Exhibit H

This page intentionally left blank.

Project No. M11417.2
10 February 2023

BRYAN ROBERTS
c/o David Stoker
Stoker and Allaire
21 Mandeville Court
Monterey, CA 93940

Subject: Technical Design Memo

Reference: Proposed Residential Remodel
37600 Highway One
Big Sur, California, 93920
APN 418-111-012-000

TECHNICAL MEMO

This technical memo presents the primary geotechnical considerations, design criteria and construction recommendations for the residential remodel in Big Sur, California. We have completed a draft Geotechnical Investigation and draft Geologic and Coastal Bluff Recession Assessment Report, both dated 3 May 2022. Since the May 2022 reports, the project has changed to a residential remodel instead of a new residence as shown on the Highway One – Prelim Foundation Markup REV, dated 10 January 2023, by Strandberg Engineering. The intent of this memo is providing only the technical criteria necessary for project designers to provide comments on our criteria and continue making progress on construction drawings for the residential remodel.

PROJECT CONSIDERATIONS

The proposed residential remodel includes backfilling an existing pool, demolishing existing foundations, and constructing new foundation elements and additions seaward of the coastal bluff setback establish in our May 2022 reports. New foundation improvements will need to be supported on deep foundations elements. Proposed slabs-on-grade floors will need to be supported on deep foundation elements and designed to be fully elevated after a design landslide event. Ground support beneath existing and proposed improvements within the coastal bluff setback could evacuate during a potential landslide event as outlined in our May 2022 reports. The deep foundations and elevated slab floors will mitigate the threat to life and safety of the building occupants in the event of a major landslide. The portion of the building and utilities within the coastal bluff setback may need to be repaired or demolished and rebuilt in another location on the property after a major landslide.

DESIGN AND CONSTRUCTION RECOMMENDATIONS

The recommendations presented in this memo should be used as guidelines for preparing project plans and specifications.

It is our understanding the new foundation elements seaward of the coastal bluff setback will be consist of deep helical piles and anchors tied together with a grade beam. The helical piles and anchors should penetrate through the projected design landslide plane and be embedded into the debris fan deposits. Anticipate difficult installation conditions within the debris fan for deep foundations such as but not limited to boulders and trees. We recommend installing at least two helical piles and anchors (one on each end of the work site) to recommended depths prior to full scale production.

For new foundation elements beyond (landward) of the coastal bluff setback and existing footings that do not provide enough capacity for the proposed remodel, we recommend footings be supported on helical piles embedded a minimum 15 feet deep or to design capacity whichever is greater.

New concrete slab floors within (seaward) of the coastal bluff setback should be designed to be elevated above subgrade and span between deep foundation elements and or beams.

The existing swimming pool reinforced concrete foundation and the gunite shell should be completely removed and backfilled with engineered fill back up to grade level.

The project site is located within a seismically active area. The proposed project should be designed in accordance with the most current CBC seismic design standards.

The following recommendations should be used as guidelines for preparing project plans and specifications.

<u>General Site Grading for Pool Backfill</u>

1. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557.

2. The existing swimming pool to be backfilled should be cleared of all obstructions, including concrete, fill or loose soil, pool shell, pool drains, and other unsuitable material. Loose disturbed soil resulting from demolition and clearing operations may be stockpiled for use as engineered fill provided the fill is clean of organic material, debris, or other unsuitable material. Existing depressions or voids created during site clearing should be backfilled with engineered fill. It is <u>not</u> recommended to re-use the broken concrete as fill within the pool excavation as this will

obstruct installation of the helical piles and achors. The geotechnical engineer or representative should observe the bottom of the excavation to confirm loose soil has been removed.

3. All areas to receive fill should be scarified, moisture conditioned (or allowed to dry as necessary) to produce a moisture content 2 to 4 percent over laboratory optimum value, and uniformly compacted to a minimum of 90 percent relative compaction based on ASTM Test D1557-10.

