the surrounding streets that could indicate the existence of active faults nor evidence of earth movement. Based upon our observations and the location of the proposed development we feel that the site is not located on an area of unfavorable geologic structure.

Issue #20 The geotechnical consultant must comment whether or not the proposed construction as recommended will measurably destabilize neighboring properties or induce the settlement of adjacent structures (New Issue)

Based upon the relatively low difference in elevation between the subject property and neighboring properties we feel that the proposed construction as recommended will not measurably destabilize neighboring properties nor induce the settlement of adjacent structures.

We appreciate this opportunity to be of service. Should you have any questions, please call our office at (619) 258-9000.

Sincerely,

Jorge L Valdez Gonzalez
Staff Engineer

Bernard J. Luther, RCE 63653, CEG 1356
CEO

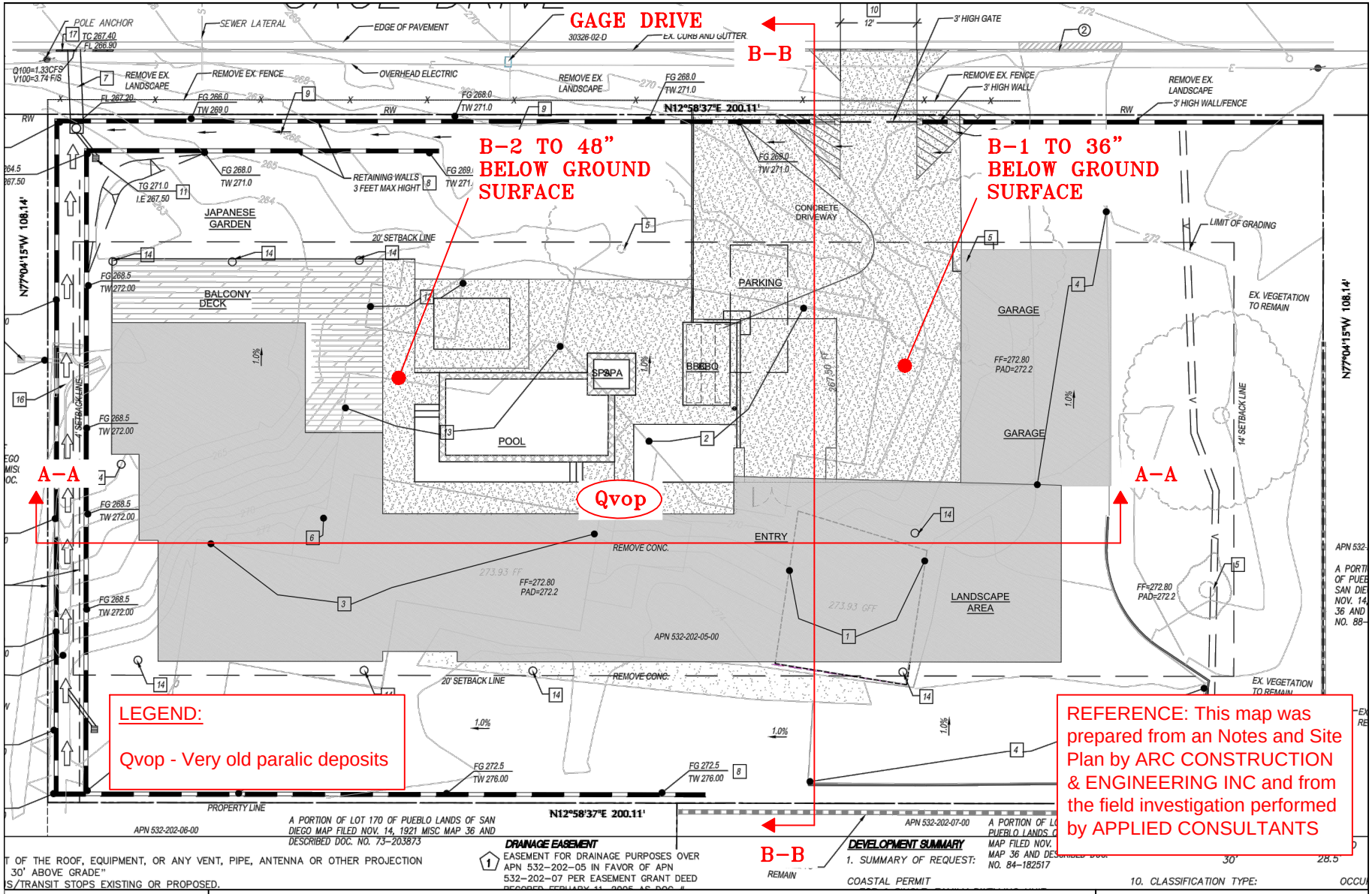

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FIGURE A: GEOLOGIC/GEOTECHNICAL MAP
630 GAGE DRIVE,
SAN DIEGO, CALIFORNIA 92106

Date : 6/20/18
Drawn by: JLVG

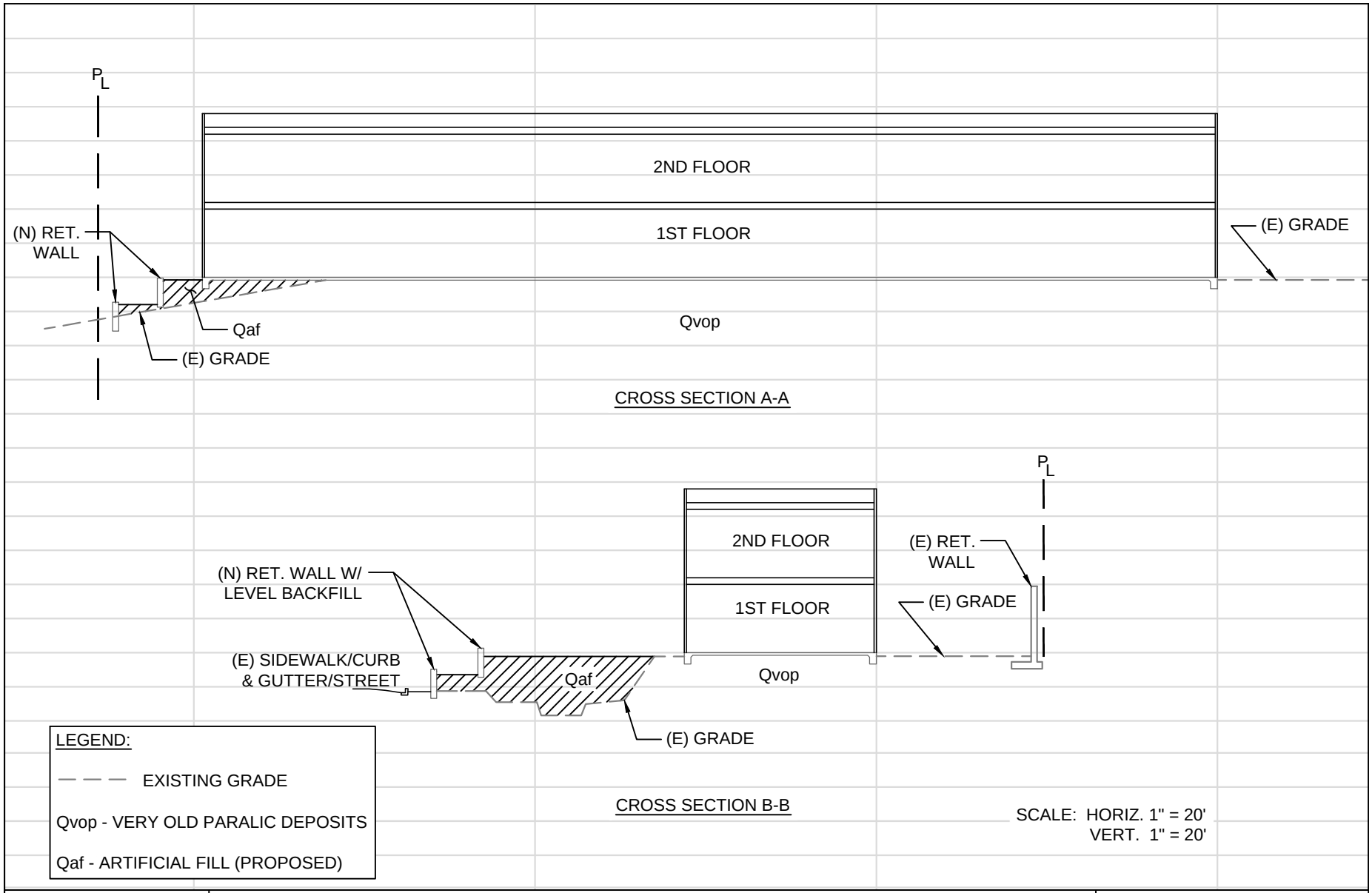

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FIGURE B: GEOLOGIC CROSS SECTIONS
630 GAGE DRIVE,
SAN DIEGO, CALIFORNIA 92106

Date : 6/20/2018
Drawn by: JLVG

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March 12, 2018

Global Design & Construction
Shay Assaiag, President
shay@gdc5.com

Subject: Geotechnical Investigation at the Subject Property Located at 630 Gage Dr, San Diego, CA 92106

Dear Mr. Assaiag:

In accordance with your request we have prepared this geotechnical investigation report for the subject property located at 630 Gage Dr, San Diego, CA 92106. The purpose of this geotechnical investigation was to determine various parameters of the subsurface soils needed before development of the property can begin.

The proposed development is a residential remodel and construction of a new addition to an existing structure.

Our work consisted of geotechnical observations, subsurface exploration, soil sampling, laboratory testing, calculations and analyses, and the preparation of this report. Location of the site, relative to general topography, streets and landmarks, is shown on the attached Figure 1.

