

**DRY CREEK LLC
DRY CREEK VINEYARD
EROSION CONTROL PLAN**

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**DRY CREEK LLC
DRY CREEK VINEYARD**

EROSION CONTROL PLAN



NOVEMBER 2022

PREPARED BY:

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

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**DRY CREEK LLC
DRY CREEK VINEYARD**

EROSION CONTROL PLAN

NARRATIVE

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

- a) This ECP addresses the development of approximately 1.2 net acres (1.7 gross acres) of proposed vineyard located at 7111 Dry Creek Road in Napa. The ranch is located on APN 027-070-036 which consists of approximately 25.66 acres per the Napa County Assessor's Office.
- b) Activities to be accomplished include removing grass within the proposed clearing limits, ripping, rock removal, cultivating the soil to prepare for planting, seeding cover crop, mulching, trenching for irrigation pipelines, installing trellis system, laying out the vine rows, and installing erosion control measures.

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

- a) The site is located in the Dry Creek Watershed.
- b) The elevations in the vineyard area range from approximately 1438 to 1578 feet above mean sea level per PPI Engineering ground survey. Ground slopes within the project boundary range between 21 and 22 percent. There are small pockets of areas with slope over 30% in Block A which total approximately 0.3 acres, please see Sheet 1 for the locations.
- c) Topographic mapping was provided PPI Engineering via a ground survey in December 2021. Supplemental contours provided by Sonoma County, flown in November 2013.
- d) Existing vegetation consists of grass. The area is currently grazed. Please see the biological report prepared by MIG dated June 2022.
- e) The project has been designed to avoid all trees. No trees are proposed for removal, and therefore the project is in compliance with County Code Section 18.108.020(C) (70% Vegetation Retention) and County Code Section 18.108.020(D) (3:1 Tree Preservation).
- f) There are structures on the property. Please see the cultural resources report prepared by Flaherty Cultural Resource Services dated September 11, 2019.

- g) A portion of the property is currently deer fenced. Please see the Site Plan for the location of the existing deer fence. No additional deer fence is proposed.
 - h) A site visit of the property was performed by Matt Bueno of PPI Engineering on Tuesday, April 26, 2022 to evaluate the vineyard development area and to collect photographic documentation. Photographs of pre-project conditions can be found in Appendix A.
- 3. Natural and man-made features onsite including streams, lakes, reservoirs, roads, drainage, and other areas that may be affected by the proposed activity.**
- a) No natural or man-made features are expected to be adversely affected by this project.
 - b) The existing road network is sufficient for access to proposed vineyard blocks. The primary access to the vineyard blocks will be from the access gate off of Dry Creek Road.
- 4. Location and source of water for irrigation or other uses.**
- a) The proposed water source is an existing well. Please see the Vicinity Map for the location. Please see WAA prepared by Richard C. Slade & Associates LLC dated November 2022.
- 5. Soil types/soil series identified in the Soil Conservation Service (SCS) Napa County Soil Survey.**
- a) The USDA – SCS Napa County Soil Survey maps the soil within the project boundary as Boomer loam with 2 to 35 percent slopes and Cohasset gravelly loam with 15 to 30 percent slopes.
 - b) A small amount of rock is expected to be generated as a result of this project. Rock not used immediately will be stockpiled for future use inside the proposed clearing limits. Stockpiles are expected to be less than 20 feet in height. Rock staging areas shall be located inside of proposed clearing limits. Temporary rock stockpiles shall also be located inside of proposed clearing limits. No grading activities, ground disturbance or rock storage will occur outside of the proposed clearing limits.
- 6. Critical areas, if any, within the development site that have serious erosion potential or problems.**
- a) There are no areas with serious erosion potential or problems.

7. Erosion calculations

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

8. Proposed erosion control methods including:

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

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

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

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

The permanent cover crop will be managed each year such that any areas which have less than 85% vegetative cover specified will be reseeded and mulched until adequate coverage is achieved. The permanent cover crop shall be mowed only and not disked.

- 3. No pre-emergent herbicides will be strip sprayed in the vinerows for weed management. Contact or systemic herbicides may be applied in spring (no earlier than February 15 to ensure adequate vegetative cover in the spray strips for the remainder of the rainy season). No strip spraying shall be performed. Spot spraying of contact or systemic herbicides in spring (no earlier than February 15) will be

allowed provided the 85% vegetative cover is achieved in each block. If the owner chooses to farm without herbicide, an alternative will be to hand-hoe around the base of the vine only, or other methods that do not result in a continuous bare strip.

4. Fertilizer shall be applied as necessary by vineyard management personnel for both the vineyard and to ensure specified percent vegetative cover crop is achieved. Site-specific soil analysis should be performed.
5. The vineyard avenues shall be mowed only and shall not be disked. Unless otherwise noted, all avenues shall conform to the natural grade. Vineyard avenues shall be seeded and mulched prior to October 15 of the year of construction and in subsequent years in bare or disturbed areas. The cover crop will be managed each year such that any avenues that have less than 85% vegetative cover will be reseeded and mulched until adequate coverage is achieved. Seeding and mulching is not required on avenues and roads properly surfaced with gravel.
6. The proposed vine by row spacing is expected to be 4 feet by 4 feet (head-trained) and will be hand farmed.
7. The owner has the freedom to further subdivide vineyard blocks within the footprint of the proposed vineyard for irrigation and viticulture purposes. The proposed vinerow directions shall not be altered without an approved modification from Napa County.
8. Irrigation pipelines shall be located within existing roadways, vineyards and vineyard avenues, and/or within proposed clearing limits. Regardless of pipeline location, pipeline trenches located on ground slopes greater than 15% shall be backfilled using imported or select native granular material to a depth of 6 inches above the pipelines such that voids do not form below haunches of pipe. Backfill shall be wheel rolled or otherwise compacted to reduce settlement. Final grading over trenches shall be mounded and water-barred such that water is directed away from trenches.
9. As stated in the Napa County Protocol for Re-Planting/Renewal of Approved Non-Tilled Vineyard Cover Crops dated March 23, 2004, when it becomes necessary, either by routine or emergency, to re-establish or renew vineyard cover crop the following measures should be followed:
 - Seek professional consultation, including soil nutrient analysis, to determine the reasons for the original cover crop's failure. Adjust soil fertility, irrigation and seed selection accordingly.
 - When tillage is necessary, alternate rows should be tilled, seeded, and straw-mulched to effectively accomplish the re-establishment/renewal process over a two-year period.
 - Tillage and re-seeding should be conducted in the following manner:

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

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

- a) No significant increase in quantity or rate of runoff is expected as a result of this project. An existing pipeline and series of inlets are located in the proposed vineyard area. No changes are proposed to the existing infrastructure.
- b) Please see hydrology report prepared by PPI Engineering dated November 2022.

10. An implementation schedule showing the following:

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

DATE	DESCRIPTION
April 1:	Commence clearing and tillage operations.
October 1:	All tillage and erosion control completed.
October 15:	All winterization complete, including seeding, straw mulching, and straw wattle installation.

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

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

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

See Item 10a).

