NOTES:

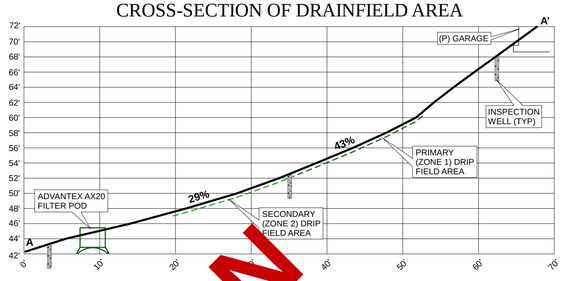
WASTEWATER DESIGN FLOW IS **300** GPD.
BASED ON PROPOSED **2** BEDROOM MAIN HOUSE

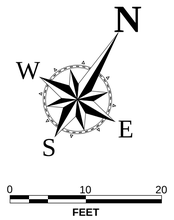
1. 4" ABS GRAVITY SEWER LINE WITH MINIMUM 2% GRADIENT AND 2-WAY CLEANOUTS SPACED 50' APART MIN.
2. 1,500 GALLON ORENCO™ PRELOS MEANDER PROCESSING TANK WITH ORENCO™ ADVANTEX AX20 WASTEWATER TREATMENT SYSTEM
3. 1,500 GALLON ROTH PUMP DOSE TANK WITH PF**1005** DISCHARGE PUMP
4. VERICOMM® CONTROL PANEL WITH LOGO SCREEN AND 110 OUTLET. REQUIRES **ONE 20 AMP 120 VOLT CIRCUIT AND TWO 20 AMP 230 VOLT CIRCUITS**, AND AN ACTIVE CAT 5 DATA LINE FOR PANEL TELEMETRY
5. REMOTE AUDIBLE/VISIBLE ALARM PANEL, TYPE 4X ENCLOSURE FOR OUTDOOR USE. ORENCO PRODUCT CODE: AMSENTII-W
6. AUTOMATIC HEADWORKS VALVE BOX ASSEMBLY (SEE DETAIL)
7. ZONE VALVE BOX PROVIDING AUTOMATIC DIVERSION BETWEEN PRIMARY AND SECONDARY DRAINFIELD ZONES WITH TWO SOLENOID VALVES AND 50 PSI PRESSURE REGULATOR. (SEE DETAIL)
8. MID-FIELD (ZONE) CHECK VALVE WITH AIR VACUUM RELIEF VALVE INSTALLED DOWNSLOPE IN 7" ROUND VALVE BOX (TYP.) **4X**. (SEE DETAIL)
   NOTE: MAKE CERTAIN THAT CHECK VALVES ON SUPPLY AND RETURN HEADER MANIFOLDS ARE POSITIONED BETWEEN CORRELATIVE DRIP TUBE LATERALS.)
9. AIR VACUUM RELIEF VALVE **4X** (**THREE** IN 7" ROUND VALVE BOX TYP. - SEE DETAIL)
10. GEOFLOW SUBSURFACE DRIP DISPERSAL SYSTEM (**ZONE 1 PRIMARY** AND **ZONE 2 SECONDARY**) WITH A TOTAL OF **1,000** LINEAR FEET OF GEOFLOW WASTEFLOW PC SUBSURFACE DRIP TUBING WITH LATERALS SPACED 12" APART (0.53 GPH DRIP EMITTERS SPACED 12" APART) COVERING A TOTAL OF **1,000** SQUARE FEET RESULTING IN A SOIL APPLICATION RATE OF **0.6** GPD/SF BASED ON A PEAK DESIGN FLOW RATE OF **300** GPD DOSED TO A SINGLE ZONE
11. DRIP FIELD FLUSH VALVE BOX WITH TWO CHECK VALVES AND ONE AIR VACUUM RELIEF VALVE (SEE DETAIL)
12. 3'-DEEP INSPECTION WELL **3X** (SEE DETAIL)

DRAINFIELD SIZING CALCULATIONS

(P) 2 BEDROOM HOUSE = 300 GPD
AVG ADJ. STABILIZED PERC RATE = 2.29 MPI (BASED ON PH7-PH12)
APPLICATION RATE = 0.6 GPD/SF
300 GPD ÷ 0.6 GPD/SF = 500 SF (500 LF DRIP)
500 SF (PRIMARY) + 500 SF (SECONDARY) = 1,000 SF

