



August 1, 2022

File No.: 303659-001

Ms. Lacey Bourdet
P.O. Box 1378
Hollister, CA 95024

PROJECT: LANDS OF BOURDET
PACHECO PASS HIGHWAY, APN 898-19-005
SANTA CLARA COUNTY, CALIFORNIA

SUBJECT: Review of Proposed Septic Leach Field Conditions

REF.: Site Evaluation Results Map, by BioSphere Consulting, dated 07/22/22,
Provided to Earth Systems Pacific via email July 22, 2022.

Dear Ms. Bourdet:

As you requested, Earth Systems Pacific (Earth Systems) has prepared this review letter for the planned septic leach field location at your property located off Pacheco Pass Highway, in Santa Clara County, California. For our review we were provided with a Site Evaluation Results Map prepared by BioSphere Consulting (BioSphere), submitted to Earth Systems on July 22, 2022. The locations of exploratory test pits, percolation test locations, and percolation test results are shown on the map, appended here for reference. An Earth Systems geologist visited the site on July 20, 2022, to view current conditions and observe exploratory test pit exposures excavated by BioSphere.

As shown on the map by BioSphere, the proposed leachfields will be located on west-facing slopes east of the existing residence in Harper Canyon. A northern and southern leachfield system are planned. Slopes are inclined between 31 and 37 percent in the area of the northern leachfield. The northern leachfield is located approximately 90 feet east of the top of a 15-18 foot-high cut slope inclined westward at 45-60 percent. The southern leachfield is located on slopes inclined approximately 34 percent to the southwest. The southern leachfield is located approximately 65 feet east of the top of a 18-20 foot-high cut slope inclined westward at approximately 42-43 percent. The cut slopes below the proposed leachfields are associated with the graded pad for the existing house and arena. We observed sandstone and shale bedrock in the lowermost sections of the cut slopes at the time of our visit on July 20, 2022. The few bedding exposures we observed dip obliquely into the slope. A small soil slump was observed in the cut beneath the oak tree downslope of the northern leachfield. No other signs of slope instability were observed in the area of the proposed leachfields.



At the time of this writing, the final design of the septic system was not available for our review. Based on discussions with BioSphere, the proposed septic system will be of a pressure dose drip system design. We understand that a pressure dose system is designed to uniformly distribute and meter effluent. Each leachfield will be 100 feet long and 12 feet wide with 12 drip laterals spaced 12 inches apart. Leach lines will be installed approximately 1-foot below ground surface. Based on the results of soil percolation testing (shown on the attached map), BioSphere has informed us that the system will be designed for a soil application rate of 0.4 gallon per day per square foot. We understand the system will be designed to alternate between the two leachfields, reducing the application rate to 0.2 gallon per day per square foot for each 100 foot-long leachfield.

Exploratory Test Pits

On July 20, 2022, an Earth Systems geologist visited the site and observed exposures in three exploratory test pits advanced by BioSphere using a mini excavator. Test Pit SP-1B was advanced in the proposed southern leachfield area. Subsurface soil types encountered in the test pit consisted of colluvial clay soils to a depth of 9 feet. The upper 3 feet consisted of dry to slightly moist and porous sandy clay. From 3 to 9 feet, the soils consisted of moist sandy clay with clay films. Decomposed sandstone bedrock was encountered at approximately nine feet below ground surface. Test Pits SP-2B and SP-3B were excavated in the area of the northern leachfield. Soils encountered in both of these test pits consisted of colluvial clay soils to a depth of 1 to 1.5 feet over fractured sandstone bedrock.

Conclusions

Based on our site visit, review of the Site Evaluation Results Map by BioSphere, our understanding of the proposed septic system design, and subsurface conditions encountered in the exploratory test pits, it is our opinion that the proposed septic system is unlikely to permit effluent to surface, degrade water quality, affect soil stability, present a threat to public health or safety, or create a public nuisance. We recommend the leachfields be fenced off to prevent livestock from damaging the shallow drip system. We also recommend the leachfields be protected from precipitation runoff from areas upslope.

