WASTEWATER FEASIBILITY STUDY

The Wright Corner

OWNER: The Wright Corner, Inc.

4370, 4372 & 4374 Old Sonoma Highway

APN: 047-110-017

PREPARED BY

NorCal Civil Engineering, Inc.

PO Box 12155
SANTA ROSA, CALIFORNIA 95406
(707) 318-7099

NOR CAL
CIVIL ENGINEERING, INC.

February 2, 2023
Revised: February 26, 2024
Job No. 22039

NOR CAL
CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM
707-581-6223
PO BOX 12155
SANTA ROSA, CA 95406

Attachments

Exhibit 1: Wastewater Feasibility Site Plan
Exhibit 2: E15-00356 Site Evaluation Report
Exhibit 3: E12-00283 Site Evaluation Report
Exhibit 4: Napa County ASTS Guidelines: Table 10 – Minimum Surface Area Guidelines to Dispose of 10 GPD of Secondary Treated Effluent for Subsurface Drip Dispersal Systems
Exhibit 5: GeoFlow Design Manual: Table 1 – Drip Loading Rates Considering Soil Structure
Exhibit 6: Normal Operational Day Flow Estimates
Exhibit 7: Event Day Flow Estimates

Items Referenced

Napa County ASTS Guidelines: Table 4 – Commercial Sewage Generation Rates

NORCAL CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM 707-581-6223
PO BOX 12155 SANTA ROSA, CA 95406

PROJECT AND SITE DESCRIPTION

The parcel located at 4370 Old Sonoma Highway, Napa, Ca (APN 047-110-017) is a previously developed property with an existing residence and two other existing buildings which have Use Permit approval for use as a furniture store, art studio, and transportation company headquarters. There is also an existing well, ETI Bed septic system, 12,500 gallon water tank, and draft hydrant. The parcel is generally sloped to the south and west toward Old Sonoma Highway.

A new code - compliant septic system will be required for compliance with the proposed use permit. This proposal provides the design for a pre-treated subsurface drip irrigation septic system serving all of the proposed uses onsite.

EXISTING APPROVED USE PERMITS

The site was originally approved for a use permit on May 6, 1983 (#U-348283). This use permit allowed the use of an existing structure to be used as an antique furniture salesroom and workroom and for owner occupancy of the onsite residence. A supplemental Use Permit was approved on July 23, 2015 (P14-00022) which allowed for conversion of the furniture warehouse and shop into the following:

1. Art Gallery (display and sales of art)
2. Transportation Company including Bike Rentals, Guided Tours, and Luxury Tour Car Staging.
3. Retail sales of bike gear, pre-packaged food and convenience items

The existing antique furniture store and three (3) bedroom residence remain on the site per the prior use permit. A single employee is required for the Furniture store and art gallery. The 2015 use permit also allows for up to 3 events annually with a maximum of 50 guests. The Use permit allows for events to be auctions, art fairs, or similar temporary events between the hours of 9 am and 6 pm. The transportation company is based out of the site.

PROPOSED SITE USES

It is proposed to make various improvements to the parcel and revise site uses to the following:

- Modify use of the existing 3-bedroom residence and construct 5 additional stand-alone bedroom units for use as an Inn.
- Alter one existing building to convert it to a tavern with indoor and outdoor seating. Bottles and glasses of beer and wine would be for sale for consumption onsite. The *Tavern* would also offer limited food service including cook and serve foods requiring limited preparation including on an outdoor pizza oven and barbeque grill.

NORCAL CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM 707-581-6223
PO BOX 12155 SANTA ROSA, CA 95406

- Provide for a mobile *Mobile Concession Trailer* onsite with espresso drinks and foods prepared offsite such as baked goods and/or prepackaged foods requiring only reheating.
- Increase the amount of retail items available at the art gallery in addition to alcohol sales. This use shall be referred to as the *Mercantile*.
- Allow for use of the site for *Accessory Events,* including birthdays, business gatherings, and weddings. The maximum number of event attendees shall be 80 and 5 employees shall cater each event. During events, the *Tavern* shall be closed to outside guests, but may be used for preparation of similar food items for service to event attendees. The *Mobile Concession Trailer* will be open the morning of the event but closed prior to event operations, and the *Mercantile* will be closed to outside visitors.
- A stand alone bathroom building is proposed to support the additional site uses.

Site Evaluation

A site evaluation was performed by RAM Engineering on June 7, 2012 (E12-00283). A total of five (5) test pits were excavated and logged for use. Test Pits TA and B are located south of the existing ETI Bed septic system. These profiles displayed a strong, angular blocky loam to depths of at least 32 inches. Test Pits D and E displayed similar soil to depth of at least 40 inches. Test Pit C only displayed similar soil to a depth of 19 inches and therefore a setback one-half the distance between test pit C and other suitable onsite profiles. Using Table 10, Subsurface Drip Irrigation Sizing of the Napa County ASTS Guidelines, an application rate of 0.7 gpd/sf should be used for sizing. Table 1, Drip Loading Rates Considering Soil Structure, from the GeoFlow Design Manual, Version VIII, September 2007 indicates a loading rate of 0.8 gpd/sf for moderate to strong loam soil. Copies of both tables area attached.

