

Soil Loss Analysis
Acquisition 1510
Proposed New Vineyard Development
1510 Diamond Mountain Road
Calistoga, CA 94515
APN 020-400-013
June 19, 2023



The following analysis evaluates a proposed, approximately 2.4-acre vineyard development on an approximately 36.3-acre parcel, located in Napa County, west of Calistoga, California, to determine the proposal's potential to increase sediment delivery from the site. The analysis also compares predicted soil loss with the USDA soil loss tolerance standard ("T"). The analysis was prepared by David Steiner, CPESC, CPSWQ, at the request of and in consultation with Mike Muelrath of Applied Civil Engineering. This analysis has adapted the Universal Soil Loss Equation (USLE) protocol developed by the Napa RCD, with guidance from the NRCS (SCS) Field Office Technical Guide, to requirements of the Napa County Engineering Division. Modeled transects are drawn on the accompanying map sheets, provided by Applied Civil Engineering. The accompanying Excel spreadsheet¹ incorporates USLE principles and formulas, as follows:

- The "R" value is derived from the median of the predicted range of 2-year/6-hour storms for this site, according to NOAA Atlas 14. A printout of the NOAA Atlas 14 table accompanies this submittal.
- The "LS" value is calculated per algorithms based on USDA empirical data, using plotted slope lengths and gradients, over four representative transects through the two proposed, new vineyard blocks. The effects of concave, convex and complex slopes are calculated via USDA segmented slope protocols, which assign greater influence to downslope segments.
- The "K" (soil erosivity) and "T" (soil loss tolerance) values were taken from the Napa County Web Soil Survey. Copies of the NCWSS printouts accompany this submittal. Where Mapping Unit (soil type) boundaries cross modeled transects, the slope segment protocol is used to determine appropriately weighted values of these factors, as well.
- Pre-project "C" value: To account for varying levels of canopy vegetation and ground cover, the spreadsheet again incorporates USDA segmenting protocols, assigning greater influence to downslope segments. "C" factor values assigned to each segment were selected from Napa County's interpolations of Table 5 of the "Special Applications for Napa County" USLE pamphlet, based on examination of imagery from Napa County GIS and Google Earth, and on observations during a field visit on January 26, 2023. Details of these findings are as follows:

¹ This Excel format segments models transects according to the most complex variable or USLE factor describing conditions along the transect. For example, a transect with five different types or levels of canopy or vegetative cover—but with uniform slope throughout—would nonetheless be assigned five separate slope entries (even though they were all the same), as the transect's segmentation (for all factors) would be based on cover, its most complex variable.

- West Transect: 75% Trees; 75% Cover: 50% G, 50% W (C = .036)
- Middle Transect:
 - Segment 1: 75% Trees; 75% Cover: 50% G, 50% W (C = .036)
 - Segment 2: 75% Trees; 75% Cover: 50% G, 50% W (C = .036)
 - Segment 3: 75% Trees; 75% Cover: 80% G, 20% W (C = .026)
- East Transect:
 - Segment 1: 75% Trees; 75% Cover: 80% G, 20% W (C = .026)
 - Segment 2: 75% Trees; 75% Cover: 80% G, 20% W (C = .026)
- Far East Transect: 75% Trees; 75% Cover: 80% G, 20% W (C = .028)
- Post-project “C” values were assigned to reflect the cover crop specifications in the Erosion Control Plan: non-tilled management with 80% cover will be established and maintained in proposed vineyard blocks. Adherence to these specifications will (1) avoid soil loss increase and (2) comply with the USDA “T”, soil loss tolerance. Specifications for cover maintenance on vineyard avenues are the same as those within vineyard blocks; supplementary practices such as annual applications of seed and straw mulch, per specifications in the Erosion Control Plan, may be necessary to compensate for ground disturbance related to tractor and equipment traffic.
- Pre- and post-project “P” (practice) factors are assigned the default maximum value (1), except that Segment 2 of the East Transect is assigned a “P” value of .6, for non-tilled, cross-slope.

Conclusion: With the assumption that the specified cover level will be maintained, calculations predict that soil loss levels in proposed vineyard blocks will exceed neither current levels nor the USDA soil loss tolerance (“T”)². (Please see accompanying Excel printouts.)

² Although the predicted, post-project soil loss of *the Block 1 Northeast Transect* slightly exceeds *the USDA soil loss tolerance “T”*, the predicted net soil loss for all vineyard blocks is well within this standard.