GEOTECHNICAL INVESTIGATION CONCLUSIONS

After reviewing the results of our geotechnical investigation, we conclude that there are no significant geotechnical or geologic constraints that cannot be mitigated by proper planning, design, and the utilization of sound construction practices. It is our opinion that construction of the proposed development is feasible from a geotechnical standpoint.

Prior to construction of the proposed development all deleterious materials shall be screened and removed from the site soils. The upper thirty six inches of the proposed building outline shall be excavated, the upper 6”of the key scarified, and soils recompacted to greater than 90% of optimum compaction. Over-excavation near existing footings shall be maintained to a 1:1 slope from bottom of footing to bottom of excavation. The recompaction shall extend at least 5 feet outside the proposed building footprint.

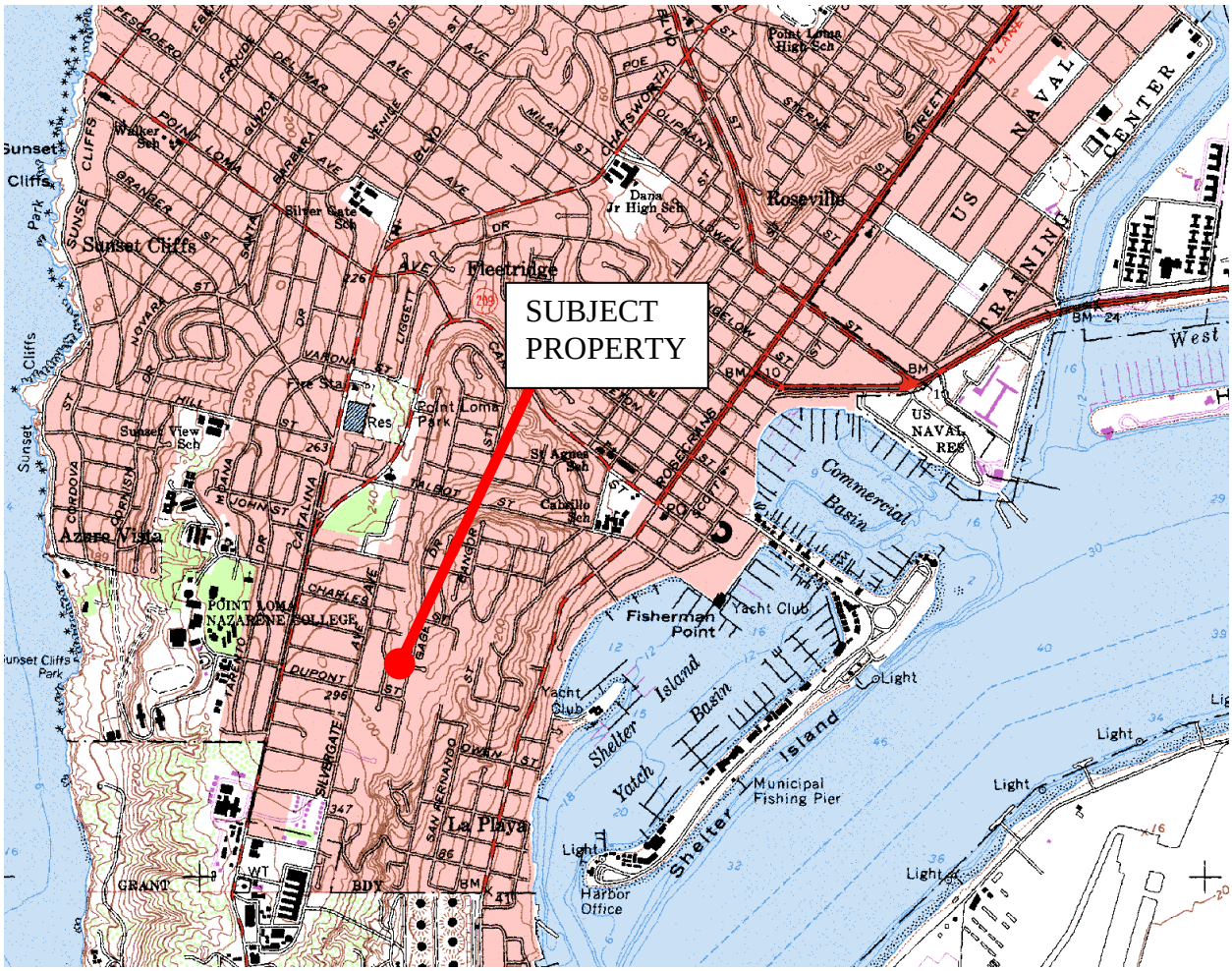
Design of the foundation of the property shall be based on a 2,000 Pounds per Square Foot bearing capacity.

TABLE OF CONTENTS

1.0 SITE DESCRIPTION

The location of the property is at latitude 32°43'27"N and longitude 117°15’21” W. The subject property is located in a residential neighborhood of San Diego, California (Figure 1). The subject property is bounded on the east by Gage Dr; and to the west, north and south by existing single family residences. Review of the current topographic map for the site indicates that the subject property is at approximately 275 feet above average mean sea level (Google Maps).

The proposed development is a residential remodel and construction of a new addition to an existing structure.



Geographic Location

630 Gage Dr,
San Diego, California 92106

APPLIED CONSULTANTS *environmental geology & engineering*	**Site Location Map**	**Fig. 1**

2.0 SURFACE AND GROUND WATER

On March 7, 2018, a staff engineer of this firm visited the site to perform physical reconnaissance and field work at the subject property. We hand augered two borings as part of our site reconnaissance.

No groundwater was encountered in our test pits at the time of our investigation.

3.0 SITE GEOLOGY

3.1 Geologic Literature Review and Field Findings

We reviewed the Geologic Map of the San Diego 30' x 60' Quadrangle, California (Kennedy and Tan, 2005) for references concerning the geologic structure underlying the subject property and surrounding areas.

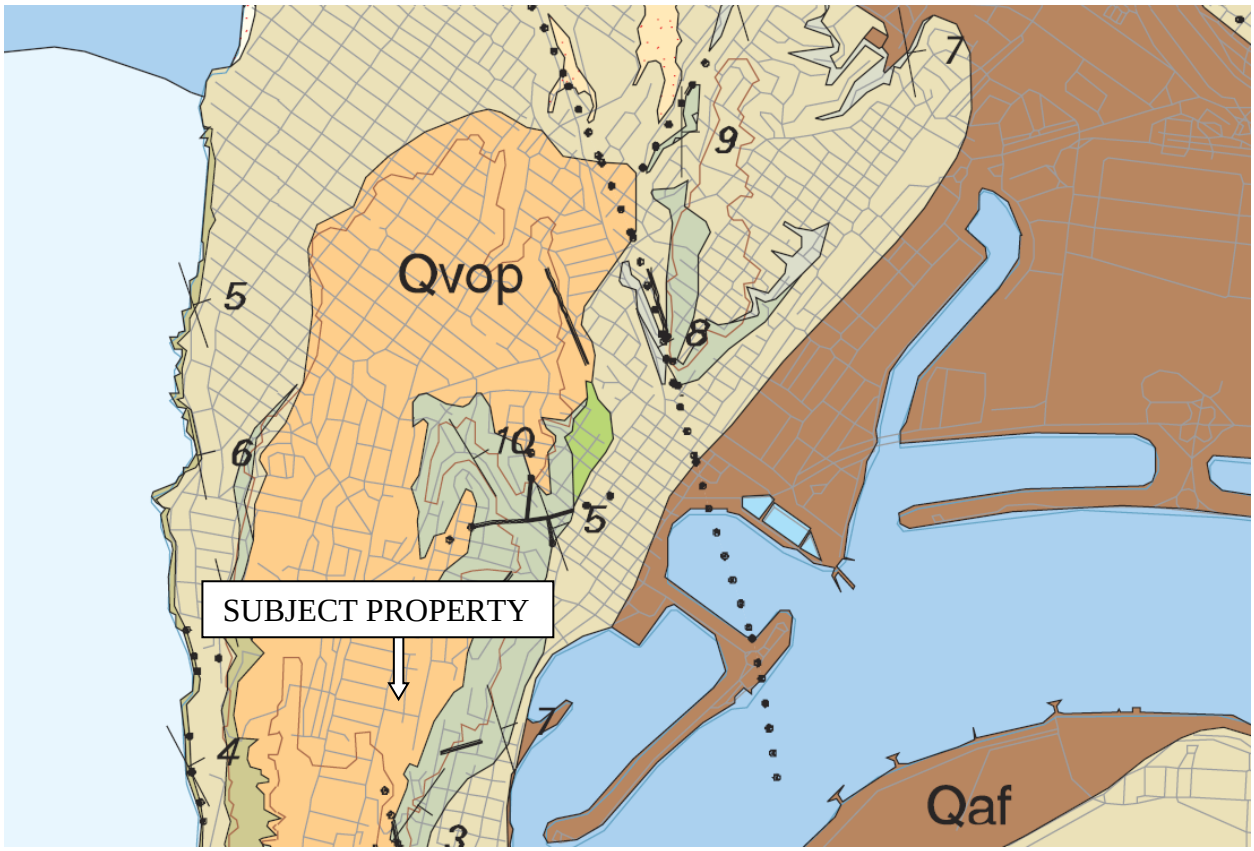
Review of the Geologic Map of the San Diego 30' x 60' Quadrangle indicates that the underlying geologic structure at the subject property consists of Very old paralic deposits undivided (Qvop). The Very old paralic deposits undivided are "Mostly poorly sorted, moderately permeable, reddish-brown, interfingered strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate."

