B
Type

X
Docs

Plans

GRD08-0131
Building Permit Number

11062
Street Number

Graton Rd
Street Name

GRA
Community Code

104-090-036
APN

ENGINEERING DIVISION - PERMIT INSPECTION RECORD

Sonoma County Permit And Resource Management Department
2550 Ventura Avenue ❖ Santa Rosa, CA 95403 ❖ Telephone (707) 565-1900

OWNER: Mengle Revere Holmes III ETAL

PERMIT#: GRD08-0131 AREA: GRA

JOB ADDRESS: 11062 Gratan Rd

DATE ISSUED: 10/2/08

CONTRACTOR:

CONSTRUCTION INSPECTION CONTACT PERSON:

DESCRIPTION OF WORK: Legalize two Culverts and one ditch (wetland)

AUTOMATED INSPECTION REQUEST SYSTEM
❖ 565-3551 ❖

Our automated inspection request system (for use with a touch tone phone) allows you to schedule next day inspections by calling between the hours of 6:00 a.m. to midnight. You must have your permit number, job address number and the inspection code listed below.

THIS JOB CARD MUST BE AVAILABLE AT TIME OF INSPECTION

The current status of this permit is available on our website:
http://www.SonomaCountyPermits.org

RB1

Scantron CODE	INSPECTION TYPE	Scantron CODE	INSPECTION TYPE
	SITE GRADING & SITE IMPROVEMENTS		**STORM WATER**
200	SITE GRADING, PRE-CONSTRUCTION *(5 DAY NOTICE)*	650	SUSMP INSPECTION
201	START WORK NOTICE *(5 DAY NOTICE)*	651	S/W PRE-CONSTRUCTION
202	RESUME GRADING ACTIVITY *(2 DAY NOTICE)*	652	S/W BMPS VERIFICATION ON SITE (AP) EJD 10/10/08
203	SITE GRADING, ROUGH (AP) EJD 10/10/08		
204	SUB DRAIN	654	S/W SITE INVESTIGATION
205	SUB GRADE *(2 DAY NOTICE)*	655	S/W PRE-RAIN SEASON INSPECTION (AP) EJD
206	SITE IMPROVEMENTS, PRE-PAVING	656	S/W ENFORCEMENT ACTION COMPLIANCE ED 10/10/08
207	CONCRETE FLATWORK	657	S/W POST-RAIN SEASON INSPECTION
208	PAD CERTIFICATION		
209	PRE-PAVING *(2 DAY NOTICE)*	659	STORM WATER FINAL
210	PAVING *(2 DAY NOTICE)*		
211	STRIPING & SIGNAGE *(5 DAY NOTICE)*		
212	LIGHTING & SIGNALS *(5 DAY NOTICE)*		
213	KEYING & BENCHING		
214	SLOPE STABILITY / RETAINING WALL		
215	SOIL REPORT CERTIFICATION		
216	SPECIAL INSPECTION		**SEWER SYSTEMS**
		430	START WORK NOTICE *(5 DAY NOTICE)*
218	PRE-FINAL *(5 DAY NOTICE)*	431	RESUME SEWER SYSTEM ACTIVITY
219	SITE GRADING, FINAL *(2 DAY NOTICE)* 11/26/08 SPC	432	SEWER TRENCH
220	SUBDIVISION WARRANTY	433	SEWER PIPE / BEDDING
		434	SEWER BACKFILL / COMPACTION
		435	SEWER TESTING
	WATER SYSTEMS		
450	WATER FIELD WORK COMPLIANCE		
451	WATER PIPE INSTALLATION	438	SEWER MANHOLE
452	WATER ENCROACHMENT REQUIREMENTS	439	SEPTIC TANK DESTRUCT W/SEWER CONNECTION
453	WATER WELL DRAWDOWN & YIELD	440	GREASE INTERCEPTOR
454	WATER SYSTEM HYDROSTATIC TEST	441	PUMP SYSTEM
		442	SEWER PRE-PAVING
		443	SEWER PAVING
459	WATER SYSTEM FINAL		
	ENCROACHMENT		
		449	SEWER FINAL *(2 DAY NOTICE)*
241	ENCROACHMENT TRENCHING		
242	ENCROACHMENT PIPE / BEDDING		**FIRE INSPECTIONS**
243	ENCROACHMENT BACKFILL / COMPACTION	121	FIRE SAFE STANDARDS
244	ENCROACHMENT PRE-PAVING	758	VEGETATION MANAGEMENT
245	ENCROACHMENT PAVING	770	SPRINKLER FINAL
		771	ABOVEGROUND HYDROSTATIC
		772	UNDERGROUND HYDROSTATIC
		773	UNDERGROUND FLUSH
249	ENCROACHMENT FINAL	774	THRUST BLOCKS
250	PUBLIC IMPROVEMENTS WARRANTY	775	PIPE WELD
		776	HYDRANTS/APPLIANCES
	DRAINAGE	777	PUMP ACCEPTANCE
640	TRENCH (DRAINAGE PIPE)	778	WATER SUPPLY/TANK
641	DRAINAGE PIPE	779	ALARM SYSTEM
642	PIPE BACKFILL / COMPACTION	780	HOOD & DUCT SYSTEM
643	PIPE STRUCTURES	781	ABOVEGROUND
644	INLET / OUTLET EROSION PROTECTION	198	FIRE OCCUPANCY/FINAL
645	SWALE(S) (AP) EJD 10/10/08		
		500	1 YEAR MAINTENANCE FINAL
649	DRAINAGE FINAL	699	PERMIT FINAL *(5 DAY NOTICE)* 11/26/08 SPC

GRD08-0131

COUNTY OF SONOMA - PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403 (707) 565-1900 FAX (707) 565-1103

Please Print Your Name: | Date Applied:

INFORMATION WITHIN HEAVY LINE TO BE COMPLETED BY APPLICANT

JOB ADDRESS: 11062 GRATON RD

SITE LOCATION INFORMATION - PRINT CLEARLY

Site Address: 11062 Graton rd | City: Sebastopol | ZIP: 95472

Cross-Street: | APN: #104-090-036 | Project Phone #: (707) 824-1439 | Project Fax #: (707) 874-0501

Directions: | Subd. Name | Unit # | Lot #

Describe Project: Wetland restoration | Living Area | Garage | Decks | Contract Price:

OWNER NAME AND ADDRESS

Name: Catherine Younger

Mailing Address: 122 Winterstein Dr.

City: Folsom State: CA ZIP: 95630-233

Day Ph: (916) 983-5233 Fax: ( )

APPLICANT NAME AND ADDRESS

Name: Streamline Engineering - Eric Austensen PE

Mailing Address: 2727 Marra rd.

City: Occidental State: CA ZIP: 95465

Day Ph: (707) 874-0501 Fax: (← same -

CONTRACTOR INFORMATION

Company Name:

Address:

City: State: ZIP:

Day Ph: ( ) Fax: ( )

OTHER PERSONS (ARCHITECT, ENGINEER, ETC.)

Name:

Address:

City: State: ZIP:

Day Ph: ( ) Reg # Fax: ( )

License No: C 52052 Exp. Date: 12/31/08

WORKER'S COMPENSATION DECLARATION

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I have and will maintain worker's compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My worker's compensation insurance carrier and policy number are:

Carrier

Policy No.

(This section need not be completed if the permit is for one hundred dollars ($100) or less).

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the worker's compensation laws of California, and agree that if I should become subject to the worker's compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Exp. Date: Applicant:

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

CONSTRUCTION LENDING DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued. (Sec. 3097, Civ.C.).

