Exhibit C

PPI ENGINEERING
VINEYARD DESIGN
EROSION CONTROL
WATER DEVELOPMENT
DRAINAGE
PERMITTING
GPS/GIS

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MEMORANDUM

Date: September 1, 2020

To: Daniel Hornett, Napa County Planning, Building, and Environmental Services

From: James R. Bushey, P.E.
Samuel Moose

Cc: John McDowell, Napa County Planning, Building, and Environmental Services

Re: Shafer Blodgett Vineyard Track I ECP, #P20-00117-ECPA
5096 Silverado Trail
APNs 039-051-019, 039-051-021, 039-051-023, and 039-051-033
Revised Soil Loss Analysis

This memo transmits the findings of a revised soil loss modeling analysis for the above-referenced Track I Erosion Control Plan (ECP). At the request of the Napa County Engineering Division, the project has been redesigned such that decreases in post-project soil loss are achieved on a localized deposition zone level. Specifically, previous increases associated with Transects 1, 4C, & 6 were addressed to ensure no-net increase for post-project conditions. Proposed vineyard Block 1 has been removed from the project, and thus Transect 1 did not need to be reevaluated. The proposed cover in Blocks 4 & 6 has been increased, resulting in no net increase in soil loss for Transects 4C & 6. Also at the request of the Napa County Engineering Division, Transects 4B, 4C, 8B, & 9 have been revised to incorporate a segmented cover (C) value consistent with the segmented length and steepness (LS) value of each transect. The two segmented values (C & LS) are now calculated concurrently for these transects according to the procedure outlined in the *USDA Agriculture Handbook Number 537, Predicting Rainfall Erosion Losses*.

The Universal Soil Loss Equation (USLE) was used to predict pre-project and post-project soil loss from within the proposed vineyard development areas. A combination of topographic maps, aerial imagery, and a site visit were used to determine pre-project transect locations, slopes, and cover values. Pre-project and post-project cover values are consistent with the United States Department of Agriculture (USDA) – Natural Resource Conservation Service (NRCS) publication titled "The Universal Soil Loss Equation Special Applications for Napa County, California" (May 1994).

A site visit was conducted on January 18, 2019, as well as a supplemental site visit on November 20, 2019, by Cody Corsetti and Sam Moose of PPI Engineering to determine the pre-project cover values for each block and/or transect area. All proposed development areas were inspected, and the cover values used in this analysis represent existing conditions at the time of

the site visit. An additional site visit was conducted on May 14, 2020 with Daniel Hornett and Don Barella of Napa County Planning, Building, & Environmental Services (PBES), David Ilsley of Shafer Vineyards, and Cody Corsetti and Annalee Sanborn of PPI Engineering to verify the pre-project cover values for each block and/or transect area. Post-project cover values were calculated using the percent cover specified in the ECP. This analysis is limited to the proposed vineyard areas as well as vineyard avenues (28.3 gross acres).

The revised model, summarized on page 2 of the supporting documents (attached), predicts a net decrease of approximately 9.4 tons of soil loss per year for the project as a whole. The ECP has been designed to ensure compliance with Napa County policies requiring no-net-increase in soil loss for post-project conditions. Please see the following supporting documents that contain data tables, calculations, maps of transect locations, and results from the analysis.

ATTACHMENT A

SUPPORTING DOCUMENTS

Shafer Blodgett Vineyard Track I ECP
USLE Analysis

Shafer Blodgett Vineyard Track I ECP
USLE Calculations
PPI Engineering
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USLE Calculations - Block Summary Sheet

Proposed Block	Proposed Development Acres	Pre-Project Soil Loss (tons/year)	Post-Project Soil Loss (tons/year)	Net Increase/Decrease (tons/year)
2A	3.45	4.74	4.08	0.66
2B	1.23	1.82	1.40	0.42
3	1.53	2.36	2.10	0.26
4	10.09	12.56	6.63	5.93
5	2.54	1.23	1.19	0.05
6	0.88	0.07	0.07	0.00
7	4.28	3.58	2.42	1.16
8A	1.82	2.90	2.19	0.70
8B	1.15	0.71	0.50	0.21
9	1.37	0.69	0.65	0.05
Totals	28.34	30.66	21.23	9.43

Note: Individual estimates may not add to the totals due to rounding

Shafer Blodgett Vineyard Track I ECP
USLE Calculations
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USLE Calculations - Transect Summary Sheet

Proposed Block Transect	Proposed Development Acres	Pre-Project Soil Loss (tons/year)	Post-Project Soil Loss (tons/year)	Net Increase/Decrease (tons/year)
2A1	1.32	1.93	1.66	0.27
2A2	1.24	1.82	1.56	0.25
2A3	0.89	0.99	0.85	0.14
2B	1.23	1.82	1.40	0.42
3	1.53	2.36	2.10	0.26
4A	0.70	0.30	0.17	0.12
4B	6.42	10.30	4.87	5.43
4C	2.97	1.96	1.59	0.37
5A	1.77	0.94	0.90	0.04
5B	0.77	0.29	0.28	0.01
6	0.88	0.07	0.07	0.00
7A	2.03	2.01	1.21	0.80
7B	2.25	1.57	1.21	0.36
8A	1.82	2.90	2.19	0.70
8B	1.15	0.71	0.50	0.21
9	1.37	0.69	0.65	0.05
Totals	28.34	30.66	21.23	9.43

Note: Individual estimates may not add to the totals due to rounding

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USLE Calculations Pre-Project
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Pre-Project Block 2A, Transect 2A1

Proposed Development Acres:	1.32		
Soil Unit No. (100-182):	176		
Soil Name:	Rock Outcrop-Hambright		
K, Soil Erodibility:	0.28		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	398		
Number of Segments:	3		
Individual Segment Lengths (ft):	133		
Segment:	1	2	3
Gradient (%):	18	12	15
m:			
Individual LS:	6.03	3.48	4.72
Factor:	0.19	0.35	0.46
Product:	1.15	1.22	2.17
LS, Length and Steepness:	4.53		
Total Transect Average Gradient (%):	15		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Vegetative Canopy:	No Canopy		
Canopy Cover:	0%		
Ground Cover:	85%		
Percent Grass:	30%		
Percent Weeds:	70%		
C, Cover (Table 5)[1]:	0.026		
A, Soil Loss (tons/acre):	1.46		
Soil Loss in Proposed Development (tons):	1.93		

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Post-Project Block 2A, Transect 2A1

Proposed Development Acres:	1.32		
Soil Unit No. (100-182):	176		
Soil Name:	Rock Outcrop-Hambright		
K, Soil Erodibility:	0.28		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	398		
Number of Segments:	3		
Individual Segment Lengths (ft):	133		
Segment:	1	2	3
Gradient (%):	18	12	15
m:			
Individual LS:	6.03	3.48	4.72
Factor:	0.19	0.35	0.46
Product:	1.15	1.22	2.17
LS, Length and Steepness:	4.53		
Total Transect Average Gradient (%):	15		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Cover Strategy:	Permanent		
Age of Development:	Over 3 Years		
Ground Cover:	80%		
C, Cover (Table 4)[1]:	0.022		
A, Soil Loss (tons/acre):	1.26		
Soil Loss in Proposed Development (tons):	1.66		

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Pre-Project Block 2A, Transect 2A2

