EXHIBIT F

			1								
	RESOURCE CONSERVATION DISTRICT										
USLE LAYOUT	AND PRACTICE ALTERNATIVES										
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)							
Block:	1	Existing Conditions	8.8	(2) acres							
USER:	OR	Latitude:	38.3222	degrees							
DATE:	20-Jul-20	Lautude: Longitude:	-122.1785	degrees							
DATE.	20-Jul-20	Longitude.	-122.1765	uegrees							
Soil Type	Sobrante Loam										
T	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)
Transect		1	(site plan)	2	(site plan)	3	(site plan)	4	(site plan)	5	(site plan)
FACTOR:	DESCRIPTION				_						
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	185	(site plan)	302	(site plan)	205	(site plan)	224	(site plan)	258	(site plan)
S	Slope Gradient (%)	30	(site plan)	26	(site plan)	30	(site plan)	21	(site plan)	19	(site plan)
LS	Calculated LS	7.98	(4)	8.51	(4)	8.40	(5)	5.55	(6)	5.22	(4)
<u> </u>	Crop/Vegetation Management Factor	0.033	(4)	0.033	(4)	0.034	(5)	0.027	(6)	0.033	(4)
P	Support Practice Factor	1	(7)	1	(7)	1	(7)	1	(7)	1	(7)
	Soil loss, tons/acre	6.07		6.47	+	6.58		3.45		3.97	Average 5.31
A	Soil loss, tons	53.39		56.95	+	57.91	+	30.39		34.91	46.71
	Soli loss, toris	33.39		30.93		57.91		30.39		34.91	40.71
Faustiana				A Average appropries	il loss /tons nou no	\					
Equations:	oss Equation (USLE)			A = Average annual so R = Rainfall and Runo		re)					
Universal Soil L	.oss Equation (USLE)			K = Soil Erodibility Fac							
$A = R \times K \times LS$	y C y D			LS = Slope Length-Gra							
A – KXKXLS	XCXF			C = Crop/Vegetation a		ctor					
				P = Support Practice F		CLOI					
				1 - Support Fractice I	actor						
for slopes of 9°	% or flatter										
	cos(arctan(s))^m) x ((65.41 x (sin(arcta	n(s)))^2)+4.56 x sin(arcta	an(s))+0.065)								
where:	L = length in feet along slope		(0)								
s = slope gradi			m = 0.2	2 for s<1%							
m= slope expo	nent		m = 0.3	3 for 1% <s<3.5%< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></s<3.5%<>							
			m = 0.4	for 3.6% <s<4.5%< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></s<4.5%<>							
			m = 0.5	for s>4.5%							
for slopes stee	per than 9% c cos(arctan(s)))^.5) x ((sin(arctan(s))/(si	nE 142radiane)\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\									
LS = ((L/72.6) where:		15.143(adia(15))/1.4									
	L = length in feet along slope										
s = slope gradi	ent in %/100										
References:											
	ırvey (https://websoilsurvey.sc.egov.usda	.gov/App/HomePage htm\									
	14, Volume 6, Version 2 Isopluvials for 2										
	Guides for Erosion and Sediment Control i		Davis CA. 1996	ng. A-3							
	Predicting Rainfall Erosion Losses", USDA										
	Predicting Rainfall Erosion Losses", USDA										
6) Table 10: "	Predicting Rainfall Erosion Losses", USDA	Handbook No. 537. (50%	Trees, 70% Gra	ass Cover).							
7) Table 4: "G	Guides for Erosion and Sediment Control in	California", USDA-SCS, D	avis CA, 1991 p	g. 11. (Up/Down Hill).							

ΝΔΡΔ ΓΟΙΙΝΤΥ	RESOURCE CONSERVATION DISTRICT										
	AND PRACTICE ALTERNATIVES										
0012 2 00 .	7113 11461162 7121214 1141112										
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)							
Block:	1	Temporary Conditions	8.8	acres							
USER:	OR	Latitude:	38.3222	degrees							
DATE:	20-Jul-20	Longitude:	-122.1785	degrees							
Soil Type	Sobrante Loam										
T	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0,32	(1)	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)
- K	Son Erodibility Factor	0.52	(1)	0.52	(1)	0.52	(1)	0.52	(1)	0.52	(1)
Transect		1	(site plan)	2	(site plan)	3	(site plan)	4	(site plan)	5	(site plan)
FACTOR:	DESCRIPTION										
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	45	(site plan) (6)	70	(site plan) (6)	60	(site plan) (6)	51	(site plan) (6)	150	(site plan) (6)
S	Slope Gradient (%)	30	(site plan)	26	(site plan)	30	(site plan)	21	(site plan)	19	(site plan)
LS	Calculated LS	3.94		4.10	(1)	4.54	(1)	2.65	(1)	3.98	
<u>C</u>	Crop/Vegetation Management Factor	0.043	(4)	0.043	(4)	0.043	(4)	0.043	(4)	0.043	(4)
P	Support Practice Factor	1	(5)	1	(5)	1	(5)	1	(5)	1	(5)
	C. T. L	2.00		4.00		4.50		2.62		2.04	Average
Α	Soil loss, tons/acre Soil loss, tons	3.90 34.31		4.06 35.73	+	4.50 39.62		2.62 23.10	-	3.94 34.68	3.81 33.49