Lenders Name

Lenders Address

FOR DEPARTMENT USE

Zoning DA B6-20 ,Z, File No. Acres 43.20

Existing Use/Structures SFD

Proposed Use/Structures grading to restore wetland [illegible]

Zoning Min. Yard Requirements: Front 30 Left 10 Right 10 Back 20 [illegible]

NOTE: Fire Safe Standards require all parcels greater than 1 Acre to have a min. 30' setback unless mitigated. ☐ Mitigation Required ☐ Address subject to change

Approval for Permit Issuance: By: Date:

Approval for Occupancy: By: Scott D. Hemsperger Date: 6/19/08

Conditions: No BR zoning

Sewer Connection: ☐ Available ☐ Fees Paid

Approved by: Date:

Road Encroachment: ☐ Fees Paid PER PERMIT CS PLUS 10/1/08

Approved by: Date:

Septic System Permit/Clearance #: SE08-0454

Approved by: Date: 10-2-08

Flood Zone: ☐ Yes ☒ No 100 Year Flood Elevation:

Site Review

Drainage Review: Approved by: Date: 10-1-08

Fire: Approved by: Date: 10-9-08

Code Enforcement Violation ☒ Yes ☐ No Violation # VGR08-0011

This permit is limited to 365 days.

LEGALIZE WETLANDS RESTORATION 10/2/08

Work Authorized: GRADING FOR WETLAND DRAINAGE

OWNER-BUILDER DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044 Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his or her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he or she did not build or improve for the purpose of sale.).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law.).

☐ I am exempt under Sec.________, B & P.C. for this reason

Date 6/19/08 Owner Eric Austensen Engineer

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

Lic. Class Lic. No.

Exp. Date Contractor

ASBESTOS DECLARATION

Written asbestos notification pursuant to Part 61 of Title 40 of the Code of Federal Regulations is required when asbestos exists in buildings, or portions thereof, undergoing demolition. I hereby declare that demolition authorized by this permit is from construction that (☐ does) (☐ does not) contain asbestos, or that ☐ no demolition is authorized by this permit.

I certify that I have read this application and affirm under penalty of perjury that the above information is correct. I agree to comply with all local Ordinances and State laws relating to building construction. I hereby authorize representatives of the County of Sonoma to enter upon the above-mentioned property for inspection purposes. If, after making the Certificate of Exemption for the Worker's Compensation provision of the Labor Code I should become subject to such provisions, I will forthwith comply. In the event I do not comply with the Workman's Compensation law, this permit shall be deemed revoked.

Eric Austensen

PERMITTEE SIGNATURE

2727 Marra Rd Occidental 95465

ADDRESS CITY ZIP

☐ Contractor ☐ Owner ☐ Other Licensed Professional

☒ Plans Approved

☐ No Plans Subject to Field Inspection

Plancheck Cleared By: Date: 10-1-08

Permit Cleared for Issuance By: Date: 10-2-08

☐ Post FIRM	☐ Alquist Priolo Report Available		
☐ Pre FIRM	☐ Geotechnical report Available		
Type of Construction	Occupancy	No. of Stories	No. of Bedrooms
Auto. Fire Sprinklers Req'd	No of Units	Certificate of Occupancy	

Machine Space for Permit Fee

PAYMENT REC'D $ W

OCT 02 2008

PERMIT AND RESOURCE MANAGEMENT DEPARTMENT COUNTY OF SONOMA

PERMIT NUMBER: GRD08-0131

INSPECTION AREA: 9

Final Date: 1/26/08 Inspector: Stephen [illegible]

THIS PERMIT SHALL EXPIRE IN THREE (3) YEARS FROM DATE FEES ARE PAID UNLESS OTHERWISE NOTED BY CODE ENFORCEMENT

Distribution: White - File Canary - Applicant Pink - Audit Copy Blue - Assessor Cardstock - Inspector

sennis F:\forms\cis\CIS-007.cdr Revised 4/8/2004

131) SPECIAL INSPECTION REQUIRED ☐YES ☐NO	IF YES, SEE ADDITIONAL SHEET

INSPECTION RECORD	DATE	NAME
101) ROUGH GRADING		
103) FOUNDATION		
FORMS/SETBACK		
FOOTING		
WALLS		
106) UFER GROUND #		
104) CAISSONS/PIERS		
105) SLAB		
107) UNDERGROUND UTILITIES		
110) MASONRY		
109) RETAINING WALLS		
113) FIREPLACE		
FOOTING		
HEARTH/PROTECTION		
THROAT		
114) CHIMNEY		
120) UNDERFLOOR/UNDERSLAB		
115) HYDRONICS		
116) U/F ELECTRICAL		
117) U/F MECHANICAL		
118) U/F PLUMBING		
119) U/F FRAMING		
139) U/F INSULATION		
126) SHEAR WALLS		
☐ INTERIOR ☐ EXTERIOR		
127) DIAPHRAGMS		
☐ ROOF ☐ FLOOR		
134) SIDING/SHEATHING		
125) HOLD DOWNS		
132) CLOSE-IN		
122) ROUGH ELECTRICAL		
123) ROUGH MECHANICAL		
124) ROUGH PLUMBING		
128) ROUGH FRAME		
160) SMOKE DETECTORS		
139) INSULATION		
142) WALLBOARD		
143) FIREWALLS		
135) STUCCO/PLASTER		
☐ LATH ☐ SCRATCH		
137) ROOFING		
130) TUB/SHOWER PAN		
162) FIRE DAMPERS/DOORS		
164) SUSPENDED CEILING		
☐ ROUGH ELEC. ☐ ROUGH MECH.		
165) EXITING - RAMPS/STAIRS		
163) HANDRAILS/GUARDRAILS		
CORRIDORS/DOORS		
166) ACCESSIBILITY COMPLIANCE		
144) WATER TANKS		
☐ SLAB ☐ WALLS		
170) TEMPORARY OCCUPANCY		
171) TEMPORARY ELECTRICAL		
172) TEMPORARY GAS		
174) ELECTRIC METER AUTHORIZATION		
152) PANEL BOARDS/SERVICE		
189) SEPTIC ELECTRIC FINAL		
175) GAS METER AUTHORIZATION		
153) GAS PRESSURE TEST		
HOUSE YARD		
190) MANUF. HOME FOUNDATION		
191) MANUF. HOME INSTALLATION		
CONTINUITY		
STAIRS/SKIRTS		
RIDGE BOLTING		
193) MANUF. HOME COND. FINAL		
SWIMMING POOLS		
194) PRE-GUNITE		
195) PRE-DECK		
196) PRE-PLASTER/FENCE		
197) VINYL/FIBERGLASS POOL EXCAVATION		
102) GRADING FINAL	11/26/08	SRC
176) ELECTRICAL FINAL		
177) MECHANICAL FINAL		
178) PLUMBING FINAL		
199) FINAL	11/26/08	SRC
OCCUPANCY (OK TO OCCUPY)		

REMARKS

10/7/08: PRE-CONSTRUCTION MEETING. NOTIFIED ENGINEER & CONTRACTOR TO CALL IN FOR ROUGH / FINAL GRADING. STORM DRAIN & BMP INSPECTIONS TO BE DONE WITH ABOVE INSPECTIONS AS WELL. VINEYARD GRADING WORK TO BE DONE AS FUTURE DATE. OR TO FINAL PORTIONS OF PROJECT AS COMPLETED.

