OWNER'S INFORMATION

IMI SOMOGYI 18000 REDWOOD DRIVE LOS GATOS, CA, 94033

APN: 544-37-001

REFERENCES

LOS GATOS, CA

THIS ENGINEERED OWTS PLAN IS SUPPLEMENTAL TO:

- 1. TOPOGRAPHIC SURVEY BY LEA & BRAZE ENGINEERING, INC. ENTITLED: "TOPOGRAPHIC SURVEY" 18000 REDWOOD DRIVE LOS GATOS, CA JOB# 2200718
- 2. SITE PLAN BY ACADIA ARCHITECTURE ENTITLED: "SITE PLAN" 18000 REDWOOD DRIVE

THE CONTRACTOR SHALL REFER TO THE ABOVE NOTED SURVEY AND PLAN, AND SHALL VERIFY BOTH EXISTING AND PROPOSED ITEMS ACCORDING TO THEM.

GENERAL INSTALLATION NOTES:

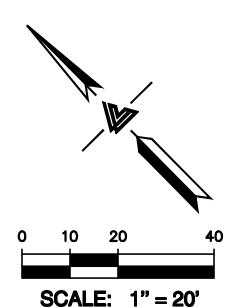
CONSTRUCTION OF THE SEWAGE DISPOSAL SYSTEM SHALL NOT COMMENCE WITHOUT WRITTEN APPROVAL FROM TOWN OF SAN MARTIN AND SANTA CLARA COUNTY ENVIRONMENTAL HEALTH

CHANGES TO THE PLANS OR SPECIFICATIONS SHALL BE MADE ONLY AFTER CONSULTATION WITH AND APPROVAL OF THE DESIGNER AND PERMITTING AGENCY.

INSTALLATION;
ALL INSTALLATION WORK SHALL BE IN ACCORDANCE WITH TOWN
OF SAN MARTIN AND SANTA CLARA COUNTY SEWAGE DISPOSAL

LOCATION OF THE SEPTIC TANK AND LEACHING TRENCHES; LOCATIONS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT IN THE FIELD BY DESIGNER WITH APPROVAL OF THE PERMITTING AGENCY. TRENCHES SHALL BE INSTALLED ALONG LEVEL CONTOUR TO ENSURE THE TRENCH BOTTOM IS MAINTAINED LEVEL THROUGHOUT THE ENTIRE LENGTH. A TRIPOD-MOUNTED LASER SHALL BE REQUIRED ON SITE.

TRENCHING NOTE:
ALL TRENCHING FOR THE PROPOSED LEACHFIELDS WITHIN THE DRIPLINES OF ANY SIGNIFICANT TREE WILL BE DONE BY HAND UNDER THE SUPERVISION OF THE PROJECT ARBORIST



ENGINEERED PLANS FOR ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS) 18000 REDWOOD DRIVE LOS GATOS, CALIFORNIA

EASEMENT S42°25'00"E 57.29 — 260~ - DISPERSAL AREA 1 √\ (277 O.R. 88) \(298 O.R. 76) \(353 O.R. 37) LOT. 22

ABBREVIATIONS

AD	AREA DRAIN
BFP	BACKFLOW PREVENT
CB	CATCH BASIN
Ģ_	CENTER LINE
ÇO	CLEANOUT
DIV	DIVERSION VALVE
E.	EFFLUENT
L ELEV	ELEVATIONS
:	
<u>(</u> E)	EXISTING
FL	FLOW LINE
INV	INVERT ELEVATION
JT	JOINT TRENCH
LNDG	LANDING
MM AX	MAXIMUM
MIN	MINIMUM
(N)	NEW
ŇŤS	NOT TO SCALE
O.C.	ON CENTER
P	PROPERTY LINE
ŔĬM	RIM ELEVATION
SS	SANITARY SEWER
SSCO	SANITARY SEWER
_	CLEANOUT
	· ·· · · · · ·

SANITARY SEWER

MANHOLE

STANDARD

TOP OF WALL/FINISH **GRADE TYPICAL** WATER LINE

SANTA CLARA COUNTY OWTS SETBACKS:

SEPTIC
TANK
100'
100'
200'
10 FEET
10 FEET
50'
5'
10'
N/A
10'
5'
100'

* WATERCOURSE - A RUNNING STREAM FED ROM PERMANENT OR NATURAL SOURCES, INCLUDING RIVERS, CREEKS, RUNS, AND RIVULETS. THERE MUST BE A STREAM, USUALLY FLOWING IN A PARTICULAR DIRECTION (THROUGH IT NEED NOT FLOW CONTINUOUSLY) IN A DEFINITE CHANNEL, HAVING A BED OR BANKS AND USUALLY DISCHARGING INTO SOME STREAM OR BODY OF WATER.

** H EQUALS THE HEIGHT OF UT OR EMBANKMENT IN FEET. THIS SETBACK DISTANCE REQUIREMENT MUST NOT BE LESS THAN 25 FEET OR MORE

*** AS DEFINED BY THE REGIONAL WATER QUALITY CONTROL BOARD HAVING JURISDICTION, BUT NOT EXCEEDING 67 PERCENT.

(M) NO PRIVATE SEWAGE DISPOSAL SYSTEM MAY BE APPROVED ON ANY PARCEL OF LAND WHERE PERCOLATION RATE EXCEEDS 120 MIN/INCH OR IS LESS THAN ONE MIN/INCH.

(N) NO PART OF ANY PRIVATE SEWAGE DISPOSAL SYSTEM MAY CROSS ANY PROPERTY LINE.

(O) UPON NOTICE FROM THE DIRECTOR THAT WORK ON THE SEWAGE DISPOSAL SYSTEM IS BEING CONDUCTED IN VIOLATION OF THIS CHAPTER, OR IN AN UNSAFE OR DANGEROUS MANNER, THE WORK MUST BE IMMEDIATELY STOPPED. THE STOP-WORK MUST BE ISSUED TO THE OWNER OF THE PROPERTY INVOLVED, OR THE OWNER'S AGENT, OR THE PERSON DOING THE WORK. IT MUST STATE THE CONDITIONS UNDER WHICH WORK MAY B RESUMERD.NO PRIVATE SEWAGE DISPOSAL SYSTEM MAY BE APPROVED ON ANY PARCEL OF LAND WHERE PERCOLATOIN RATE EXCEEDS 120 MIN/INCH OR IS LESS THAN ONE MIN/INCH.

GENERAL INSTALLATION NOTES:

CONSTRUCTION OF THE SEWAGE DISPOSAL SYSTEM SHALL NOT COMMENCE WITHOUT WRITTEN APPROVAL FROM CITY OF SARATOGA AND SANTA CLARA COUNTY ENVIRONMENTAL HEALTH SERVICES.

CHANGES TO THE PLANS OR SPECIFICATIONS SHALL BE MADE ONLY AFTER CONSULTATION WITH AND APPROVAL OF THE 3. INSTALL A 1500-GALLON NORWESCO TANK WITH A STA-RITE (30D0M05121) MULTI-STAGE DESIGNER AND PERMITTING AGENCY.

ALL INSTALLATION WORK SHALL BE IN ACCORDANCE WITH CITY OF SARATOGA AND SANTA CLARA COUNTY SEWAGE DISPOSAL ORDINANCES.

