Legend:

Horizon	Mottles	Cementation	Pores
a - organic <1/6	f - Few	CO - Non Cemented	1 - Few
b - buried	C - Common	XWC - Extremely Weakly Cemented	2 - Common
c - concretions	M - Many	VWX - Very Weakly Cemented	3 - Many
d - root restriction	1 - Fine	WC - Weakly Cemented	V1 - Very Fine
e - organic 1/6 -2/5	2 - Medium	MC - Moderately Cemented	1 - Fine
f - frozen	3 - Coarse	SC - Strongly Cemented	2 - Medium
g - gleyed	F - Faint	VSC - Very Strongly Cemented	3 - Coarse
h - fluvial organic, v, c<3	D - Distinct	I - Indurated	4 - Very Coarse
i - organic > 2/5	P - Prominent		IN - In Ped
k - carbonates			EX - Ex Ped
m - cemented			VS - Vesicular
n - sodium			TU - Tubular

Horizon (cont.): o - sesquioxides; p - plowed; q - silica; r - rock; s - fluvial organic, v, c>3; ss - slickensides; t - clay; v - plinthite; w - color and structure; x - fragipan; y - gypsum; z - salts

Structure: 1 - Weak; 2 - Moderate; 3 - Strong; VF - Very Fine; F - Fine; M - Medium; CO - Coarse; VC - Very Coarse; PR - Prismatic; COL - Columnar; ABK - Angular Blocky; SBK - Subangular Blocky; GR - Granular; PL - Platy; MA - Massive; SGR - Single Grain

Penetration Resistance: EL - Extremely Low; VL - Very Low; L - Low; M - Moderate; H - High; VH - Very High; EH - Extremely High

Carbonates: 4 - Non Effervescent; 0 - Very Slightly Effervescent; 1 - Slightly Effervescent; 2 - Strongly Effervescent; 3 - Violently Effervescent

Rock Fragments: V - very; X - extremely; GR - gravelly; CB - cobbly; ST - stony; B - bouldery; CN - channery; FL - flaggy

Rupture Resistance:
DRY: L - Loose; S - Soft; SH - Slightly Hard; MH - Moderately Hard; VH - Very Hard; H - Hard; EH - Extremely Hard; R - Rigid; VR - Very Rigid
MOIST: L - Loose; VFR - Very Friable; FR - Friable; FI - Firm; VFI - Very Firm; EFI - Extremely Firm; SR - Slightly Rigid; R - Rigid; VR - Very Rigid

Roots: V1 - Very Few; 1 - Few; 2 - Moderately Few; 3 - Common; 4 - Many; V1 - Very Fine; 1 - Fine; 2 - Medium; 3 - Coarse; 4 - Very Coarse; P - Between Peds; C - In Cracks; M - Matted On Top; S - Matted On Stones; T - Throughout

Boundary: a - Abrupt; c - Clear; g - Gradual; d - Diffuse; s - Smooth; w - Wavy; i - Irregular; b - Broken