Proposed Development Acres:	1.24		
Soil Unit No. (100-182):	176		
Soil Name:	Rock Outcrop-Hambright		
K, Soil Erodibility:	0.28		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	187		
Number of Segments:	3		
Individual Segment Lengths (ft):	62		
Segment:	1	2	3
Gradient (%):	26	16	19
m:			
Individual LS:	6.70	3.53	4.44
Factor:	0.19	0.35	0.46
Product:	1.27	1.23	2.04
LS, Length and Steepness:	4.55		
Total Transect Average Gradient (%):	20		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Vegetative Canopy:	No Canopy		
Canopy Cover:	0%		
Ground Cover:	85%		
Percent Grass:	30%		
Percent Weeds:	70%		
C, Cover (Table 5)[1]:	0.026		
A, Soil Loss (tons/acre):	1.46		
Soil Loss in Proposed Development (tons):	1.82		

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
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Post-Project Block 2A, Transect 2A2

Proposed Development Acres:	1.24		
Soil Unit No. (100-182):	176		
Soil Name:	Rock Outcrop-Hambright		
K, Soil Erodibility:	0.28		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	187		
Number of Segments:	3		
Individual Segment Lengths (ft):	62		
Segment:	1	2	3
Gradient (%):	26	16	19
m:			
Individual LS:	6.70	3.53	4.44
Factor:	0.19	0.35	0.46
Product:	1.27	1.23	2.04
LS, Length and Steepness:	4.55		
Total Transect Average Gradient (%):	20		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Cover Strategy:	Permanent		
Age of Development:	Over 3 Years		
Ground Cover:	80%		
C, Cover (Table 4)[1]:	0.022		
A, Soil Loss (tons/acre):	1.26		
Soil Loss in Proposed Development (tons):	1.56		

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Pre-Project Block 2A, Transect 2A3

Proposed Development Acres:	0.89	
Soil Unit No. (100-182):	176	
Soil Name:	Rock Outcrop-Hambright	
K, Soil Erodibility:	0.28	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	146	
Number of Segments:	2	
Individual Segment Lengths (ft):	73	
Segment:	1	2
Gradient (%):	23	14
m:		
Individual LS:	5.05	2.60
Factor:	0.35	0.65
Product:	1.77	1.69
LS, Length and Steepness:	3.46	
Total Transect Average Gradient (%):	19	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	No Canopy	
Canopy Cover:	0%	
Ground Cover:	85%	
Percent Grass:	30%	
Percent Weeds:	70%	
C, Cover (Table 5)[1]:	0.026	
A, Soil Loss (tons/acre):	1.11	
Soil Loss in Proposed Development (tons):	0.99	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

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Post-Project Block 2A, Transect 2A3

Proposed Development Acres:	0.89	
Soil Unit No. (100-182):	176	
Soil Name:	Rock Outcrop-Hambright	
K, Soil Erodibility:	0.28	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	146	
Number of Segments:	2	
Individual Segment Lengths (ft):	73	
Segment:	1	2
Gradient (%):	23	14
m:		
Individual LS:	5.05	2.60
Factor:	0.35	0.65
Product:	1.77	1.69
LS, Length and Steepness:	3.46	
Total Transect Average Gradient (%):	19	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	80%	
C, Cover (Table 4)[1]:	0.022	
A, Soil Loss (tons/acre):	0.96	
Soil Loss in Proposed Development (tons):	0.85	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

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Pre-Project Block 2B, Transect 2B

Proposed Development Acres:	1.23		
Soil Unit No. (100-182):	176		
Soil Name:	Rock Outcrop-Hambright		
K, Soil Erodibility:	0.28		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	392		
Number of Segments:	3		
Individual Segment Lengths (ft):	131		
Segment:	1	2	3
Gradient (%):	27	21	8
m:			0.5
Individual LS:	10.18	7.35	1.96
Factor:	0.19	0.35	0.46
Product:	1.93	2.57	0.90
LS, Length and Steepness:	5.41		
Total Transect Average Gradient (%):	19		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Vegetative Canopy:	Trees 13' Tall		
Canopy Cover:	50%		
Ground Cover:	80%		
Percent Grass:	70%		
Percent Weeds:	30%		
C, Cover (Table 5)[1]:	0.022		
A, Soil Loss (tons/acre):	1.48		
Soil Loss in Proposed Development (tons):	1.82		

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Post-Project Block 2B, Transect 2B

Proposed Development Acres:	1.23		
Soil Unit No. (100-182):	176		
Soil Name:	Rock Outcrop-Hambright		
K, Soil Erodibility:	0.28		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	392		
Number of Segments:	3		
Individual Segment Lengths (ft):	131		
Segment:	1	2	3
Gradient (%):	27	21	8
m:			0.5
Individual LS:	10.18	7.35	1.96
Factor:	0.19	0.35	0.46
Product:	1.93	2.57	0.90
LS, Length and Steepness:	5.41		
Total Transect Average Gradient (%):	19		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Cover Strategy:	Permanent		
Age of Development:	Over 3 Years		
Ground Cover:	85%		
C, Cover (Table 4)[1]:	0.017		
A, Soil Loss (tons/acre):	1.14		
Soil Loss in Proposed Development (tons):	1.40		

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Pre-Project Block 3, Transect 3

Proposed Development Acres:	1.53	
Soil Unit No. (100-182):	178	
Soil Name:	Sobrante	
K, Soil Erodibility:	0.32	
T, Soil Loss Tolerance (tons/acre):	2	
R, Rainfall:	45	
Total Transect Length (ft):	318	
Number of Segments:	2	
Individual Segment Lengths (ft):	159	
Segment:	1	2
Gradient (%):	10	23
m:		
Individual LS:	2.42	7.46
Factor:	0.35	0.65
Product:	0.85	4.85
LS, Length and Steepness:	5.69	
Total Transect Average Gradient (%):	17	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	No Canopy	
Canopy Cover:	0%	
Ground Cover:	85%	
Percent Grass:	60%	
Percent Weeds:	40%	
C, Cover (Table 5)[1]:	0.019	
A, Soil Loss (tons/acre):	1.54	
Soil Loss in Proposed Development (tons):	2.36	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Post-Project Block 3, Transect 3

Proposed Development Acres:	1.53	
Soil Unit No. (100-182):	178	
Soil Name:	Sobrante	
K, Soil Erodibility:	0.32	
T, Soil Loss Tolerance (tons/acre):	2	
R, Rainfall:	45	
Total Transect Length (ft):	318	
Number of Segments:	2	
Individual Segment Lengths (ft):	159	
Segment:	1	2
Gradient (%):	10	23
m:		
Individual LS:	2.42	7.46
Factor:	0.35	0.65
Product:	0.85	4.85
LS, Length and Steepness:	5.69	
Total Transect Average Gradient (%):	17	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	85%	
C, Cover (Table 4)[1]:	0.017	
A, Soil Loss (tons/acre):	1.37	
Soil Loss in Proposed Development (tons):	2.10	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Pre-Project Block 4, Transect 4A