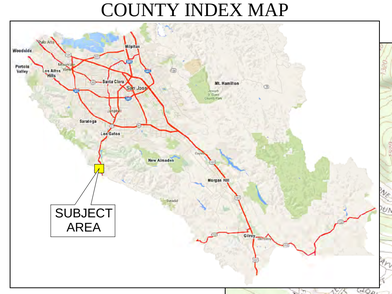
CROSS-SECTION OF DRAINFIELD AREA



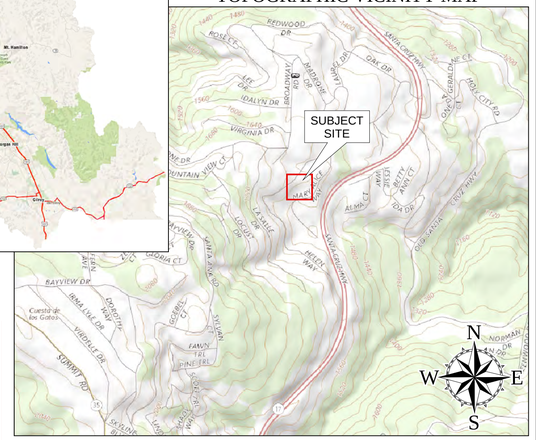


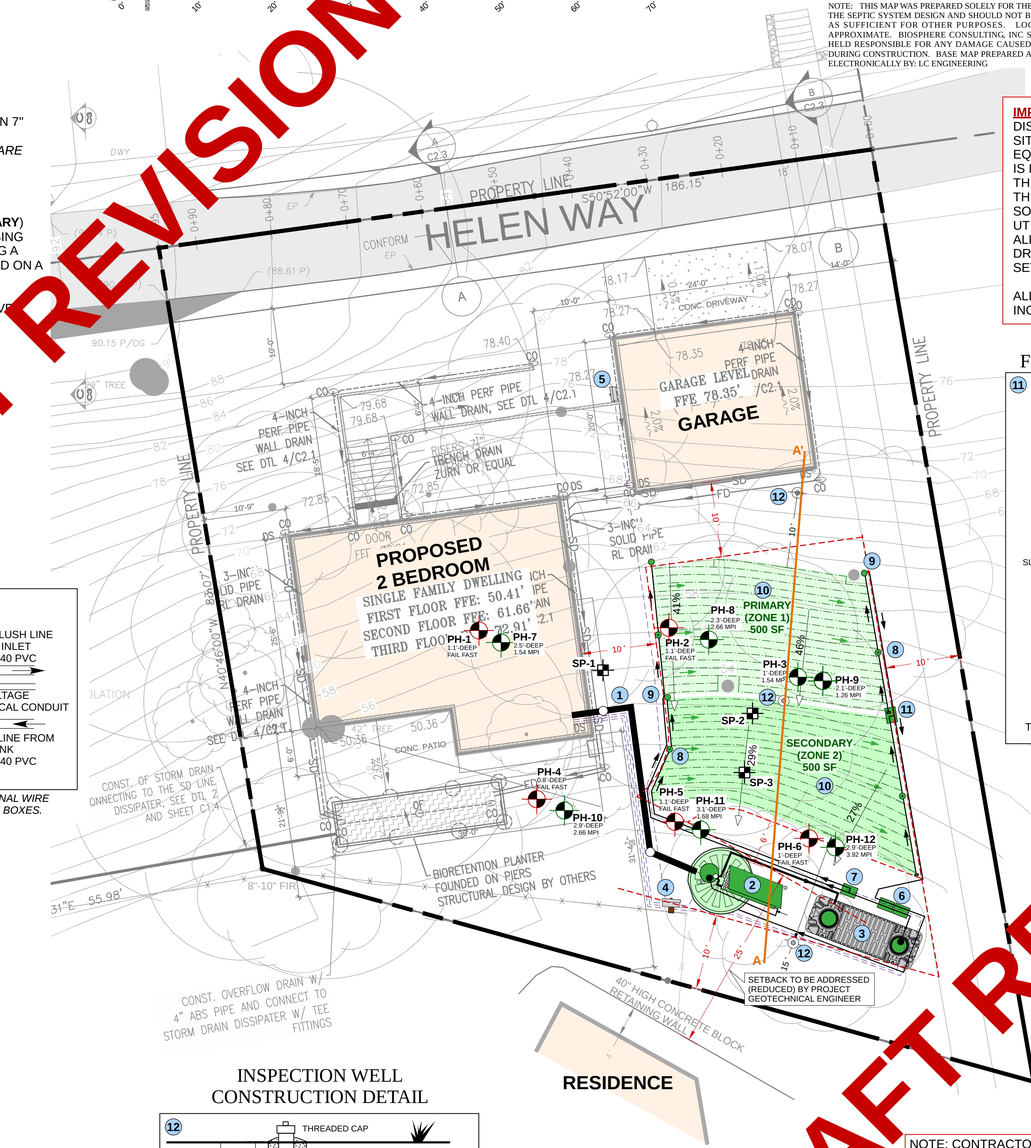
NOTE: THIS MAP WAS PREPARED SOLELY FOR THE PURPOSES OF THE SEPTIC SYSTEM DESIGN AND SHOULD NOT BE CONSTRUED AS SUFFICIENT FOR OTHER PURPOSES. LOCATIONS ARE APPROXIMATE. BIOSPHERE CONSULTING, INC SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED TO UTILITIES DURING CONSTRUCTION. BASE MAP PREPARED AND PROVIDED ELECTRONICALLY BY: LC ENGINEERING

COUNTY INDEX MAP



TOPOGRAPHIC VICINITY MAP

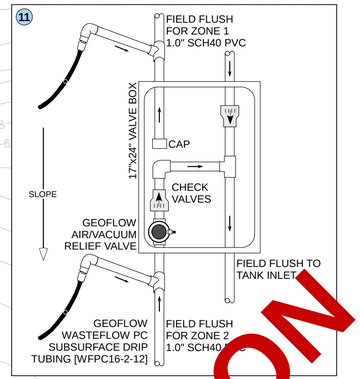




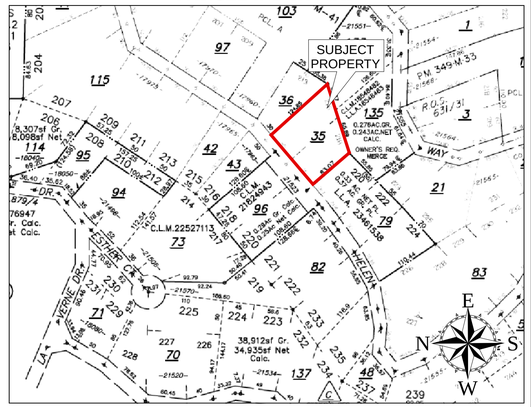
IMPORTANT! SPECIFIED WASTEWATER DRAINFIELD DISPERSAL AREAS SHALL BE FENCED OFF PRIOR TO ANY SITE DEVELOPMENT IN ORDER TO PROHIBIT ANY GRADING EQUIPMENT OR STAGING OF MATERIALS IN THESE AREAS. IT IS IMPORTANT THAT THE NATURAL SOIL CONDITIONS IN THESE AREAS BE PRESERVED FOR PROPER FUNCTION OF THE SHALLOW 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 INCLUDE THIS NOTE.

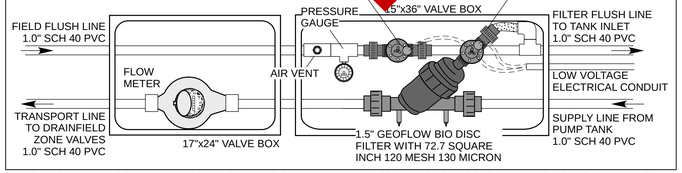
FIELD FLUSH VALVE BOX DETAIL



PARCEL INDEX MAP

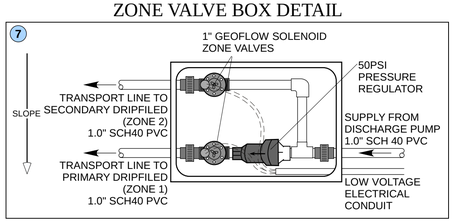


AUTOMATIC HEADWORKS VALVE BOX DETAIL

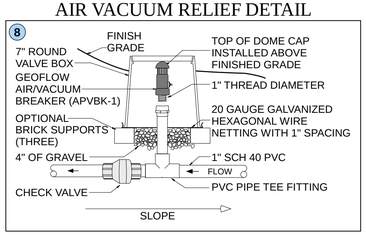


NOTE: THE BOTTOM OF ALL VALVE BOXES SHALL BE SECURELY WRAPPED WITH 20-GAUGE, GALVANIZED HEXAGONAL WIRE NETTING WITH 1" TO 1-1/2" SPACING TO PREVENT BURROWING ANIMALS FROM ENTERING AND FILLING THE VALVE BOXES.

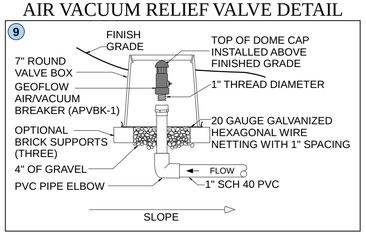
ZONE VALVE BOX DETAIL



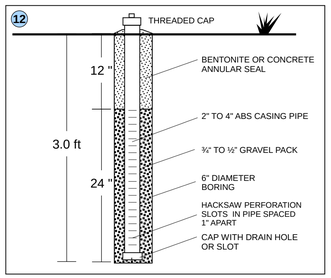
MID-FIELD CHECK VALVE AND AIR VACUUM RELIEF DETAIL



AIR VACUUM RELIEF VALVE DETAIL



INSPECTION WELL CONSTRUCTION DETAIL



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).

COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

BioSphere Consulting Incorporated
• Site Evaluation & Mapping
• Soil Analysis & Percolation Testing
• New Development, Upgrade & Repairs
• Residential & Commercial
Alternative Wastewater System Design
1315 King Street
Santa Cruz, CA 95060
Tel: (831) 430-9116
www.biosphere-consulting.com

ONSITE WASTEWATER TREATMENT SYSTEM DESIGN PLAN

Project Location:	Helen Way, Los Gatos, California	[Santa Clara County]
Property Owner:	Roman Piglitsin	
Mailing Address:	1008 Andy Circle, Sacramento, CA 95838	
Owner Phone #:	(925) 658-8534	email: rp@bsdeconstruction.com
Date: 03/19/21	**By:** David Quinn / Andrew Brownstone	Sheet:
REVISION: 05/05/21 06/06/23 -replaced OSI FRP tank	**Job No.:** 19006	**APN: 544-39-035**	**1** OF 3

PROJECT DESCRIPTION

An onsite wastewater system specifying enhanced treatment using alternative technology is proposed to serve new development of a two bedroom dwelling to be constructed on Helen Way, Lost Gatos in Santa Clara County, California. An "alternative" system with subsurface drip dispersal is specified to provide supplemental treatment of the wastewater discharged on the site to address the steep slopes and limited space on the subject property.

