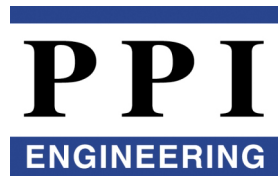


**AUSTIN PETERSON
3496 SODA CANYON ROAD
EROSION CONTROL PLAN**



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**AUSTIN PETERSON
3496 SODA CANYON ROAD**

EROSION CONTROL PLAN



JANUARY 2022

PREPARED BY:

**PPI ENGINEERING
2800 JEFFERSON STREET
NAPA, CALIFORNIA 94558
(707) 253-1806**

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**AUSTIN PETERSON
3496 SODA CANYON ROAD**

EROSION CONTROL PLAN

NARRATIVE

1. The nature and purpose of the land disturbing activity and the amount of grading involved.

- a) This ECP addresses the development of approximately 5.3 net acres (7.2 gross acres) of proposed vineyard located at 3496 Soda Canyon Road in Napa. The ranch is located on APN 032-500-025 which consists of approximately 14.33 acres per the Napa County Assessor's Office.
- b) Activities to be accomplished include removing brush and trees within the proposed clearing limits, ripping, blasting, rock removal, cultivating the soil to prepare for planting, seeding cover crop, mulching, trenching for irrigation pipelines, installing trellis system and deer fence, laying out the vinerows, and installing erosion control measures.
- c) An existing breached reservoir will be re-graded by removing the embankment and filling the reservoir depression. This area will also be planted to vineyard.

2. General description of existing site conditions, including topography, vegetation and soils.

- a) The site is located in the Rector Reservoir Watershed.
- b) The elevations in the vineyard area range from approximately 1,382 to 1,442 feet above mean sea level per topographic mapping. Ground slopes within the project boundary range between 9 and 10 percent. There are small pockets of areas over 30% slope in Block 1 which total approximately 0.1 acre, please see Sheet 1 for the locations.
- c) Topographic mapping was provided by American Aerial Mapping, Inc., flown on October 15, 2012.
- d) Existing vegetation consists of grass, brush and trees. The area is currently grazed. Please see the biological report prepared by MIG|TRA Environmental Scientists dated February 2022.
- e) Please see Appendix C for Vegetation Retention Calculations based on the existing vegetation and parcel configuration in 1993. This project proposes to retain 81% of the

tree canopy and 40% of the brush and open (grass) cover that existed on the property in 1993.

- f) Please see Appendix C for Vegetation Retention Calculations to demonstrate compliance with County Code Section 18.108.020(C) (70% Vegetation Retention) and County Code Section 18.108.020(D) (3:1 Tree Preservation). This project proposes to retain 75% of the tree canopy that existed on the property in 2016, exceeding the 70% retention requirements of the County Code Section 18.108.020(C). The project has been designed to meet the 3:1 tree preservation requirement on areas under 50% slope and outside stream setbacks. This analysis is based on site-specific habitat mapping conducted by MIGTRA.
- g) There are structures on the property. Please see the cultural resources report prepared by Archaeological Services, Inc., dated June 25, 2013.
- h) The property is currently fenced. No additional deer fence is proposed. See Figure 3 in Appendix E for the Deer Fence map.
- i) A site visit of the property was performed by Jim Bushey of PPI Engineering on Wednesday, January 9, 2013 and Tuesday, July 28, 2020 to evaluate the vineyard development area and to collect photographic documentation. Photographs of pre-project conditions can be found in Appendix A.

Additional site visits of the property were performed by PPI staff from 2013 through 2021 to further evaluate the vineyard development area.

3. Natural and man-made features onsite including streams, lakes, reservoirs, roads, drainage, and other areas that may be affected by the proposed activity.

- a) No natural or man-made features are expected to be adversely affected by this project.
- b) The blue-line stream on the adjacent property that meets the Napa County definition of a stream has the appropriate setbacks, determined by slope as outlined in Napa County Conservation Regulation 18.108.025, shown on Sheet 1. Prior to construction the Engineer shall stake the appropriate stream setbacks adjacent to vineyard blocks based on in-field determination of the top of bank and slope.
- c) All ephemeral or intermittent streams that do not meet the Napa County definition of a stream have been avoided with a minimum 35' buffer in accordance with Napa County Conservation Regulation 18.108.025.
- d) All vineyard blocks will utilize existing access points from Soda Canyon Road. No new roads are proposed.

4. Location and source of water for irrigation or other uses.

- a) The location of the existing well, the proposed water source, is shown on the Site Plan. Please see the WAA prepared by Richard C. Slade and Associates dated January 2022.

5. Soil types/soil series identified in the Soil Conservation Service (SCS) Napa County Soil Survey.

- a) The USDA – NRCS Web Soil Survey maps the soil within the project boundary as Guenoc-Rock Outcrop Complex with 5 to 30 percent slopes and Rock Outcrop-Hambright Complex with 50 to 75 percent slopes.
- b) Some rock is expected to be generated as a result of this project. In many locations rock will be used for rock-filled avenues that will help retain sediment as well as disperse runoff from vineyard blocks. Rock-filled avenues shall be located as shown on Sheet 1 and at the downslope edge of vineyard blocks as determined by the Engineer in the field at the time of construction. The toe of the rock avenue fill slope shall not extend past the proposed clearing limits. Because of the nature of the rock-filled avenues, the proposed block boundary location is conceptual and not exact. Rock may be crushed and used on the existing roads where needed. Rock not used immediately will be stockpiled for future use inside the proposed clearing limits. Stockpiles are expected to be less than 20 feet in height. Rock staging areas shall be located inside of proposed clearing limits. Temporary rock stockpiles shall also be located inside of proposed clearing limits. No grading activities, ground disturbance or rock storage will occur outside of the proposed clearing limits.

6. Critical areas, if any, within the development site that have serious erosion potential or problems.

- a) There are no areas with serious erosion potential or problems.
- b) Please see geology report prepared by RGH Consultants dated February 2022.

7. Erosion calculations

- a) Universal Soil Loss Equation (USLE) spreadsheets for this project are in Appendix B of this report.
- b) Please see pre-project versus post-project soil loss analysis prepared by PPI Engineering dated January 2022.

8. Proposed erosion control methods including:

a) All drainage systems and facilities, walls, cribbing or other erosion protection devices to be constructed with, or as a part of the proposed work.

1. The final pass with disking equipment shall be performed across slopes to prevent channeling water downhill the first winter after development.
2. Straw wattles shall be installed the year of construction in the approximate locations shown on the Site Plan. Additional temporary erosion control measures shall be installed as needed.

b) Proposed vegetative erosion control measures including location, type and quantity of seed, mulch, fertilizer and irrigation, timing and methods of planting, mulching and maintenance of plant material and slopes until a specified percentage of plant coverage is uniformly established.

1. Disturbed areas shall be seeded as described below. Straw mulch shall be applied to all disturbed areas at a rate of 3,000 lbs/acre prior to September 15 of the year of construction.
2. A permanent cover crop strategy will be utilized. The permanent cover crop will be generated the first year by seeding with the following mix: Dwarf Barley at 50 lbs/acre, Blando Brome at 8 lbs/acre, Zorro Fescue at 12 lbs/acre, and Crimson Clover at 6 lbs/acre. A pre-approved alternative seed mix may be allowed.

The permanent cover crop will be managed each year such that any areas which have less than 80% percent vegetative cover will be reseeded and mulched until adequate coverage is achieved. The permanent cover crop shall be mowed only and not disked.

3. The owner has the option of using a Dwarf Barley cover crop in the first three years that the block is planted to aid with vineyard establishment. If this option is used, seed shall be applied at a rate of 120 lbs/acre if broadcast or at a rate of 60 lbs/acre if drilled. The cover crop within the vineyard may be disked each spring after April 1 for the first three years. An alternative cover crop seed mix may be used upon prior approval. Each year the owner chooses to disk, the area shall be straw mulched at a rate of 3,000 lbs/acre and straw wattles installed prior to September 15. The permanent seed mix will be seeded prior to September 15 of the fourth (or earlier) year.
4. No pre-emergent herbicides will be used for weed management. Contact or systemic herbicides may be applied in spring (no earlier than February 15 to ensure adequate vegetative cover in the spray strips for the remainder of the rainy season). The width of the spray strip shall be no wider than 1' in order to achieve 80% vegetative cover.