Proposed Development Acres:	0.70	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	226	
Number of Segments:	2	
Individual Segment Lengths (ft):	113	
Segment:	1	2
Gradient (%):	8	17
m:	0.5	
Individual LS:	1.49	4.21
Factor:	0.35	0.65
Product:	0.52	2.74
LS, Length and Steepness:	3.26	
Total Transect Average Gradient (%):	13	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	Trees 13' Tall	
Canopy Cover:	75%	
Ground Cover:	85%	
Percent Grass:	10%	
Percent Weeds:	90%	
C, Cover (Table 5)[1]:	0.029	
A, Soil Loss (tons/acre):	0.42	
Soil Loss in Proposed Development (tons):	0.30	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Post-Project Block 4, Transect 4A

Proposed Development Acres:	0.70	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	226	
Number of Segments:	2	
Individual Segment Lengths (ft):	113	
Segment:	1	2
Gradient (%):	8	17
m:	0.5	
Individual LS:	1.49	4.21
Factor:	0.35	0.65
Product:	0.52	2.74
LS, Length and Steepness:	3.26	
Total Transect Average Gradient (%):	13	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	85%	
C, Cover (Table 4)[1]:	0.017	
A, Soil Loss (tons/acre):	0.24	
Soil Loss in Proposed Development (tons):	0.17	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
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Pre-Project Block 4, Transect 4B

Proposed Development Acres:	6.42			
Soil Unit No. (100-182):	152			
Soil Name:	Hambright-Rock Outcrop			
K, Soil Erodibility:	0.1			
T, Soil Loss Tolerance (tons/acre):	1			
R, Rainfall:	45			
Total Transect Length (ft):	764			
Number of Segments:	4			
Individual Segment Lengths (ft):	191			
Segment:	1	2	3	4
Gradient (%):	15	23	21	21
m:				
Individual LS:	6.53	11.56	10.26	10.26
Factor:	0.12	0.23	0.30	0.35
Farming Practice:	Up & Down Hill			
P, Practice Factor (Table 6)[1]:	1.00			
Segmented C-Value				
Segment:	1	2	3	4
Vegetative Canopy:	Trees 13' Tall	Trees 13' Tall	Trees 13' Tall	No Canopy
Canopy Cover:	75%	50%	50%	0%
Ground Cover:	85%	75%	75%	80%
Percent Grass:	50%	40%	40%	40%
Percent Weeds:	50%	60%	60%	60%
C, Cover (Table 5)[1]:	0.020	0.040	0.040	0.031
Segment Factor:	0.12	0.23	0.30	0.35
Segmented (LS)*C:	0.357			
A, Soil Loss (tons/acre):	1.60			
Soil Loss in Proposed Development (tons):	10.30			

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
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Post-Project Block 4, Transect 4B

Proposed Development Acres:	6.42			
Soil Unit No. (100-182):	152			
Soil Name:	Hambright-Rock Outcrop			
K, Soil Erodibility:	0.1			
T, Soil Loss Tolerance (tons/acre):	1			
R, Rainfall:	45			
Total Transect Length (ft):	764			
Number of Segments:	4			
Individual Segment Lengths (ft):	191			
Segment:	1	2	3	4
Gradient (%):	15	23	21	21
m:				
Individual LS:	6.53	11.56	10.26	10.26
Factor:	0.12	0.23	0.30	0.35
Product:	0.78	2.66	3.08	3.59
LS, Length and Steepness:	10.11			
Total Transect Average Gradient (%):	20			
Farming Practice:	Up & Down Hill			
P, Practice Factor (Table 6)[1]:	1.00			
Cover Strategy:	Permanent			
Age of Development:	Over 3 Years			
Ground Cover:	85%			
C, Cover (Table 4)[1]:	0.017			
A, Soil Loss (tons/acre):	0.76			
Soil Loss in Proposed Development (tons):	4.87			

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
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Pre-Project Block 4, Transect 4C

Proposed Development Acres:	2.97		
Soil Unit No. (100-182):	152		
Soil Name:	Hambright-Rock Outcrop		
K, Soil Erodibility:	0.1		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	619		
Number of Segments:	3		
Individual Segment Lengths (ft):	206		
Segment:	1	2	3
Gradient (%):	12	15	21
m:			
Individual LS:	4.34	5.88	9.24
Factor:	0.19	0.35	0.46
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Segmented C-Value			
Segment:	1	2	3
Vegetative Canopy:	Trees 13' Tall	Trees 13' Tall	No Canopy
Canopy Cover:	75%	75%	0%
Ground Cover:	85%	85%	85%
Percent Grass:	50%	50%	50%
Percent Weeds:	50%	50%	50%
C, Cover (Table 5)[1]:	0.020	0.020	0.021
Segment Factor:	0.19	0.35	0.46
Segmented (LS)*C:	0.147		
A, Soil Loss (tons/acre):	0.66		
Soil Loss in Proposed Development (tons):	1.96		

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
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Post-Project Block 4, Transect 4C

Proposed Development Acres:	2.97		
Soil Unit No. (100-182):	152		
Soil Name:	Hambright-Rock Outcrop		
K, Soil Erodibility:	0.1		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	619		
Number of Segments:	3		
Individual Segment Lengths (ft):	206		
Segment:	1	2	3
Gradient (%):	12	15	21
m:			
Individual LS:	4.34	5.88	9.24
Factor:	0.19	0.35	0.46
Product:	0.82	2.06	4.25
LS, Length and Steepness:	7.13		
Total Transect Average Gradient (%):	16		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Cover Strategy:	Permanent		
Age of Development:	Over 3 Years		
Ground Cover:	85%		
C, Cover (Table 4)[1]:	0.017		
A, Soil Loss (tons/acre):	0.53		
Soil Loss in Proposed Development (tons):	1.59		

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 5, Transect 5A

Proposed Development Acres:	1.77	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	324	
Number of Segments:	2	
Individual Segment Lengths (ft):	162	
Segment:	1	2
Gradient (%):	14	19
m:		
Individual LS:	3.87	5.85
Factor:	0.35	0.65
Product:	1.36	3.80
LS, Length and Steepness:	5.16	
Total Transect Average Gradient (%):	17	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	Trees 13' Tall	
Canopy Cover:	25%	
Ground Cover:	85%	
Percent Grass:	40%	
Percent Weeds:	60%	
C, Cover (Table 5)[1]:	0.023	
A, Soil Loss (tons/acre):	0.53	
Soil Loss in Proposed Development (tons):	0.94	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 5, Transect 5A

Proposed Development Acres:	1.77	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	324	
Number of Segments:	2	
Individual Segment Lengths (ft):	162	
Segment:	1	2
Gradient (%):	14	19
m:		
Individual LS:	3.87	5.85
Factor:	0.35	0.65
Product:	1.36	3.80
LS, Length and Steepness:	5.16	
Total Transect Average Gradient (%):	17	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	80%	
C, Cover (Table 4)[1]:	0.022	
A, Soil Loss (tons/acre):	0.51	
Soil Loss in Proposed Development (tons):	0.90	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 5, Transect 5B

Proposed Development Acres:	0.77		
Soil Unit No. (100-182):	152		
Soil Name:	Hambright-Rock Outcrop		
K, Soil Erodibility:	0.1		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	213		
Number of Segments:	3		
Individual Segment Lengths (ft):	71		
Segment:	1	2	3
Gradient (%):	20	7	20
m:		0.5	
Individual LS:	5.08	1.20	5.08
Factor:	0.19	0.35	0.46
Product:	0.97	0.42	2.34
LS, Length and Steepness:	3.72		
Total Transect Average Gradient (%):	16		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Vegetative Canopy:	Trees 13' Tall		
Canopy Cover:	25%		
Ground Cover:	85%		
Percent Grass:	40%		
Percent Weeds:	60%		
C, Cover (Table 5)[1]:	0.023		
A, Soil Loss (tons/acre):	0.38		
Soil Loss in Proposed Development (tons):	0.29		