	SOIL IOSS, LOTIS	34.31		35./3		39.02		23.10	1	34.00	33.49
Equations:				A = Average annual so	il loce (tone per ac	rol					
	Loss Equation (USLE)			R = Rainfall and Runof		16)					
Oniversal Son i	LOSS Equation (OSEE)			K = Soil Erodibility Fac							
$A = R \times K \times LS$	SYCYP			LS = Slope Length-Gra							
				C = Crop/Vegetation a		actor					
				P = Support Practice F							
for slopes of 9	% or flatter										
LS = ((L/72.6)	x cos(arctan(s))^m) x ((65.41 x (sin(arcta	an(s)))^2)+4.56 x sin(arct	an(s))+0.065)								
where:	L = length in feet along slope										
s = slope grad				? for s<1%							
m= slope expo	onent			for 1% <s<3.5%< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></s<3.5%<>							
				for 3.6% <s<4.5%< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></s<4.5%<>							
			m = 0.5	for s>4.5%							
for slopes stee	per than 9%										
	x cos(arctan(s)))^.5) x ((sin(arctan(s))/(s	sin5.143radians))^1.4	1								
where:	L = length in feet along slope										
s = slope grad											
	-,										
References:											
	urvey (https://websoilsurvey.sc.egov.usda)								
NOAA Atlas	s 14, Volume 6, Version 2 Isopluvials for 2	2yr - 6hr storm event									
3) Table A-1 '	'Guides for Erosion and Sediment Control	in California", USDA-SCS,	Davis CA, 1996,	pg. A-3							
	Guides for Erosion and Sediment Control				75% Cover, All Ro	ws Tilled).					
	Guides for Erosion and Sediment Control										
6) Inclusion o	of any or all of the following items: straw r	olls, cross slope diversions	s, rocky and/or o	grassy avenues, and wat	erbars.						

NAPA COLINTY I	RESOURCE CONSERVATION DISTRICT										
	AND PRACTICE ALTERNATIVES										
552E B (1001 A	THE PROPERTY OF THE PROPERTY O	+									
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)							
	1	Permanent Conditions	8.8	acres							
USER:	OR	Latitude:	38.3222	degrees							
DATE:	20-Jul-20	Longitude:	-122.1785	degrees							
Soil Type	Sobrante Loam										
Т	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)
Transect		1	(site plan)	2	(site plan)	3	(site plan)	4	(site plan)	5	(site plan)
FACTOR:	DESCRIPTION										
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	75	(site plan) (6)	109	(site plan) (6)	75	(site plan) (6)	102	(site plan) (6)	243	(site plan) (6)
S	Slope Gradient (%)	30	(site plan)	26	(site plan)	30	(site plan)	21	(site plan)	19	(site plan)
LS	Calculated LS	5.08		5.11		5.08		3.75		5.06	
С	Crop/Vegetation Management Factor	0.034	(4)	0.034	(4)	0.034	(4)	0.034	(4)	0.034	(4)
P	Support Practice Factor	1	(5)	1	(5)	1	(5)	1	(5)	1	(5)
											Average
Α	Soil loss, tons/acre	3.98		4.01		3.98		2.93		3.97	3.77
	Soil loss, tons	35.03		35.25		35.03		25.83		34.90	33.21
Equations:				A = Average annual soi		re)					
Universal Soil Lo	oss Equation (USLE)			R = Rainfall and Runoff							
				K = Soil Erodibility Fact							
$A = R \times K \times LS \times$	XCXP			LS = Slope Length-Grad		- t					
				C = Crop/Vegetation ar		ictor					
				P = Support Practice Fa	ICLOF						
for slopes of 9%	4 or flattor										
	cos(arctan(s))^m) x ((65.41 x (sin(arctar	n(c))\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	n(c))+0 06E)								
	L = length in feet along slope	1(3))) 2)+4.30 x 3iii(aicta	111(3))+0.003)								
s = slope gradie		+	m = 0.2	for s<1%							
m= slope expor				for 1% <s<3.5%< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></s<3.5%<>							
окоре ежрог				for 3.6% <s<4.5%< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></s<4.5%<>							
				for s>4.5%							
for slopes steep	er than 9%										
LS = ((L/72.6 x)	cos(arctan(s)))^.5) x ((sin(arctan(s))/(sir	n5.143radians))^1.4		•							·
	L = length in feet along slope										
s = slope gradie											
	1										
References:											
	rvey (https://websoilsurvey.sc.egov.usda.										
2) NOAA Atlas	14, Volume 6, Version 2 Isopluvials for 2y	yr - 6hr storm event									
3) Table A-1 "G	Guides for Erosion and Sediment Control in	n California", USDA-SCS, D									
	uides for Erosion and Sediment Control in				5% Cover, Non-Til	led).					
	uides for Erosion and Sediment Control in										
6) Inclusion of	any or all of the following items: straw ro	Ils, cross slope diversions,	rocky and/or gi	rassy avenues, and wate	rbars.						