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

See Item 10a).

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

Typical costs for installing erosion control measures as described in this plan range from \$500 to \$1,000 per acre.

**DRY CREEK LLC
DRY CREEK VINEYARD**

EROSION CONTROL PLAN

STANDARD PROVISIONS

SECTION 1 - SCOPE OF WORK

These specifications cover the construction of the erosion control measures for approximately 1.2 acres of vineyard to be developed by Dry Creek LLC.

The drawing numbered 12112001A, Sheets 1 and 2, and these Specifications describe in detail the construction of the complete erosion control system. Requests for further information or clarification of the work to be done can be made to Jim Bushey or Matt Bueno at the Napa office of PPI Engineering, phone (707) 253-1806.

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

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

SECTION 2 - AUTHORITY OF OWNER AND ENGINEER

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

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

SECTION 3 - CHANGES IN WORK

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

SECTION 4 - UTILITIES

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

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

SECTION 5 - PROSECUTION OF THE WORK

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

SECTION 6 - RESPONSIBILITIES OF THE CONTRACTOR

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

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

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

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

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

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

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

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

SECTION 7 - MEASUREMENT AND PAYMENT

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

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

SECTION 8 - GUARANTEE

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

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

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EROSION CONTROL PLAN

SPECIAL PROVISIONS

SECTION 1 – STANDARD DROP INLET REPAIR

1.1 GENERAL:

Existing drop inlets shall be inspected, repaired and maintained in the locations shown on the Plans and as staked in the field by the Engineer, according to the standard drop inlet detail. If upon inspection, the Engineer determines that replacement of the inlet is required, the inlet shall be replaced in accordance with the provisions outlined in Sections 1.2 and 1.3 of these specifications.

1.2 MATERIALS:

Drop inlet risers shall be galvanized, 14 gauge corrugated metal pipe (CMP) of the diameter shown on the Plans and/or Specifications and shall be at a minimum, the same diameter as the existing facilities. Dual walled corrugated polyethylene may be substituted with prior approval from the Engineer.

Trash racks shall be Agri Drain Bar Guard or equal.

Concrete for the bottom of the inlet shall be Portland Cement concrete, 3,000 psi minimum compressive strength.

1.3 INSTALLATION:

Standard drop inlets shall be constructed as shown on Detail 2, Sheet 2 and as staked in the field by the Engineer. Connector pipes shall be mortared in place to form a watertight seal. Grates shall be bolted or locked to drop inlet riser. Backfill around the inlet shall be compacted sufficiently by hand or water-jetted such that excessive settlement does not occur.

SECTION 2 - SURFACE DRAINAGE LINE REPAIR

2.1 GENERAL:

Existing surface drainage pipelines shall be inspected, repaired and maintained to collect surface runoff at low points throughout the project area and transport it to a protected outlet, as shown in Detail 3, Sheet 2. If upon inspection, the Engineer determines that replacement of the pipeline or section of pipeline is required, the pipeline shall be replaced in accordance with the provisions outlined in Sections 2.2 and 2.3 of these specifications.

2.2 MATERIALS:

Surface drainage pipelines shall be constructed of solid corrugated polyethylene pipe (CPP) as shown on the Plans. Corrugated plastic pipe for use as surface drainage pipelines shall meet the standards of ASTM F667 and AASHTO M294, as applicable. Bent or damaged pipe shall not be used in the drainage system and shall be removed from the job site.

Pipe connections shall be made with fittings manufactured by the same manufacturer who made the pipe. All connections shall be securely fastened and the resulting connection shall not have gaps greater than 1/8 inch wide.

Gravel envelope bedding material may be volcanic rock. It shall be free of organic matter, clay, or other material, which could decrease its hydraulic conductivity with time. One hundred percent of the material must pass the 1-1/2" clear square openings. Ninety to one hundred percent must pass through the 3/4" clear square openings. At least 50% must pass through the 3/8" clear square openings. No more than 15% may pass the #20 U.S. Standard Sieve. At least 8% must pass the #60 U.S. Standard Sieve. No more than 3% may pass the #200 U.S. Standard Sieve.

Gravel envelope material may also be a blend of clean hard sand and gravel. It shall be free of organic matter, clay, or other material that would decrease its hydraulic conductivity with time. The material shall be well graded. The coefficient of uniformity (D_{60}/D_{10}) must be greater than 4, and the coefficient of curvature ($(D_{30}^2/(D_{10} \times D_{60}))$) must be between 1 and 3. One hundred percent must pass the 1/2" clear square openings. No more than 5% may pass the #100 U.S. Standard Sieve. An example of this material would be 80% 3/8 crushed rock and 20% washed concrete sand.

Alternative bedding material may be approved by the Engineer. A sample and sieve analysis of the proposed material must be submitted to the Engineer at least 2 days prior to delivering material to the job site. It will be the responsibility of the Contractor to remove and dispose of all envelope material not used on the project.

2.3 INSTALLATION:

The Contractor may use a trencher, or drainage plow with vertical soil displacement or backhoe/excavator for the excavation and placement of the surface drainage pipe as dictated by soil conditions. The operator shall be skillful in laying the tubing. Grade control may be established by visual control with grade stakes set no more than 100 feet apart or by laser control with grade stakes set no more than 200 feet apart.

SECTION 3 - TEMPORARY MEASURES

3.1 GENERAL:

Temporary erosion control measures shall be constructed by the Owner. These measures can include water bars, straw wattles, straw mulching, straw bale dikes, and other practices as

needed. The measures shall be constructed in conformance with the detail drawings and maintained in a functional condition throughout the rainy season.

SECTION 4 - MAINTENANCE

4.1 GENERAL:

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

4.2 PERMANENT COVER CROP:

All disturbed areas shall be fertilized and seeded in order to achieve a vegetated coverage of 85% in the vineyard areas. The cover crop shall be reseeded in subsequent years where necessary prior to the rainy season in order to maintain the required degree of coverage. The cover crop, including avenues, shall be mowed only and shall not be disked.

4.3 STRAW WATTLES:

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

4.4 DROP INLETS:

Drop inlets are designed with trash racks at the ground surface. Debris shall be removed from trash racks after each storm event or as necessary to assure a clear flow path for water entering the drop inlet and for an unobstructed flow of water out of the overflow structure. Damaged trash racks shall be repaired immediately in order to assure that unacceptable quantities of debris do not enter the storm drainage piping system.