-Ryan

10/10/08 EJD
#203, 652 & 655 (AP)
#645

	DATE	NAME
650) SUSMP INSPECTION		
651) NPDES EROSION COMPLIANCE		
652) NPDES SEDIMENT COMPLIANCE		
653) NPDES DOCS/SWPPP		
FIRE INSPECTION REQUIRED ☐ Yes ☐ No		
759) KNOX BOX		
760) PROPANE TANK HOLD DOWNS		
770) SPRINKLER FINAL		
771) ABOVEGROUND HYDROSTATIC		
772) UNDERGROUND HYDROSTATIC		
773) UNDERGROUND FLUSH		
774) THRUST BLOCKS		
775) PIPE WELD		
776) HYDRANTS/APPLIANCES		
777) PUMP ACCEPTANCE		
778) WATER SUPPLY/TANK		
779) ALARM SYSTEM		
780) HOOD & DUCT SYSTEM		
781) ABOVEGROUND TANK/DISPENSER		
198) FIRE FINAL		

CLEARANCES:

FIRE ☐ Local ☐ County

HEALTH DEPARTMENT

ZONING

SANITATION

PLAN RETENTION REQUIRED?
☑ Yes ☐ No

PERMIT # 08-0131

STREAMLINE ENGINEERING

Eric Austensen, P.E.
2727 Marra Rd.
Occidental, CA 95465
(707) 874-0501

October 15, 2008

Derek Chow, Assistant Engineer
Sonoma County PRMD, Grading and Drainage Division
2550 Ventura Avenue
Santa Rosa, CA 95403

Stephen Bargsten, Environmental Scientist
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Subject: **Final Grading & Drainage Observations for Younger Wetland Restoration**
11190 Graton Road, Sebastopol
Sonoma County PRMD GRD 08-0131
NCRWQCB WDID No. 1B08106WNSO

Dear Derek and Stephen,

I observed construction of the subject wetland restoration. The project was constructed in general conformance with the County approved grading and drainage plan dated July 25, 2008. New wetland pools and the spillway were built to the depth and dimensions shown on the plans. The primary source of water to the wetland was returned (via 18" culvert) and the pools are filling with water. Erosion and sediment control measures are in place.

We will be performing monitoring and maintenance of the project for a period of five years. Annual reports will be submitted to the North Coast Regional Water Quality Control Board through year 2013.

Sincerely,

Eric Austensen, P.E.
Streamline Engineering

GRADING
☆APPROVED☆
PERMIT AND RESOURCE
MANAGEMENT DEPARTMENT
☒ ... attached conditions
☐ ... report recommendations
☐ ... by Soil Engineer
F2008-0131

STREAMLINE ENGINEERING

Eric Austensen, P.E.
2727 Marra Rd.
Occidental, CA 95465
(707) 874-0501

REGISTERED PROFESSIONAL ENGINEER
ERIC B. AUSTENSEN
C 52052
EXP. 12/31/08
CIVIL
STATE OF CALIFORNIA

Wetland Restoration Report July 25, 2008
Green Valley Ranch
11190 Graton Road, Sebastopol

Ranch Background

Green Valley Ranch is owned by Catherine Younger et. al. The ranch has been in the family since 1871. The ranch was operated as a dairy until 1969. In 1970, the ranch was converted to vineyard. For the past several years, the vineyard has been operated by a neighboring farmer.

Wetland History

The wetland was previously an agricultural pond. The pond was built at least 50 years ago. At an unknown time before the vineyard was planted, an 18" concrete pipe was placed in an 18.9 acre drainage, diverting its flow into the pond. Since then, the pond has been filling with sediment from the drainage. The pond drains to an adjacent roadside ditch. Sediment also filled the ditch. Wetland plants established in the pond and probably in the ditch. The pond is adjacent to Graton Road and is surrounded by vineyard on the other three sides.

Purpose of Wetland Disturbance, November 2007

Ditch

During November, 2007, the vineyard operators used an excavator to remove sediment that filled a roadside ditch along Graton road. Their intention was to perform routine ranch maintenance. In the absence of County road maintenance, the farmer thought he was helping the county by promoting better road drainage.

Wetland

The farmer wanted to clean up what they perceived to be overgrown and unsightly brush in the old pond. They also desired to prevent oversaturation of the vineyard. A two foot deep trench was dug through the middle of the wetland in and attempt to lower groundwater elevations in the adjacent vineyard. They scraped off most of the surface soil of the wetland while cleaning up the dense vegetation. Several exploratory pits were dug to a depth of about two feet. The 18" concrete culvert that historically provided flow to the pond was rerouted directly to the ditch via an 18" plastic culvert.

Regulatory Oversight

A complaint was made to the North Coast Regional Water Quality Control Board (Waterboard) regarding the work in the ditch and wetland. The Waterboard visited the site on February 27, 2008. They sent notice to other regulatory agencies, and demanded that the site be restored as soon as possible.

On March 13, 2008, the County of Sonoma PRMD sent Catherine Younger a *Notice and Order* for grading without a permit. The charge was for "installation of culverts and installing new drainage courses in a wetland." The County is requiring that the site be restored, and that a permit be obtained for the work.

2007 Disturbed Wetland Geometry
We are separating the November, 2007 disturbed area into 4 distinct sub-areas for the purpose of analysis and discussion:

Roadside Ditch- 2007 Disturbance
Disturbed Length= 529'
Disturbed Width= 11' (avg., fairly consistent)
Disturbed Depth= 2' consistent
Disturbed Area= 0.15 acre
Volume of Soil Removed= 270 cubic yards, trapezoidal section less low flow channel
Profile Slope after disturbance= 1.4% upper 1/3 of ditch, 0.8% middle, 0.4% lower 1/3

Wetland- Previous Pond- 2007 Disturbance
Disturbed Length= +/- 130' avg.
Disturbed Width= +/- 160' avg.
Disturbed Area= 0.48 acres
Disturbed Depth= 0.3' assume average
Volume of Soil Removed= 0.3' deep x 20,909 sq. ft. + 30 yds ditch
= 260 cubic yards excavated
Volume of Soil Placed = 3,014 sq ft x 0.5'= 56 cubic yards
Soil Placed was spoils from adjacent pond excavation

South Wetland- South of Driveway- 2007 Disturbance
Disturbed Length= 68'
Disturbed Width= 16' avg.
Disturbed Area= 0.025 acre
Depth of Soil Placed= 0.8' average
Volume of Soil Removed= none
Volume of (Burnpile) Fill= 32 cubic yards

Hillside Seeps- 2007 Disturbance
Disturbed Length= 20' average
Disturbed Width= 210'

Disturbed Area= 0.1 acre
Depth of Soil Placed= none
Volume of Soil Removed= 0.2' deep x 4,200 sq ft= 31 cubic yards
Volume of Fill= none

Total Area of November, 2007 Wetland Disturbance= 0.75 Acres

Total Volume of Soil Excavated November, 2007= 590 Cubic Yards
Total Volume of Soil Placed in Wetland= 88 Cubic Yards

Soils
Soils in the upper portion of the drainages (generally at and above the inlet of the 18" culvert and above) are Goldridge fine sandy loam which is classified as hydrologic soil group B, fine sand with moderate infiltration rate when thoroughly wetted. Soils in the lower slopes are Blucher loam, classified as hydrologic soil group C with lower infiltration rates and slower permeability (as compared to the goldridge series). (NRCS, USDA, Sonoma County Soils Report, Miller 1972).

Hydrology & Hydraulics
Summer Flow
We measured flow from the new 18" dia. plastic culvert on April 27th, 2008 at six (6) gallons per minute where it outlets at the roadside ditch. On that day, we estimated all surface flow from hillside seeps to be on the order of several gallons per hour combined. The 8" subdrain adjacent to the pond had no flow in it. We expect this surface flow to diminish to groundwater flow during the summer.

Winter Flow
The wetland-previous pond, historically, was supplied by an 18" concrete culvert. The 18" culvert drains an 18.9 acre seasonal drainage (see sht.1 of restoration plans). The area of surface runoff into the pond, plus the area of the pond, is approximately 1 acre. The total drainage area to the pond, and the upstream end of the ditch, is 19.9 acres.