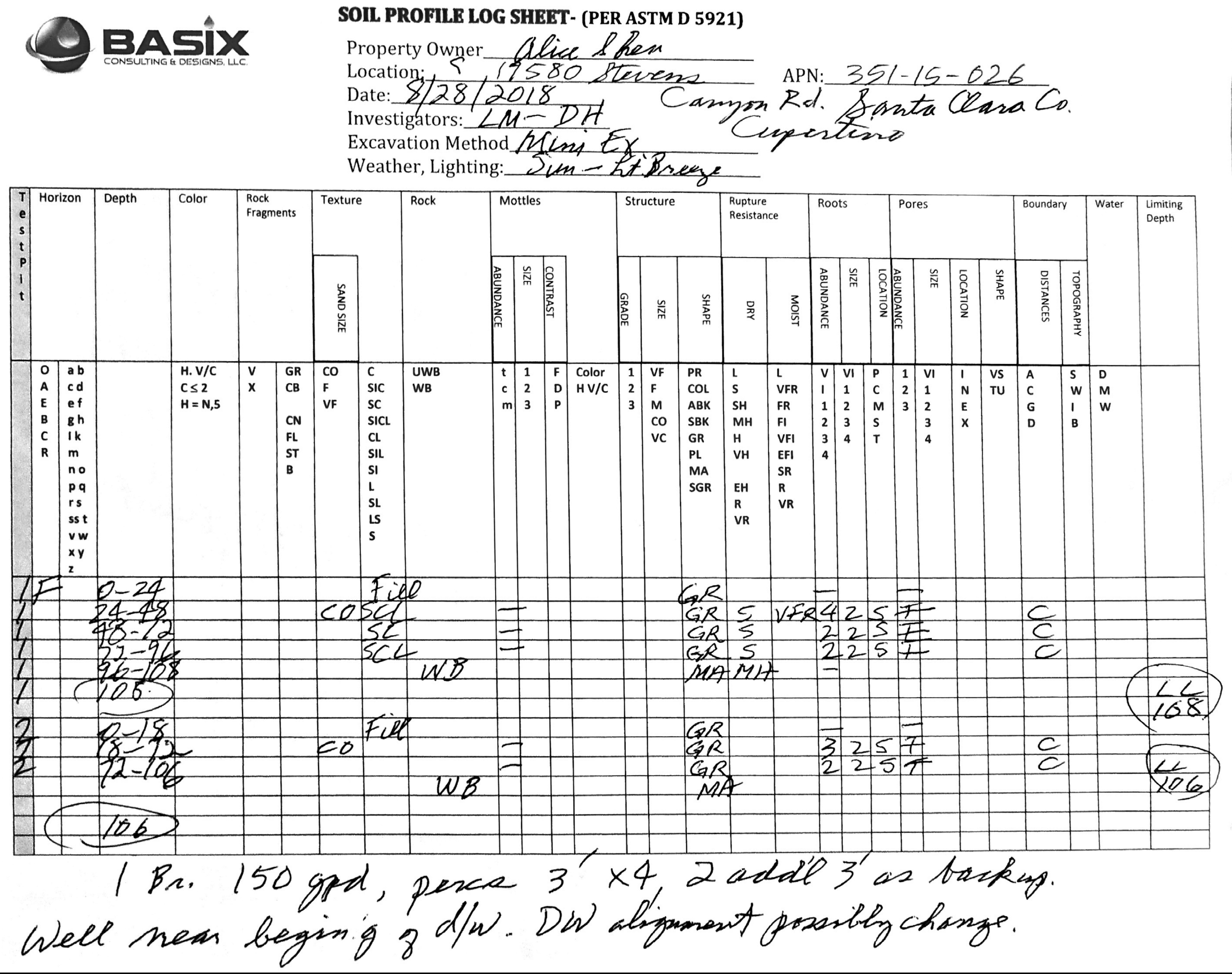
Water: D - Dry; M - Moist; W - Wet

Texture: CO - Coarse; F - Fine; VF - Very Fine; C - Clay; SIC - Silty Clay; SC - Sandy Clay; SICL - Silty Clay Loam; SI - Silt; L - Loam; SL - Sandy Loam; LS - Loamy Sand; S - Sand

Rock: UWB - Unweathered Bedrock; WB - Weathered Bedrock

FIG. 9 Definitions for Abbreviations

Soil Profile Log Sheet:



SOIL PROFILE LOG SHEET- (PER ASTM D 5921)

Property Owner: Alice Shen
Location: 17580 Stevens Canyon Rd. Santa Clara Co. Cupertino
APN: 351-15-026
Date: 8/28/2018
Investigators: LM - DH
Excavation Method: Mini Ex
Weather, Lighting: Sun - Lt Breeze

Test Pit	Horizon	Depth	Texture	Rock	Mottles	Structure	Rupture Resistance	Roots	Pores	Boundary	Limiting Depth
1	F	0-24	Fill			GR					
1		24-48	CO SCL		–	GR	S VFR	4 2 S	T	C	
1		48-72	SL		–	GR	S	2 2 S	T	C	
1		72-96	SCL		–	GR	S	2 2 S	T	C	
1		96-108		WB		MA	MH				
1		106									LL 108
2		0-18	Fill			GR					
2		18-72	CO		–	GR		3 2 S	T	C	
2		72-106			–	GR		2 2 S	T	C	
				WB		MA					LL 106
		106									

1 Br. 150 gpd, percs 3' x4, 2 add'l 3' as backup.
Well near begin'g of d/w. DW alignment possibly change.

Perc Test Summary:

Santa Clara County - Department of Environmental Health
SOIL PERCOLATION TEST RECORDED MEASUREMENTS

OWNER APPLICANT: Alice Shen	Project # SR0858017
LOCATION: 17580 Stevens Canyon Road	Consultant: L. Miyashiro — Inspected By: D. Haghighi
COMPANY: Basix Consulting & Designs, LLC	PHONE: 707.718.2122 — DATE: 9/4/2018
	PRESOAK DATE: 9/3, 9/4/2018 — HRS: 4

HOLE # P-1 — DEPTH 36"

TIME START	TIME FINISH	WATER LEVEL START	WATER LEVEL FINISH	MIN	INCH	MPI
10:37	11:07	21.5	27.25	0:30	5.75	5.20
11:08	11:38	21.5	27	0:30	5.5	5.45
11:38	12:08	21.5	27.25	0:30	5.75	5.20
12:08	12:38	21.125	26.625	0:30	5.5	5.45
12:38	13:08	21.25	26.75	0:30	5.5	5.45

