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# Stormwater Control Plan

Arrow and Branch Winery, Use Permit Major Modification P23-00057
Planning Commission Hearing Date September 17, 2025

# Stormwater Control Plan
# for a Regulated Project

## A&B Vineyards LLC
## 5215 Solano Avenue, Napa County
## Napa, CA 94558
## APN 34-190-040

PREPARED FOR:

A&B Vineyards LLC

1042 North Coast Highway

Laguna Beach, CA 92651

PREPARED BY:

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Eric Wade 1/06/2023

Eric Wade, PE C81862 Date

This Stormwater Control Plan was prepared using the template by Dan Cloak Environmental Consulting dated July 2014.

**Table of Contents**

Project Data

Table 1. Project Data Form

| | |
|---|---|
| Project Name/Number | A&B Vineyards Winery |
| Application Submittal Date | January 2023 |
| Project Location | 5215 Solano Avenue<br>Napa, CA 94558<br>APN 034-190-040 |
| Project Phase No. | 2 |
| Project Type and Description | New winery fermentation, barrel storage, and tasting room added to building with associated site improvements. |
| Total Project Site Area (acres) | 2 +/- (total disturbed area) |
| Total New and Replaced Impervious Surface Area | 0.07 acres (approximate) |
| Total Pre-Project Impervious Surface Area | 1.31 acres (approximate) |
| Total Post-Project Impervious Surface Area | 1.38 acres (approximate) |

## I. Setting

I.A. Project Location and Description


Figure 1: Location Map

A & B Vineyards LLC is applying for a Use Permit Modification to add features to the winery facility and utility infrastructure in construction at their property located at 5215 Solano Avenue in Napa County, California. The subject property, known as Napa County Assessor's Parcel Number 034-190-040, is located along the southwest side of Solano Avenue, North of the City of Napa, approximately 740 feet south of the intersection of Solano Avenue and Darms Lane.

The roughly 10.1 acre parcel is zoned Agricultural Preserve (AP). Topography can be described as gentle with average slopes less than 5%. The United States Department of Agriculture Soil Conservation Service Soils Map for Napa County shows two soil types mapped on the property. The northeasterly areas with flatter topography are mapped as Cortina very stony loam, 0 to 5 percent slopes. The northerly areas along Dry Creek are mapped as Riverwash and the remainder of the property is mapped as Pleasanton loam, 0 to 2 percent slopes. All proposed above ground site improvements are located within the Pleasanton soils area (HSG C).

Existing development on the property includes groundwater wells, vineyards and the access and utility infrastructure typical of this type of agricultural development.

Runoff from the property generally flows from west to east. Runoff concentrates in a roadside swale at Solano Avenue that runs northerly and is tributary to Dry Creek which is tributary to the Napa River.

Proposed onsite improvements include additional barrel storage and fermentation rooms, a tasting room, covered patio, and changes to the mechanical yard.

Please see the A & B Vineyards LLC Use Permit Modification Conceptual Site Improvement Plans for approximate locations of existing and proposed features.

I.B. Opportunities and Constraints for Stormwater Control

Opportunities for stormwater control include:

1. The moderately sloping topography will allow roof and impervious area runoff to be routed to treatment areas at lower elevations
2. Large vegetated buffers between all site improvements and drainage ways.

Constraints for stormwater control include:

1. The near surface soils have a slow infiltration rate (HSG C).
2. Existing vineyard areas to be preserved.

## II. Low Impact Development Design Strategies

II.A. Optimization of Site Layout

II.A.1. Limitation of development envelope

- The original winery building footprint and outdoor patio areas are being developed on areas that are already improved with agricultural development.
- Nearly all of the new impervious surfaces were accounted for in previous approvals for the winery, reserving areas for these additions to the winery. Since an increase of 50% of impervious surface is not proposed, a hydromodification analysis has not been prepared.
- The proposed buildings and access roads have been carefully designed to preserve natural vegetation and vineyards on the property and no tree removal is proposed.