Locally the materials encountered in the borings are:

-From grade to 12 inches below grade a fine grained, brown poorly graded sand with silt (SP-SM) and organics was encountered.

-From 12 inches below grade to 48 inches below grade a fine grained, yellowish brown poorly graded sand with silt (SP-SM) was encountered.

The soils were identical in each boring



Geographic Location: ***630 Gage Dr,***
San Diego, CA 92106

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Geologic Map

Fig. 2

3.2 Tectonic Setting

Southern California, including San Diego and surrounding areas, is located in an area of late Tertiary to Quaternary-aged fault zones (Kennedy 1975) which strike conservatively to the northwest. Some of these fault zones are known to be active according to the California Division of Mines and Geology. "Active" faults are ones which have had faulting activity within the Holocene Epoch, or the last 11,000 years (California Division of Mines and Geology).

Based upon magnitude of the earthquake event and distance from the subject property, an earthquake on any of the above mentioned faults would cause slight to severe shaking at the subject property.

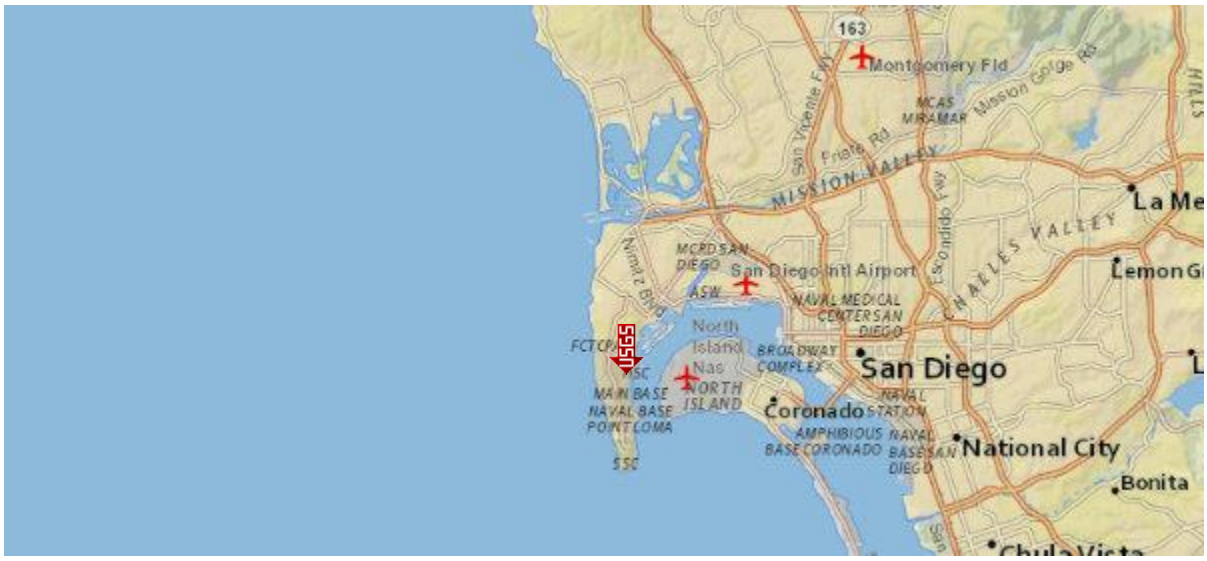
3.3 Seismic Design Recommendations

The proposed development shall be designed in accordance with seismic considerations contained in the 2016 California Building Code (2016 CBC), American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) Standard 7-10: Minimum Design Loads for Buildings and other Structures and City of San Diego requirements. Based on Section 1613 of the 2016 CBC and Sections 4, 11, & 12 of the ASCE/SEI 7-10, the following parameters may be considered for design:

Seismic Importance Factor (I):	**1.0**	*(ASCE/SEI 7-10, Table 11.5-1)*
Occupancy Category:	**II**	*(2016 CBC)*
Site Class:	**D**	*(2016 CBC)*
Spectral Response Coefficient (S_{DS})	**0.785g**	*(USGS/NEHRP 2003 Seismic Design Provisions)*
Spectral Response Coefficient (S_{D1})	**0.445g**	*(USGS/NEHRP 2003 Seismic Design Provisions)*
Seismic Design Category (S_{DS} – based):	**D**	*(2016 CBC)*
Seismic Design Category (S_{D1} – based):	**D**	*(2016 CBC)*

USGS
Design Maps Summary Report

- **Report Title** 630 Gage Drive, San Diego CAFri March 9, 2018 22:58:12 UTC
- **Building Code Reference Document** ASCE 7-10 Standard(which utilizes USGS hazard data available in 2008)
- **Site Coordinates** 32.71535°N, 117.24228°W
- **Site Soil Classification** Site Class D – "Stiff Soil"
- **Risk Category** I/II/III



USGS–Provided Output

SS = 1.120 g SMS = 1.178 g SDS = 0.785 g

S1 = 0.423 g SM1 = 0.667 g SD1 = 0.445 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.

For PGA_M, T_L, C_{RS}, and C_{R1} values, please view the detailed report.
Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

3.4 Geological Hazards

We reviewed the City of San Diego Geologic Hazards and Faults map and noted that the subject property rests upon Geologic Hazard Category 51 and 53:

Category 51: “Level mesas -- underlain by terrace deposits and bedrock nomimal risk”
Category 53: “Level or sloping terrain, unfavorable geologic structure, Low to moderate risk”

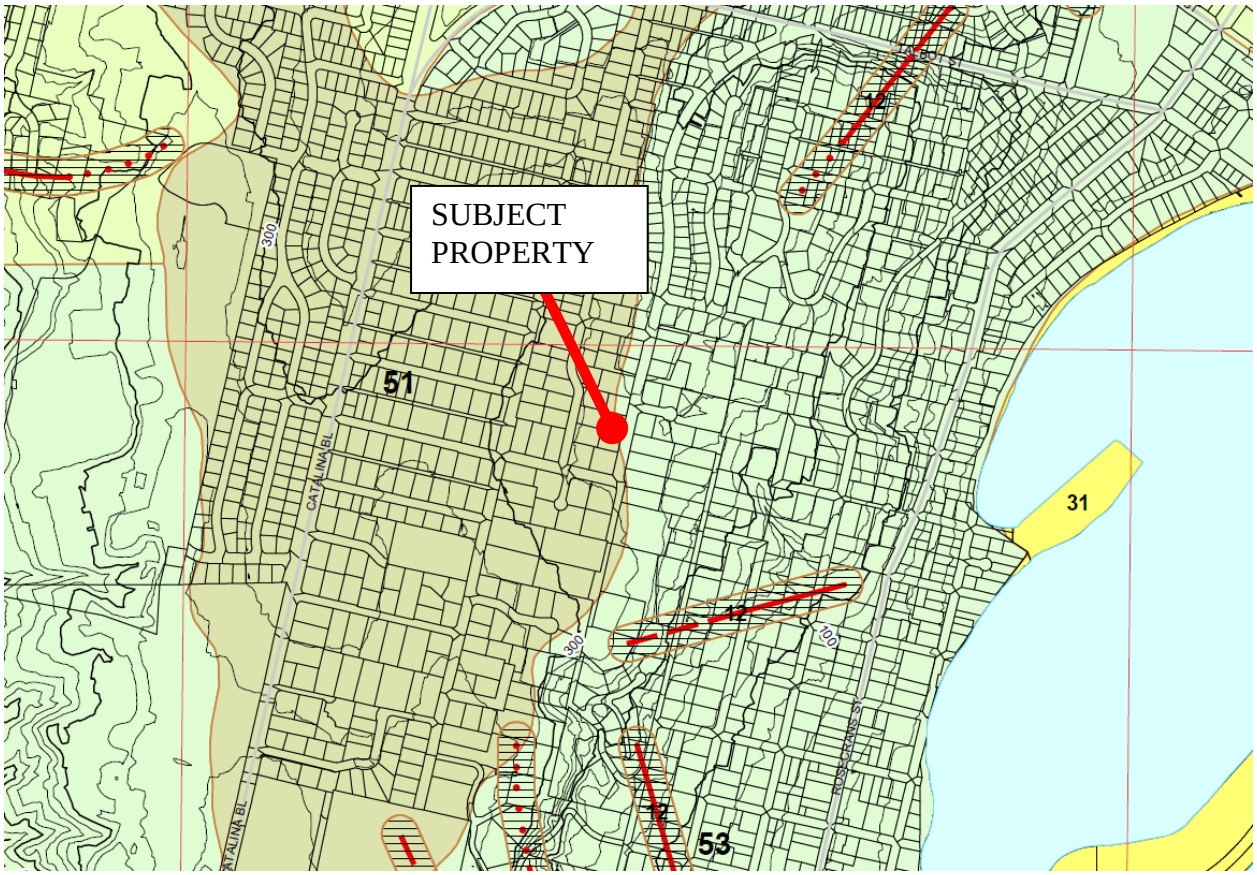
No visible evidence of earth movement was seen during the site inspection and field work conducted at the subject property. We feel that the potential for failure in landslide and earth movement is low.

Liquefaction of cohesionless soils can be caused by strong cyclic accelerations resulting from nearby earthquakes. Research and historical data indicate that loose, granular materials saturated by a near-surface groundwater table are most susceptible to liquefaction.

No near surface ground water table was encountered. The soils at the subject property are not loose granular material and have cohesive properties. We feel that the potential for failure in liquefaction is low.

The Federal Emergency Management Agency, Flood Insurance Rate Map, states that the subject property does not rest upon a flood zone. The subject property is categorized as, “Areas determined to be outside the 0.2% annual chance floodplain (Other areas, Zone X).”

Based upon the local topography and the FEMA Flood Insurance Rate Map, we feel that the potential for flooding at the subject property is low.