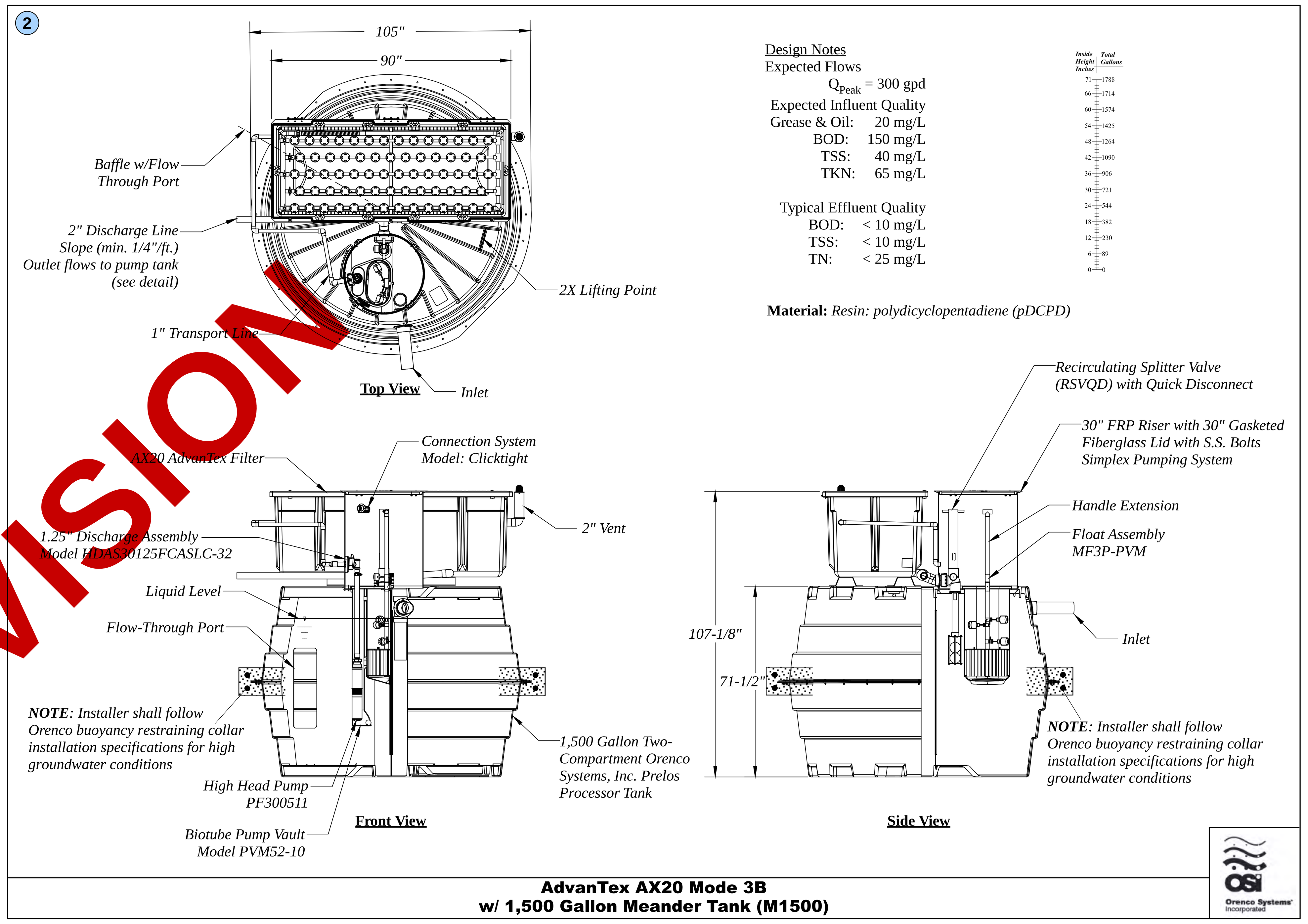
CONSTRAINTS & DESIGN CRITERIA

- The proposed dual draindfield system is designed to serve a 2 bedroom dwelling with a design wastewater flow of 300 gallons per day (gpd) per County DEH guidelines. The AdvanTex™ wastewater treatment system specified can accommodate an average wastewater flows of 600 gpd.
- Drip dispersal is specified to address slope gradients over 40%.
- Soil profiles did not exhibit any evidence of seasonally high groundwater conditions.
- No wells, springs or watercourses are situated within 100' of the proposed Onsite Wastewater Treatment System.