A second site evaluation was performed by Essential Engineering on May 20, 2015 (E15-00356). A total of three (3) test pits were excavated and logged at this time. Profile P1 was excavated in the existing ETI bed and showed 16 inches of loam over pea gravel. Profile P2 was excavated at the southern edge of the existing ETI Bed (north of test pits A and B) and displayed a moderate angular blocky loam to a depth of 36 inches. Profile P3 excavated north of the existing residence, displayed a massive clay at shallow depths and shall be avoided. A setback, one-half the distance between good profiles and P3 shall be applied. Profile P2 shall be assigned the same loading rate as Test Pits A, B, D, & E.

Based on the site evaluation results, it is proposed to design and install a subsurface drip irrigation septic system with drip irrigation tubing installed at 10 inches deep and a loading rate of 0.7 gpd/sf. As noted in the E12-00283 Site Evaluation Report, ½ the distance between TPC and all other test pits shall be maintained. TPC appears to be in an area which may have been impacted by previous grading for the house pad and existing gravel road, which may have reduced the overall soil depth.

NOR CAL
CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM
707-581-6223
PO BOX 12155
SANTA ROSA, CA 95406

Design Flows

The proposed septic system will accommodate flows from the proposed uses noted above. Low-flow plumbing fixtures will be installed in all structures per code requirements. Low-flow estimates are generated as follows:

Proposed Inn
For flow estimation, the proposed use is viewed as a Hotel/Motel with a private bathroom, but no kitchen available to guests, as presented in Table 4 of the Napa County ASTS Guidelines.

8 bedrooms x 60 gpd/2-person room	=	480 gpd

The Inn will also have 1 employee for guest services such as check-in. This employee is estimated to generate the following flows:

1 employee	x	15 gpd/employee	=	15 gpd

In addition to proposed flow from guests at the Inn, the kitchen at the Inn may be used to prepare a single meal to guests of the Inn. The maximum proposed occupancy for the Inn is 16 guests. The flow associated with this is estimated as follows:

Proposed Inn

16 guests x 10 gal/guest	=	160 gpd
16 meals x 5 gal/meal	=	80 gpd
Total	=	240 gpd

The total sewage flow estimated from the Inn is **735 gpd**.

Proposed Tavern

4 Full-time employees x 15 gpd/employee	=	60 gpd
90 visitors x 3 gpd/visitor (kitchen waste)	=	270 gpd
90 visitors x 8 gpd/visitor	=	720 gpd
Tavern Total	**=**	**1,050 gpd**

The project proposal notes the preparation of cook and serve food service such BBQ and an outdoor pizza oven. The use of short order food service waste generation appears appropriate for this use.

NORCAL CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM 707-581-6223
PO BOX 12155 SANTA ROSA, CA 95406

Existing Art Gallery (Proposed Mercantile Shop)

The existing *Art Gallery,* now referred to as the *Mercantile* shop, will have one retail employee onsite on any given day. Due to State requirements for the proposed alcohol license, an additional employee is required at the mercantile shop for alcohol sales. A restroom inside the shop will be available for customers to use.

2 employees	x	20 gpd/employee	=	40 gpd
1,547 sf	x	1 gpd/10 sf	=	155 gpd
Mercantile Shop Total			**=**	**195 gpd**

Proposed Mobile Concession Trailer

The proposed *Mobile Concession Trailer* will have a single employee. The mobile concession trailer employee will have a key to access the onsite restroom. The mobile concession trailer will operate during the hours of 5:30 am to 10:30 am and is estimated to have approximately 24 customers per day. The onsite restrooms will not be unlocked during this time. The mobile concession trailer shall have a single waste tank of 23 gallons. It is assumed that this tank will be emptied onsite into the septic system once per day and includes all wastewater generation associated with this proposed use.

1 employee	x	15 gpd/employee	=	15 gpd
1 waste tank/day	x	23 gal/waste tank	=	23 gpd
Mobile Concession Trailer Total			**=**	**38 gpd**

Event

The site is currently allowed under the existing use permit (P14-00022) to host up to 3 events with a maximum of 50 people each year (Small Event). This condition allows for options such as auctions, art fairs, or similar temporary events. These events may occur the same day the tavern is open, however no food will be served. This flow is estimated as follows:

50 visitors	x	3 gpd/visitor	=	150 gpd
Total per Event			=	150 gpd

It is also proposed to host up to 4 events per month with up to 80 outside attendees (Large Event). Of the 80 people onsite for an event, 16 of them will be staying in the Inn and therefore are accounted for in Inn flows as well. To be conservative, the event flow will include all 80 event attendees in this calculation. It is estimated that 5 catering employees will be required for these events. As noted above, food service for these events shall be provided by the Tavern or

NORCAL CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM 707-581-6223
PO BOX 12155 SANTA ROSA, CA 95406

from offsite caterers. Therefore, kitchen waste and waste generated per attendee is similar to that of the Tavern and estimated below.