USLE LAYOUT	AND PRACTICE ALTERNATIVES								
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)					
Block:	2	Existing Conditions	1.9	acres					
USER:	OR	Latitude:	38.3222	degrees					
DATE:	20-Jul-20	Longitude:	-122.1785	degrees					
		-							
Soil Type	Sobrante Loam								
T	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)	2	(1)
					(1)				(1)
		1	(-)	****	(-)		(-)		(-/
Transect		1	(site plan)	2	(site plan)	3	(site plan)	4	(site plan)
Transcet		-	(Site plair)	_	(Sice plan)		(Sice plair)		(Site plair)
FACTOR:	DESCRIPTION								
		72 N	(3)	72 N	(3)	72 N	(3)	72 N	(3)
- IX									(site plan)
<u> </u>			(((/		(site plan)
			(Site plair)		(Site plair)		(Site plair)		(Site plair)
			(4)		(4)		(E)		(4)
									(6)
	Support Fractice Factor	+	(0)	1	(6)	1	(0)	1	
	Coil loss tons/acro	2.07		F 12		2.07		1 05	Average 3.03
A									5.76
	SOII IOSS, LOIIS	5.65		9.70		3.93		3.32	5.70
						re)			
Block: 2									
$A = R \times K \times LS$	x C x P								
						actor			
				P = Support Practice Fa	actor				
$LS = ((L/72.6 \times$	ccos(arctan(s))^m) x ((65.41 x (sin(arcta	n(s)))^2)+4.56 x sin(arct	tan(s))+0.065)						
where:									
s = slope gradi	ent in %/100		m = 0.2	for s<1%					
m= slope expo	nent		m = 0.3	for 1% <s<3.5%< td=""><td></td><td></td><td></td><td></td><td></td></s<3.5%<>					
			m = 0.4	for 3.6% <s<4.5%< td=""><td></td><td></td><td></td><td></td><td></td></s<4.5%<>					
			m = 0.5	for s>4.5%					
for slopes steer	per than 9%								
LS = ((L/72.6)x)	cos(arctan(s)))^.5) x ((sin(arctan(s))/(si	in5.143radians))^1.4							
5 Slope gradi	CITC III 70/ 100								
References									
	Invey (https://websoilsurvey.sc.egov.usda	 Laov/Δnn/HomePage htm)						
			,						
			Davis CA 1006	ng A 2					
lo) Table 4: "G	bulues for Erosion and Sediment Control If	i Callioffila , USDA-SCS, L	Javis CA, 1991 p	y. 11. (UP/DOWN HIII).					

	Y RESOURCE CONSERVATION DISTRICT								
USLE LAYOUT	AND PRACTICE ALTERNATIVES								
		5		(0)					
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)					
Block:	2	Temporary Conditions	1.9	acres					
USER:	OR	Latitude:	38.3222	degrees					
DATE:	20-Jul-20	Longitude:	-122.1785	degrees					
Soil Type	Sobrante Loam								
T	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)
	Jon Erodibile) Factor	0.02	(-/	0.52	(-)	0.02	(-/	0.02	\-\-\-
Transect		1	(site plan)	2	(site plan)	3	(site plan)	4	(site plan)
			(= == /		(2 22 2 7		(2.22 2.2)		(
FACTOR:	DESCRIPTION								
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	25	(site plan) (6)	64	(site plan) (6)	31	(site plan) (6)	18	(site plan) (6)
S	Slope Gradient (%)	28	(site plan)	26	(site plan)	19	(site plan)	19	(site plan)
LS	Calculated LS	2.69		3.92		1.81		1.38	
С	Crop/Vegetation Management Factor	0.043	(4)	0.043	(4)	.043	(4)	0.043	(4)
P	Support Practice Factor	1	(5)	1	(5)	1	(5)	1	(5)
									Average
Α	Soil loss, tons/acre	2.67		3.88		1.79		1.37	2.43
	Soil loss, tons	5.06		7.38		3.40		2.59	4.61
Equations:				A = Average annual so		re)			
Universal Soil	Loss Equation (USLE)			R = Rainfall and Runof	f Factor				
				K = Soil Erodibility Fact					
$A = R \times K \times LS$	SxCxP			LS = Slope Length-Gra					
				C = Crop/Vegetation a		actor			
				P = Support Practice F	actor				
for slopes of 9									
	x cos(arctan(s))^m) x ((65.41 x (sin(arcta	$\ln(s)))^2)+4.56 \times \sin(arct)$	tan(s))+0.065)						
where:	L = length in feet along slope								
	dient in %/100			for s<1%					
m= slope expo	onent			for 1% <s<3.5%< td=""><td></td><td></td><td></td><td></td><td></td></s<3.5%<>					
				for 3.6% <s<4.5%< td=""><td></td><td></td><td></td><td></td><td></td></s<4.5%<>					
			m = 0.5	for s>4.5%					
for slopes stee	eper than 9%								
	$x \cos(\arctan(s))$)^.5) $x ((\sin(\arctan(s)))/(\sin(\arctan(s)))$	in5.143radians))^1 4	1	1	1				1
where:	L = length in feet along slope								
	dient in %/100								
5 – Siope grad	JICHE III 70/ 100								
References:									
	Gurvey (https://websoilsurvey.sc.egov.usda	.gov/App/HomePage htm)						
	is 14, Volume 6, Version 2 Isopluvials for 2								
	"Guides for Erosion and Sediment Control i		Davis CA. 1996	ng. A-3					
	'Guides for Erosion and Sediment Control in				75% Cover, All Roy	vs Tilled).			
