BOISSET COLLECTION
WAPPO HILL

EROSION CONTROL PLAN
REVISED NOVEMBER 2024

PPI
ENGINEERING

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BOISSET COLLECTION
WAPPO HILL

EROSION CONTROL PLAN



REVISED NOVEMBER 2024
ORIGINAL SUBMITTAL FEBRUARY 2024

PREPARED BY:

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BOISSET COLLECTION
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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 13.1 net acres (16.7 gross acres) of proposed vineyard located at 5681 Silverado Trail in Napa County. The ranch is located on APN 039-040-042 in the Agricultural Preserve (AP) zoning district (General Plan designation Agricultural Resource) which consists of approximately 53.7 acres per the Napa County Assessor's Office.

b) Activities to be accomplished include removing brush and trees 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 and deer fence, laying out the vinerows, and installing erosion control measures.

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

a) The Property is generally surrounded by vineyards. The site is located in the Chase Creek and Napa River – Yountville Reach Watershed.

b) The elevations in the vineyard area range from approximately 110 to 565 feet above mean sea level per topographic mapping. Ground slopes within the project boundary range between 18 and 34 percent. There are small pockets of areas with slope over 30% in several vineyard blocks which total approximately 4.2 acres, please see Sheet 2 of the Plans for the locations, all such subareas are less than 1 acre in size

c) Topographic mapping was provided by PPI Engineering in 2021 and 2023. Supplemental mapping is Napa County LIDAR-generated contours from May 2003.

d) Existing vegetation consists of grass, brush and trees. Some areas are currently grazed. Please see the biological report prepared by WRA dated December 2023.

e) Please see Appendix D for Vegetation Retention Calculations to demonstrate compliance with Napa County General Plan Policy CON-24(C).

f) There are structures on the property. Please see the cultural resources report prepared by Flaherty Cultural Resource Services dated October 2021 and Addendum dated October 2023.

g) A portion of the property is currently deer fenced. Please see Figure 3 in Appendix E for the Deer Fence map.

h) A site visit of the property was performed by Matt Bueno, Anthony Sorace and other PPI Engineering staff in 2021 and 2023 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) There are no blue line or County-defined streams on the Property. All ephemeral or intermittent streams that do not meet the Napa County definition of a stream have been avoided with a minimum 35' buffer in accordance with Napa County Conservation Regulation 18.108.025.

c) There is an existing network of paved, gravel, and dirt roads throughout the property. The existing road network is sufficient for access to proposed vineyard blocks. Please see Figure 2 in Appendix E for the roads which will be used as primary access to the vineyard blocks. All vineyard blocks will utilize the existing driveway from Silverado Trail.

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

a) The location of the existing well, the proposed water source, is shown on the Vicinity Map. Please see the WAA prepared by Richard C. Slade & Associates dated January 2024.

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

a) The USDA – NRCS Web Soil Survey maps the soil within the project boundary as Bale clay loam with 2 to 5 percent slopes, Boomer gravelly loam, volcanic bedrock, with 14 to 60 percent slopes and Sobrante loam with 5 to 50 percent slopes.

b) Some rock is expected to be generated as a result of this project. Some of the rock generated will be used to construct erosion control features such as rock-filled avenues that will help retain sediment as well as disperse runoff from vineyard blocks. Rock-filled avenues shall be located as shown on Sheet 2 and at the downslope edge of vineyard blocks as determined by the Engineer in the field at the time of construction. The toe of the rock avenue fill slope shall not extend past the proposed clearing limits. Because of the nature of the rock-filled avenues, the proposed block boundary location is conceptual and not exact. Rock may be crushed and used on the existing roads where

needed. Rock not used immediately will be stockpiled for future use inside the proposed clearing limits. Stockpiles are expected to be less than 20 feet in height. Rock staging areas shall be located inside of proposed clearing limits. Temporary rock stockpiles shall also be located inside of proposed clearing limits. No grading activities, ground disturbance or rock storage will occur outside of the proposed clearing limits.

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

a) There are no areas with serious erosion potential or problems.

7. Erosion calculations

a) The project will result in a significant net decrease in soil loss from installation of the erosion control measures. 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 2023.

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 lbs/acre, Blando Brome at 8 lbs/acre, Zorro Fescue at 12 lbs/acre, and Crimson Clover at 6 lbs/acre. A pre-approved alternative seed mix may be allowed.

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

Blocks with 80% vegetative cover: 1, 2, 4 & 5

Blocks with 85% vegetative cover: 3, 7 & 10

Blocks with 90% vegetative cover: 6, 8 & 9

3. In Blocks 4 and 5 the owner has the option of using a Dwarf Barley cover crop in the first three years that the vineyard is planted to aid with vineyard establishment. If this option is used, seed shall be applied at a rate of 120 lbs/acre if broadcast or at a rate of 60 lbs/acre if drilled. The cover crop within the vineyard may be disked each spring after April 1 for the first three years. An alternative cover crop seed mix may be used upon prior approval. Each year the owner chooses to disk, the area shall be straw mulched at a rate of 3,000 lbs/acre and straw wattles installed prior to October 15. The permanent seed mix will be seeded prior to October 15 of the fourth (or earlier) year.

4. In Blocks 1, 2, 3, 6, 7, 8, 9 & 10 the permanent cover must be established the first year. Disking for the first three years to aid with vineyard establishment is not permitted due to slope of the block and proximity to a drainage.

5. Herbicides may be used for weed management. 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). Strip spraying is permitted within the vineyard blocks such that the overall vegetated cover meets the required cover detailed above. 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

6. 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.

7. 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 the percent vegetative cover specified below will be reseeded and mulched until adequate coverage is achieved. Seeding and mulching is not required on avenues and roads properly surfaced with gravel.

Blocks with 80% vegetative cover: 1, 2, 4 & 5

Blocks with 85% vegetative cover: 3, 7 & 10

Blocks with 90% vegetative cover: 6, 8 & 9

8. All blocks will be hand-farmed. The proposed vine by row spacing is expected to be 1 meter by 1 meter.

9. 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.

10. 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.

11. 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.

b) Please see hydrology report prepared by PPI Engineering dated November 2023.

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. This shall include complete construction of all structural measures required in these blocks which could include rock filled avenues, waterbars, etc.
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 $2,500 to $5,000 per acre.

BOISSET COLLECTION
WAPPO HILL

EROSION CONTROL PLAN

S T A N D A R D P R O V I S I O N S

SECTION 1 - SCOPE OF WORK

These specifications cover the construction of the erosion control measures for approximately 13.1 acres of vineyard to be developed by Desiree Inc.

The drawing numbered 12110201C, Sheets 1 through 3, 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 Desiree Inc. Desiree Inc. 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.

BOISSET COLLECTION
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EROSION CONTROL PLAN

S P E C I A L P R O V I S I O N S

SECTION 1 - SURFACE DRAINAGE LINE

1.1 GENERAL:

Surface drainage pipelines shall be installed to collect surface runoff at low points throughout the project area and transport it to a protected outlet, as shown in Detail 1, Sheet 3.

1.2 MATERIALS:

Surface drainage pipelines shall be constructed of dual walled 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.

1.3 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. Trenches must be sufficiently wide for bedding material to flow freely around the sides of the pipe.

Construction staking shall be provided by the Owner's Engineer. The slope, alignment, and depth of placement of the tubing shall be as shown on the Plans and as staked in the field. A minimum cover of 4.0 feet must be provided within vineyard areas, unless otherwise staked in the field by Engineer.

A gradual variation of no more than 0.10 foot from grade will be allowed where slopes are 2% or less. Where slopes are greater than 2%, a gradual variation of no more than 0.20 foot from grade will be allowed. No reverse grade will be allowed. A gradual variation of no more than 1 foot from design alignment is allowed.

Surface drainage piping may be backfilled with select native material. Pipelines shall be hand shaded. Backfill material within 3 inches of the pipeline shall be free of rocks and dirt clods larger than 1 inch in size and shall be hand-tamped as necessary to ensure no voids are present.

Pipelines may also be bedded in gravel or other granular material approved by the Engineer. Bedding material shall be no larger than 1 inch diameter and must be able to flow freely around the sides of the pipe. The trench bottom shall be continuous, firm, relatively smooth, and free of rocks or other objects larger than 1 inch.