5. Fertilizer shall be applied as necessary by vineyard management personnel for both the vineyard and to ensure specified percent vegetative cover crop is achieved. Site-specific soil analysis should be performed.
6. The vineyard avenues shall be mowed only and shall not be disked. Unless otherwise noted, all avenues shall conform to the natural grade. Vineyard avenues shall be seeded and mulched prior to September 15 of the year of construction and in subsequent years in bare or disturbed areas. The cover crop will be managed each year such that any avenues which have less than 80% percent vegetative cover will be reseeded and mulched until adequate coverage is achieved. Seeding and mulching is not required on avenues and roads properly surfaced with gravel.
7. The proposed vine by row spacing is expected to be 3' by 6', however in areas where cross-slope exceeds 15% the owner shall increase the row spacing as needed to ensure there is adequate room for equipment. Width of tillage equipment shall be no more than 75% of row width to allow for bench formation and to minimize erosion.
8. The owner has the freedom to further subdivide vineyard blocks within the footprint of the proposed vineyard for irrigation and viticulture purposes. The proposed vinerow directions shall not be altered without an approved modification from Napa County.
9. Irrigation pipelines shall be located within existing roadways, vineyards and vineyard avenues, and/or within proposed clearing limits. Regardless of pipeline location, pipeline trenches located on ground slopes greater than 15% shall be backfilled using imported or select native granular material to a depth of 6 inches above the pipelines such that voids do not form below haunches of pipe. Backfill shall be wheel rolled or otherwise compacted to reduce settlement. Final grading over trenches shall be mounded and water-barred such that water is directed away from trenches.
10. As stated in the Napa County Protocol for Re-Planting/Renewal of Approved Non-Tilled Vineyard Cover Crops dated March 23, 2004, when it becomes necessary, either by routine or emergency, to re-establish or renew vineyard cover crop the following measures should be followed:
 - Seek professional consultation, including soil nutrient analysis, to determine the reasons for the original cover crop's failure. Adjust soil fertility, irrigation and seed selection accordingly.
 - When tillage is necessary, alternate rows should be tilled, seeded, and straw-mulched to effectively accomplish the re-establishment/renewal process over a two-year period.
 - Tillage and re-seeding should be conducted in the following manner:
 - In year 1, till to prepare seed bed and sow desired cover crop in every other row ("the evens"), leaving the alternate rows ("the odds") untilled and mowed only.

- Mulch all tilled rows having an up and down hill (perpendicular to contour) row direction with 3,000 lbs/acre of loose straw, or approved equivalent, after seeding.
- Tilled rows with cross-slope (parallel to contour) row direction and slope gradients less than 15% may not require straw mulch.
- In year 2, till to prepare seed bed and sow desired cover crop in “odd” rows.
- In year 2, leave “even” rows untilled and mowed only.
- Mulch rows tilled in year 2 as specified above.
- Put all re-establishment measures in place by September 1
- In year 3, return all rows to non-tilled culture.

9. Stormwater stabilization measures, if the development of the site will result in increased peak rates of runoff that may cause flooding or channel degradation downstream.

- a) No significant increase in quantity or rate of runoff is expected as a result of this project.
- b) Please see hydrology report prepared by PPI Engineering dated January 2022.

10. An implementation schedule showing the following:

a) The proposed clearing, grading, and/or construction schedule.

DATE	DESCRIPTION
April 1:	Commence clearing and tillage operations.
September 1:	All tillage and erosion control completed. This shall include complete construction of all structural measures required in these blocks which could include rock filled avenues.
September 15:	All winterization complete, including seeding, straw mulching, and straw wattle installation.

- b) The proposed schedule for winterizing the site (generally by October 15 of each year the permit is in effect.)**

The site shall be winterized and all necessary erosion control measures described in the Erosion Control Plan shall be installed by September 15.

- c) The proposed schedule of installation of all interim erosion and sediment control measures, including the stage of completion of such devices at the end of the grading season (generally October 15) of each year the permit will be in effect.**

See Item 10a).

- d) The schedule for installation of permanent erosion and sediment control devices where required.**

See Item 10a).

11. The estimated cost of implementation of the erosion and sediment control measures.

Typical costs for installing erosion control measures as described in this plan range from \$5,000 to \$10,000 per acre.

**AUSTIN PETERSON
3496 SODA CANYON ROAD**

EROSION CONTROL PLAN

STANDARD PROVISIONS

SECTION 1 - SCOPE OF WORK

These specifications cover the construction of the erosion control measures for approximately 5.3 acres of vineyard to be developed by Austin Peterson.

The drawing numbered 11212401B and these Specifications describe in detail the construction of the complete erosion control system. Requests for further information or clarification of the work to be done can be made to Jim Bushey or Matt Bueno at the Napa office of PPI Engineering, phone (707) 253-1806.

All costs for the complete construction of the erosion control system must be included in the bid items, since no other payment will be made outside of the bid items. This includes all costs for moving onto and off of the job site, all equipment, tools, materials, labor, fuel, taxes, and incidentals for furnishing and installing the erosion control system.

Surveying adequate for construction will be provided by the Owner, at the Owner's expense. The Contractor will be responsible for preserving construction survey stakes and markers for the duration of their intended use. Any restaking costs or additional survey work requested by the Contractor shall be deducted from the final payment to the Contractor. The Owner does not guarantee that the project being bid will be awarded. The Owner also reserves the right to change the quantities of actual work performed as needed with payment made according to the new quantities at the unit price bid.

SECTION 2 - AUTHORITY OF OWNER AND ENGINEER

The property is owned by Austin Peterson. Austin Peterson or the appointed representative shall have the final say in the event of a dispute with the Contractor.

The Owner shall appoint PPI Engineering as the Engineer to perform periodic review of the work. PPI Engineering shall report any unsatisfactory work to the Owner. The Contractor shall be responsible for any engineering fees or repair costs associated with bringing the unsatisfactory work into compliance with the Plans and Specifications.

SECTION 3 - CHANGES IN WORK

Materials and the manner of performance of the work performed in this contract shall be according to the Plans and Specifications. Modifications to the Plans or Specifications shall be agreed upon in writing by the Contractor, Owner, and Engineer before the work in question is performed. Materials and construction methods shall be as specified on the Plans and Specifications. The burden of proof that a given material or method constitutes an equivalent to the one specified will rest with the Contractor.

SECTION 4 - UTILITIES

At least two working days prior to beginning any excavation on the project, the Contractor shall contact Underground Service Alert (USA) at 1-800-642-2444 and request field location of all existing utilities.

Certain facilities at the site are existing. The Contractor shall be careful to avoid damaging existing facilities and shall notify the Owner immediately if any damage does occur. The cost of repairing any damage shall be the sole responsibility of the Contractor.

SECTION 5 - PROSECUTION OF THE WORK

Unless otherwise provided, the contract time shall commence upon issuance of a Notice to Proceed by the Owner. The work shall start within ten days thereafter and be diligently prosecuted to completion within the time specified in the Contractor's bid. If weather conditions prevent completion of the project within the specified amount of time, the Owner may extend the completion date of the project.

SECTION 6 - RESPONSIBILITIES OF THE CONTRACTOR

The Contractor agrees that in accordance with generally accepted construction practices, Contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including the safety of all persons and property. This requirement shall be made to apply continuously and not be limited to normal working hours. Contractor further agrees to defend, indemnify and hold design professional harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, excepting liability arising from the sole negligence of design professional.

The Contractor shall be responsible for controlling dust and mud generated from construction activities. The Contractor shall not allow dust or mud to obstruct vehicular traffic on County roads or State Highways. The Contractor shall be responsible for cleaning all vehicles prior to leaving the site as required by the California Highway Patrol. The Contractor, at their own expense, shall

provide adequate dust control and prevention of mud tracking on roads, and take other preventative measures as directed by the Owner.

The Contractor shall be responsible for following all safety laws that may be applicable. Of particular concern are the trench safety regulations issued by CAL-OSHA. The Contractor alone shall be responsible for the safety of their equipment and methods and for any damage or injury which may result from their failure, improper construction, maintenance, or operation.

The Contractor shall be responsible for installing necessary sediment retention measures to keep sediment from leaving the site if construction activities continue beyond October 1.

The Contractor shall keep the work site clean and free of rubbish and debris throughout the project. Materials and equipment shall be removed from the site as soon as they are no longer necessary or the project is completed.

The Contractor shall also be responsible for ensuring that all permits which are necessary for construction have been obtained and that copies of these permits are maintained onsite at all times.

The Contractor shall, at their own expense, furnish all necessary light, power, pumps, and water necessary for the work.

SECTION 7 - MEASUREMENT AND PAYMENT

Payment shall be made at the unit prices bid according to the actual quantities installed. Measurement of the final quantities shall be the responsibility of the Owner's Engineer.

The Engineer shall periodically observe the project during construction and upon completion of the project any unfinished or unacceptable work observed will be brought to the Contractor's attention verbally and in writing. Final payment will be made upon satisfactory completion of all work items required by these Plans and Specifications.

SECTION 8 - GUARANTEE

In addition to the guarantees from suppliers, the Contractor shall guarantee the work he performs for a period of two years. Any repairs needed to the system within two years of completion due to faulty workmanship or materials shall be promptly repaired at no expense to the Owner. Any costs incurred by the Owner and/or Engineer within two years of completion due to rubbish or debris placed in a trench or other excavation shall be paid by the Contractor.

Unless otherwise provided in writing, payment by the Owner to the Contractor for installation of this system shall constitute acceptance of all provisions in this document by the Contractor.

**AUSTIN PETERSON
3496 SODA CANYON ROAD**

EROSION CONTROL PLAN

SPECIAL PROVISIONS

SECTION 1– ROCK-FILLED AVENUE

1.1 GENERAL:

Rock-filled avenues will be constructed as shown in Detail 2, Sheet 2 along the field edges from excess fieldstone as staked in the field by the Engineer. Additional locations will be determined in the field by the Engineer during construction.