Geographic Location

630 Gage Dr,
San Diego, California

51 Level mesas -- underlain by terrace deposits and bedrock nomimal risk

53 Level or sloping terrain, unfavorable geologic structure, Low to moderate risk

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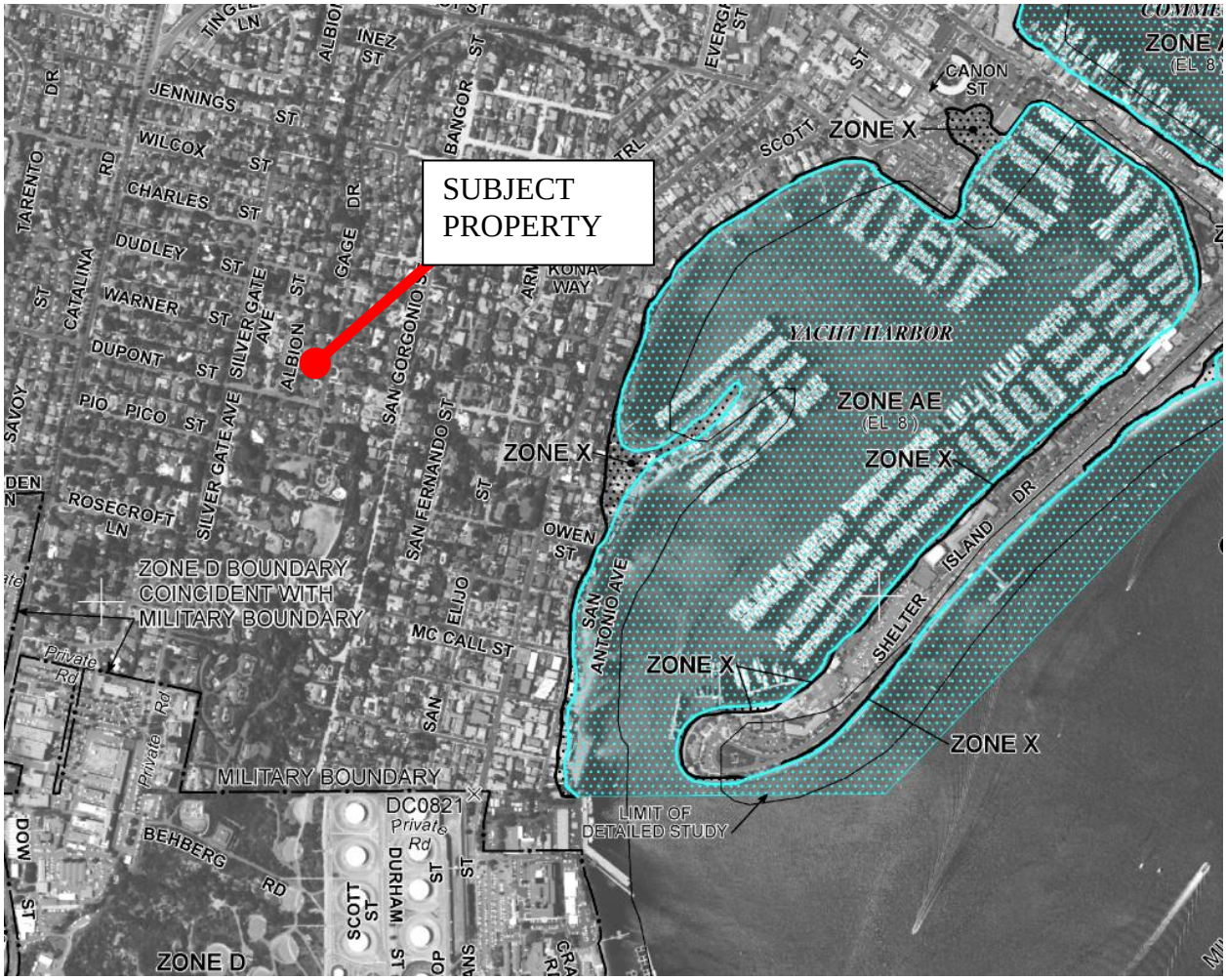
City of San Diego
Seismic Safety Study
Geologic Hazards and Faults

Fig. 3

Tile 17



Geographic Location

630 Gage Dr,
San Diego, California

N

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FEMA
Flood Insurance Rate Map

Fig. 4

4.0 FIELD WORK AND SOIL SAMPLING

4.1 Subsurface Investigation

On March 7, 2018, a staff engineer from Applied Consultants conducted the field investigation.

Boring #1 (B-1) was hand augered near to the existing pool area towards the middle portion of the subject property to a depth of thirty six inches below existing grade.

Boring #2 (B-2) was hand augered at the front yard towards the northern portion of the subject property to a depth of forty eight inches below existing grade.

Locally the materials encountered in the borings are:

-From grade to 12 inches below grade a fine grained, brown poorly graded sand with silt (SP-SM) and organics was encountered.

-From 12 inches below grade to 48 inches below grade a fine grained, yellowish brown poorly graded sand with silt (SP-SM) was encountered.

The soils were identical in each boring

4.2 Soil Sample Analyses

The purpose of collecting the bulk soil sample was to determine the soil's physical characteristics through laboratory testing. The soil sample was analyzed for the following:

- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates - ASTM C136 / C136M
- Optimum Moisture Content and Maximum Density - ASTM D1557
- Standard Test Method for Expansion Index of Soils - ASTM D4829
- Direct Normal "Remolded" Shear Resistance Value - ASTM D3080

5.0 FINDINGS

5.1 Soils Laboratory Analyses Findings

Applied Consultants chose to analyze the sample collected near the bottom of the boring. This location was chosen because it represents the depth at which the footings will be placed. The following table (Table 2) is a compilation of Applied Consultants' soils analyses results from the sample collected within the proposed footprint of the new construction:

Table 2: Applied Consultants' Soils Analyses Results

	Opt. Moist.	Max Density	Remolded Shear		Expansion Index
			Phi	Cohesion	
Sample ID	(%)	(pcf)	(angle)	(psf)	
B-2 @ 24"-36"	10.0	126	32	0	15 (Very low)

E.I. – Expansion Index
Pot. – Potential
pcf - pounds per cubic foot
psf - pounds per square foot

Using the determined soil parameters and proposed footing dimensions of 15-inches wide by 24-inches deep, Applied Consultants calculated that the load bearing capacity of the underlying soils (Lamb & Whitman, 1969). The table below contains the calculated soil pressures and load bearing capacities for the site (Table 3):

Table 3: Calculated Soil Pressures and Load Bearing Capacities

		Pressure		Load Bearing Capacity
Sample ID Direct Normal	Depth	Act.	Pass	
	(ft)	(psf)	(psf)	(psf)
B-2 @ 24"-36"	3.0	40	350	2000

Act – Active
Pass – Passive

6.0 CONCLUSIONS

6.1 Impact of Geologic Hazards upon Subject Property

In Applied Consultants' professional opinion, geologic hazards of significant magnitude are not present. Based upon our field work and historical research results, Applied Consultants makes the following conclusions:

- **Ground Shaking is a likely hazard to the site.** Seismic activity on any active and potentially active faults would cause ground movement at the subject property that will be proportional to the magnitude of seismic event. Ground movement at the subject property would be moderated by the distance from the epicenter of the seismic event. It is expected that the structure will have to endure this to some degree.

- **Liquefaction.** Due to the geologic structure of the subject property and the Geologic Hazard Category Designation as 51 and 53 we feel that the potential for soil liquefaction at the subject site is low.

- **Flooding.** Given the topography of the site, flooding is not considered a hazard.

- **Landslide and Earth Movement is not a likely hazard to the site.** While topography and geology of the subject property are susceptible to earth movement, the risk is low for failure in landslide or earth movement

6.2 Geotechnical Investigation Conclusions

After reviewing the results of our geotechnical investigation Applied Consultants concludes that there are no significant geotechnical or geologic constraints that cannot be mitigated by proper planning, design, and the utilization of sound construction practices. Consequently, it is our opinion that the development of the site is feasible from a geotechnical standpoint.

Prior to construction of the proposed development all deleterious materials shall be screened and removed from the site soils. The upper thirty six inches of the proposed building outline shall be excavated, the upper 6"of the key scarified, and soils recompacted to greater than 90% of optimum compaction. Over-excavation near existing footings shall be maintained to a 1:1 slope from bottom of footing to bottom of excavation. The recompaction shall extend at least 5 feet outside the proposed building footprint.

Design of the foundation of the property shall be based on a 2,000 Pounds per Square Foot bearing capacity.

7.0 RECOMMENDATIONS

7.1 Grading

a. General

All earthwork shall comply with the grading requirements of the City of San Diego Uniform Building Code, Chapter A33, Appendix II attached in this report, except where specifically superseded in this section. Prior to grading a representative of Applied Consultants shall be present to discuss the current conditions of the site, grading guidelines and schedule of the earthwork to be completed.

b. Grubbing / Clearing

Grading shall begin with the removal of all structures and improvements as well as all vegetation. These materials shall be hauled off the site to a suitable location.

c. Site Preparation

Prior to construction of the proposed development all deleterious materials shall be screened and removed from the site soils. The upper thirty six inches of the proposed building outline shall be excavated, the upper 6"of the key scarified, and soils recompacted to greater than 90% of optimum compaction. Over-excavation near existing footings shall be maintained to a 1:1 slope from bottom of footing to bottom of excavation. The recompaction shall extend at least 5 feet outside the proposed building footprint.

d. Fill Material

The materials onsite may be used as compacted fill. If it is necessary to import fill material, the material shall be approved by the geotechnical consultant. All fill material must be compacted uniformly to 90% of the maximum dry density (ASTM D1557).

e. Grading Observation

It is necessary for a soils engineer, or their representative, to be present and test the compaction during the basic grading operations and placement of fill material. The engineer will be able to confirm the conditions stated in this report and verify that the grading operations are in compliance with all plans and specifications.