Stretching of the tubing should be avoided during installation. No more than 10% stretch will be allowed.

Cobbles and rocks may be present on the project site. The Contractor shall take necessary actions to work around the cobbles and rocks at their own expense.

Final backfill shall be placed and spread in approximately uniform layers to fill the trench completely. Rolling equipment or heavy tampers shall not be used to consolidate backfill.

Where pipe is installed under all-weather roads, backfill shall be Class II Aggregate Base compacted to 90% per ASTM D1557. Road surface shall be regraded or paved as necessary to match original conditions.

SECTION 2 – WATERBAR

2.1 GENERAL:

Waterbars, as shown on Detail 2, Sheet 3 of the Plans, shall be installed each fall by the Owner. Waterbars shall be constructed such that water is directed off of vineyard avenues into a stabilized outlet on the outside edge of the vineyard avenue. Waterbars shall be located approximately 50' apart in the locations shown on Sheet 2 and as staked in the field by the Engineer.

SECTION 3 – PIPE LEVEL SPREADER

3.1 GENERAL:

A Pipe Level Spreader will be installed at the end of the proposed pipeline as shown on Sheet 2 and Detail 3, Sheet 3. The level spreader will be installed on the contour to return concentrated flows within the pipe to sheet flow. The length of the spreader shall be as shown on the Plans.

3.2 MATERIALS:

Dual wall corrugated polyethylene pipe (CPP) will be used for the spreader. The ends of the pipe will be capped with fittings from the same manufacturer as the pipe.

3.3 INSTALLATION:

A 6-inch to 12-inch deep trench, depending on the size of the level spreader, will be excavated on the contour. A layer of 3/4-inch-diameter crushed rock will be spread in the trench from 2 to 6 inches deep to aid in the leveling process and to secure the pipe.

End caps will be fastened to the ends of the pipe and secured with screws and a 3-foot to 6-foot long section of #6 rebar or tee posts as shown on the detail.

12-inch-wide notches will be cut into the dual wall pipe 12 inches apart along the entire length of each pipe. The notches will be cut such that they are level and at the same elevation to assure water flows out of the pipe uniformly. The notches will extend from the springline to the top of the pipe (1/4 circumference). Tee posts shall be installed as shown on the detail and the pipe securely fastened to the posts with wire or an alternate method approved by the Engineer. For Type II spreaders, no notches will be cut within 20 feet on either side of the tee.

SECTION 4 – CULVERT

4.1 GENERAL:

A culvert shall be installed in the location shown on Sheet 2 and according to Detail 4, Sheet 3.

4.2 MATERIALS:

The culvert shall be 12"ø Corrugated Metal Pipe (CMP), 12 gauge minimum, conforming to ASTM A929 and AASHTO M36. Backfill for culvert shall be Class II AB or equal material approved in the field by the Engineer.

4.3 INSTALLATION:

A trench will be excavated such that the invert of the pipe is at the same elevation of the upstream and downstream flow line in the ditch. The culvert shall be installed to follow the natural grade and alignment of the existing channel. Backfill around the culvert shall be placed in no greater than 1-foot lifts and compacted to 95% relative compaction per ASTM D1557. A minimum of 1 foot of cover shall be maintained along the entire length of pipe unless approved otherwise by the Engineer.

SECTION 5 – CONCRETE DROP INLET

5.1 GENERAL:

Concrete drop inlets shall be installed at the location staked in the field by the Engineer. Concrete drop inlets shall be constructed as shown on Detail 5, Sheet 3.

5.2 MATERIALS:

Concrete drop inlets shall be Central Precast product or equivalent. Inlets shall be constructed of a precast, reinforced concrete box with drive grate. Box and grate shall be H-20 traffic rated.

Drop inlets shall be placed on an aggregate base pad consisting of Cal Trans Class II Aggregate Base. Connector pipes shall be dual-wall solid corrugated polyethylene pipe conforming to Section 1 of these specifications of a size specified by the Engineer when the substitution is approved.

Wire mesh for the debris shield shall be ¼" x ¼" galvanized hardware cloth or an Engineer-approved alternative.

5.3 INSTALLATION:

Upon completion of the excavation for the drop inlet, a 2-inch thick pad of Class II Aggregate Base shall be placed on the bottom of the excavation. Aggregate base shall be compacted to 90% relative compaction. If approved by the Engineer, native material may be scarified, moisture conditioned as necessary, and compacted to 90% relative compaction.

The drop inlet shall be placed plumb and level and square with any adjacent fence or avenue. The lip of the inlet shall conform to the natural grade elevation or as directed in the field by the Engineer. Pipe connections and all other openings shall be grouted to form a watertight seal. Backfill around the inlet shall be water jetted or otherwise placed and compacted to prevent excess settlement of backfill. Earth berms around the drop inlets shall be moisture conditioned as necessary and compacted to 85% relative compaction.

A debris shield shall be constructed to help prevent loose debris and sediment from clogging the drop inlet grate. The shield shall be constructed as shown in Detail 5, Sheet 3. The shield shall be installed between the inlet grate and the concrete drop inlet frame. The wire mesh shall extend approximately 2 inches above the top of the inlet grate. This shield will not function after being driven over and is not intended for inlets in locations which receive traffic during the rainy season. It also should not be relied upon exclusively. Concrete drop inlets can be more susceptible to plugging than other types of inlets, especially with straw, and therefore require diligent maintenance.

SECTION 6 – ROCK-FILLED AVENUE

6.1 GENERAL:

Rock-filled avenues shall be constructed as shown in Detail 6, Sheet 3 along the field edges from excess fieldstone as staked in the field by the Engineer and as shown on Sheet 2. Additional locations will be determined in the field by the Engineer during construction.

6.2 MATERIALS:

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

6.3 INSTALLATION:

Field rock generated by ripping within the vineyard areas shall be used to construct outsloped avenues at the edges of certain vineyard areas. Vegetation shall be thoroughly incorporated and a bench cut as shown in Detail 6, Sheet 3. Rock shall be placed and shaped using a bulldozer and/or excavator, with smaller rock placed in voids and on top of the avenue to the extent possible. The toe of the fill slope shall not extend past the clearing limits.

SECTION 7 – TEMPORARY MEASURES

7.1 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 8 – MAINTENANCE

8.1 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.

8.2 STRAW WATTLES:

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

8.3 WATERBARS:

Waterbars shall be monitored to ensure that water is directed along the length of the waterbar to a protected discharge point.

8.4 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 ensure a clear flow path for water entering the drop inlet. Damaged trash racks shall be repaired immediately in order to ensure that unacceptable quantities of debris do not enter the storm drainage piping system. Drop inlets shall also be inspected annually for any sediment that may have accumulated within the riser. Sediment shall be removed and spread in a safe location and protected as necessary.

8.5 LEVEL SPREADERS:

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

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION



Photo 1

6/2/2021



Photo 2

6/2/2021



Photo 3

9/27/23

APPENDIX B

USLE CALCULATIONS

PPI Engineering

Napa County
Maximum Length of Slope
for a soil loss of 5 tons per acre

NAME: Wappo Hill DATE: 2/23/23

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 105 -K= 0.20
Soil Name Bale -R= 50
-T= 5

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
PERCENT SLOPE	2	27,749,513	60,092,772	164,595,584	702,433,156	2,517,923,442	9,727,758,889
	4	216,060	385,701	821,197	2,438,306	6,352,092	17,504,306
	6	16,477	26,195	47,949	114,524	246,354	554,296
	8	7,588	12,063	22,080	52,737	113,443	255,246
	10	4,048	6,435	11,780	28,135	60,522	136,173
	12	2,450	3,895	7,129	17,027	36,626	82,408
	14	1,607	2,554	4,675	11,166	24,019	54,043
	16	1,118	1,777	3,253	7,769	16,712	37,601
	18	814	1,294	2,368	5,657	12,169	27,380
	20	614	977	1,788	4,271	9,187	20,671
	22	478	760	1,390	3,321	7,144	16,073
	24	381	605	1,108	2,646	5,693	12,809
	26	310	493	902	2,153	4,632	10,422
	28	257	408	747	1,784	3,837	8,632
	30	216	343	628	1,500	3,228	7,262
	32	184	293	536	1,280	2,752	6,193
	34	159	253	462	1,104	2,376	5,346
	36	139	220	403	964	2,073	4,664
	38	122	194	355	849	1,826	4,109
	40	109	173	316	755	1,623	3,652
	42	97	155	283	676	1,454	3,272
	44	88	140	255	610	1,312	2,953
	46	80	127	232	554	1,192	2,683
	48	73	116	212	507	1,090	2,452
	50	67	107	195	466	1,002	2,254