4. If grading is performed during or shortly after the rainy season, the grading contractor may encounter compaction difficulty, such as pumping or bringing free water to the surface in the near surface soils. If compaction cannot be achieved after reducing the soil moisture content, it may be necessary to overexcavate the subgrade soil and replace it with angular crushed rock to stabilize the subgrade. The need for ground stabilization measures to complete grading effectively should be determined in the field at the time of grading, based on exposed soil conditions.

5. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness, moisture conditioned, and compacted to a minimum of 90 percent relative compaction. The upper 6 inches of slab or pavement subgrade and aggregate base below slabs and pavements should be compacted to a minimum of 95 percent relative compaction.

6. The on-site clayey sand is acceptable for use as engineered fill. Soil imported for use as engineered fill should consist of a predominantly granular soil conforming to the quality and gradation requirements as follows: Imported soil should be relatively free of organic material and contain no rocks or clods greater than 4 inches in diameter, with no more than 15 percent larger than 2½ inches. The material should be predominately granular with a plasticity index < 15, a liquid limit less than 35 and not more than 35 percent passing the No. 200 sieve. Engineered fill should also have sufficient binder so that footing and utility trenches will not collapse.

7. We estimate shrinkage factors of 15 to 25 percent for the on-site materials when used in engineered fills.

<u>Vertical Helical Piles</u>

8. Helical piles should be used to support new and existing foundation elements. Helical piles are a steel screw-in piling system used for deep foundations for bearing support and pullout resistance. When used in compression they are typically referred to as helical piles, and when used

in tension they are typically referred to as helical anchors or screw anchors.

For this application we anticipate that vertical helical piles will be used as the primary support of the new foundations and battered helical anchors will be used to limit lateral movement of the structure.

9. The individual ultimate capacity of each plate in both tension (bearing) and compression (pullout) loading may be determined from the following equation:

$Q_{ult} = A*(6,300 + 2,750*D)$

Where:

Q_{ult} = individual ultimate bearing or pullout capacity (lb) per plate
A = the area of the helical plate (ft^2)
D = Depth of embedment (ft) measured vertically from the ground surface to the center of the plate in question. For retaining walls, the ground surface for vertical helical piles is measured at the toe of the retaining wall (i.e., not the top of wall).

10. The total ultimate bearing/pull-out capacity of each anchor is calculated by summing up the bearing/pull-out capacity of each helical plate on the anchor. These capacities do not include the weight of the shaft.

11. Vertical helical piles or piers within (seaward) the coastal bluff setback should be a minimum 60 feet deep.

    a. An active force equivalent to a fluid weighing 100 pcf should be applied to the upper 45 feet of helical pile shaft if required by the manufacturer.
    b. An active force equivalent to a fluid weighing 100 pcf should be applied to the grade beams tying the helical piles together.

12. Vertical helical piles or piers beyond (landward) of the coastal bluff setback should be a minimum 15 feet deep.

13. A static factor of safety of 2.0 should be used with the ultimate load when determining allowable load. A seismic factor of safety of 1.2 should be used with the ultimate load when determining allowable load. The value of the helix anchor must be verified in the field with torque reading tests during installation. Working loads should be achieved during helix

installation as a function of installation torque, confirmed by the soil engineer during construction. Actual structural loads on the piles and soil capacity will depend on an analysis provided by your Structural Engineer.

14. Individual Helix plates attached to a multi-plate anchor should be spaced no closer than 5 diameters or 5 feet, whichever is less. The diameter of the largest helix plate should be used to determine the spacing.

15. Rotational resistance encountered by an anchor when being screwed into the soil is defined as installation torque. The monitoring of installation torque during installation is recommended. Installation torque should not exceed the anchor rating. Installation torque has been empirically related to bearing/pull-out capacity. A minimum bearing/pull-out capacity to installation torque ratio of 10 is generally recommended, subject to verification in the field.