	'Guides for Erosion and Sediment Control in				2.12 00.0.7				
	of any or all of the following items: straw ro				erbars.				
-,	, or an or and renorming itemor straw it	, c. 555 5.5pc diversions	, . Jan, ana, or gi	and water					1

	RESOURCE CONSERVATION DISTRICT								
USLE LAYOUT	AND PRACTICE ALTERNATIVES								
FOR:				(2)					
Block:									
USER:		Latitude:		degrees					
DATE:	20-Jul-20	Longitude:	-122.1785	degrees					
Soil Type	Sobrante Loam								
Т	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)	0.32	(1)
	,) ,		ì		
Transect		1	(site plan)	2	(site plan)	3	(site plan)	4	(site plan)
			(==== /		(, , , , , , , , , , , , , , , , , , ,		(2.22 2.27		(=== ,
FACTOR:	DESCRIPTION								
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)	72.0	(3)
		50							(site plan) (6)
S	Slope Gradient (%)	28		26	(site plan)	19		19	(site plan)
LS		3.81	(, , , , ,	5.54	(2.22 2.7	2.20	(4.22 2.27	1.92	()
			(4)		(4)		(4)		(4)
P	Support Practice Factor	1				1		1	(5)
	Support Francisco Factor		(3)	-	(3)		(5)	-	Average
Δ	Soil loss tons/acre	2 98		4 34		1 73		1 51	2.64
									5.01
	3011 10337 10113	3.00		0.23		3.20		2.00	5.02
Fauatione				\ - Average annual co	il loce (tone per ac	ra)			
	oss Equation (LISLE)					16)			
Universal 3011 L	ook: 2 Permanent Conditions 1.9 acres SER: OR Labitude: -122.1785 degrees ATE: 20-Jul-20 Longitude: -122.1785 degrees T Natural Soil Loss Factor (tons/acre) 2 (1) 2 (1) 0.32 (2) 0.32 (2)								
A = D v K v I C	v.C.v.D								
A - KXKXLS	XCXP					actor			
						actor			
			l l	P = Support Practice For	dClOI				
for along of 00	2/ au flatter								
		-(-)))	(-)) + 0.065)						
		n(\$)))^2)+4.56 x sin(arci	tan(s))+0.065)						
			024	i					
	•								
m= slope expo	nent								
			m = 0.5 f	UI 5>4.5%					
fau alamaa staas	nou thou 00/								
***		in5.143radians))^1.4							
where:	<u> </u>								
s = slope gradi	ient in %/100								
References:									
)						
2) NOAA Atlas	14, Volume 6, Version 2 Isopluvials for 2	r - 6hr storm event							
					'5% Cover, Non-Ti	lled).			
IC) T 1	f any or all of the following items: straw ro	alle cross slone diversions	rocky and/or ara	ssy avenues, and wate	rhars				

NADA COUNTY I	DECOURCE CONCERVATION DISTRICT						
	RESOURCE CONSERVATION DISTRICT						
USLE LAYOUT A	ND PRACTICE ALTERNATIVES						
		5		(0)			
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)			
Block:	3	Existing Conditions	4.1	acres			
USER:	OR	Latitude:	38.3222	degrees			
DATE:	28-Apr-20	Longitude:	-122.1785	degrees			
Soil Type	Sobrante Loam						
	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)
- 1	John Er Garbricky T decer	0.52	(-)	0.52	1 (1)	0.52	(-)
Transect		1	(site plan)	2	(site plan)	3	(site plan)
Transcer		-	(Site plair)	_	(Site plan)	<u> </u>	(Sice plan)
FACTOR:	DESCRIPTION				1		
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	185	(site plan)	375	(site plan)	130	(site plan)
S	Slope Gradient (%)	18	(site plan)	19	(site plan)	23	(site plan)
LS	Calculated LS	4.11	(Gice piarry	6,29	(Site plain)	4,77	(Siec pian)
C	Crop/Vegetation Management Factor	0.033	(4)	0.034	(5)	0.034	(5)
P	Support Practice Factor	1	(6)	1	(6)	1	(6)
	Support Fractice Factor	<u> </u>	(0)	-	(0)	-	Average
A	Soil loss, tons/acre	3.12		4.93		3.73	3.93
	Soil loss, tons	12.81		20.20		15.31	16.11
		12.01		20.20		10.01	
Equations:				A = Average annual so	il loss (tons ner acre)	
	oss Equation (USLE)			R = Rainfall and Runof)	
Offiversal Soil Le	SS Equation (OSEE)			K = Soil Erodibility Fact			
A = R x K x LS >	/ C v D			LS = Slope Length-Gra			
A - KAKALSA				C = Crop/Vegetation a		tor	
				P = Support Practice F		toi	