II.A.2. Preservation of natural drainage features

All natural drainage features on the property will be preserved. Proposed work within the creek setback will be minimized and generally involve new landscape planting.

II.A.3. Setbacks from creeks, wetlands, and riparian habitats

The project has been designed with respect to stream setbacks as required by the Napa County Conservation Regulations. A setback is shown along Dry Creek located just north of the winery.

II.A.4. Minimization of imperviousness

All access ways and parking areas have be designed to the minimum Napa County width standards and will not be excessively large. This ensures that excess impervious surfaces are not created. The new buildings have been carefully designed to house the required functions with the minimum footprint necessary.

II.A.5. Use of drainage as a design element

Drainage design has been coordinated with the landscape design to provide an aesthetically pleasing site layout that addresses stormwater control requirements.

II.B. Use of Permeable Pavements

Permeable pavements are not proposed, however the use of DG for convenience paths instead of concrete is noted on landscape plans.

II.C. Dispersal of Runoff to Pervious Areas

The site layout and topography will allow for dispersal of runoff from impervious surfaces to pervious areas.

II.D. Stormwater Control Measures

Runoff from all impervious areas at the building site, including roofs and paved areas in the immediate vicinity of the winery facility, will be routed to a single bioretention facility as shown on the Stormwater Control Plan Exhibit. The facility will be designed and constructed to the criteria in the BASMAA Post-Construction Manual (2019), including the following features:

- Surrounded by a compacted soil berm.
- Each layer built to the elevations specified in the plans and referenced details:
    - o Bottom of Gravel Layer (BGL)
    - o Top of Gravel Layer (TGL)
    - o Top of Soil Layer (TSL)
    - o Overflow Grate
    - o Facility Rim
- 12 inches of Class 2 permeable rock, Caltrans specification 68-2.02F(3)
- 18 inches sand/compost mix meeting BASMAA specifications
- 6-inch-deep reservoir between top of soil elevation and overflow elevation
- Drain inlet with frame overflow structure, with grate set to specified elevation, connected to storm drain (overflow used where storm drain connection is available and omitted where no storm drain exists)
- Plantings selected for water conservation
- Irrigation system on a separate zone, with drip emitters and "smart" irrigation controllers

- Sign identifying the facility as a stormwater treatment facility.

## III. Documentation of Drainage Design

III.A. Descriptions of Each Drainage Management Area

III.A.1. Table of Drainage Management Areas

| DMA Name | Surface Type | Area (square feet) |
|---|---|---|
| DMA #1 | Winery building roofs, asphalt some roadway improvements, and concrete production areas | 38,868 +/- |
| DMA #2 | Rear yard mechanical area | 5,310 +/- |
| DMA #3 | Front parking area | 6,660 +/- |
| DMA #4 | Driveway | 17,829 +/- |

III.A.2. Drainage Management Area Descriptions

**DMA #1**, totaling 38,868 square feet, consists of the winery building roofs, driveway turnaround, concrete work areas, a portion of the winery driveway, and landscape areas. DMA #1 drains to Bioretention Area #1.

**DMA #2**, totaling 5,310 square feet, consists of rear yard mechanical yard and access areas that cannot be intercepted at Bioretention Area #1 due to the elevation of the surfaces and linear and scattered nature. DMA #2 drains to Vegetated Receiving Area #2.

**DMA #3**, totaling 6,660 square feet, consists of the winery parking area that cannot be intercepted at Bioretention Area #1 due to the geometric constraints on the size of the bioretention area. DMA #4 drains to Vegetated Receiving Area #3.

**DMA #4**, totaling 17,829 square feet, consists of the winery driveway that cannot be intercepted at Bioretention Area #1 due to the elevation of the road and linear nature. DMA #4 drains to Vegetated Receiving Area #4.