NOTES:
C=Cover and Management Factor
P=Practice Factor

PPI Engineering

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

NAME: Wappo Hill DATE: 2/23/23

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 109 -K= 0.15
Soil Name Boomer -R= 50
-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
PERCENT SLOPE	2	34,409,974	74,516,289	204,101,955	871,031,755	3,122,277,550	12,062,623,782
	4	253,891	453,234	964,982	2,865,233	7,464,291	20,569,168
	6	18,747	29,805	54,556	130,303	280,296	630,666
	8	8,633	13,725	25,122	60,003	129,073	290,414
	10	4,606	7,322	13,403	32,011	68,860	154,935
	12	2,787	4,431	8,111	19,372	41,672	93,763
	14	1,828	2,906	5,319	12,704	27,328	61,489
	16	1,272	2,022	3,701	8,839	19,014	42,782
	18	926	1,472	2,695	6,436	13,845	31,152
	20	699	1,111	2,035	4,859	10,453	23,519
	22	544	864	1,582	3,778	8,128	18,288
	24	433	689	1,261	3,011	6,477	14,573
	26	352	560	1,026	2,450	5,270	11,857
	28	292	464	850	2,029	4,365	9,822
	30	246	390	715	1,707	3,672	8,262
	32	209	333	610	1,456	3,132	7,046
	34	181	287	526	1,257	2,703	6,082
	36	158	251	459	1,096	2,359	5,307
	38	139	221	404	966	2,078	4,676
	40	124	196	359	859	1,847	4,156
	42	111	176	322	769	1,655	3,723
	44	100	159	291	694	1,493	3,360
	46	91	144	264	631	1,356	3,052
	48	83	132	241	576	1,240	2,790
	50	76	121	222	530	1,140	2,564

NOTES:
C=Cover and Management Factor
P=Practice Factor

PPI Engineering

Napa County
Maximum Length of Slope
for a soil loss of 2 tons per acre

NAME: Wappo Hill DATE: 2/23/23

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 178 & 179 -K= 0.32
Soil Name Sobrante -R= 50
-T= 2

Percent Cover		65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
		C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
	2	273,143	591,504	1,620,144	6,914,175	24,784,370	95,752,069
	4	6,752	12,053	25,662	76,197	198,503	547,010
	6	1,030	1,637	2,997	7,158	15,397	34,643
	8	474	754	1,380	3,296	7,090	15,953
	10	253	402	736	1,758	3,783	8,511
	12	153	243	446	1,064	2,289	5,151
P	14	100	160	292	698	1,501	3,378
E	16	70	111	203	486	1,044	2,350
R	18	51	81	148	354	761	1,711
C	20	38	61	112	267	574	1,292
E	22	30	47	87	208	446	1,005
N	24	24	38	69	165	356	801
T	26	19	31	56	135	289	651
	28	16	25	47	111	240	540
S	30	13	21	39	94	202	454
L	32	12	18	33	80	172	387
O	34	10	16	29	69	148	334
P	36	9	14	25	60	130	292
E	38	8	12	22	53	114	257
	40	7	11	20	47	101	228
	42	6	10	18	42	91	205
	44	5	9	16	38	82	185
	46	5	8	15	35	75	168
	48	5	7	13	32	68	153
	50	4	7	12	29	63	141

NOTES:
C=Cover and Management Factor
P=Practice Factor

APPENDIX C

SLOPE CALCULATIONS

BOISSET COLLECTION
WAPPO HILL

Average Slope Of Proposed Vineyard Blocks

Block	Gross Acres	Net Acres	Slope #1	Slope #2	Average Slope
1A	1.2	1.0	25%	27%	26%
1B	0.3	0.1	25%	33%	29%
2	1.0	0.7	21%	34%	28%
3	2.5	2.1	23%	27%	25%
4	1.2	0.8	18%	19%	19%
5	2.1	1.7	20%	23%	22%
6	4.2	3.6	23%	29%	26%
7	0.3	0.2	28%		28%
8	1.1	0.8	25%	28%	27%
9	2.4	1.9	23%	28%	26%
10	0.4	0.2	27%		27%
Total	**16.7**	**13.1**			**26%**

APPENDIX D

VEGETATION RETENTION CALCULATIONS

BOISSET COLLECTION
WAPPO HILL

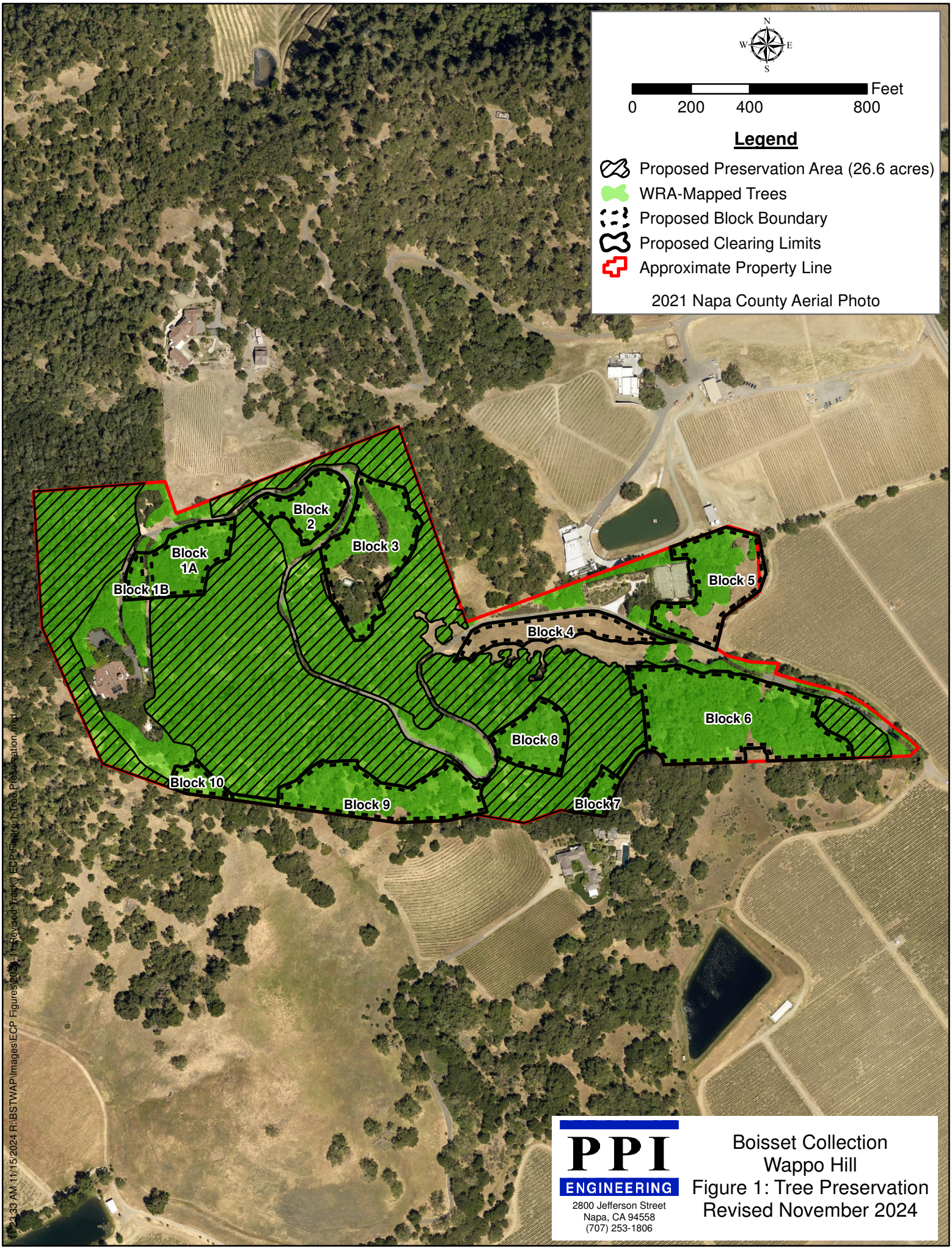
2:1 Tree Preservation Calculations

	APN 039-040-042
Proposed Clearing Limits (acres)	16.7
Existing Trees on Parcel (acres)[1]	44.4
Trees Proposed to be Removed (acres)	13.3
Trees Preserved on Parcel (acres)	26.6
Trees Preserved (percent)[2]	67%