As noted above, the final design of the septic system was not available for our review. Once complete, Earth Systems should be provided with a copy of the design for review to confirm our conclusions.



CLOSURE

This report is valid for conditions as they exist at this time for the type of project described herein. Our intent was to perform our evaluation in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of this project under similar conditions. No representation, warranty, or guarantee is either expressed or implied. This report is intended for the exclusive use by the client. Application beyond the stated intent is strictly at the user's risk.

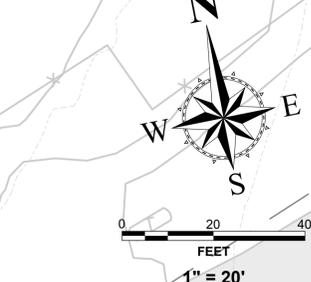
Thank you for this opportunity to have been of service. Please feel free to contact this office at your convenience if you have any questions regarding this report.

Sincerely,
Earth Systems Pacific


John Feltman, CEG 2530
Senior Geologist



Attachments: Site Evaluation Results Map, BioSphere Consulting



DISCLAIMER NOTE: THIS MAP WAS PREPARED SOLELY FOR THE PURPOSES OF THE ONSITE WASTEWATER TREATMENT (SEPTIC) SYSTEM (OWTS) DESIGN AND SHOULD NOT BE CONSTRUED AS SUFFICIENT FOR OTHER PURPOSES. LOCATIONS ARE APPROXIMATE. BIOSPHERE CONSULTING, INC. SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED TO UTILITIES DURING CONSTRUCTION. THE LOCATION OF WELLS OR SPRINGS ON NEIGHBORING PROPERTIES HAVE BEEN IDENTIFIED AND LOCATED TO THE BEST OF OUR ABILITY WITHOUT TRESPASSING AND SHALL BE VERIFIED AND CONFIRMED BY COUNTY ENVIRONMENTAL HEALTH. BIOSPHERE CONSULTING, INC. SHALL NOT BE HELD RESPONSIBLE FOR THE LOCATIONS OF WELLS OR SPRINGS THAT MAY BE LOCATED WITHIN ANY REQUIRED SETBACKS FROM THE PROPOSED OR EXISTING OWTS. THE BASE MAP USED ON THIS SHEET HAS BEEN PREPARED OR ANNOTATED BY THIS FIRM USING TAPE AND COMPASS TECHNIQUES. GENERAL TRIANGULATION APPROXIMATIONS OR ESTIMATIONS BASED ON LINE-OF-SIGHT ALIGNMENTS AND BIOSPHERE CONSULTING, INC. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

SOIL PROFILE FIELD LOG
 Job Number/Name: **Bourdet** Location: **Pacheco Pass Highway** APN: **898-19-005**
 Date Soil Sampled: **7/20/22** Time: **AM** Vegetation: **Wild Grass (grazed)**
 Elevation: **4362** Slope Gradient: **>20%** Aspect: **East** Geomorphic Surface: **Near bottom of valley flank**
 Parent Material(s): **Franciscan Sandstone** Described by: **A.R.**

| LOG | Moisture | Structure | Pores | Mottles | Clay Film | Gravel | Roots | Consistence | Texture | Color | Horizon | Contacts |
|-----|----------|-----------|--------|---------|-----------|--------|-------|-------------|---------|-----------------|-----------------|----------|
| 0 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 1 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 2 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 3 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 4 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 5 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 6 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
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| 12 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 13 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |
| 14 | dry | single | medium | none | none | none | none | moist | LS | Very Light Gray | Munsell (moist) | distinct |