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION



Photo 1

4/26/22



Photo 2

4/26/22

APPENDIX B

USLE CALCULATIONS

PPI Engineering

Napa County
Maximum Length of Slope
for a soil loss of 6 tons per acre

NAME: Dry Creek Vineyard

DATE: 7/2/19

Cover Type: Permanent Cover Crop

Soil Unit No. (100-182)--- 107

Soil Name Boomer

-K= 0.32

-R= 110

-T= 4

Percent Cover		65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
		C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
P E R C E N T S L O P E	2	768,043	1,663,230	4,555,629	19,441,742	69,690,357	269,242,097
	4	14,661	26,173	55,724	165,457	431,036	1,187,795
	6	1,915	3,044	5,573	13,310	28,631	64,420
	8	882	1,402	2,566	6,129	13,184	29,664
	10	470	748	1,369	3,270	7,034	15,826
	12	285	453	828	1,979	4,257	9,577
	14	187	297	543	1,298	2,791	6,281
	16	130	207	378	903	1,942	4,370
	18	95	150	275	657	1,414	3,182
	20	71	114	208	496	1,068	2,402
	22	56	88	162	386	830	1,868
	24	44	70	129	308	662	1,489
	26	36	57	105	250	538	1,211
	28	30	47	87	207	446	1,003
	30	25	40	73	174	375	844
	32	21	34	62	149	320	720
	34	18	29	54	128	276	621
	36	16	26	47	112	241	542
	38	14	23	41	99	212	478
	40	13	20	37	88	189	424
	42	11	18	33	79	169	380
	44	10	16	30	71	153	343
	46	9	15	27	64	139	312
	48	8	13	25	59	127	285
	50	8	12	23	54	116	262

NOTES:

C=Cover and Management Factor

P=Practice Factor

PPI Engineering

Sonoma County
Maximum Length of Slope
for a soil loss of 6 tons per acre

NAME: Dry Creek Vineyard

DATE: 11/10/22

Cover Type: Permanent Cover Crop

Soil Unit No. (ADA-ZAB)--- CME

Soil Name COHASSET

-K= 0.10

-R= 110

-T= 4

Percent Cover		65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
		C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
	2	37,086,607	80,312,654	219,978,341	938,786,308	3,365,148,740	13,000,933,635
	4	268,563	479,426	1,020,749	3,030,816	7,895,655	21,757,867
	6	19,609	31,175	57,064	136,293	293,181	659,658
	8	9,030	14,356	26,277	62,761	135,006	303,764
	10	4,817	7,659	14,019	33,483	72,026	162,058
	12	2,915	4,635	8,484	20,263	43,588	98,073
P	14	1,912	3,039	5,564	13,288	28,585	64,316
E	16	1,330	2,115	3,871	9,246	19,888	44,749
R	18	969	1,540	2,819	6,732	14,482	32,584
C	20	731	1,163	2,128	5,083	10,933	24,600
E	22	569	904	1,655	3,952	8,501	19,128
N	24	453	720	1,319	3,149	6,775	15,243
T	26	369	586	1,073	2,563	5,512	12,403
S	28	305	485	889	2,123	4,566	10,273
	30	257	408	748	1,786	3,841	8,642
L	32	219	348	638	1,523	3,276	7,370
O	34	189	301	550	1,314	2,827	6,362
P	36	165	262	480	1,147	2,467	5,551
E	38	145	231	423	1,010	2,174	4,891
	40	129	205	376	898	1,932	4,347
	42	116	184	337	805	1,731	3,894
	44	104	166	304	726	1,562	3,514
	46	95	151	276	660	1,419	3,192
	48	87	138	252	603	1,297	2,918
	50	80	127	232	554	1,192	2,682

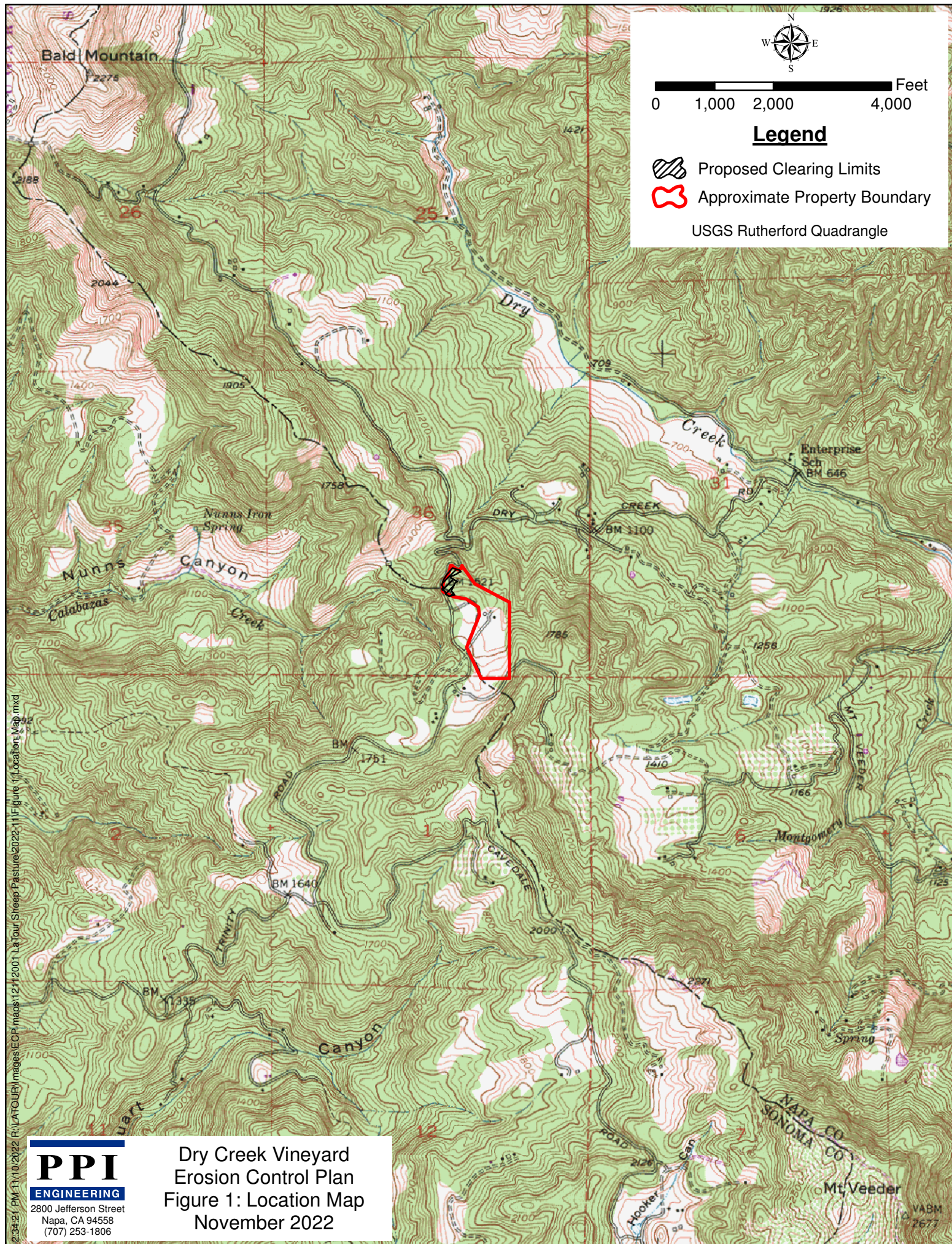
NOTES:

C=Cover and Management Factor

P=Practice Factor

APPENDIX C

SUPPORTING FIGURES



0 1,000 2,000 4,000 Feet

Legend

-  Proposed Clearing Limits
-  Approximate Property Boundary

USGS Rutherford Quadrangle

PPI
ENGINEERING

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

Dry Creek Vineyard
Erosion Control Plan
Figure 1: Location Map
November 2022

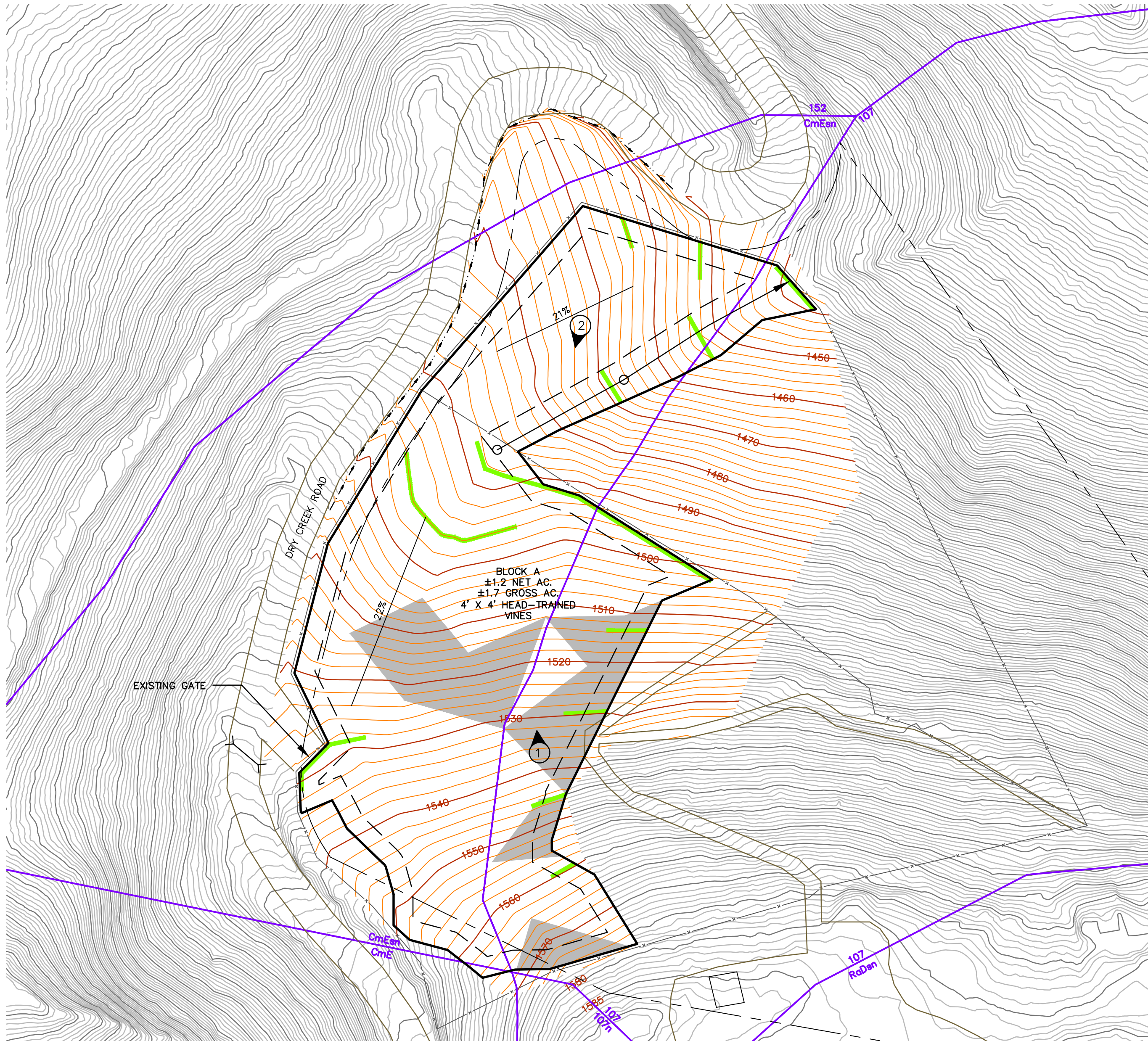


0 100 200 400 Feet

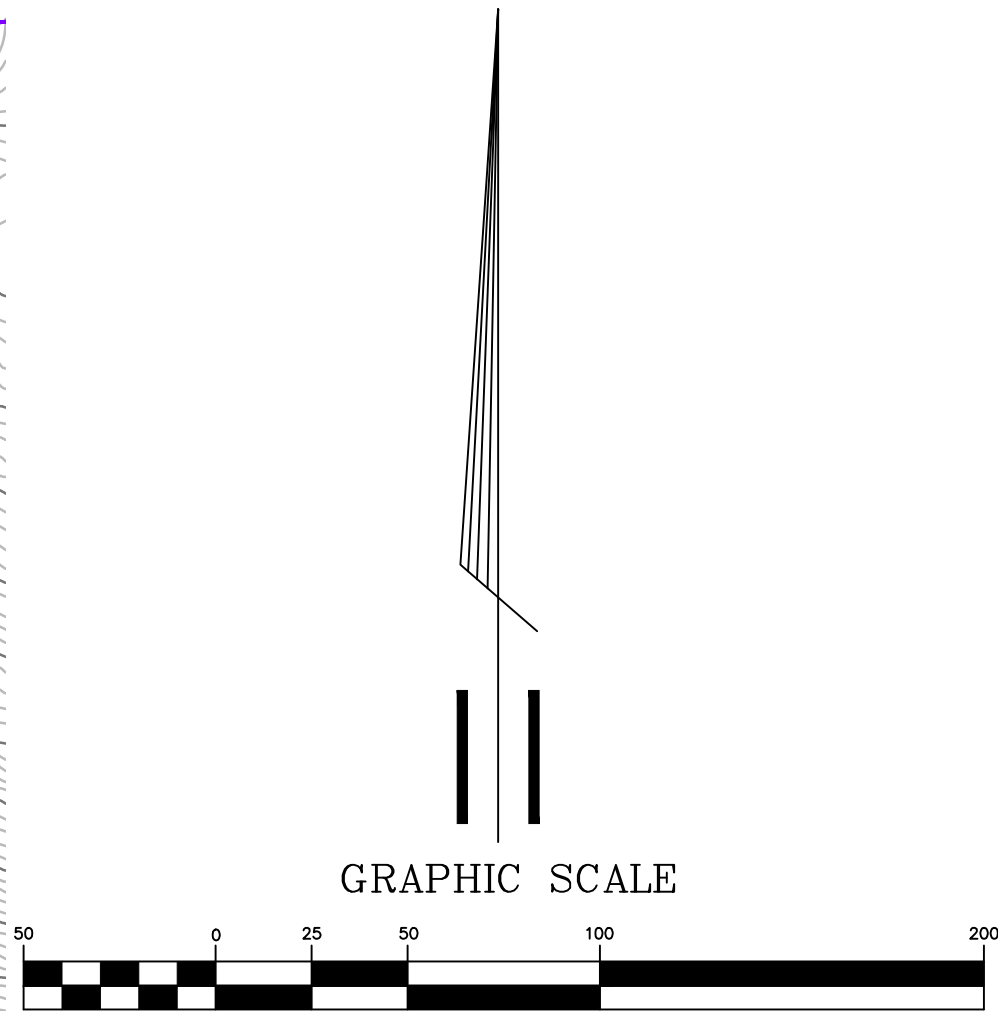
Legend

- Chemical Mixing Area
- Proposed Clearing Limits
- Proposed Block Boundary
- Approximate Property Boundary