5 event employees x 15 gpd/employee	=	75 gpd
80 visitors x 3 gpd/visitor (kitchen waste)	=	240 gpd
80 visitors x 8 gpd/visitor	=	640 gpd
Total per event	**=**	**955 gpd**

Total Design Flow

The total design flow for the proposed septic system shall be the sum of all proposed onsite uses occurring at the same time. As noted previously the Tavern and Mercantile will not be in operation during days of the larger events. The Mobile Concession Trailer will be open the morning of the event but closed prior to the event. Therefore, the peak day estimate is broken into two scenarios: Normal Operating Days, and Event Days.

Mercantile + Inn + Tavern + Mobile Concession Trailer + Small Event =

Total Use = 195 gpd + 735 gpd + 1,050 gpd + 38 gpd + 150 gpd = 2,168 gpd

Inn + Large Event + Mobile Concession Trailer =

Total Use = 735 gpd + 955 gpd+ 38 gpd = 1,728 gpd

Therefore, the peak estimated sewage flow is associated with normal operational days onsite.
++++++++++++++++--Estimated Site Sewage Design Flow = 2,168 gpd

Pretreatment System Sizing

The septic system to serve the site is proposed to be a subsurface drip system which incorporates a pretreatment system. The pretreatment system proposed will consist of one AdvanTex AX100 commercial textile filter and associated septic tank and recirculation tank, pumping system, and controls.

Orenco Systems, Inc. (OSI), manufacturer of the AdvanTex system recommends 3 days be provided for the primary septic and 0.8 days for the recirculation tank. The volume of the septic tank has been provided as two (2) 4,000 gallons septic tanks or approximately 3.69 days retention of peak flows for solids removal in the septic tank. A recirculation tank of 2,500 gallons provides a retention of approximately 1.15 day at peak flows. OSI specifies that a single AX100 textile filter is sufficient for a 2,500 gallon per day average application with peak flows of up to 5,000 gpd.

NORCAL CIVIL ENGINEERING, INC.
WWW.NORCALCIVIL.COM 707-581-6223
PO BOX 12155 SANTA ROSA, CA 95406

Subsurface Drip System Sizing

On the Wastewater Feasibility Site Plan, the proposed subsurface drip irrigation dispersal area is broken into 2 areas due to existing and proposed site setbacks. These areas are the following sizes:

Drip Area 1:	5,396 SF
Drip Area 2:	3,945 SF
Total Drip Area:	9,341 SF

The size of drip field required is estimated as follows:

Primary Drip Area

2,168 gpd ÷ 0.7 gpd/sf = 3,097 sf (100%)

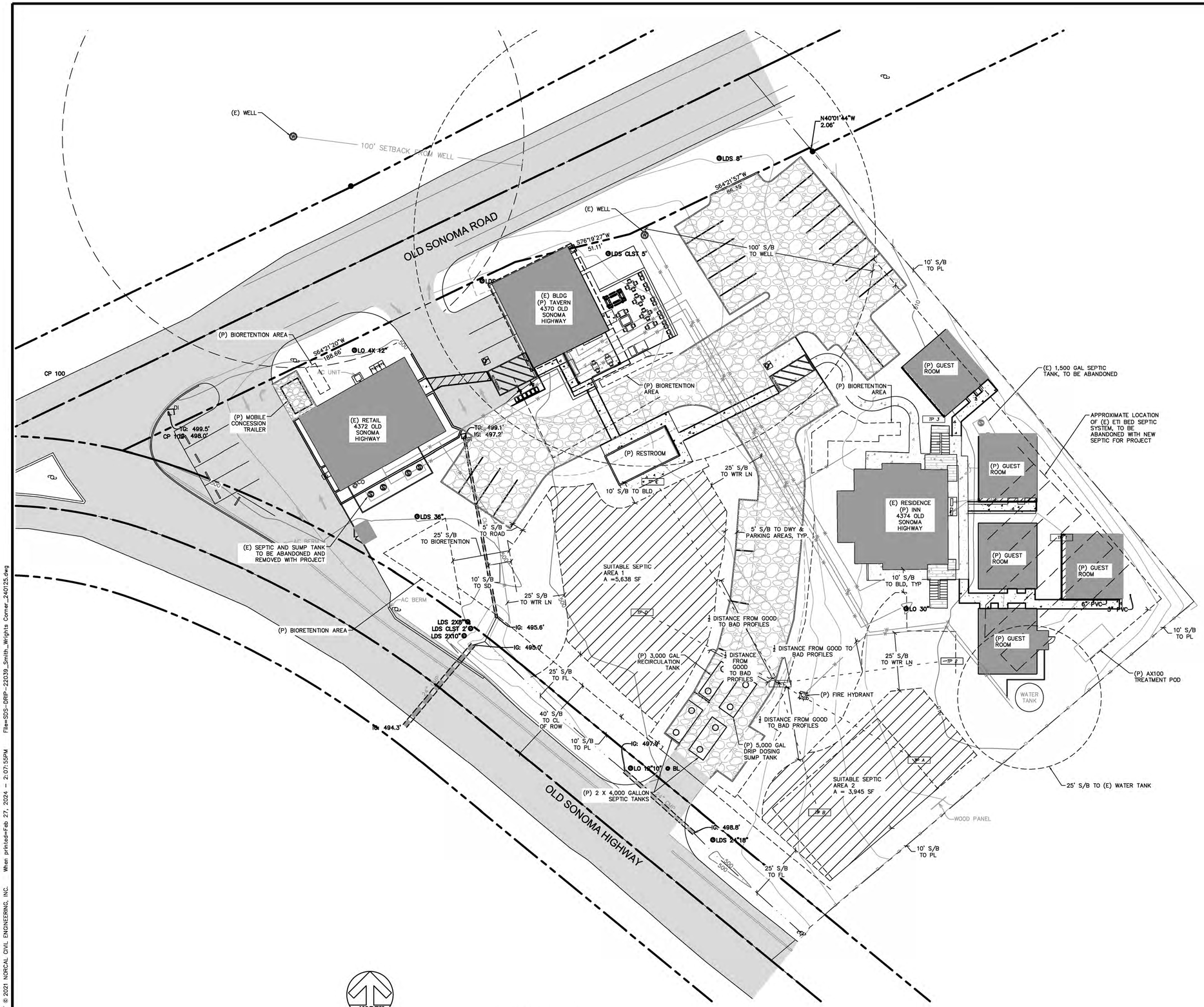
Reserve Drip Area
A reserve and expansion area equal to 200% of the primary area is required. The required area is estimated as follows:

3,097 SF x 200% = 6,194 SF (200%)

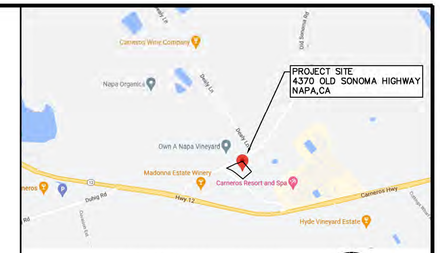
Therefore, the total required area is 9,291 SF. A total area of **9,341 SF** has been identified on the attached Site Plan. This area can accommodate 302% of the proposed capacity. Therefore, there is more than sufficient area to develop the required septic dispersal field.

Pump Sump Sizing

A sump tank of 5000 gallons will be provided, which is approximately 2.3 times the daily design flow. This will allow for storage of the Highwater Alarm and flow equalization. Additional sump tanks are anticipated due to site layout. A suitable location will be identified with future detailed design.



PLAN VIEW
SCALE: 1" = 20'



VICINITY MAP
NO SCALE

NORTH

LEGEND

	APPROXIMATE PROPERTY LINE
	ROAD CENTERLINE
	EDGE OF ROAD/DRIVEWAY
W	EXISTING WATERLINE
	FLOWLINE
20 / 15	5 FOOT INDEX 1' INTERVAL CONTOURS
CP 1	CONTROL POINT
FD	FOUND MONUMENT
W	WELL
(E)/(P)	EXISTING/PROPOSED
S/B	SET BACK
COTG	CLEAN OUT TO GRADE
PERC HOLE # DEPTH/RATE	PERCOLATION TEST HOLE
12"	OAK TREE, SIZE AS NOTED
12"	REDWOOD TREE, SIZE AS NOTED
12"	TREE, SIZE AS NOTED
12"	PINE TREE, SIZE AS NOTED
TP1	SOILS PROFILE PIT

SHEET INDEX

REGISTERED PROFESSIONAL ENGINEER BENJAMIN W. NORCAL No. 70012 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	BY	DATE
	USE PERMIT RESPONSE #1	SFG	02/26/24

NORCAL
CIVIL ENGINEERING, INC.
PO BOX 12155
SANTA ROSA CA 95406
BEN@NORCALCIVIL.COM
PHONE:707-318-7099

Prepared for: WRIGHT'S CORNER, INC.
4370 OLD SONOMA HIGHWAY, NAPA, CA 94558
thewrightcorner@sbcglobal.net

Prepared on: DECEMBER 27, 2022

WASTEWATER FEASIBILITY STUDY
OVERALL SITE PLAN
4370 OLD SONOMA HWY, NAPA, CA
APN: 047-110-017

JOB#22039

SHEET
SDS1
OF
SDS1

When printed=Feb 27, 2024 – 2:07:55PM File=SDS-DRIP-22039_Smith_Wrights Corner_240125.dwg

Napa County Division of Environmental Health

SITE EVALUATION REPORT

Please attach an 8.5" x 11" plot map showing the locations of all test pits triangulated from permanent landmarks or known property corners. The map must be drawn to scale and include a North arrow, surrounding geographic and topographic features, direction and % slope, distance to drainages, water bodies, potential areas for flooding, unstable landforms, existing or proposed roads, structures, utilities, domestic water supplies, wells, ponds, existing wastewater treatment systems and facilities.