16. Installation tolerances should be within 2±% with regards to plumbness and to within 2± inches in location.

17. We recommend all Helix anchors be protected with **galvanized coating.**

18. In general, installation procedures should be per the manufacturer's specifications.

19. **It is recommended at least one vertical test anchor be installed prior to full scale production in order to verify both design loads and installation torque requirements. This testing should be performed under the observation of the Geotechnical Consultant.**

20. All anchor installation must be observed and approved by the Geotechnical Consultant. Any anchors installed without the full knowledge and continuous observation of the Geotechnical Consultant will render the recommendations of this report invalid.

Battered Helical Anchors

21. The minimum recommended embedment depth for the battered helical anchors is 60 feet. We assume that the anchors will be installed at a 20 degree angle to vertical with a resulting minimum length of approximately 15 feet to the top helix. Lengths and locations of battered helical anchors to be approved by HKA prior to construction.

22. The capacity of the battered helical anchors may be calculated in the same manner as the capacity of the vertical helical piles. In the case of the

battered anchors, embedment depth, D, is measured from the ground surface directly above the plate being evaluated.

23. Actual structural loads on the anchors and soil capacity will depend on an analysis provided by your Structural Engineer.

Conventional Spread Foundations

24. The existing residence is supported by conventional spread footings embedded into native and undocumented fill soil. The existing foundations beyond (landward) the coastal bluff setback can be evaluated using the following criteria:

    a) 900 psf for dead plus live loads for continuous foundations
    b) A one-third increase for seismic loading.
    c) Coefficient of friction of 0.32 between the foundation bottom of supporting subgrade.

25. New spread footings beyond the coastal bluff setback should be supported on helical piles a minimum 15 feet deep referenced in the *Vertical Helical Pile* section of this report. The helical piles and anchors should be structurally connected to the existing foundation using pile reinforced concrete pile caps or companion grade beams.

26. Provided our recommendations are incorporated into the design and construction of the project, post-construction total and differential settlement of foundations is expected to be 1 inch or less.

Structural Elevated Slab Floors

27. New residential floors proposed within (seaward) the coastal bluff setback should be a elevated concrete slabs and structural beams.

28. We recommend using the following design parameters:

    a. Designed to by fully elevated above grade if soil support evacuates from beneath the improvement because of a major landslide undermining the structure.

    b. The elevated concrete slab should be designed to span between structural beams supported by deep foundation elements.

29. The elevated concrete slab floors should be a minimum of 10 inches thick and constructed in a single concrete pour with steel reinforcement along

the top and bottom of the slab. Actual steel reinforcement detail should be determined by the structural designer.

30. Resistance to lateral forces should be provided by helical anchors as outlined in the previous sections of this report.

31. Total and differential immediate construction settlements are expected to be 1 inch and ½ inch, respectively.

If you have any questions concerning the data or conclusions presented in this report, please call our office.