				i – Support Hactice i	actor		
for slopes of 9%	or flatter						
	cos(arctan(s))^m) x ((65.41 x (sin(arcta	n(c)))^2) 4 E6 y cin(arct	22(c)) 0 06E)				
where:	L = length in feet along slope	11(5))) 2)++.30 X 311(a1ct	.aii(3))+0.003)				
s = slope gradie			m - 0.2	? for s<1%			
m= slope gradie m= slope expor				for 1% <s<3.5%< td=""><td></td><td></td><td></td></s<3.5%<>			
III- SIOPE EXPOI				for 3.6% <s<4.5%< td=""><td></td><td></td><td></td></s<4.5%<>			
				for s>4.5%			
			111 - 0.3	101 3/713 /0			
for slopes steep	er than 9%						
	cos(arctan(s)))^.5) x ((sin(arctan(s))/(si	n5.143radians))^1.4					
where:	L = length in feet along slope						
s = slope gradie							
i programa	-,						
References:							
	vey (https://websoilsurvey.sc.egov.usda	.gov/App/HomePage.htm)				
	14, Volume 6, Version 2 Isopluvials for 2						
	uides for Erosion and Sediment Control i		Davis CA. 1996.	pg. A-3			
	Predicting Rainfall Erosion Losses", USDA						
	Predicting Rainfall Erosion Losses", USDA						
	uides for Erosion and Sediment Control ir						
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NIADA COUNT	/ DECOURCE CONCERNATION DISTRICT		1				
	Y RESOURCE CONSERVATION DISTRICT						
USLE LAYOUT	AND PRACTICE ALTERNATIVES						
505	1 1911 - 1 26	D : :: :: (: 1)	4.07	(2)			
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)			
Block:	3	Temporary Conditions	4.1	acres			
USER:	OR	Latitude:	38.3222	degrees			
DATE:	28-Apr-20	Longitude:	-122.1785	degrees			
Soil Type	Sobrante Loam						
	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	2	(1)
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)
	, , , , , , , , , , , , , , , , , , , ,						
Transect		1	(site plan)	2	(site plan)	3	(site plan)
FACTOR:	DESCRIPTION						
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	95	(site plan) (6)	125	(site plan) (6)	65	(site plan) (6)
S	Slope Gradient (%)	18	(site plan)	19	(site plan)	23	(site plan)
LS	Calculated LS	2.95		3.63		3.37	
С	Crop/Vegetation Management Factor	0.043	(4)	0.043	(4)	0.043	(4)
Р	Support Practice Factor	1	(5)	1	(5)	1	(5)
							Average
A	Soil loss, tons/acre	2.92		3.60		3.34	3.28
	Soil loss, tons	11.96		14.75		13.69	13.47
Equations:				A = Average annual so		2)	
Universal Soil	Loss Equation (USLE)			R = Rainfall and Runof			
				K = Soil Erodibility Fac			
$A = R \times K \times LS$	SXCXP			LS = Slope Length-Gra			
				C = Crop/Vegetation a		tor	
				P = Support Practice F	actor		
flf C	10/ au flattau						
for slopes of 9		-(-)))	(-)) . 0.0CF)				
LS = ((L/72.6) where:	$x \cos(\arctan(s))^m) x ((65.41 x (sin(arcta))^m) = length in feet along slope$	n(s)))^2)+4.56 x sin(arc	tan(s))+0.065)				
	lient in %/100		m = 0.7	? for s<1%			
m= slope grad				for 1% <s<3.5%< td=""><td></td><td></td><td></td></s<3.5%<>			
III– Slope exp	onenc			for 3.6% <s<4.5%< td=""><td></td><td></td><td></td></s<4.5%<>			
				for s>4.5%			
			111 - 0.5	101 32 4.3 70			
for slopes stee	Pher than 9%						
	$\times \cos(\arctan(s))$)^.5) $\times ((\sin(\arctan(s)))$ (si	n5 143radiane\\^1 4	1	1			
where:	L = length in feet along slope	iisii TSiadiaiis)) IiT					
	lient in %/100						
s – slupe grad	ACTIC III 70/ 100						
References:							
	urvey (https://websoilsurvey.sc.egov.usda	gov/App/HomePage htm	1)				
	s 14, Volume 6, Version 2 Isopluvials for 2		')				
	"Guides for Erosion and Sediment Control i		Davis CA 1996	na. A-3			
	Guides for Erosion and Sediment Control in				75% Cover, All Rows	: Tilled).	
	Guides for Erosion and Sediment Control in				2.3 00.0.// iii 10000		
	of any or all of the following items: straw ro				erbars.		