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 5, Transect 5B

Proposed Development Acres:	0.77		
Soil Unit No. (100-182):	152		
Soil Name:	Hambright-Rock Outcrop		
K, Soil Erodibility:	0.1		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	213		
Number of Segments:	3		
Individual Segment Lengths (ft):	71		
Segment:	1	2	3
Gradient (%):	20	7	20
m:		0.5	
Individual LS:	5.08	1.20	5.08
Factor:	0.19	0.35	0.46
Product:	0.97	0.42	2.34
LS, Length and Steepness:	3.72		
Total Transect Average Gradient (%):	16		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Cover Strategy:	Permanent		
Age of Development:	Over 3 Years		
Ground Cover:	80%		
C, Cover (Table 4)[1]:	0.022		
A, Soil Loss (tons/acre):	0.37		
Soil Loss in Proposed Development (tons):	0.28		

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 6, Transect 6

Proposed Development Acres:	0.88	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	211	
Number of Segments:	2	
Individual Segment Lengths (ft):	106	
Segment:	1	2
Gradient (%):	15	5
m:		0.5
Individual LS:	3.43	0.78
Factor:	0.35	0.65
Product:	1.20	0.50
LS, Length and Steepness:	1.71	
Total Transect Average Gradient (%):	10	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	No Canopy	
Canopy Cover:	0%	
Ground Cover:	90%	
Percent Grass:	70%	
Percent Weeds:	30%	
C, Cover (Table 5)[1]:	0.011	
A, Soil Loss (tons/acre):	0.08	
Soil Loss in Proposed Development (tons):	0.07	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 6, Transect 6

Proposed Development Acres:	0.88	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	211	
Number of Segments:	2	
Individual Segment Lengths (ft):	106	
Segment:	1	2
Gradient (%):	15	5
m:		0.5
Individual LS:	3.43	0.78
Factor:	0.35	0.65
Product:	1.20	0.50
LS, Length and Steepness:	1.71	
Total Transect Average Gradient (%):	10	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	90%	
C, Cover (Table 4)[1]:	0.011	
A, Soil Loss (tons/acre):	0.08	
Soil Loss in Proposed Development (tons):	0.07	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 7, Transect 7A

Proposed Development Acres:	2.03	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	289	
Number of Segments:	2	
Individual Segment Lengths (ft):	145	
Segment:	1	2
Gradient (%):	19	21
m:		
Individual LS:	5.53	6.31
Factor:	0.35	0.65
Product:	1.93	4.10
LS, Length and Steepness:	6.04	
Total Transect Average Gradient (%):	20	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	Trees 13' Tall	
Canopy Cover:	50%	
Ground Cover:	75%	
Percent Grass:	50%	
Percent Weeds:	50%	
C, Cover (Table 5)[1]:	0.037	
A, Soil Loss (tons/acre):	0.99	
Soil Loss in Proposed Development (tons):	2.01	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 7, Transect 7A

Proposed Development Acres:	2.03	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	289	
Number of Segments:	2	
Individual Segment Lengths (ft):	145	
Segment:	1	2
Gradient (%):	19	21
m:		
Individual LS:	5.53	6.31
Factor:	0.35	0.65
Product:	1.93	4.10
LS, Length and Steepness:	6.04	
Total Transect Average Gradient (%):	20	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	80%	
C, Cover (Table 4)[1]:	0.022	
A, Soil Loss (tons/acre):	0.60	
Soil Loss in Proposed Development (tons):	1.21	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 7, Transect 7B

Proposed Development Acres:	2.25	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	279	
Number of Segments:	2	
Individual Segment Lengths (ft):	140	
Segment:	1	2
Gradient (%):	15	21
m:		
Individual LS:	3.95	6.20
Factor:	0.35	0.65
Product:	1.38	4.03
LS, Length and Steepness:	5.41	
Total Transect Average Gradient (%):	18	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	Trees 13' Tall	
Canopy Cover:	75%	
Ground Cover:	75%	
Percent Grass:	70%	
Percent Weeds:	30%	
C, Cover (Table 5)[1]:	0.029	
A, Soil Loss (tons/acre):	0.70	
Soil Loss in Proposed Development (tons):	1.57	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 7, Transect 7B

Proposed Development Acres:	2.25	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	279	
Number of Segments:	2	
Individual Segment Lengths (ft):	140	
Segment:	1	2
Gradient (%):	15	21
m:		
Individual LS:	3.95	6.20
Factor:	0.35	0.65
Product:	1.38	4.03
LS, Length and Steepness:	5.41	
Total Transect Average Gradient (%):	18	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	80%	
C, Cover (Table 4)[1]:	0.022	
A, Soil Loss (tons/acre):	0.54	
Soil Loss in Proposed Development (tons):	1.21	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 8A, Transect 8A

Proposed Development Acres:	1.82	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	346	
Number of Segments:	2	
Individual Segment Lengths (ft):	173	
Segment:	1	2
Gradient (%):	29	20
m:		
Individual LS:	10.47	6.47
Factor:	0.35	0.65
Product:	3.66	4.21
LS, Length and Steepness:	7.87	
Total Transect Average Gradient (%):	25	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Vegetative Canopy:	Trees 13' Tall	
Canopy Cover:	50%	
Ground Cover:	75%	
Percent Grass:	25%	
Percent Weeds:	75%	
C, Cover (Table 5)[1]:	0.045	
A, Soil Loss (tons/acre):	1.59	
Soil Loss in Proposed Development (tons):	2.90	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 8A, Transect 8A

Proposed Development Acres:	1.82	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	346	
Number of Segments:	2	
Individual Segment Lengths (ft):	173	
Segment:	1	2
Gradient (%):	29	20
m:		
Individual LS:	10.47	6.47
Factor:	0.35	0.65
Product:	3.66	4.21
LS, Length and Steepness:	7.87	
Total Transect Average Gradient (%):	25	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	75%	
C, Cover (Table 4)[1]:	0.034	
A, Soil Loss (tons/acre):	1.20	
Soil Loss in Proposed Development (tons):	2.19	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 8B, Transect 8B

Proposed Development Acres:	1.15	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	216	
Number of Segments:	2	
Individual Segment Lengths (ft):	108	
Segment:	1	2
Gradient (%):	24	21
m:		
Individual LS:	6.50	5.46
Factor:	0.35	0.65
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Segmented C-Value		
Segment:	1	2
Vegetative Canopy:	Trees 13' Tall	No Canopy
Canopy Cover:	75%	0%
Ground Cover:	75%	90%
Percent Grass:	40%	50%
Percent Weeds:	60%	50%
C, Cover (Table 5)[1]:	0.039	0.014
Segment Factor:	0.35	0.65
Segmented (LS)*C:	0.137	
A, Soil Loss (tons/acre):	0.62	
Soil Loss in Proposed Development (tons):	0.71	