HOLE # P-2 — DEPTH 36"

TIME START	TIME FINISH	WATER LEVEL START	WATER LEVEL FINISH	MIN	INCH	MPI
10:40	11:10	14.5	E	0:30	#VALUE!	#VALUE!
11:11	11:41	14.5	E	0:30	#VALUE!	#VALUE!
11:42	11:57	14.5	21.5	0:15	7.0	2.14
11:57	12:07	14.8	18.5	0:10	3.7	2.70
12:07	12:17	14.5	18.5	0:10	4.0	2.50
12:17	12:27	14.5	18.5	0:10	4.0	2.50
12:27	12:37	14.5	18.5	0:10	4.0	2.50

HOLE # P-3 — DEPTH 37.5"

TIME START	TIME FINISH	WATER LEVEL START	WATER LEVEL FINISH	MIN	INCH	MPI
10:42	11:12	20.5	25.625	0:30	5.125	5.85
11:15	11:45	20.5	25.5	0:30	5	6.00
11:48	12:18	20.375	25.75	0:30	5.125	5.85
12:19	12:49	20.5	25.5	0:30	5	6.00
12:50	13:20	20.5	25.5	0:30	5	6.00

HOLE # P-4 — DEPTH 36"

TIME START	TIME FINISH	WATER LEVEL START	WATER LEVEL FINISH	MIN	INCH	MPI
10:31	11:01	23.0	29.0	0:30	6.0	5.00
11:03	11:33	23.0	28.8	0:30	5.8	5.22
11:36	12:06	23.0	29.0	0:30	6.0	5.00
12:08	12:38	23.0	29.0	0:30	6.0	5.00

HOLE # P-5 — DEPTH 36"

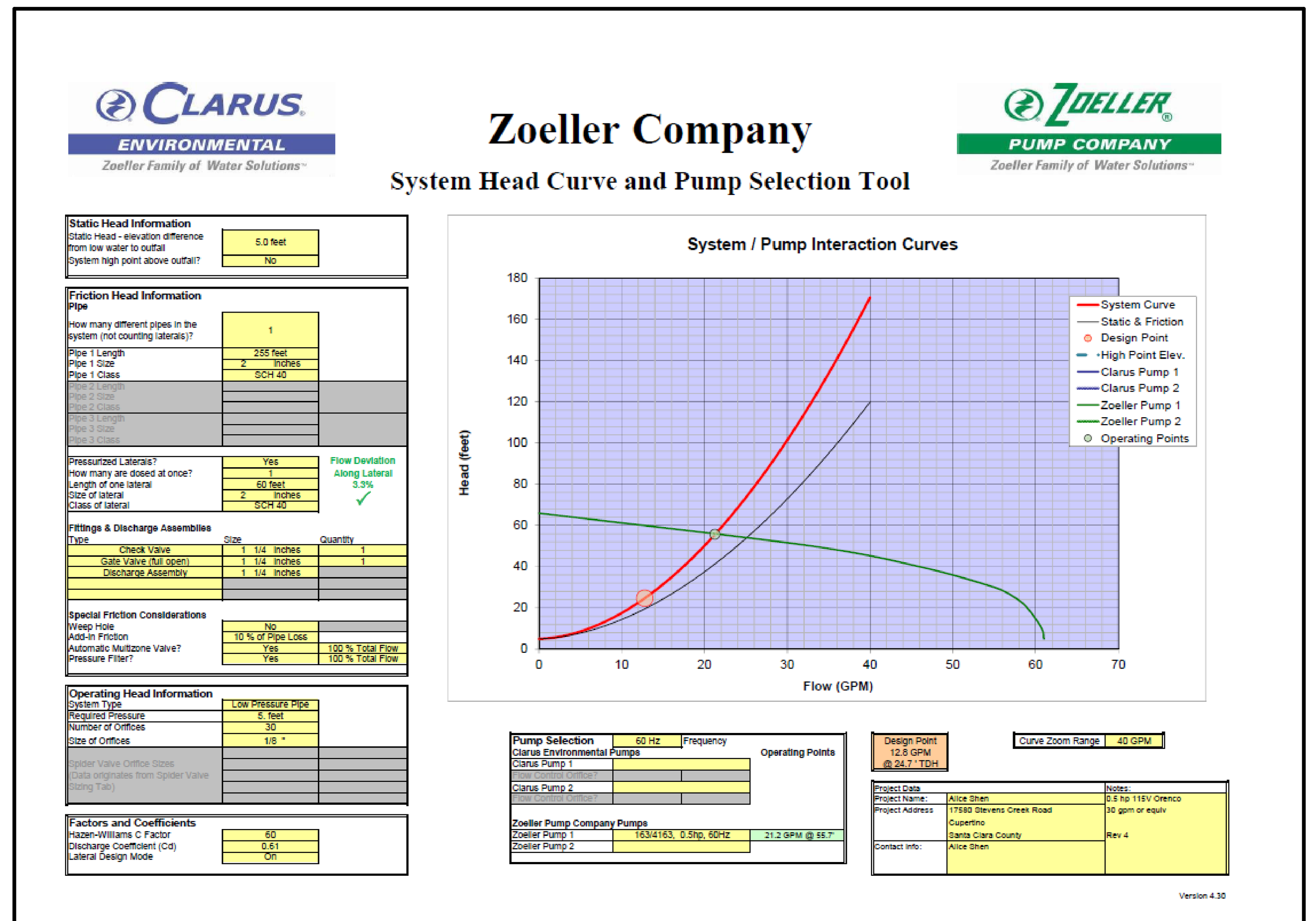
TIME START	TIME FINISH	WATER LEVEL START	WATER LEVEL FINISH	MIN	INCH	MPI
10:37	11:07	13	13.5	0:30	0.5	60.00
11:07	11:37	13.25	13.375	0:30	0.125	240.00
11:37	12:07	13.25	13.25	0:30	0	#DIV/0!
12:09	12:39	13.25	13.25	0:30	0	#DIV/0!