-,	, a o. a	, s. coo c.ope diversione	., , ana, or g	and water			

	Y RESOURCE CONSERVATION DISTRICT						
USLE LAYOUT	F AND PRACTICE ALTERNATIVES						
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)			
Block:	3	Permanent Conditions	4.1	acres			
USER:	OR	Latitude:	38.3222	degrees			
DATE:	28-Apr-20	Longitude:	-122.1785	degrees			
Soil Type	Sobrante Loam						
		2	(1)	1 2	(1)	2	(1)
T K	Natural Soil Loss Factor (tons/acre)	0.32	(1)	0.32	(1)	2 0.32	(1)
	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	0.32	(1)
Transect		1	(site plan)	2	(site plan)	3	(site plan)
FACTOR	DECEDITION				 		
FACTOR:	DESCRIPTION	72.0	(2)	72.0	(2)	72.0	(2)
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	72.0	(3)
	Slope length (ft)	165	(site plan) (6)	200	(site plan) (6)	110	(site plan) (6)
S	Slope Gradient (%)	18	(site plan)	19	(site plan)	23	(site plan)
LS	Calculated LS	3.88		4.59		4.38	
С	Crop/Vegetation Management Factor	0.034	(4)	0.034	(4)	0.034	(4)
P	Support Practice Factor	1	(5)	1	(5)	1	(5)
							Average
Α	Soil loss, tons/acre	3.04		3.60		3.43	3.36
	Soil loss, tons	12.47		14.75		14.08	13.77
Equations:				A = Average annual so		e)	
Universal Soil	Loss Equation (USLE)			R = Rainfall and Runof			
				K = Soil Erodibility Fact			
$A = R \times K \times L$	SxCxP			LS = Slope Length-Gra			
				C = Crop/Vegetation a		ctor	
				P = Support Practice F	actor		
	20/						
for slopes of 9							
	$x \cos(\arctan(s))^m x ((65.41 x (\sin(\arctan(s)))^m))$	$n(s)))^2)+4.56 \times sin(arct)$	tan(s))+0.065)				
where:	L = length in feet along slope						
	dient in %/100			2 for s<1%			
m= slope exp	ponent			3 for 1% <s<3.5%< td=""><td></td><td></td><td></td></s<3.5%<>			
				for 3.6% <s<4.5%< td=""><td></td><td></td><td></td></s<4.5%<>			
			m = 0.5	5 for s>4.5%			
for slones ste	eper than 9%						
	$x \cos(\arctan(s))$)^.5) x (($\sin(\arctan(s))$)/(si	n5.143radians))^1.4					
where:	L = length in feet along slope						
	dient in %/100						
2.5pc gru							
References:							
	Survey (https://websoilsurvey.sc.egov.usda	gov/Ann/HomePage htm	1				
	as 14, Volume 6, Version 2 Isopluvials for 2						
	"Guides for Erosion and Sediment Control i		Davis CA 1006	nα Δ-3			
	"Guides for Erosion and Sediment Control in				75% Cover Non Till	ed)	
	"Guides for Erosion and Sediment Control in				570 COVEL, NOTI-TIII	cu).	
	of any or all of the following items: straw ro				orhare		
o, miciusion	or any or all or the following items. Straw it	nia, cross slope diversions	, rocky anu/or g	idəsiy averides, arid wate	Julion 3.		

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	Y RESOURCE CONSERVATION DISTRICT				
USLE LAYOU	T AND PRACTICE ALTERNATIVES				
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)	
Block:	4	Existing Conditions	1.3	acres	
USER:	OR	Latitude:	38.3222	degrees	
DATE:	20-Jul-20	Longitude:	-122.1785	degrees	
Soil Type	Sobrante Loam				
T	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)
<u>.</u> К	Soil Erodibilty Factor	0.32	(1)	0.32	(1)
		1	(-/	***=	(-/
Transect		1	(site plan)	2	(site plan)
			(Gree press)	_	(0.00 p.0)
FACTOR:	DESCRIPTION	1			
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)
	Slope length (ft)	175	(site plan)	244	(site plan)
S	Slope Gradient (%)	13	(site plan)	13	(site plan)
LS	Calculated LS	2.57		3.04	
С	Crop/Vegetation Management Factor	0.027	(4)	0.027	(5)
P	Support Practice Factor	1	(6)	1	(6)
					Average
A	Soil loss, tons/acre	1.60		1.89	1.74
	Soil loss, tons	2.08		2.46	2.27
Equations:				A = Average annual so	
Universal Soi	Loss Equation (USLE)			R = Rainfall and Runo	
				K = Soil Erodibility Fac	
$A = R \times K \times L$	SxCxP			LS = Slope Length-Gra	
				C = Crop/Vegetation a	
				P = Support Practice F	actor
for slones of	9% or flatter				
	5 x cos(arctan(s))^m) x ((65.41 x (sin(arcta	an(s)))^2)+4 56 x sin(arct	an(s))+0.065)		
where:	L = length in feet along slope	21(3))) 2) 1 1130 X 311(dred	un(3)) i 0.003)		
	idient in %/100		m = 0.2	for s<1%	
m= slope exp	· · · · · · · · · · · · · · · · · · ·			for 1% <s<3.5%< td=""><td></td></s<3.5%<>	
				for 3.6% <s<4.5%< td=""><td></td></s<4.5%<>	
			m = 0.5	for s>4.5%	
	eper than 9%				
	$5 \times \cos(\arctan(s)))^{.5} \times ((\sin(\arctan(s)))/(s))$	in5.143radians))^1.4			
where:	L = length in feet along slope				
s = slope gra	dient in %/100				
References:	Constant de Harac de Caracter de La	/ A / U			
	Survey (https://websoilsurvey.sc.egov.usda)		
	as 14, Volume 6, Version 2 Isopluvials for 2				
3) Table A-1	"Guides for Erosion and Sediment Control	in California", USDA-SCS, [Javis CA, 1996, j	og. A-3	
	"Predicting Rainfall Erosion Losses", USDA				
	"Predicting Rainfall Erosion Losses", USDA				
b) Table 4:	"Guides for Erosion and Sediment Control i	n California", USDA-SCS, D	avis CA, 1991 po	J. II. (UP/DOWN HIII).	