[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 8B, Transect 8B

Proposed Development Acres:	1.15	
Soil Unit No. (100-182):	152	
Soil Name:	Hambright-Rock Outcrop	
K, Soil Erodibility:	0.1	
T, Soil Loss Tolerance (tons/acre):	1	
R, Rainfall:	45	
Total Transect Length (ft):	216	
Number of Segments:	2	
Individual Segment Lengths (ft):	108	
Segment:	1	2
Gradient (%):	24	21
m:		
Individual LS:	6.50	5.46
Factor:	0.35	0.65
Product:	2.27	3.55
LS, Length and Steepness:	5.82	
Total Transect Average Gradient (%):	23	
Farming Practice:	Up & Down Hill	
P, Practice Factor (Table 6)[1]:	1.00	
Cover Strategy:	Permanent	
Age of Development:	Over 3 Years	
Ground Cover:	85%	
C, Cover (Table 4)[1]:	0.017	
A, Soil Loss (tons/acre):	0.44	
Soil Loss in Proposed Development (tons):	0.50	

[1] Tables 4 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Pre-Project
PPI Engineering
9/1/2020
SM

Pre-Project Block 9, Transect 9

Proposed Development Acres:	1.37		
Soil Unit No. (100-182):	152		
Soil Name:	Hambright-Rock Outcrop		
K, Soil Erodibility:	0.1		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	219		
Number of Segments:	3		
Individual Segment Lengths (ft):	73		
Segment:	1	2	3
Gradient (%):	14	18	10
m:			
Individual LS:	3.19	4.47	2.01
Factor:	0.19	0.35	0.46
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Segmented C-Value			
Segment:	1	2	2
Vegetative Canopy:	No Canopy	Trees 13' Tall	No Canopy
Canopy Cover:	0%	75%	0%
Ground Cover:	75%	75%	75%
Percent Grass:	50%	50%	50%
Percent Weeds:	50%	50%	50%
C, Cover (Table 5)[1]:	0.038	0.035	0.038
Segment Factor:	0.19	0.35	0.46
Segmented (LS)*C:	0.113		
A, Soil Loss (tons/acre):	0.51		
Soil Loss in Proposed Development (tons):	0.69		

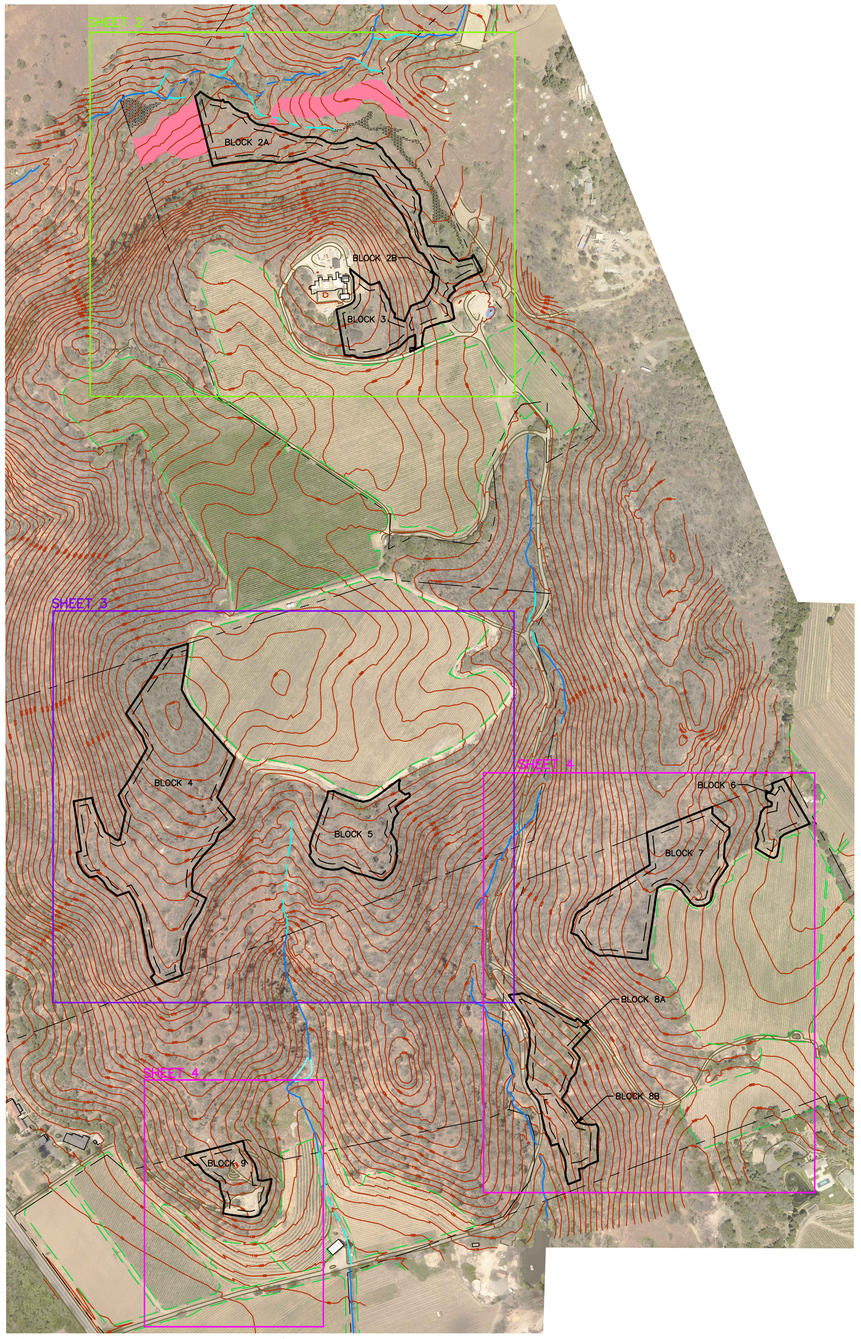
[1] Tables 5 & 6 - USLE Special Applications for Napa County

Shafer Blodgett Vineyard Track I ECP
USLE Calculations Post-Project
PPI Engineering
9/1/2020
SM

Post-Project Block 9, Transect 9

Proposed Development Acres:	1.37		
Soil Unit No. (100-182):	152		
Soil Name:	Hambright-Rock Outcrop		
K, Soil Erodibility:	0.1		
T, Soil Loss Tolerance (tons/acre):	1		
R, Rainfall:	45		
Total Transect Length (ft):	219		
Number of Segments:	3		
Individual Segment Lengths (ft):	73		
Segment:	1	2	3
Gradient (%):	14	18	10
m:			
Individual LS:	3.19	4.47	2.01
Factor:	0.19	0.35	0.46
Product:	0.61	1.57	0.92
LS, Length and Steepness:	3.09		
Total Transect Average Gradient (%):	14		
Farming Practice:	Up & Down Hill		
P, Practice Factor (Table 6)[1]:	1.00		
Cover Strategy:	Permanent		
Age of Development:	Over 3 Years		
Ground Cover:	75%		
C, Cover (Table 4)[1]:	0.034		
A, Soil Loss (tons/acre):	0.47		
Soil Loss in Proposed Development (tons):	0.65		

[1] Tables 4 & 6 - USLE Special Applications for Napa County



TOPOGRAPHIC MAPPING SOURCE: AMERICAN AERIAL, INC. 2' CONTOUR INTERVAL. MARCH 26, 2018.
INTERMEDIATE CONTOURS TURNED OFF ON THIS SHEET.
2018 NAPA COUNTY AERIAL PHOTO.