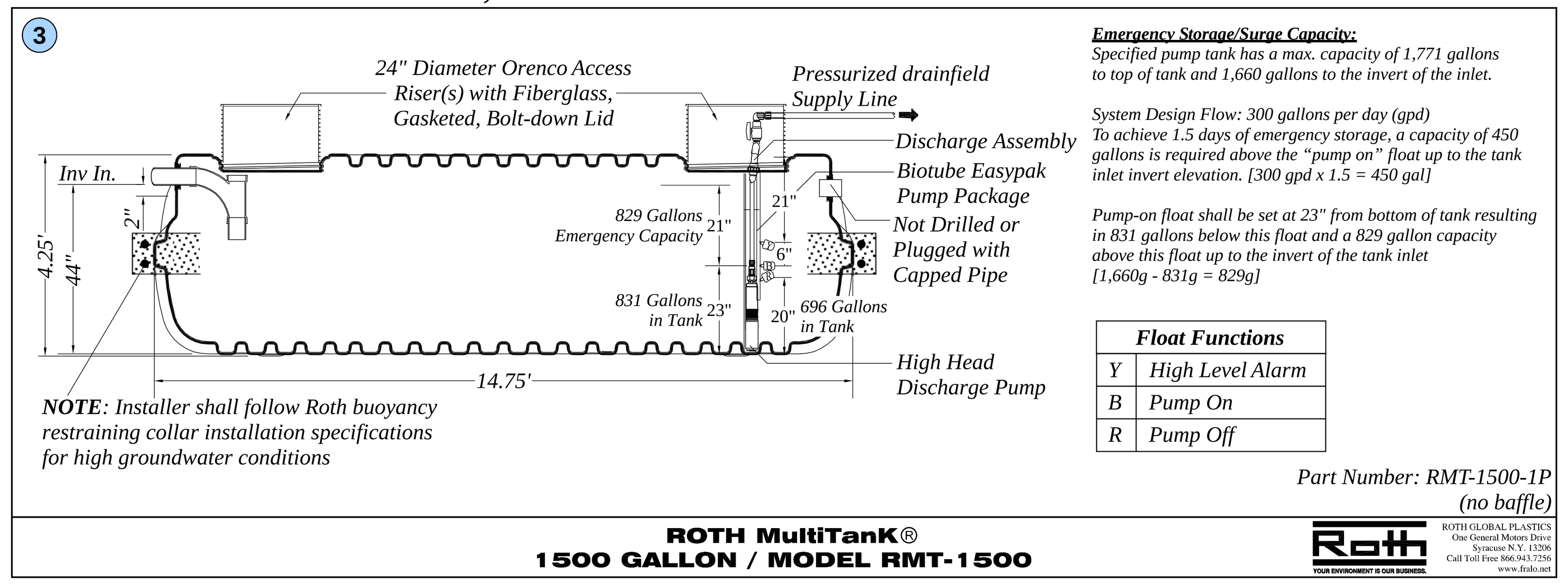
SPECIFICATIONS

1. Building Sewer Lines, & Proposed Processing Tank.
   1.1. A 4" ABS building sewer line shall be installed to convey all raw sewage from dwelling to the processing tank. All gravity sewer piping must maintain a minimum 2% continuous gradient. ***All wastewater including graywater shall be discharged to the processing tank.***
   1.2. Locate 2-way, 4" ABS cleanout fittings on the building sewer to facilitate snaking and line location.
   1.3. A 1,500 gallon, watertight, PRELOS Meander tank, from Orenco Systems®, Inc.(OSI), is specified for use as a processing tank with the proposed AdvanTex™ AX-20(Mode 3B) treatment system. The tank shall have 24" diameter OSI access risers with fiberglass, bolt-down lids (brown). The tank shall be installed according to the manufacturers guidelines including the 6" concrete collar to prevent floatation.
   1.4. The tank hole shall be excavated so that the tank sits level. Install the access riser with a watertight joint using the adhesives supplied by manufacturer.
   1.5. 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.
   1.6. Obtain a watertight tank inspection by EH and the designer or distributor with 24 hours notice to each.
   1.7. Install the recirculating splitter valve (RSV) in the inlet side of the tank according to the installation manual instructions.
2. AdvanTex™ Treatment System
   2.1. An AdvanTex™ treatment system includes a Biotube® pump package for recirculation, RSV, split-flow tee, a AX20 packed-bed filter pod and a telemetry-enabled VeriComm® control panel. Filter pod lid shall be brown unless otherwise requested.
   2.2. Install the AdvanTex™ system according to the installation instructions and in the location shown on the plan. The filter pod shall be installed with the lid (brown) 2"-4" above final grade. A more shallow burial is possible, but only if approved by the property owner.
   2.3. The pressurized transport pipe from the recirc. pump to the filter pod shall be 1.0" schedule 40 PVC. This pressurized line shall be plumbed to the side of the pod opposite of the 2" gravity drain (vent side).
   2.4. The filtrate gravity return pipe from the filter pod to the RSV and on to the discharge pump basin shall be 2" schedule 40 PVC. ***A continuous fall on the return piping as venting through this pipe is critical.***
   2.5. Test the squirt height on the filter pod. It should be approximately 3'-4' high.
3. Discharge Pump Tank and Transport Piping
   3.1. A 1,500 gallon Roth pump tank shall be installed adjacent to the processing tank.
   3.2. The pump tank shall be installed according to the manufacturer's instructions including anti-floatation specifications and be made watertight.
   3.3. Install the pump and float tree according to the instructions provided by manufacturer/dealer.
   3.4. A 1/2 hp OSI high head effluent pump (PF1005) is specified for pressurized dispersal discharge.
   3.5. The filtrate ***transport pipe to dispersal system shall be 1.0" schedule 40 PVC.***
   3.6. Concrete thrust blocks, or equivalent restraint, shall be provided at sharp changes in piping direction.
4. Subsurface Drip Dispersal System
   4.1. Approximately 1,000 lineal feet of Geoflow PC drip tubing (with 0.5gph emitters spaced 12" apart) shall be installed with a minimum of 12" lateral spacing covering an area of at least 1,000 square feet in the configuration shown on the plan. The drip field shall be divided evenly into two zones. The 8 air/vacuum relief valves specified shall be supplied by Geoflow.
   4.2. The drip dispersal field shall be installed according to the instructions in the Geoflow installation manual. Installer shall assure that each drip lateral be installed in such a manner as to reduce the potential of low head drainage as described in the installation manual. The actual location and layout of the dispersal field may vary per owner's, landscaper's or installer's discretion with approval by designer.
   4.3. The drip tubing lines shall be buried 8"-10" deep and spaced no closer than 12" apart. The supply header shall be installed 12" - 18" below grade. It may be easier to install the drip tubing first, and the supply and return headers afterwards. Great care must be taken to keep dirt out of the drip tubing and supply and return piping. All piping shall be thoroughly flushed and pressure tested prior to use.
   4.4. The drip field flush return line is specified to be routed to tank inlet.
   4.5. All pressurized piping shall be schedule 40 PVC and labelled according to current UPC requirements "treated wastewater - do not drink". Pressure piping shall be pressure-rated to 150 psi and solvent welded.
   4.6. Concrete thrust blocks, or equivalent restraint, shall be provided at sharp changes in piping direction.
   4.7. Drainfield shall meet Santa Clara County guidelines for Tree Protection and Preservation for Land Use Applications. Refer to the Santa Clara County Odrinance C-16 Tree Preservation Removal.
5. 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. Installer certification is required by the local AdvanTex™ dealer. The installer is required to fully read and understand the AdvanTex™ and Geoflow manuals prior to the commencement of work.
   5.2. All piping shall conform to the current edition of the 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. A pre-construction conference with designer, DEH inspector and dealer/service provider shall be arranged prior to the commencement of work. Pre-construction conference should include construction procedures, staking or marking of the drip lines, supply and return piping, pump system and appurtenances to be provided. 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). Construction inspection should include inspection of the following: water tightness of effluent dosing (pump) tank, drip field layout, piping materials and installation, and all associated valves and connections, hydraulic testing of the drip system and functionality and setting of all control devices. Final inspection shall be performed in order to verify that all construction elements are in conformance with the approved plans, specifications, and manufacturer recommendations; all inspection wells are installed; and erosion control has been completed. 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.
6. Electrical Work
   6.1. The VeriComm® 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.***
   6.2. One, 20 amp, 120V electrical circuit and two, 20 amp, 230V electrical circuits shall be extended to the VeriComm® 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 VeriComm® panel. The system will not be finalized until everything (including panel telemetry) is functional.
   6.3. All work shall conform to the California Electrical Code and the contractor shall be responsible for obtaining any electrical permits required.
7. 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."
8. Operating Permit for Alternative OWTS
   8.1. In addition to the installation permit, an operating permit is required for alternative OWTS per section B11-92 of the Santa Clara County Ordinance.
   8.2. The operating permit will be issued after completion of the septic system installation and final inspection.
   8.3. 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.