Notes:

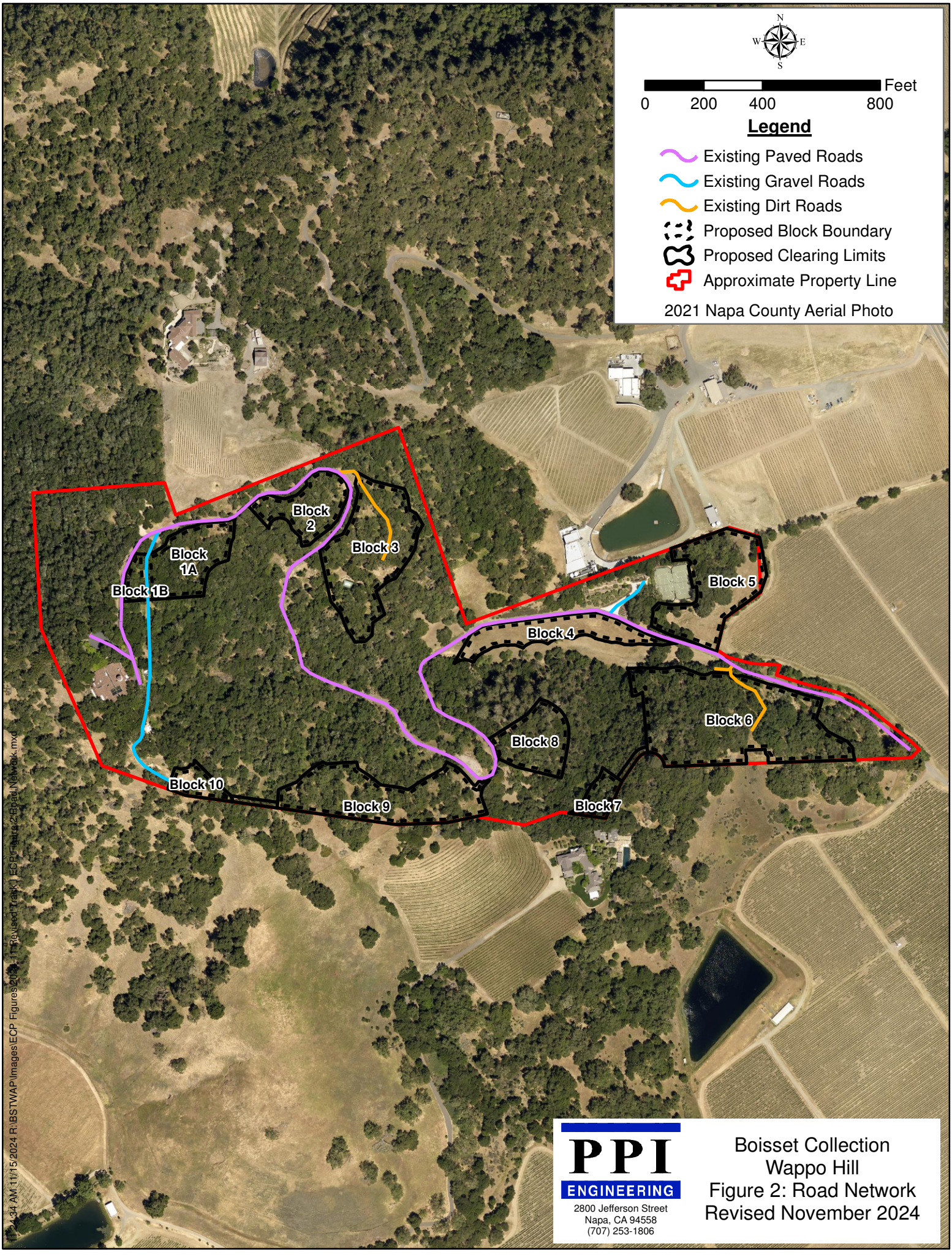
1. Source: Site-Specific Biological Study
2. 66.6667% retention (or higher) is the same as 2:1 preservation (or higher)

Some rounding may occur


N
W
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S
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200
400
800
Feet
Legend
Proposed Preservation Area (26.6 acres)
WRA-Mapped Trees
Proposed Block Boundary
Proposed Clearing Limits
Approximate Property Line
2021 Napa County Aerial Photo
Block 1A
Block 1B
Block 2
Block 3
Block 4
Block 5
Block 6
Block 7
Block 8
Block 9
Block 10
PPI
ENGINEERING
2800 Jefferson Street
Napa, CA 94558
(707) 253-1806
Boisset Collection
Wappo Hill
Figure 1: Tree Preservation
Revised November 2024
12:33 AM 11/15/2024 R:\BSTWAP\Images\ECP Figures\2024_11 Revised Trans\1_ECP Figure 1 Tree Preservation.mxd