7.2 Foundations

a. General

Where foundations are to be located seven feet and further away from the top of slopes, standard design may take place in conformance with the recommended soil bearing value. In situations where foundations, footings, walls, etcetera, are located closer than seven feet from the top of slope they shall be deepened so that the bottom edge of the footing is 7 feet horizontally from daylight in the slope.

b. Dimensions

In our opinion the foundation design for this project may be conventional spread and/or continuous footings. The spread footings shall be embedded a minimum of 12 inches for a one-story structure and have a minimum width of 12 inches. The spread footings shall be embedded a minimum of 18 inches for a two-story structure and have a minimum width of 15 inches. The steel reinforcement for the spread footings shall consists of a minimum of two #4 rebar placed near the top and bottom of the footing with a minimum of 3" of concrete covering the top and bottom layers.

The continuous footings shall be embedded a minimum of 12 inches for a one story structure below the lowest grade of the finished pad and must have a width of at least 12 inches. The continuous footings shall be embedded a minimum of 18 inches for a two story structure below the lowest grade of the finished pad and must have a width of at least 15 inches. The steel reinforcement for the continuous footings shall consists of a minimum of two #4 rebar placed near the top and bottom of the footing with a minimum of 3" of concrete covering the top and bottom layers.

c. Bearing Capacity

A safe soil bearing capacity of 2,000 Pounds per Square Foot may be used in the design of these foundations.

7.3 Concrete Slabs On-Grade

a. Floor Slab

If any interior floor slabs are used for this project they should be no less than 4" (actual). For one-story or greater structures, slab reinforcement should consist of #4 rebar placed at 18" on center. All slab reinforcement should rest on concrete chairs or a suitable substitute.

b. Moisture Protection

The areas covered by the interior floor slab should be covered with a 10 mil Visqueen moisture barrier. The moisture barrier should rest on finish grade and be overlain by two inches of clean sand.

7.4 Earth Retaining Structures

a. Active Pressures

It is recommended that structures be able to withstand an active fluid pressure of 40 pcf for unrestrained walls and 55 pcf for restrained walls. The retaining structure should have a granular backfill with a level surface and adequate drainage to prevent the buildup of hydrostatic pressures. The architect should provide details for the drainage and waterproofing of the retaining structures.

b. Passive Pressures

Passive pressures for the soil conditions at the subject site should be 350 pounds per square foot per foot of depth. The pressure may be increased by .33 for seismic loading. The coefficient of friction for concrete against soil should be .35 for the lateral resistance.

8.0 REVIEW, OBSERVATIONS, AND TESTING

(a) The final grading plans shall be provided to our office for review in order to evaluate the acceptability of the recommendations presented herein, and provide additional recommendations, as appropriate.

(b) All construction activities during grading and foundation excavations shall be continuously monitored and observed by the Geotechnical Engineer, Engineering Geologist of Record, or their representative.

(c) All grading and foundation excavations on-site shall be observed and tested as required, by a representative of the Geotechnical Engineer and or Engineering Geologist to verify conformance with the intent of the geotechnical/geological recommendations provided herein and to evaluate the acceptability of these recommendations for the actual site conditions.

CONSTRUCTION INSPECTION AND LIMITATIONS

The recommendations contained within this report are based upon Applied Consultants' field investigation. The interpolated subsurface conditions shall be checked during construction by a representative of Applied Consultants. We recommend that all grading operations be observed by a representative of this firm.

The recommendations contained within this report are based upon our field study, laboratory analyses, and our understanding of the proposed construction. If any soil conditions are encountered differing from those assumed in this report, Applied Consultants shall be immediately notified so that we can review the situation and make supplementary recommendations. Additionally, if the scope of proposed work changes from that described in this report, Applied Consultants shall be notified.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices within the greater San Diego area. Professional judgments contained herein are based upon our evaluation of the technical information gathered, our understanding of the proposed work, and our general experience in the geotechnical field. Our engineering work and judgments rendered meet current professional standards. We do not guarantee the performance of the project in any respect.

We do not direct the contractor's operations and we cannot be responsible for the safety of field personnel on the site; therefore, the safety of field personnel during construction is the responsibility of the contractor. The contractor shall notify the owner if he considers any of the recommended actions contained herein to be unsafe.

It is a pleasure to be of service to you. Shall any questions arise, please contact our office at 619-258-9000.

REFERENCES

1. American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) Standard 7-10.

2. Bearing Capacity for Shallow Foundations -T. William Lambe & Robert V. Whitman, "Soil Mechanics", John Wiley & Sons, 1969.

3. California Building Code (CBC 2016), 2016

4. California Mines and Geology Division (DMG), 1974, "Maximum Credible Rock Acceleration From Earthquakes in California", Roger W. Greensfelder.

5. California Department of Conservation, Division of Mines and Geology (CDMG), 1987. "CSMIP Strong-Motion Records from the Whittier, California Earthquake of 1 October, 1987", OMS Report 87-05.

6. City of San Diego Seismic Safety and Geologic Hazards Maps 25, April 3, 2008

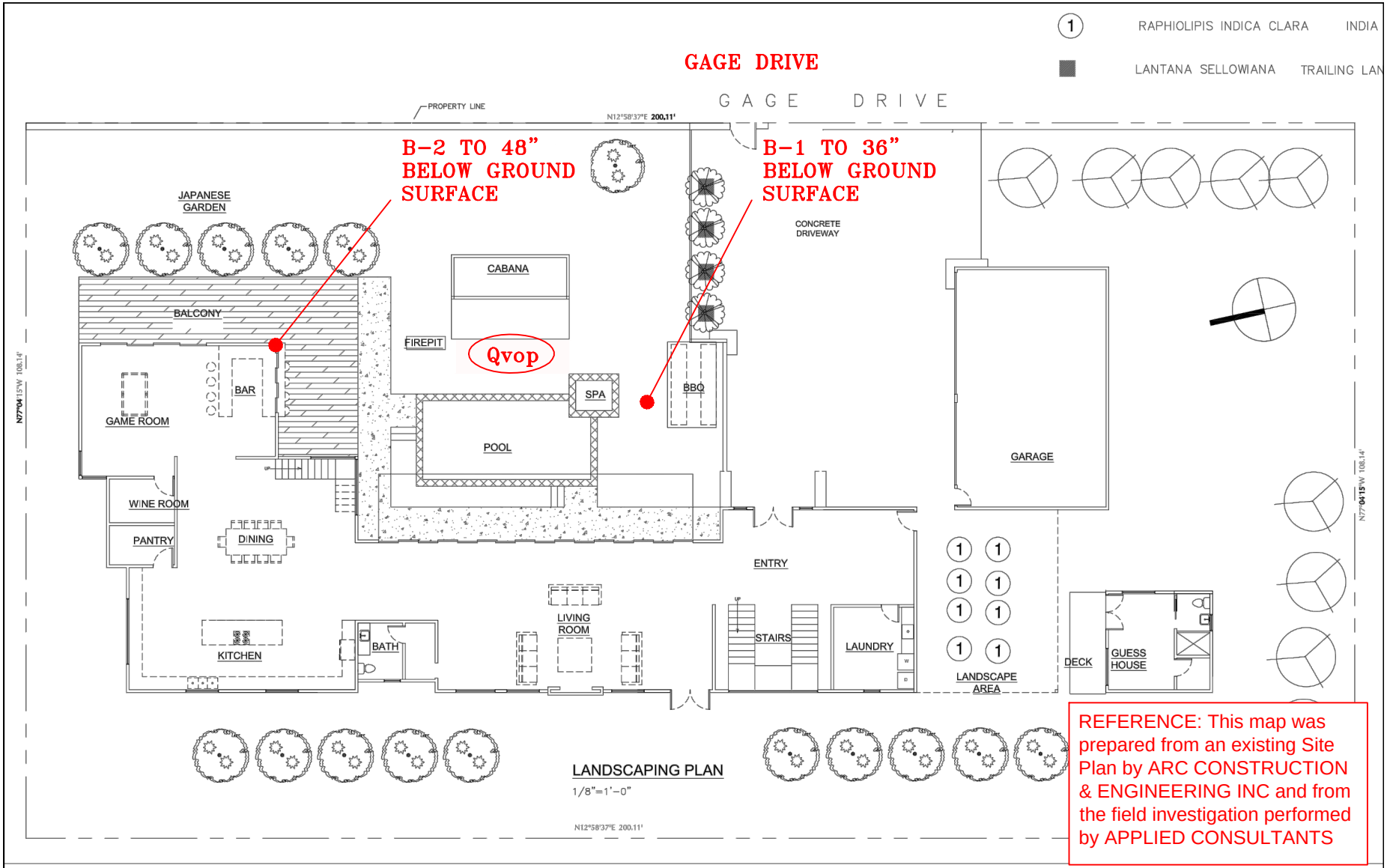
7. Geology of the San Diego 30' x 60', California Division of Mines and Geology, Michael P. Kennedy and Siang S. Tan, 2005.