1.2 MATERIALS:

Rock shall be clean, well-graded field rock generated onsite.

1.3 INSTALLATION:

Field rock generated by ripping within the vineyard areas shall be used to construct outsloped avenues at the edges of certain vineyard areas. Vegetation shall be stripped and a bench cut as shown on the details. Rock shall be placed and shaped using a bulldozer and/or excavator, with smaller rock placed in voids and on top of the avenue to the extent possible. The toe of the fill slope shall not extend past the clearing limits.

SECTION 2 – ROCK LEVEL SPREADER

2.1 GENERAL:

A rock level spreader will be constructed as shown in Detail 3, Sheet 2 along the field edges from excess fieldstone as staked in the field by the Engineer.

2.2 MATERIALS:

Rock used in the construction of the rock level spreader shall be field rock generated onsite and shall be well-graded to prevent large voids within the structure. Smaller (3-inch minus) field rock and ¾-inch minus gravel will be used to line the trough of the spreader. Gravel may be crushed rock generated onsite but should contain sufficient fines to reduce the overall permeability of the spreader and cause water to flow laterally along the length of the structure (generally equivalent to Cal –Trans Class II Aggregate Base).

2.3 INSTALLATION:

The rock level spreader shall be constructed as shown on Detail 3, Sheet 2 and as staked in the field by the engineer. A bench shall be cut along the outboard toe for placement of rock. Care shall be taken to remove as much of the fine material (clay and silt size) as possible prior to placing the rock. The rock level spreader shall be parallel to the contour to ensure the water is evenly distributed, and the ends shall be turned uphill at least 2 feet in elevation to prevent water from running around the end. The spreader shall be constructed of large, well-graded rock to a finished cross-section with a trough depth of at least 3 feet. A layer of 3-inch minus field rock shall be spread 6-inches thick within the trough and a 6-inch layer of gravel applied over the smaller rock. Finished depth of the trough shall be at least 2 feet.

SECTION 3 – RESERVOIR REMOVAL GRADING PLAN

3.1 GENERAL:

The existing breached reservoir will be removed and the area regraded as shown in Detail 4, Sheet 2 and as staked in the field.

3.2 INSTALLATION:

The existing vegetation on the reservoir embankment and within the reservoir shall be removed and stockpiled inside the approved clearing limits. This material shall be spread within the vineyard areas after grading has been completed.

The embankment of the existing reservoir shall be removed and the excess soil graded to match the elevations as shown in Detail 4, Sheet 2. In areas where fill is required, the subgrade shall be scarified prior to placement of fill and material shall be moisture conditioned and placed at 85% relative compaction per ASTM D1557. After grading is completed, soil amendments may be incorporated by disking as needed. The area shall be seeded and mulched after completion the year of construction.

SECTION 4 - TEMPORARY MEASURES

4.1 GENERAL:

Temporary erosion control measures shall be constructed by the Owner. These measures can include water bars, straw wattles, straw mulching, straw bale dikes, and other practices as needed. The measures shall be constructed in conformance with the detail drawings and maintained in a functional condition throughout the rainy season.

SECTION 5 - MAINTENANCE

5.1 GENERAL:

The erosion control measures described in these Specifications and shown on the Plans and Details require regular maintenance in order to function as intended. Vineyard management personnel shall assure that the erosion control measures are monitored throughout the rainy season each year and necessary repairs and/or maintenance are performed immediately. Maintenance operations shall include, but not be limited to the following activities.

5.2 STRAW WATTLES:

Straw wattles shall be monitored and repaired as needed to ensure water does not run under the wattle or between adjacent wattles. Should excessive erosion cause the wattle to fill with sediment, this material shall be removed to a protected location and the source of the sediment located and protected as needed.

5.3 LEVEL SPREADERS:

Level spreaders shall be inspected after each storm event the first year and at least annually thereafter to ensure proper functioning.

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION



Photo 1

7/28/2020



Photo 2

7/22/2021

APPENDIX B

USLE CALCULATIONS

PPI Engineering

Napa County
 Maximum Length of Slope
 for a soil loss of 4 tons per acre

NAME: Austin Peterson

DATE: 5/26/20

Cover Type: Permanent Cover Crop
 Soil Unit No. (100-182)--- 143
 Soil Name Guenoc-Rock Outcrop

-K= 0.37
 -R= 85
 -T= 2

Percent Cover	65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
	C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
	289,393	626,694	1,716,530	7,325,514	26,258,845	101,448,564
	4	7,051	12,587	26,799	79,572	207,296
	6	1,066	1,695	3,103	7,410	15,940
	8	491	781	1,429	3,412	7,340
	10	262	416	762	1,820	3,916
	12	159	252	461	1,102	2,370
P	14	104	165	302	722	1,554
E	16	72	115	210	503	1,081
R	18	53	84	153	366	787
C	20	40	63	116	276	594
E	22	31	49	90	215	462
N	24	25	39	72	171	368
T	26	20	32	58	139	300
S	28	17	26	48	115	248
	30	14	22	41	97	209
L	32	12	19	35	83	178
O	34	10	16	30	71	154
P	36	9	14	26	62	134
E	38	8	13	23	55	118
	40	7	11	20	49	105
	42	6	10	18	44	94
	44	6	9	17	39	85
	46	5	8	15	36	77
	48	5	7	14	33	71
	50	4	7	13	30	65

NOTES:

C=Cover and Management Factor

P=Practice Factor

PPI Engineering

Napa County
 Maximum Length of Slope
 for a soil loss of 3 tons per acre

NAME: Austin Peterson

DATE: 5/26/20

Cover Type: Permanent Cover Crop

Soil Unit No. (100-182)--- 176

Soil Name Rock Outcrop-Hambright

-K= 0.10

-R= 85

-T= 1

Percent Cover	65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
	C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
	2 8,690,210	18,819,027	51,545,778	219,978,341	788,528,584	3,046,405,547
	4 90,449	161,466	343,778	1,020,749	2,659,179	7,327,836
	6 8,210	13,052	23,892	57,064	122,751	276,189
	8 3,781	6,010	11,002	26,277	56,525	127,182
	10 2,017	3,207	5,869	14,019	30,156	67,851
P	12 1,221	1,941	3,552	8,484	18,250	41,062
E	14 800	1,273	2,329	5,564	11,968	26,928
R	16 557	885	1,621	3,871	8,327	18,736
C	18 406	645	1,180	2,819	6,063	13,643
E	20 306	487	891	2,128	4,578	10,300
N	22 238	378	693	1,655	3,559	8,009
T	24 190	302	552	1,319	2,837	6,382
S	26 154	245	449	1,073	2,308	5,193
L	28 128	203	372	889	1,912	4,301
O	30 108	171	313	748	1,608	3,618
P	32 92	146	267	638	1,371	3,086
E	34 79	126	230	550	1,184	2,664
	36 69	110	201	480	1,033	2,324
	38 61	97	177	423	910	2,048
	40 54	86	157	376	809	1,820
	42 48	77	141	337	725	1,630
	44 44	70	127	304	654	1,471
	46 40	63	116	276	594	1,337
	48 36	58	106	252	543	1,222
	50 33	53	97	232	499	1,123

NOTES:

C=Cover and Management Factor

P=Practice Factor

APPENDIX C

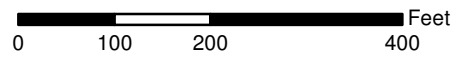
VEGETATION RETENTION CALCULATIONS

**AUSTIN PETERSON
VEGETATION RETENTION CALCULATIONS
BASED ON 1993 PARCELS AND VEGETATION**

Parcel	Acres
032-500-025	14.3
Proposed Vineyard Area	7.2
Developed in 1993	0.9
Post-1993 Development Area	0

	Tree Canopy Cover	Brush/ Shrub/Open Cover
Existing in 1993	3.6	9.8
Allowed to be Removed (acres)	1.1	5.9
Acres Removed Post-1993 Development (acres)	0.0	0.0
Proposed to be Removed (acres)	0.7	5.9
Proposed to be Retained (percent)	81%	40%

Note: some rounding may occur



Legend

-  Proposed Clearing Limits
 -  Proposed Block Boundaries
 -  1993 Napa County Parcels
 -  Existing 1993 Developed Area
 -  Existing 1993 Tree Canopy
 -  Existing 1993 Brush/Shrub/Open Cover
- 1993 Napa County Aerial Photo



11:26:14 AM 1/25/2022 R:\AUSTIN\ETVimages\Maps for ECP\2022-01 ECP\Figure 1 1993 Parcel Configuration.mxd

PPI
ENGINEERING
2800 Jefferson Street
Napa, CA 94558
(707) 253-1806

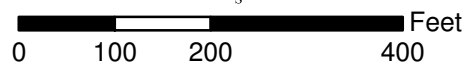
Austin Peterson
3496 Soda Canyon Road
Figure 1: 1993 Parcel Configuration & Vegetation
January 2022

AUSTIN PETERSON
3:1 TREE PRESERVATION CALCULATIONS

	APN 032-500-025
Proposed Clearing Limits (acres)	7.2
Trees Existing in 2016 (acres) ¹	4.62
Trees Proposed to be Removed (acres)	0.84
Trees on Less than 50% Slopes Outside Setbacks on Parcel (acres)	3.35
Trees Preserved on Less than 50% Slopes and Outside Setbacks (acres)	2.51
Trees Preserved (percent) ²	75%