APPENDIX E

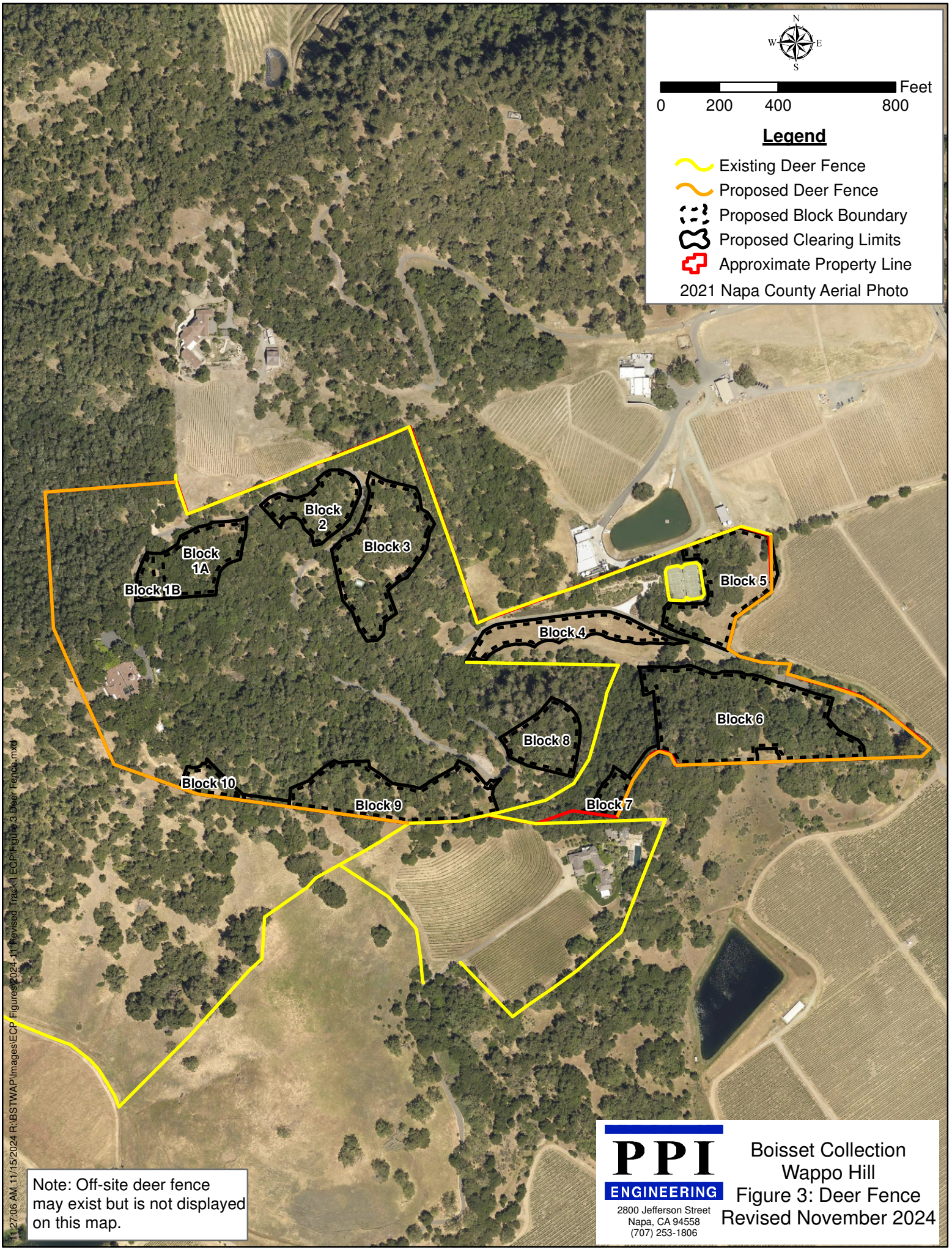
SUPPORTING FIGURES

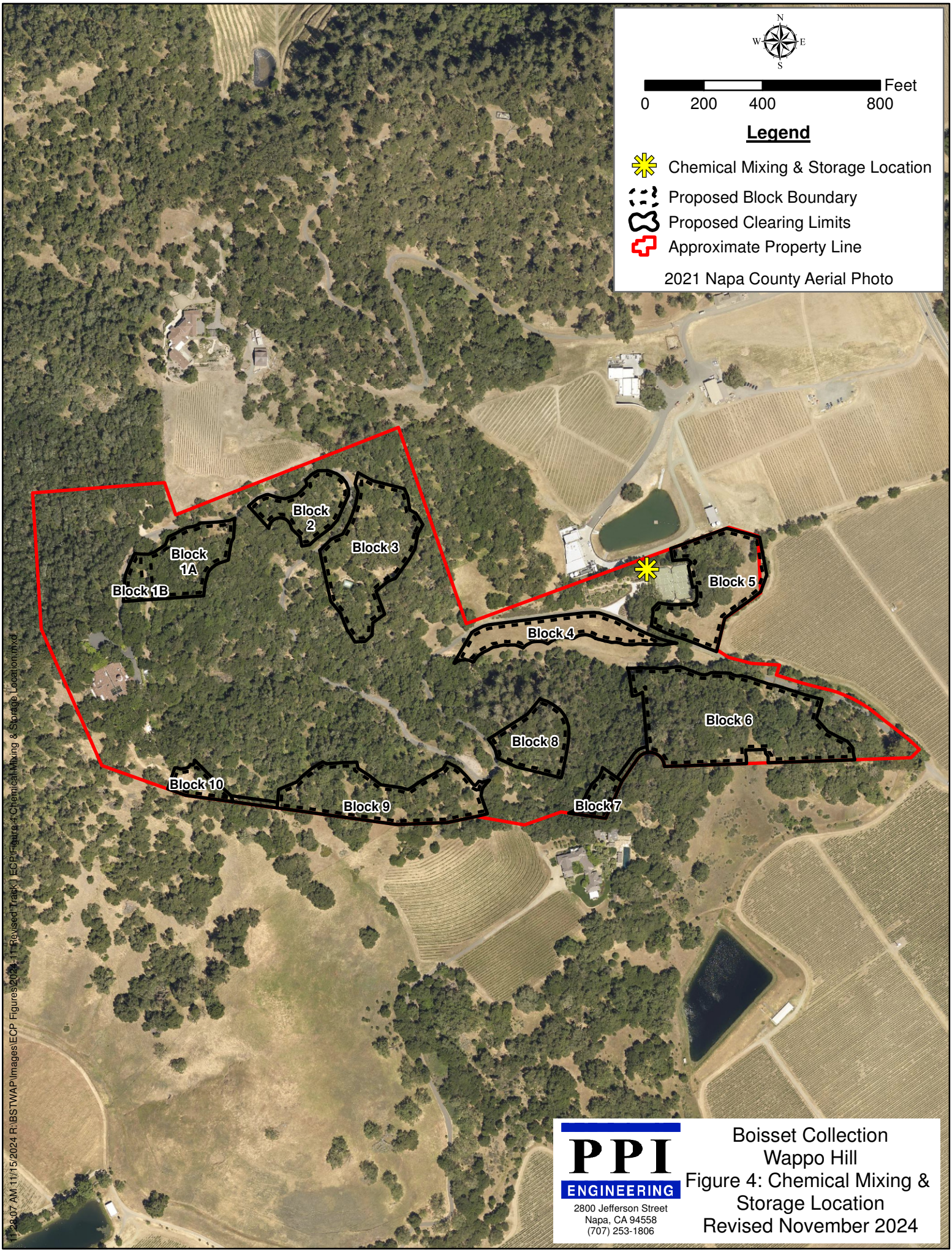


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Boisset Collection
Wappo Hill
Figure 2: Road Network
Revised November 2024

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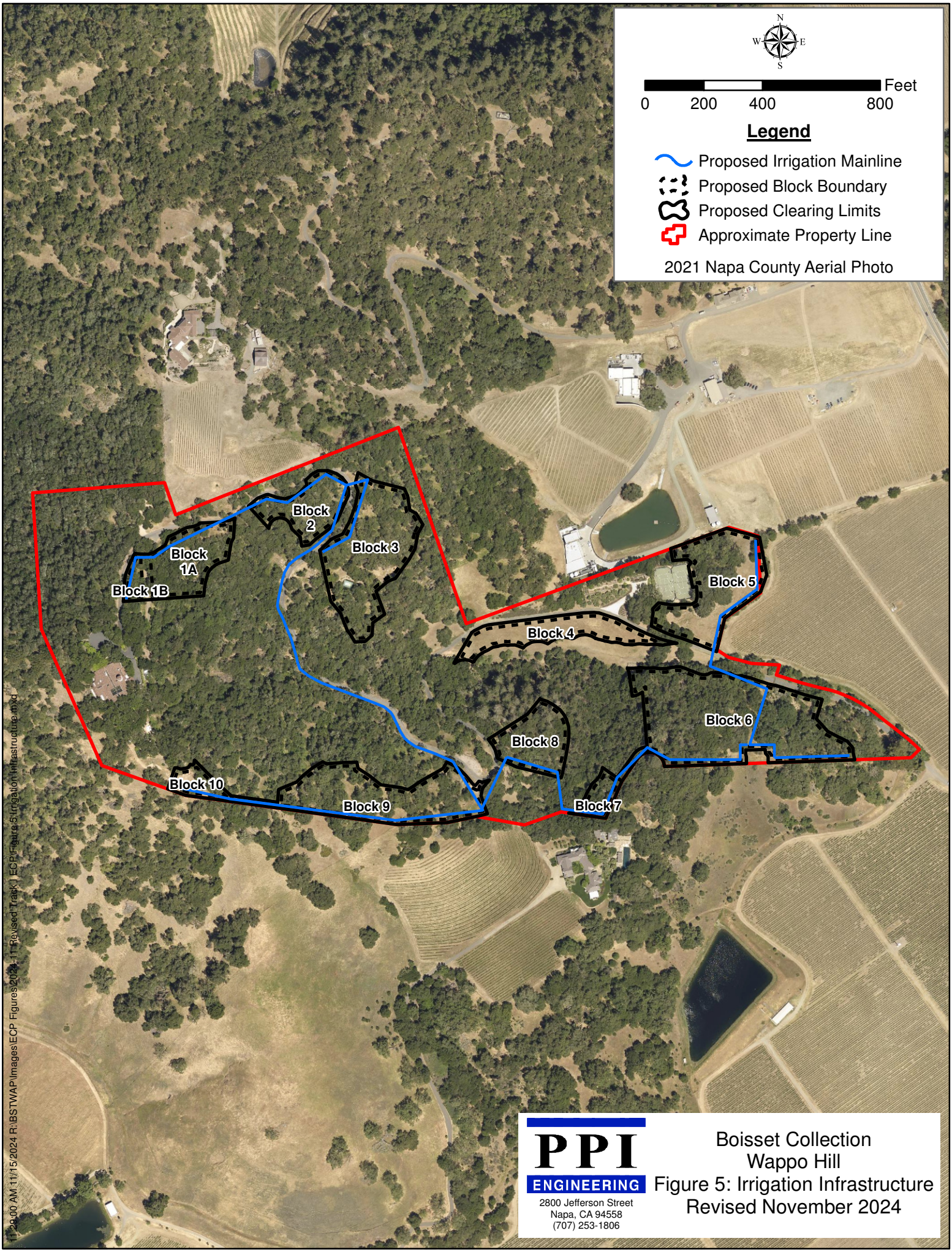

