PROJECT DESCRIPTION Two conventional onsite pump up wastewater systems and one enhanced treatment onsite pump up wastewater system with gravity flow to infiltrator trenches is proposed to serve a proposed 6 bedroom dwelling, a proposed 2 bedroom ADU and a

CONSTRAINTS & DESIGN CRITERIA

- The proposed drainfield is sized to serve a 6 bedroom dwelling, a 2 bedroom ADU and a winery and wine tasting room with a total combined design wastewater flow of 1,314 gallons per day (gpd) per County DEH guidelines.
- The proposed conventional septic system #1 is sized to serve a 6 bedroom dwelling with a design wastewater flow of 675 gpd per County DEH guidelines. • The proposed conventional septic system #2 is sized to serve a 2 bedroom ADU with a design wastewater flow of 300 gpd per County DEH guidelines.
- The proposed enhanced treatment system #3 is sized to serve a winery with a design wastewater flow of 339 gpd per County DEH guidelines. An "alternative" system is specified to provide supplemental treatment of the wastewater discharged on the site due to high strength wastewater generated by the wine making process.
- Soil profiles did not exhibit any evidence of seasonally high groundwater conditions. Seasonally high groundwater was measured to be 14' below grade.
- No wells, springs or watercourses are situated within 100' of the proposed Onsite Wastewater Treatment System (OWTS).

proposed winery and wine tasting room located on W Edmundson, Morgan Hill, in Santa Clara County, California.

DRAINFIELD SIZING CALCULATIONS

(P) 6 BEDROOM MAIN DWELLING = 675 GPD (P) 2 BEDROOM ADU = **300 GPD** (P) WINERY = 339 GPD* VINERY DESIGN FLOW BREAKDOWN 300 CASES OF WINE PRODUCED PER YEAR 2.4 GAL WINE PER 1 CASE WINE 1.5 GAL WASTEWATER GENERATED PER GAL OF WINE 300 CASES/YEAR x 2.4 GAL WINE/CASE x 1.5 GAL WASTEWATER/GAL WINE = 1,080 GAL WASTEWATER 1.080 GAL WASTEWATER I 5 DAYS = 216 GPD 25 PERSON WINE TASTING ROOM x 2.5 GAL/PERSON = 63 GAL 4 EMPLOYEES x 15 GPD = 60 GPD TOTAL WINERY DESIGN FLOW = 216 GPD + 63 GPD + 60 GPD = 339 GPD TOTAL DESIGN FLOW = 1,314 GPD AVG ADJ STABILIZED PERC RATE = 13 MPI 13 MPI = 0.75 GAL/SF APPLICATION RATE **1,314** GPD I .75 GPD/SF = 1,752 SF 1.752 SF I 4 SF/LF = 438 LF OF TRENCH REQUIRED

440 LF = 110 INFILTRATOR CHAMBERS 440 LF (PRIMARY) + 440 LF (SECONDARY) = 880 LF OF TRENCH 110 INFILTRATORS (PRIMARY) + 110 INFILTRATORS (SECONDARY) = 220 INFILTRATORS TOTAL

PRIMARY AND SECONDARY DRAINFIELDS, EACH CONSISTING OF 440 LF OF TRENCH (110 QUICK4 HIGH-CAPACITY INFILTRATOR CHAMBERS) WITH A TOTAL DEPTH OF 4 FT WITH 4" INSPECTION RISERS (TYP.) ON EACH END OF TRENCH.

TOTAL: 880 LF TRENCH / 220 INFILTRATOR CHAMBERS

EACH TRENCH SHALL HAVE A TOTAL DEPTH OF 4 FEET (SEE DETAIL) TRENCHES SHALL BE SPACED 6 FEET FROM CENTER TO CENTER

INFLUENT < 6,000 mg/L BOD < 6,000 mg/L TSS Anoxic Return Line Max Daily Flow = 155 gpd Process Waste Anaerobic Clarification 2,500 gal Primary Tank 1,000 gal 1,000 gal From Tasting FILTRATE Room < 300 mg/L BOD INFLUENT < 330 mg/L TSS < 250 mg/L BOD < 200 mg/L TSS Max Daily Flow = 123 gpd Control Panel AX25-RT Dose Tank his Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orenco's design criteria for the requirements and/or conceptual Layout created By: Project Name: Small Winery

formance reports, as applicable). Design decisions, including the actual layout and configuration

system and its viability for the project, are at the sole discretion of the systems's designer

NOTE: CONTRACTOR SHALL NOT USE PURPLE PIPE. USE OF PURPLE PIPE IS PROHIBITED PER COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH REGULATIONS. UNDERGROUND WARNING TAPE MAY BE INSTALLED BY CONTRACTOR (RECOMMENDED)

TOPOGRAPHIC VICINITY MAP

SUBJECT

R. O. S. 659 P. M. 259-M-25 P. M. 303-M-19 **IMPORTANT!** SPECIFIED WASTEWATER DRAINFIELD DISPERSAL AREAS SHALL BE FENCED OFF PRIOR TO ANY SITE DEVELOPMENT IN ORDER TO PROHIBIT ANY GRADING EQUIPMENT OR STAGING OF MATERIALS IN THESE AREAS. IT IS IMPORTANT THAT THE NATURAL SOIL CONDITIONS IN THESE AREAS BE PRESERVED FOR PROPER FUNCTION OF THE SHALLOW SOIL DISCHARGE SYSTEM. DO NOT ALLOW SOILS IN THESE AREAS TO BE COMPACTED. DO NOT ROUTE UTILITY TRENCHES THROUGH THE PROPOSED DRAINFIELDS. ALL STORMWATER LINES, INLETS/OUTLETS AND DRAINAGEWAYS SHALL MAINTAIN THE REQUIRED DEH SETBACKS TO THE PROPOSED DRAINFIELDS.

ALL BUILDING PLANS PREPARED FOR THE PROJECT SHOULD

MAPPING REG

SUBJECT

PROPERTY

PARCEL INDEX MAP

ROS 633/26

INCLUDE THIS NOTE. / YE! YO UV.L I TUZ.UU 52' LF RETAINING SYSTEM #3 SETBACK /FD/.75IPP/CNT/ (E) 60"# OAK PH-15 20 LF RETAINING 427.83 WALL 2.5' HIGH MAX PH-14 1(12.04)MPIEM BIOSPHERE CONSULTING FENCED TREE × 426.85VINEYARD ANIMAL PEN TASTING 85 LF ADU NO. 2
RETAINING FF 399.5 WATER TANKS SETBACK (P) TASTING SPASIBLE ROOM ATT SP-X (4' DEEP) WALL PAD FF 431.5 SP-X (4' DEEP) **ROOM** '.HIGH PROPOSED 25.0' SHARED SFR\NO. 2 MAX (P) 2 BEDROOM GARAGE 2 DRIVEWAY EASEMENT FF 430.75 ADU F SYSTEM #1 (E) 24"ø" OAK WHARF FIRE WATER TANKS (E) 16"Ø OAK SYSTEM #2 PAD FF 431.2 TREE 1 LLEV 388 7.14 MPI (P) 6 BEDROOM ZADNI V MAIN DWELLING (P) BARN FIRE TRUCK 356NU 19 RETAINING WALL TURNAROUND **FENCED** 33'-HIGH MAX. BIORETENTION WHARE FIRE FIRE TRUCK HYDRANT ANIMAL PEN 30.00 POND NO.1 (E) 2-36"ø FEET TURNAROUNDELEV 431.0 -434.45 SETBACK QAK_ 1" = 50'

ANDREW

No. 7453

BROWNSTON

Exp. 12/31/23

COUNTY INDEX MAP

SUBJECT AREA

SYSTEM 1 AND 2 NOTES

WASTEWATER DESIGN FLOW IS 1,314 GPD. BASED ON PROPOSED 6 BEDROOM MAIN HOUSE (675 GPD) A 2 BEDROOM ADU (300 GPD) AND A WINERY (339 GPD)

- (1) 4" ABS GRAVITY SEWER LINE WITH MINIMUM 2% GRADIENT AND 2-WAY CLEANOUTS SPACED 50' APART MIN.
- (2) 2,000 GALLON CONCRETE, PINNACLE-STYLE CHAPIN SEPTIC TANK WITH 24" ORENCO RISERS AND OSI EFFLUENT FILTER (MODEL: FTS0444-36V) TO SERVE MAIN DWELLING
- (3) 1,500 GALLON CONCRETE, PINNACLE-STYLE CHAPIN PUMP DOSE TANK WITH PF1005 DISCHARGE PUMP TO SERVE MAIN DWELLING
- (4) 1,500 GALLON CONCRETE, PINNACLE-STYLE CHAPIN SEPTIC TANK WITH 24" ORENCO RISERS AND OSI EFFLUENT FILTER (MODEL: FTS0444-36V) TO SERVE ADU
- (5) 1,000 GALLON CONCRETE, PINNACLE-STYLE CHAPIN PUMP DOSE TANK WITH PF1005 DISCHARGE PUMP TO SERVE ADU
- (6) TWO MVP CONTROL PANELS WITH LOGO SCREENS AND 110 OUTLET. REQUIRE ONE 10 AMP 120 VOLT CIRCUIT AND ONE 20 AMP 120 VOLT CIRCUIT (MODEL: MVP-S1DM)
- 7 GRAVITIY FLOW DISTRIBUTION BOX
- 8 BULL RUN VALVE (SEE DETAIL)
- 9 POLYLOK FLOW DIVIDER 2X (SEE DETAIL)