Notes:

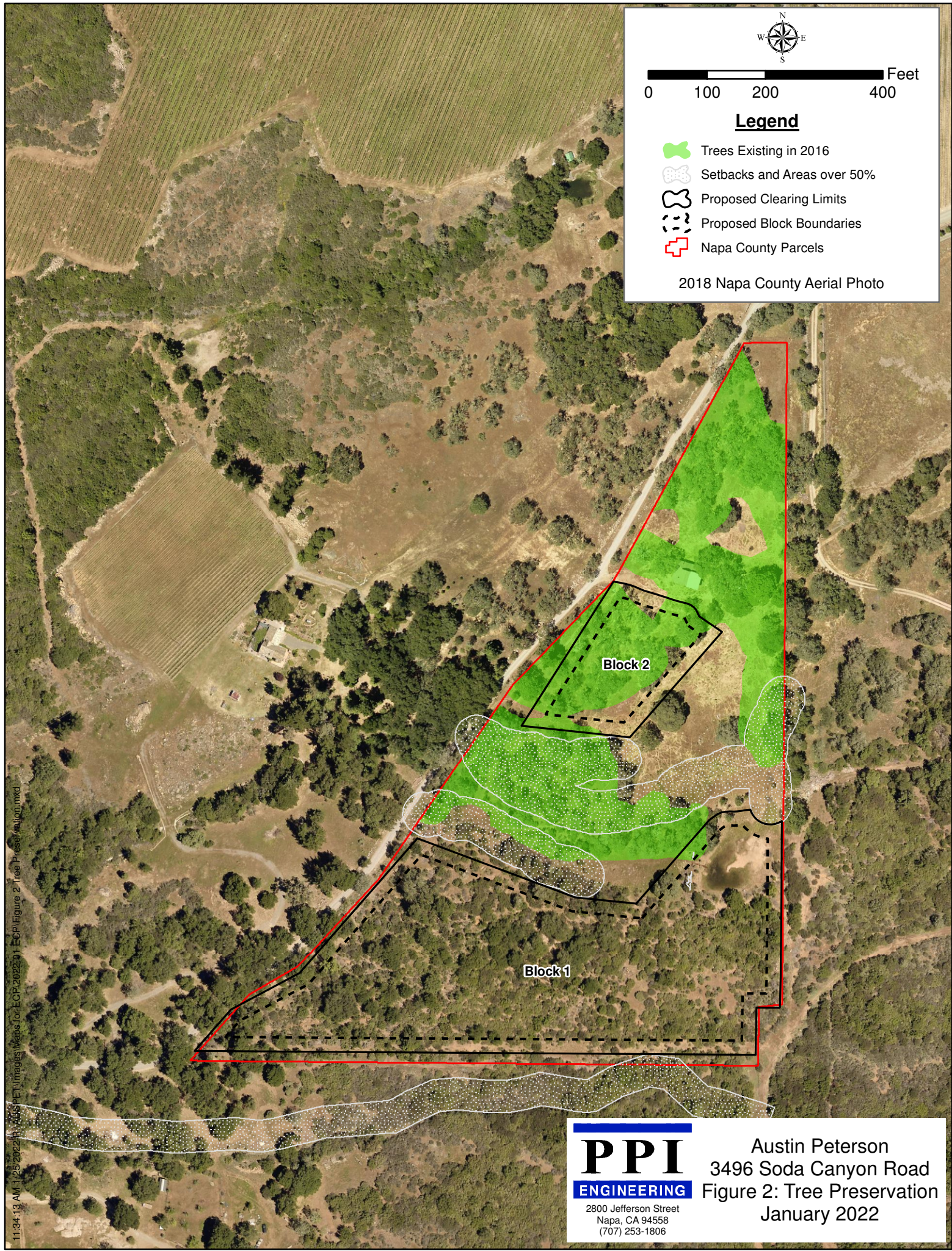
1. Source: MIGTRA Biological Study
2. 75% retention (or higher) is the same as 3:1 preservation (or higher)
3. Because the project meets 75% preservation on areas less than 50% slope and outside setbacks, it also complies with requirements to retain 70% of the tree canopy.
4. Some rounding may occur



Legend

- Trees Existing in 2016
- Setbacks and Areas over 50%
- Proposed Clearing Limits
- Proposed Block Boundaries
- Napa County Parcels

2018 Napa County Aerial Photo



11:34:13 AM 1/25/2022 P:\2025 PET\Images\Maps for EOP\2022\01 EOP\Figure 2 Tree Preservation.mxd

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Austin Peterson
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Figure 2: Tree Preservation
January 2022

APPENDIX D

SLOPE CALCULATIONS

**AUSTIN PETERSON
3496 SODA CANYON ROAD**

Average Slope Of Proposed Vineyard Blocks

Block	Gross Acres	Net Acres	Slope #1	Slope #2	Average Slope
1	6.1	4.6	10%	10%	10%
2	1.1	0.7	9%	9%	9%
Total	7.2	5.3			10%





APPENDIX E

SUPPORTING FIGURES

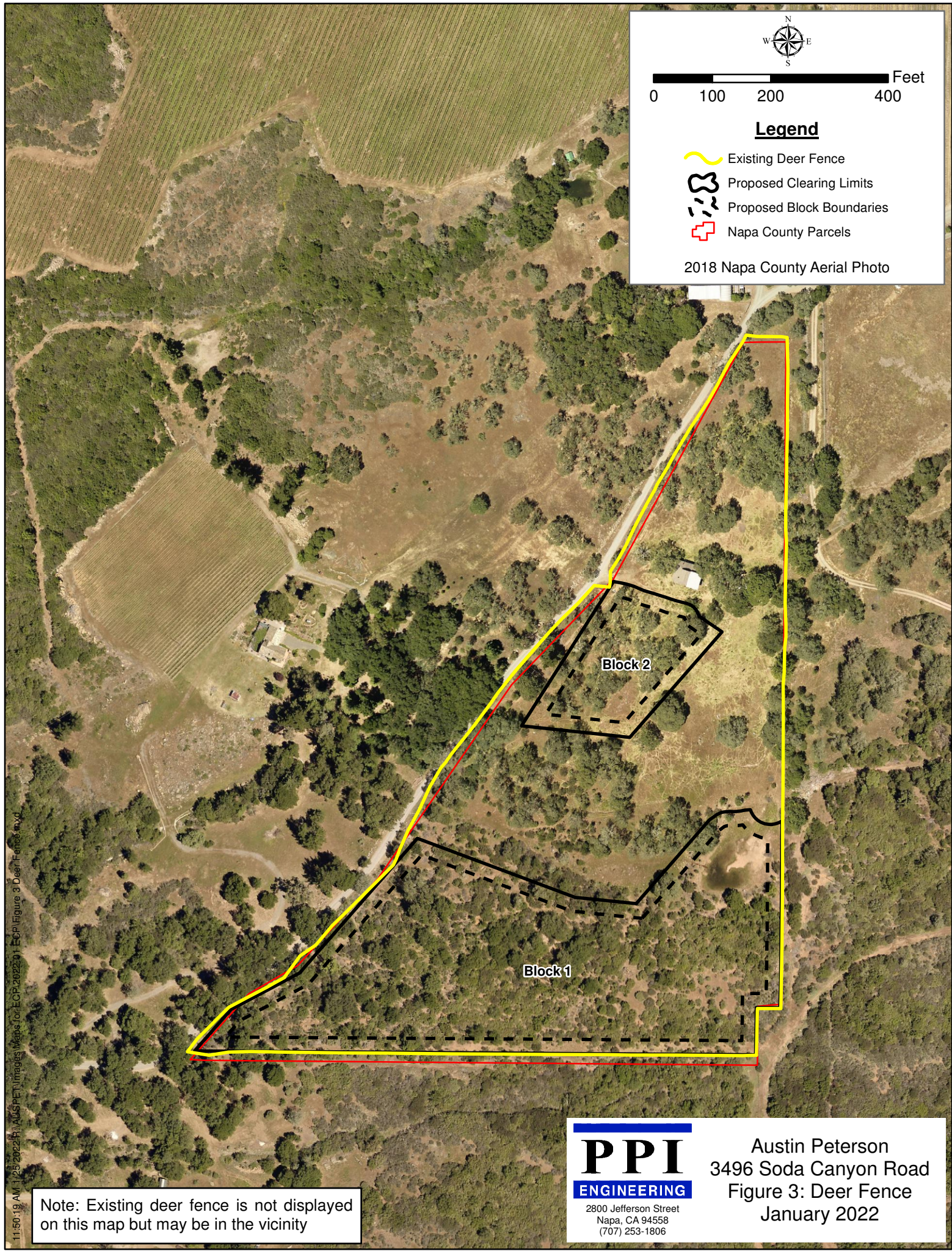


0 100 200 400 Feet

Legend

-  Existing Deer Fence
-  Proposed Clearing Limits
-  Proposed Block Boundaries
-  Napa County Parcels