Permit #: E15-00356

APN: 047-110-017-000

(County Use Only)
Reviewed by: Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner The Wright Corner Inc.	☐ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☒ Other: Replacement of existing septic system or new construction
Property Owner Mailing Address 4370 Old Sonoma Highway	☐ Residential - # of Bedrooms: Design Flow : gpd
City: Napa State: CA Zip: 94558	☒ Commercial – Type: TBD Sanitary Waste: TBD gpd Process Waste: gpd
Site Address/Location 4370 Old Sonoma Highway Napa, CA 94558	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Essential Engineering Services	Evaluator's Name Richard Ross, P.E.	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist)
Mailing Address: 707 Aviation Blvd		Telephone Number (707) 477-2590
City: Santa Rosa State: CA Zip: 95403		Date Evaluation Conducted May 20, 2015

Primary Area	**Expansion Area**
Acceptable Soil Depth: 36 in. Test pit #'s: P2	Acceptable Soil Depth: 36 in. Test pit #'s: P2
Soil Application Rate (gal. /sq. ft. /day): 0.8	Soil Application Rate (gal. /sq. ft. /day): 0.8
System Type(s) Recommended: Subsurface Drip	System Type(s) Recommended: Subsurface Drip
Slope: 8 %. Distance to nearest water source: 500 ft.	Slope: 8 %. Distance to nearest water source: 500 ft.
Hydrometer test performed? No ☒ Yes ☐ (attach results)	Hydrometer test performed? No ☒ Yes ☐ (attach results)
Bulk Density test performed? No ☒ Yes ☐ (attach results)	Bulk Density test performed? No ☒ Yes ☐ (attach results)
Percolation test performed? No ☒ Yes ☐ (attach results)	Percolation test performed? No ☒ Yes ☐ (attach results)
Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)	Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Site constraints/Recommendations:

A subsurface drip disposal system with pretreatment is recommended for the site. See the previous site evaluation results performed by RAM Engineering in June 2012 for design of a future system. Design of a new septic system shall be outside of the limits of the existing ETI bed limits per direction from Peter Ex during the site evaluation. Maintain a setback from test pit 3 per County standards as a failed pit.

Test Pit # 1

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-16	C	5	L	M-AB	SH	FR	NS	M-M	F-F	-
-30	A	90+	PEA GRAVEL	-	-	-	-	-	-	-
-60	D	15-20	DECOMPOSING ROCK	-	-	-	-	-	-	-