CONSTRUCTION INSPECTION SCHEDULE

LEA & BRAZE IS REQUIRED TO PERFORM SEVERAL CONSTRUCTION INSPECTIONS DURING THE INSTALLATION OF THIS SYSTEM. THE COUNTY MAY ALSO INSPECT SOME OF THESE ELEMENTS AND MAY DO SO SIMULTANEOUSLY. THE FOLLOWING SCHEDULE SHOWS THE MINIMAL AMOUNT OF INSPECTION TO BE PERFORMED BY LEA & BRAZE:

A. THE LOCATION OF ALL COMPONENTS OF THE SYSTEM WILL BE MARKED ON THE GROUND, AND ANY ISSUE DISCUSSED AND RESOLVED BEFORE INSTALLATION BEGINS.

B. INSTALLATION PROCEDURES WILL ALSO BE AGREED TO AT THIS POINT. CHECK WATER TIGHTNESS OF TANKS.

INSPECTION OF TRENCH EXCAVATION. INSPECTION OF ROCK AND ITS PLACEMENT.

PIPE INSTALLATION AND JOINT INSPECTION AND SQUIRT TEST.

FLOAT SETTING AND ALARM AND CONTROL PANEL, AND OPERATION OF PUMP INSPECTION

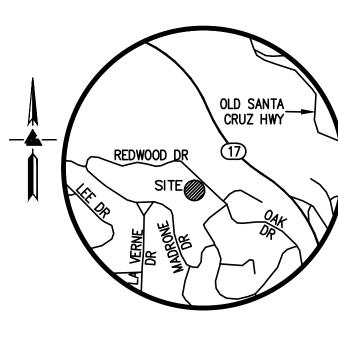
SINGULAR INSPECTION AND SINGULAIR CONTROL PANEL INSPECTION AND PROGRAMMING

FINAL INSPECTION TO DETERMINE THAT ALL WORK AS BEEN DONE, ALL EQUIPMENT IS WORKING WELL AND THE

EROSION CONTROL FEATURES HAVE BEEN INSTALLED CORRECTLY. CONTRACTOR TO PROVIDE AS-BUILT PLANS AND ENGINEER TO PROVIDE REVIEW LETTER FOR RECORD.

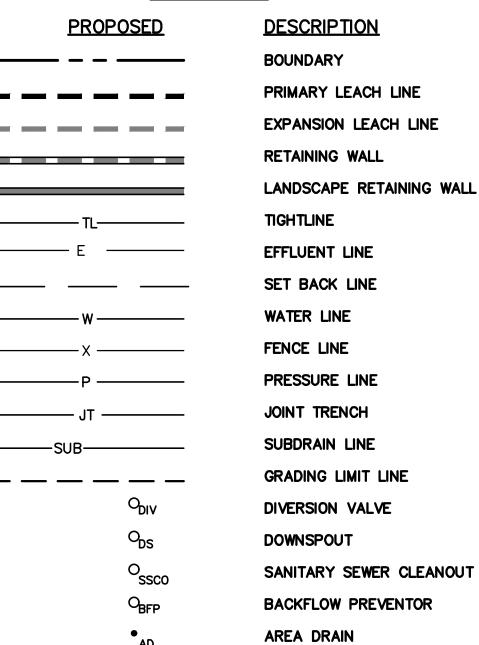
SEPTIC TANK AND DRAINFIELD CONSTRUCTION NOTES:

- 1. INSTALL A MICROSEPTEC ENVIROSERVER ES12 TREATMENT SEPTIC TANK WITH OSI BIOTUBE EFFICIENT FILTER.
- 2. INSTALL GAS-TIGHT RISER TO GRADE.
- SUBMERSIBLE PUMP, OR APPROVED EQUAL.
- 4. INSTALL A DRIP DISPERSAL SYSTEM SEPARATED INTO TWO ZONES OF GEOFLOW (WFPC16-4-24) PRESSURE-CONCENTRATING DRIPLINES, OR APPROVED EQUAL, BOTH CONTROLLED BY AUTOMATIC SOLENOID VALVES.
- 5. PLACE DRIP DISPERSAL LINES 12 INCHES MAXIMUM FROM TOP OF NATIVE SOIL PER SANTA CLARA COUNTY ONSITE SYSTEMS MANUAL REQUIREMENTS.
- 6. INSTALL A GEOFLOW (WHWS-D-1.5F-A) HEADWORKS UNIT, OR APPROVED EQUAL.
- 7. INSTALL A 20 PSI GEOFLOW (PMR 20XF) PRESSURE REGULATOR, OR APPROVED EQUAL.
- 8. INSTALL AN ORENCO (FM-005-100) FLOW METER, OR APPROVED EQUAL.
- 9. INSTALL GEOFLOW (APVBK1) AIR/VACUUM RELIEF VALVES, OR APPROVED EQUAL, ON BOTH THE INTAKE AND RETURN SIDE OF THE HIGHEST DRIPFIELD LINES OF EACH ZONE.
- 10. INSTALL ORENCO (CV-13-10) CHECK VALVES, OR APPROVED EQUAL, TO THE RETURN MANIFOLD OF EACH DRIPFIELD ZONE BÉFORE CONNECTING ZONES AND RETURNING TO THE SEPTIC TANK.
- 11. INSTALL S SERIES SIMPLEX CONTROL PANELS.



VICINITY MAP NO SCALE

LEGEND



NOTE: FOR CONSTRUCTION STAKING **SCHEDULING OR QUOTATIONS** PLEASE CONTACT ALEX ABAYA AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 116. aabaya@leabraze.com

BUILDING PAD NOTE: ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.

SEPTIC LID

CONTOURS

SPOT ELEVATION

SHEET INDEX:

SS-1	TITLE SHEET	
SS-2	SEPTIC SYSTEM	PLAN
SS-3	SEPTIC SYSTEM	PLAN
	CALCULATIONS	
SS-4	SEPTIC SYSTEM	DETA
SS-5	SEPTIC SYSTEM	SECTI

SEPTIC SYSTEM SPECIFICATIONS SS-7 FIELD DATA COUNTY OWTS NOTES

SEE TEST RESULT ON SHEET SS-7 AREA BELOW IS FOR SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH USE ONLY:

THE PROJECT ARBORIST

ALL TRENCHING FOR THE PROPOSED

LEACHFIELDS WITHIN THE DRIPLINES OF

ANY SIGNIFICANT TREE WILL BE DONE

BY HAND UNDER THE SUPERVISION OF

PERCOLATION TEST NOTE:

MUST INCLUDE A MINIMUM OF 6

(3 WITHIN PRIMARY SYSTEM AND

PERCOLATION TEST LOCATIONS

3 WITHIN EXPANSION SYSTEM)



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JOB NO:	2201	112
DATE:	03-0	09-21
SCALE:	1" =	20'
DESIGN BY:	KBC	
CHECKED BY:	JH	

SEPTIC SYSTEM KEYNOTES (1) TO (9)

INSTALL (N) MICROSEPTIC ES-12 TREATMENT UNIT SEE DETAIL ON SHEET SS-6.