1510 Acquisition, rev 2
Pre-Project USLE
June 19, 2023
2/6 storm, 2.11

Transect Identification		1510 Acq, West pre-project					
Acres		0.3 acres					
Total Slope Length		91 feet					
Number of Segments		1 segment					
		1	2	3	4	5	
R		83.65	83.65	83.65	83.65	83.65	
Factor (F)		1.00	0.00	0.00	0.00	0.00	
Slope Leng		91					
Slope %		13.2					
LS		1.89	0.00	0.00	0.00	0.00	
K		0.28					
C		0.036					
P		1.00					
T		4.00					4.00
(F) (LS) (K)		0.0188192	0.0000	0.0000	0.0000	0.0000	0.0188
A = (R) (F)		1.57	0.00	0.00	0.00	0.00	1.57 tons/acre/year 0.47 tons/year

Transect Identification		1510 Acq, Mid pre-project					
Acres		1.3 acres					
Total Slope Length		217.5 feet					
Number of Segments		3 segments					
		1	2	3	4	5	
R		83.65	83.65	83.65	83.65	83.65	
Factor (F)		0.19	0.35	0.46	0.00	0.00	
Slope Leng		217.5	217.5	217.5			
Slope %		13.4	13.4	28.7			
LS		2.99	2.99	8.19	0.00	0.00	
K		0.28	0.28	0.28			
C		0.036	0.036	0.036			
P		1.00	1.00	1.00			
T		4.00	4.00	4.00			4.00
(F) (LS) (K)		0.0057222	0.0105	0.0380	0.0000	0.0000	0.0542
A = (R) (F)		0.48	0.88	3.18	0.00	0.00	4.54 tons/acre/year 5.90 tons/year

1510 Acquisition, rev 2
Post-Project USLE
June 19, 2023
2/6 storm, 2.11

Transect Identification		1510 Acq, West post-project					
Acres		0.3 acres					
Total Slope Length		91 feet					
Number of Segments		2 segments					
		1	2	3	4	5	
R		83.65	83.65	83.65	83.65	83.65	
Factor (F)		0.35	0.65	0.00	0.00	0.00	
Slope Leng		91					
Slope %		13.2					
LS		1.89	0.00	0.00	0.00	0.00	
K		0.28					
C		0.022					80NT
P		1.00					
T		4.00					1.40
(F) (LS) (K)		0.0040819	0.0000	0.0000	0.0000	0.0000	0.0041
A = (R) (F)		0.34	0.00	0.00	0.00	0.00	0.34 tons/acre/year 0.10 tons/year

Transect Identification		1510 Acq, Mid post-project					
Acres		1.3 acres					
Total Slope Length		217.5 feet					
Number of Segments		3 segments					
		1	2	3	4	5	
R		83.65	83.65	83.65	83.65	83.65	
Factor (F)		0.19	0.35	0.46	0.00	0.00	
Slope Leng		217.5	217.5	217.5			
Slope %		13.4	13.4	28.7			
LS		2.99	2.99	8.19	0.00	0.00	
K		0.28	0.28	0.28			
C		0.022	0.022	0.022			80NT
P		1.00	1.00	1.00			
T		4.00	4.00	4.00			4.00
(F) (LS) (K)		0.0034969	0.0064	0.0232	0.0000	0.0000	0.0331
A = (R) (F)		0.29	0.54	1.94	0.00	0.00	2.77 tons/acre/year 3.60 tons/year

Transect Identification	1510 Acq, East pre-project					
Acres	0.7	acres				
Total Slope Length	209	feet				
Number of Segments	2	segments				
	1	2	3	4	5	
R	83.65	83.65	83.65	83.65	83.65	
Factor (F)	0.35	0.65	0.00	0.00	0.00	
Slope Leng	209	209				
Slope %	12.2	21.7				
LS	2.58	5.60	0.00	0.00	0.00	
K	0.28	0.28				
C	0.026	0.026				
P	1.00	1.00				
T	4.00	4.00				4.00
(F) (LS) (K)	0.006462	0.0261	0.0000	0.0000	0.0000	0.0326
A = (R) (F)	0.54	2.18	0.00	0.00	0.00	2.72