HOLE # P-6 — DEPTH 36"

TIME START	TIME FINISH	WATER LEVEL START	WATER LEVEL FINISH	MIN	INCH	MPI
10:38	11:08	18.8	22.0	0:30	3.3	9.23
11:10	11:40	19.0	22.0	0:30	3.0	10.00
11:42	12:12	18.8	22.0	0:30	3.3	9.23
12:13	12:43	3.0	22.0	0:30	3.0	10.00

HOLE		1	2	3.0	4.0	5	6.0
Stabilized MPI	R	5.45	2.5	6.0	5.0	0	10.0
Adjusted Stabilized MPI	R_1=R x 1.4	7.63	3.5	8.4	7.0	0	14.0
Average Adjusted MPI	$R_2=(\Sigma R_1)/$ # Holes= 8 mpi						
# Bedrooms:	FOR OFFICIAL USE ONLY	Tank Size (Gal)			Leach line (Ft)		

Pump Curve:



Construction Notes:

DESIGN SUMMARY- Pretreatment to PD

SETTLING TANK

Septic Tank: [N]1500 gallon two compartment septic tank, risers and lids

Dosing Tank: [N] 810 gallon single compartment dosing tank, riser a...

DESIGN SUMMARY

design flows: 150 gallons per day, 1 Br

soil application rate (SAR): 1.2 gpd / square feet

absorption area: 125 sf

trench dimensions: **60 ft** L X 24 inches W X 42 in D] **x2**

INSPECTION SCHEDULE

All construction inspections shall be scheduled with both the designer and the **Santa County Department of Environmental Health –SCCDEH** specialist at least 48 ho advance. Any deviations shall be discussed and approved with the **SCCDEH** specialist a system designer. Reference is made to the SCCDEH codes for compliance with insp requirements as stated in the standards. Failure to comply with the inspection requirements delay final approval and may require excavation to verify that the construction was perf according to design.

- Preconstruction-tailgate meeting to verify markings and level ground
- Trench excavation and depth verification to be on contour and level SEE NOTE BELOW
- Water tight inspection-septic and dosing tanks
- Hydraulic inspection to verify residual pressure
- Performance well installation and verification
- Backfill trenches with native loam, final grading and winterize

NOTE: Upper 12-14 inches of fill material to be excavated and removed. Replace with deeper soil material excavated from trench bottom.

CONSTRUCTION NOTES

GENERAL

Any field modifications to the prescribed plans and specifications must be discussed and approved by the designer of record and SCCDEH. The installer shall be a licensed contractor familiar with the alternative septic system code requirements.

EQUIPMENT & MATERIALS

The installer must refer to all applicable county code requirements for alternative systems. Installer to determine the size of the excavation required for the septic and dosing tanks. All construction materials and methods will be subject to verification by both the designer and **SCCDEH**. Any substitutions or modifications will require the prior approval by the designer and **SCCDEH**. Precast concrete tanks shall be IAPMO approved tanks commonly installed in Santa Clara County

WATERTIGHT TESTING REQUIRED & SITE GRADING

Septic tank for primary residence will be subject to water tight verification. Access risers and water tight lids and secure fasteners are required for all tank openings. The septic tank shall be installed with 12 inches of soil cover and excess soil to mound over the tank. The risers shall extend to 4 inches above the finished ground surface with the grade sloped away from the lids and higher than the surrounding grade. The areas of the tank installations shall be protected from any vehicular traffic and any transport line runs shall be protected as well. All downspouts from the residence must be diverted away from the area that the septic system is to be installed and connected to the sub drain system designed by others. The installer shall obtain dimensions for the septic tank excavation from the tank vendor and prepare the pit with any rock lining in order to provide a level and compacted surface prior to tank placement.