The roadside ditch collects an additional 3.3 acres of hillside runoff before draining into an 18" corrugated metal pipe under Graton Road. The profile slope of this 18" cmp is 1.6%. Its full flow hydraulic capacity per the Manning's equation is approximately 16 cubic feet per second (16 cfs). At this culvert, the inlet acts like a bottleneck such that the true capacity of the culvert is less than the full flow capacity. This bottlenecking, called inlet control, restricts the true capacity of the culvert to 13.2 cfs before stormwater begins to sheet flow over the road. Graton Road is 3.5' above the inlet invert elevation.

I calculate the 10-year storm flow at the 18" cmp (Graton Road culvert) to be approximately 23 cfs. We can expect that the road will be overtopped on the order of several times per decade, assuming it doesn't become blocked by debris or sediment aggradation in the ditch.

As storm flow backs up at the culvert inlet, flow velocity in the ditch slows. Roughly several times per decade, near static velocity will occur in the ditch to a depth of 3.5' above the culvert, all the way to the pond. This promotes sediment aggradation in the ditch. If sediment and/or vegetation accumulate at the culvert inlet, it will further restrict capacity there, exacerbating sediment aggradation in the ditch.

One of the advantages to having this undersized (Graton Rd.) culvert is that it will reduce peak flows in the eroding Purrington Creek below. The disadvantage is that it will create nuisance flow across Graton road during flooding.

Fluvial Geomorphology

Fluvial geomorphology is the study of landform evolution created by flowing water in a stream or river. Fluvial geomorphology focuses on sediment transport, sediment deposition, and erosion by flowing water in a river, stream, or man-made waterway.

The wetland-previous pond and the roadside ditch are part of the active channel of a man-made waterway, drained at both ends by culverts. I consider the active channel to be that part of a stream that is subject to annual flooding, erosion, and sediment deposition. The historic agricultural pond acts as sediment basin. It has filled with fine sediment to near capacity.

We plan to recreate some of the sediment basin function of the pond by excavating shallow pools in the wetland. This will only occur in areas of the pond that currently do not support wetland function. After the pools fill with sediment, an active channel will form through the wetland. In the future, we do not plan to excavate soil from the sediment basin because the ensuing wetland will have valuable ecological function.

Biology

We reviewed the California Natural Diversity Data Base (CNDDB) provided by the CA Dept. of Fish and Game and found no documented occurrences of rare, threatened, endangered or sensitive animals (CNDDB, DFG, 3-07) in the project area. Anadromous steelhead exist in Purrington Creek, 700' away from the project.

A biologist, Maggie Discoe of Darwin's Workshop, has studied wildlife on the ranch for two years, she also lives there. She states that she is unaware of rare, threatened, or endangered wildlife in the vicinity of the wetland and ditch. A list of animals she has observed on the ranch can be provided upon request.

Dan Wilson, Biologist with the CA Department of Fish and Game, visited the site on April 21, 2008. He did not discover sensitive species in the project area.

Botany

We reviewed the California Natural Diversity Data Base (CNDDB) provided by the CA Dept. of Fish and Game and identified one species known to occur roughly within the vicinity of the ranch, *Erigeron angustatus*, a serpentine plant (commonly known as narrow-leaved daisy) with upland, chaparral habitat associations. This species, though listed 1B on the CNPS list, has no official State or Federal protection status and is unlikely to occur on this particular site given the soil moisture content and notable lack of serpentine soils.

The wetland area supports, primarily, native wetland/ riparian plants. These consist of tule bulrush, broadleaf cattail, rush, cow parsnip, shining willow, California blackberry, red twig dogwood, sedges, arroyo willow, wild rose, and yampah.

At the time of our topographic survey during the middle of April, I did not observe plants growing in the areas of the wetland that we propose to excavate. Since then, some plants have (sparsely) begun to emerge there.

Restoration Plan

Streamline Engineering prepared a restoration plan, dated June 6, 2008, with 5 sheets. The plan involves the following:

Wetland- Previous Pond
The design allows surface flow to exit the wetland at the southeast corner, the furthest point from the culvert. This maximizes saturation of the wetland, enhancing the wetland plants and water quality. There are several purposes for removing the fill soil and excavating pools in the relatively barren areas of the wetland- previous pond. Lowering the ground surface there will promote wetland plants as they receive more summer groundwater. Sediment basin function will be recreated. Created pools will be two feet deep (below the spillway elevation).

Construction will occur in the following manner:
Clearly mark the edge of existing wetland vegetation to avoid disturbance. Excavate as shown on the plans. Replace and compact soil in the breached pond embankment. Excavate for, and place, 18 cubic yards of rock and gravel where the wetland will flow into the ditch (to prevent erosion). A rock and gravel cutoff wall will be constructed at the spillway entrance to contain summer groundwater in the wetland. The cutoff wall will prevent groundwater from draining through the rock. Spoils will be spread on the adjacent vineyard to a maximum depth of 18". A vineyard erosion control plan is prepared by Erickson Engineering of Valley Ford.

South Wetland (South of Driveway)
Remove burn pile fill. Excavate 8" below burn pile and replace with (seed bank) spoils from wetland- previous pond. Track-walk twice for moderate compaction.

New Wetland
Excavate grassy area in the corner of the property as shown on the plans. Plant per revegetation plan.

Hillside Seeps
During the November 2007 disturbance, the surface soils were scraped off the hillside seeps to remove vegetation. This resulted in minor cuts of approximately 1.5H:1V at the toe of the slope. After the 07-08 rainy season with 2 storm events at or above the one year storm, these slopes appear to be stable. Other historic cuts on the ranch also appear to be stable at this slope. We propose planting of willow and dogwood along the toe of slope to promote future stabilization. An exploratory pit was cut, roughly 10' wide by 15' long, into the hillside. This cut will be filled with gravel.

Fill the exploratory pit at the bottom/ middle of the hill slope with several cubic yards of permeable gravel to prevent erosion. Plant willow and dogwood at the base of the hillside per revegetation plan.

18" Culvert
After wetland grading is complete, re-route the historic culvert back to the wetland-previous pond, returning water to the wetland. A portion of the 18" corrugated plastic pipe that was place in November, 2007, will remain. It will be used as part of the vineyard erosion control measures, as designed by Erickson Engineering.

Roadside Ditch
Leave the ditch alone and allow it to continue to revegetate. We are concerned that filling the ditch with soil (to restore previous conditions) will disturb wildlife that has colonized. At the time of our topographic survey in April, aquatic life inhabited many of the pools in the ditch.

Wetland Planting Plan
We expect that disturbed areas of the wetland-previous pond will colonize naturally with native wetland plants. The seed source exists naturally in the variety of wetland plants already onsite. Wetland plants are colonizers and should emerge relatively quickly. We think it is best to let nature sort out the variety and density of new wetland plants.

We are proposing to plant willow and dogwood sprigs throughout the wetland, as shown on sheet 4 of the restoration plans. This will promote a quicker recovery of the more dominant species that previously existed at the site. Wetland plants are proposed in the wetland on the south side of the driveway.

Mitigation
Mitigation for disturbance of the wetland is offered in the following forms:

1. Restore and replant wetland as shown on restoration plans.

2. Create shallow sediment basins in the wetland-previous pond.
3. Create new wetland on south side of driveway
4. Gully erosion control/ revegetation upstream of wetland-previous pond
5. Vineyard erosion control plan by Lee Erickson/ Erickson Engineering
6. Monitoring and maintenance of wetland and gully revegetation, 85% success for 5 years. Annual report to North Coast Regional Water Quality Control Board.