2021 Napa County Aerial Photo



TOPOGRAPHIC MAPPING SOURCE: PPI ENGINEERING, 2' CONTOUR INTERVAL, DECEMBER 2021
SUPPLEMENTAL TOPOGRAPHIC MAPPING SOURCE: SONOMA COUNTY LIDAR-GENERATED CONTOURS, 1' CONTOUR INTERVAL, NOVEMBER 2013

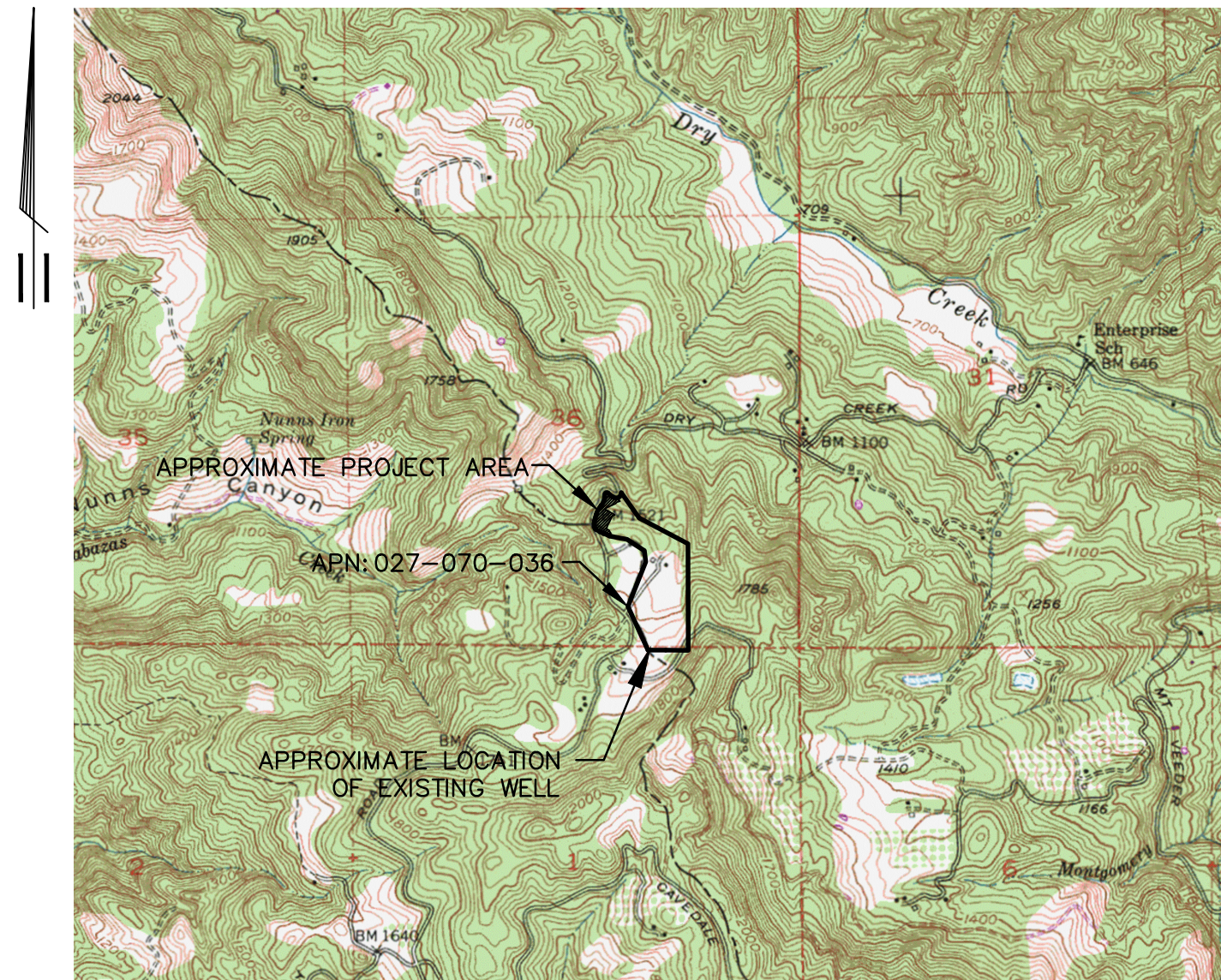


LEGEND

	PPI ENGINEERING 10' INDEX CONTOUR
	PPI ENGINEERING 2' INTERMEDIATE CONTOUR
	SONOMA COUNTY 5' LIDAR-GENERATED INDEX CONTOUR
	SONOMA COUNTY 1' LIDAR-GENERATED INTERMEDIATE CONTOUR
	APPROXIMATE PROPERTY LINE LOCATION
	EXISTING ROAD
	EXISTING FENCE
	EXISTING BUILDING
	EXISTING SURFACE DRAINAGE LINE, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, REPLACED OR MAINTAINED AS NEEDED (SEE DETAIL 2, SHEET 2)
	EXISTING DITCH, APPROXIMATE LOCATION
	EXISTING DROP INLET, APPROXIMATE LOCATION, TO BE INSPECTED, REPAIRED, REPLACED OR MAINTAINED AS NEEDED (SEE DETAIL 2, SHEET 2)
	PROPOSED VINEYARD CLEARING LIMITS
	PROPOSED VINEYARD BLOCK BOUNDARY
	EXISTING CULVERT
	PROPOSED STRAW WATTLE (SEE DETAIL 1, SHEET 2)
	AREA WHERE GROUND SLOPE IS 30 PERCENT OR GREATER
	PHOTO POINT NUMBER & LOCATION (SEE APPENDIX A)
	AVERAGE SURFACE SLOPE
	SOIL TYPE BOUNDARY

USDA SOIL CLASSIFICATIONS:

107	BOOMER LOAM, VOLCANIC BEDROCK, 2-35% SLOPE
107n	BOOMER LOAM, 2-15% SLOPE
152	HAMBRIGHT ROCK-OUTCROP COMPLEX, 30-75% SLOPE
CmE	COHASSET GRAVELLY LOAM, 15-30% SLOPE
CmEan	COHASSET GRAVELLY LOAM, 15-30% SLOPE
RaDen	RAYNOR CLAY, 9-15% SLOPE



VICINITY MAP

USGS RUTHERFORD QUADRANGLE
TOWNSHIP 7 N., RANGE 6 W.
SCALE: 1" = ±2000'

NOTES:

- OWNER: DRY CREEK LLC
SITE ADDRESS: 7111 DRY CREEK ROAD, NAPA
APN: 027-070-036
- ACCESS TO PROJECT IS FROM DRY CREEK ROAD. THE SITE IS GATED AND LOCKED. ADMITTANCE IS AVAILABLE UPON REQUEST.
- EXISTING VEGETATION CONSISTS OF GRASS AND TREES.
- DISTURBED AREAS SHALL BE SEEDED AS DESCRIBED BELOW. STRAW MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 3,000 LBS/ACRE PRIOR TO OCTOBER 15 OF THE YEAR OF CONSTRUCTION.
- PERMANENT COVER CROP (NO-TILL):
A PERMANENT COVER CROP STRATEGY WILL BE UTILIZED. THE PERMANENT COVER CROP WILL BE GENERATED THE FIRST YEAR BY SEEDING WITH THE FOLLOWING MIX:

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

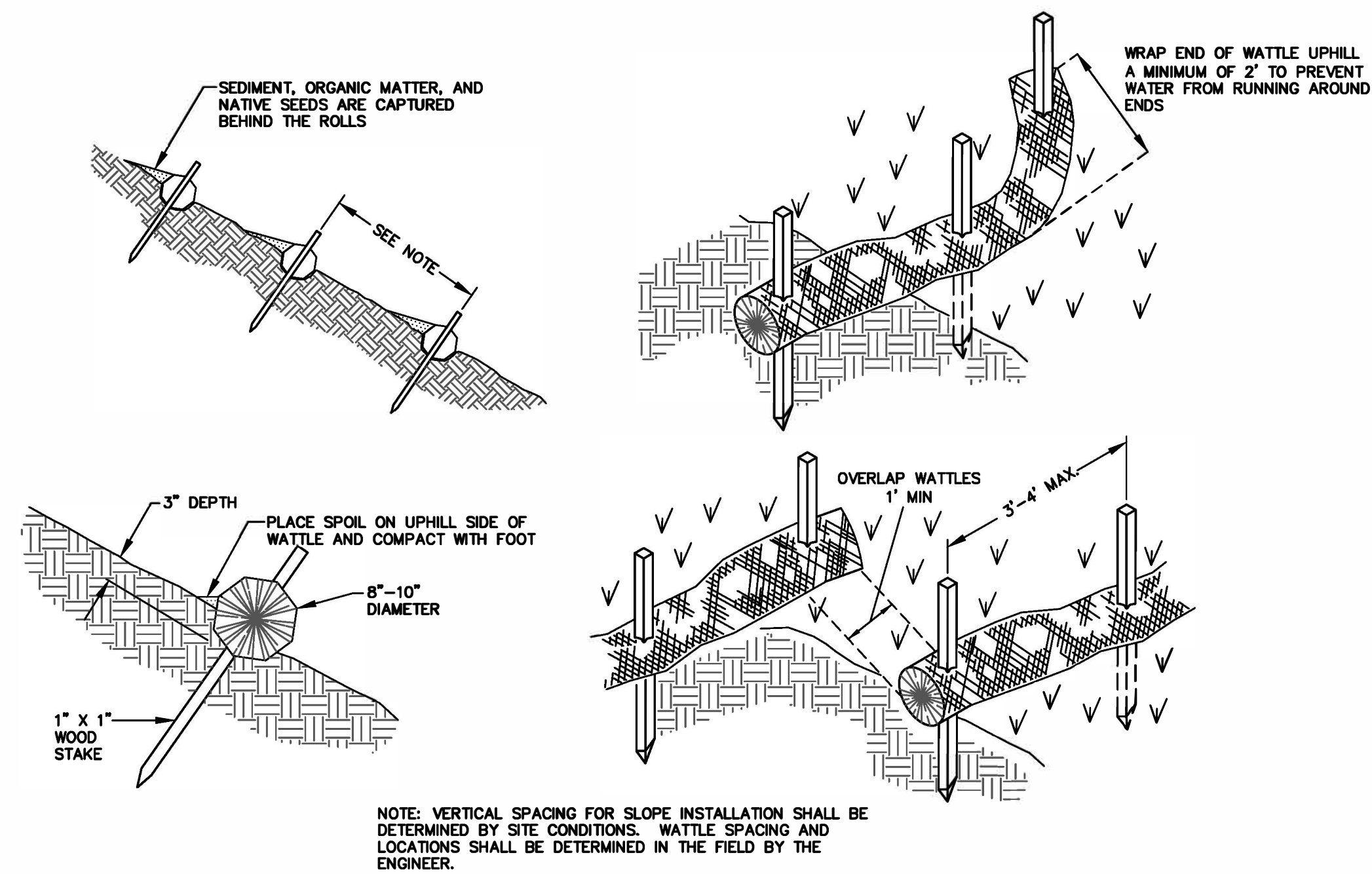
A PRE-APPROVED ALTERNATIVE SEED MIX MAY BE ALLOWED.
THE PERMANENT COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AREAS WHICH HAVE LESS THAN 85% VEGETATIVE COVER WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. THE PERMANENT COVER CROP SHALL BE MOWED ONLY AND NOT DISKED.
- THE OWNER HAS THE OPTION OF USING A DWARF BARLEY COVER CROP IN THE FIRST THREE YEARS THAT THE BLOCK IS PLANTED TO AID WITH VINEYARD ESTABLISHMENT. IF THIS OPTION IS USED, SEED SHALL BE APPLIED AT A RATE OF 120 LBS/ACRE IF BROADCAST OR AT A RATE OF 60 LBS/ACRE IF DRILLED. THE COVER CROP WITHIN THE VINEYARD MAY BE DISKED EACH SPRING AFTER APRIL 1 FOR THE FIRST THREE YEARS. AN ALTERNATIVE COVER CROP SEED MIX MAY BE USED UPON PRIOR APPROVAL. EACH YEAR THE OWNER CHOOSES TO DISK, THE AREA SHALL BE STRAW MULCHED AT A RATE OF 3,000 LBS/ACRE AND STRAW WATTLES SHALL BE INSTALLED PRIOR TO OCTOBER 15. THE PERMANENT SEED MIX WILL BE SEEDED PRIOR TO OCTOBER 15 OF THE FOURTH (OR EARLIER) YEAR.
- NO PRE-EMERGENT HERBICIDES WILL BE USED FOR WEED MANAGEMENT. CONTACT OR SYSTEMIC HERBICIDES MAY BE APPLIED IN SPRING (NO EARLIER THAN FEBRUARY 15TH TO ENSURE ADEQUATE VEGETATIVE COVER IN THE SPRAY STRIPS FOR THE REMAINDER OF THE RAINY SEASON). NO STRIP SPRAYING SHALL BE PERFORMED. SPOT SPRAYING OF CONTACT OR SYSTEMIC HERBICIDES IN SPRING (NO EARLIER THAN FEBRUARY 15) WILL BE ALLOWED PROVIDED THE 85% VEGETATIVE COVER IS ACHIEVED IN THE BLOCK. IF THE OWNER CHOOSES TO FARM WITHOUT HERBICIDE, AN ALTERNATIVE WILL BE TO HAND-HOE AROUND THE BASE OF THE VINE ONLY, OR OTHER METHODS THAT DO NOT RESULT IN A CONTINUOUS BARE STRIP. OTHER METHODS OF VEGETATION MANAGEMENT MAY BE ALLOWED WITH PRIOR APPROVAL FROM THE ENGINEER AND PROVIDED THE MINIMUM COVER REQUIREMENTS ARE ACHIEVED.
- FERTILIZER SHALL BE APPLIED AS NECESSARY BY VINEYARD MANAGEMENT PERSONNEL FOR BOTH THE VINEYARD AND TO ENSURE SPECIFIED PERCENT VEGETATIVE COVER CROP IS ACHIEVED. SITE-SPECIFIC SOIL ANALYSIS SHOULD BE PERFORMED.