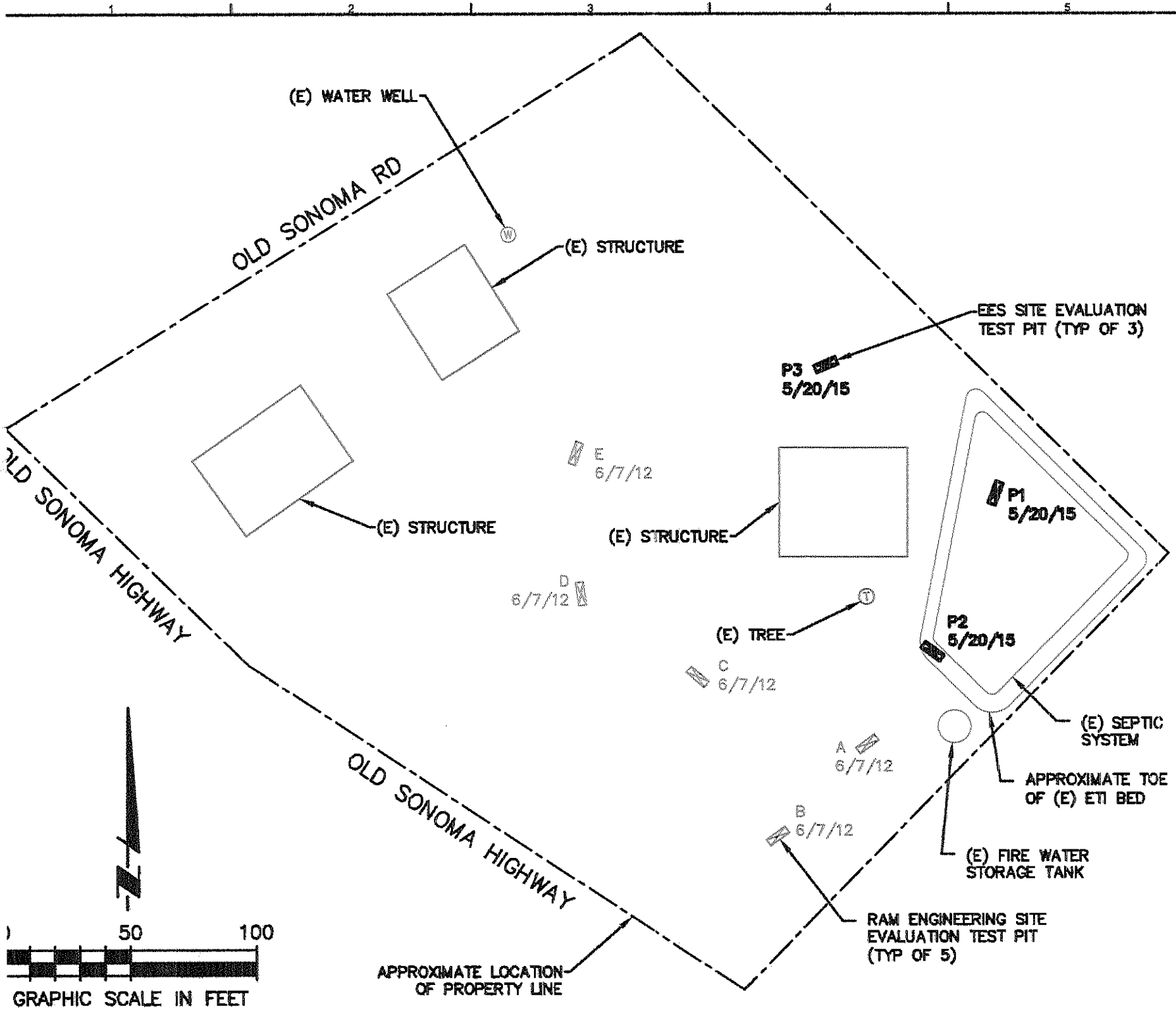
Test Pit # 2

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-36	D	5-10	L	M-AB	SH	FR	SS	M-M	M-F	-
-51	C	5	SCL	S-AB	H	F	VS	M-F	F-F	-
-66	D	10	SCL	S-AB	H	F	SS	M-F	F-F	-

Test Pit # 3

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-48		-	C	MASSIVE	ExH	ExF	VP	-	-	-

Attach additional sheets as needed



Essential Engineering Services
707 AVIATION BLVD, SANTA ROSA, CA 95403
707 477-2580 RICHARD@ESSENG.NET

REV	DATE	DESCRIPTION
0	8/25/2015	SUBMITTAL TO COUNTY

PLOT DATE: August 25, 2015 11:39 AM
EES PROJECT #: 2015007
PLOT SCALE: AS SHOWN
FILE NAME:SITE EVAL MAP.DWG

WRIGHT CORNER

SEPTIC SITE EVALUATION MAP

THE WRIGHT CORNER INC.
4370 OLD SONOMA HIGHWAY
NAPA, CA 94559
APN 047-110-017

C1.0

Napa County Department of Environmental Management

SITE EVALUATION REPORT

Please attach an 8.5" x 11" plot map showing the locations of all test pits triangulated from permanent landmarks or known property corners. The map must be drawn to scale and include a North arrow, surrounding geographic and topographic features, direction and % slope, distance to drainages, water bodies, potential areas for flooding, unstable landforms, existing or proposed roads, structures, utilities, domestic water supplies, wells, ponds, existing wastewater treatment systems and facilities.

Permit #: **E12-00283**

APN: **047-110-017**

(County Use Only)
Reviewed by: Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner **Paul Reyff – Pacific Coast Steamship Line**	☐ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☒ Other:
Property Owner Mailing Address **210 Atherton Ave.**	☐ Residential - # of Bedrooms: Design Flow : gpd
City **Atherton** State **CA** Zip **94027**	☒ Commercial – Type: **TBD**
Site Address/Location **4370 Old Sonoma Highway** **Napa, CA**	Sanitary Waste: **TBD** gpd Process Waste: gpd ☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name **RAM Engineering**	Evaluator's Name **Tamara Martin, REHS**	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist)
Mailing Address: **130 South Main Street, Suite 201**		Telephone Number **707-824-0266**
City **Sebastopol,** State **CA** Zip **95472**		Date Evaluation Conducted **6-7-12**

Primary Area	**Expansion Area**
Acceptable Soil Depth: **31** in. Test pit #'s: **A & B**	Acceptable Soil Depth: **24** in. Test pit #'s: **C**
Soil Application Rate (gal. /sq. ft. /day): **0.9 g/sf/d**	Soil Application Rate (gal. /sq. ft. /day): **0.6 g/sf/d**
System Type(s) Recommended: **subsurface drip**	System Type(s) Recommended: **subsurface drip**
Slope: **1-2** %. Distance to nearest water source: **>100** ft.	Slope: **1-2** %. Distance to nearest water source: **>100** ft.
Hydrometer test performed? No ☒ Yes ☐ (attach results)	Hydrometer test performed? No ☒ Yes ☐ (attach results)
Bulk Density test performed? No ☒ Yes ☐ (attach results)	Bulk Density test performed? No ☒ Yes ☐ (attach results)
Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)	Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Site constraints/Recommendations:

Due to site constraints and depth of soil, recommend a subsurface drip dispersal system. Maintain a setback from profile pit C equal to ½ the distance between profiles C and D. Maintain proper setback from abandoned well and onsite drainage.

Test Pit # **A**

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-34	C	<5	L	S-AB	SH	Fr	NS	M-M	F-F	/
↓			C	M						

Test Pit # **B**

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-11	C	<5	L	S-AB	S	Fr	NS	M-C	M-C	/
-32	C	<5	L	S-AB	SH	Fr	NS	C-M	C-M	/
↓			C	M						

Test Pit # **C**

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-19	SIMILAR	TO	2nd	HORIZON	B	→	→	→	→	→
↓			C	M						

Test Pit # **D**

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-16	SIMILAR	TO	1ST	HORIZON	B	→	→	→	→	→
0-40	SIMILAR	TO	2nd	HORIZON	B	→	→	→	→	→
↓			C	M						