	Lucas Hillsida Vinavanda	Dun simitation (in shees)	1.07	(2)		
FOR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)		
Block:	4 OR	Temporary Conditions	1.3	acres		
USER: DATE:	20-Jul-20	Latitude:	38.3222	degrees		
DATE:	20-Jui-20	Longitude:	-122.1785	degrees		
Soil Type	Sobrante Loam					
Т	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	
Transect		1	(site plan)	2	(site plan)	
			(, , , , , , , , , , , , , , , , , , ,		(1.1.1)	
FACTOR:	DESCRIPTION					
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	
	Slope length (ft)	54	(site plan) (6)	95	(site plan) (6)	
S	Slope Gradient (%)	13	(site plan)	13	(site plan)	
LS	Calculated LS	1.43		1.89		
С	Crop/Vegetation Management Factor	0.043	(4)	0.043	(4)	
Р	Support Practice Factor	1	(5)	1	(5)	
	0.11	1 10		1.00	Average	
A	Soil loss, tons/acre	1.42		1.88	1.65	
	Soil loss, tons	1.84		2.44	2.14	
Equations:				A = Average annual s	oil loss (tons per acre	١)
1	Loss Equation (USLE)			R = Rainfall and Runo		.,
OTHITCI SON	E033 Equation (OSEE)			K = Soil Erodibility Fac		
$A = R \times K \times L$	SxCxP			LS = Slope Length-Gr		
TO T				C = Crop/Vegetation a		tor
				P = Support Practice I		
				r - Support Fractice i	actor	
				r – Support Fractice i	actor	
				r – Support Fractice i	actor	
	9% or flatter x cos(arctan(s))^m) x ((65.41 x (sin(arcta	n(s)))^2)+4.56 x sin(arct	an(s))+0.065)	r – Support Fractice i	actor	
LS = ((L/72.6 where:	$x \cos(\arctan(s))^m) x ((65.41 x (\sin(\arctan L = length in feet along slope))$	n(s)))^2)+4.56 x sin(arct	an(s))+0.065)	r – Support Fractice i	actor	
LS = ((L/72.6 where:	x cos(arctan(s))^m) x ((65.41 x (sin(arcta	n(s)))^2)+4.56 x sin(arct		for s<1%	actor	
LS = ((L/72.6 where: s = slope gra	x cos(arctan(s))^m) x ((65.41 x (sin(arcta L = length in feet along slope dient in %/100	n(s)))^2)+4.56 x sin(arct	m = 0.2		actor	
LS = ((L/72.6 where: s = slope gra	x cos(arctan(s))^m) x ((65.41 x (sin(arcta L = length in feet along slope dient in %/100	n(s)))^2)+4.56 x sin(arct	m = 0.2 m = 0.3	for s<1%	actor	
LS = ((L/72.6 where: s = slope gra	x cos(arctan(s))^m) x ((65.41 x (sin(arcta L = length in feet along slope dient in %/100	n(s)))^2)+4.56 x sin(arct	m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5%< td=""><td>actor</td><td></td></s<3.5%<>	actor	
LS = ((L/72.6 where: s = slope gra m= slope exp	x cos(arctan(s))^m) x ((65.41 x (sin(arctall L = length in feet along slope dient in %/100 sonent	n(s)))^2)+4.56 x sin(arct	m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td>actor</td><td></td></s<4.5%<></s<3.5% 	actor	
where: s = slope grad m= slope exp for slopes ste	x cos(arctan(s))^m) x ((65.41 x (sin(arcta L = length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in feet along slope dient in feet along slope dient in %/100 sonent Length in feet along slope dient slope dient in feet along slope dient slope di		m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td>actor</td><td></td></s<4.5%<></s<3.5% 	actor	
LS = ((L/72.6 where: s = slope gram = slope exp	x cos(arctan(s))^m) x ((65.41 x (sin(arctal L = length in feet along slope dient in %/100 sonent eper than 9% x cos(arctan(s)))^.5) x ((sin(arctan(s))/(sin(arctan(s)))/(sin(arc		m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td>actor</td><td></td></s<4.5%<></s<3.5% 	actor	
LS = ((L/72.6 where: s = slope grams slope exp for slopes ste LS = ((L/72.6 where:	x cos(arctan(s))^m) x ((65.41 x (sin(arcta L = length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in %/100 sonent Length in feet along slope dient in feet along slope dient in feet along slope dient in %/100 sonent Length in feet along slope dient slope dient in feet along slope dient slope di		m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td></td><td></td></s<4.5%<></s<3.5% 		
LS = ((L/72.6 where: s = slope grams slope exp for slopes ste LS = ((L/72.6 where:	x cos(arctan(s))^m) x ((65.41 x (sin(arctal L = length in feet along slope dient in %/100 sonent eper than 9% x cos(arctan(s)))^.5) x ((sin(arctan(s))/(silon L = length in feet along slope		m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td></td><td></td></s<4.5%<></s<3.5% 		