2018 Napa County Aerial Photo



Block 2

Block 1

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 Figure 3: Deer Fence
 January 2022

Note: Existing deer fence is not displayed on this map but may be in the vicinity

11:50:19 AM 1/25/2022 P:\AUG\PE\Images\Maps for EOP\2022\01 EOP\Figure 3 Deer Fence.mxd

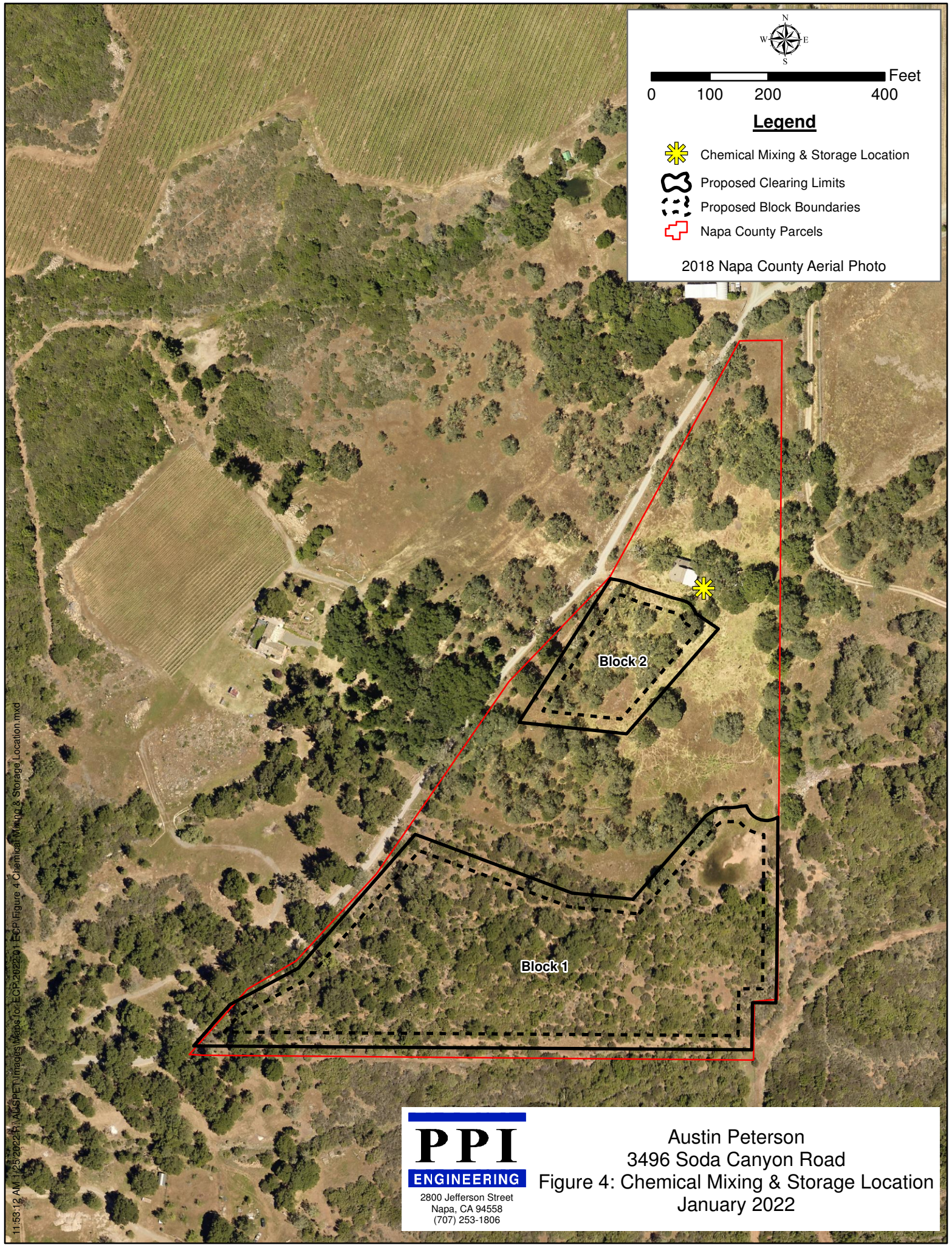


0 100 200 400 Feet

Legend

-  Chemical Mixing & Storage Location
-  Proposed Clearing Limits
-  Proposed Block Boundaries
-  Napa County Parcels

2018 Napa County Aerial Photo




11:53:12 AM 1/25/2022 P:\AUG\PET\Images\Maps for EOP\2022\01 EOP\Figure 4 Chemical Mixing & Storage Location.mxd







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Figure 4: Chemical Mixing & Storage Location
January 2022




 0 100 200 400 Feet

Legend

-  Proposed Irrigation Mainline, Trenched
-  Proposed Irrigation Mainline, Above Ground
-  Approximate Well Location
-  Proposed Clearing Limits
-  Proposed Block Boundaries
-  Napa County Parcels

2018 Napa County Aerial Photo

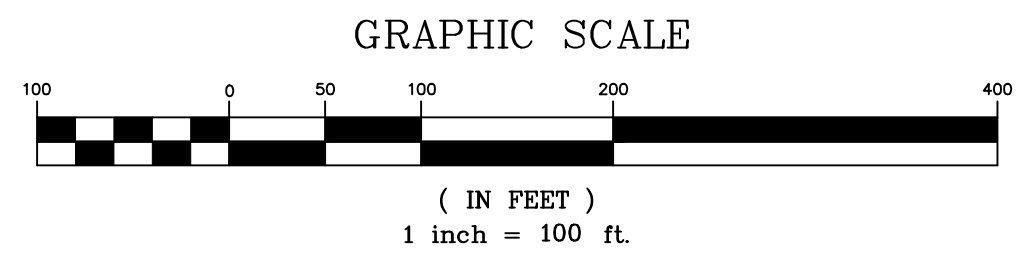
11:58:42 AM 1/25/2022 P:\AUGUST\Images\Maps for EOP\2022\01 EOP\Figure 5 Irrigation Infrastructure.mxd

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Austin Peterson
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 Figure 5: Irrigation Infrastructure
 January 2022