INSTALL (N) 1500-GALLON NORWESCO PUMP TANK. SEE DETAIL ON SHEET SS-3.

INSTALL PRIMARY AND SECONDARY (N) PRESSURE DOSING TRENCHES AT THE LENGTHS SHOWN — SEE DETAILS ON SHEET SS-5.

INSTALL (N) 4" PVC SANITARY SEWER LATERALS. PROVIDE (N) SANITARY SEWER CLEANOUT TO GRADE AT BUILDING AND AT MAJOR CHANGES OF DIRECTION AS SHOWN.

INSTALL (N) 4" PVC EFFLUENT LINE TO CONNECT THE SEPTIC TANK TO THE PUMP TANK — SEE DETAILS ON SHEET SS—6.

(N) HEADWORKS UNIT W/ SOLENOID VALVE AND FLOW METER TO CONNECT TO SEPTIC TANK, PUMP AND TREATMENT SYSTEM-SEE DETAIL ON SHEET SS-4

INSTALL (N) 2" PRESSURE LINE FROM PUMP TO (N) LATERAL SHUTOFF/ADJUSTMENT VALVE CONNECTED TO THE DISPERSAL TRENCH — SEE DETAIL ON SHEET SS—6.

INSTALL (N) CONTROL PANEL THROUGH ELECTRICAL CONNECTIONS FROM THE HOUSE TO THE PUMP TANK — SEE DETAILS ON SHEET SS-4.

INSTALL (N) AIR VACUUM RELIEF VALVE AND CHECK VALVE TO BE CONNECTED TO THE 1" SUPPLY AND RETURN VALVE FOR THE DISPERSAL FIELDS.

DRIP DISPERSAL FIELD LENGTH **CALCULATIONS:**

PERCOLATION RATE BASED ON FIELD DATA WAS OBSERVED TO BE 9 MPI. IN ACCORDANCE WITH TABLE 1 (SECTION 3 BACK OF PAGE 3-18) OF THE SANTA CLARA COUNTY ONSITE SYSTEMS MANUAL THE APPLICATION RATE IS 0.88 GPD/SQFT.

HOME IS PROPOSED WITH 4 BEDROOMS, THEREFORE, WASTEWATER FLOW IS 525 GAL/DAY PER TABLE 3-1 (SECTION 3) OF THE SANTA CLARA COUNTY ONSITE SYSTEMS MANUAL.

REQUIRED LENGTH CALCULATED BY THE EQUATION SUPPLIED ON PAGE 3-17 OF THE SANTA CLARA COUNTY ONSITE SYSTEMS MANUAL (SECTION 3) THAT STATES:

REQUIRED INFILTRATIVE AREA = (525/0.88)= 597 SQ. FT.

REQUIRED NUMBER OF EMITTERS

= 150 EMITTERS

REQUIRED DRIPFIELD AREA AND THE NUMBER OF EMITTERS (OWTS ORDINANCE REQUIRES 2 100% FIELD "PRIMARY AND SECONDARY"):

TOTAL DRIPFIELD AREA REQUIRED = 1.194 SQ. FT.

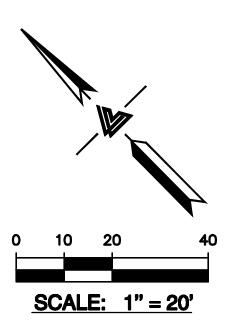
TOTAL NUMBER OF EMITTERS = 300 EMITTERS

SEE DISPERSAL TRENCH TABLE ON SHEET SS-2 FOR BREAKDOWN OF DRIPFIELD AREA PROVIDED IN EACH FIELD.

<u>D</u>	ISPERSAL FIELD TABLE
#	PRIMARY OR SECONDARY DISPERSAL FIELD (MINIMUM AREA REQUIRED)

PRIMARY AREA 610 SQ. FT. 305 LINEAR FEET 152 EMITTERS

SECONDARY AREA 604 SQ. FT. 322 LINEAR FEET 161 EMITTERS



SOMOGYI RESIDENCE 18000 REDWOOD DRIVE OS GATOS, CALIFORNIA

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REVISIONS		E	3Y
NO:	220	1112	2
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DATE: 03-09-21 1" = 20'SCALE: DESIGN BY: KBC

SHEET NO: **OWTS SS-2**

CHECKED BY: JH

INSPECTION WELL NOTE:
THREE INSPECTION STANDPIPES SHALL BE INSTALLED WITHIN AND AROUND TRENCH SYSTEMS.

ONE (1) SHALL BE LOCATED UPSLOPE OF THE DISPERSAL FIELD (10-15' AWAY).

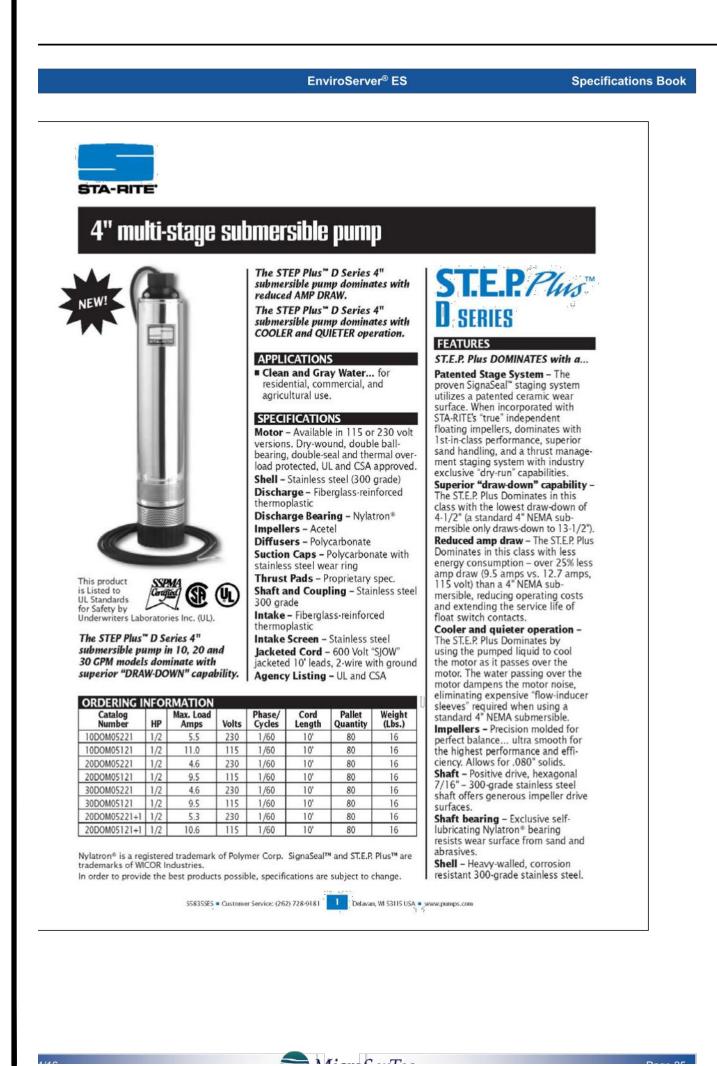
ONE (1) SHALL BE LOCATED WITHIN THE DISPERSAL FIELD (TYPICALLY BETWEEN TRENCHES AND NEAR CENTER OF FIELD). ONE (1) SHALL BE LOCATED DOWN-SLOPE OF THE DISPERSAL FIELD (10-15' AWAY).