The minimum grade of the ABS building lateral is 0.25 inch per foot or 2.5%, as a water tight run from the building drain to the septic tank. The grade from the septic tank to dosing tank is 0.125 inch per foot or 1.25%. Tank penetrations shall be sealed with approved rubber fittings with stainless steel clamps and verified to be water tight. A 2-way Kelly clean out is required a minimum of 12 inches from the building foundation-see plans for location.

SITE PREPARATION

The ground must be verified to be sufficiently dry and that soil compaction will not occur. Prior to the start of construction, site conditions for soil moisture, field markings and construction staking is subject to verification by the designer and **SCCDEH**. All plumbing shall meet and conform to Uniform Plumbing Code (UPC), IAPMO, National Electric Code (NEC), Uniform Mechanical Code (UMC), National Sanitation Foundation (NSF), as well as conform to all local regulations pertaining to the applicable on-site sewage disposal construction standards, *Santa Clara County OWTS Standards.* 150 psi minimum pressure rated, solvent welded joints

The septic and dosing tank shall be located in an area accessible for post construction servicing. **Six (6)** performance wells shall be constructed and placed in accordance with the accompanying site plan. Wells shall be housed in standard irrigation boxes and concrete grouted with surface seals-(see plans for details). Any changes, modifications or substitutions require a prior written approval from both the designer of record and **SCCDEH** prior to making the changes. Failure to comply may be grounds for the suspension of the construction permit and additional delays. Such changes or modifications in the specifications contained herein will be shown on the "AS BUILT" plan including a letter of compliance issued by the designer to be submitted to the county prior to the final septic system approval by **SCCDEH**.

Automatic Distribution Valve (ADV) The force main from the dosing tank shall terminate at the **ADV** valves placed at the **middle** of each pressure lateral in a standard irrigation boxes which extends to grade equipped with a secure lid. The **ADV** will dose alternately between the primary to the reserve dispersal trench.

NOTE: The design flow is 150 gpd, each dose is 75 gallons; pumping rate is 13 gpm so pump ON time per dose is 6 minutes, twice per day.

MAINTENANCE AND MONITORING

The homeowner shall comply with any agreement for maintenance between the property owner and a local service provider. An annual operating permit is a condition of the final construction approval. Annual maintenance agreement, deed recordation, final certification, AS-BUILT

SITE DRAINAGE CONSIDERATIONS

Any surface water run-off and roof drainage from down spouts from the residence must be connected to a sub drain and diverted away from the tanks and dispersal areas.

POST CONSTRUCTION MONITORING

Any potential saturation or flooding during periods of excessive rainfall shall be monitored and mitigated as required. Inspect the performance wells to verify the absence of effluent. Any liquid levels observed in the observation risers that remains ponded for more than three consecutive days without any hydraulic conductivity indicate a potential problem; contact the designer for recommended action. An inspection will be performed by the contracted service provider. In no event should the actual flow volumes exceed 150 gallons per day. Any discharge volumes in excess of the design capacity must be reported to the designer. A flow meter is specified in-line just after the dosing tank. The flow meter will be housed in a standard irrigation box.

PRIMARY AND RESERVE AREA CONSTRUCTED

SCCDEH requires the installation of a 200% system including the reserve area. This plan includes the specifications for both the primary and reserve system and the sizing is based on the soil morphology and texture.