- 10 PRIMARY AND SECONDARY DRAINFIELDS, EACH CONSISTING OF 440 LF OF TRENCH (110 QUICK4 HIGH-CAPACITY INFILTRATOR CHAMBERS) WITH A TOTAL DEPTH OF 4 FT AND 4" INSPECTION RISERS (TYP.) ON EACH END OF TRENCH. TOTAL: 880 LF TRENCH / 220 INFILTRATOR CHAMBERS
- 11) REDUNDANT OVERFLOW/RELIEF (POP-OVER) LINE 4X

SYSTEM 3 NOTES:

- (12) 1,500 GALLON CONCRETE, PINNACLE-STYLE CHAPIN SEPTIC TANK WITH 24" ORENCO RISERS AND OSI EFFLUENT FILTER (MODEL FTS0444-36V) TO SERVE BARN
- (13) 2,500 GALLON CONCRETE, PINNACLE-STYLE CHAPIN SEPTIC TANK WITH THREE 24" ORENCO RISERS, OSI EFFLUENT FILTER (MODEL FTS0444-36V) AND INTEGRATED EMERGENCY CAPACITY TANK WITH PF1005 DISCHARGE PUMP TO SERVE WINERY AND TASTING ROOM
- 1,000 GALLON CONCRETE, PINNACLE-STYLE CHAPIN AERATION TANK WITH 30" ORENCO RISERS AND DUPLEX PF5015 PRE-AERATION PUMPS TO SERVE WINERY AND TASTING ROOM
- 1,000 GALLON CONCRETE, PINNACLE-STYLE CHAPIN CLARIFICATION TANK WITH 24" ORENCO RISERS TO SERVE WINERY AND TASTING ROOM
- 16 800 GALLON ADVANTEX AX-25RT WASTEWATER TREATMENT SYSTEM
- 1,000 GALLON CONCRETE, PINNACLE-STYLE CHAPIN PUMP DOSE TANK WITH PF1005 DISCHARGE PUMP TO SERVE WINERY, TASTING ROOM AND BARN
- **VOLT CIRCUIT AND FIVE 20 AMP 230 VOLT CIRCUITS**, AND AN ACTIVE CAT 5 DATA LINE FOR PANEL TELEMETRY

DISCLAIMER NOTE: THIS MAP WAS PREPARED SOLELY FOR THE PURPOSES OF THE ONSITE WASTEWATER TREATMENT (SEPTIC) SYSTEM (OWTS) DESIGN AND SHOULI NOT BE CONSTRUED AS SUFFICIENT FOR OTHER PURPOSES. LOCATIONS ARE APPROXIMATE. BIOSPHERE CONSULTING, INC. SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED TO UTILITIES DURING CONSTRUCTION. THE LOCATION OF WELLS OR SPRINGS ON NEIGHBORING PROPERTIES HAVE BEEN IDENTIFIED ANI LOCATED TO THE BEST OF OUR ABILITY WITHOUT TRESPASSING AND SHALL BE VERIFIED AND CONFIRMED BY COUNTY ENVIRONMENTAL HEALTH. BIOSPHERE CONSULTING, INC. SHALL NOT BE HELD RESPONSIBLE FOR THE LOCATIONS OF WELLS OR SPRINGS THAT MAY BE LOCATED. WITHIN ANY REQUIRED SETBACK. FROM THE PROPOSED OR EXISTING OWTS. THE BASE MAP USED ON THIS SHEET HAS BEEN PREPARED OR ANNOTATED BY THIS FIRM USING TAPE AND COMPASS TECHNIQUES GENERAL TRIANGULATION APPROXIMATIONS OR ESTIMATIONS BASED ON LINE-OF-SIGHT ALIGNMENTS AND BIOSPHERE CONSULTING, INC ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS



Site Evaluation & Mapping

 Soil Analysis & Percolation Testing • New Development, Upgrade & Repairs Santa Cruz, CA 95060

1315 King Street

Tel: (831) 430-9116

www.biosphere-consulting.com

Alternative Wastewater System Design

ONSITE WASTEWATER TREATMENT SYSTEM **DESIGN PLAN**

Project Location: W Edmundson, Morgan Hill, California 95037 [Santa Clara County] Jim Hartigan **Property Owner:** 16428 Peacock Lane, Los Gatos, California 95032 Mailing Address: (408) 768-9343 Owner Phone #: **Date:** 04/13/23 **By:** David Quinn / Andrew Brownstone REVISION: Job No.: 22002 | APN: 767-19-035 | **1** of 4

18) ST-COMM CONTROL PANEL WITH LOGO SCREEN AND 110 OUTLET. REQUIRES ONE 20 AMP 120

SYSTEMS #1 & #2

CONVENTIONAL SYSTEM SPECIFICATIONS

1. Building Sewer Lines, & Proposed Processing Tank

- 1.1. A 4" ABS building sewer line shall be installed to convey all raw sewage from dwellings to the respective septic tanks. All gravity sewer piping must maintain a minimum 2% continuous gradient. All wastewater including graywater shall be discharged to the septic tank.
- 1.2. Locate a 2-way, 4" ABS cleanout fittings on the building sewer to facilitate snaking and line locations.
- 1.3. A 2,000 gallon and a 1,500 gallon, watertight, concrete, pinnacle style tank from Chapin, are specified for use as septic tanks. The tanks shall each have two 24" diameter OSI access risers with fiberglass, bolt-down lids (brown). The tanks shall be installed according to the manufacturers guidelines.
- 1.4. The tank holes shall be excavated so that the tanks sit level. Install the access risers with a watertight joint using the adhesives supplied by manufacturer. Access riser lids shall be brown unless otherwise requested.

1.5. Install the tank inlet fittings with a watertight joint. Cap off or use a test plug on these fittings and fill the tanks

- with clean water 2" above the joint between the riser and the tank top. Repair any leaks.
- 1.6. Obtain a watertight tank inspection by EH and the designer or distributor with 24 hours notice to each. 1.7. Install an OSI Effluent Filter (Model: FTS0444-36V) at tank outlets.

. Discharge Pump Tank and Filtrate Pumping

- 2.1. A 1,500 gallon and 1,000 gallon watertight, concrete, pinnacle style Chapin pump tank shall be installed adjacent to their 2.2. The pump tanks shall be installed according to the manufacturer's instructions including anti-floatation specifications and
- 2.3. The tank holes shall be excavated so that the tanks sit level. Install the access risers with a watertight joint using the
- adhesives supplied by manufacturer. Access riser lids shall be brown unless otherwise requested.
- 2.4. Install the tank inlet fittings with a watertight joint. Cap off or use a test plug on these fittings and fill the tank with clean water 2" above the joint between the riser and the tank top. Repair any leaks.
- 2.5. Obtain a watertight tank inspection by EH and the designer or distributor with 24 hours notice to each.
- 2.6. Install the pumps and float trees according to the instructions provided by manufacturer/dealer.
- 2.7. A PF1005 lift pump with EasyPak Pump Package vaults shall be installed in their respective pump tanks. Effluent Distribution and Dispersal Trenches (to serve both residences and the winery)
- 3.1. A gravity flow distribution box, a Bull Run valve and two Polylok Flow dividers shall be installed to divert effluent flow between the eight proposed trenches as shown on the plan.
- 3.2. 4" ABS or SCH 40 PVC tightline shall be used to make gravity flow connections between the septic tank and the drainfield trenches. All gravity lines shall maintain a continuous 2% min. gradient.
- 3.3. A primary and secondary leachfield shall each consist of a total of 110 Quick4 Plus High-Capacity Infiltrator Chambers
- 3.4. Dispersal trenches shall each have a total depth of 4 feet, shall be installed in the general location shown on the plan. The floor of each trench shall be level and sidewalls scarified.
- 3.5. Trenches shall be spaced at least 3 feet from edge to edge.
- 3.6. A 4" ABS inspection riser with tight cap shall be installed at both ends of each trench and shall extend a minimum of 12" above grade or remain accessible by means of a 10" round valve box to grade.
- 3.7. Installer shall assure that surface drainage is directed away from the proposed septic tank and dispersal trenches.
- 4.1. All piping shall be installed to conform to requirements in the current California Plumbing Code.
- 4.2. The house sewer pipe to the septic tank shall be constructed of 4" ABS and shall include a 2-way clean out fitting near dwelling as shown on the plan.