LS = ((L/72.6 where: s = slope gram = slope exp for slopes ste LS = ((L/72.6 where: s = slope gram = slope gr	x cos(arctan(s))^m) x ((65.41 x (sin(arctal L = length in feet along slope dient in %/100 sonent eper than 9% x cos(arctan(s)))^.5) x ((sin(arctan(s))/(silon L = length in feet along slope		m = 0.2 m = 0.3 m = 0.4	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td></td><td></td></s<4.5%<></s<3.5% 		
LS = ((L/72.6 where: s = slope gram = slope exp for slopes ste LS = ((L/72.6 where: s = slope gram = slope gr	x cos(arctan(s))^m) x ((65.41 x (sin(arctal L = length in feet along slope dient in %/100 sonent seper than 9% ex cos(arctan(s)))^.5) x ((sin(arctan(s))/(silon L = length in feet along slope dient in %/100	n5.143radians))^1.4	m = 0.2 m = 0.3 m = 0.4 m = 0.5	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td></td><td></td></s<4.5%<></s<3.5% 		
LS = ((L/72.6 where: s = slope gram = slope exp for slopes ste LS = ((L/72.6 where: s = slope gram = slope gr	x cos(arctan(s))^m) x ((65.41 x (sin(arctal L = length in feet along slope dient in %/100 sonent seper than 9% a x cos(arctan(s)))^.5) x ((sin(arctan(s))/(sin	n5.143radians))^1.4	m = 0.2 m = 0.3 m = 0.4 m = 0.5	for s<1% for 1% <s<3.5% for 3.6%<s<4.5%< td=""><td></td><td></td></s<4.5%<></s<3.5% 		
LS = ((L/72.6 where: s = slope gram = slope exp slope ste LS = ((L/72.6 where: s = slope gram =	x cos(arctan(s))^m) x ((65.41 x (sin(arctal L = length in feet along slope dient in %/100 sonent seper than 9% ex cos(arctan(s)))^.5) x ((sin(arctan(s))/(silon L = length in feet along slope dient in %/100	n5.143radians))^1.4 .gov/App/HomePage.htm yr - 6hr storm event	m = 0.2 m = 0.3 m = 0.4 m = 0.5	for s<1% for 1% <s<3.5% for 3.6%<s<4.5% for s>4.5%</s<4.5% </s<3.5% 		

SLE LAYOU	F AND PRACTICE ALTERNATIVES					
OR:	Lyons Hillside Vineyards	Precipitation (inches)	1.97	(2)		
Block:	4	Permanent Conditions	1.3	acres		
USER:	OR	Latitude:	38.3222	degrees		
DATE:	20-Jul-20	Longitude:	-122.1785	degrees		
Soil Type	Sobrante Loam					
т Т	Natural Soil Loss Factor (tons/acre)	2	(1)	2	(1)	1
K	Soil Erodibilty Factor	0.32	(1)	0.32	(1)	
K	3011 ETOGIDITY FACTOR	0.32	(1)	0.52	(1)	
Transect		1	(site plan)	2	(site plan)	
ACTOR:	DESCRIPTION					
R	Rainfall and Runoff Factor	72.0	(3)	72.0	(3)	
IX.	Slope length (ft)	92	(site plan) (6)	154	(site plan) (6)	
S	Slope Gradient (%)	13	(site plan)	134	(site plan)	
LS	Calculated LS	1.86	(Sice plair)	2.41	(Site plair)	
C	Crop/Vegetation Management Factor	0.034	(4)	0.034	(4)	
<u>C</u>	Support Practice Factor	1	(5)	1	(5)	
			(3)		Average	
Α	Soil loss, tons/acre	1.46		1.89	1.67	1
	Soil loss, tons	1.90		2.46	2.18	
						<u> </u>
Equations:				A = Average annual s		cre)
Universal Soil	Loss Equation (USLE)			R = Rainfall and Runo		
				K = Soil Erodibility Fac		
$A = R \times K \times L$	S x C x P			LS = Slope Length-Gr		
				C = Crop/Vegetation a		actor
				P = Support Practice I	Factor	
for slopes of	9% or flatter					
	x cos(arctan(s))^m) x ((65.41 x (sin(arcta	n(s)))^2)+4 56 x sin(ard	an(s))+0 065)			
where:	L = length in feet along slope	11(3))) 2) 1 1130 X 311(dic	(3)) (0.003)			
	dient in %/100		m = 0.2	for s<1%		
m= slope ext	· · · · · · · · · · · · · · · · · · ·			for 1% <s<3.5%< td=""><td></td><td></td></s<3.5%<>		
				for 3.6% <s<4.5%< td=""><td></td><td></td></s<4.5%<>		
				for s>4.5%		
•	eper than 9%					
	x cos(arctan(s)))^.5) x ((sin(arctan(s))/(s	n5.143radians))^1.4	T	T		
where:	L = length in feet along slope					
s = siope gra	dient in %/100					
Doforonco:						
References:	Current (https://wobsoilcurrent.co.co.	gov/Ann/HomoDaga htm	\ \			
	Survey (https://websoilsurvey.sc.egov.usda	J , 11, J)			
	as 14, Volume 6, Version 2 Isopluvials for 2		Davis CA 1000	- A 2		
	"Guides for Erosion and Sediment Control i				7F0/ Cause Nam T	:II ~ d\
+) Table 8:	"Guides for Erosion and Sediment Control ir "Guides for Erosion and Sediment Control ir	1 California", USDA-SCS, L	Davis CA, 1991, p	g. C-9. (vineyard with	/5% Cover, Non-I	mea).
			Javis CA. 1991 D	1 1 1 (111)/17()///11 HIII)		1