Test Pit # **E**

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-17	SIMILAR	TO	1ST	HORIZON	B	→	→	→	→	→
0-41	SIMILAR	TO	2nd	HORIZON	B	→	→	→	→	→
↓			C	M						

APN 47-110-17

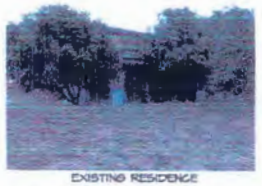
BASED ON PLAN PREPARED BY:
MAHORNEY, ALFONSO & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS
ST HELENA, CA
DECEMBER 1982

EXISTING SITE PLAN

SCALE: 1"=20'-0"

OLD SONOMA ROAD

OLD SONOMA HIGHWAY



EXISTING RESIDENCE

EXISTING SHACKS

E12-00283
SITE EVALUATION
6-7-12

Craiker Associates
Architects & Planners
AIA Inc
3154 Browns Valley Road
Napa, CA 94558
707.224.4884
FAX 707.257.3762

CARNEROS COURTS

PARCEL #
047110017000

RAM ENGINEERING

EXISTING SITE PLAN

Revisions

DATE	DESCRIPTION

Date:

Sheet:

1 of 1

TABLE 10

MINIMUM SURFACE AREA GUIDELINES TO DISPOSE OF 100 GPD OF SECONDARY TREATED EFFLUENT FOR SUBSURFACE DRIP DISPERSAL SYSTEMS

Soil Class	Soil Type	Soil Absorption Rates		Design Hydraulic Loading Rate gal. /sq. ft. per day	Total Area Required Sq. ft. /100 gallons per day	SF/BD (120 GPD)
		Est. Soil Perc. Rate minutes/in.	Hydraulic Conductivity inches/hr.			
I	Coarse sand	1-5	>2	1.400	71.5	86 sf
I	Fine sand	5 – 10	1.5 - 2	1.200	83.3	100 sf
II	Sandy loam	10 – 20	1.0 - 1.5	1.000	100.0	120 sf
II	loam	20 – 30	0.75 - 1.0	0.700	143.0	172 sf
III	Clay loam	30 – 45	0.5 - 0.75	0.600	167.0	200 sf
III	Silt - clay loam	45 – 60	0.3 - 0.5	0.400	250.0	300 sf
IV	Clay non-swell	60 – 90	0.2 - 0.3	0.200	500.0	600 sf
IV	Clay - swell	90 – 120	0.1 - 0.2	0.100	1000.0	1200 sf

1. *For design purpose, the "Soil Type" category to be used in the above table shall be based on the most restrictive soil type encountered within two feet below the bottom of the dripline*
2. *Dispersal field area calculation:*
   Total square feet area of dispersal field = Design flow divided by loading rate

TABLE 11

	Sand Specifications for Intermittent Sand Filters	**Sand Specifications for Recirculating Sand Filters**
Sieve Size	**Percent Passing**	
#3/8	100	100
#4	95-100	70-100
#8	80-100	5-78
#16	45-85	0-4
#30	15-60	0-2
#50	3-10	0-1
#100	0-2	0-1
#200	0-1	0-1

Intermittent Sand Filters:
Effective size and uniformity:
D_{10} > 0.3-0.5 mm
Cu = 1-4

Recirculating Sand Filters:
Effective size and uniformity
D_{10} > 1.5-2.5 mm
Cu = 1-3

TABLE 1

DRIP LOADING RATES CONSIDERING SOIL STRUCTURE.

Table 1 is taken from the State of Wisconsin code and was prepared by Jerry Tyler.
Provided for guidelines and budgeting purposes. Refer to your local regulations and qualified soil scientists to determine best loading rates.

Soil Textures	**Soil Structure**	Maximum Monthly Average **BOD_5<30mg/L TSS<30mg/L** (gallons/ft^2/day)	Maximum Monthly Average **BOD_5>30mg/L TSS>30mg/L** (gallons/ft^2/day)
Course sand or coarser	N/A	1.6	0.4
Loamy coarse sand	N/A	1.4	0.3
Sand	N/A	1.2	0.3
Loamy sand	Weak to strong	1.2	0.3
Loamy sand	Massive	0.7	0.2
Fine sand	Moderate to strong	0.9	0.3
Fine sand	Massive or weak	0.6	0.2
Loamy fine sand	Moderate to strong	0.9	0.3
Loamy fine sand	Massive or weak	0.6	0.2
Very fine sand	N/A	0.6	0.2
Loamy very fine sand	N/A	0.6	0.2
Sandy loam	Moderate to strong	0.9	0.2
Sandy loam	Weak, weak platy	0.6	0.2
Sandy loam	Massive	0.5	0.1
Loam	Moderate to strong	0.8	0.2
Loam	Weak, weak platy	0.6	0.2
Loam	Massive	0.5	0.1
Silt loam	Moderate to strong	0.8	0.2
Silt loam	Weak, weak platy	0.3	0.1
Silt loam	Massive	0.2	0.0
Sandy clay loam	Moderate to strong	0.6	0.2
Sandy clay loam	Weak, weak platy	0.3	0.1
Sandy clay loam	Massive	0.0	0.0
Clay loam	Moderate to strong	0.6	0.2
Clay loam	Weak, weak platy	0.3	0.1
Clay loam	Massive	0.0	0.0
Silty clay loam	Moderate to strong	0.6	0.2
Silty clay loam	Weak, weak platy	0.3	0.1
Silty clay loam	Massive	0.0	0.0
Sandy clay	Moderate to strong	0.3	0.1
Sandy clay	Massive to weak	0.0	0.0
Clay	Moderate to strong	0.3	0.1
Clay	Massive to weak	0.0	0.0
Silty clay	Moderate to strong	0.3	0.1
Silty clay	Massive to weak	0.0	0.0

The Wright Corner, Inc.
APN 047-110-017
2/26/24

NOR CAL CIVIL ENGINEERING, INC.