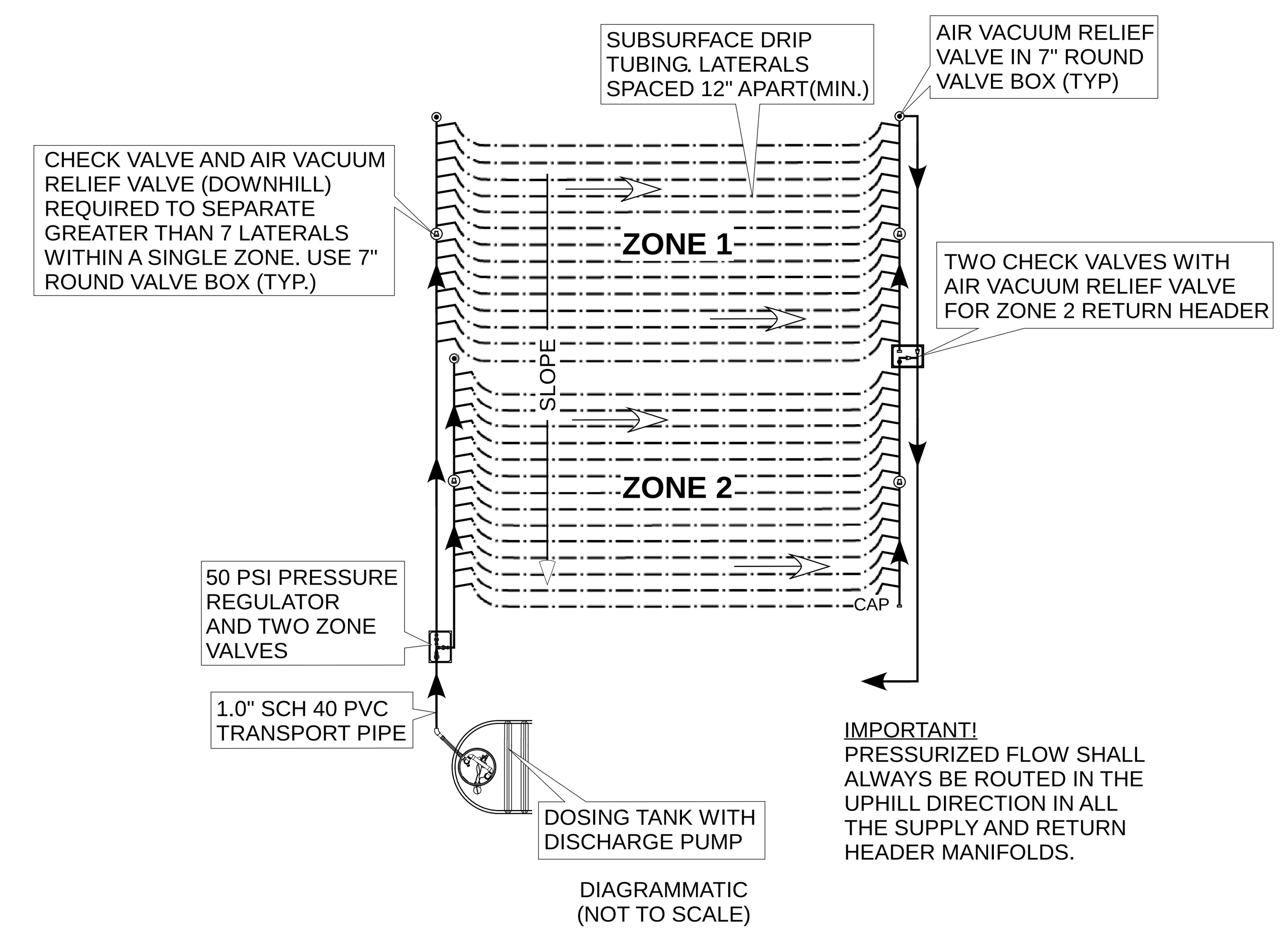
ADVANTEX AX-20 DETAIL



1,500 GALLON PUMP TANK DETAIL



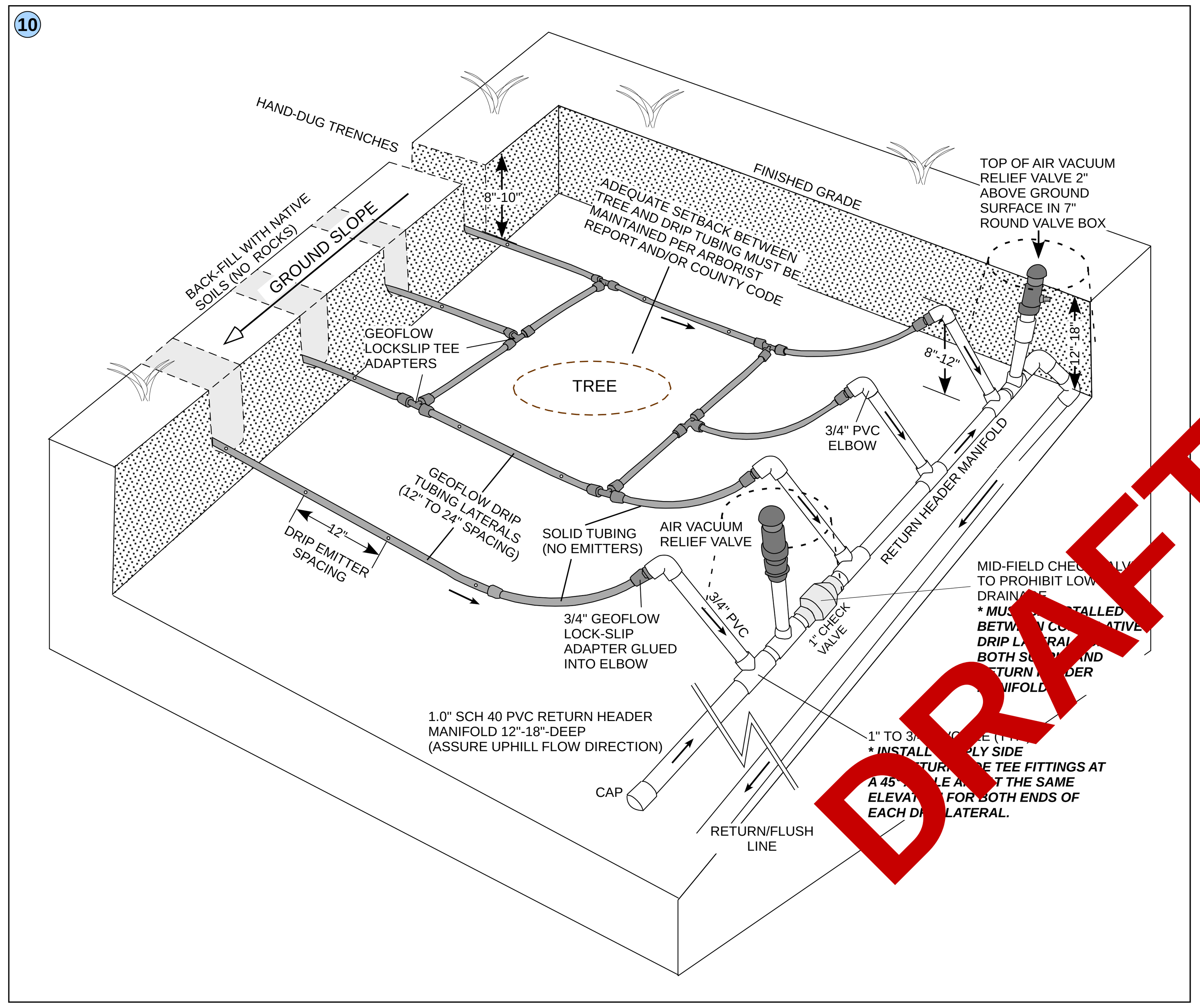
10 DRIP FIELD PLUMBING SCHEMATIC



SYSTEM OPERATION AND MAINTENANCE

- The owner should read and operate the system according to the AdvanTex™ & Geoflow operation and maintenance literature.
- Orenco requires biannual maintenance servicing of the AdvanTex™ 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 drip fields shall be automatically flushed one zone at a time every 12 months at a minimum. This is done by the control panel software. No drip zone should be left dormant (un-dosed) for more than a few weeks at a time.
- 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.