Respectfully Submitted,

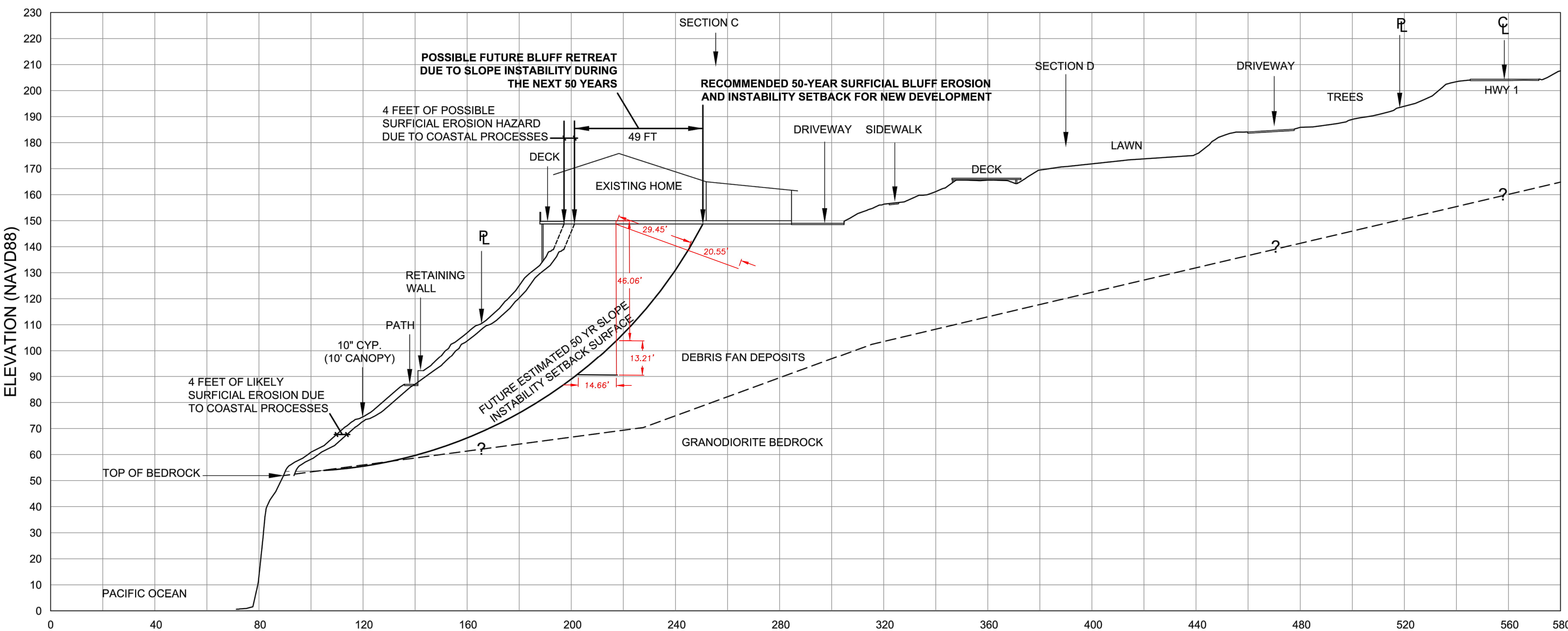
HARO, KASUNICH & ASSOCIATES, INC.

REGISTERED PROFESSIONAL ENGINEER
MOSES E. CUPRILL
No. 78904
Exp. 3/24
CIVIL
STATE OF CALIFORNIA

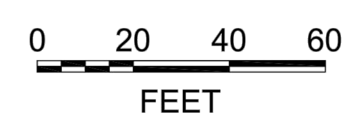
Ashton Buckner, P.E.
Senior Engineer

Moses Cuprill, P.E.
Principle Engineer

AJB/MC/sr
Attachments: Section A and Section C
Copies: 1 pdf to Sebastian Schuber (sebastian@stockerallaire.com)
1 pdf to David Stocker (david@stockerallaire.com)
1 pdf to Tara Ticknor (tara@strandbergeng.com)
1 pdf to Lori Perlman (lori@kenlinsteadt.com)
1 pdf to Ken Linsteadt (ken@kenlinsteadt.com)