8. TOPO! [Computer Software] 1997wildflower productions (www.topo.com) San Francisco, CA: ESRI

9. 2008 USGS National Seismic Hazards Maps – Fault parameters
http://earthquake.usgs.gov/hazards/

10. USGS Seismic Design Maps for Engineers – Buildings Pre 2009 – Java Ground Motion Parameter Calculator
http://earthquake.usgs.gov/hazards/designmaps/javacalc.php

FIGURES



REFERENCE: This map was prepared from an existing Site Plan by ARC CONSTRUCTION & ENGINEERING INC and from the field investigation performed by APPLIED CONSULTANTS

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GEOLOGIC/GEOTECHNICAL MAP
630 GAGE DRIVE,
SAN DIEGO, CALIFORNIA 92106

Date : 3/12/18
Drawn by: JLVG

EXPLORATORY TEST PIT LOGS

Project Name: 630 GAGE DRIVE
Address: 630 GAGE DRIVE
SAN DIEGO, CA
Location: NORTHERN PORTION

Date: 3/7/2018
Logged By: JLVG
Reviewed By: JED
Footing Thickness (in.): NA

Boring /Test pit ID: B-2

Excavation Method: HAND
Sample Type: BULK
Total Depth (ft): 4.0

Depth to Water (ft): NA
Caving: NONE
Depth of Footing: NA

Depth (Inches)	Soil Description	Sample Type	Sample ID	Sample MC%	Discrete Sample Interval	Bulk Sample Interval	Lithology & Footing Details	(Inches)
Grade								
6	Poorly graded sand with silt (SP-SM): fine grained, brown poorly graded sand with silt (SP-SM)							6
	Organics encountered							
12								12
18								18
24	Poorly graded sand with silt (SP-SM): fine grained, yellowish brown poorly graded sand with silt (SP-SM) and organics							24
30			B-2 24"-36"	6.8%				30
36								36
42								42
48	END OF BORING @ 48"							48
54								54
60								60
66								66
72								72

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BORING: B-2
630 GAGE DRIVE,
SAN DIEGO, CA

DATE: 3/7/2018
Drawn By: JLVG

Project Name: 630 GAGE DRIVE
Address: 630 GAGE DRIVE
SAN DIEGO, CA
Location: NORTHERN PORTION

Date: 3/7/2018
Logged By: JLVG
Reviewed By: JED
Footing Thickness (in.): NA

Boring /Test pit ID: B-1

Excavation Method: HAND
Sample Type: BULK
Total Depth (ft): 3.0

Depth to Water (ft): NA
Caving: NONE
Depth of Footing: NA

Depth (Inches)	Soil Description	Sample Type	Sample ID	Sample MC%	Discrete Sample Interval	Bulk Sample Interval	Lithology & Footing Details	(Inches)
Grade								
6	Poorly graded sand with silt (SP-SM): fine grained, brown poorly graded sand with silt (SP-SM)							6
	Organics encountered							
12								12
18								18
24	Poorly graded sand with silt (SP-SM): fine grained, yellowish brown poorly graded sand with silt (SP-SM)							24
30			B-1 24"-36"	4.1%				30
36	END OF BORING @ 36"							36
42								42
48								48
54								54
60								60
66								66
72								72

APPLIED CONSULTANTS
environmental geology & engineering

BORING: B-1
630 GAGE DRIVE,
SAN DIEGO, CA

DATE: 3/7/2018
Drawn By: JLVG

GENERAL EARTHWORK AND GRADING GUIDELINES

GENERAL EARTHWORK AND GRADING GUIDELINES

I. EARTHWORK OBSERVATION AND TESTING

Prior to commencement of grading, a qualified geotechnical consultant shall be employed for the purpose of observing earthwork procedures and testing the fills for conformance with the recommendations of the geotechnical report and these specifications. The consultant is to provide adequate testing and observation so that he may determine that the work was accomplished as specified. It shall be the responsibility of the contractor to assist the consultant and keep him apprised of work schedules and changes so that the consultant may schedule his personnel accordingly.

The contractor is to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications, and the approved grading plans. If in the opinion of the consultant, unsatisfactory conditions are resulting in a quality of work less than required in these specifications, the consultant may reject the work and recommend that construction be stopped until the conditions are rectified.

Maximum dry density tests used to determine the degree of compaction shall be performed in accordance with the American Society for Testing and Materials Test Method ASTM: D 1557-82.

II. PREPARATION OF AREAS TO BE FILLED

1. Clearing and Grubbing: All brush, vegetation, and debris shall be removed and properly disposed of.

The Geotechnical Consultant shall evaluate the extent of removal of these items depending on site conditions. Fill material shall not contain more than 1 percent of organic material by volume. No fill shall contain more than 5 percent organic matter.

No fill shall contain hazardous materials or asphalt pavement. If asphalt pavement is removed, it shall be disposed of at an appropriate location. Concrete fragments which are free of reinforcing steel may be placed in the fills.

2. Processing: the existing ground which is evaluated to be satisfactory for support of fill shall be scarified to a minimum depth of 6 inches. Existing ground which is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until the soils are broken down and free of large clay lumps or clods and until the working surface is reasonably uniform and free of uneven features which would inhibit uniform compaction.

3. Overexcavation: Soft, dry, spongy, or otherwise unsuitable ground, extending to such a depth that surface processing cannot adequately improve the condition, shall be over-excavated down to firm ground as approved by the consultant.

4. Moisture Conditioning: Over-excavated and processed soils shall be watered, dried-back, blended, and/or mixed, as necessary to attain a uniform moisture content approximately 2 percent over optimum.

5. Recompaction: Over-excavated and processed soils which have been properly mixed and moisture-conditioned shall be compacted to a minimum relative compaction of 90 percent according to ASTM: D1557-82.

6. Benching: Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be benched. The lowest bench shall be: a minimum of 15 feet wide, at least 2 feet deep with a minimum 2% slope into the fill bank for horizontal stability, expose firm materials, and be approved by the consultant. Other benches shall excavate into firm material for a minimum width of 4 feet. Ground sloping flatter than 5:1 shall be benched or otherwise over-excavated when considered necessary by the consultant.

7. Approval: All areas to receive fill, including processed areas, removal areas, and toe-of-fill benches shall be approved by the consultant prior to fill placement.

III. FILL MATERIAL

1. General: Material to be placed as fill shall be free of organic matter and other deleterious substances, and shall be approved by the consultant. Soils of poor gradation, expansion, or strength characteristics shall be placed in areas designated by the consultant or mixed with other soils until suitable to serve as satisfactory fill material.

2. Oversize: Oversize material defined as rock, or other irreducible material, with a maximum dimension of greater than 12 inches, shall not be buried or placed in fill unless the location, materials, and disposal methods are specifically approved by the consultant. Oversize disposal operations shall be such that nesting of oversized material does not occur, and such that the oversized material is completed surrounded by compacted or densified fill. Oversize material shall not be placed within the range of future utilities or underground construction, unless specifically approved by the consultant.

3. Import: If import fill is necessary for grading, the import material shall be approved by the geotechnical consultant.

IV. FILL PLACEMENT AND COMPACTION

1. Fill Lifts: Approved fill material shall be placed in areas prepared to receive fill in near-horizontal layers not exceeding 6 to 8 inches in compacted thickness. The consultant may approve thicker lifts if testing indicates that the grading procedures are such that adequate compaction is being achieved with lifts of greater thickness. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to attain uniformity of material and moisture in each layer.

2. Fill Moisture: Fill layers at a moisture content less than optimum shall be watered and mixed, and wet fill layers shall be aerated by scarification or blended with drier materials.

Moisture conditioning and mixing of fill layers shall continue until the fill material is at a uniform moisture content at or near two percent over optimum.

3. Compaction of Fill: After each layer has been evenly spread, moisture conditioned and mixed, it shall be uniformly compacted to not less than 90 percent of maximum dry density in accordance with ASTM: D1557-82. Compaction equipment shall be adequately sized and either specifically designed for soil compaction or of proven reliability, to efficiently achieve the specified degree of compaction.

4. Fill Slopes: Compacting of slopes shall be accomplished, in addition to normal compaction procedures, by backrolling of slopes with sheepsfoot rollers at frequent intervals of 2 to 3 feet in fill elevation gain, or by other methods producing satisfactory results. At the completion of grading, the relative compaction of the slope out to the slope face shall be at least 90 percent.

5. Compaction Testing: Field tests to check the fill moisture and degree of compaction will be performed by the consultant. The location and frequency of tests shall be at the consultant's discretion. In general, the tests shall be taken at an interval not exceeding 2 feet in vertical rise and/or every 1000 cubic yards of embankment.

V. SUBDRAIN INSTALLATION

Subdrain systems, if required, shall be installed in approved ground to conform to the approximate alignment and details shown on the plans or shown herein. The subdrain location or materials shall not be changed or modified without the approval of the consultant. The consultant, however, may recommend and upon approval, direct changes in subdrain line, grade or material. All subdrains shall be surveyed for line and grade after installation and sufficient time allowed for surveys, prior to commencement of filling over the subdrains.

VI. EXCAVATIONS

Excavations and cut slopes shall be examined during grading. If directed by the consultant, further excavation or overexcavation and refilling of cut areas shall be performed, and/or remedial grading of cut slopes performed. Where fill-over-cut slopes are to be graded, unless otherwise approved, the cut portion of the slope shall be made and approved by the consultant prior to placement of the fill portion of the slope. Excavations may require the consultant to produce an alternate sloping plan if the excavation

VII. TRENCH BACKFILL

1. The Contractor shall follow all OSHA and CAL/OSHA requirements for maintaining safety of trench excavations.

2. The bedding and backfill of utility trenches shall be done with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a sand equivalent of (SE ›30). Bedding shall be placed 1 foot above the top of pipe. All backfill shall be compacted to 90 percent from 1 foot above the pipe to the surface.

3. The geotechnical consultant shall test the trench backfill for relative compaction. At least one test shall be performed for every 300 feet of trench and every two feet of trench fill.

4. The lift thickness of the trench backfill shall not exceed what is allowed in the Specifications of Public Works Construction unless the contractor can demonstrate that the fill can be compacted by an alternative means to the minimum relative compaction.