ANNUAL MONITORING AND PERMIT REQUIREMENT

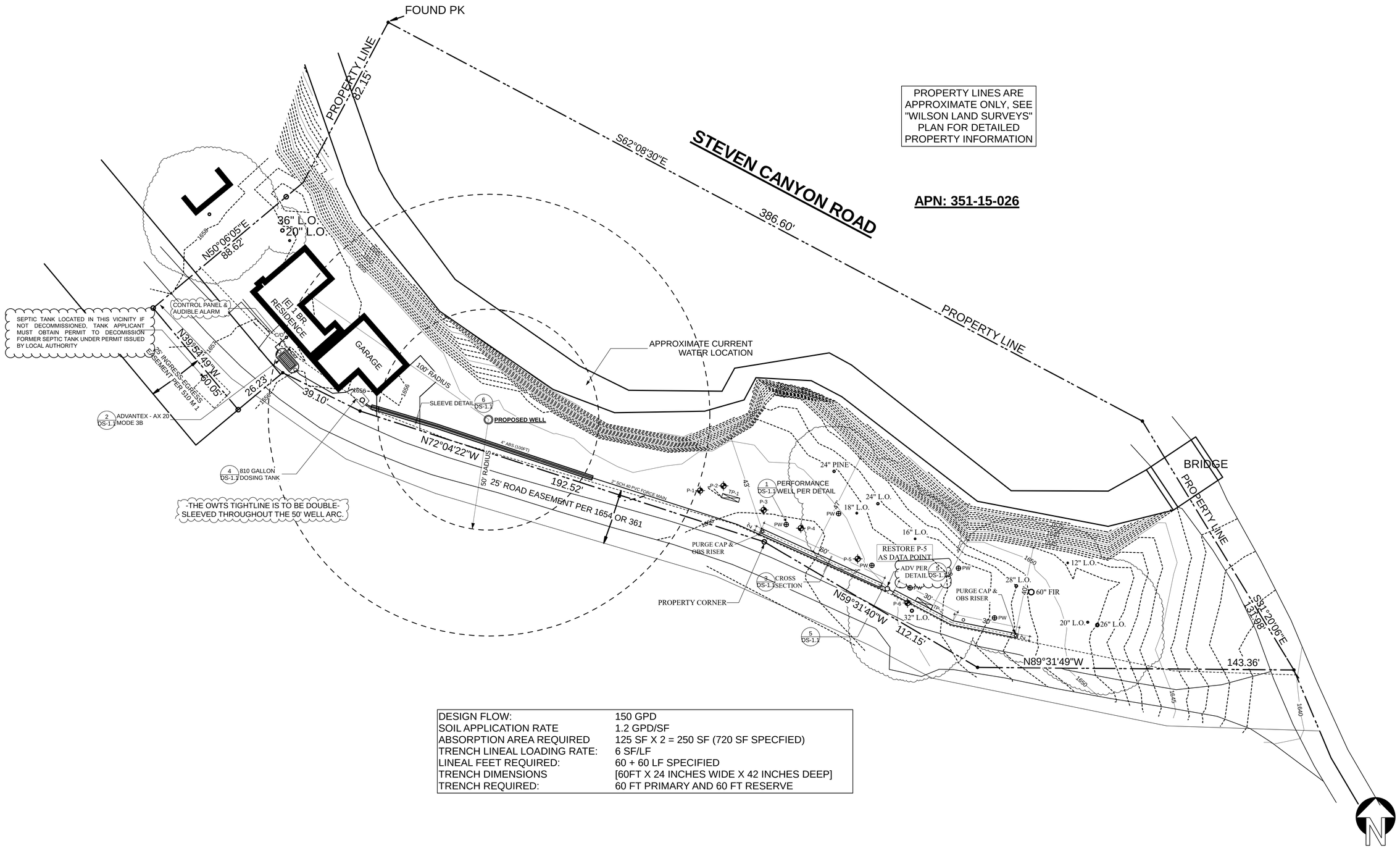
Since this plan provides specifications for an alternative septic system, the homeowner shall be made aware of the requirements to contract with a service provider for post construction servicing.

Table PD-3. Shallow Pressure Distribution System Management Requirements

	Work	Frequency
Inspection	Conduct routine visual observations of disposal field and downslope area and surroundings for wet areas, pipe leaks or damage, soil erosion, drainage issues, abnormal vegetation, or other problems. Perform all inspections of pump and appurtenances (per O&M manual and Performance Evaluation Guidelines, Part 5 of this Manual).	Every 6 to 12 months.
Maintenance	Purge laterals, squirt and balance. Exercise valves to ensure functionality. Perform all maintenance work as recommended by equipment manufacturer for any special valves or other components. Investigate and repair erosion, drainage or other disposal field problems, as needed. Investigate and perform distribution system corrective work, as required. Record work done.	Distribution system maintenance annually. Other maintenance as required.
Water Monitoring & Sampling	Measure and record water levels in trench observation wells. Measure and record water levels in dispersal field monitoring wells, as applicable, per permit requirements. Obtain and analyze water samples from monitoring wells, as applicable, per permit requirements.	Measure trench water levels annually. Other monitoring according to permit conditions, as applicable.
Reporting	Report findings to DEH per permit requirements. Standard report to include dates, observation well and monitoring well readings 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 system size, usage, history, location.