- THE VINEYARD AVENUES SHALL BE MOWED ONLY AND SHALL NOT BE DISKED. UNLESS OTHERWISE NOTED, ALL AVENUES SHALL CONFORM TO THE NATURAL GRADE. VINEYARD AVENUES SHALL BE SEEDED AND MULCHED PRIOR TO OCTOBER 15 OF THE YEAR OF CONSTRUCTION AND IN SUBSEQUENT YEARS IN BARE OR DISTURBED AREAS. THE COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AVENUES WHICH HAVE LESS THAN 85% VEGETATIVE COVER WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. SEEDING AND MULCHING IS NOT REQUIRED ON AVENUES AND ROADS PROPERLY SURFACED WITH GRAVEL.
- THE PROPOSED VINE SPACING IS EXPECTED TO BE 4' BY 4' (HEAD-TRAINED) AND WILL BE HAND FARMED.
- THE OWNER HAS THE FREEDOM TO FURTHER SUBDIVIDE VINEYARD BLOCKS WITHIN THE FOOTPRINT OF THE PROPOSED VINEYARD FOR IRRIGATION AND VITICULTURE PURPOSES. THE PROPOSED VINEROW DIRECTIONS SHALL NOT BE ALTERED WITHOUT AN APPROVED MODIFICATION FROM NAPA COUNTY.
- THE LOCATION OF THE EXISTING WELL, THE PROPOSED WATER SOURCE, IS SHOWN ON THE VICINITY MAP.
- SLOPE CALCULATIONS:
AVERAGE SLOPE: (21% + 22%) / 2 = 22%
- THE PROJECT IS CURRENTLY DEER FENCED. NO ADDITIONAL DEER FENCE IS NEEDED FOR THE PROPOSED VINEYARD.
- REQUESTS FOR FURTHER INFORMATION, CLARIFICATION OF WORK TO BE DONE, OR INSPECTION INFORMATION CAN BE MADE TO JIM BUSHEY OR MATT BUENO AT PPI ENGINEERING IN NAPA, (707) 253-1806.
- PROPERTY LINES AS SHOWN ARE APPROXIMATE. OWNER SHALL BE RESPONSIBLE FOR SURVEYING PROPERTY LINE(S) AS NECESSARY PRIOR TO ANY SITE DISTURBANCE.
- THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
- AT LEAST 48 HOURS PRIOR TO EXCAVATING, THE CONTRACTOR SHALL CALL UNDERGROUND SERVICES ALERT (U.S.A.) AT 1-800-642-2444 IN ORDER TO LOCATE EXISTING UTILITIES. IT IS THE OWNER'S RESPONSIBILITY TO LOCATE ANY ADDITIONAL UNDERGROUND UTILITIES THAT MAY HAVE BEEN INSTALLED "IN-HOUSE" OR BY PRIVATE CONTRACTORS AND THEREFORE MAY NOT BE LOCATED THROUGH UNDERGROUND SERVICE ALERT.
- IT IS THE OWNER'S RESPONSIBILITY TO INSTALL ALL STRUCTURAL MEASURES AS SHOWN ON THE SITE PLAN AND DETAILS AND AS DESCRIBED IN THE SPECIFICATIONS WITHIN THE TIME FRAMES SPECIFIED FOR THIS PROJECT. ANY DEVIATION FROM THESE PLANS MUST BE REVIEWED AND APPROVED BY NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT. IT IS THE OWNER'S RESPONSIBILITY TO INITIATE THIS MODIFICATION PROCESS. PPI ENGINEERING MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION IN ORDER TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER/MANAGER AND CONTRACTOR(S). FOR ONGOING MULTI-YEAR PROJECTS PPI ENGINEERING MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF RESUMING CONSTRUCTION EACH YEAR.