. Installer Qualifications and Responsibilities

- 5.1. The system installer shall be licensed by the State of California, Department of Consumer Affairs, to install septic systems.
- 5.2. All piping shall conform to the current edition of the California Plumbing Code.
- 5.3. The installer shall be responsible for locating any property lines, underground utilities or piping. Any damage to these facilities shall be the responsibility of the installer.
- 5.4. For tree setback requirements, refer to the Santa Clara County Ordinance C-16 Tree Preservation and Revision.
- 5.5. The appropriate Environmental Health Office or Specialist must be notified by the installation contractor at least 48hours prior to starting construction and for each required inspection: Main Office (1555 Berger Drive, Suite 300, San Jose) 408-918-3400 or South County Office (80 Highland Ave, San Martin) 408-918-3400

Electrical Work

- 6.1. The MVP control panel shall be installed in the location shown on the map with the bottom of the panel box at 51" from
- 6.2. One, 10 amp, 120V electrical circuit and one, 20 amp, 120V electrical circuit shall be extended to the MVP panel in a single conduit. Underground circuits in separate conduits shall be installed from the panel to the recirculation pump and
- 6.3. All work shall conform to the California Electrical Code and the contractor shall be responsible for obtaining any electrical permits required.

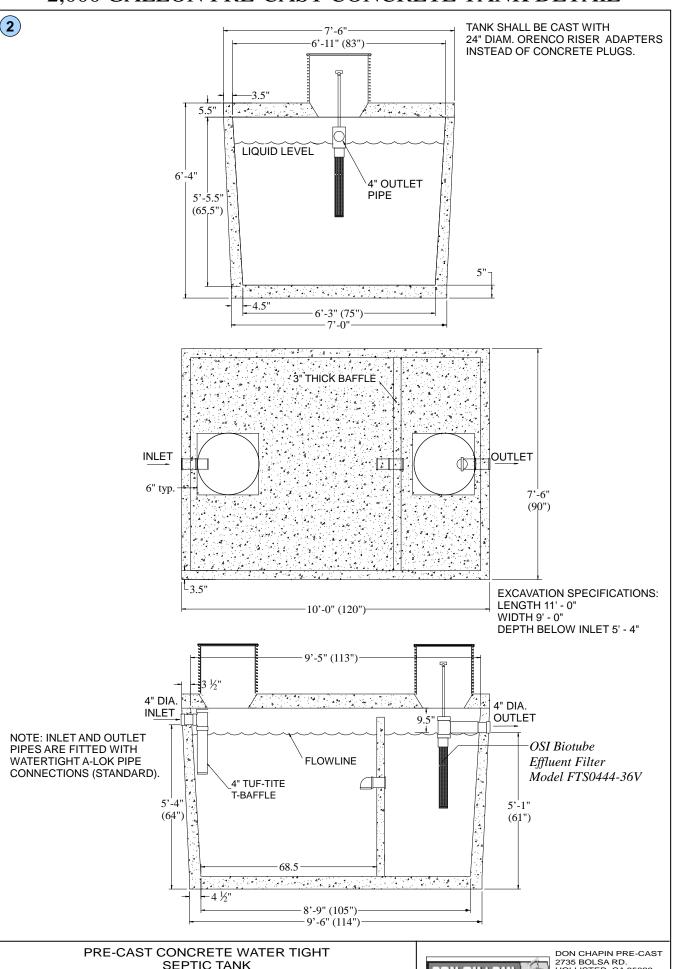
. Site Clean up and Erosion Control Measures

- 7.1. All excavated areas shall be smoothed and all construction debris shall be removed from the site.
- 7.2. All disturbed soils shall be seeded and mulched. Erosion Control Mix seed shall be used at the coverage recommended on the package for all disturbed soil.
- 7.3. Straw shall be used to cover all disturbed soil.
- 7.4. PER DIVISION C12, CHAPTER III OF THE COUNTY CODE (Sec. C12-513. Temporary erosion control.)
- "The permittee and any person(s) doing, causing or directing the grading shall install and maintain all precautionary measures necessary to protect adjacent watercourses and public or private property from damage by erosion, flooding, or deposition of mud or debris originating from the site. Precautionary measures must include provisions of properly designed erosion prevention and sediment control measures, so that downstream properties are not affected by upstream erosion or sediment transport by stormwater."

SYSTEM OPERATION AND MAINTENANCE

- The septic tank should be pumped when the total thickness of the scum and sludge layers in the inlet side of the tank is greater than 1/3 of total liquid level depth, typically about 2 feet.
- The effluent filter in the septic tank should be removed yearly and cleaned by hosing off into the inlet side of the septic tank. Less frequent cleanings may be acceptable.
- Grease and oils should not be put into the home drains.
- The septic tank is alive with microorganisms performing oxidation and reduction of the contents. Do not add any materials (paint thinner, paint, motor oil, unused medicine, cat litter, etc.) that may disrupt this process.
- DO NOT ROUTE WATER SOFTENER BACKFLUSH DISCHARGE TO TREATMENT SYSTEM! This discharge may be routed directly to an approved dispersal field.
- Repair all plumbing leaks (especially toilet leaks) promptly.
- Keep the area over the leach fields trimmed to prevent the growth of trees and shrubs. Do not construct anything or drive/park over the septic tanks or dispersal trenches.

2,000 GALLON PRE-CAST CONCRETE TANK DETAIL



WATER-TIGHT

ACCESS CAP

VALVE DIRECTION

4" OUT PORT

HANDLE

CAPACITY 2000 GALLONS

MODEL IPS2000

RISER CAP ADAPTER

RISER TUBE -

BULL RUN DIVERSION VALVE DETAIL

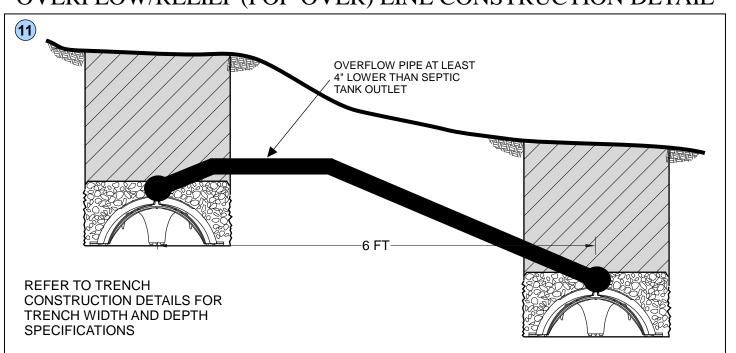
4) THIS IS ALSO AVAILABLE AS AN H20 RATED ASSEMBLY. 5) INTEGRAL TOP TO BODY DESIGN. PUMP TANK SHALL HAVE NO BAFFLE. TANK SHALL BE CAST WITH 24" DIAM. ORENCO RISER ADAPTERS INSTEAD OF CONCRETE PLUGS. TYPICAL GRAVITY FLOW OUTLET SHALL NOT BE CAST TOP VIEW Float Functions PRESSURIZED DRAINFIELD Y | High Level Alarm B | Pump On DISCHARGE ASSEMBLY ORENCO UNIVERSAL R | Pump Off INLET - BIOTUBE PUMP VAUI 1 MODEL: PVU57-1813 PUMP MODEL PF1005 1,254 Gallons Emergency Storage/Surge Capacity: Specified pump tank has a max. capacity of 1,976 gallons Emergency Storage Capacity to top of tank and 1,768 gallons to the invert of the inlet. System Design Flow: 675 gallons per day (gpd) (64")To achieve 1.5 days of emergency storage, a capacity of 1,013 gallons is required above the "pump on" float up to the tank 514 Gallons inlet invert elevation. [675 gpd x 1.5 = 1,013 gal] in Tank Pump-on float shall be set at 19" from bottom of tank resulting in 514 gallons below this float and a 1,254 gallon capacity DISCHARGE PUMP above this float up to the invert of the tank inlet 1,768g - 514g = 1254gSIDE VIEW CUTAWAY PRE-CAST CONCRETE WATER TIGHT HOLDING/PUMP TANK DUN CHAPIN CAPACITY 1500 GALLONS MODEL IPS1500H

1,500 GALLON CONCRETE PUMP TANK DETAIL 2) DON CHAPIN PRE-CAST MAY MAKE CHANGES TO THE DESIGN AND OR TO THE DIMENSIONS WITHOUT NOTICE. PLEASE CONTACT DON CHAPIN PRE-CAST WHENEVER NECESSARY TO CONFIRM DESIGN CRITERIA. 3) CERTIFIED ENGINEERING IS AVAILABLE UPON REQUEST.