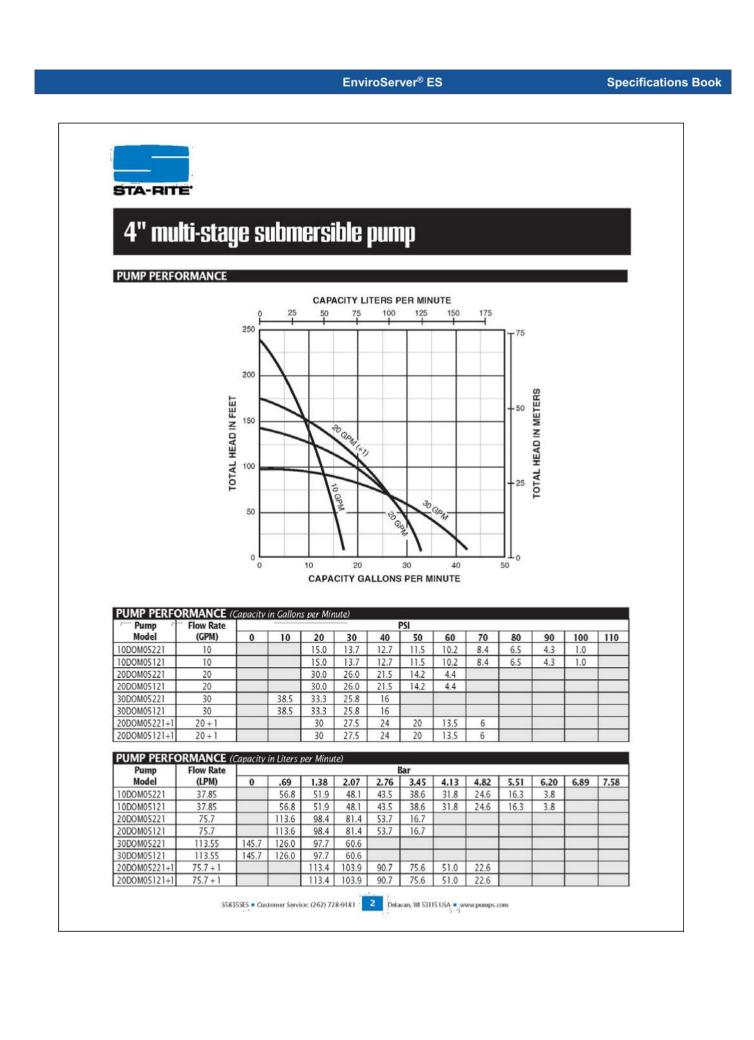
LEACH FIELD 1 CALCULATIONS FROM GEOFLOW EXCEL DESIGN SPREADSHEET

LEACH FIELD 2 CALCULATIONS FROM GEOFLOW EXCEL DESIGN SPREADSHEET

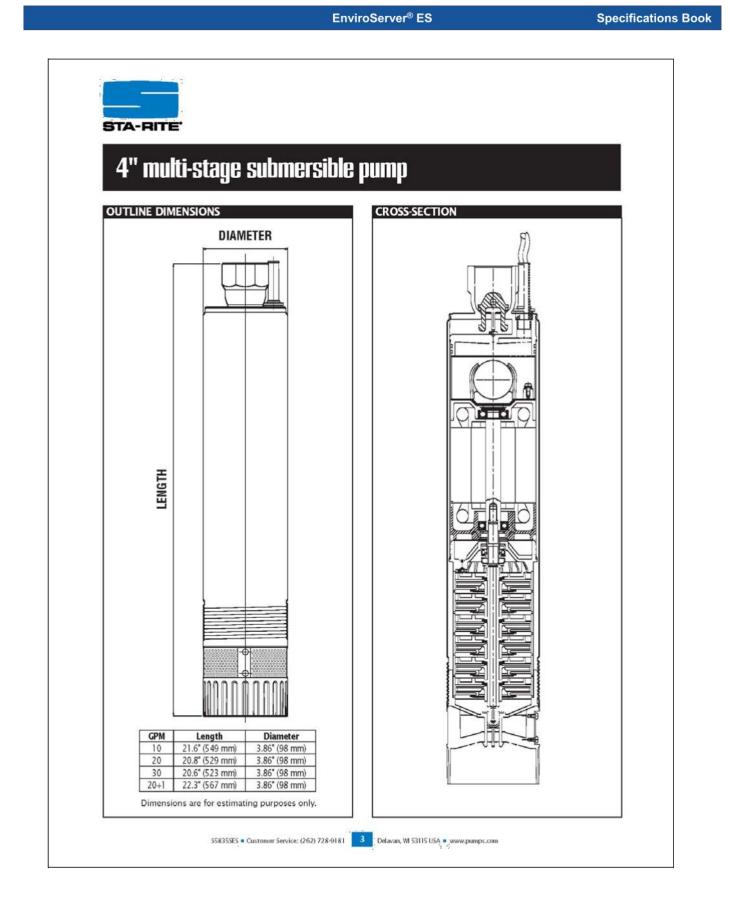
Worksheet 1- Field Flow			Worksheet - Pump Sizing
Total field			Section 1 - Summary from Worksheet 1
Total Quantity of effluent to be disposed per day	525	gallons / day	Flow required to dose field 1.35 gpm
Hydraulic loading rate		gallons / sq.ft. / da	Flow required to flush field 8.88 gpm
Minimum Dispersal Field Area		square ft.	Flow required to dose & flush field 10.23 gpm
Total Dispersal Field Area		square ft.	Filter BioDisc Filter-150
			No. of Zones 1 zones
Flow per zone			Zone valve -
Number of Zones		zone(s)	Dripline Wasteflow PC - 1/2gph
Dispersal area per zone		square ft.	Dripline longest lateral 45.00 ft.
Choose line spacing between WASTEFLOW lines		ft.	
Choose emitter spacing between WASTEFLOW emit		ft.	Section 2 Ft of head Press
Total linear ft.per zone (minimum required)		ft. per zone	A. Flush line - Losses through return line
Total number of emitters per zone	153	emitters per zone	Select Pipe from dropdown menu PVC schedule 40
Select Wasteflow dripline (16mm)	Wasteflow PC - 1/2gph		Select Fige from displacemental FVC scriedate 40 Select Flush Line Diameter 1/2" inch
		dripline	Length of return line 172 ft.
	Wasteflow Classic		Equivalent length of fittings 5 ft.
	Wasteflow PC - 1/2gph		Elevation change. (if downhill enter 0)
H			Pressure loss in 100 ft of pipe 64.26 ft. 27.82 psi
	Wasteflow PC - 1 gph		Total pressure loss from end of dripline to return tank 121.7 ft. 52.70 psi
Pressure at the beginning of the dripfield		psi	
Feet of Head at the beginning of the dripfield	57.75		B. Dripline - Losses through Wasteflow dripline
What is the flow rate per emitter in gph?	0.53	gph	Length of longest dripline lateral 45 ft.
Dose flow per zone	1.35	gpm	Minimum dosing pressure required at end of dripline 121.74 ft. 52.70 psi
Note: A few States or Counties require additional flow f	or flushing. Please check	your local regulation	Loss through dripline during flushing 0.12 ft. $0.05~\mathrm{psi}$
Flush velocity calculation below is for PC dripline. Clas	sic dripline requires less	flow to flush than P(Total minimum required dripline pressure 121.85 ft. 52.75 psi
Please refer to Geoflow's spreadsheet "Design Flow and	d Flush Curves" at www.g	eoflow.com or call &	8 A+B. Minimum Pressure required at beginning of dripfield
If required, choose flush velocity		ft/sec	CALCULATED pressure required at beginning of drip 243.59 ft. 105.45 psi
How many lines of WASTEFLOW per zone?	12	lines	SPECIFIED pressure at beginning of dripfield (from v 57.8 ft. 25.00 psi
Fill in the actual length of longest dripline lateral	45	ft.	
Flush flow required at the end of each dripline	0.74	apm	!!! Urgent revision required SPECIFIED pressure must be greater than CALCULATED pressure
Total Flow required to achieve flushing velocity			C. Drip components - Losses through headworks
	8.88		Filter 11.6 ft. 5.00 psi
Total Flow per zone- worst case scenario	10.23	gpm	Zone valve pressure loss (not in diagram) - ft psi
Select Filters and zone valves			Flow meter pressure loss (not in diagram) ft psi
Select Filter Type	BioDisc Filter		Other pressure losses ft psi
Recommended Filter (item no.)	BioDisc Filter-150	1.5in < 30 apm	Total loss through drip components 11.55 ft. 5.00 psi
1 1	area to the		1
Select Zone Valve Type	Hydraulic		D. Supply line - Minimum Pressure head required to get from pump tank to top of dripfield
Recommended Zone Valve (item no.) Note minimum pressure of 25 psi required for Hyd	0 Iraulic valves Check or	0 essure in Cell D29	Select Pipe from dropdown menu PVC schedule 40
Dosing	manna antararament hi	Joseph III Veli Dat	Select Supply line diameter 1-1/2 linch
Number of doses per day / zone:	12	doses	Length of supply line 200 ft.
Timer ON. Pump run time per dose/zone:		mins:secs	Equivalent length of fittings 5 ft.
Timer OFF. Pump off time between doses		hrs:mins	Height from pump to tank outlet 5 ft.
Per Zone - Pump run time per day/zone:		hrs:mins	Elevation change. (if downhill enter 0) -8 ft.
All Zones - Number of doses per day / all zones		doses / day	Pressure loss/gain in 100 ft. of pipe 0.82 ft. 0.35 psi
Allow time for field to pressurize		hrs:mins:secs	Total gain or loss from pump to field (1.3) ft. (0.57) psi
Filter flush timer		hrs:mins:secs	Total dynamic head 68.0 ft. 29.43 psi
Drain timer		hrs:mins:secs	Pump capacity * - Field Flush Flow 10.2 gpm 29.43 psi
Field flush timer		hrs:mins:secs	- Field Dose Flow 1.3 gpm
Field flush counter		cycles	- Filter Flush Flow - gpm - psi
Time required to complete all functions per day		hrs:mins	Pump Model Number
Dose volume per zone		gallons per dose	Voltz / Hp / phase
			_