ADDITIONAL WELL REQUIREMENTS PER 3/6/2019 EMAIL

- **A 100' annular seal will be required, condition of well permit**
- **Auto-chlorination must be included as part of the water system, condition of well permit**
- **The OWTS tightline is to be double-sleeved throughtout the 50' well arc.**
- **In addition to the 100' well arc, a 50' sub-arc is to be included to highlight minimum setbacks.**



DESIGN FLOW:	150 GPD
SOIL APPLICATION RATE	1.2 GPD/SF
ABSORPTION AREA REQUIRED	125 SF X 2 = 250 SF (720 SF SPECFIED)
TRENCH LINEAL LOADING RATE:	6 SF/LF
LINEAL FEET REQUIRED:	60 + 60 LF SPECIFIED
TRENCH DIMENSIONS	[60FT X 24 INCHES WIDE X 42 INCHES DEEP]
TRENCH REQUIRED:	60 FT PRIMARY AND 60 FT RESERVE

Site Plan

Scale: 1" = 20'

BASIX CONSULTING & DESIGNS, LLC.

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APN 351-15-026

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Mobile: 707-718-2122
Email: Lesliem@basixcd.com

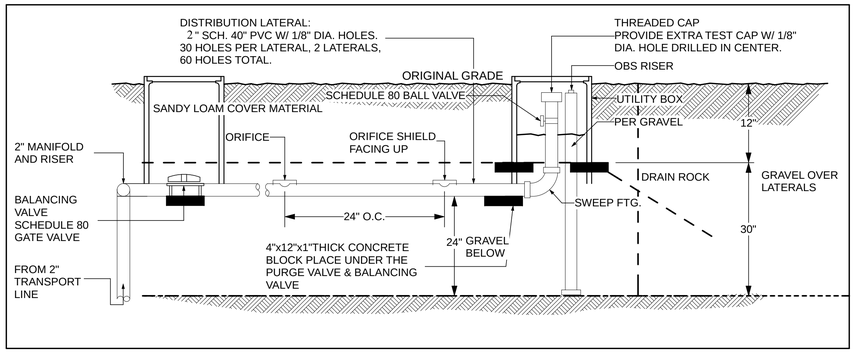
REGISTERED ENVIRONMENTAL HEALTH SPECIALIST
LES MIYASHIRO
NO. 5848
Exp. Dec. 31, 2020
STATE OF CALIFORNIA

Site Plan

1 BEDROOM RESIDENTIAL
REMODEL & RESTORATION

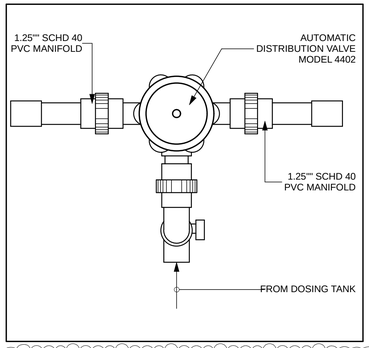
REVISIONS	
R2	02/13/2019
R3	03/17/2019
R4	04/12/2019

PROJ #18-13
SCALE: NOTED
2019-04-11



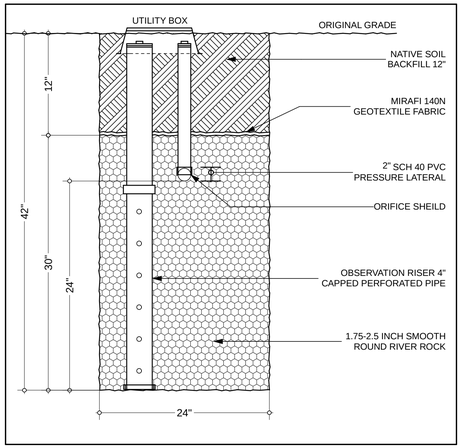
5 DP-1.1 PD TRENCH X-SECTION VIEW

SCALE 1" = 1'-0"



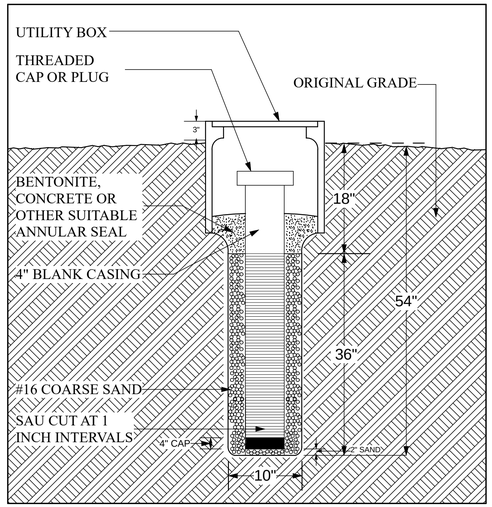
6 DP-1.1 AUTOMATIC DISTRIBUTING VALVE - MODEL 4402