N
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200
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Legend
Existing Deer Fence
Proposed Deer Fence
Proposed Block Boundary
Proposed Clearing Limits
Approximate Property Line
2021 Napa County Aerial Photo
Block 1A
Block 1B
Block 2
Block 3
Block 4
Block 5
Block 6
Block 7
Block 8
Block 9
Block 10
Note: Off-site deer fence may exist but is not displayed on this map.
11:27:06 AM 11/15/2024 R:\BSTWAP\Images\EOP Figures\2024-11 Revised Track\ EOP\Figure 3 Deer Fence.mxd
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Napa, CA 94558
(707) 253-1806
Boisset Collection
Wappo Hill
Figure 3: Deer Fence
Revised November 2024



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Boisset Collection
Wappo Hill
Figure 4: Chemical Mixing & Storage Location
Revised November 2024

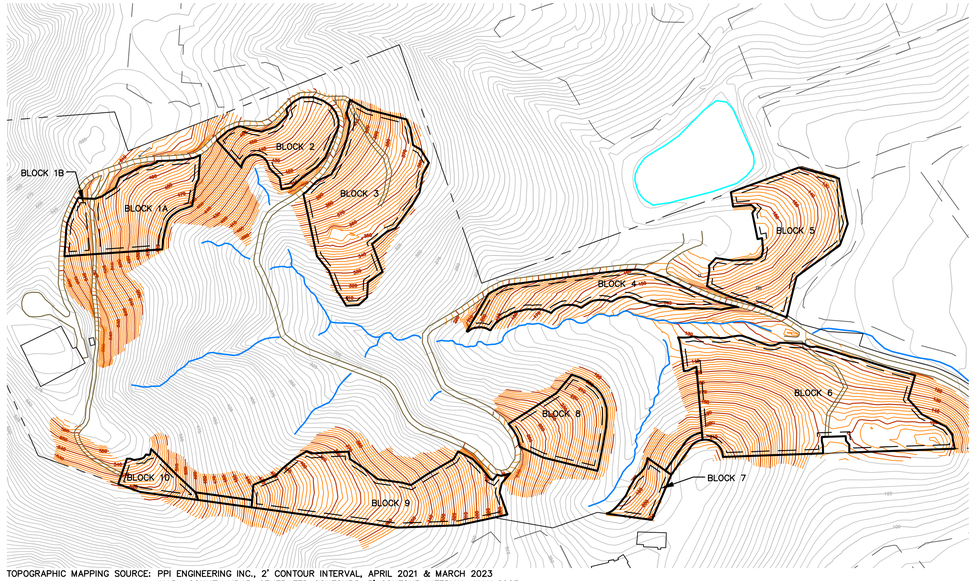
11:24:07 AM 11/15/2024 R:\BSTWAP\Images\ECP Figures\2024-11 Revised Tract\ ECP Figure 4 Chemical Mixing & Storage Location.mxd



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

Boisset Collection
Wappo Hill
Figure 5: Irrigation Infrastructure
Revised November 2024

11:24:00 AM 11/15/2024 R:\BSTWAP\Images\ECP Figures\2024-11 Revised Track\ ECP Figure 5 Irrigation Infrastructure.mxd



TOPOGRAPHIC MAPPING SOURCE: PPI ENGINEERING INC., 2' CONTOUR INTERVAL, APRIL 2021 & MARCH 2023
NAPA COUNTY LIDAR-GENERATED CONTOURS, 5' CONTOUR INTERVAL, MAY 2003

LEGEND

- PPI ENGINEERING 10' INDEX CONTOUR
- PPI ENGINEERING 2' INTERMEDIATE CONTOUR
- NAPA COUNTY 25' INDEX CONTOUR
- NAPA COUNTY 5' INTERMEDIATE CONTOUR
- APPROXIMATE PROPERTY LINE LOCATION
- INTERMITTENT OR EPHEMERAL STREAM
- EXISTING RESERVOIR
- EXISTING VINEYARD AREA
- EXISTING ROAD
- EXISTING BUILDING
- PROPOSED VINEYARD CLEARING LIMITS
- PROPOSED VINEYARD BLOCK BOUNDARY

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

NOTES:

1. OWNER: DESIREE INC.
   SITE ADDRESS: 5681 SILVERADO TRAIL, NAPA
   APN: 039-040-042
2. ACCESS TO PROJECT IS FROM SILVERADO TRAIL. THE SITE IS GATED AND LOCKED. ADMITTANCE IS AVAILABLE UPON REQUEST.
3. EXISTING VEGETATION CONSISTS OF GRASS, BRUSH AND TREES.
4. DISTURBED AREAS SHALL BE SEEDED AS DESCRIBED BELOW. STRAW MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 3,000 LBS/ACRE PRIOR TO OCTOBER 15 OF THE YEAR OF CONSTRUCTION.
5. PERMANENT COVER CROP (NO-TILL):
   A PERMANENT COVER CROP STRATEGY WILL BE UTILIZED. THE PERMANENT COVER CROP WILL BE GENERATED THE FIRST YEAR BY SEEDING WITH THE FOLLOWING MIX:

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

   A PRE-APPROVED ALTERNATIVE SEED MIX MAY BE ALLOWED.

   THE PERMANENT COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AREAS WHICH HAVE LESS THAN THE PERCENT VEGETATIVE COVER SPECIFIED BELOW WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. THE PERMANENT COVER CROP SHALL BE MOWED ONLY AND NOT DISKED.

   BLOCKS WITH 80% VEGETATIVE COVER: 1, 2, 4 & 5

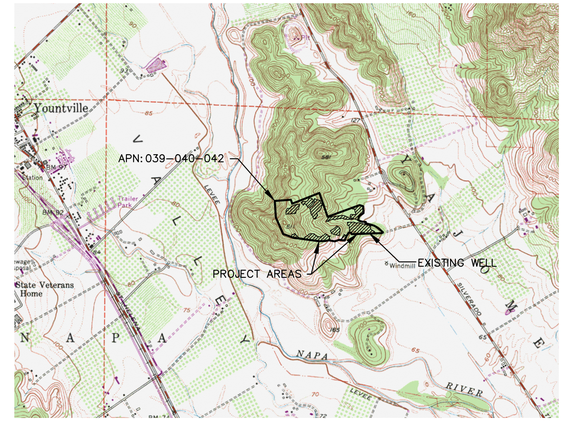
   BLOCKS WITH 85% VEGETATIVE COVER: 3, 7 & 10

   BLOCKS WITH 90% VEGETATIVE COVER: 6, 8 & 9
6. IN BLOCKS 4 & 5 THE OWNER HAS THE OPTION OF USING A DWARF BARLEY COVER CROP IN THE FIRST THREE YEARS THAT THE VINEYARD 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.
7. IN BLOCKS 1, 2, 3, 6, 7, 8, 9, & 10 THE PERMANENT COVER MUST BE ESTABLISHED THE FIRST YEAR. DISKING FOR THE FIRST THREE YEARS TO AID WITH VINEYARD ESTABLISHMENT IS NOT PERMITTED DUE TO SLOPE OF THE BLOCK AND PROXIMITY TO A DRAINAGE.
8. HERBICIDES MAY BE USED FOR WEED MANAGEMENT. HERBICIDE 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). STRIP SPRAYING IS PERMITTED WITHIN THE VINEYARD BLOCKS SUCH THAT THE OVERALL VEGETATED COVER MEETS THE REQUIRED COVER DETAILED ABOVE. 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.
9. 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.
10. 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 THE PERCENT VEGETATIVE COVER SPECIFIED BELOW WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. SEEDING AND MULCHING IS NOT REQUIRED ON AVENUES AND ROADS PROPERLY SURFACED WITH GRAVEL.