EFFLUENT FILTER DETAIL DISTRIBUTION BOX DETAIL -30" DIAMATER PUMP BASIN, 36" DEEP WITH GASKETED LID W/ S.S. BOLTS SEWAGE INLET SEWAGE OUTLET PIPE (4" ABS) Orenco Orenco Systems® Inc., 814 Airway Ave., Sutherlin, OR 97479 USA 800-348-9843 • 541-459-4449 www.orenco.com 4-inch (100-mm) Biotube® Effluent Filters

OVERFLOW/RELIEF (POP-OVER) LINE CONSTRUCTION DETAIL

MODEL: FTS0444-36V



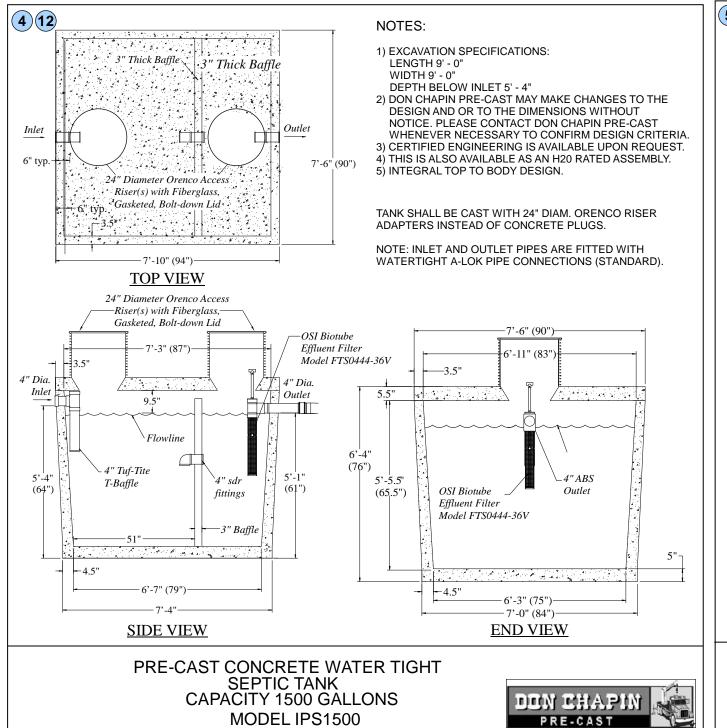
1,500 GALLON CONCRETE SEPTIC TANK DETAIL

1) EXCAVATION SPECIFICATIONS:

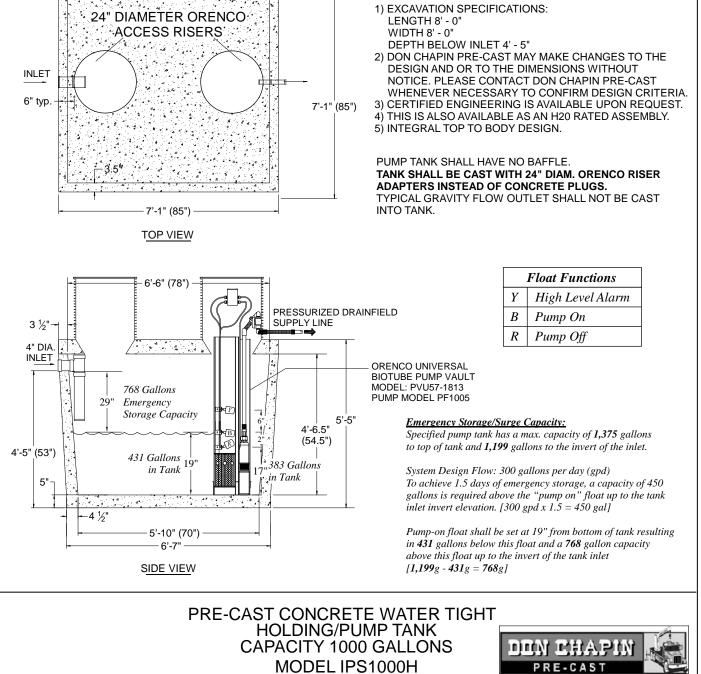
DEPTH BELOW INLET 5' - 4"

LENGTH 9' - 0"

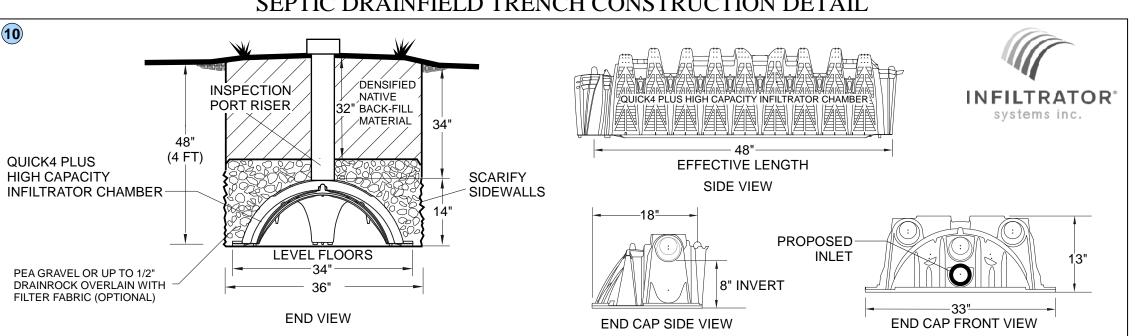
WIDTH 9' - 0"



1,000 GALLON CONCRETE PUMP TANK DETAIL



INFILTRATOR QUICK4 PLUS HIGH-CAPACITY SEPTIC DRAINFIELD TRENCH CONSTRUCTION DETAIL



ANDREW BROWNSTON No. 7453 Exp. 12/31/23

POLYLOK FLOW CONTROLLER

DISTRIBUTION VALVE DETAIL

6" RISER PIPE

CONSTRUCTED .

(3/4" PVC PIPE)

ALVE CAN BE SET FOR EQUAL

DISTRIBUTION (FACTORY SET) OF

ALL DISTRIBUTION RIGHT OR

" RISER

REDUCER

4" RISER

-3/4" PVC PIPE

POLYLOK FLOW

HANDLE KIT (HANDLE

CONTROLLER

CUT TO FIT)

10"-ROUND

CONTROLLER

UNIT TO CUP

INTO PLACE

LOWERS INTO

VALVE BOX

COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

MODEL IPS1500



 Site Evaluation & Mapping Soil Analysis & Percolation Testing • New Development, Upgrade & Repairs

1315 King Street Santa Cruz, CA 95060 Tel: (831) 430-9116 www.biosphere-consulting.com

Alternative Wastewater System Design

ONSITE WASTEWATER TREATMENT SYSTEM **DESIGN PLAN**

W Edmundson, Morgan Hill, California 95037 **Project Location:** [Santa Clara County] Jim Hartigan **Property Owner:** 16428 Peacock Lane, Los Gatos, California 95032 Mailing Address: email: jim@hartiga (408) 768-9343 Owner Phone #: **Date:** 04/13/23 **By:** David Quinn / Andrew Brownstone REVISION Job No.: 22002 | APN: 767-19-035 | **2** of 4

SYSTEM #3

ENHANCED TREATMENT SYSTEM SPECIFICATIONS

1. Building Sewer Lines & Proposed Septic Tank with Emergency Storage Capacity

- 1.1. A 4" ABS building sewer line shall be installed to convey all raw sewage from buildings to the respective septic tanks. All gravity sewer piping must maintain a minimum 2% continuous gradient. All wastewater including graywater shall be discharged to the septic tank.
- 1.2. Locate a 2-way, 4" ABS cleanout fittings on the building sewer to facilitate snaking and line location.
- 1.3. The septic tank serving the barn shall be a 1,500 gallon, watertight, concrete, pinnacle style Chapin Pre-Cast septic tank. OSI riser adapters shall be cast into the lid of the tank by Chapin Pre-Cast. The tank shall have two 24" diameter OSI access risers with fiberglass, bolt-down lids (brown).
- 1.4. The septic tank serving the winery and the tasting room shall be a 2,500 gallon, three compartment, watertight, concrete, pinnacle style Chapin Pre-Cast septic tank with discharge pump. OSI riser adapters shall be cast into the lid of the tank by Chapin Pre-Cast. The tank shall have three 24" diameter OSI access risers with fiberglass, bolt-
- 1.5. Riser heights will be determined by tank burial depth (ideally 12" to 24"). Risers shall be installed 2" above finished grade. The tanks shall be installed according to the manufacturers guidelines including anti-flotation specifications.
- 1.6. The tank holes shall be excavated so that the tanks sit level. Install the access risers with a watertight joint using the adhesives supplied by manufacturer. Access riser lids shall be brown unless otherwise requested.
- 1.7. Install the tank inlet fittings with a watertight joint. Cap off or use a test plug on this fitting and fill the tanks with clean water 2" above the joint between the riser and the tank top. Repair any leaks.
- 1.8. Obtain a watertight tank inspection by EH and the designer or distributor with 24 hours notice to each. 1.9. Install an OSI Effluent Filter (Model: FTS0444-36V) in each tank as shown.
- 1.10. In order to meet the required 1.5 day emergency surge capacity, a third chamber was created in the 2,500 gallon tank with a discharge pump (see detail).
- 1.11. Install the pump and float tree according to the instructions provided by manufacturer/dealer.
- 1.12. A 1/2 hp OSI high head effluent pump (PF1005) is specified to meter flow into the clarification tank. 1.13. The filtrate transport pipe from the emergency capcacity violume chamber to the claification tank to dispersal

system shall be 1.0" schedule 40 PVC. 2. Aeration Tank

- 2.1. A 1,000 gallon, watertight, concrete, pinnacle style Chapin Pre-Cast holding tank (no baffle) is specified for use as an aeration tank. OSI riser adapters shall be cast into the lid of the tank by Chapin Pre-Cast. The tank shall have two 30" diameter OSI access risers with fiberglass, bolt-down lids (brown). Riser heights will be determined by tank burial depth (ideally 12" to 24"). Risers shall be installed 2" above finished grade. The tank shall be installed according to the manufacturers guidelines including anti-flotation specifications.
- 2.2. The tank hole shall be excavated so that the tank sits level. Install the access risers with a watertight joint using the adhesives supplied by manufacturer. Access riser lids shall be brown unless otherwise requested