NOT TO SCALE



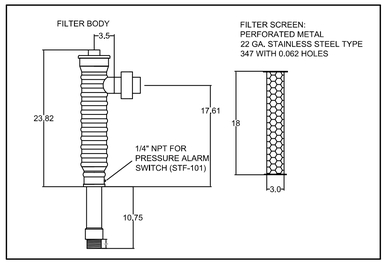
3 DP-1.1 TRENCH X-SECTION

SCALE: 1/2" = 1'-0"

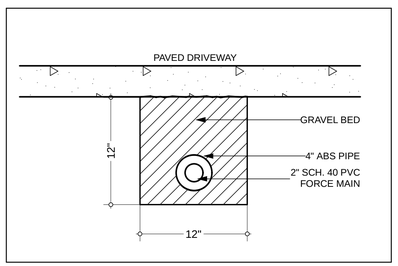


1 DS-1.1 PERFORMANCE WELL

NOT TO SCALE

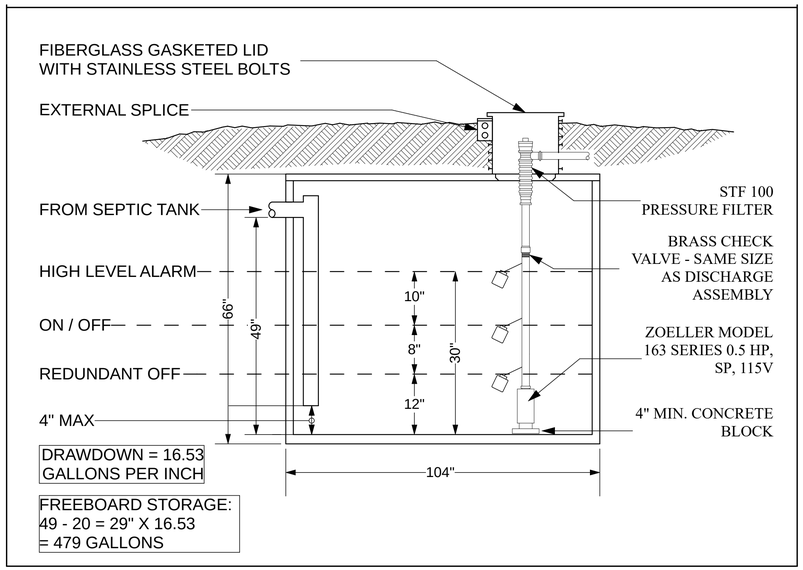


- DP-1.1 STF 100 PRESSURE FILTER



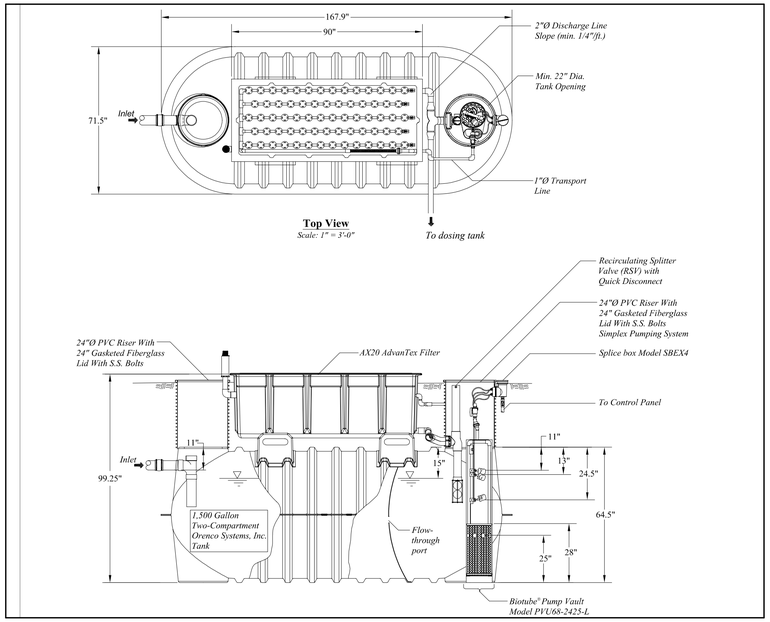
6 DP-1.1 SLEEVE DETAIL

NOT TO SCALE



4 DP-1.1 810 GALLON SELVAGE DOSING TANK

NOT TO SCALE



2 DS-1.1 ADVANTEX-AX20 MODE 3B W/ FIBERGLASS TANK

NOT TO SCALE

BASIX CONSULTING & DESIGNS, LLC.

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REGISTERED ENVIRONMENTAL HEALTH SPECIALIST
LES MIYASHIRO
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Details

1 BEDROOM RESIDENTIAL
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