Gully Erosion Control/ Revegetation

A roughly 1,400' long gully drains to the 18" concrete culvert that provides water to the wetland-previous pond. Approximately 320' of the gully is on the subject property. This gully is experiencing minor bed and bank erosion. It appears to have experienced some historic downcutting through the sandy soil. Where erosion occurred, non-native Himalayan blackberry colonized and dominate.

Relative to native riparian vegetation, Himalayan blackberry performs poorly at controlling erosion in streams. It lacks the large root structure found in woody vegetation that provides natural erosion control. As blackberry overwhelms native vegetation in the gully, it increases erosion potential and diminishes ecological quality.

The landowner will control erosion in the lowest 150' portion of the gully, as shown on sheet 4 of the restoration plans. Himalayan blackberry will be cut at the base in a minimum 15' wide swath along the gully. Willow and dogwood sprigs will be planted along the bottom of the banks at a spacing of 10 feet on center. The blackberry will be controlled by cutting until the new willow and dogwood provide enough shade to prevent further growth.

The gully erosion control and revegetation will reduce potential sediment delivery to the wetland-previous pond. Success of this endeavor will provide design guidance for future restoration efforts on the ranch.

Mitigation Monitoring and Maintenance Plan
Green Valley Ranch
11190 Graton Road, Sebastopol

Monitoring and maintenance of wetland and gully restoration, as shown on Streamline Engineering plans, dated June 6, 2008, will occur for five years after construction. Success criteria will be:

1. Minimum 85% coverage of native plants in the wetland-previous pond, wetlands south of the driveway, and 150' of gully (15' wide).
2. Stability or aggradation in the bed of the 150' reach of the gully.

Eight permanent photo monitoring points will be established around the wetlands, with two points on each side of the wetland-previous pond. Three permanent photo monitoring points will be established along the gully, photos will be taken looking upstream and downstream from each of these points.

Vegetation monitoring methods will be visual. Streamline Engineering will visit the site at least twice per year and supervise hand removal of non-native vegetation where it occurs within the wetland and gully. Should there be any doubt that less than 85% of the wetlands and gully are occupied with native plants, Streamline Engineering will perform a topographic survey of vegetation areas. This will occur, if necessary, at the end of five years.

Annual Monitoring Report

Streamline Engineering will submit an annual monitoring report on December 15 of each year following construction. This report will discuss geomorphic and vegetation conditions of the wetland and gully. It will present photos from monitoring points, and any other photos deemed relevant.

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

October 1, 2008

In the Matter of

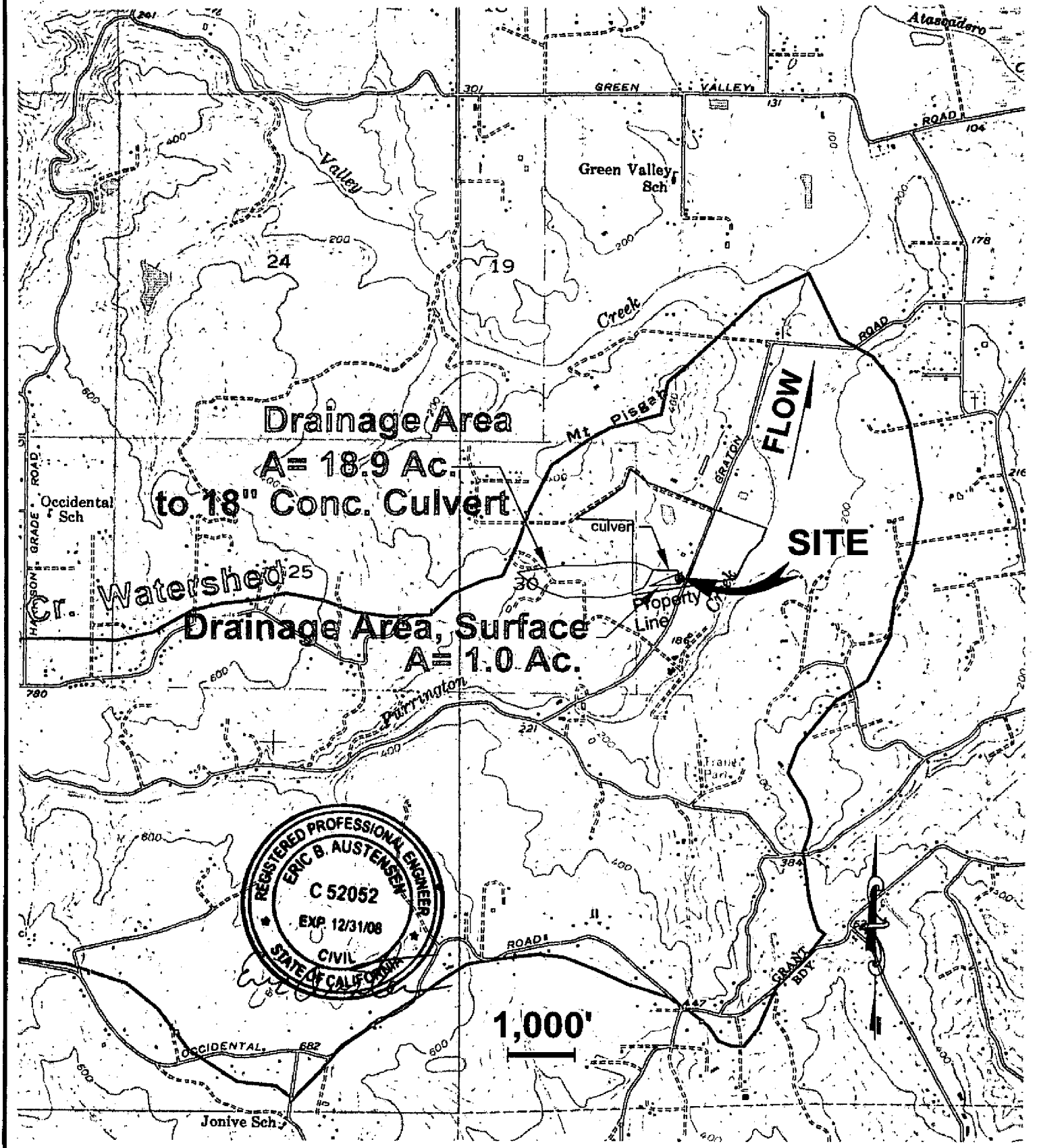
Notice of Coverage, Waiver of Waste Discharge Requirements for Minor Dredging and Fill Activities
for the
Younger Wetland Restoration Project at Green Valley Ranch
WDID NO. 1B08106WNSO

APPLICANT:	Catherine Younger
RECEIVING WATER:	Purrington Creek
HYDROLOGIC AREA:	Guerneville Hydrologic Sub-Area No. 114.11 Russian River Hydrologic Area No. 114.00
COUNTY:	Sonoma County
FILE NAME:	Younger Wetland Restoration Project at Green Valley Ranch

BY THE EXECUTIVE OFFICER:

1. This Notice of Coverage provides notice that certain activities are covered by the Waiver of Waste Discharge Requirements for Minor Dredging and Fill Activities (Waiver), which was adopted pursuant to California Water Code Section 13269 by the California Regional Water Quality Control Board, North Coast Region, (Regional Water Board) in Resolution R1-2007-0098. On June 23, 2008, Eric Austensen, of Streamline Engineering, filed an application for water quality certification under section 401 of the Clean Water Act (33 U.S.C. § 1341), and/or Waste Discharge Requirements for dredge/fill activities, with the Regional Water Quality Control Board, North Coast Region (Regional Water Board) for activities associated with the Younger Wetland Restoration Project at Green Valley Ranch in Sonoma County. Completion of fee payment in the total amount of $500 was received by the Regional Water Board on the same day. The Project causes Permanent impacts to 0.7 acres of wetland within the Guerneville Hydrologic Sub-area No. 114.11, Russian River Hydrologic Area No. 114.00.