SUBSURFACE DRIP SYSTEM HEADER/MANIFOLD DETAIL



COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

DRAFT REVISION

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Alternative Wastewater System Design
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Santa Cruz, CA 95060
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www.biosphere-consulting.com

PROFESSIONAL GEOLOGIST
ANDREW BROWNSTONE
No. 7453
Exp. 12/31/23
STATE OF CALIFORNIA

ONSITE WASTEWATER TREATMENT SYSTEM DESIGN PLAN

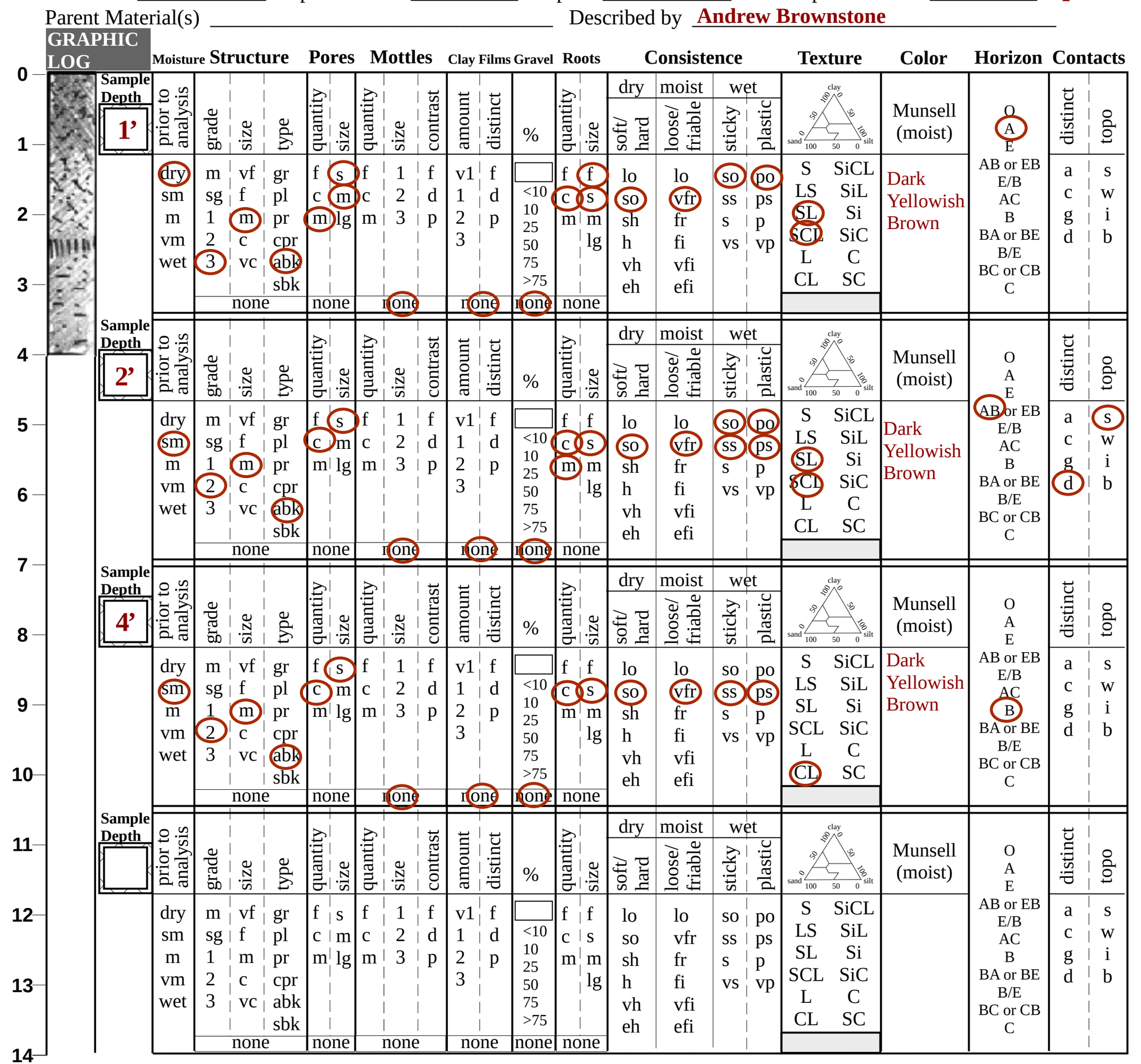
Project Location:	Helen Way, Los Gatos, California [Santa Clara County]		
Property Owner:	Roman Piglitsin		
Mailing Address:	1008 Andy Circle, Sacramento, CA 95838		
Owner Phone #:	(925) 658-8534 email: rp@bsideconstruction.com		
Date: 03/19/21	**By:** David Quinn / Andrew Brownstone		Sheet:
REVISION: 05/05/21 06/06/23 -replaced OSI FRP tank	**Job No.:** 19006	**APN: 544-39-035**	**2** OF 3

SOIL PROFILE FIELD LOG

(modified by Andrew Brownstone after Birkeland, 1999; Table A1.3

Test hole I.D. **SP-1**

Job Number/Name: Job 19004 - Piglitsin Location Helen Way Los Gatos APN 544-39-035
Date Soil Sampled 4/26/19 Time pm Vegetation varied trees
Elevation 54' Slope Gradient ~40% Aspect south Geomorphic Surface Base of Slope
Parent Material(s) Described by Andrew Brownstone