Worksheet 1- Field Flow			W	orksheet - Pump Sizing		
				, <u> </u>		
Total field				ction 1 - Summary from Worksheet 1		
Total Quantity of effluent to be disposed per day	525	gallons / day		Flow required to dose field	1.33 gpm	
Hydraulic loading rate		gallons / sq.ft. / da	8	Flow required to flush field	8.88 gpm	
Minimum Dispersal Field Area	597	square ft.	\blacksquare	Flow required to dose & flush field	10.21 gpm	
Total Dispersal Field Area	604	square ft.	\vdash	Filter	BioDisc Filter-150	
Flow per zone			\vdash	No. of Zones	1 zones	
Number of Zones	1	zone(s)	\blacksquare	Zone valve	-	
Dispersal area per zone		square ft.		Dripline	Wasteflow PC - 1/2gph	
Choose line spacing between WASTEFLOW lines		ft.	┧	Dripline longest lateral	45.00 ft.	
Choose emitter spacing between WASTEFLOW emit		ft.		din an		
Total linear ft.per zone (minimum required)		ft. per zone	-	ection 2	Ft of head	Pressure
Total number of emitters per zone		emitters per zone	Α.	Flush line - Losses through return line		
Select Wasteflow dripline (16mm)				Select Pipe from dropdown menu	PVC schedule 40	
Colour tradelion dipline (1011111)	Wasteflow PC - 1/2gph	delette		Select Flush Line Diameter	1/2" inch	
H		dripline		Length of return line	172 ft.	
4	Wasteflow Classic		-	Equivalent length of fittings	5 ft.	
	Wasteflow PC - 1/2gph			Elevation change. (if downhill enter 0)	8 ft.	
	Wasteflow PC - 1 gph		П	Pressure loss in 100 ft of pipe	64.26 ft.	27.82 psi
Pressure at the beginning of the dripfield		psi	П	Total pressure loss from end of dripline to return tank	121.7 ft.	52.70 psi
Feet of Head at the beginning of the dripfield	57.75	+ · · · · · · · · · · · · · · · · · · ·	E	Dripline - Losses through Wasteflow dripline		
What is the flow rate per emitter in gph?	0.53		Ħ	Length of longest dripline lateral	45 ft.	
Dose flow per zone	0.00000000	gpm	Н	Minimum dosing pressure required at end of dripline	121.74 ft.	52.70 psi
				Loss through dripline during flushing	0.12 ft.	0.05 psi
Note: A few States or Counties require additional flow f	_			Total minimum required dripline pressure	121.85 ft.	52.75 psi
Flush velocity calculation below is for PC dripline. Clas	-			2 2		OZ. TO POI
If required, choose flush velocity		ft/sec	A +	B. Minimum Pressure required at beginning of dripfic		105.15
How many lines of WASTEFLOW per zone?	500	lines	H	CALCULATED pressure required at beginning of drip	243.59 ft.	105.45 <i>psi</i>
Fill in the actual length of longest dripline lateral	45		Ш	SPECIFIED pressure at beginning of dripfield (from w	57.8 ft.	25.00 psi
	3(6)		Ш	!!! Urgent revision required SPECIFIED pressure mu	st be greater than CALCUL	ATED pressure
Flush flow required at the end of each dripline		gpm	c.	Drip components - Losses through headworks		
Total Flow required to achieve flushing velocity	8.88	gpm	h	Filter	11.6 ft.	5.00 psi
Total Flow per zone- worst case scenario	10.21	gpm	Н	Zone valve pressure loss (not in diagram)	- ft.	- psi
Select Filters and zone valves				Flow meter pressure loss (not in diagram)	ft.	- psi
Select Filter Type	BioDisc Filter			Other pressure losses	ft.	- psi
Recommended Filter (item no.)	BioDisc Filter-150	1.5in < 30 apm	П	Total loss through drip components	11.55 ft.	5.00 psi
			П			•
Select Zone Valve Type	Hydraulic		D.	Supply line - Minimum Pressure head required to get	from pump tank to top o	f dripfield
Recommended Zone Valve (item no.) Note minimum pressure of 25 psi required for Hyd	O Izaulie walvoe Choek pr	0	16	Select Pipe from dropdown menu	PVC schedule 40	
	namic asiaes. Onecy bi	essure III Geli DZi		Select Supply line diameter	1-1/2" inch	
Number of doses per day / zone:	12	doses		Length of supply line	200 ft.	
Timer ON. Pump run time per dose/zone:		mins:secs	-	Equivalent length of fittings	5 ft.	
Timer OFF. Pump off time between doses		hrs:mins	\blacksquare	Height from pump to tank outlet	5 ft.	
Per Zone - Pump run time per day/zone:		hrs:mins		Elevation change. (if downhill enter 0)	-8 ft.	
All Zones - Number of doses per day / all zones		doses / day	П	Pressure loss/gain in 100 ft. of pipe	0.81 ft.	0.35 psi
Allow time for field to pressurize		hrs:mins:secs	П	Total gain or loss from pump to field	(1.3) ft.	(0.58) psi
Filter flush timer		hrs:mins:secs	П	Total dynamic head	68.0 ft.	29.42 psi
Drain timer		hrs:mins:secs	_	Pump capacity * - Field Flush Flow	10.2 gpm	29.42 psi
Field flush timer		hrs:mins:secs	1	- Field Dose Flow	1.3 gpm	
Field flush counter		cycles]	- Filter Flush Flow	- gpm	- psi
Time required to complete all functions per day	7:55	hrs:mins	Н	Pump Model Number	4 1	
Dose volume per zone	44	gallons per dose		Voltz / Hp / phase		