    BLOCKS WITH 80% VEGETATIVE COVER: 1, 2, 4 & 5

    BLOCKS WITH 85% VEGETATIVE COVER: 3, 7 & 10

    BLOCKS WITH 90% VEGETATIVE COVER: 6, 8 & 9
11. ALL BLOCKS WILL BE HAND-FARMED. THE PROPOSED VINE AND ROW SPACING IS EXPECTED TO BE 1 METER BY 1 METER.
12. 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.
13. THE LOCATION OF THE EXISTING WELL, THE PROPOSED WATER SOURCE, IS SHOWN ON THE VICINITY MAP.
14. THE PROJECT CURRENTLY HAS DEER FENCE ON A PORTION OF THE PROPERTY. SEE APPENDIX E FOR THE DEER FENCE MAP.
15. 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.
16. PROPERTY LINES AS SHOWN ARE APPROXIMATE. OWNER SHALL BE RESPONSIBLE FOR SURVEYING PROPERTY LINE(S) AS NECESSARY PRIOR TO ANY SITE DISTURBANCE.
17. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
18. 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.
19. 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.



VICINITY MAP
USGS YOUNTVILLE QUADRANGLE
TOWNSHIP 6 N., RANGE 4 W.
SCALE: 1" = ±2000'

REGISTERED PROFESSIONAL ENGINEER
MATTHEW S. BUENO
No. 84114
EXPIRES: 9-30-25
Civil
STATE OF CALIFORNIA

	DESCRIPTION	BY	DATE
1	THIS DRAWING 12110201C SUPERSEDES DRAWING 12110201B. INCORPORATED CHANGES BASED ON NAPA COUNTY COMMENTS.	JCJ	11-15-24

© 2024 PPI ENGINEERING, INC.

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

JOB NO: 12110201
DWG. NO: 12110201C

BOISSET COLLECTION
WAPPO HILL
EROSION CONTROL PLAN
SITE PLAN

DESIGN ENGINEER: J. BUSHEY, M. BUENO

SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	SM, JCJ	11-15-24	1 OF: 3

R:\BSTN\MP\12110201 Boisset Wappo Hill Track 1\CP\drawings\12110201C.dwg, 1 SITEPLAN, 11/15/2024 7:25:53 AM

REPLACE CULVERT WITH CONCRETE DROP INLET (SEE DETAIL 5, SHEET 3)

BLOCK 1B
±0.3 GROSS AC.
±0.1 NET AC.

BLOCK 1A
±1.2 GROSS AC.
±1.0 NET AC.

INSTALL PIPE LEVEL SPREADER (SEE DETAIL 3, SHEET 3)

BLOCK 2
±1.0 GROSS AC.
±0.7 NET AC.

BLOCK 3
±2.5 GROSS AC.
±2.1 NET AC.

EXISTING TRAMPOLINE TO BE REMOVED

EXISTING TENNIS COURT

BLOCK 4
±1.2 GROSS AC.
±0.8 NET AC.

BLOCK 5
±2.1 GROSS AC.
±1.7 NET AC.

PROPOSED 12"Ø CULVERT (SEE DETAIL 4, SHEET 3)

EXISTING LIVESTOCK BARNS TO BE RETAINED

BLOCK 6
±4.2 GROSS AC.
±3.6 NET AC.

EXISTING SOLAR PANELS TO BE RETAINED

BLOCK 8
±1.1 GROSS AC.
±0.8 NET AC.

BLOCK 9
±2.4 GROSS AC.
±1.9 NET AC.

BLOCK 10
±0.4 GROSS AC.
±0.2 NET AC.

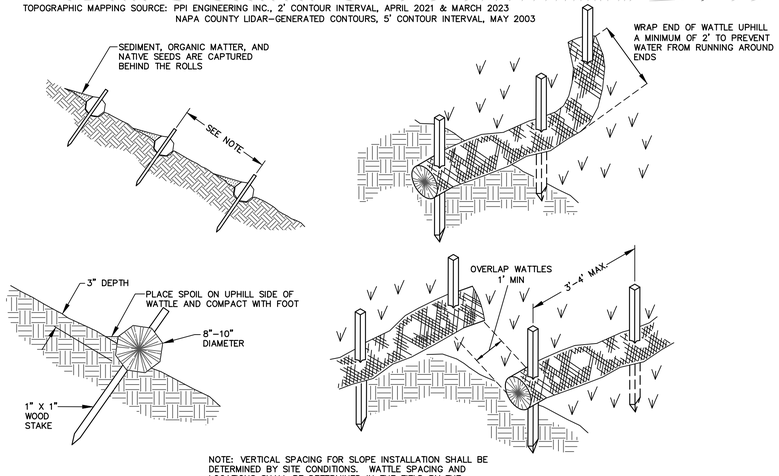
BLOCK 7
±0.3 GROSS AC.
±0.2 NET AC.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

TOPOGRAPHIC MAPPING SOURCE: PPI ENGINEERING INC., 2' CONTOUR INTERVAL, APRIL 2021 & MARCH 2023
NAPA COUNTY LIDAR-GENERATED CONTOURS, 5' CONTOUR INTERVAL, MAY 2003



NOTE: VERTICAL SPACING FOR SLOPE INSTALLATION SHALL BE DETERMINED BY SITE CONDITIONS. WATTLE SPACING AND LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

1/2 STRAW WATTLE INSTALLATION
N.T.S.

LEGEND

- APPROXIMATE PROPERTY LINE LOCATION
- PPI ENGINEERING 10' INDEX CONTOUR
- PPI ENGINEERING 2' INTERMEDIATE CONTOUR
- NAPA COUNTY 25' INDEX CONTOUR
- NAPA COUNTY 5' INTERMEDIATE CONTOUR
- INTERMITTENT OR EPHEMERAL STREAM
- TOP OF BANK, APPROXIMATE
- 35' SETBACK
- EXISTING RESERVOIR
- EXISTING VINEYARD AREA
- EXISTING ROAD
- EXISTING FENCE
- EXISTING WELL
- EXISTING BUILDING, TO BE RETAINED
- EXISTING WATER TANK
- EXISTING CULVERT, APPROXIMATE LOCATION
- EXISTING DITCH, APPROXIMATE LOCATION, TO BE MAINTAINED
- PROPOSED VINEYARD CLEARING LIMITS
- PROPOSED VINEYARD BLOCK BOUNDARY
- PROPOSED SURFACE DRAINAGE LINE (SEE DETAIL 1, SHEET 3)
- PROPOSED STRAW WATTLE (SEE DETAIL 1, THIS SHEET)
- PROPOSED ROCK FILLED AVENUE (SEE DETAIL 6, SHEET 3)
- PROPOSED WATERBAR (SEE DETAIL 2, SHEET 3)
- PROPOSED VINEROW DIRECTION
- AREA WHERE GROUND SLOPE IS 30 PERCENT OR GREATER
- X — PHOTO POINT NUMBER & LOCATION (SEE APPENDIX A)
- X% — AVERAGE SURFACE SLOPE
- 105 / 179 — SOIL TYPE BOUNDARY

USDA SOIL CLASSIFICATIONS:

105	BALE CLAY LOAM, 2–5% SLOPE
109	BOOMER GRAVELLY LOAM, VOLCANIC BEDROCK, 14–60% SLOPE
178	SOBRANTE LOAM, 5–30% SLOPE
179	SOBRANTE LOAM, 30–50% SLOPE

REGISTERED PROFESSIONAL ENGINEER
MATTHEW S. BUENO
No. 84114
EXPIRES: 9-30-25
Civil
STATE OF CALIFORNIA

	DESCRIPTION	BY	DATE
1	THIS DRAWING 12110201C SUPERSEDES DRAWING 12110201B. INCORPORATED CHANGES BASED ON NAPA COUNTY COMMENTS.	JCJ	11-15-24