2. The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858 on September 9, 2008, and posted information describing the Project on the Regional Water Board's website. No comments were received.



Site Map on USGS topo "Camp Meeker" 1"= 2,000'

STREAMLINE ENGINEERING **Eric Austensen, P.E.** **2727 Marra Rd.** **Occidental, CA 95465**	DATE: July 6, 2008 SCALE: 1"= 2,000'	Hydrology Map Younger Wetland Restoration	Figure 1

Younger Hydrology

Runoff Calculations - Rational Method - Q10

Point of Conc./ area	distance (ft.)	slope (ft./ft.)	velocity (fps)	time of conc.(min.)	total time	i (10 yr)	K	C	Area (acres)	Q of area	Q total (10 yr)	channel
1 - initial				15.0	15.0	1.71	1.4	0.45	2.0	2.2	2.2	overland flow
2	1,780	0.09	5	5.9	20.9	1.52	1.4	0.45	16.9	16.2	18.3	seasonal drainage
											culvert outlet	
3	500'			15.0	15.0	1.71	1.4	0.45	1.0	1.1	19.4	overland flow
											pond spillway	

From SCWA Flood Control Design Criteria Handbook

I = rainfall intensity in inches per hour. Reference "Rainfall Intensity vs. Duration" graph (Plate B-2)

K = k-factor From "K Factor vs. Mean Season Precipitation" graph (Plate B-4)

Mean Seasonal Precipitation= 43" from "Sonoma County Mean Seasonal Precipitation" graph (Plate B-3).

c = runoff coefficient. Reference "Runoff Coefficients for Rational Formula" graph (Plate B-1)

Q= Storm Water Flow in cubic feet per second

REGISTERED PROFESSIONAL ENGINEER
ERIC B. AUSTENSEN
C 52052
EXP. 12/31/08
CIVIL
STATE OF CALIFORNIA

Pond Spillway Hydraulics
Worksheet for Trapezoidal Channel

Project Description	
Project File	c:\haestad\fmw\younger.fm2
Worksheet	Rock Spillway
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

- 158' AT SPILLWAY
- ROCK LINE 159.5'

- CIPOLETTI WEIR

$Q = 3.367\, l\, h^{1.5}$

$19.6 = 3.367\,(8)(.81)^{1.5}$

Input Data		
Mannings Coefficient	0.040	
Channel Slope	0.170000	ft/ft
Left Side Slope	1.000000	H : V
Right Side Slope	1.000000	H : V
Bottom Width	8.00	ft
Discharge	19.40	cfs

Results		
Depth	0.33	ft
Flow Area	2.77	ft²
Wetted Perimeter	8.94	ft
Top Width	8.66	ft
Critical Depth	0.55	ft
Critical Slope	0.030949	ft/ft
Velocity	7.01	ft/s
Velocity Head	0.76	ft
Specific Energy	1.10	ft
Froude Number	2.19	
Flow is supercritical.		

STREAMLINE ENGINEERING

Eric Austensen, P.E.
2727 Marra Rd.
Occidental, CA 95465
(707) 874-0501

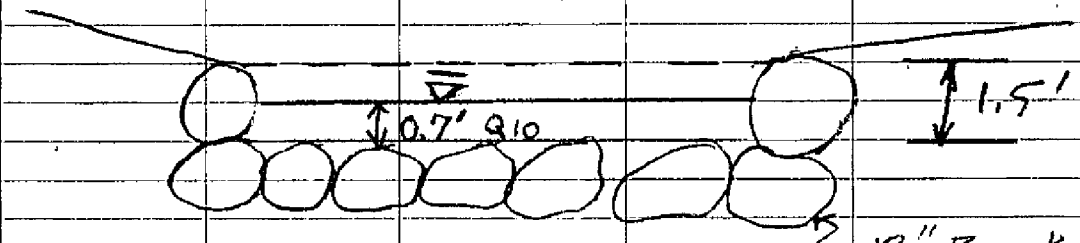
Younger Weir @ Pond Spillway

Weir Formula $Q = 3.33 L H^{3/2}$

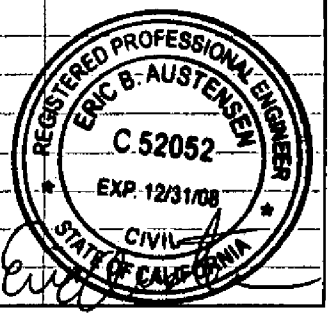
$19.4 cfs = 3.33(10) H^{3/2}$

$0.58 = H^{3/2}$

$H = 0.7'$ Deep During 10-year peak Flow



Cross-Section Spillway Opening



Erickson Engineering Inc.

GRADING

County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa CA 95403

May 24, 2008

APPROVED ☆

PERMIT AND RESOURCE
MANAGEMENT DEPARTMENT

☒ as noted
☐ attached conditions
☐ subject to soil report recommendations
☐ requires inspection by Soil Engineer

Attn.: Drainage Review

Re: VGR 08-0011; DRN 08-0___
Drainage and Erosion Control Plan
Green Valley Ranch Inc.
11065 Graton Road
Sebastopol CA 95472
APN 104-090-036

Steve and Joe Dutton
Dutton Ranches
P.O. Box 48
Graton CA 95444
823-0448

The subject project consists of a +-1.6 acre vineyard undergoing redevelopment. It contains existing surface and subsurface drainage facilities that were installed without permit. This report documents the existing drainage subject to permit and provides an evaluation as to adequacy of the installation to meet County design and installation criteria.

The attached design and documentation materials are believed to conform to County drainage standards. Grading subject to County ordinance is not believed required to install the proposed vineyard.

Line 1 is an historic 12" RCP that traverses an existing vineyard, discharging to an existing silted in, overgrown and breached farm pond. It is out of the work area and not under consideration in the present design. Vineyard management routed Line 1 discharge around the failed pond by tapping into it about 60' above the outlet and installing Line 2, a+-180' long 18" HDPE n=.015.

Environmental considerations by others have resulted in the requirement to re-establish the Line 1 discharge to the failed pond. Line 2 will therefore be disconnected from Line 1 and shortened, beginning at Drop Inlet #1. It will be retained to provide incidental drainage at the west end of the new vineyard block, and is therefore subject to design review. The tributary area of the revised Line 2 configuration is limited to about 10,000 square feet in the immediate vicinity of the pipe. The line is therefore vastly oversized. The 100-year design flow results in a water depth of less than 3" in the 18" line.

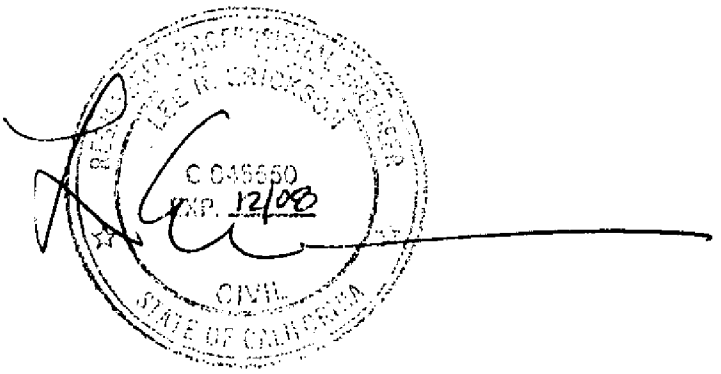
A separate "culvert" identified in VGR 08-0011 is the outfall of a subsurface drainage system within the existing vineyard. An Infiltrator-type subdrain was installed some years ago, with the last 40' or so configured as a solid 10" HDPE n=.015 line. The discharge point is at the roadside ditch, close to that of Line 1 and at the property limit. Observed groundwater flows vary seasonally and are modest at best. Groundwater management systems are not believed subject to PRMD review, as no agency design are available, and so no design documentation is provided.