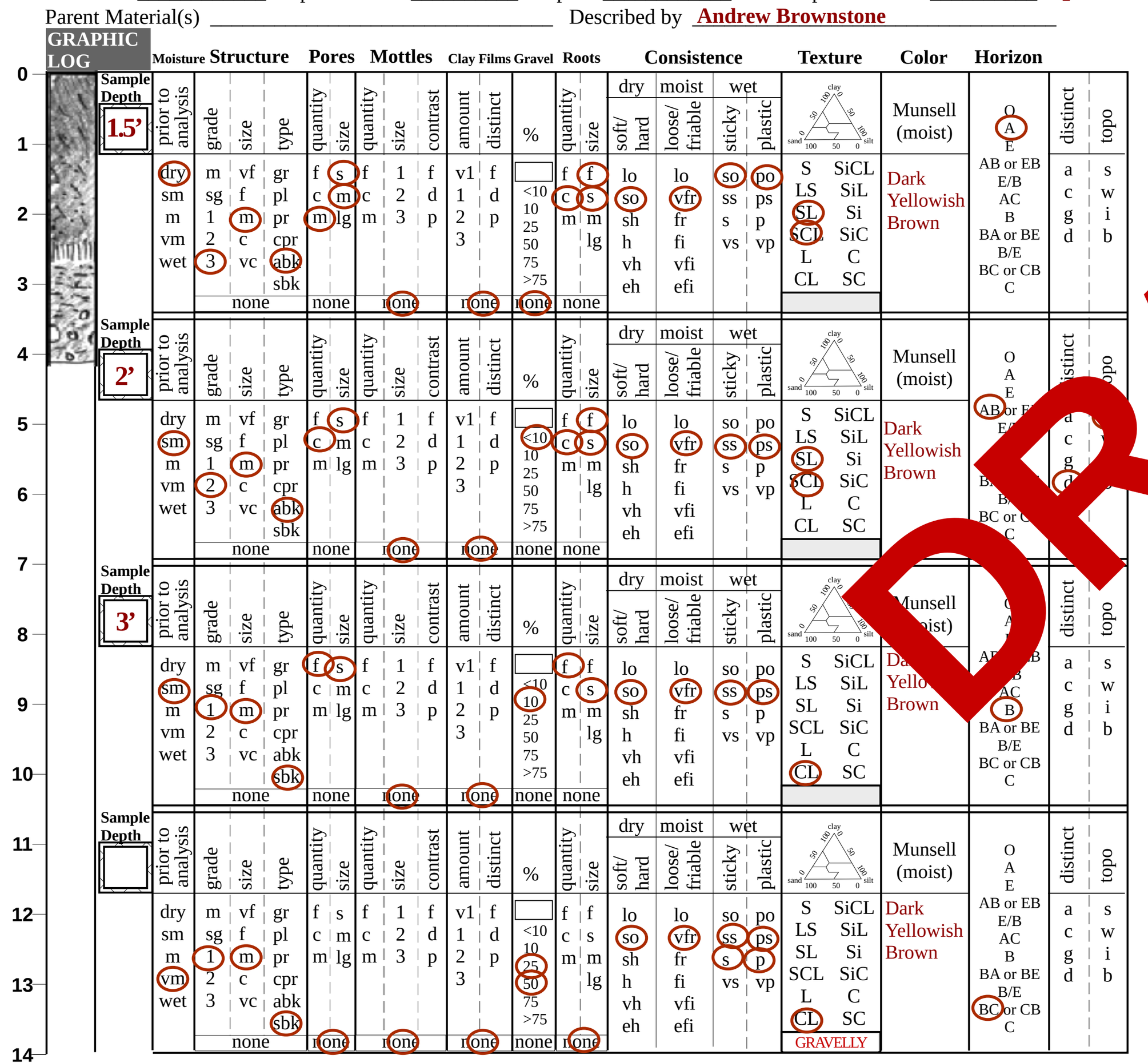


SOIL PROFILE FIELD LOG

(modified by Andrew Brownstone after Birkeland, 1999; Table A1.3

Test hole I.D. **SP-2**

Job Number/Name: Job 19004 - Piglitsin Location Helen Way Los Gatos APN 544-39-035
Date Soil Sampled 4/26/19 Time PM Vegetation varied trees
Elevation 54' Slope Gradient ~40% Aspect south Geomorphic Surface Base of Slope
Parent Material(s) Described by Andrew Brownstone

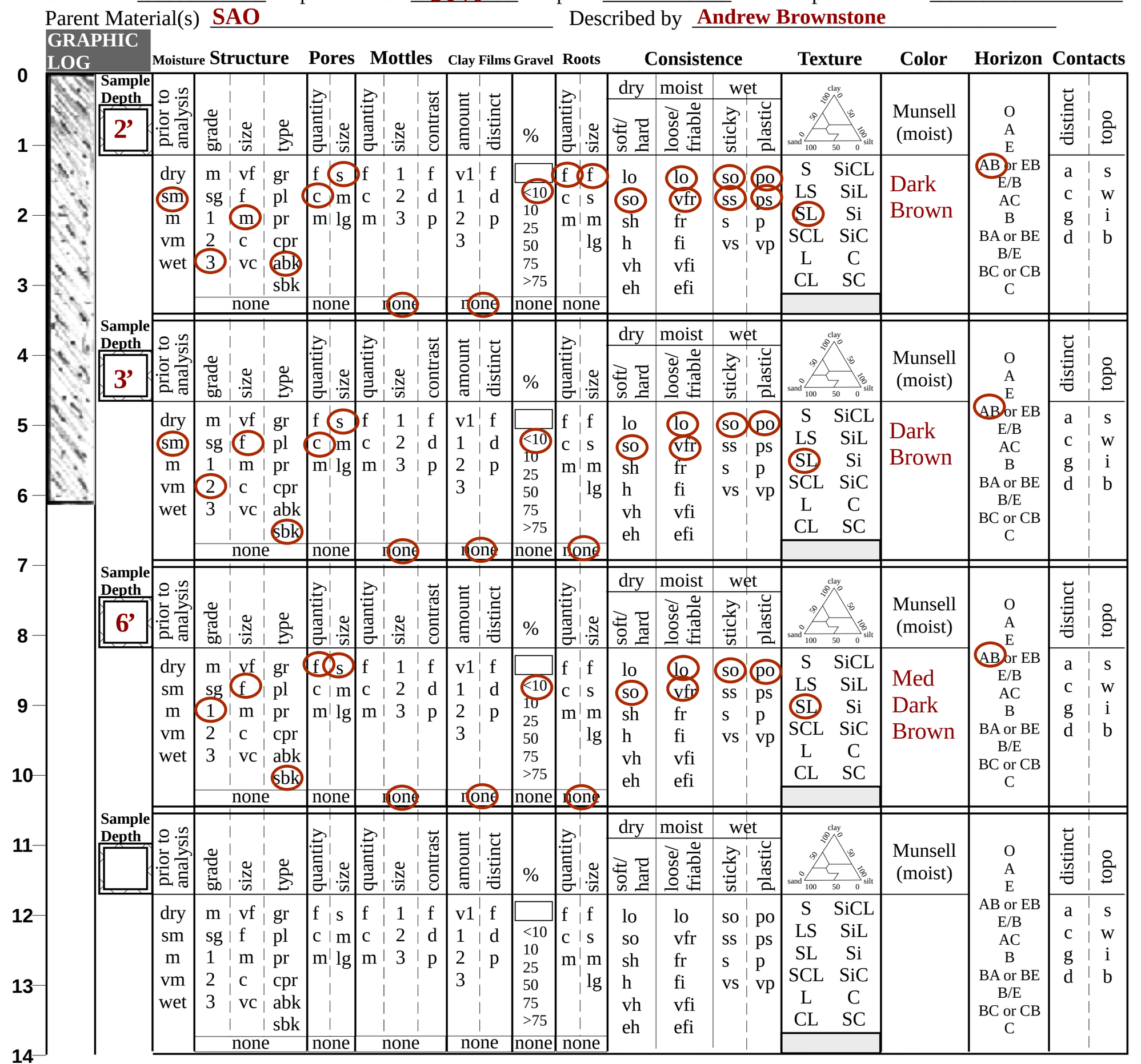


SOIL PROFILE FIELD LOG

(modified by Andrew Brownstone after Birkeland, 1999; Table A1.3

Test hole I.D. **SP-3**

Job Number/Name: Job 19006 - Piglitsin Location Helen Way Los Gatos APN 544-039-035
Date Soil Sampled 06/12/19 Time Vegetation SAO
Elevation Slope Gradient <30% Aspect SAO Geomorphic Surface SAO
Parent Material(s) SAO Described by Andrew Brownstone



PUMP SELECTION CHART (PRIMARY - ZONE 1)

PIGLITSIN

Parameters

Discharge Assembly Size	1.00	inches
Transport Length	5	feet
Transport Pipe Class	40	
Transport Line Size	1.00	inches
Distributing Valve Model	None	
Max Elevation Lift	5	feet
Design Flow Rate	4.4	gpm
Flow Meter	None	inches
'Add-on' Friction Losses	87	feet

Calculations

Transport Velocity	1.6	fps

Frictional Head Losses

Loss through Discharge	0.9	feet
Loss in Transport	0.1	feet
Loss through Valve	0.0	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	87.0	feet

Pipe Volumes

Vol of Transport Line	0.2	gals

Minimum Pump Requirements

Design Flow Rate	4.4	gpm
Total Dynamic Head	92.9	feet

PumpData

PF1005 High Head Effluent Pump
10 GPM, 1/2HP
115/230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point
Design Point

S[illegible]IL P[illegible]RCOLATION SUMMARY TABLE -- 06/06/19

Pe[illegible]e (PH)		7	8	9	10	11	12	
Depth		2.48'	2.34'	2.10'	2.90'	3.06'	2.92'	
Stabilize[illegible]	R	1.10	1.90	0.90	1.90	1.20	2.80	
[illegible]sted Sta[illegible]zed MPI	R_1=R x 1.4	1.54	2.66	1.26	2.66	1.68	3.92	
[illegible]Stabilized MPI	**R_2=(? R_1)/ #Holes**							**2.29**
Bedrooms:	FOR OFFICE USE ONLY	TANK SIZE (Gal)			Leach Line (Ft)			

GEOFLOW SUBSURFACE DRIP

Updated Sept 2019

FIELD FLOW

Job Description:	*Piglitsin*
Contact:	*Andrew Brownstone*
Prepared by:	*Samantha Orozco*
Date:	*12-Mar-21*

Please fill in the shaded areas and drop down menus:

Worksheet 1- Field Flow

Total field

Total Quantity of effluent to be disposed per day	300	gallons / day	note
Hydraulic loading rate	0.6	gallons / sq.ft. / day	note
Minimum Dispersal Field Area	500	square ft.	note
Total Dispersal Field Area	500	square ft.	note

Flow per zone

Number of Zones	**1**	zone(s)	note
Dispersal area per zone	500	square ft.	note
Choose line spacing between WASTEFLOW lines	1	ft.	note
Choose emitter spacing between WASTEFLOW emitters	1	ft.	note
Total linear ft. per zone (minimum required)	500	ft. per zone	note
Total number of emitters per zone	500	emitters per zone	note
Select Wasteflow dripline (16mm)	Wasteflow PC - 1/2gph	dripline	note
Pressure at the beginning of the dripfield	25	psi	note
Feet of Head at the beginning of the dripfield	57.75	ft.	note
What is the flow rate per emitter in gph?	0.53	gph	note
Dose flow per zone	**4.42**	**gpm**	note
Select **flush velocity**	0.5	ft/sec	note
How many WASTEFLOW laterals per zone?	18	lines	note
Fill in the *actual* length of longest WASTEFLOW lateral	30	ft.	note
Flush flow required at the end of each dripline	0.37	gpm	note
Total Flow required to achieve flushing velocity	6.66	gpm	note
Total Flow per zone- worst case scenario	**11.08**	**gpm**	note

Select Filters and zone valves

Select Filter Type	BioDisc Filter		note
Recommended Filter (item no.)	BioDisc Filter-150	1.5in < 30 gpm	note
Select Zone Valve Type	None	-	note
Recommended Zone Valve (item no.)	0	0	note

Dosing

Number of doses per day / zone:	12	doses	note
Timer ON. Pump run time per dose/zone:	5.66	mins.	5:39
Timer OFF. Pump off time between doses	1.87	hrs.	1:52
Per Zone - Pump run time per day/zone:	1.13	hrs.	1:07
All Zones - Number of doses per day / all zones	12	doses / day	
Allow time for field to pressurize	0.500	mins.	0:30
Filter flush timer	0.350	mins:secs	0:21
Drain timer	5.000	mins:secs	5:00
Field flush timer	1.000	mins:secs	1:00
Field flush counter	3	cycles	note
Time required to complete all functions per day		hrs.	**! ! !**
Dose volume per zone	25	gallons per dose	note

GEOFLOW SUBSURFACE DRIP

PUMP SIZING

Job Description:	*Piglitsin*
Contact:	*Andrew Brownstone*
Prepared by:	*Samantha Orozco*
Date:	*3/12/2021*

Please fill in the shaded areas and drop down menus:

Pressure losses may be grossly overstated, particularly if designing with WASTEFLOW Classic
The letters on the diagram(right) match the letters in section 2 below.

Worksheet - Pump Sizing

Section 1 - Summary from Worksheet 1

Flow required to dose field	4.42	gpm
Flow required to flush field	6.66	gpm
Flow required to dose & flush field	11.08	gpm
Filter	BioDisc Filter-150	
No. of Zones	1	zones
Zone valve	-	
Dripline	Wasteflow PC - 1/2gph	
Dripline longest lateral	30.00	ft.

Section 2

	Ft of head		Pressure	
A. Flush line - Losses through return line				
Select Pipe from dropdown menu	PVC schedule 40			
Select Flush Line Diameter	1"	inch		
Length of return line	49	ft.		
Equivalent length of fittings	15	ft.		
Elevation change. (if downhill enter 0)	**0**	ft.		
Pressure loss in 100 ft of pipe	2.97	ft.	1.28	psi
Total pressure loss from end of dripline to return tank	*1.9*	*ft.*	0.82	psi
B. Dripline - Losses through Wasteflow dripline				
Length of longest dripline lateral	**30**	ft.		
Minimum dosing pressure required at end of dripline	23.10	ft.	10.00	psi
Loss through dripline during flushing	0.29	ft.	0.13	psi
Total min. pressure at inlet to driplines	*23.39*	*ft.*	10.13	*psi*
A+B. Minimum Pressure required at beginning of dripfield				
CALCULATED pressure required at entry to driplines	*23.39*	*ft.*	10.13	*psi*
SPECIFIED pressure at beginning of dripfield (from worksht 1)	**57.8**	**ft.**	25.00	*psi*
Great! SPECIFIED Pressure is greater than CALCULATED Pressure requirement. Go to next step				
C. Drip components - Losses through headworks				
Filter	0.6	ft.	0.25	psi
Zone valve pressure loss (not in diagram)	1.73	ft.	0.75	psi
Flow meter pressure loss (not in diagram)		ft.	0.75	psi
Other pressure losses	-	ft.	-	psi
Total loss through drip components	**2.31**	**ft.**	1.75	psi
D. Supply line - Minimum Pressure head required to get from pump tank to top of dripfield				
Select Pipe from dropdown menu	PVC schedule 40			
Select Supply line diameter	1"	inch		
Length of supply line	77	ft.		
Equivalent length of fittings	20	ft.		
Height from pump to tank outlet	6	ft.		
Elevation change. (if downhill enter 0)	14	ft.		
Pressure loss/gain in 100 ft. of pipe	7.61	ft.	[illegible].29	psi
Total gain or loss from pump to field	***27.4***	***ft.***	11.85	psi
Total dynamic head	**87**	**ft.**	37.8[illegible]	[illegible]
Pump capacity * - Field Flush & Dose Flow	**11.1**	**gpm**		
- Field Dose Flow	**4.4**	[illegible]		
- Filter Flush Flow	**na**	[illegible]		
Pump Model Number				
Voltz / Hp / phase				

TABLE DD-2. DRIP DISPERSAL SYSTEM MANAGEMENT REQUIREMENTS

	WORK	FREQUENCY
Inspection	• Conduct routine visual observations of drip field, downslope area and surroundings for wet areas, pipe leaks or damage, soil erosion, drainage issues, abnormal vegetation, gophers or other problems. • Conduct routine physical inspections of system components, including valves, filters, and headworks box(es). • Perform special inspections of drip field at time of any landscaping work or other digging in drip field area. • Perform inspections of dosing pump(s) and appurtenances (per O&M manual and Performance Evaluation Guidelines, Part 5 of this Manual). • Record observations.	• Every 6 to 12 months.
Maintenance	• Manually remove and clean filter. • Clean and check operation of pressure reducing valves. • Clean flush valves and vacuum release valves.	• Clean filter every 6 months. • Other maintenance annually.
Water Monitoring & Sampling	• Measure and record water levels in dispersal field monitoring wells, as applicable, per permit requirements. • Obtain and analyze water samples from dispersal field monitoring wells, as applicable, per permit requirements.	• According to permit conditions, if applicable.
Reporting	• Report findings to DEH per permit requirements. • Standard report to include dates, monitoring well and other data collected, work performed, corrective actions taken, and performance summary. • Report public health/water quality emergency to DEH immediately.	• According to permit conditions, typically every 1 to 2 years, depending on systems size, usage, history, location.

COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

DRAFT REVISION

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• Site Evaluation & Mapping
• Soil Analysis & Percolation Testing
• New Development, Upgrade & Repairs
• Residential & Commercial
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ONSITE WASTEWATER TREATMENT SYSTEM DESIGN PLAN

Project Location:	Helen Way, Los Gatos, California [Santa Clara County]
Property Owner:	Roman Piglitsin
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Owner Phone #:	(925) 658-8534 email: rp@bsideconstruction.com
Date: 03/19/21	**By:** David Quinn / Andrew Brownstone
REVISION: 05/05/21 06/06/23 -replaced OSI FRP tank	**Job No.:** 19006 **APN: 544-39-035**