2.3. Install the tank inlet fitting with a watertight joint. Cap off or use a test plug on this fitting and fill the tank with

- clean water 2" above the joint between the riser and the tank top. Repair any leaks. 2.4. Obtain a watertight tank inspection by EH and the designer or distributor with 24 hours notice to each.
- 2.5. Install the pump and float tree according to the instructions provided by manufacturer/dealer.
- 2.6. Duplex PF5015 pre-aeration pumps are specified.
- 2.7. The aeration recirculation pipes shall be 2" schedule 40 PVC.
- 2.8. Install Mazzei aeration and Orenco components according to the instructions provided by manufacturer/dealer. . Clarification Tank
- 3.1. A 1,000 gallon, watertight, concrete, pinnacle style Chapin Pre-Cast holding tank (no baffle) is specified for use as a clarification tank. OSI riser adapters shall be cast into the lid of the tank by Chapin Pre-Cast. The tank shall have two 24" diameter OSI access risers with fiberglass, bolt-down lids (brown). Riser heights will be determined by tank burial depth (ideally 12" to 24"). Risers shall be installed 2" above finished grade. The tank shall be installed according to the manufacturers guidelines including anti-flotation specifications.
- 3.2. The tank hole shall be excavated so that the tank sits level. Install the access risers with a watertight joint using the adhesives supplied by manufacturer. Access riser lids shall be brown unless otherwise requested
- 3.3. Install the tank inlet fitting with a watertight joint. Cap off or use a test plug on this fitting and fill the tank with clean water 2" above the joint between the riser and the tank top. Repair any leaks.
- 3.4. Obtain a watertight tank inspection by EH and the designer or distributor with 24 hours notice to each.

I. AdvanTex™ Treatment System

- 4.1. An AdvanTex[™] AX25-RT treatment system and telemetry-enabled VeriComm[®] control panel is specified. 4.2. Install the AdvanTex™ system according to the installation instructions and in the location shown on the plan. *The*
- RT lid shall be installed 2"min above final grade. An RT spacer/riser may be required. 4.3. The AX25-RT tank hole shall be excavated so that the tank sits level.
- 4.4. Install the AX25-RT inlet fitting with a watertight joint. Cap off or use a test plug on this fitting and fill the unit with clean water. Repair any leaks
- 4.5. Obtain a watertight tank inspection by DEH and the designer or distributor with 24 hours notice to each. 4.6. Install all Orenco Systems components in strict accordance to the installation manual instructions.
- 5. Discharge Pump Tank and Filtrate Pumping
- 5.1. A 1,000 gallon watertight, concrete, pinnacle style Chapin Pre-Cast (holding) pump tank shall be installed adjacent

5.2. The pump tank shall be installed according to the manufacturer's instructions including anti-floatation specifications

- and be made watertight.
- 5.3. Install the pump and float tree according to the instructions provided by manufacturer/dealer. 5.4. A 1/2 hp OSI high head effluent pump (PF1005) is specified to pump effluent up to the gravity distribution box.
- 5.5. The effluent transport pipe to dispersal system shall be 1.25" schedule 40 PVC. 5. Effluent Distribution and Dispersal Trenches
- 6.1. The winery utilizes the same drainfield as the residential systems. See Conventional System Specifications section 3. . Installer Qualifications and Responsibilities
- 7.1. The system installer shall be licensed by the State of California, Department of Consumer Affairs, to install septic systems. Installer certification is required by the local AdvanTex[™] dealer. The installer is required to fully read and understand the AdvanTex[™] manuals prior to the commencement of work.
- 7.2. All piping shall conform to the current edition of the California Plumbing Code.
- 7.3. The installer shall be responsible for locating any property lines, underground utilities or piping. Any damage to these facilities shall be the responsibility of the installer.
- 7.4. A pre-construction conference with designer, inspector and dealer/service provider shall be arranged prior to the commencement of work. Construction inspections, watertight tank test inspection, AdvanTex[™] installation inspection, and final operation of system shall be made by designer (BioSphere Consulting) or local distributor and system service provider and the County of Santa Clara Department of Environmental Health (408-918- 3400). The installer shall give at least 48 hours notice to each party for all inspections. Designer shall provide final installation approval letter and as-built drawings per DEH requirements.

. Electrical Work

- 8.1. The ST-Comm® control panel with Logo screen and 110 outlet shall be installed in the location shown on the map with the bottom of the panel box at 51" from the ground surface.
- 8.2. One, 20 amp, 120V electrical circuit and five, 20 amp, 230V electrical circuits shall be extended to the ST-Comm[®] panel in a single conduit. Underground circuits in separate conduits shall be installed from the panel to the recirculation pump and discharge pump. A separate underground conduit containing a live CAT5 phone line shall be installed to the ST-Comm[®] panel. The system will not be finalized until everything (including panel telemetry) is
- 8.3. All work shall conform to the California Electrical Code and the contractor shall be responsible for obtaining any electrical permits required.

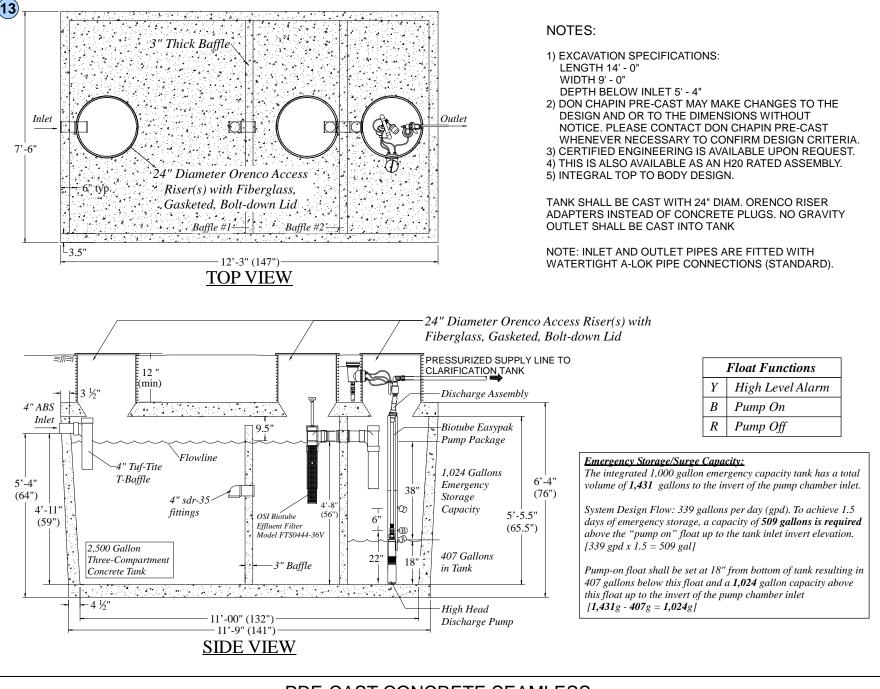
Site Clean up and Erosion Control Measures

- 9.1. All excavated areas shall be smoothed and all construction debris shall be removed from the site.
- 9.2. All disturbed soils shall be seeded and mulched. Erosion Control Mix seed shall be used at the coverage recommended on the package for all disturbed soil.
- 9.3. Straw shall be used to cover all disturbed soil.
- 9.4. PER DIVISION C12, CHAPTER III OF THE COUNTY CODE (Sec. C12-513. Temporary erosion control.) "The permittee and any person(s) doing, causing or directing the grading shall install and maintain all precautionary measures necessary to protect adjacent watercourses and public or private property from damage by erosion, flooding, or deposition of mud or debris originating from the site. Precautionary measures must include provisions of properly designed erosion prevention and sediment control measures, so that downstream properties are not affected by upstream erosion or sediment transport by stormwater."

10. Operating Permit for Alternative OWTS

- 10.1. In addition to the installation permit, an operating permit is required for alternative OWTS per section B11-92 of the Santa Clara County Ordinance.
- 10.2. The operating permit will be issued after completion of the septic system installation and final inspection. 10.3. The operating permit is subject to renewal, fees and will be recorded on the deed to the property by the County Recorder of Santa Clara County.