tons/acre/year
1.91 tons/year

Transect Identification	1510 Acq, East post-project					
Acres	0.7	acres				
Total Slope Length	209	feet				
Number of Segments	2	segments				
	1	2	3	4	5	
R	83.65	83.65	83.65	83.65	83.65	
Factor (F)	0.35	0.65	0.00	0.00	0.00	
Slope Leng	209	209				
Slope %	12.2	21.7				
LS	2.58	5.60	0.00	0.00	0.00	
K	0.28	0.28				
C	0.022	0.022				80NT
P	1.00	0.60				V/XNT
T	4.00	4.00				4.00
(F) (LS) (K)	0.0055532	0.0224	0.0000	0.0000	0.0000	0.0280
A = (R) (F)	0.46	1.13	0.00	0.00	0.00	1.59

tons/acre/year
1.11 tons/year

Transect Identification	1510 Acq, Far East pre-project					
Acres	0.1	acres				
Total Slope Length	84	feet				
Number of Segments	1	segment				
	1	2	3	4	5	
R	83.65	83.65	83.65	83.65	83.65	
Factor (F)	1.00	0.00	0.00	0.00	0.00	
Slope Leng	84					
Slope %	17.9					
LS	2.75	0.00	0.00	0.00	0.00	
K	0.28					
C	0.032					
P	1.00					
T	4.00					4.00
(F) (LS) (K)	0.0247829	0.0000	0.0000	0.0000	0.0000	0.0248
A = (R) (F)	2.07	0.00	0.00	0.00	0.00	2.07

tons/acre/year
0.21 tons/year

Transect Identification	1510 Acq, Far East post-project					
Acres	0.1	acres				
Total Slope Length	84	feet				
Number of Segments	1	segment				
	1	2	3	4	5	
R	83.65	83.65	83.65	83.65	83.65	
Factor (F)	1.00	0.00	0.00	0.00	0.00	
Slope Leng	84					
Slope %	17.9					
LS	2.75	0.00	0.00	0.00	0.00	
K	0.28					
C	0.022					80NT
P	1.00					
T	4.00					4.00
(F) (LS) (K)	0.0169324	0.0000	0.0000	0.0000	0.0000	0.0169
A = (R) (F)	1.42	0.00	0.00	0.00	0.00	1.42

tons/acre/year
0.14 tons/year



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Precipitation Frequency

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NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

Data description

Data type: Precipitation depth Units: English Time series type: Partial duration

Select location

1) Manually:

- a) By location (decimal degrees, use "-" for S and W): Latitude: Longitude:
- b) By station (list of CA stations):
- c) By address:

2) Use map (If ESRI interactive map is not loading, try adding the host: <https://js.arcgis.com/> to the firewall, or contact us at hdsc.questions@noaa.gov):

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES
WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
NOAA Atlas 14, Volume 6, Version 2