III.B. Tabulation and Sizing Calculations

III.B.1. Information Summary for Bioretention Facility Design

| | |
|---|---|
| DMA #1 | 38,868 +/- |

III.B.2. Self-Treating Areas

| DMA Name | Area (square feet) |
|---|---|
| N/A | |

III.B.3. Self-Retaining Areas

| DMA Name | Area (square feet) |
|---|---|
| N/A | |
| | |

III.B.4. Vegetated Receiving Areas

| DMA Name | Area (square feet) |
|---|---|
| VRA #2 | 2,655 |
| VRA #3 | 3,265 |
| VRA #4 | 12,918 |

Areas Draining to Self-Retaining Areas

| DMA Name | Area (square feet) | Post-project surface type | Runoff factor | Product (Area x runoff factor)[A] | Receiving self-retaining DMA | Receiving self-retaining DMA Area (square feet) [B] | Ratio [A]/[B] |
|---|---|---|---|---|---|---|---|
| None | | | | | | | |

III.B.5. Areas Draining to Bioretention Facilities

| DMA Name | DMA Area (square feet) | Post-project surface type | DMA Runoff factor | DMA Area × runoff factor | Facility Name | | |
|---|---|---|---|---|---|---|---|
| | | | | | Bioretention Area #1 | | |
| DMA #1 | 32,961 | Impervious | 1.0 | 32,961 | Sizing factor | Min Facility Size | (P) Facility Size |
| DMA #1 | 5,910 | Permeable | 0.1 | 591 | | | |
| | | | | | | | |
| Total= | | | | 33,552 | 0.04 | 1342 | 1350 |

Areas Draining to Vegetated Receiving Areas

| DMA Name | Area (square feet) | Post-project surface type | Runoff factor | Product (Area x runoff factor)[A] | Vegetated receiving area DMA | Receiving self-retaining DMA Area (square feet) [B] | Ratio [A]/[B]<2 |
|---|---|---|---|---|---|---|---|
| DMA#2 | 5,310 | Imperv | 1 | 5,310 | VRA#2 | 2,731 | 1.9 |
| DMA#3 | 6,660 | Imperv | 1 | 6,660 | VRA#3 | 3,265 | 2 |
| DMA#4 | 17,829 | Imperv | 1 | 17,829 | VRA#4 | 12,918 | 1.4 |

## IV. Source Control Measures

IV.A. Site activities and potential sources of pollutants

IV.B. Source Control Table

| Potential source of runoff pollutants | Permanent source control BMPs | Operational source control BMPs |
|---|---|---|
| ☒Storm Drain Inlets | ☒Mark all inlets with the words "No Dumping! Drains to Waterway" or similar. | ☒Maintain and periodically repaint or replace inlet markings.<br>☒Provide stormwater pollution prevention information to all onsite personnel.<br>☒See applicable BMPs in Fact Sheet SC-44, "Drainage System Maintenance" in the CASQA Stormwater Quality Handbook at:<br>www.casqa.org/resources/bmp-handbooks<br>☒Include the following in lease agreements (if facility is leased): "Tenant shall not allow anyone to discharge anything to the storm drains or to store or deposit materials so as to create a potential discharge to storm drains." |
| ☒Interior Floor Drains and Elevator Shaft Pumps | ☒All interior floor drains will be plumbed to the sanitary sewer. | ☒Inspect and maintain drains to prevent blockage and overflow. |

| | | |
|---|---|---|
| ☐Interior Parking Garages | ☐Parking garage floor drains will be plumbed to the sanitary sewer | ☐Inspect and maintain drains to prevent blockage and overflow. |
| ☒Indoor and Structural Pest Control | ☒Buildings will be designed to meet applicable code requirements to discourage entry of pests. | ☒Provide Integrated Pest Management information to Owners, lessees and operators. |
| ☒Landscape / Outdoor Pesticide Use / Building and Grounds Maintenance | ☒Landscape will be designed to accomplish the following:<br>Preserve existing native trees, shrubs and groundcover to the maximum extent practicable.<br>Minimize irrigation and runoff, promote surface infiltration where appropriate and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.<br>Where landscape areas are used to retain or detain stormwater plants that are tolerant of saturated soil conditions will be used.<br>Pest resistant plants will be specified where practicable.<br>Plants will be selected for site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions. | ☒Maintain landscaping using the minimum required or no pesticides and fertilizers.<br>☒See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance" in the CASQA Stormwater Quality Handbook at:<br>www.casqa.org/resources/bmp-handbooks<br>☒Provide IPM information to new owners, lessees and operators. |