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

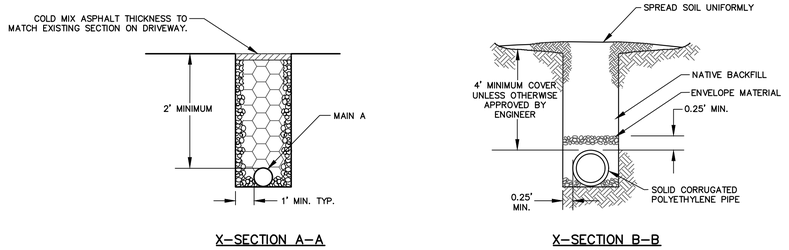
JOB NO: 12110201
DWG. NO: 12110201C

BOISSET COLLECTION
WAPPO HILL
EROSION CONTROL PLAN
BLOCKS 1–10

DESIGN ENGINEER: J. BUSHEY, M. BUENO

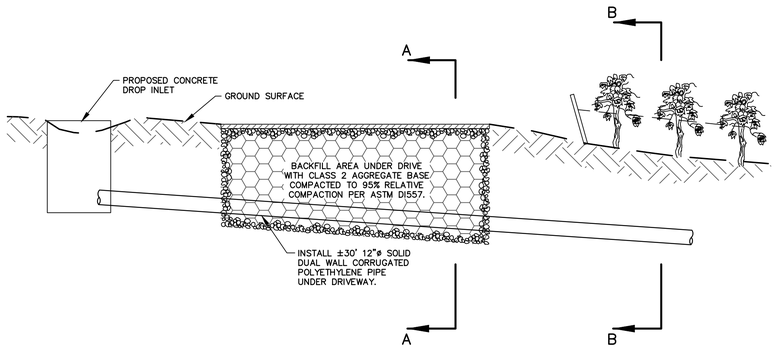
SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	SM, JCJ	11-15-24	2 OF: 3

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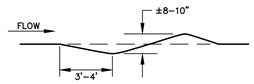
X–SECTION A–A

X–SECTION B–B

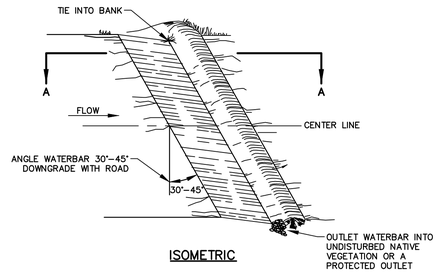


PROFILE

1/3 SURFACE DRAINAGE LINE
N.T.S.



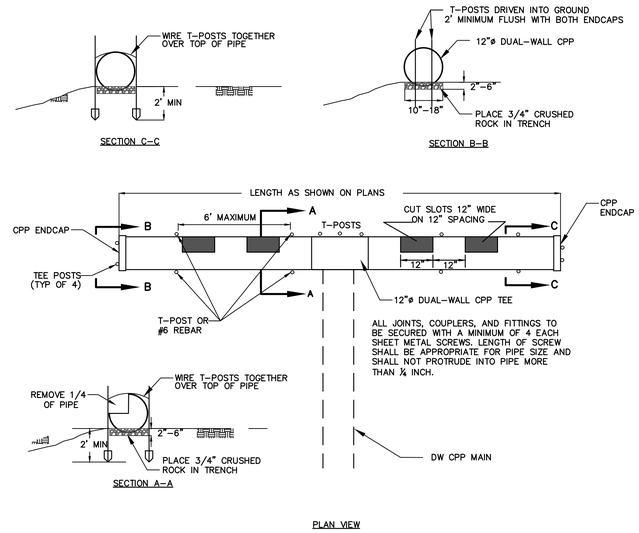
CROSS SECTION A–A



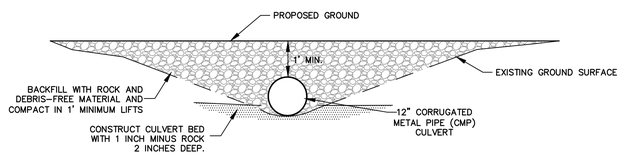
ISOMETRIC

NOTE: WATERBAR CONSTRUCTION FOR LITTLE OR NO TRAFFIC. SPECIFICATIONS ARE AVERAGE AND MAY BE ADJUSTED TO CONDITIONS.

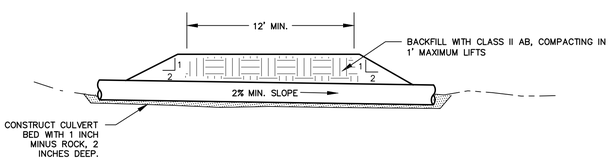
2/3 WATERBAR
N.T.S.



3/3 PIPE LEVEL SPREADER
N.T.S.

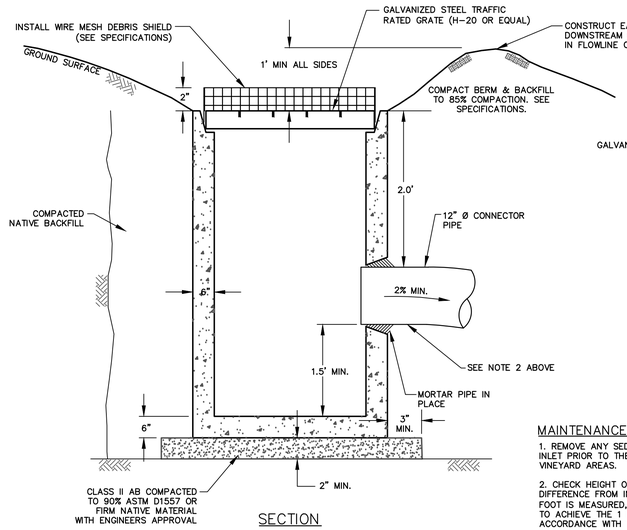


CROSS–SECTION



PROFILE

4/3 CULVERT INSTALLATION
N.T.S.

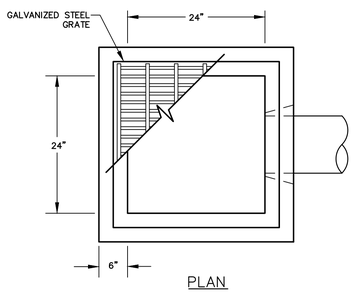


SECTION

NOTES:

1. LOCATE DROP INLET IN VINEROW IF INLET IS LOCATED WITHIN THE VINEYARD. CONSTRUCT BERM TO DIRECT WATER TO DROP INLET.

2. 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.



PLAN

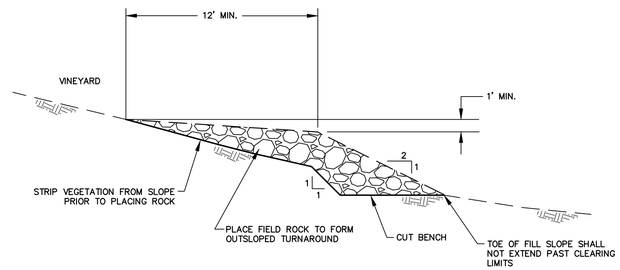
MAINTENANCE NOTES:

1. REMOVE ANY SEDIMENT THAT HAS ACCUMULATED IN THE DROP INLET PRIOR TO THE RAINY SEASON AND SPREAD IN ADJACENT VINEYARD AREAS.

2. CHECK HEIGHT OF BERM TO ENSURE 1 FOOT OF ELEVATION DIFFERENCE FROM INLET AS SHOWN ON THE DETAIL. IF LESS THAN 1 FOOT IS MEASURED, THE BERM WILL BE REPAIRED/REBUILT IN ORDER TO ACHIEVE THE 1 FOOT MINIMUM HEIGHT AS DESCRIBED AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

5/3 CONCRETE DROP INLET
N.T.S.

NOTE: ADDITIONAL LOCATIONS TO THOSE SHOWN ON SHEET 2 WILL BE DETERMINED IN THE FIELD BY THE ENGINEER DURING CONSTRUCTION



6/3 ROCK–FILLED AVENUE
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
MATTHEW S. BUENO
No. 84114
EXPIRES: 9-30-25
Civil
STATE OF CALIFORNIA

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BOISSET COLLECTION
WAPPO HILL
EROSION CONTROL PLAN
DETAILS

DESIGN ENGINEER: J. BUSHEY, M. BUENO

SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	SM, JCJ	11–15–24	3 OF: 3

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