PF tabular

PF graphical

Supplementary information

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.159 (0.141-0.181)	0.182 (0.171-0.219)	0.236 (0.209-0.269)	0.271 (0.238-0.313)	0.320 (0.270-0.383)	0.358 (0.295-0.438)	0.387 (0.318-0.500)	0.437 (0.339-0.566)	0.493 (0.365-0.673)	0.539 (0.389-0.763)
10-min	0.228 (0.203-0.269)	0.275 (0.245-0.313)	0.338 (0.289-0.395)	0.389 (0.341-0.448)	0.469 (0.387-0.549)	0.513 (0.422-0.628)	0.569 (0.455-0.717)	0.627 (0.489-0.816)	0.707 (0.523-0.965)	0.771 (0.548-1.09)
15-min	0.276 (0.245-0.313)	0.333 (0.289-0.379)	0.408 (0.362-0.468)	0.470 (0.412-0.542)	0.566 (0.488-0.684)	0.629 (0.511-0.781)	0.689 (0.551-0.867)	0.768 (0.588-0.987)	0.865 (0.633-1.17)	0.932 (0.663-1.32)
30-min	0.403 (0.359-0.458)	0.487 (0.433-0.554)	0.598 (0.529-0.682)	0.698 (0.604-0.793)	0.812 (0.685-0.972)	0.908 (0.748-1.11)	1.01 (0.808-1.27)	1.11 (0.881-1.45)	1.25 (0.928-1.71)	1.36 (0.971-1.94)
60-min	0.585 (0.521-0.668)	0.709 (0.629-0.806)	0.869 (0.769-0.982)	1.00 (0.878-1.15)	1.18 (0.989-1.41)	1.32 (1.09-1.62)	1.48 (1.17-1.86)	1.61 (1.25-2.10)	1.82 (1.35-2.48)	1.98 (1.41-2.82)
2-hr	0.894 (0.765-1.01)	1.08 (0.855-1.22)	1.31 (1.19-1.49)	1.49 (1.31-1.72)	1.74 (1.47-2.08)	1.93 (1.59-2.36)	2.12 (1.69-2.67)	2.31 (1.79-3.00)	2.56 (1.89-3.49)	2.75 (1.99-3.91)
3-hr	1.15 (1.02-1.31)	1.38 (1.23-1.57)	1.68 (1.49-1.91)	1.91 (1.68-2.20)	2.22 (1.87-2.66)	2.48 (2.02-3.00)	2.68 (2.14-3.37)	2.93 (2.29-3.78)	3.23 (2.37-4.37)	3.43 (2.44-4.87)
6-hr	1.74 (1.55-1.96)	2.11 (1.87-2.40)	2.56 (2.27-2.92)	2.92 (2.56-3.36)	3.36 (2.86-4.05)	3.72 (3.05-4.68)	4.05 (3.24-5.11)	4.38 (3.39-5.70)	4.80 (3.55-6.56)	5.11 (3.64-7.26)
12-hr	2.49 (2.21-2.82)	3.09 (2.75-3.52)	3.84 (3.40-4.39)	4.42 (3.89-5.09)	5.18 (4.39-6.18)	5.70 (4.69-6.99)	6.22 (4.99-7.84)	6.73 (5.22-8.76)	7.38 (5.49-10.1)	7.86 (5.59-11.2)
24-hr	3.47 (3.12-3.94)	4.46 (4.00-5.07)	5.58 (5.09-6.47)	6.62 (5.89-7.56)	7.82 (6.77-9.22)	8.89 (7.39-10.4)	9.53 (7.94-11.7)	10.4 (8.43-13.0)	11.4 (8.97-14.8)	12.2 (8.51-16.3)
2-day	4.65 (4.09-5.17)	5.90 (5.26-6.68)	7.50 (6.72-8.55)	8.90 (7.83-10.1)	10.5 (9.06-12.4)	11.7 (9.99-14.1)	13.0 (10.8-15.9)	14.2 (11.6-17.8)	15.8 (12.4-20.5)	17.0 (13.0-22.7)
3-day	5.30 (4.78-6.02)	6.80 (6.11-7.73)	8.79 (7.82-9.94)	10.3 (9.13-11.8)	12.3 (10.7-14.5)	13.9 (11.8-16.6)	15.4 (12.9-18.8)	16.9 (13.9-21.2)	19.0 (15.0-24.7)	20.6 (15.7-27.5)
4-day	6.82 (5.32-8.72)	7.89 (6.81-8.82)	10.74 (9.73-11.1)	11.5 (10.2-13.2)	13.8 (11.8-16.2)	15.6 (13.2-18.6)	17.3 (14.4-21.2)	19.1 (15.5-23.9)	21.5 (16.9-27.8)	23.3 (17.8-31.2)
7-day	7.30 (5.59-8.28)	9.34 (8.28-10.5)	12.0 (10.7-13.6)	14.1 (12.5-16.2)	16.9 (14.7-20.0)	19.1 (16.2-22.9)	21.3 (17.7-26.0)	23.5 (19.1-28.4)	26.5 (20.8-34.4)	28.5 (22.0-38.4)
10-day	8.32 (7.47-8.44)	10.6 (9.55-12.1)	13.2 (12.2-15.5)	15.8 (14.2-18.3)	18.4 (16.8-22.5)	21.5 (18.3-25.6)	23.9 (19.9-28.2)	26.4 (21.4-32.8)	29.4 (23.2-38.2)	31.9 (24.3-42.6)
20-day	11.0 (9.99-12.5)	14.1 (12.7-16.0)	17.5 (16.1-20.4)	20.9 (18.9-24.0)	24.7 (21.4-29.1)	27.5 (23.4-33.0)	30.2 (26.2-36.8)	32.8 (28.7-41.1)	36.2 (28.5-47.0)	38.7 (28.6-51.7)
30-day	13.3	17.0	21.5	25.0	29.3	32.3	35.3	39.1	41.6	44.2

[Area of Interest \(AOI\)](#) | [Soil Map](#) | [Soil Data Explorer](#) | [Download Soils Data](#) | [Shopping Cart \(Free\)](#)

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Soil Chemical Properties

Soil Erosion Factors

K Factor, Rock Free

K Factor, Whole Soil

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Map ☒Table ☒Description of Rating ☒Rating Options ☐☐ Detailed Description

Advanced Options

Aggregation Method: Dominant Condition

Component Percent Cutoff

Tie-break Rule

Lower

Higher

Layer Options

(Horizon

Aggregation

Method)