5. All work associated with trenches, excavations and shoring must conform to the local regulatory requirements, State of California Division of Industrial Safety Codes, and Federal OSHA requirements.

VIII. FOUNDATIONS NEAR TOP OF SLOPES

Where foundations, footings, walls and other similar proposed structures are to be located seven feet and further away from the top of slopes, standard design may take place in conformance with the recommended soil bearing value. In situations where foundations, footings, walls, et cetera, are located closer than seven feet from the top of slope they shall be deepened so that the bottom edge of the footing is 7 feet horizontally from daylight in the slope.

CLIMATE ACTION PLAN CONSISTENCY CHECKLIST INTRODUCTION

In December 2015, the City adopted a Climate Action Plan (CAP) that outlines the actions that City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions. The purpose of the Climate Action Plan Consistency Checklist (Checklist) is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).[1]

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

This Checklist is part of the CAP and contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

The Checklist may be updated to incorporate new GHG reduction techniques or to comply with later amendments to the CAP or local, State, or federal law.

[1] Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

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CAP CONSISTENCY CHECKLIST SUBMITTAL APPLICATION

- The Checklist is required only for projects subject to CEQA review.[2]
- If required, the Checklist must be included in the project submittal package. Application submittal procedures can be found in Chapter 11: Land Development Procedures of the City's Municipal Code.
- The requirements in the Checklist will be included in the project's conditions of approval.
- The applicant must provide an explanation of how the proposed project will implement the requirements described herein to the satisfaction of the Planning Department.

Application Information

Contact Information

Project No./Name: 630 Gage Drive

Property Address: 630 Gage Drive, San Diego, CA

Applicant Name/Co.: Kevin Zhang

Contact Phone: (702) 545-5517 Contact Email: shay@gdv5.com

Was a consultant retained to complete this checklist? ■ Yes ☐ No If Yes, complete the following

Consultant Name: Sergio Salinas Contact Phone: (858) 722-7785

Company Name: ARC Construction & Engineering, Inc. Contact Email: serg.salinas@att.net

Project Information

1. What is the size of the project (acres)? 0.49 acres (21,639 square feet)
2. Identify all applicable proposed land uses:
   - ■ Residential (indicate # of single-family units): 1 single family unit with guest house
   - ☐ Residential (indicate # of multi-family units):
   - ☐ Commercial (total square footage):
   - ☐ Industrial (total square footage):
   - ☐ Other (describe):
3. Is the project or a portion of the project located in a Transit Priority Area? ☐ Yes ■ No
4. Provide a brief description of the project proposed:

The project consists of demolition of the existing two story single residence and then constructing a two story single family residence with guest quarters. The project will also include the construction of two new retaining walls.

[2] Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

CAP CONSISTENCY CHECKLIST QUESTIONS

Step 1: Land Use Consistency

The first step in determining CAP consistency for discretionary development projects is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
A. Is the proposed project consistent with the existing General Plan and Community Plan land use and zoning designations?;[3] OR, The site is Zone: RS-1-4. B. If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment, would the proposed amendment result in an increased density within a Transit Priority Area (TPA)[4] and implement CAP Strategy 3 actions, as determined in Step 3 to the satisfaction of the Development Services Department?; OR, C. If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?	☑	☐

If "***Yes***," proceed to Step 2 of the Checklist. For question B above, complete Step 3. For question C above, provide estimated project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation.

If "***No***," in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must nonetheless incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete Step 2 of the Checklist.

[3] This question may also be answered in the affirmative if the project is consistent with SANDAG Series 12 growth projections, which were used to determine the CAP projections, as determined by the Planning Department.

[4] This category applies to all projects that answered in the affirmative to question 3 on the previous page: Is the project or a portion of the project located in a transit priority area.

Step 2: CAP Strategies Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable strategies and actions of the CAP. Step 2 only applies to development projects that involve permits that would require a certificate of occupancy from the Building Official or projects comprised of one and two family dwellings or townhouses as defined in the California Residential Code and their accessory structures.[5] All other development projects that would not require a certificate of occupancy from the Building Official shall implement Best Management Practices for construction activities as set forth in the Greenbook (for public projects).

Step 2: CAP Strategies Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
Strategy 1: Energy & Water Efficient Buildings			
1. *Cool/Green Roofs*. • Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code (Attachment A)?; OR • Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under California Green Building Standards Code?; OR • Would the project include a combination of the above two options? Check "N/A" only if the project does not include a roof component. The proposed roof is flat and the required solar reflection materials will be used for the construction of the new roof.	☑	☐	☐

[5] Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development, 2) permits allowing wireless communication facilities, 3) special events permits, 4) use permits or other permits that do not result in the expansion or enlargement of a building (e.g., decks, garages, etc.), and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

2. *Plumbing fixtures and fittings* With respect to plumbing fixtures or fittings provided as part of the project, would those low-flow fixtures/appliances be consistent with each of the following: Residential buildings: • Kitchen faucets: maximum flow rate not to exceed 1.5 gallons per minute at 60 psi; • Standard dishwashers: 4.25 gallons per cycle; • Compact dishwashers: 3.5 gallons per cycle; and • Clothes washers: water factor of 6 gallons per cubic feet of drum capacity? Nonresidential buildings: • Plumbing fixtures and fittings that do not exceed the maximum flow rate specified in Table A5.303.2.3.1 (voluntary measures) of the California Green Building Standards Code (See Attachment A); and • Appliances and fixtures for commercial applications that meet the provisions of Section A5.303.3 (voluntary measures) of the California Green Building Standards Code (See Attachment A)? Check "N/A" only if the project does not include any plumbing fixtures or fittings. All of the plumbing fixtures, fittings, and appliances in the new house will be consistent with the "Residential Buildings" requirements.	☑	☐	☐

Strategy 3: Bicycling, Walking, Transit & Land Use			
3. *Electric Vehicle Charging* • Multiple-family projects of 17 dwelling units or less: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official, to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents? • Multiple-family projects of more than 17 dwelling units: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents? • Non-residential projects: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use? Check "N/A" only if the project is a single-family project or would not require the provision of listed cabinets, boxes, or enclosures connected to a conduit linking the parking spaces with electrical service, e.g., projects requiring fewer than 10 parking spaces. This is a single-family residential project.	☐	☐	☑

Strategy 3: Bicycling, Walking, Transit & Land Use (Complete this section if project includes non-residential or mixed uses)			
4. *Bicycle Parking Spaces* Would the project provide more short- and long-term bicycle parking spaces than required in the City's Municipal Code (Chapter 14, Article 2, Division 5)?[6] Check "N/A" only if the project is a residential project. This is a single-family residential project.	☐	☐	☑

[6] Non-portable bicycle corrals within 600 feet of project frontage can be counted towards the project's bicycle parking requirements.

5. *Shower facilities*

If the project includes nonresidential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the California Green Building Standards Code as shown in the table below?

Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12" X 15" X 72") Personal Effects Lockers Required
0-10	0	0
11-50	1 shower stall	2
51-100	1 shower stall	3
101-200	1 shower stall	4
Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants

Check "N/A" only if the project is a residential project, or if it does not include nonresidential development that would accommodate over 10 tenant occupants (employees).

This is a single-family residential project.

☐	☐	☑

6. *Designated Parking Spaces*

If the project includes a nonresidential use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles in accordance with the following table?

Number of Required Parking Spaces	Number of Designated Parking Spaces
0-9	0
10-25	2
26-50	4
51-75	6
76-100	9
101-150	11
151-200	18
201 and over	At least 10% of total

This measure does not cover electric vehicles. See Question 4 for electric vehicle parking requirements.

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces. The required designated parking spaces are to be provided within the overall minimum parking requirement, not in addition to it.

Check "N/A" only if the project is a residential project, or if it does not include nonresidential use in a TPA.

This is a single-family residential project.

☐	☐	☑

7. *Transportation Demand Management Program* If the project would accommodate over 50 tenant-occupants (employees), would it include a transportation demand management program that would be applicable to existing tenants and future tenants that includes: At least one of the following components: • Parking cash out program • Parking management plan that includes charging employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools • Unbundled parking whereby parking spaces would be leased or sold separately from the rental or purchase fees for the development for the life of the development And at least three of the following components: • Commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees • On-site carsharing vehicle(s) or bikesharing • Flexible or alternative work hours • Telework program • Transit, carpool, and vanpool subsidies • Pre-tax deduction for transit or vanpool fares and bicycle commute costs • Access to services that reduce the need to drive, such as cafes, commercial stores, banks, post offices, restaurants, gyms, or childcare, either onsite or within 1,320 feet (1/4 mile) of the structure/use? Check "N/A" only if the project is a residential project or if it would not accommodate over 50 tenant-occupants (employees). This is a single-family residential project.	☐	☐	☑

Step 3: Project CAP Conformance Evaluation (if applicable)

The third step of the CAP consistency review only applies if Step 1 is answered in the affirmative under option B. The purpose of this step is to determine whether a project that is located in a TPA but that includes a land use plan and/or zoning designation amendment is nevertheless consistent with the assumptions in the CAP because it would implement CAP Strategy 3 actions. In general, a project that would result in a reduction in density inside a TPA would not be consistent with Strategy 3.The following questions must each be answered in the affirmative and fully explained.

1. **Would the proposed project implement the General Plan's City of Villages strategy in an identified Transit Priority Area (TPA) that will result in an increase in the capacity for transit-supportive residential and/or employment densities?**
   Considerations for this question:
   - Does the proposed land use and zoning designation associated with the project provide capacity for transit-supportive residential densities within the TPA?
   - Is the project site suitable to accommodate mixed-use village development, as defined in the General Plan, within the TPA?
   - Does the land use and zoning associated with the project increase the capacity for transit-supportive employment intensities within the TPA?