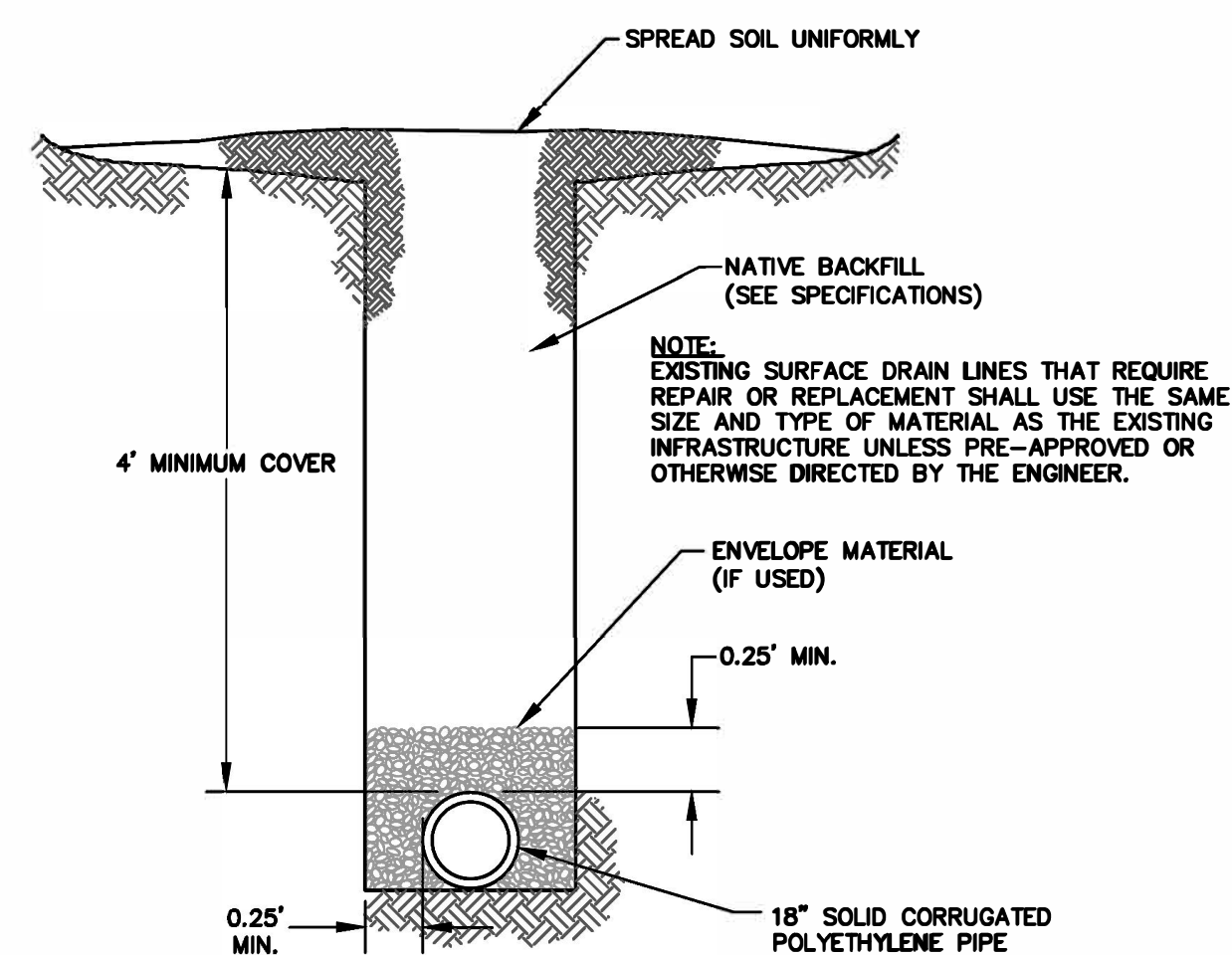
DRY CREEK LLC DRY CREEK VINEYARD EROSION CONTROL PLAN SITE PLAN

DESIGN ENGINEER:
J. BUSHEY, M. BUENO

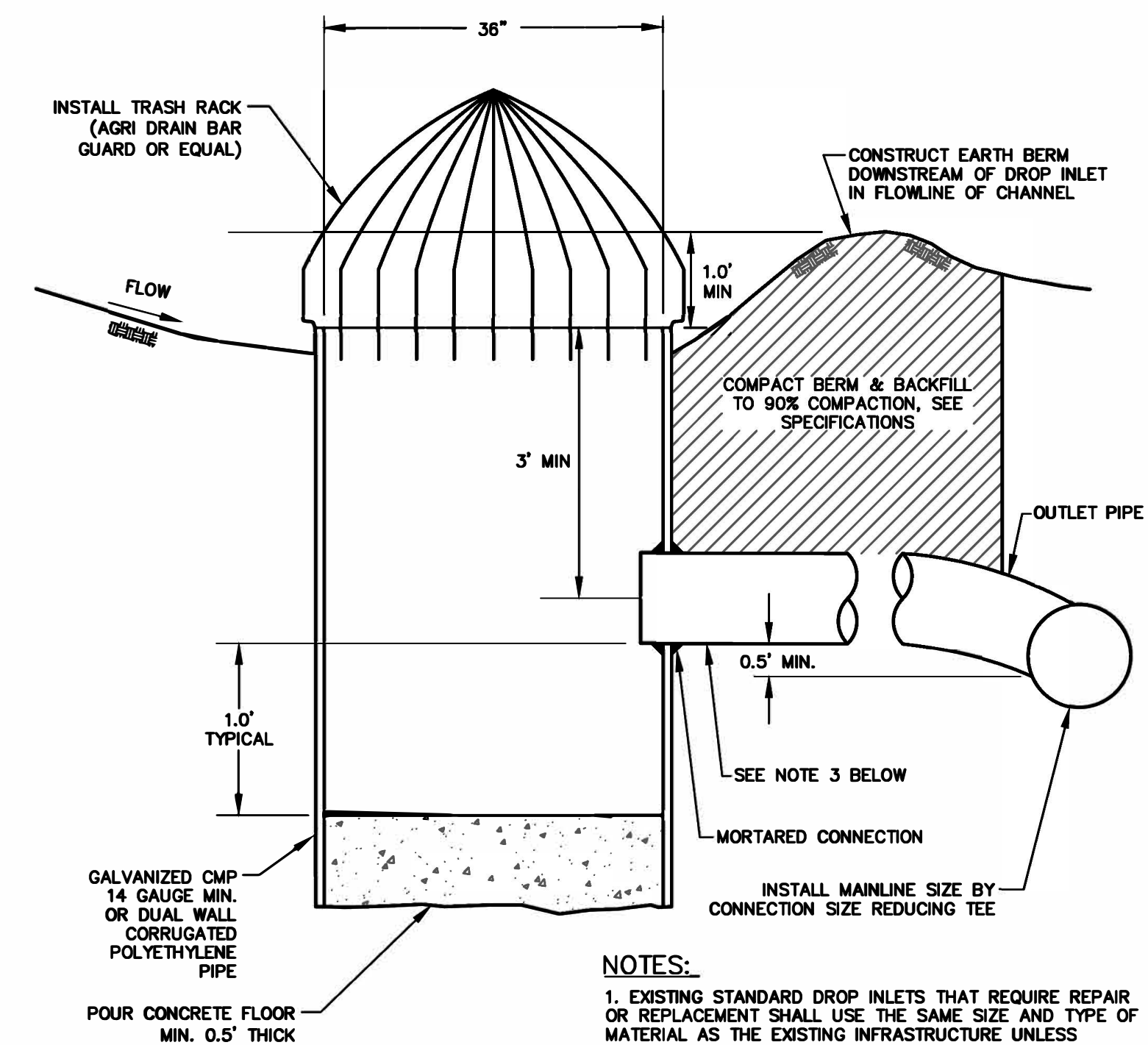
SCALE:	AS SHOWN	DRAWN BY:	JCJ, SM	DATE:	11-11-22	SHEET:	1
DWG. NO:	12112001A					OF:	2



1 STRAW WATTLE INSTALLATION
N.T.S.

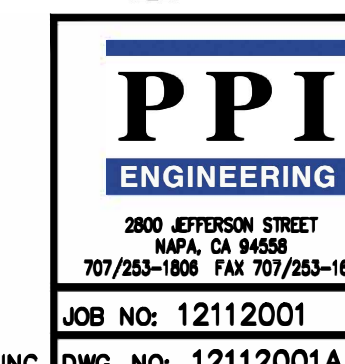


3 SURFACE DRAINAGE PIPELINE
N.T.S.



- NOTES:
1. EXISTING STANDARD DROP INLETS THAT REQUIRE REPAIR OR REPLACEMENT SHALL USE THE SAME SIZE AND TYPE OF MATERIAL AS THE EXISTING INFRASTRUCTURE UNLESS PRE-APPROVED OR OTHERWISE DIRECTED BY THE ENGINEER.
 2. LOCATE DROP INLET IN VINEROW IF INLET IS LOCATED WITHIN THE VINEYARD. CONSTRUCT BERM TO DIRECT WATER TO DROP INLET.
 3. NO ADDITIONAL CONNECTOR PIPE SHALL BE REQUIRED WHERE THE INLET IS LOCATED AT UPPER END OF ALL MAINLINES. MAINLINE SIZES AS SPECIFIED SHALL CONNECT DIRECTLY TO DROP INLET.

2 STANDARD DROP INLET
N.T.S.



DRY CREEK LLC
DRY CREEK VINEYARD
EROSION CONTROL PLAN
DETAILS

DESIGN ENGINEER:
J. BUSHEY, M. BUENO
SCALE: AS SHOWN
DRAWN BY: JCJ, SM
DATE: 11-11-22
SHEET: 2
OF: 2