| | | |
|---|---|---|
| ☒Pools, Spas, Ponds, Decorative Fountains and other Water Features | ☒Do not connect to onsite wastewater disposal systems. Drain to landscape area for infiltration | ☒See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance" in the CASQA Stormwater Quality Handbook at:<br>www.casqa.org/resources/bmp-handbooks |
| ☐Food Service | ☐Restaurants, grocery stores and other food service operations will have a floor sink or other area for cleaning floor mats, containers and equipment located either indoors or in a covered area outdoors. | ☐Drain must be connected to grease interceptor and grease interceptor must be pumped whenever solids accumulate to 35% of total tank capacity. |
| ☒Refuse Areas | ☒Refuse and recycling will be collected in the trash enclosure. The enclosure will be fenced to prevent dispersal of materials. If covered, the area will be drained to the sanitary sewer system. If not covered, all bins will have water tight lids. Adjacent areas will be graded to prevent run-on. | ☒Refuse area must be patrolled and cleaned regularly. |
| ☒Industrial Processes | ☒All winery processing activities to be performed indoors or outdoors under roof. No processes to drain to exterior or to storm drain system. | ☒See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at:<br>www.casqa.org/resources/bmp-handbooks |

| | | |
|---|---|---|
| | | |
| ☒Outdoor Storage (Equipment or Materials) | ☒All winemaking materials to be used onsite are to be unloaded and immediately moved to a covered area to minimize exposure to rainfall.<br>☒Material deliveries shall be scheduled for times when it is not raining to minimize exposure to rainfall.<br>☒Facility shall comply with Napa County requirements for Hazardous Waste Generation, Storage and Disposal, Hazardous Materials Release Response and Inventory, California Accidental Release (CalARP) and Uniform Fire Code Article 80 Section 103(b) & (c) 1991 | ☒See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials" in the CASQA Stormwater Quality Handbooks at:<br>www.casqa.org/resources/bmp-handbooks |
| ☒Vehicle and Equipment Cleaning | ☒No vehicle or equipment washing will be performed onsite. All employees will be informed that car washing is prohibited. | ☒Not Applicable |
| ☒Vehicle and Equipment Repair and Maintenance | ☒No vehicle or equipment repairs will be performed onsite. All employees will be | ☒Notify all future owners, lessees and operators that the following restrictions apply to this site: |

| | | |
|---|---|---|
| | informed that vehicle maintenance onsite is prohibited. | ☒No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains.<br>☒No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.<br>☒No person shall leave unattended parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment. |
| ☐Fuel Dispensing Areas | No vehicle fueling will be performed onsite. All employees will be informed that vehicle fueling onsite is prohibited. | ☐The property owner, lessee or operator, as applicable, shall dry sweep the fueling area routinely.<br>☐See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at:<br>www.casqa.org/resources/bmp-handbooks |
| ☐Loading Docks | ☐Loading docks shall be covered and graded to minimize run-on to and runoff from the loading area.<br>☐Roof downspouts shall be positioned to direct stormwater away from the loading area.<br>☐Water from loading dock areas shall be drained to a containment system that is pumped | ☐Move loaded and unloaded items indoors as soon as possible. See Fact Sheet SC-30, "Outdoor Loading and Unloading" in the CASQA Stormwater Quality Handbooks at:<br>www.casqa.org/resources/bmp-handbooks |