2.500 GALLON CONVENTIONAL SEPTIC TANK AND EMERGENCY CAPACITY TANK DETAIL



PRE-CAST CONCRETE SEAMLESS **SEPTIC TANK CAPACITY 2500 GALLONS** MODEL IPS2500

Final Discharge

Design Notes

during heavy rainfall

2"Ø Discharge

Discharge Detail

Pump System Discharge Chamber

End View

For residential strength waste. up to 6 bedrooms.

uthorized Service Provider only

Installation to be performed by an AdvanTex Authorized

Start-up and service to be performed by an AdvanTex

Installer shall be responsible for installing anti-buoyancy

 $\widetilde{\widetilde{\mathbf{s}}}$

deadmen to prevent unit from rising out of the ground

ADVANTEX AX25RT DETAIL

den ehapin

1,000 GALLON CONCRETE PUMP TANK DETAIL

Top View

Scale: 1'' = 3'-0''

* 2"Ø Mazzei

Scale: 1'' = 3'-0''

1,000 Gallon Chapin Pinnacle Style Concrete Tank

Nozzles

Air Inlet (typ.)

Air Supply

(typ.)

Connection

2"Ø Union (Typ.)

Aerator Assembly

30"Ø x 36" Fiberglass

Riser with Gasketed

Fiberglass Lid

* 2"Ø Mazzei –

2"Ø Union –

2"Ø Union

Aerator Assembly

* 2"Ø Mazzei -

* 2"Ø Mazze

1,000 GALLON AERATION TANK

Splice Box (Typ.)

- * Pre-Aeration

Line (typ.)

Splice Box (Typ.)

30"Ø x 36" Fiberglass

Riser with Gasketed

Fiberglass Lid

* Float Functions & Pump Index

4 High Level Alarm / Lag Enable B Redundant Off / Low Level Alarm

MF2P

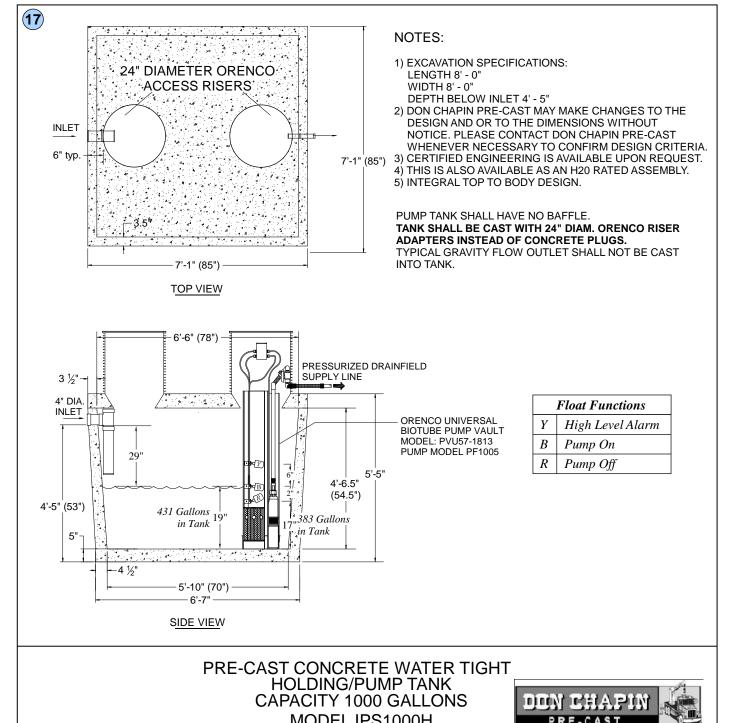
Pre-Aeration Pumps: PF5015

Mazzei Aerator Model: 2081A- PVDF

 \approx

Orenco Systems Incorporated

Mazzei Nozzles Model: N-25-DT



MODEL IPS1000H

ENHANCED TREATMENT SYSTEM OPERATION AND MAINTENANCE

AdvanTex AX25RT **Treatment System**

- The owner should read and operate the system according to the AdvanTexTM operation and maintenance
- Orenco requires biannual maintenance servicing of the AdvanTexTM by a qualified technician. County Environmental Health will issue an OWTS Annual Operating Permit and requires that the property owner maintain a system service agreement/contract with a qualified third-party service provider. This requirement will be placed on the title deed for the property.
- The treatment tank is alive with important microorganisms. Do not add any materials (paint thinner, paint, motor oil, unused medicine, etc.) that may disrupt the biologic treatment process. The primary tank should be pumped when the total of the scum/sludge thickness is greater than 1/3 of the total liquid level depth.
- DO NOT ROUTE WATER SOFTENER BACKFLUSH DISCHARGE TO TREATMENT SYSTEM! This discharge may be routed directly to a drainfield trench or an approved dispersal field.
- Repair all plumbing leaks (especially toilet leaks) promptly.

AX25 800 gal. Recirc. Tank

Top View

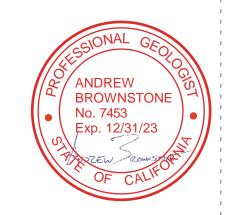
AX25 800 gal. Recirc. Tank

Side View

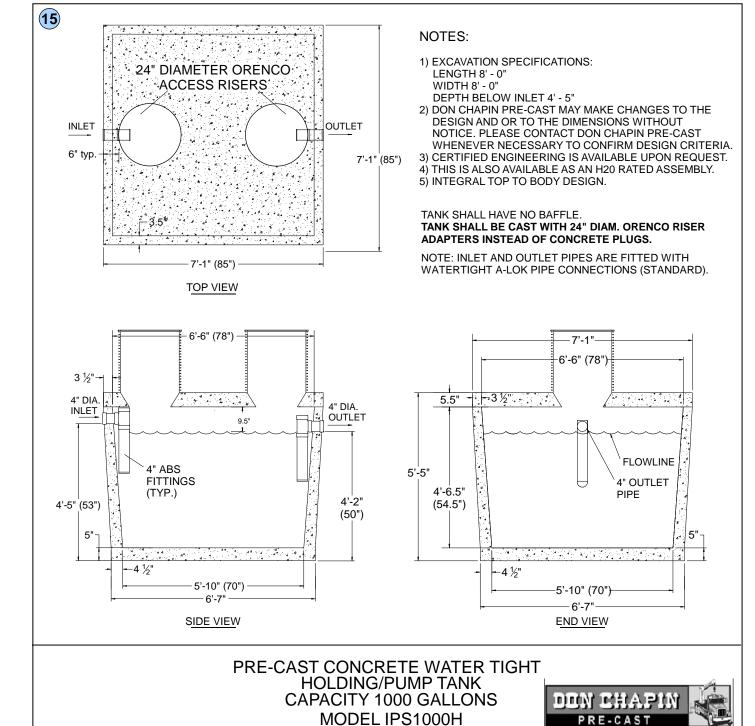
to meet grade if necessary

COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

PRE-CAST



1.000 GALLON CONCRETE CLARIFICATION TANK DETAIL





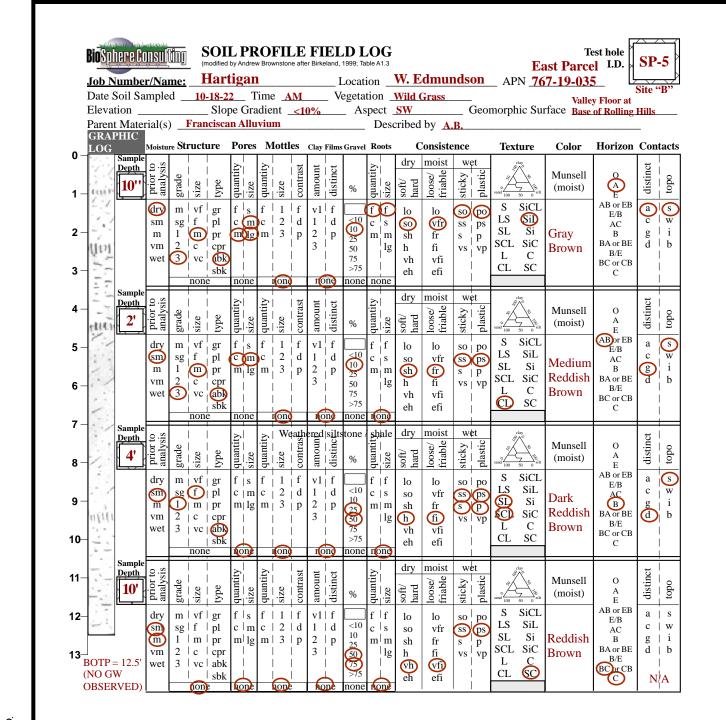
 Site Evaluation & Mapping Soil Analysis & Percolation Testing • New Development, Upgrade & Repairs