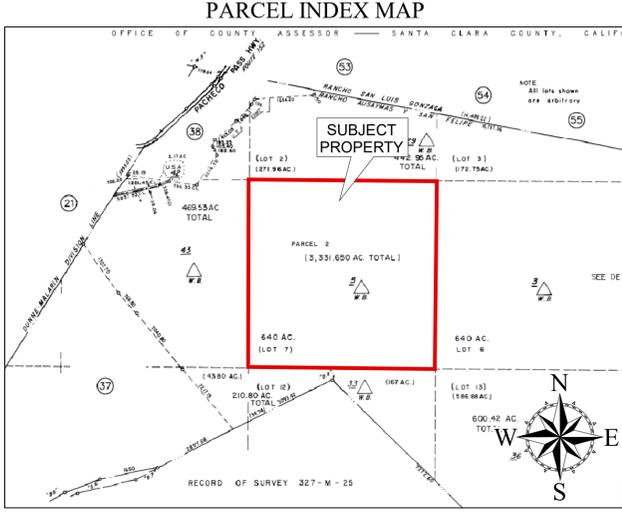
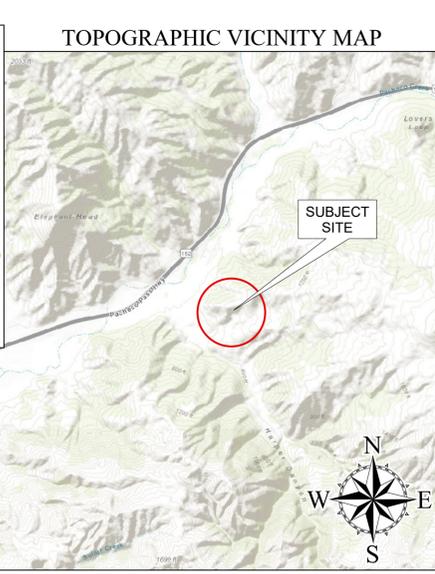
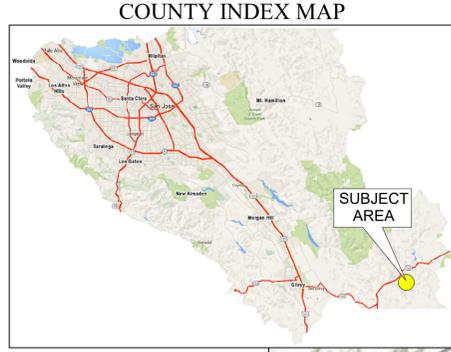
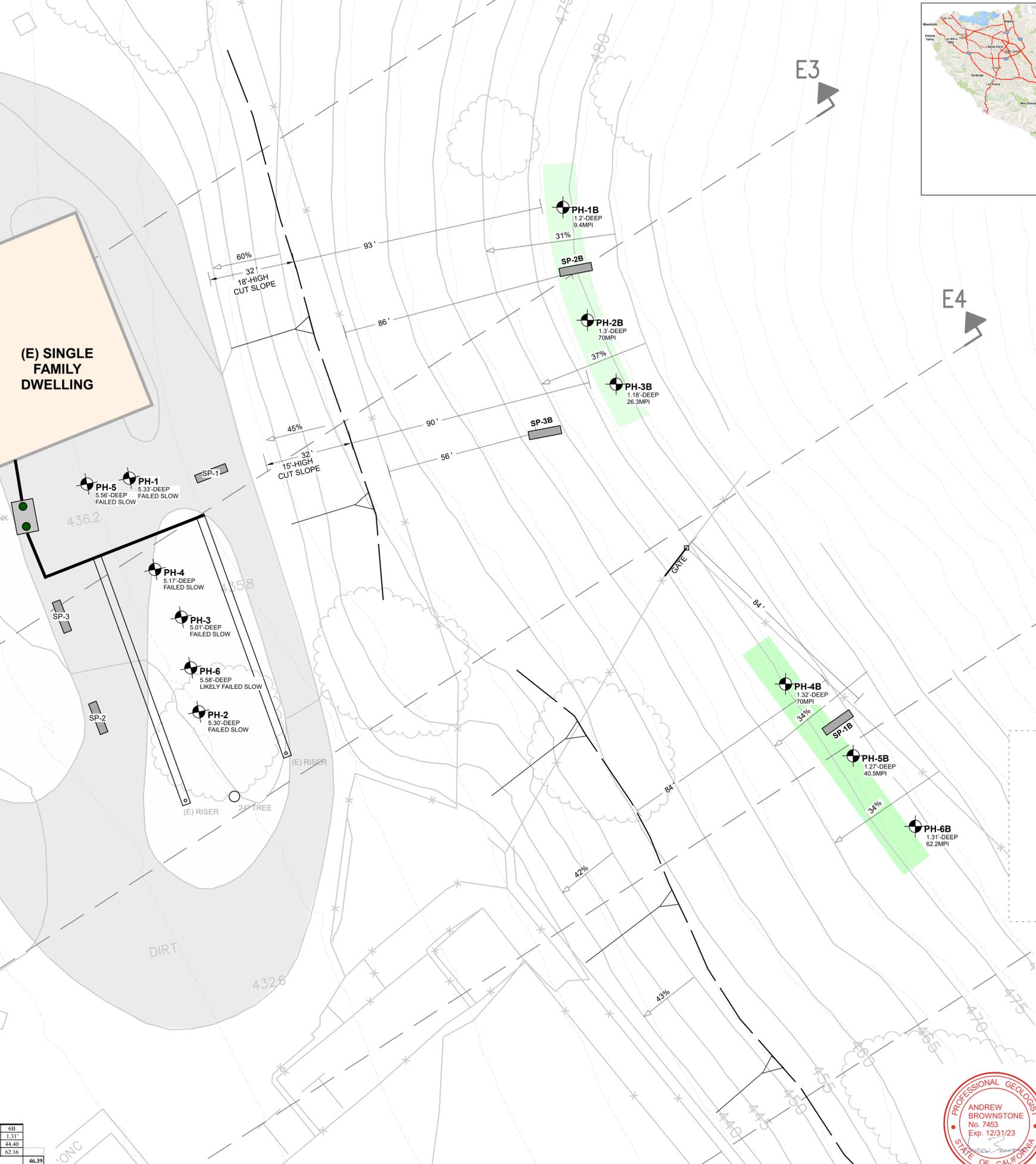
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SOIL PERCOLATION SUMMARY TABLE -- 07/21/22