The existing roadside ditch was observed May 21, 2008 to be stable and well vegetated, with side slopes of about 2:1 and a low-slope invert without evidence of erosion after the winter season. By observation, it is more than adequate to handle the minor runoff from the tributary culverts evaluated, as well as that from other upland areas. In any case, it is off the property within the right-of-way and with spring flows present, may be considered to have wetland or habitat value and therefore cannot be graded or manipulated. We have therefore not evaluated the roadside ditch from a hydrologic or hydraulic standpoint.

For erosion control, the plans and specifications require construction during the dry season. Temporary fiber roll check dams, seeding and mulching, and other appropriate erosion control measures for the work are shown on the plans, and will be used to prevent soil mobilization and sediment transport to downslope areas. Permanent erosion control measures include permanent cover crops within the developed hillside areas.

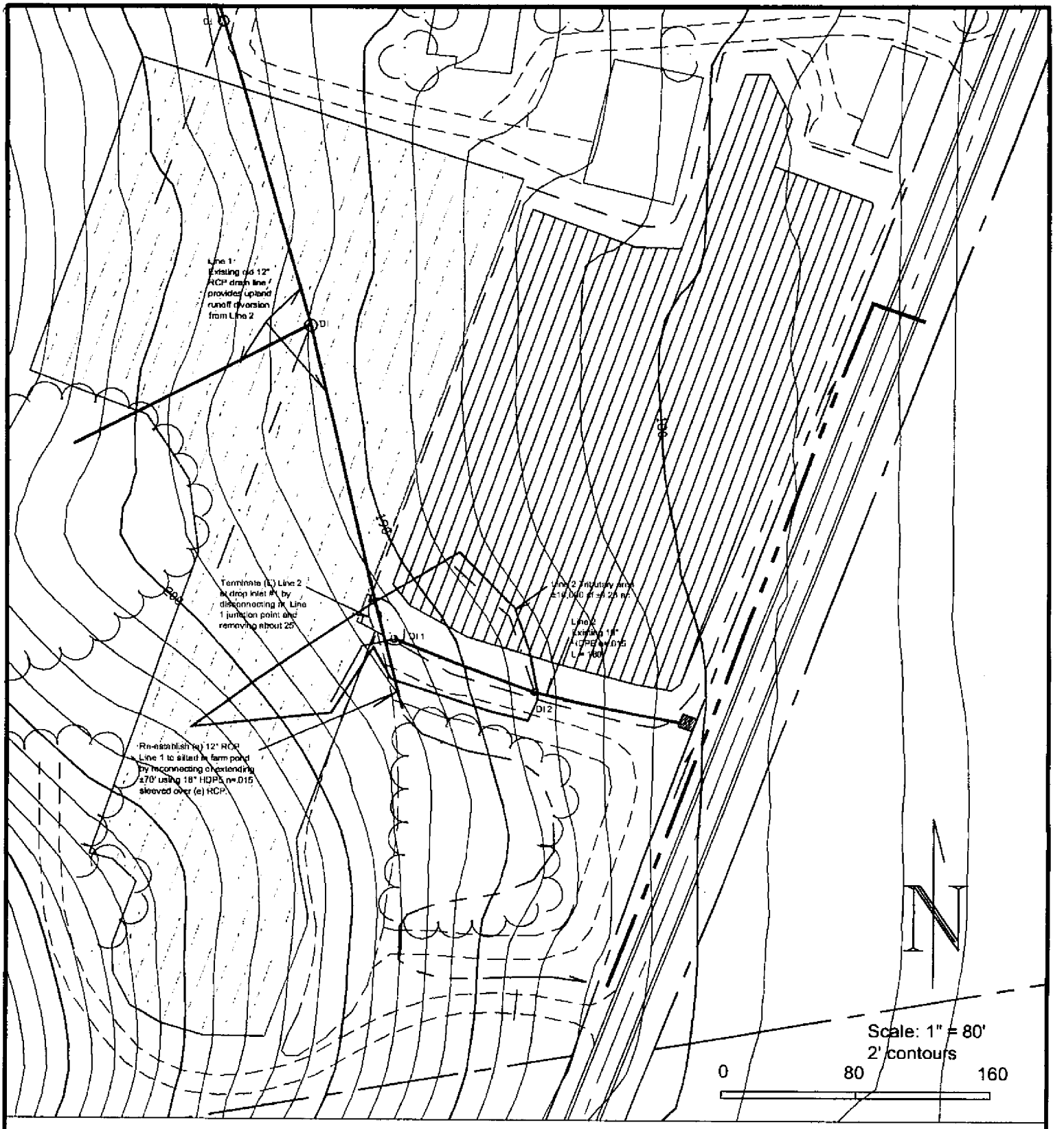
We trust that the narrative above and the enclosed design and construction materials provide satisfactory documentation of the work. Please call if you have comments or questions, or if additional materials are required.

Very truly yours,



Lee Erickson, PhD CE45660 AE468
Civil and Agricultural Engineer

Enclosures



Lands of: APN 104-090-036

Green Valley Ranch Inc.

11065 Graton Road, Sebastopol CA 95472

Tributary areas

Erickson Engineering Inc.
Valley Ford CA 94972-0446
707/795-2498 Voice/Fax

05.24.2008

Drawing:
80523 Rued
1" = 80'

W1

Erickson Engineering Inc, Valley Ford CA 94972-0446

Green Valley Ranch Inc
11065 Graton Road
Sebastopol CA 95472

File: xl/projects/KPA/80223 hydro/24pipe
Time: 12:27 PM
Date: 24-May-08
Updated: 24-May-08

Mannings Equation, Circular section
Provides V, Q based on Diameter for given n, slo
Iterate d/D to obtain Q

Outlet flow
for 18" line
Q100 @ 0.3 cfs from 0.23 ac

Input Parameters

18	inch pipe diameter	H2O Depth d:	1.89 inches	0.16 ft at outlet
0.11	d/D ratio ok	Sector above H2O:	3.72 ft	1.34 Froude No.
0.015	Manning's n	Circumfrence:	4.71 ft	0.28 ft crit depth
0.02	s, channel slope ft/ft	theta:	4.96	
50.000	1/s, chl slope, ft/100 ft	Water area:	0.10 sq ft	
0.6	C, inlet coefficient	Wetted Perim:	0.99 ft	Inlet at
		Hydraulic Radius:	0.10 ft	water depth
		Outlet Velocity:	3.02 ft/sec ok	CA(2gd)^.5
		Outlet Flow Rate:	0.30 cfs	0.19 cfs inlet

Outfall:
Max Outfall Transition time: 0.31 sec; (2D/g)^.5
Max/Actual Transition Distances: 0.92 ft = V(t) 0.10 ft = V(t)

Reference: USDA-NRCS #468: Lined Waterway Design Standard
Figure 1: Log-linear plot to establish Manning's n for lining based on average rock size and depth c

0.50 feet d50 rock size = 0.5*Pipe D
1.89 inches depth H2O
0.16 feet depth H2O = y
n = y^(1/6)/[21.6*log10 (y/d50) +14.0] = Manning's friction
Calculated n = 0.231 for Rock Armor at pipe outfall

Figure 2: Maximum allowable depth of flow versus velocity
3.02 ft/sec from above
10.00 feet max water depth in lined waterway based on vel
OK: Outfall water depth less than maximum allowed.