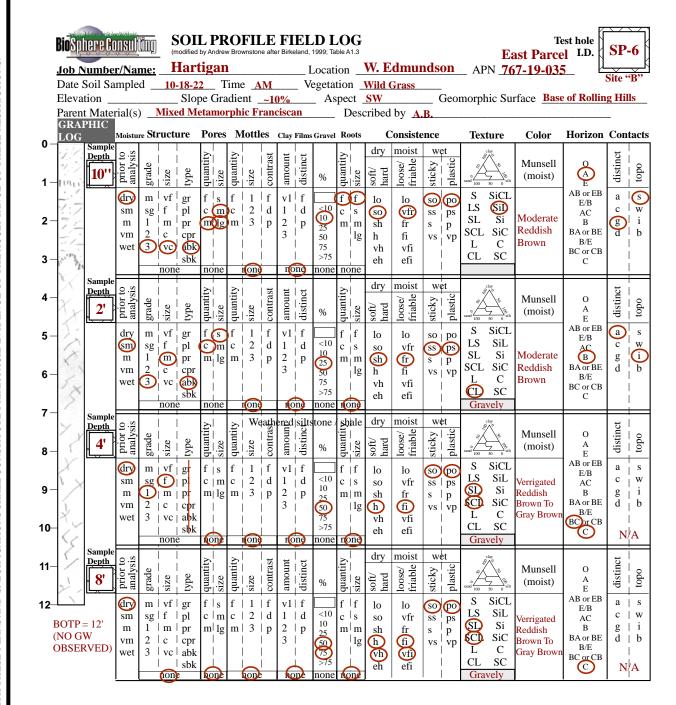
1315 King Street Santa Cruz, CA 95060 Tel: (831) 430-9116 www.biosphere-consulting.com

Alternative Wastewater System Design

ONSITE WASTEWATER TREATMENT SYSTEM **DESIGN PLAN**

Projec	ct Location:	W Edmundson, Morgan Hill, California 95037 [Santa Clara County]								
Prope	erty Owner:	Jim Hartigan								
Maili	ng Address:	16428 Peacock Lane, Los Gatos, California 95032								
Owner Phone #:		(408) 768-9343								
Date: 04/13/23 By: David Quinn / Andrew Brownstone										
REVISIO	V:		Job No.: 22002	APN: 767-19-035	3 of 4					





PUMP SELECTION CHART HARTIGAN EAST - WINERY

Parameters		
Discharge Assembly Size	1.00	inches
Transport Length	1102	feet
Transport Pipe Class	40	
Transport Line Size	1.25	inches
Distributing Valve Model	None	
Max Elevation Lift	122	feet
Design Flow Rate	10	gpm
Flow Meter	None	inches
		_

Calculations			
ransport Velocity	2.2	fps	
Frictional Head Losses			

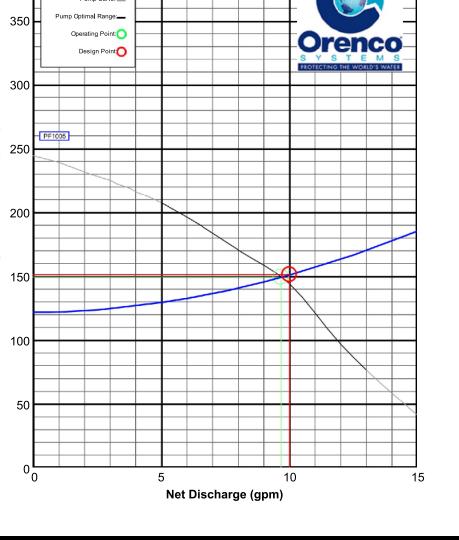
Frictional Head Losses	S	
Loss through Discharge	3.3	feet
Loss in Transport	16.0	feet
Loss through Valve	0.0	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	10.0	feet

Vol of Transport Line Minimum Pump Requirements

Design Flow Rate Total Dynamic Head 151.3 feet

PF1005 High Head Effluent Pump

10 GPM, 1/2HP 115/230V 1Ø 60Hz, 200V 3Ø 60Hz



Bio Sphere Co	onsul <mark>ti</mark> n					wnstor	e afte	r Birke	land,	1999; Ta	∠OG ble A1.3				E	ast Parce	est hole	SP-	.9
Job Numbe			Hart												_ APN <u>7</u>	7-19-03	<u>5</u>	Cito 6	<u> </u>
Date Soil Sa	-															_		Site	r
Elevation _															morphic Su	rface <u>Spir</u>	ne of Ridg	e Cre	st_
Parent Mate GRAPHIC	rial(s) ₋	Sanc	iston	<u> </u>							Des	cribed	by A	.В				_	
LOG	Moisture S	Struct	ure	Pore	s N	Iottl	es	Clay I	Films	Gravel	Roots	C	onsiste	ence	Texture	Color	Horizon	Con	tacts
Sample Depth	3i. t	size – –	type	quantity 	quantity	size	contrast	amount	distinct	%	quantity 	soft/ hard	loose/ friable siom	sticky as	sand 100 50 0 silt	Munsell (moist)	O A E	distinct	topo
2 – 2 – 2 – 2 – 2 – 2 – 2 – 2 – 2 – 2 –	sm s m 1 vm 2		gr pl pr cpr bk	f s c m	n c m	1 1 2 1 3 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	f d p l	v1 1 2 3 3 1 1 1 1 1 1 1 1	d p	<10 10 25 50 75 >75 none	f f c s m m lg	so sh h vh eh	vfr fr fi vfi efi	so po ss ps s p vs vp	S SiCL LS SiL SL Si SCL SiC CL C CL SC	Moderate Brown	AB or EB E/B AC B BA or BE B/E BC or CB C	a g d	S W i b
Sample Depth 2.5'	2.S	Size	type	quantity	ntity		contrast	amount	distinct	%	quantity size	dry pard	loose/ friable sion	sticky as plastic	sand 100 50 0 silt	Munsell (moist)	O A E	distinct	topo
6 –	sm s m 1 vm wet 3	g f	gr (pl pr cpr abk sbk	f s c n m l n none	g m	1 2	f f d p	v1 1 2 3	f d p	<10 10 25 50 75 >75 none	f f c s m m lg	lo so sh h vh eh	lo vfr fr fi vfi efi	so po ss ps s p vs vp	S SiCL LS SiL SI Si SCL SiC L C CL SC	Verigated Reddish Brown and Tan	AB or EB E/B AC B BA or BE B/E BC or CB	a c g d	s w i b
7 Sample	F	HOIN		_		$\overline{}$)	dry	moist	wet					Ħ
8 - Depth	prior to analysis	size –	type	quantity	quantity	size w	contras	amoun	distinc#	tone	quantitys size alg	soft/ hard Ap	loose/ friable	sticky & plastic	sand 100 50 0 silt	Munsell (moist)	O A E	distinct	topo
9-	sm s m 1 vm 2	m	pl pr cpr	f s c n m l	n c		f d p 	1	f d p	<10 10 25 50 75	f f c s m m lg	lo so sh h	lo vfr fr fi (vfi)	so po ss ps s p vs vp	S SiCL LS SiL SD Si SCL SiC L C	Verigated Reddish Brown and Tan	AB or EB E/B AC B BA or BE B/E BC or CB	a c g d	s W i b
10-1/-/	-	non	sbk	non	E	ione		10	ne	>75 none	none	eh	efi		CL SC Moderately We	athered Fine to			
Sample Depth 11'	prior to analysis	size —	i i	quantity giza	ntity		contrast		distinct	%	quantity size	dry /yard	loose/ friable as:	sticky as plastic	sand 100 50 0 silt	Munsell (moist)	O A E	distinct	topo
BOTP = 12' (NO GW OBSERVED)	dry n sm s m 1 vm 2	n vf g f m	gr pl pr cpr abk sbk	f s c n m l	f n c g m	1 2	d p 	v1 1 2 3 3	f d p	<10 10 25 50 75 >75 none	f f c s m m lg	lo so sh	lo vfr fr fi vfi efi	so po ss ps s p vs vp	S SiCV LS SiL SL Si SCL SiC L SC CL SC Moderately We	Verigated Reddish Brown and Tan	AB or EB E/B AC B BA or BE B/E BC or CB Medium Gr	d N	A