| Percolation Hole (PH) | 1B | 2B | 3B | 4B | 5B | 6B |
|--------------------------|---|-------|-------|-------|-------|-------|
| Depth | 1.20 | 1.30 | 1.18 | 1.32 | 1.27 | 1.31 |
| Stabilized MPI | 6.70 | 50.00 | 18.80 | 50.00 | 28.90 | 44.40 |
| Adjusted Stabilized MPI | 9.38 | 70.00 | 26.32 | 70.00 | 40.46 | 62.16 |
| Ave. Adj. Stabilized MPI | R_s = (Σ R_s) / #Holes = 46.39 | | | | | |
| # Bedrooms: | FOR OFFICE USE ONLY | | | | | |
| TANK SIZE (Gal) | Leach Line (FL) | | | | | |

(E) SINGLE FAMILY DWELLING



COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

Biosphere Consulting
 Alternative Wastewater System Design
 1315 King Street, Santa Cruz, CA 95060
 Tel: (831) 430-9116
 www.biosphere-consulting.com

SITE EVALUATION RESULTS MAP

| | | |
|-------------------|--------------------------------------|-------------------------------------|
| Project Location: | Pacheco Pass Hwy, Gilroy, California | (Santa Clara County) |
| Property Owner: | Lacy Bourdet | |
| Mailing Address: | PO Box 1378, Hollister, CA 95024 | |
| Owner Phone #: | (831) 801-3483 | |
| Date: | 07/22/22 | By: David Quinn / Andrew Brownstone |
| REVISION: | | |
| Job No.: | 19026 | APN: 898-19-005 |

Sheet: **1 OF 1**