2. **Would the proposed project implement the General Plan's Mobility Element in Transit Priority Areas to increase the use of transit?**
   Considerations for this question:
   - Does the proposed project support/incorporate identified transit routes and stops/stations?
   - Does the project include transit priority measures?

3. **Would the proposed project implement pedestrian improvements in Transit Priority Areas to increase walking opportunities?**
   Considerations for this question:
   - Does the proposed project circulation system provide multiple and direct pedestrian connections and accessibility to local activity centers (such as transit stations, schools, shopping centers, and libraries)?
   - Does the proposed project urban design include features for walkability to promote a transit supportive environment?

4. **Would the proposed project implement the City of San Diego's Bicycle Master Plan to increase bicycling opportunities?**
   Considerations for this question:
   - Does the proposed project circulation system include bicycle improvements consistent with the Bicycle Master Plan?
   - Does the overall project circulation system provide a balanced, multimodal, "complete streets" approach to accommodate mobility needs of all users?

5. **Would the proposed project incorporate implementation mechanisms that support Transit Oriented Development?**
   Considerations for this question:
   - Does the proposed project include new or expanded urban public spaces such as plazas, pocket parks, or urban greens in the TPA?
   - Does the land use and zoning associated with the proposed project increase the potential for jobs within the TPA?
   - Do the zoning/implementing regulations associated with the proposed project support the efficient use of parking through mechanisms such as: shared parking, parking districts, unbundled parking, reduced parking, paid or time-limited parking, etc.?

6. **Would the proposed project implement the Urban Forest Management Plan to increase urban tree canopy coverage?**
   Considerations for this question:
   - Does the proposed project provide at least three different species for the primary, secondary and accent trees in order to accommodate varying parkway widths?
   - Does the proposed project include policies or strategies for preserving existing trees?
   - Does the proposed project incorporate tree planting that will contribute to the City's 20% urban canopy tree coverage goal?

CLIMATE ACTION PLAN CONSISTENCY CHECKLIST
ATTACHMENT A

This attachment provides performance standards for applicable Climate Action Pan (CAP) Consistency Checklist measures.

Table 1 Roof Design Values for Question 1: Cool/Green Roofs supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan

Land Use Type	Roof Slope	Minimum 3-Year Aged Solar Reflectance	Thermal Emittance	Solar Reflective Index
Low-Rise Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
High-Rise Residential Buildings, Hotels and Motels	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
Non-Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 residential and non-residential voluntary measures shown in Tables A4.106.5.1 and A5.106.11.2.2, respectively. Roof installation and verification shall occur in accordance with the CALGreen Code.

CALGreen does not include recommended values for low-rise residential buildings with roof slopes of ≤ 2:12 for San Diego's climate zones (7 and 10). Therefore, the values for climate zone 15 that covers Imperial County are adapted here.

Solar Reflectance Index (SRI) equal to or greater than the values specified in this table may be used as an alternative to compliance with the aged solar reflectance values and thermal emittance.

Table 2	Fixture Flow Rates for Non-Residential Buildings related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan
Fixture Type	**Maximum Flow Rate**
Showerheads	1.8 gpm @ 80 psi
Lavatory Faucets	0.35 gpm @60 psi
Kitchen Faucets	1.6 gpm @ 60 psi
Wash Fountains	1.6 [rim space(in.)/20 gpm @ 60 psi]
Metering Faucets	0.18 gallons/cycle
Metering Faucets for Wash Fountains	0.18 [rim space(in.)/20 gpm @ 60 psi]
Gravity Tank-type Water Closets	1.12 gallons/flush
Flushometer Tank Water Closets	1.12 gallons/flush
Flushometer Valve Water Closets	1.12 gallons/flush
Electromechanical Hydraulic Water Closets	1.12 gallons/flush
Urinals	0.5 gallons/flush

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 non-residential voluntary measures shown in Tables A5.303.2.3.1 and A5.106.11.2.2, respectively. See the California Plumbing Code for definitions of each fixture type.

Where complying faucets are unavailable, aerators rated at 0.35 gpm or other means may be used to achieve reduction.

Acronyms:
gpm = gallons per minute
psi = pounds per square inch (unit of pressure)
in. = inch

Table 3	**Standards for Appliances and Fixtures for Commercial Application related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan**	
Appliance/Fixture Type	**Standard**	
Clothes Washers	Maximum Water Factor (WF) that will reduce the use of water by 10 percent below the California Energy Commissions' WF standards for commercial clothes washers located in Title 20 of the *California Code of Regulations*.	
Conveyor-type Dishwashers	0.70 maximum gallons per rack (2.6 L) (High-Temperature)	0.62 maximum gallons per rack (4.4 L) (Chemical)
Door-type Dishwashers	0.95 maximum gallons per rack (3.6 L) (High-Temperature)	1.16 maximum gallons per rack (2.6 L) (Chemical)
Undercounter-type Dishwashers	0.90 maximum gallons per rack (3.4 L) (High-Temperature)	0.98 maximum gallons per rack (3.7 L) (Chemical)
Combination Ovens	Consume no more than 10 gallons per hour (38 L/h) in the full operational mode.	
Commercial Pre-rinse Spray Valves (manufactured on or after January 1, 2006)	Function at equal to or less than 1.6 gallons per minute (0.10 L/s) at 60 psi (414 kPa) and • Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate. • Be equipped with an integral automatic shutoff. • Operate at static pressure of at least 30 psi (207 kPa) when designed for a flow rate of 1.3 gallons per minute (0.08 L/s) or less.	

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 non-residential voluntary measures shown in Section A5.303.3. See the California Plumbing Code for definitions of each appliance/fixture type.

Acronyms:
L = liter
L/h = liters per hour
L/s = liters per second
psi = pounds per square inch (unit of pressure)
kPa = kilopascal (unit of pressure)

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

Storm Water Requirements Applicability Checklist

FORM
DS-560
November 2018

Project Address: 630 Gage Drive	Project Number:

SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the Storm Water Standards Manual. Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)[1] , which is administered by the State Regional Water Quality Control Board.

For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.

PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

☐ Yes; SWPPP required, skip questions 2-4 ☒ No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and/or contact with storm water?

☒ Yes; WPCP required, skip questions 3-4 ☐ No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

☐ Yes; WPCP required, skip question 4 ☒ No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

☐ Yes; no document required

Check one of the boxes below, and continue to PART B:

☐ If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

☒ If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

☐ If you checked "No" for all questions 1-3, and checked "Yes" for question 4 PART B **does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: www.sandiego.gov/stormwater/regulations/index.shtml

PART B: Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete PART B and continued to Section 2

1. ☐ **ASBS**

a. Projects located in the ASBS watershed.

2. ☐ **High Priority**

a. Projects that qualify as Risk Level 2 or Risk Level 3 per the Construction General Permit (CGP) and not located in the ASBS watershed.

b. Projects that qualify as LUP Type 2 or LUP Type 3 per the CGP and not located in the ASBS watershed.

3. ☐ **Medium Priority**

a. Projects that are not located in an ASBS watershed or designated as a High priority site.

b. Projects that qualify as Risk Level 1 or LUP Type 1 per the CGP and not located in an ASBS watershed.

c. WPCP projects (>5,000sf of ground disturbance) located within the Los Penasquitos watershed management area.

4. ☒ **Low Priority**

a. Projects not subject to a Medium or High site priority designation and are not located in an ASBS watershed.

SECTION 2. Permanent Storm Water BMP Requirements.

Additional information for determining the requirements is found in the Storm Water Standards Manual.

PART C: Determine if Not Subject to Permanent Storm Water Requirements.

Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Storm Water Standards Manual are not subject to Permanent Storm Water BMPs.

If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".

If "no" is checked for all of the numbers in Part C continue to Part D.

1.	Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?	☐ Yes	☒ No
2.	Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?	☐ Yes	☒ No
3.	Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).	☐ Yes	☒ No

Clear Page 2

PART D: PDP Exempt Requirements.

PDP Exempt projects are required to implement site design and source control BMPs.

If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."

If "no" was checked for all questions in Part D, continue to Part E.

1. **Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**
   - **Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;**
   - **Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;**
   - **Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?**

   ☐ Yes; PDP exempt requirements apply ☒ No; next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Storm Water Standards Manual?

   ☐ Yes; PDP exempt requirements apply ☒ No; project not exempt.

PART E: Determine if Project is a Priority Development Project (PDP).

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".

If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".

1. **New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☐ Yes ☒ No

2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces on an existing site of 10,000 square feet or more of impervious surfaces**. This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☐ Yes ☒ No

3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface. ☐ Yes ☒ No

4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater. ☐ Yes ☒ No

5. **New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).** ☐ Yes ☒ No

6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site). ☐ Yes ☒ No

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7. **New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). ☐ Yes ☒ No

8. **New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. ☐ Yes ☒ No

9. **New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539. ☐ Yes ☒ No

10. **Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces. ☐ Yes ☒ No

PART F: Select the appropriate category based on the outcomes of PART C through PART E.

1. The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS**. ☐
2. The project is a **STANDARD DEVELOPMENT PROJECT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance. ☒
3. The project is **PDP EXEMPT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance. ☐
4. The project is a **PRIORITY DEVELOPMENT PROJECT**. Site design, source control, and structural pollutant control BMP requirements apply. See the Storm Water Standards Manual for guidance on determining if project requires a hydromodification plan management ☐

sergio salinas	Civil Engineer
Name of Owner or Agent *(Please Print)*	Title
sergio salinas	12/18/2018
Signature	Date

Clear Page 4

Clear Form