MicroSepTec



MicroSepTec

Miscellaneous Products Male threaded connection standard for 5/8-inch, %-inch, and 1-inch [16-mm, 19-mm, and 25-mm) models Female threaded connection for 1½-inch and 2-inch (38-mm, Telemetry-equipped flow meters available by special order

Orenco' | Wastewater Pumping Products Catalog

Flow Meters (FM)

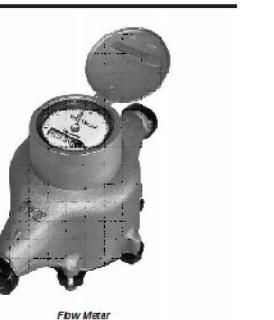
Grenco® Row Maters are used to measure cumulative flow through a transport line. They are typically used in applications where permits require exact measurement of flows, such as to a drainfield.

- 58-inch, %-inch, 1-inch, 1½-inch, and 2-inch (16-inm, 19-inm,
- 25-mm, 38-mm, 50-mm) models available
- Unions and slip connections available on 58-inch, %-inch, and 1-inch
- (10-mm, 19-mm, and 25-mm) models
- 50-mm) models

Sample Product Codes*

- FM100U 1-inch (25-mm) flow meter with PVC unions
- FM160 116-inch (38-mm) flow mater with bronze flanges FM200 — 2-inch (50-mm) flow meter with bronze flanges





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REVISION	BY	
JOB NO:	2201	112
DATE:	03–0	09-21
SCALE:	AS N	OTED

SHEET NO: **OWTS SS-3** 03 OF 07 SHEETS

DESIGN BY: KBC

CHECKED BY: JH

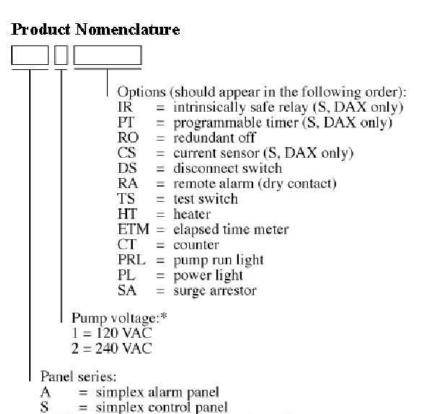
FOR A DISTRIBUTOR NEAR YOU, VISIT US ONLINE AT WWW.CHENCO.COM ACT-PRD-PS-1, Ray, 1.2

[STE] E Z

S Series Simplex Control Panels

Simplex control panels can be used for pressure sewer (STEP) systems, onsite treatment systems, and pump control into conventional gravity or pressurized drainfields. "S" series pump control panels are a popular choice for a simplex pump and alarm system. These panels include a motor contactor, which increases system life by reducing the load requirements on the float switches. "S" Series panels also allow options such as a programmable timer or use of larger horsepower pumps.

Note: Orenco's A, S, and DAX series of standard electromechanical control panels are specifically designed for use with effluent pumping and onsite treatment systems, when pumping from point "A" to point "B."



* All panels require 120 VAC for the controls

DEDITION #85 LITED A DRITTENE -----

Herric Lease (CTR) SECTION LUCKS IT LLBOW (LILL-ECO) CE DE CEOFLOW 7 GEOFLOW WASTEFLOW DRIPLINE DEGE OW DOCKSLE ANABETE (LTS 12-600) BLUE INTO 374 INCH 790 DEGE PARKETING LEVO

GECE DO WASTER OW DRIE IN S — DECIDE VASIS DE CHICE GEOTLOW LOCKSUP COUPLING (LTC-600) BEANK GECHLOW WASTEFLOOD DRIPLINE and the control of th COTE, IF USING FIRS EXCITODE, IDOMERCHINAS SHALL RE-CODE DA LOSSIS IN ADAPTHA (181 P. 680), ID EVO DOLLA ING DECKLOW LUCKSHIP ELBOW (LIEL 640) SERVER FOR SELECT STREET STREET SERVER SERVE

Float & Splice Box Wiring Diagram

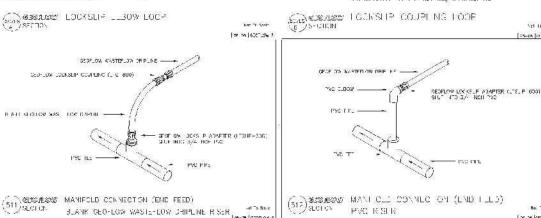
more than one marker

Float Function Color Code

Float Arrangement

Control Panel Series

-ig: Level Alai Y-Yellow



Splice Box Wiring

DAX = duplex alternating control panel

* Orenco* Biotube* Effluent Filters are covered under multiple U.S. and international patents.

The cover ring fastens valve cover to body, stiffening and strengthening the valve body, enabling simple maintenance. A cover ring key is available.

The pilot adaptor allows us to connect the mini-pilot valve or the Galit hydraulic relay to the valve body.

The cover's strong construction meets rough service conditions. Optional cover types (3"; DN80 and smaller valves) are capable of accepting a Flow Stem, a Flow Stem + Position Indicator, and a 2-Way Solenoid (2W-N1 Electric Type).