Figure 2 (Summary)

V (ft/se	Depth (ft)
0	10.0
9.99	10.0
10	2.0
15	1.0
30	0.3

Mannings Equation, Trapezoidal Sections
Reference Brater and King, Chapter 7
USDA-NRCS #468 Lined Waterway

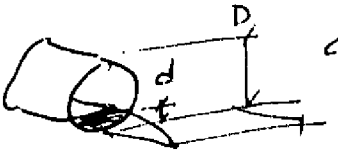
Pipe outfall @ 0.3 cfs

Input Parameters		Output Parameters	
0.500	Rock armor d50, ft	0.30 cu ft/sec	Flow capacity
2.67 in	0.22 Normal depth, ft ok	0.55 Ft/sec	Velocity ok
	0.122 M'ning's n (USDA-SCS #468 Fig 1)	0.54 Sq Ft	Area
	0.020 s, channel slope ft/ft	2.89 Ft	Topwidth
	50.00 1/s, channel slope, ft/ft	0.00 Ft	Velocity Head
	2.0 Z, side slope, ft/ft	0.23 Ft	Energy Head
	2.0 b, bottom width, ft	0.21 V/(gd)^.5	Froude Subcrit

10.00 feet max water depth in lined waterway based on velocity
Depth OK based on Velocity per USDA-SCS #468 Fig 2.

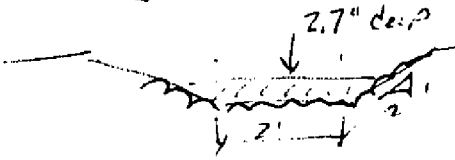
0.40 c
2.40 I in/hr
0.23 A ac = 10,000 ft²
1.33 k

0.29 Q cfs = Q_{100}



d = 1.9" d/D = .011 (1)
0.10' V = 3 fps moderate

2.7" deep V = .6 fps (2)



Erickson Engineering Inc, Valley Ford CA 94972-0446

Green Valley Ranch Inc
11065 Graton Road
Sebastopol CA 95472

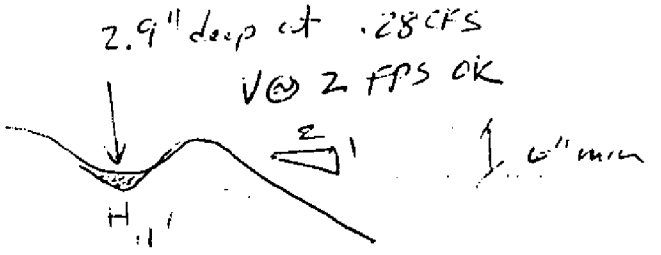
File: xl/projects/KPA/80223 hydro/vditch
Time: 12:28 PM
Date: 24-May-08
Updated: 24-May-08

Mannings Equation, Trapezoidal Sections

Reference Brater and King, Chapter 7
USDA-NRCS #468 Lined Waterway

Typ vee ditch in vyd
.25 ac max => .28 cfs

Input Parameters			Output Parameters		
			0.28	cu ft/sec	Flow capacity
2.86	0.24	Normal depth, ft	2.04	Ft/sec	Velocity
in	0.035	Manning's n	0.14	Sq Ft	Area
	0.040	s, channel slope ft/ft	1.05	Ft	Topwidth
	25.00	1/s, channel slope, ft/ft	0.06	Ft	Velocity Head
	2.0	Z, side slope, ft/ft	0.30	Ft	Energy Head
	0.1	b, bottom width, ft	0.74	V/(gd)^.5	Froude Subcrit

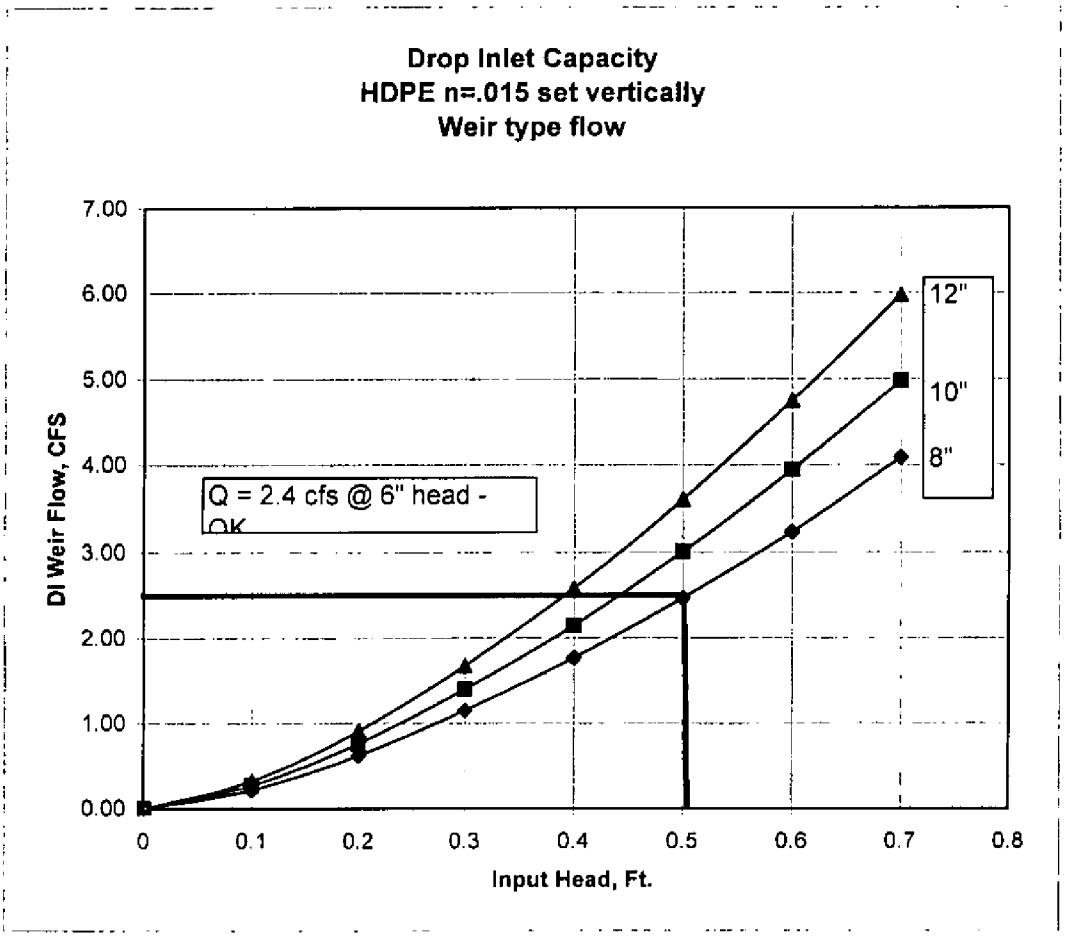


Erickson Engineering Inc, Valley Ford CA 94972-0446	
Green Valley Ranch Inc	File: xl/projects/KPA/80223 hydro/DI
11065 Graton Road	Time: 12:28 PM
Sebastopol CA 95472	Date: 24-May-08
	Updated: 24-May-08

Drop Inlet Capacity Curves
HDPE single wall n=.015 set vertically

Horizontal, sharp-crested weir. Drop Inlet - Weir flow into Vert Pipe

Input Parameters	**Output Parameters**	
3.25 C, weir coefficient	Pipe OD	8 inches
0.50 h, maximum head	Pipe circumfrence, l:	2.09 feet
6.0 inches head	Q = Clh^(3/2):	2.41 cfs
8 inch pipe i.d.	Eqivalent square:	0.52 feet
0.1 inch wall thickness	for commercial DI	6.3 inches



6" head 2.4 CFS >> 0.3 CFS
OK