☒ Surface Layer (Not applicable)☐ Depth Range (Weighted Average)

Top Depth

Bottom Depth

☐ Inches☐ Centimeters☐ All Layers (Weighted Average)[View Description](#) | [View Rating](#)

T Factor

Wind Erodibility Group

Wind Erodibility Index

Soil Health Properties

Soil Physical Properties

Soil Qualities and Features

Water Features

Map — K Factor, Whole Soil

[Map](#) | [Table](#) | [Scale](#) (not to scale)

Warning: Soil Ratings Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Tables — K Factor, Whole Soil — Summary By Map Unit

Summary by Map Unit — Napa County, California (CA055)

Summary by Map Unit — Napa County, California (CA055)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
111	Boomer-Forward-Felta complex, 5 to 30 percent slopes	.28	29.7	100.0%
Totals for Area of Interest			29.7	100.0%

Description — K Factor, Whole Soil

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Rating Options — K Factor, Whole Soil

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

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Soil Chemical Properties

Soil Erosion Factors

K Factor, Rock Free

K Factor, Whole Soil

T Factor

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View Options

Map ☒Table ☒Description of Rating ☒

Rating Options

☐ Detailed Description

Advanced Options

Aggregation Method: Dominant Condition

Component Percent Cutoff

Tie-break Rule
☒ Lower
☐ HigherInterpret Nulls as Zero
☒ Yes
☐ No[View Description](#)[View Rating](#)

Wind Erodibility Group

Wind Erodibility Index

Soil Health Properties

Soil Physical Properties

Soil Qualities and Features

Water Features

Map — T Factor


 Scale (not to scale)
**Warning: Soil Ratings Map may not be valid at this scale.**

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Tables — T Factor — Summary By Map Unit

Summary by Map Unit — Napa County, California (CA055)

Summary by Map Unit — Napa County, California (CA055)

Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
111	Boomer-Forward-Felta complex, 5 to 30 percent slopes	4	29.7	100.0%
Totals for Area of Interest			29.7	100.0%

Description — T Factor

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

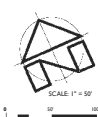
Rating Options — T Factor

Units of Measure: tons per acre per year
 Aggregation Method: Dominant Condition
 Component Percent Cutoff: None Specified
 Tie-break Rule: Lower
 Interpret Nulls as Zero: No

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1510 ACQUISITION LLC

UNIVERSAL SOIL LOSS EQUATION EXHIBIT



PROJECT INFORMATION:
PROPERTY OWNER & APPLICANT:
1510 ACQUISITION LLC
1155 CONNECTICUT AVENUE, SUITE 1200
WASHINGTON, DC 20036
SITE ADDRESS:
1510 DIAMOND MOUNTAIN ROAD
CALISTOGA, CA 94515
ASSESSOR'S PARCEL NUMBER:
020-400-013

- NOTES:**
1. FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC FEATURES. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS MAPPED BY BEI ENGINEERS DATED JANUARY, AUGUST, AND SEPTEMBER 2021. APPLIED CIVIL ENGINEERING INCORPORATED ASSURES NO LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF THE TOPOGRAPHIC INFORMATION.
 2. CONTOUR INTERVAL TWO (2) FEET, HIGHLIGHTED EVERY TEN (10) FEET.
 3. BENCHMARK: NAVD 83
 4. THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

FLOOD HAZARD NOTE:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 8100020E, EFFECTIVE DECEMBER 2, 2008, THE PROJECT SITE IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA.

- LEGEND:**
- APPROXIMATE PROPERTY LINE
 - - - SOIL TYPE BOUNDARY
 - BLUELINE STREAM
 - - - PROPOSED VINEYARD AVENUE / LIGHT OF GRADING
 - • • • • TRANSECT LOCATIONS

SOIL TYPE LEGEND:

(1) ROOFS-FORWARD-RETA COMPLEX 30 TO 50 PERCENT SLOPES

SOIL TYPE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATA AND SHOULD BE CONSIDERED APPROXIMATE.

UNIVERSAL SOIL LOSS EQUATION EXHIBIT

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UNIVERSAL SOIL LOSS EQUATION EXHIBIT

PREPARED UNDER THE DIRECTION OF:

DRAWN BY: SPH
CHECKED BY: HEM
DATE: JUNE 16, 2023
REVISIONS: BY:

JOB NUMBER: 22-118
FILE: 23-118EXH_1510E.DWG
ORIGINAL SIZE: 24" X 36"
SHEET NUMBER: 1
OF 1