[4] Auxiliary Closing Spring One single high grade stainless steel spring provides a wide operation range, ensuring low opening pressure and secured

[5] Plug Assembly The unitized Flexible Super Travel (FST) plug assembly combines a long travel guided valve plug peripherally supported diaphragm, and replaceable diaphragm and valve seal. The diaphragm fully meets the valve's operating pressure range

[5.1] Diaphragm Holder [5.2] Diaphragm

Applications

Cutaway view

Materials of Construction

Orenco* 8*-15" Biotube* Effluent Filters are designed to

✓ Alarm float

coupling

- Biotubes

— Inlet hales ——

coupling

Vault-

They can be used in new and existing tanks.

remove solids from effluent leaving commercial septic tanks.

[6] hYflow Y' Valve Body Glass-filled nylon construction meets rough service conditions with high chemical and cavitation resistance. End-to-end "look-through" design and full bore seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts, enables ultra-high flow capacity with minimal pressure loss.

[7] End Connections Adaptable on-site to a wide range of end connection types and sizes: [7.1] Flanges: Flastic or metal "Corona" with elongated slots enable meeting diverse flange standards ISO, ANSI and JĪS. [7.2] Flange adaptor external thread [7.3] Internal threads [8] Flange Adapter

Articulated flange connections is olate the valve from line bending and pressure stresses. [9] Valve Legs Stabilize the valve and serve also

as mounting brackets.

WASTEFLOW PC 1/2 gph



Flow Rate vs. Pressure ALL WASTEFLOW PC

1/2 gph dripline 7-60 psi 16-139 ft. 0.53 gph

Maximum Length of Run vs. Pressure Allows a minimum of 10 psi in the line.

Pressure		Emitter Spacing					
psi	ft.	6"	12"	18"	24"		
10 psi	23.10 ft.						
15 psi	34.65 ft.		174'	260°	321		
20 psi	46.20 ft.	120°	229'	330'	424		
25 psi	57.75 ft.		260'	377	478		
30 psi	69.30 ft.	150°	288'	415'	535		
35 psi	80.85 ft.		313'	448'	576		
40 psi	92.40 ft.	172'	330°	475°	612		
45 psi	103.95 ft.		354'	501'	651		
50 psi	115.5 ft.		363'	523'	675		
55 psi	127.05 ft.		377'	544'	700		
60 psi	138.6 ft.		403°	563'	727		

NOTE: For rolling terrain use Geoflow's anti-siphon dripline

Description

The Wasteflow Headwork is a pre-assembled unit including

filters, valves, fittings and pressure gauges mounted inside

installed between the pump and the field to filter out fine

particles from entering the treatment field, and to flush fine

particles that may collect in the dripfield. Recommended for

maximum flow rate of 30gallons per minute and 600 gallons

During a desing cycle, the wastewater exits the pump charn-

ber and enters the inlet fitting of the Sporty Headworks. It

passes through the filter before exiting the box and going to

zone flush valves are closed at this time.

or pretreatment tank.

pretreatment tank.

the dripfield zone that is open. Both the field flush valve and

The water enters back into the Headworks through the return

line, goes past the point to measure pressure and stops at the

During a field flush cycle, water enters the Headworks as above,

the filter flush valve remains closed, but the field flush valve

opens to allow water to circulate through the dripfield and

pressure gage and through the field flush valve at an in

return back into the return fitting of the headworks, past the

creased velocity than during normal dosing. The water passes through the field (hish valve and down the flush line in the

headworks to exit the headworks for return to the pump tank

When filter fluxling, the filter valve opens and the field flush

valve is closed. While water passes through the filter to the

pushing solids down the screen, out of the filter, through the

field, part of the water is directed to the base of the filter,

open filter (lush valve, into the flush line in the ultra head

The Ball Check valves prevent backfl ow or drain down in

the system. The true union provides easy access for inline

designed for quick positive scaling with minimum turbulence,

low restriction, and efficient fluid transfer. It can be installed

vertically or horizontally. System pressure will unseat the ball,

allowing flow. Backflow or head pressure of 30° or 1 to 2

psi will scat the ball and stop back (I ow. Each check valve

ships with female thread and socket adapters. This valve is

manufactured 100% from thermolastic materials, making is

Model Inlet/ Length Height Max Weight

 CV-B-05
 0.5°
 3.50°
 2.00°
 140°
 0.75

 CV B 10
 1.0°
 5.09°
 2.31°
 140°
 1.1

 CV B 15
 1.5°
 6.59°
 3.81°
 140°
 2.2

CV B 20 2.0° 7.53° 4.22° 140° 3.0

All thermoplastic check valves shall be True Union Ball type

less suseptable to corrosion.

installation and servicing. The true union ball check is

works to exit the headworks for return to the pump tank or

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a box for direct burial, or inside a pump tank risier. It is

Standard products: WFPC16-2-24 WASTEFLOW PC 24"/.53gph or 2lph WFPC16-2-18 WASTEFLOW PC 18"/.53gph or 2lph WFPC16-2-12 WASTEFLOW PC 12"/.53gph or 2lph Alternative spacing, flow rates and diameters available

WASTEFLOW PC 1/2 gph PC Specification The dripline shall consist of nominal sized one-half inch

linear low density polyethylene tubing, with turbulent flow

drip emitters bonded to the inside wall. The drip emitter flow passage shall be 0.032" x 0.045" square. The tubing shall have an outside diameter (O.D.) of approximately .64-inches and an inside diameter (I.D.) of approximately .55-inches. The tubing shall consist of three layers; the inside layer shall be a Geoshield® protection, the middle layer shall be black and the outside layer shall be purple striped for easy identification. The dripline shall have emitters regularly spaced 24" (or 18" or 12") apart. The pressure compensating emitters shall be molded from virgin polyethylene resin with a silicone rubber diaphragm. The pressure compensating emitters shall have nominal discharge rates of 0.53 gallons per hour. The emitters shall be impregnated with Treflan® to inhibit root intrusion for a minimum period of fifteen years and shall be guaranteed by the manufacturer to inhibit root intrusion for this period. 0.53 gph WASTEFLOW PC pressure compensating dripline shall be Geoflow model no. WFPC16-2-24 or

Pressure Loss vs. Length of Run

WFPC16-2-18 or WFPC16-2-12.

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Lockslip Drip Fittings

adapters are 600 series. Available preassembled on 18" flexible PVC riser (LTFLEXR 18) and flexible PVC loop (ETFLEXL-36).

Lockslip Slip Adapters

The slip adapter is used to connect Wasteflow drip tubing to

to a PVC fitting. The adapter has 3/4" MPT fitting on one side dripline adapter on the other side. This fitting requires no glue. he lockslip adapter shall be Geoflow part number LTMPT-600

Lockslip Elbows The elbow is used to connect Wasteflow drip lines or Wasteflow

nires no glue. The lockship elbow shall be Geoffow part number

The PVC Glue / Cement: Saddle to PVC manifold Flex PVC to Saddle or F If the fitting is made of plain tube together in a tee degree configuration. This fitting quires no glue. The lockslip tee shall be Geoflow part number Instructions for solvents



to		constructed from PVC Type I Cell Classifi cation 12454. Socket end connections are manufactured to ASTM D2467
	TOTAL CONTRACTOR OF THE STATE	91. Threaded connections are manufactured to ASTM
d	1PS # 719	D2464-88.
Fitting	IPS 77 795	The O-Ring seat shall be Viton®. All valve components shall
f PVC	1PS # 711	be replaceable. The check valve shall be pressure rated at 235
Pittings		psi, non-shock water at 73° F. The ball check valve shall be
ers)	1PS # 793	Geoflow part number CV-B-X.
t welding PV	C fittings please visit	

DATE APPROVED

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WHW Sporty Headworks - Screen

Air release occurs when air escape the system at startup and vacuum relief allows air to enter during shutdown. The air vent vacuum breakers are installed at the highest points. in the drip field to keep soil from being sucked into the emitters due to back siphoning and back pressure. This is an absolute necessity with underground drip systems. They are also used for proper drainage of the supply and return manifolds. Use one on the high point of the supply manifold and one on the high point of the return manifold. and any high points of the system.