2' CONTOUR TOPOGRAPHIC MAPPING PROVIDED BY AMERICAN AERIAL MAPPING, INC., 10-15-2012

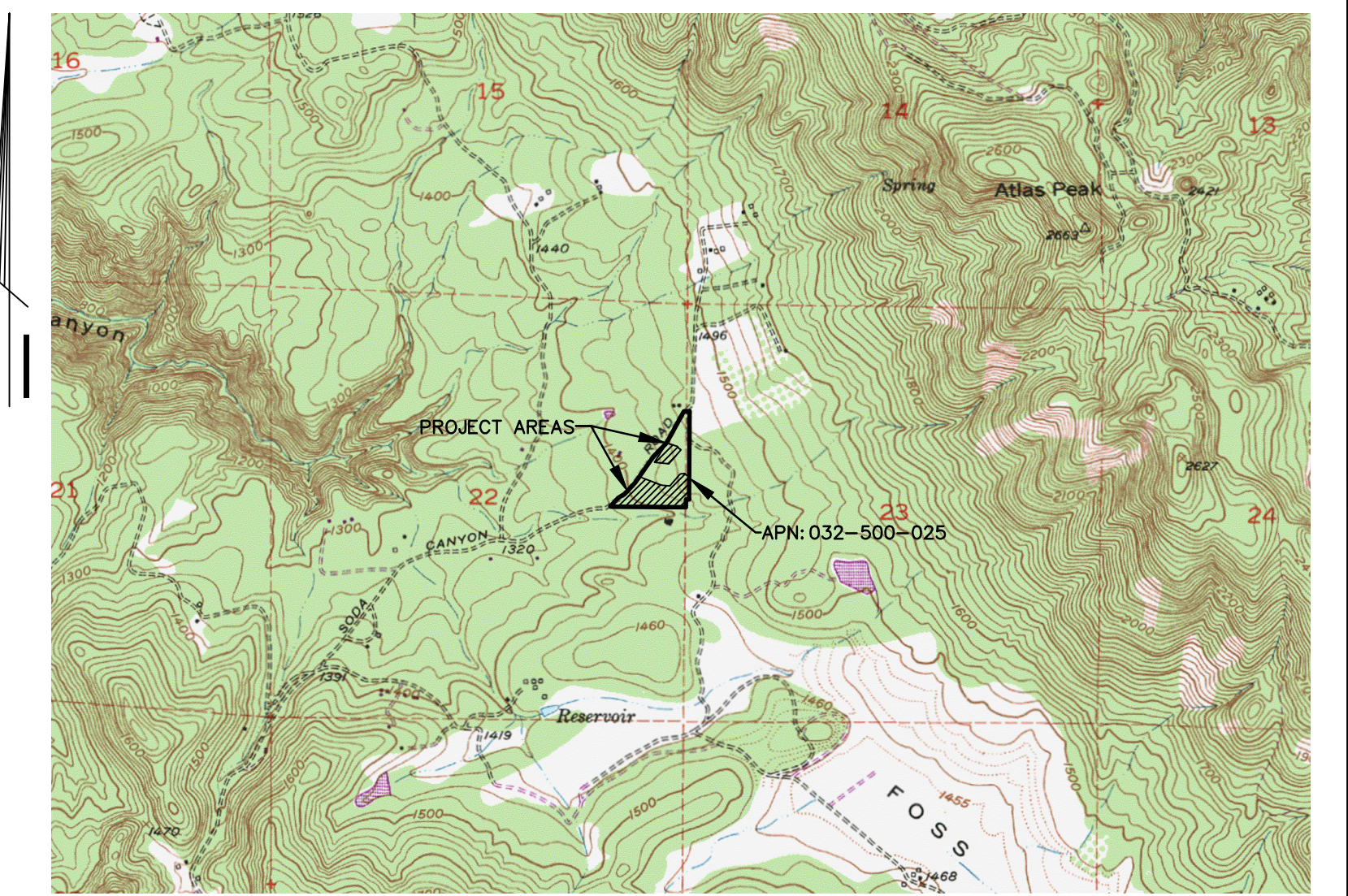


LEGEND

- APPROXIMATE PROPERTY LINE LOCATION
- U.S.G.S. BLUE LINE STREAM
- WATERS OF THE U.S. AS MAPPED BY TRA ENVIRONMENTAL SCIENCES
- TOP OF BANK, APPROXIMATE
- NAPA COUNTY STREAM SETBACK
- 35' SETBACK
- EXISTING ROAD
- EXISTING FENCE
- EXISTING BUILDING
- EXISTING WELL, APPROXIMATE LOCATION
- PROPOSED VINEYARD CLEARING LIMITS
- PROPOSED VINEYARD BLOCK BOUNDARY
- PROPOSED STRAW WATTLE (SEE DETAIL 1, SHEET 2)
- PROPOSED ROCK FILLED AVENUE (SEE DETAIL 2, SHEET 2)
- PROPOSED ROCK LEVEL SPREADER (SEE DETAIL 3, SHEET 2)
- AREA WHERE GROUND SLOPE IS 30 PERCENT OR GREATER
- PROPOSED VINEROW DIRECTION
- PHOTO POINT NUMBER & LOCATION (SEE APPENDIX A)
- AVERAGE SURFACE SLOPE
- 143
- 176

USDA SOIL CLASSIFICATIONS:

- 143 GUENOC-ROCK OUTCROP COMPLEX 5-30% SLOPES
- 176 ROCK OUTCROP-HAMBRIGHT COMPLEX 50-75% SLOPES



VICINITY MAP
USGS YOUNTVILLE QUADRANGLE
TOWNSHIP 7 N., RANGE 4 W.
SCALE: 1" = ±2000'

NOTES:

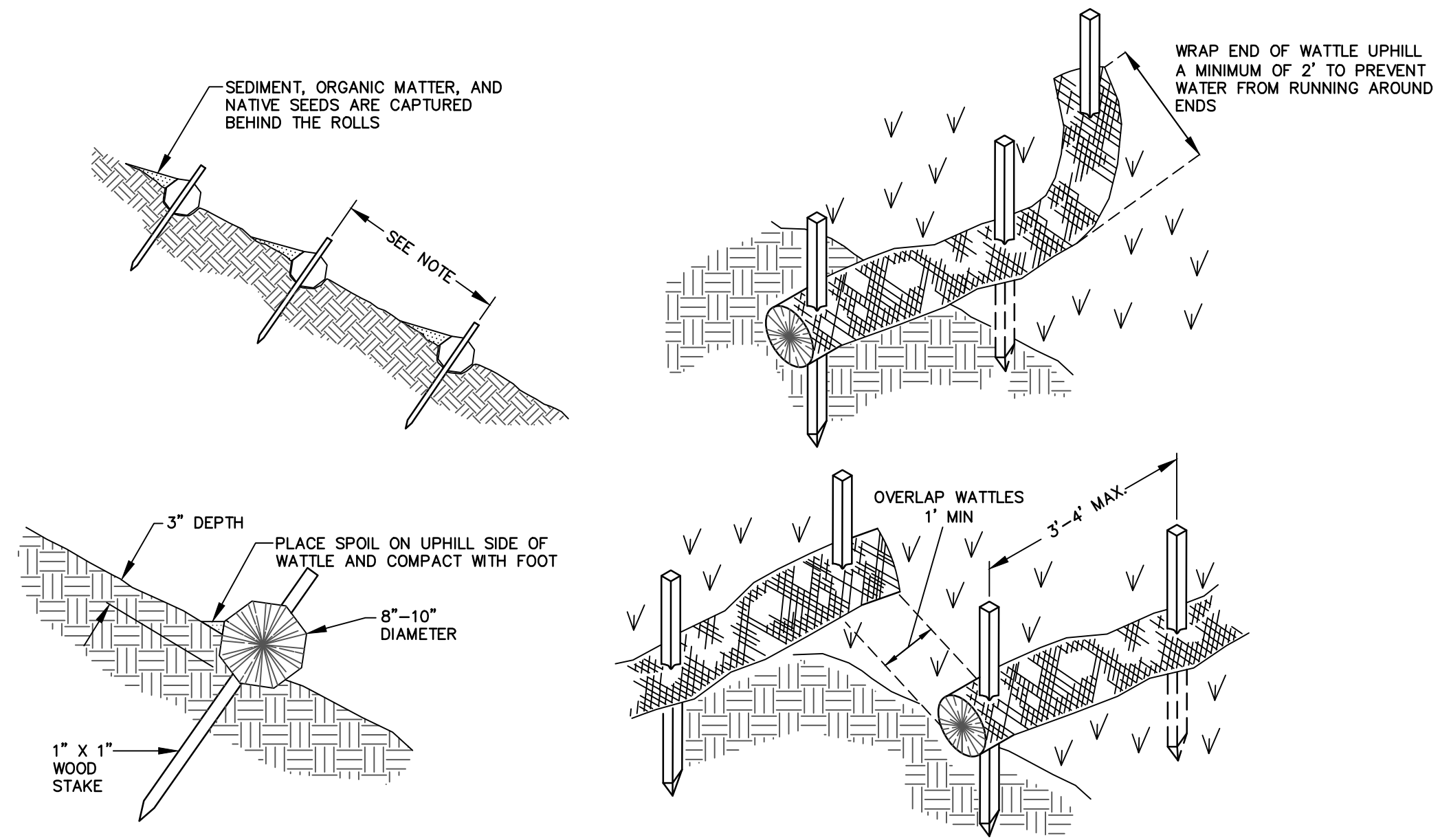
1. OWNER: AUSTIN THOMAS PETERSON
SITE ADDRESS: 3496 SODA CANYON ROAD
APN: 032-500-025
2. ACCESS TO PROJECT IS FROM SODA CANYON ROAD. THE SITE IS GATED AND LOCKED. ADMITTANCE IS AVAILABLE UPON REQUEST.
3. EXISTING VEGETATION CONSISTS OF GRASS, BRUSH, AND TREES.
4. DISTURBED AREAS SHALL BE SEEDED AS DESCRIBED BELOW. STRAW MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 3,000 LBS/ACRE PRIOR TO SEPTEMBER 15 OF THE YEAR OF CONSTRUCTION.
5. PERMANENT COVER CROP (NO-TILL):
A PERMANENT COVER CROP STRATEGY WILL BE UTILIZED. THE PERMANENT COVER CROP WILL BE GENERATED THE FIRST YEAR BY SEEDING WITH THE FOLLOWING MIX:

VARIETY	RATE (LBS/ACRE)
DWARF BARLEY	50
BLANDO BROME	8
ZORRO FESCUE	12
CRIMSON CLOVER	6

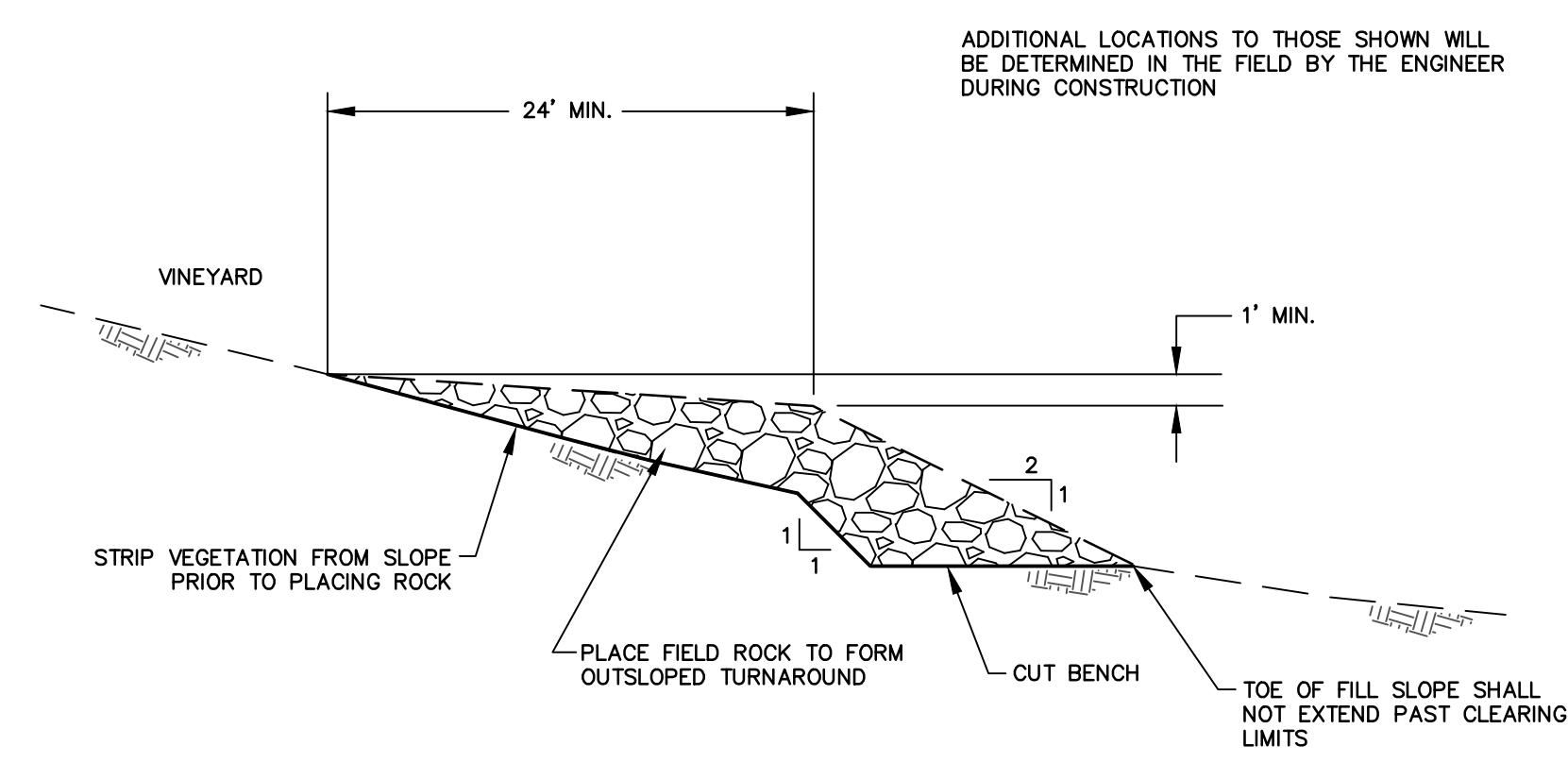
 A PRE-APPROVED ALTERNATIVE SEED MIX MAY BE ALLOWED.
 THE PERMANENT COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AREAS WHICH HAVE LESS THAN 80% PERCENT VEGETATIVE COVER WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. THE PERMANENT COVER CROP SHALL BE MOWED ONLY AND NOT DISKED.
6. THE OWNER HAS THE OPTION OF USING A DWARF BARLEY COVER CROP IN THE FIRST THREE YEARS THAT THE BLOCK IS PLANTED TO AID WITH VINEYARD ESTABLISHMENT. IF THIS OPTION IS USED, SEED SHALL BE APPLIED AT A RATE OF 120 LBS/ACRE IF BROADCAST OR AT A RATE OF 60 LBS/ACRE IF DRILLED. THE COVER CROP WITHIN THE VINEYARD MAY BE DISKED EACH SPRING AFTER APRIL 1 FOR THE FIRST THREE YEARS. AN ALTERNATIVE COVER CROP SEED MIX MAY BE USED UPON PRIOR APPROVAL. EACH YEAR THE OWNER CHOOSES TO DISK, THE AREA SHALL BE STRAW MULCHED AT A RATE OF 3,000 LBS/ACRE AND STRAW WATTLES SHALL BE INSTALLED PRIOR TO SEPTEMBER 15. THE PERMANENT SEED MIX WILL BE SEEDED PRIOR TO SEPTEMBER 15 OF THE FOURTH (OR EARLIER) YEAR.
7. NO PRE-EMERGENT HERBICIDES WILL BE USED FOR WEED MANAGEMENT. CONTACT OR SYSTEMIC HERBICIDES MAY BE APPLIED IN SPRING (NO EARLIER THAN FEBRUARY 15TH TO ENSURE ADEQUATE VEGETATIVE COVER IN THE SPRAY STRIPS FOR THE REMAINDER OF THE RAINY SEASON). THE WIDTH OF THE SPRAY STRIP SHALL BE NO WIDER THAN 1' IN ORDER TO ACHIEVE 80% VEGETATIVE COVER.
8. FERTILIZER SHALL BE APPLIED AS NECESSARY BY VINEYARD MANAGEMENT PERSONNEL FOR BOTH THE VINEYARD AND TO ENSURE SPECIFIED PERCENT VEGETATIVE COVER CROP IS ACHIEVED. SITE-SPECIFIC SOIL ANALYSIS SHOULD BE PERFORMED.
9. THE VINEYARD AVENUES SHALL BE MOWED ONLY AND SHALL NOT BE DISKED. UNLESS OTHERWISE NOTED, ALL AVENUES SHALL CONFORM TO THE NATURAL GRADE. VINEYARD AVENUES SHALL BE SEEDED AND MULCHED PRIOR TO SEPTEMBER 15 OF THE YEAR OF CONSTRUCTION AND IN SUBSEQUENT YEARS IN BARE OR DISTURBED AREAS. THE COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AVENUES WHICH HAVE LESS THAN 80% PERCENT VEGETATIVE COVER WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. SEEDING AND MULCHING IS NOT REQUIRED ON AVENUES AND ROADS PROPERLY SURFACED WITH GRAVEL.
10. THE PROPOSED VINE BY ROW SPACING IS EXPECTED TO BE 3' BY 6', HOWEVER IN AREAS WHERE CROSS-SLOPE EXCEEDS 15% THE OWNER SHALL INCREASE THE ROW SPACING AS NEEDED TO ENSURE THERE IS ADEQUATE ROOM FOR EQUIPMENT. WIDTH OF TILLAGE EQUIPMENT SHALL BE NO MORE THAN 75% OF ROW WIDTH TO ALLOW FOR BENCH FORMATION AND TO MINIMIZE EROSION.
11. THE OWNER HAS THE FREEDOM TO FURTHER SUBDIVIDE VINEYARD BLOCKS WITHIN THE FOOTPRINT OF THE PROPOSED VINEYARD FOR IRRIGATION AND VITICULTURE PURPOSES. THE PROPOSED VINEROW DIRECTIONS SHALL NOT BE ALTERED WITHOUT AN APPROVED MODIFICATION FROM NAPA COUNTY.
12. THE LOCATION OF THE EXISTING WELL, THE PROPOSED WATER SOURCE, IS SHOWN ON THE SITE PLAN.
13. THE PROPERTY IS CURRENTLY FENCED. NO ADDITIONAL DEER FENCE IS PROPOSED. SEE FIGURE 3 IN APPENDIX E FOR THE DEER FENCE MAP.
14. REQUESTS FOR FURTHER INFORMATION, CLARIFICATION OF WORK TO BE DONE, OR INSPECTION INFORMATION CAN BE MADE TO JIM BUSHEY OR MATT BUENO AT PPI ENGINEERING IN NAPA, (707) 253-1806.
15. PROPERTY LINES AS SHOWN ARE APPROXIMATE. OWNER SHALL BE RESPONSIBLE FOR SURVEYING PROPERTY LINE(S) AS NECESSARY PRIOR TO ANY SITE DISTURBANCE.
16. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
17. AT LEAST 48 HOURS PRIOR TO EXCAVATING, THE CONTRACTOR SHALL CALL UNDERGROUND SERVICES ALERT (U.S.A.) AT 1-800-642-2444 IN ORDER TO LOCATE EXISTING UTILITIES. IT IS THE OWNER'S RESPONSIBILITY TO LOCATE ANY ADDITIONAL UNDERGROUND UTILITIES THAT MAY HAVE BEEN INSTALLED "IN-HOUSE" OR BY PRIVATE CONTRACTORS AND THEREFORE MAY NOT BE LOCATED THROUGH UNDERGROUND SERVICE ALERT.
18. IT IS THE OWNER'S RESPONSIBILITY TO INSTALL ALL STRUCTURAL MEASURES AS SHOWN ON THE SITE PLAN AND DETAILS AND AS DESCRIBED IN THE SPECIFICATIONS WITHIN THE TIME FRAMES SPECIFIED FOR THIS PROJECT. ANY DEVIATION FROM THESE PLANS MUST BE REVIEWED AND APPROVED BY NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT. IT IS THE OWNER'S RESPONSIBILITY TO INITIATE THIS MODIFICATION PROCESS. PPI ENGINEERING MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION IN ORDER TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER/MANAGER AND CONTRACTOR(S). FOR ONGOING MULTI-YEAR PROJECTS PPI ENGINEERING MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF RESUMING CONSTRUCTION EACH YEAR.