GRAPHIC SCALE

300 0 150 300 600 1200

(IN FEET)
1 inch = 300 ft.

LEGEND

- APPROXIMATE PROPERTY LINE LOCATION
- EXISTING VINEYARD AREA
- U.S.G.S. BLUE LINE STREAM, MAPPED BY WRA
- U.S.G.S. BLUE LINE STREAM, APPROXIMATE LOCATION
- EPHEMERAL STREAM, MAPPED BY WRA
- EPHEMERAL STREAM, ASSUMED LOCATION
- SEASONAL SWALE, MAPPED BY WRA
- EXISTING RESERVOIR
- EXISTING ROAD
- EXISTING BUILDING
- AREA REMOVED FROM PROJECT
- PROPOSED VINEYARD CLEARING LIMITS
- PROPOSED VINEYARD BLOCK BOUNDARY

REV. NO.	DESCRIPTION	BY	DATE
1	THIS DRAWING SUPERSEDES DRAWING 11811001U. DELETED BLOCK 1. ADJUSTED BOUNDARY OF BLOCK 2A.	CC	9-1-20

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

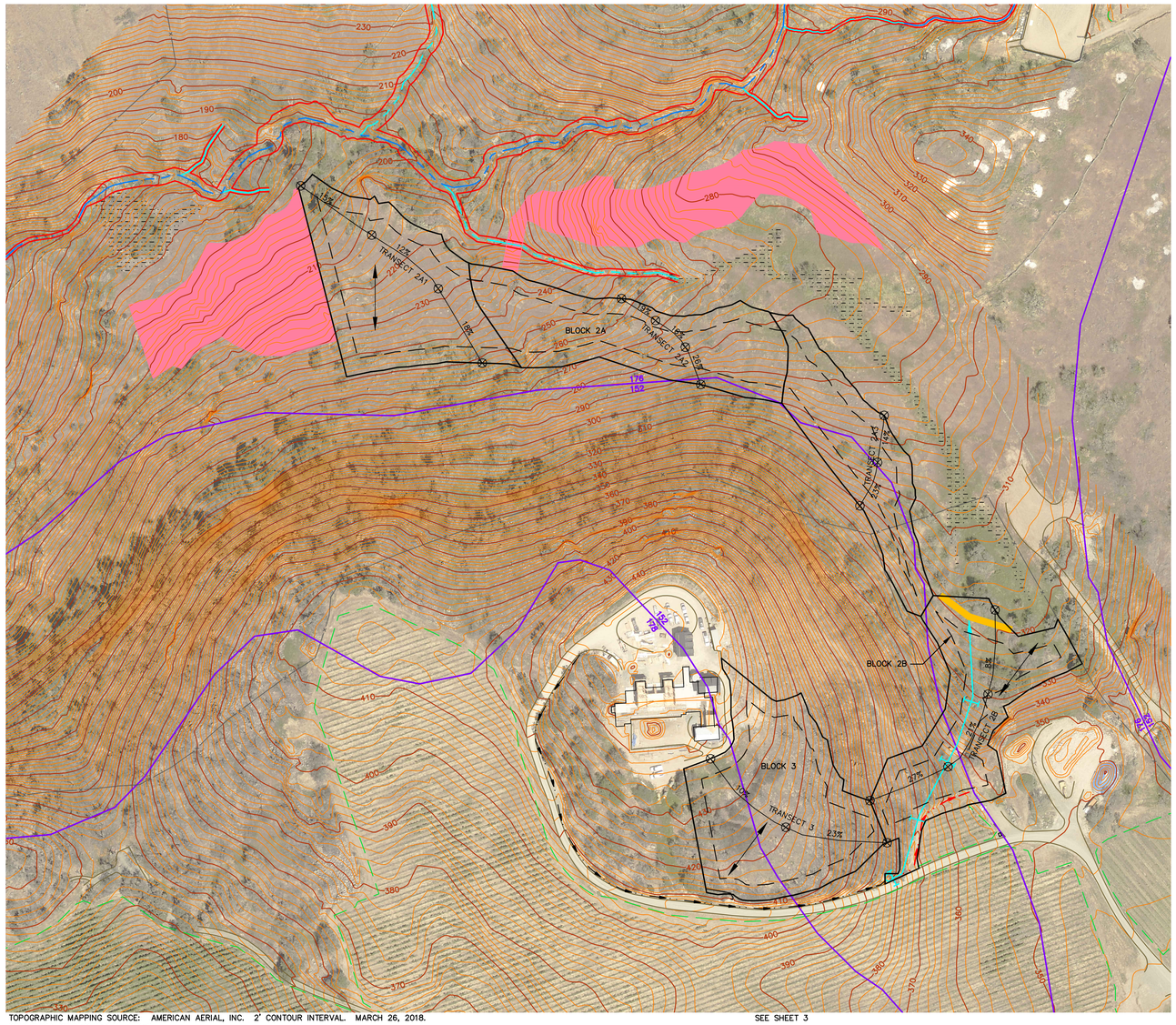
JOB NO: 11811001
DWG. NO: 11811001U_2

SHAFER VINEYARDS
BLODGETT VINEYARD
SOIL LOSS MODELING
SITE PLAN

DESIGN ENGINEER: J. BUSHEY, C. CORSETTI

SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	JCJ, SM	9-1-20	1 OF: 4

R:\JOBS\A\811\001\U\La Rhea Files\Drawings\11811001U_2.dwg, 9/1/2020 2:04:56 PM



TOPOGRAPHIC MAPPING SOURCE: AMERICAN AERIAL, INC. 2' CONTOUR INTERVAL. MARCH 26, 2018.
2018 NAPA COUNTY AERIAL PHOTO.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LEGEND

- EXISTING VINEYARD AREA
- U.S.G.S. BLUE LINE STREAM, MAPPED BY WRA
- U.S.G.S. BLUE LINE STREAM, APPROXIMATE LOCATION
- EPHEMERAL STREAM, MAPPED BY WRA
- EPHEMERAL STREAM, ASSUMED LOCATION
- TOP OF BANK, APPROXIMATE LOCATION
- SEASONAL SWALE, MAPPED BY WRA
- EXISTING ROAD
- EXISTING FENCE
- EXISTING BUILDING
- EXISTING DITCH, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, & MAINTAINED AS NEEDED
- EXISTING DITCH, APPROXIMATE LOCATION, TO BE REMOVED
- AREA REMOVED FROM PROJECT
- PROPOSED VINEYARD DEVELOPMENT AREA BY TRANSECT
- PROPOSED VINEYARD BLOCK BOUNDARY
- PROPOSED 24" STANDARD DROP INLET
- PROPOSED CUTOFF COLLAR
- PROPOSED 10" SW SURFACE DRAINAGE LINE
- PROPOSED ROCK LEVEL SPREADER
- SW — SINGLE WALL CORRUGATED POLYETHYLENE PIPE
- PROPOSED VINEROW DIRECTION
- X% — USLE TRANSECT SEGMENT WITH SLOPE
- 178 / 152 — SOIL TYPE BOUNDARY

USDA SOIL CLASSIFICATIONS:

- 152 — HAMBRIGHT ROCK-OUTCTOP COMPLEX 30-75% SLOPE
- 176 — ROCK OUTCROP-HAMBRIGHT COMPLEX 50-75% SLOPE
- 178 — SOBRANTE LOAM 5-30% SLOPE