Date Soil Sampled		Bio Sphere C	onsul								FIE								w	Test Parce	est hole	SP	-8
Parent Material(s) Sandstone Described by A.B. Described b		Job Numbe	er/Na	me:	F	Iart	tigar	1				Locat	ion	V	V. Ed	mun	dson	_ AF				C!4- 6	
Parent Material(s) Sandstone Described by A.B.				_	1													1	.:. C	D	- £ D - 11!	- 1121	יעי
Color Horizon Contact Color Horizon Color Horizon Color Color		_			Sand													morpi	iic Su	rrace <u>base</u>	oi Kollin	g Hii	IS
1 1 2 2 3 3 3 3 4 3 3 3 4 3 3			Moistu	re St	ructi	ure										•		Tev	fure	Color	Horizon	– Con	itacts
The content of the	0 -	Sample	2	1												moist	wet		clay			1	
2 -	1 -		prior t	grade	size –	type	quantit size	quantit	size –	contras	amoun — — — distinc	%	quantit	size	soft/ hard	loose/ friable	sticky plastic	sand 100	50 0 silt		Ã	distinc	topo
The state The		line	\sim		1		fs	f	1	f	v1 f		f				_ 1 _				AB or EB		\sim
Sample S	2	7									. 1	10							Si				
Sample S		2.1			O	cpr				1		50			h	fi		1				ď	b
Sample Pepth 2 2 2 2 2 2 2 2 2	3 -	(min	wet	3)		sbk	ļ		į		. – (>75								Brown			į
10 11 11 12 12 12 12 12		Sample			non			-	one		none	none	H		J		4					\vdash	₩
1	4		prior to analysis	grade	ize –	ype	quantity	quantity	size	contrast	amount — — — distinct	%	quantity	ize _	Ť			sand 100	clay So o silt		A	distinct	topo
6 -	5 -	1	1				_		1												(AB)or EB	1	
Sample Sic S		7-	\sim		_							10				_				Dark	AC	_	1
Sample Depth Solid Sol	6	-/	vm	2	c	cpr	11 15			Р	1 1	50			h	fi	\sim		SiC		BA or BE	d	
Sample Depth Sample Depth Sample Depth D		4/	wet	3)	vc						(_						©		BC or CB		
8 -	7 -	milit Sample	\models		non	e	none		one		ione	none	10	ne									
10			2.2	. o	 	 	tity_	tity		rast	unt nct		tity	 					clay	Munsell	0	inct	
10	8	5'	prio anal	grad	size	type	quan size	quan	size	contr	amo disti	%	quan	size	soft/ hard	loose	stick plast	sand 100	50 0 silt	ı	A	dist	topc
9 -			dry		1																AB or EB	a	S
10— 11— 11— 12— 13— 14— 15— 14— 15— 15— 15— 16— 16— 16— 16— 16— 16— 16— 16— 16— 16	9		\sim									10								Medium	AC	_	
11—			1	2	C	cpr	III Ig	111		Р	1 1	(50)					. I		SiC		BA or BE	ď	
11 Sample	10-	Huro	wet	3	vc						1			 				_		Brown	(BC)or CB		
11—		X Samul	\sqsubseteq		non		none		one	=	rone	none	nc	ne							C		<u> </u>
12—	11-		rto		 	 	tity 	tity		ast	int ict		ity	 	dry				clay	Muncell	0	nct	
12—		9'	prior anal	grade	size	type	quan size	Juan	ize	contr	amot distin	%	Juan	ize	soft/ nard	oose Triab]	stick plast	sand 100	50 0 silt		A	disti	topc
13 Sm sg f pl c m c 2 d 1 d d 1 d c s so vfr ss ps LS SiL Si	12	- Cy			+	_					-			_							AB or EB	a	S
13— Wm 2 c cpr		- 10		sg	l f	pl						10					ss ps			Medium	AC	I -	
BOTP @ 12.2' wet 3 vc abk	13		vm	2	l c	cpr	iig	1111		Ч		50					1	SCL	SiC		BA or BE	\sim	
(NO GW CONE CONE NONE NONE		OTP @ 12.2'	wet	3										l L						Brown	BC or CB		
							none		one		fone	1	100	ine	CII	611	<u> </u>			<u> </u>	<u> </u>		<u>i</u>

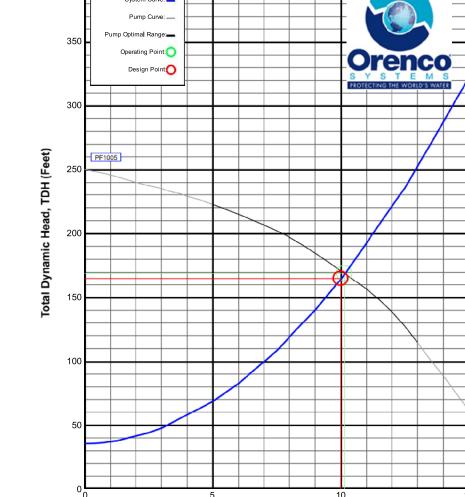
SOIL PERCOL	ATION SUMMAR	Y TABLE	10/2	5/22.	EAS	ST		
Percolation Hole (PH)		PH-11	PH-12	PH-13	PH-14	PH-15	PH-16	
Depth		4.10'	4.00'	4.15'	4.00	4.02'	4.00'	
Stabilized MPI	R	5.10	5.60	21.50	97.20	8.60	3.30	
Adjusted Stabilized MPI	R ₁ =R x 1.4	7.14	7.84	30.10	136.08	12.04	4.62	
Avg. Adj. Stabilized MPI	$R_2=(\sum R_1)/\#Holes$		•				•	12
# Bedrooms:	for OFFICE USE ONLY)		Leach Lin	ne (Ft)		

Test hole East Parcel I.D. SP-10 Job Number/Name: Hartigan Location W. Edmundson APN 767-19-035 Date Soil Sampled 10-19-22 Time Noon Vegetation Wild Grass Elevation Slope Gradient 10% Aspect N/A Geomorphic Surface Spine of Ridge Crest Parent Material(s) Sandstone Described by A.B. Moisture Structure Pores Mottles Clay Films Gravel Roots Consistence Texture Color Horizon Contacts

SOIL PROFILE FIELD LOG

PUMP SELECTION CHART HARTIGAN EAST - 6 BEDROOM DWELLING

Discharge Assembly Size Transport Length Transport Pipe Class Transport Line Size Distributing Valve Model Max Elevation Lift Design Flow Rate 'Add-on' Friction Losses Transport Velocity Frictional Head Losses Loss through Discharge 94.0 feet Loss in Transport 24.9 feet Loss through Valve 'Add-on' Friction Losses Pipe Volumes Vol of Transport Line 20.3 gals Minimum Pump Requirements Design Flow Rate Total Dynamic Head PF1005 High Head Effluent Pump 10 GPM, 1/2HP 115/230V 1Ø 60Hz, 200V 3Ø 60Hz



Net Discharge (gpm)

PUMP SELECTION CHART

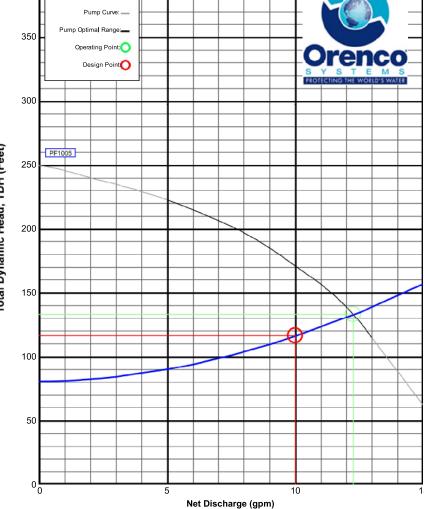
BioSphere Consulting SOIL PROFILE FIELD LOG

Parent Material(s) Sandstone Described by A.B.

HARTIGAN EAST - 2 BEDROOM ADU

Transport Length Transport Pipe Class 1.00 inches Transport Line Size Distributing Valve Model Max Elevation Lift Design Flow Rate Flow Meter None inches Calculations Transport Velocity 3.7 fps Frictional Head Losses Loss through Discharge Loss in Transport Loss through Valve 0.0 feet Loss through Flowmeter Pipe Volumes Vol of Transport Line 21.1 gals Minimum Pump Requirements 116.4 feet Total Dynamic Head

PF1005 High Head Effluent Pump



East Parcel I.D. SP-11

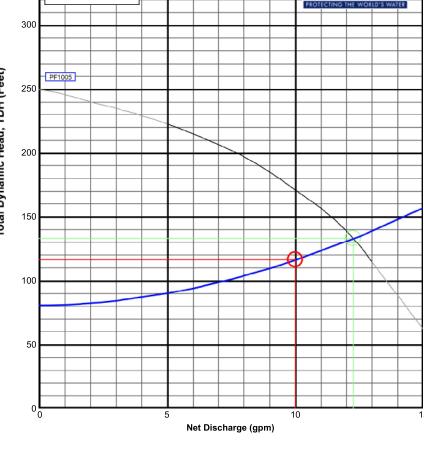
Location W. Edmundson APN 767-19-035

Date Soil Sampled 10-19-22 Time PM Vegetation Wild Grass

Elevation Slope Gradient <10% Aspect N/A Geomorphic Surface Spine of Ridge Crest

System Curve: -

oisture Structure Pores Mottles Clay Films Gravel Roots Consistence Texture Color Horizon Contacts



COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

• New Development, Upgrade & Repairs

Site Evaluation & MappingSoil Analysis & Percolation Testing

1315 King Street Santa Cruz, CA 95060 Tel: (831) 430-9116 www.biosphere-consulting.com

Alternative Wastewater System Design

ONSITE WASTEWATER TREATMENT SYSTEM **DESIGN PLAN**

Project Location: W Edmundson, Morgan Hill, California 95037 [Santa Clara County] Jim Hartigan **Property Owner:** 16428 Peacock Lane, Los Gatos, California 95032 **Mailing Address:** (408) 768-9343 Owner Phone #: **Date:** 04/13/23 **By:** David Quinn / Andrew Brownstone Sheet: Job No.: 22002 | APN: 767-19-035 | 4 of 4