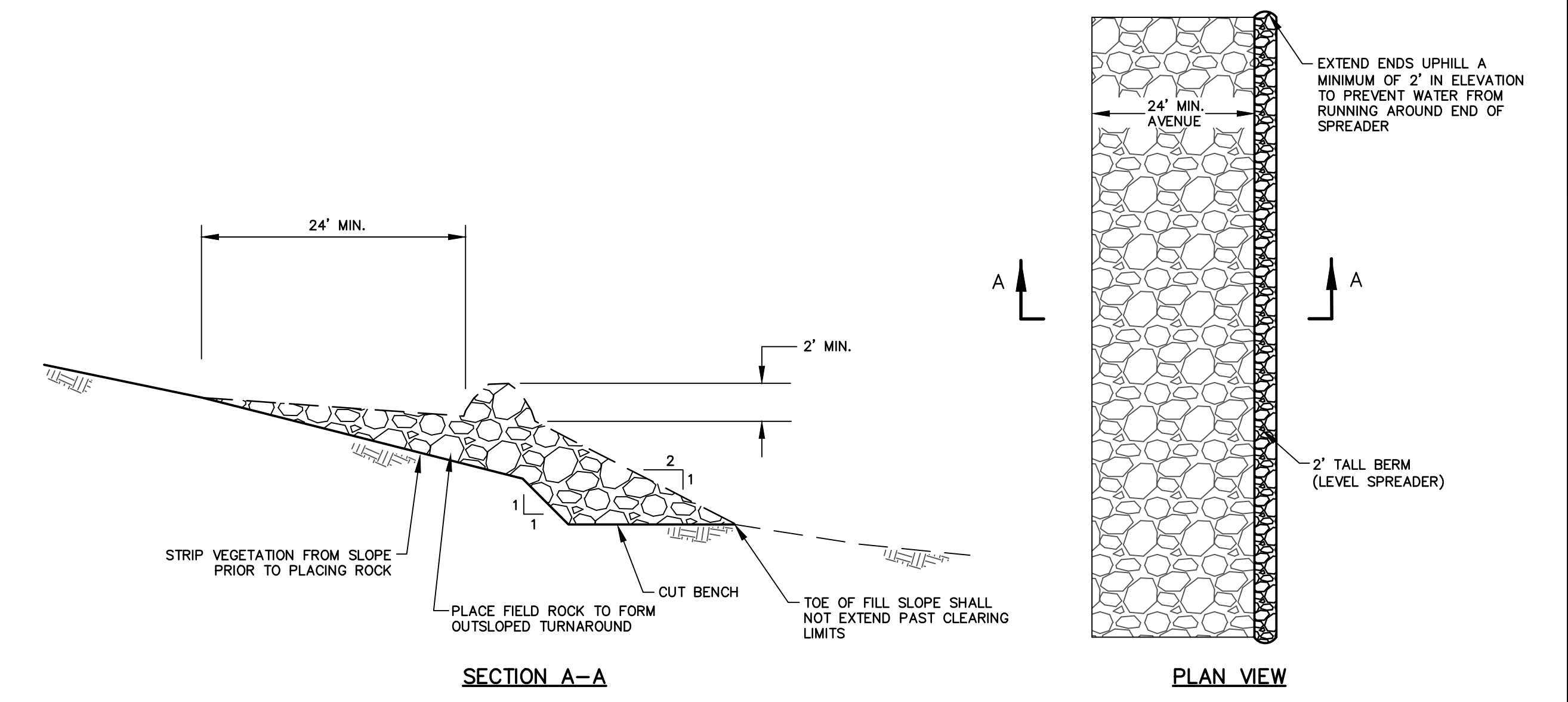
AUSTIN PETERSON	
3496 SODA CANYON ROAD	
EROSION CONTROL PLAN	
SITE PLAN	
DESIGN ENGINEER:	
J. BUSHEY, M. BUENO	
JOB NO: 11212401	SCALE:
DWG. NO: 11212401B	AS SHOWN
DRAWN BY:	DATE:
JCJ, RR	1-24-22
SHEET:	OF:
1	2



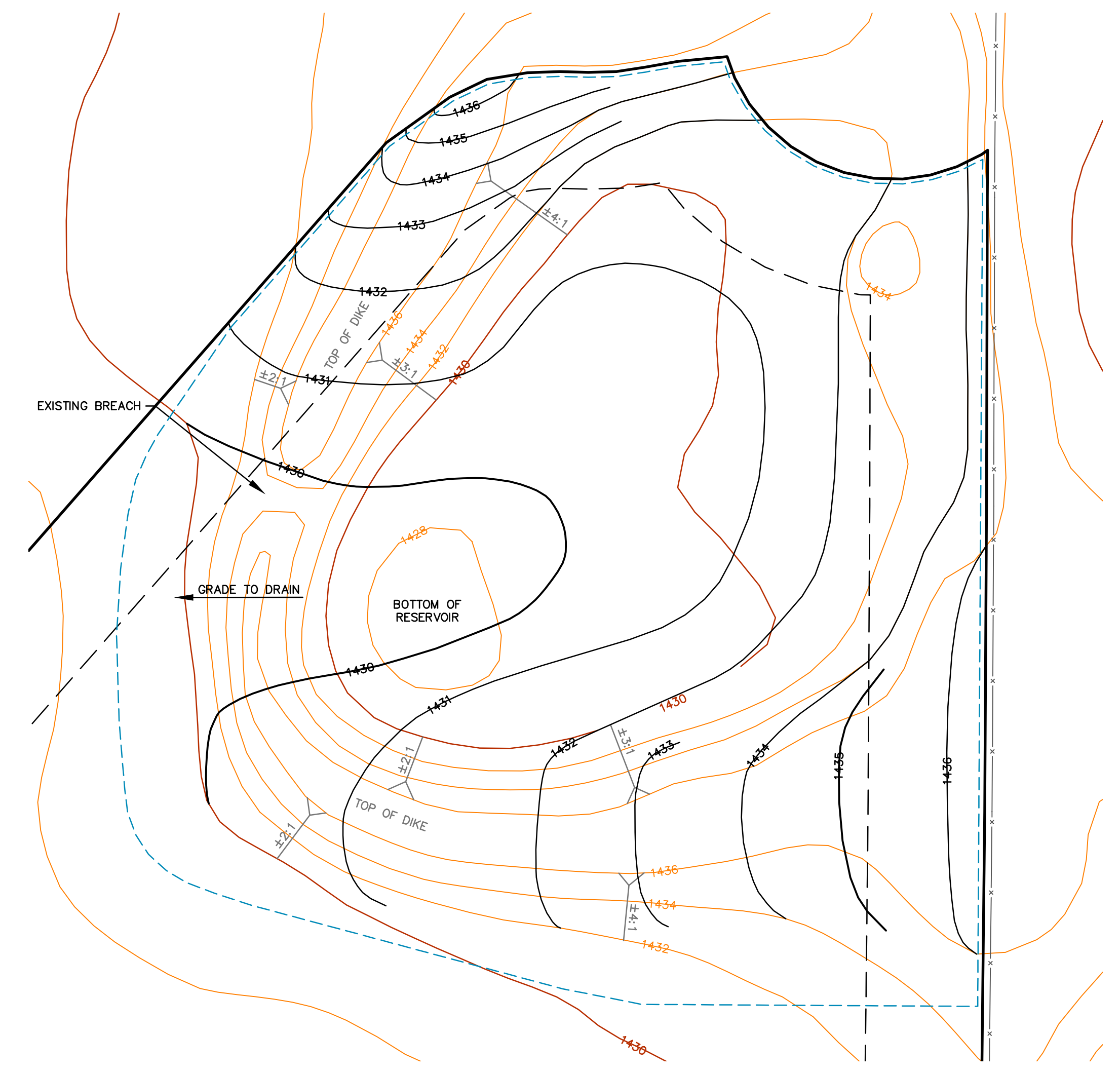
1 STRAW WATTLE INSTALLATION
2 N.T.S.



2 ROCK-FILLED AVENUE
2 N.T.S.



3 ROCK LEVEL SPREADER
2 N.T.S.



4 RESERVOIR REMOVAL GRADING PLAN
2 SCALE 1" = 20'

- LEGEND**
- EXISTING GRADE INDEX CONTOUR, 10' INTERVAL
 - EXISTING GRADE INTERMEDIATE CONTOUR, 2' INTERVAL
 - PROPOSED FINISH GRADE INDEX CONTOUR, 5' INTERVAL
 - PROPOSED FINISH GRADE INTERMEDIATE CONTOUR, 1' INTERVAL
 - - - PROPOSED LIMITS OF RESERVOIR GRADING
 - x - x - EXISTING FENCE
 - PROPOSED VINEYARD CLEARING LIMITS
 - - - PROPOSED VINEYARD BLOCK BOUNDARY

NOTE: THIS PROJECT IS EXPECTED TO GENERATE ±1500 CUBIC YD OF CUT AND ±1500 CUBIC YD OF FILL



AUSTIN PETERSON 3496 SODA CANYON ROAD EROSION CONTROL PLAN DETAILS	
DESIGN ENGINEER: J. BUSHEY, M. BUENO	
SCALE: AS SHOWN	DRAWN BY: JCJ, RR
DATE: 1-24-22	SHEET: 2 OF 2

PPI ENGINEERING
 2800 JEFFERSON STREET
 NAPA, CA 94558
 707/253-1806 FAX 707/253-1604