PROPOSED NORMAL DAILY OPERATIONS & SMALL EVENT
- Tavern Operational
- Mercantile Open
- Transportation Company in use
-Mobile Concession Trailer operational
- Inn open
-Small event permitted under P14-00022

Residential/ Inn Flows[1]

8 rooms	x	60 gpd/2-person room	=	480 gpd	
Private Meal at Inn					
16 guests	x	10 gal/guest	=	160 gpd	
16 meals	x	5 gal/meal	=	80 gpd	
Total Inn Flows				**720 gpd**	

Employee Flows

Tavern Tasting Bar					
4 FT Employees	x	15 gpd/FT employee	=	60 gpd	
Mercantile & Art Gallery					
2 FT Employees	x	20 gpd/FT employee	=	40 gpd	
Inn [1]					
1 FT Employees	x	15 gpd/FT employee	=	15 gpd	
Mobile Concession Trailer [5,6]					
1 FT Employees	x	15 gpd/FT employee	=	15 gpd	
Employee Total				**130 gpd**	

Visitation Flows

Tavern Tasting Bar					
Kitchen Waste (Disposable Utensils)					
90 meals	x	3 gpd/meal	=	270 gpd	
Visitor Waste (BBQ and Pizza Oven)					
90 visitors	x	8 gpd/visitor	=	720 gpd	
Mercantile & Art Gallery					
Customer Restroom Use					
1547 sf	x	0.1 gpd/sf	=	155 gpd	
Mobile Concession Trailer [5,6]					
1 waste tank/day	x	23 gal/waste tank	=	23 gpd	
Small Event [7]					
Visitor Waste (Art Gallery)					
50 visitors	x	3 gpd/visitor	=	150 gpd	
Visitation Total				**1318 gpd**	

TOTAL PROPOSED DAILY SITE FLOW **2168 GPD**

1. On event days, the Inn rooms are only available for rental by guests associated with an event.
2. The Tavern will be closed during large event days and only available to event guests. Therefore, large event site use is not included in the normal daily operation wastewater flow calculation.
3. Not used
4. Not Used
5. Mobile Concession Trailer is only open until 10:30am daily and is assumed to fill one greywater tank each day.
6. The Mobile Concession Trailer greywater tank shall discharge into the septic system once per day.
7. No food service shall be served and no event staff shall be employed during the small event.

The Wright Corner, Inc.
APN 047-110-017
2/26/24

PROPOSED EVENT OPERATIONS
-Large Event Onsite
- Inn in Use for Event Guests
- Tavern Closed to Non-Event Visitors
-Mobile Concession Trailer In Service Morning of Event Only
- Mercantile Closed to Non-Event Visitors

Inn Flows[1]

8	rooms	x	60	gpd/2-person room	=	**480 gpd**

Employee Flows

Inn [1]

1	FT Employees	x	15	gpd/FT employee	=	15 gpd

Event Staff

5	FT Employees	x	15	gpd/FT employee	=	75 gpd

Mobile Concession Trailer [3]

1	FT Employees	x	15	gpd/FT employee	=	15 gpd

Employee Total **105 gpd**

Visitation Flows

Mercantile & Art Gallery

Customer Restroom Use

1547	sf	x	0.1	gpd/sf	=	0 gpd

Mobile Concession Trailer [3]

1	waste tank/day	x	23	gal/waste tank	=	23 gpd

Events (assuming Food Preparation at Tavern) [2]

Kitchen Waste (Disposable Utensils)

80	meals	x	3	gpd/meal	=	240 gpd

Visitor Waste (BBQ and Pizza Oven)

80	visitors	x	8	gpd/visitor	=	640 gpd

Proposed Inn

Kitchen Waste

16	meals	x	5	gpd/meal	=	80 gpd

Inn Guests (Sit down meal)

16	visitors	x	10	gpd/visitor	=	160 gpd

Total 240 gpd

Visitation Total **1143 gpd**

TOTAL PROPOSED DAILY SITE FLOW **1728 GPD**

1. Flows from the Inn are assumed as Hotel/Motel with private bath (no kitchen waste) as provided in Table 4 of Napa Conty ASTS Guidelines.
2. The Tavern and Mercantile will be closed to the public during event day. The Tavern will only be available to event guests. Therefore, these site uses are not included in the event wastewater flow calculation.
3. Mobile Concession Trailer will be open the morning of the event but closed prior to the event.