REV. NO.	DESCRIPTION	BY	DATE
1	THIS DRAWING SUPERSEDES DRAWING 11811001U. DELETED BLOCK 1 & ASSOCIATED FEATURES. ADJUSTED BOUNDARY OF BLOCK 2A.	CC	9-1-20

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

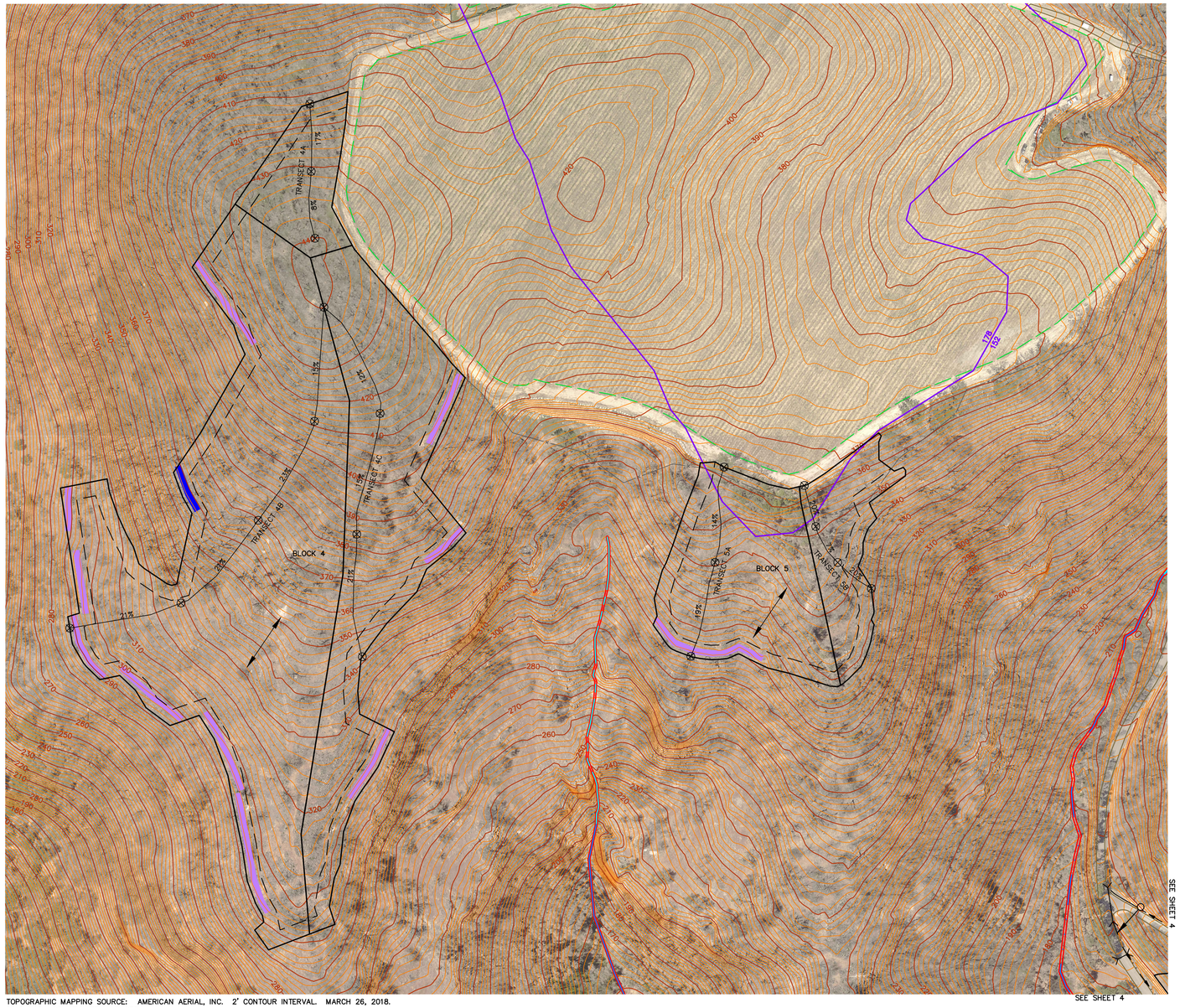
JOB NO: 11811001
DWG. NO: 11811001U_2

SHAFER VINEYARDS
BLODGETT VINEYARD
SOIL LOSS ANALYSIS
BLOCKS 2 & 3

DESIGN ENGINEER: J. BUSHEY, C. CORSETTI

SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	JCJ, SM	9-1-20	2 OF: 4

SEE SHEET 2



TOPOGRAPHIC MAPPING SOURCE: AMERICAN AERIAL, INC. 2' CONTOUR INTERVAL. MARCH 26, 2018.
2018 NAPA COUNTY AERIAL PHOTO.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LEGEND

- EXISTING VINEYARD AREA
- U.S.G.S. BLUE LINE STREAM, MAPPED BY WRA
- U.S.G.S. BLUE LINE STREAM, APPROXIMATE LOCATION
- EPHEMERAL STREAM, MAPPED BY WRA
- EPHEMERAL STREAM, ASSUMED LOCATION
- TOP OF BANK, APPROXIMATE LOCATION
- EXISTING ROAD
- EXISTING FENCE
- EXISTING DITCH, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, & MAINTAINED AS NEEDED
- EXISTING CULVERT
- EXISTING DROP INLET, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, REPLACED, OR MAINTAINED AS NEEDED
- EXISTING SURFACE DRAINAGE LINE, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, REPLACED, OR MAINTAINED AS NEEDED
- PROPOSED VINEYARD DEVELOPMENT AREA BY TRANSECT
- PROPOSED VINEYARD BLOCK BOUNDARY
- PROPOSED ROCK-FILLED AVENUE/LEVEL SPREADER
- PROPOSED ROCK-FILLED AVENUE
- PROPOSED VINEROW DIRECTION
- X% USLE TRANSECT SEGMENT WITH SLOPE
- 178 / 152 SOIL TYPE BOUNDARY

USDA SOIL CLASSIFICATIONS:

- 152 HAMBRIGHT ROCK-OUTCTOP COMPLEX 30-75% SLOPE
- 178 SOBRANTE LOAM 5-30% SLOPE

REV. NO.	DESCRIPTION	BY	DATE
1	THIS DRAWING SUPERSEDES DRAWING 11811001U. NO CHANGES WERE MADE ON THIS SHEET.	CC	9-1-20

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SHAFER VINEYARDS
BLODGETT VINEYARD
SOIL LOSS ANALYSIS
BLOCKS 4 & 5

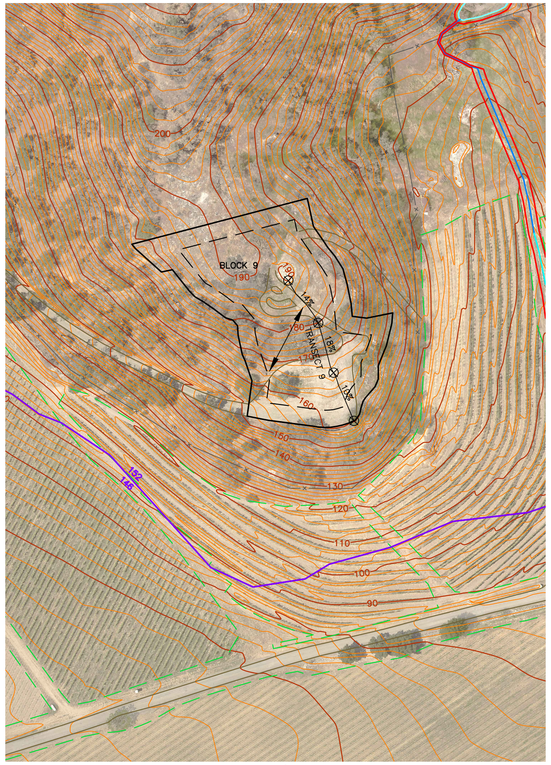
DESIGN ENGINEER: J. BUSHEY, C. CORSETTI

JOB NO: 11811001
DWG. NO: 11811001U_2

SCALE: AS SHOWN | DRAWN BY: JCJ, SM | DATE: 9-1-20 | SHEET: 3 OF: 4

R:\JOB\11811001\1 a Misc Tech\Drawings\11811001U_2.dwg, 4 & 5, 9/1/2020 2:54:43 PM

SEE SHEET 3



TOPOGRAPHIC MAPPING SOURCE: AMERICAN AERIAL, INC. 2' CONTOUR INTERVAL. MARCH 26, 2018.
2018 NAPA COUNTY AERIAL PHOTO.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

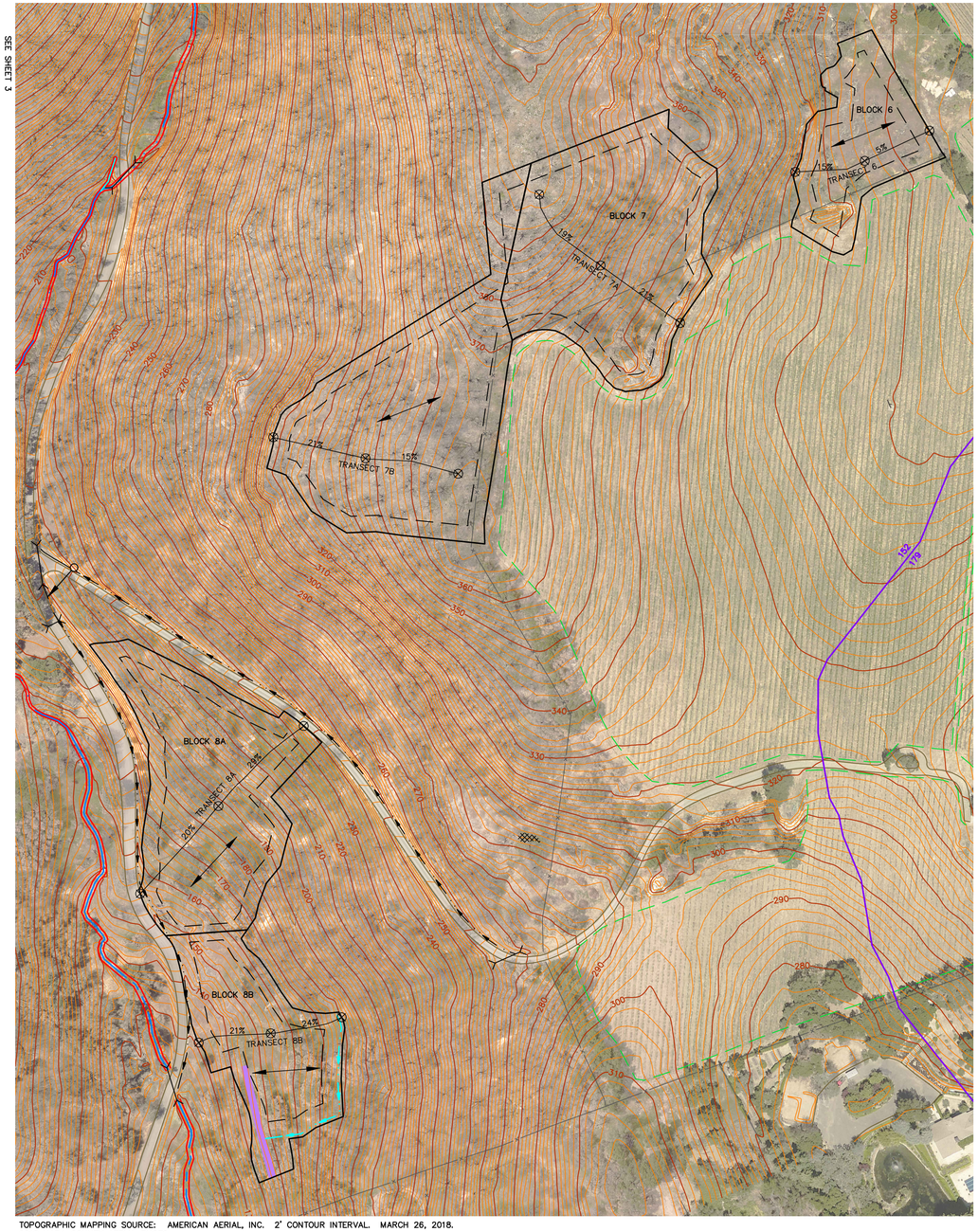
LEGEND

- EXISTING VINEYARD AREA
- U.S.G.S. BLUE LINE STREAM, MAPPED BY WRA
- U.S.G.S. BLUE LINE STREAM, APPROXIMATE LOCATION
- EPHEMERAL STREAM, MAPPED BY WRA
- EPHEMERAL STREAM, ASSUMED LOCATION
- TOP OF BANK, APPROXIMATE LOCATION
- EXISTING SEEP, MAPPED BY WRA
- EXISTING RESERVOIR
- EXISTING ROAD
- EXISTING FENCE
- EXISTING DITCH, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, & MAINTAINED AS NEEDED
- EXISTING CULVERT
- EXISTING DROP INLET, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, REPLACED, OR MAINTAINED AS NEEDED
- EXISTING SURFACE DRAINAGE LINE, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, REPLACED, OR MAINTAINED AS NEEDED
- PROPOSED VINEYARD DEVELOPMENT AREA BY TRANSECT
- PROPOSED VINEYARD BLOCK BOUNDARY
- PROPOSED DITCH
- PROPOSED ROCK-FILLED AVENUE/LEVEL SPREADER
- PROPOSED VINEROW DIRECTION
- X% USLE TRANSECT SEGMENT WITH SLOPE
- 179 / 152 SOIL TYPE BOUNDARY

USDA SOIL CLASSIFICATIONS:

- 146 HAIRE LOAM 2-9% SLOPE
- 152 HAMBRIGHT ROCK-OUTCTOP COMPLEX 30-75% SLOPE
- 179 SOBRANTE LOAM 30-50% SLOPE

SEE SHEET 3



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2018 NAPA COUNTY AERIAL PHOTO.

REV. NO.	DESCRIPTION	BY	DATE
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JOB NO: 11811001
DWG. NO: 11811001U_2

SHAFER VINEYARDS
BLODGETT VINEYARD
SOIL LOSS ANALYSIS
BLOCKS 6-9

DESIGN ENGINEER: J. BUSHEY, C. CORSETTI

SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	JCJ, SM	9-1-20	4 OF: 4

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