| | | |
|---|---|---|
| | regularly to avoid overflows. | |
| ☒Fire Sprinkler Test Water | ☒Provide a means to drain fire sprinkler test water to infiltrate into landscaping and not discharge to the storm drain. | ☒See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at:<br>www.casqa.org/resources/bmp-handbooks |
| Miscellaneous Drain, Wash Water or Other Sources<br>☒Boiler Drain Lines<br>☒Condensate Drain Lines<br>☒Rooftop Equipment<br>☐Drainage Sumps<br>☒Roofing, Gutters and Trim<br>☐Other: | ☒Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.<br>☒Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur.<br>☒Condensate drain lines may not discharge to the storm drain system.<br>☒Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment.<br>☐Any drainage sumps on-site shall feature a sediment sump to reduce | If architectural copper is used, implement the following BMPs for management of rinsewater during installation:<br>☐If possible, purchase copper materials that have been pre-patinated at the factory.<br>☐If patination is done on-site, prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling off-site.<br>☐Consider coating the copper materials with an impervious coating that prevents further corrosion and runoff.<br>☐Implement the following BMPs during routine maintenance:<br>☐Prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling offsite. |

| | | |
|---|---|---|
| | the quantity of sediment in pumped water.<br>☐Include controls for other sources as specified by local agency. | |
| ☒Plazas, Sidewalks and Parking Lots | None. | ☒Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and haul offsite to municipal waste treatment plant for disposal, do not discharge to a storm drain. |

IV.C. Features, Materials, and Methods of Construction of Source Control BMPs

Full design specifications for all source control BMPs will be submitted with the building permit drawing package.

## V. Stormwater Facility Maintenance

V.A. Ownership and Responsibility for Maintenance in Perpetuity

The Applicant must commit to executing a Post Construction Stormwater BMP Maintenance Agreement which will be recorded with Napa County. This agreement will obligate the applicant to accept responsibility for operation and maintenance of stormwater treatment and flow-control facilities in perpetuity or until such time as this responsibility is formally transferred to a subsequent property owner.

V.B. Summary of Maintenance Requirements for Each Stormwater Facility

The bioretention facilities will be maintained on the following schedule at a minimum. Details of maintenance responsibilities and procedures will be included in a Stormwater Facility Operation and Maintenance Plan to be submitted for approval prior to the completion of construction.

At no time will synthetic pesticides or fertilizers be applied, nor will any soil amendments, other than aged compost mulch or sand/compost mix, be introduced.

**Daily**: The facilities will be examined for visible trash during regular policing of the site, and trash will be removed.

**After Significant Rain Events**: A significant rain event is one that produces approximately a half-inch or more rainfall in a 24-hour period. Within 24 hours after each such event, the following will be conducted:

The surface of the facility will be observed to confirm there is no ponding.

• Inlets and outlets will be inspected, and any accumulations of trash or debris will be removed.

• The surface of the mulch layer will be inspected for movement of material. Mulch will be replaced and raked smooth if needed.

**Prior to the Start of the Rainy Season:** In September or each year, the facility will be inspected to confirm there is no accumulation of debris that would block flow, and that growth and spread of plantings does not block inlets or the movement of runoff across the surface of the facility.

**Annual Landscape Maintenance:** In December – February of each year, vegetation will be cut back as needed, debris removed, and plants and mulch replaced as needed. The concrete work will be inspected for damage. The elevation of the top of soil and mulch layer will be confirmed to be consistent with the 6-inch reservoir depth.