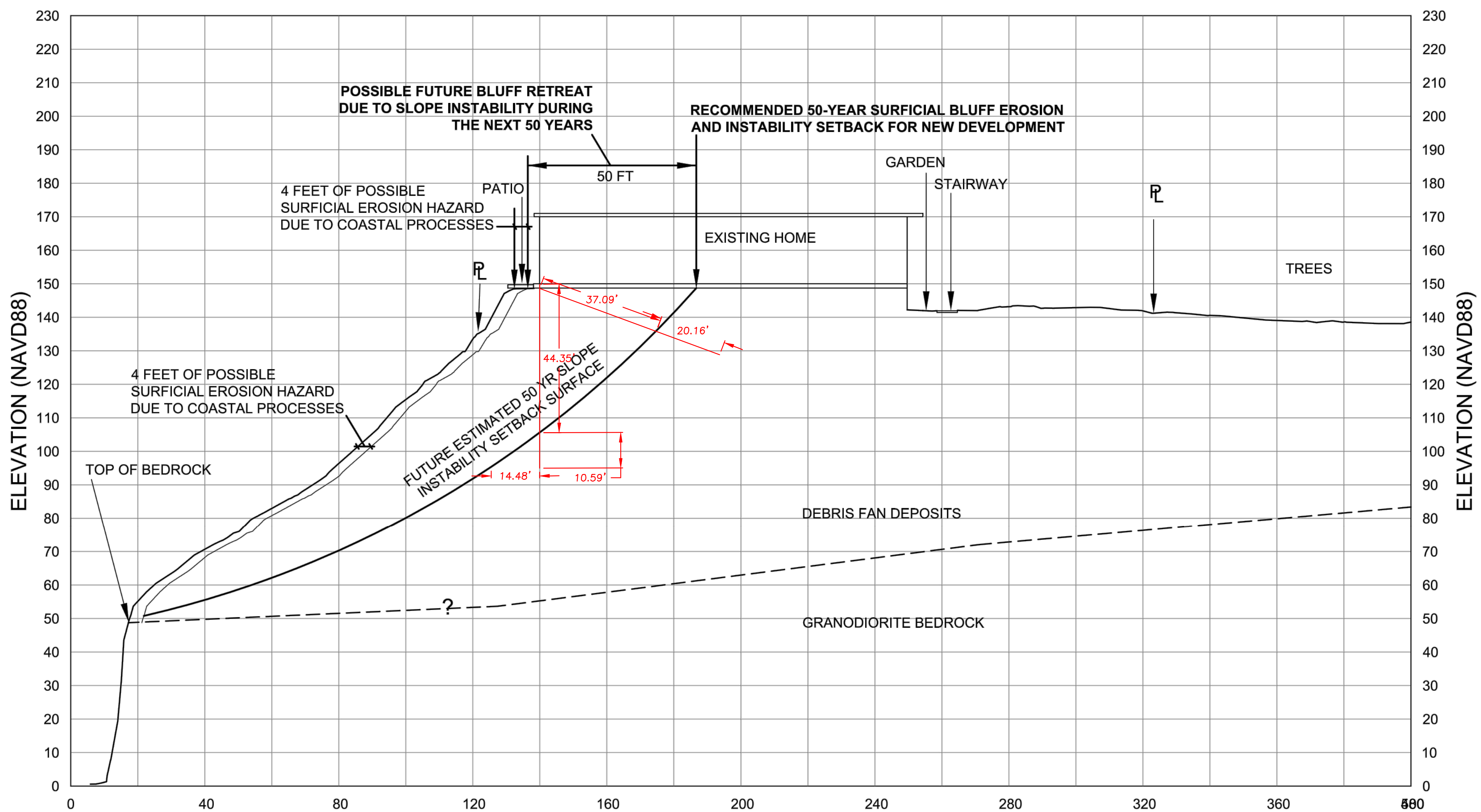
CROSS SECTION A



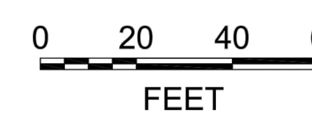
REVISIONS | BY

CROSS SECTION A
SHOWING RECOMMENDED 50-YEAR SURFICIAL BLUFF EROSION AND INSTABILITY SETBACK
37600 HIGHWAY 1, BIG SUR, CA 93020 APN 418-111-012

HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
116 EAST LAKE AVE., WATSONVILLE, CA 95076 (831) 722-4175



CROSS SECTION C



REVISIONS | BY

CROSS SECTION C
SHOWING RECOMMENDED 50-YEAR SURFICIAL BLUFF EROSION AND INSTABILITY SETBACK
37600 HIGHWAY 1, BIG SUR, CA 93020 APN 418-111-012

HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS
116 EAST LAKE AVE., WATSONVILLE, CA 95076 (831) 722-4175

Date

This page intentionally left blank