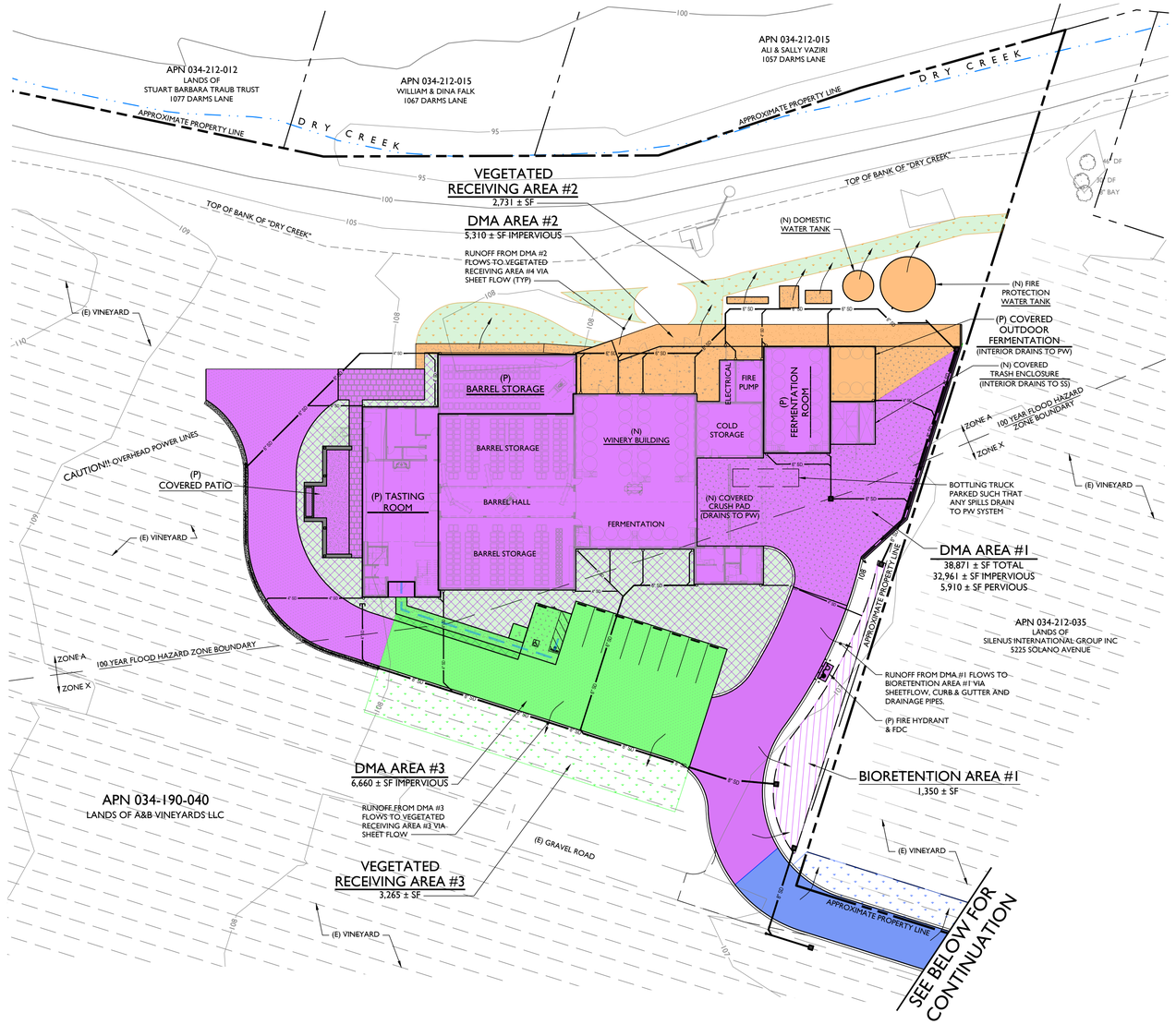
## VI. Construction Checklist

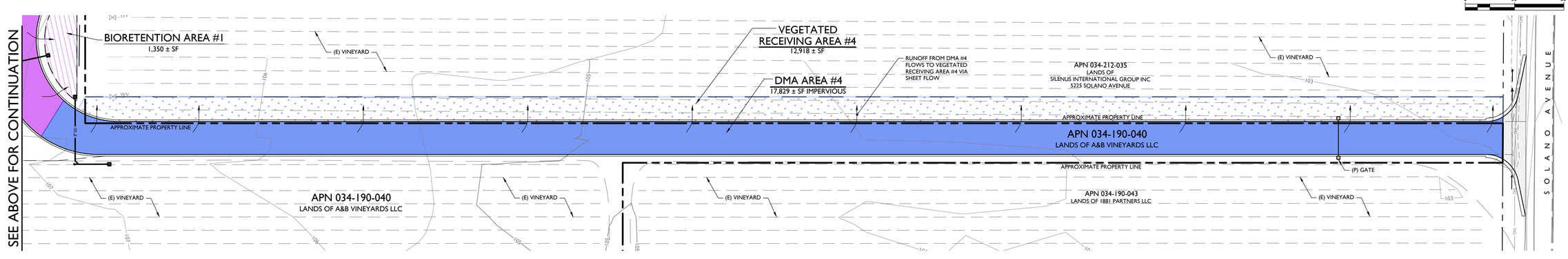
| Stormwater Control Plan Page # | Source Control or Treatment Control Measure | |
|---|---|---|
| 1 | Bioretention Area #1 | |
| 1 | Storm Drain Inlets | |
| 1 | Interior Floor Drains and Elevator Shaft Pumps | |
| N/A | Interior Parking Garages | |
| 1 | Indoor and Structural Pest Control | |
| 1 | Landscape / Outdoor Pesticide Use / Building and Grounds Maintenance | |
| N/A | Pools, Spas, Ponds, Decorative Fountains and other Water Features | |
| N/A | Food Service | |
| 1 | Refuse Areas | |
| 1 | Industrial Processes | |

| | | |
|---|---|---|
| I | Outdoor Storage (Equipment or Materials) | |
| N/A | Vehicle and Equipment Cleaning | |
| N/A | Vehicle and Equipment Repair and Maintenance | |
| N/A | Fuel Dispensing Areas | |
| N/A | Loading Docks | |
| I | Fire Sprinkler Test Water | |
| I | Miscellaneous Drain, Wash Water or Other Sources<br>Boiler Drain Lines<br>Condensate Drain Lines<br>Rooftop Equipment<br>Drainage Sumps<br>Roofing, Gutters and Trim<br>Other: | |
| I | Plazas, Sidewalks and Parking Lots | |

## VII. Certifications

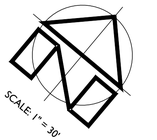
This preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in intended to be in accordance with the current edition of the BASMAA Post-Construction Manual as required by Napa County.




## STORMWATER CONTROL PLAN

SCALE: 1" = 30'

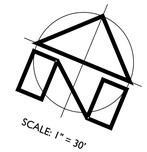



### DMA LEGEND:

- SHEET FLOW DIRECTION
- IMPERVIOUS AREA (COLOR VARIES BY DMA)
- PERVIOUS AREA (COLOR VARIES BY DMA)
- VEGETATED RECEIVING AREA (COLOR VARIES BY DMA)
- BIORETENTION AREA (COLOR VARIES BY DMA)

### SURFACE LEGEND:

- PROPOSED HEAVY DUTY PCC PAVING
- PROPOSED LIGHT DUTY PCC PAVING
- PROPOSED GRAVEL PAVING
- PROPOSED CHIP SEAL PAVING
- PROPOSED ASPHALT CONCRETE PAVING
- PROPOSED DECOMPOSED GRANITE PAVING
- PROPOSED ROCK
- PROPOSED PAVERS SET IN CONCRETE

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# A&B VINEYARDS LLC

## USE PERMIT MODIFICATION CONCEPTUAL SITE IMPROVEMENT PLANS
## STORMWATER CONTROL PLAN

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER
MICHAEL R. MCGINLEY
No. 67410
Exp. 12/31/2024
CIVIL
STATE OF CALIFORNIA

FOR USE AS PERMIT ONLY
NOT FOR CONSTRUCTION

DRAWN BY: PowerCAD LLC

CHECKED BY: MRM

DATE: MARCH 10, 2023

| REVISIONS: | BY: |
|---|---|
| 3/10/2023 PERMIT SUBMITTAL | YMS |

JOB NUMBER: 20-139

FILE: 20-139EXH-SCP.DWG

ORIGINAL SIZE: 24" X 36"

SHEET NUMBER: C7

OF 8