Features

Description

Ceoflow's new kinetic air vacuum breakers have a twist off cap that is easy to take apart for cleaning. No need to remove the valve to maintain it. The large clear passageway allows lots of air to flow in and out easily. The protected mushroom cap is ideal for wastewater, directing spray downward.

	25"			Ÿ.	Part No.	APVBK7
					Inlet	3/42
					Max. Flow Rate	30 gpm
				16'	Max Pressure	80 psi/1
				1000	Max Temp	140 oF
			1, 1		Height.	5"
	- 1	31	10.		Weight	1 02.
					A	- 12
			8 4			

Ball Check

True Union Ball Check

Maximum Pressure Rating

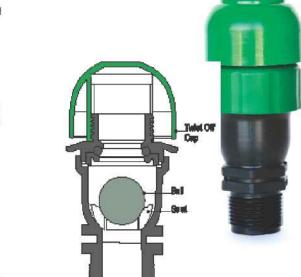
at Given Temperature

0 80 90 100 110 120 130

Temperature (degrees F)

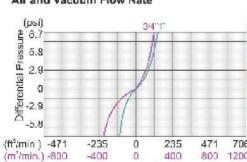
Specification

The Air Vacaium Breaker bady and ball shall be made of molded plastic. The ball shall be removable for easy cleaning. The Air Vacuum Breaker shall be part number

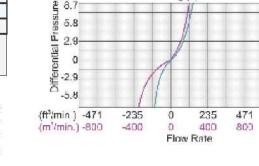


Air Vent / Vacuum Relief Valv

Air and Vacuum Flow Rate



APVBK75m or APVBK100m as supplied by Geoflow,



Pressure Regulator Specification

Geoffow model number PMR-____ -_ F

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APVBK100m

Fax 415-927-0120 www.geoflow.com



Pressure Regulators

The negalators are preset to regulate pressure in the field. These are recommended with Wasteflow Classic and optional with Wasteflow PC. Under normal operating conditions the pressure in the dripline 10 - 45 pri for Waterlow Classic and Wasterlow PC

Geofforms processes regulator shall be designed to handle steady inlet pressures of ___ psi and withstand severe water hammer extremes. It shall handle flow rates between ___gpm and ___gpm. Flow sertifiction shall be negligible until the factory preset pressure is reached. Regulatory accuracy shall be within +/- 646. Inlet and outlet size shall be 44" FIPT. The body shall be constructed of high impact engineering goods thermoplastics. Regulation shall be accomplished by a fixed stainless steel compression spring enclosed. in a chamber separate from the normal water passage. Each regulaour shall be wante mound for accuracy. Pressure t



1		Low, Medium and Flow Regulator
Q		Estim flow regulato Flows up to 90 gpr
let re	Inlet / Outlet	
347£1	%* / %* figt	
347 £t	1" / 1" fipt	
2310	1.25" / 1" fipt	

Item Ho.	Outlet Pressure	Flow Range	Max. Inlet Pressure	Inlet / Outlet
PMR-20-LP	20 psi	1/8-8 gpm	150 pri / 347ft	54" / 54" fipt
PMR-20MP	20 psi	2-20 ggm.	150 pri / 347£t	1" / 1" fipt
PME-20-HP	20 psi	10-32 gpm	100 psi / 231m	1.25" / 1" fipt
PMR-20-NF	20 psi	20-00 gpm	DC psi / 208 ft	3" / 3" 335 slip
PME-NI-LF	30 psi	1/5-5 gpm	150 psi / 347 ft	967 / 967 fipt
PME-NIME	30 psi	2-20 gpm	150 psi / 347 ft	1" / 1" fipi
PMR-NO-HIP	30 psi	10-32 gpm	100 psi / 231 ft	1.25" / 1" fipt
PMR-30-NF	30 psi	20 -9 0 gpm	100 pri / 231 ft	3" / 3" ID slip
PMR-40-LF	40 psi	1/8-8 apra	150 pri / 347 ft	54" / 54" fipt
PMR-40-MF	40 pai	3-20 gpm	150 psi / 347 ft	1" / 1" fipt
PMR-40-HP	40 psi	10-32 gpm	100 pri / 231 ft	1.25" / 1" fipt
PMR-40-NP	40 psi	20-90 gpm	125 pai / 284 ft	3" / 3"ID slip
PMR-50-MP	50 psi	2-210 ggran.	150 psi / 347 ft	1" / 1" flpt
PMR-50-HI	50 psi	10-32 gpm	100 psi / 231 ft	1.25" / 1" flpt
PMR-50-XI	50 psi	20-00 gpm	125 psi / 250 ft	3" / 3" IID dip

Geoflew, Inc. Tel 415-927-6000 / 800-828-3388 Fax 415-927-0120 www.geoflew.com Product Shorts-2011 Prostur Beggdatent 1 (Gåndd

JOB NO: DATE: AS NOTED SCALE: DESIGN BY: KBC CHECKED BY: JH

OWTS **SS-4**

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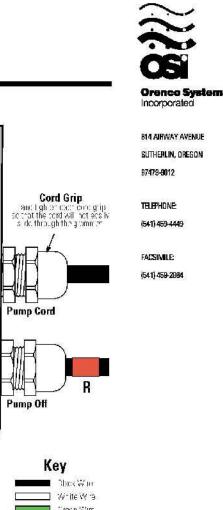
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REVISIONS

SHEET NO:

วแ~ว()^ **B-Blue** Float Types 👞 🔳 Typical Orenco float model: A Specs: contect - normally open b Taborital I norm himum power taling - signal Float Tag Colors Y - Yellaw R - Red P - Purple 0 - Orange Green Wire B - Blue E - Grey Attention: Failure to follow splicing instructions will void warranty G - Green W - White Note: In systems which include floats, Note: Multi-function floats will have



Refer to drawing EIN SB SB 1 for splicing instructions.

Splice Box Model

EDW-FS-S-5

8"-15" Dia. Biotube® Effluent Filters

General

Biotube cartridge fits snugly in the vault and is removable for maintenance, the handle assembly snaps into the notches in the top of the vault, and the tee handle can be extended for easy removal of the cartridge. A "base inlet" model (see p. 2) is available for low-profile tanks. An optional slide rail system, available on larger models, simplifies installation and provides tank access for servicing. **Standard Models** FT0854-36, FT1254-36, FT1554-36, FT0822-14B, FT1254-36AR

Orenco® 8'-15" Biotube® Effluent Filters# are used to improve

the quality of effluent exiting a commercial septic tank. The

Nomenclature

 $R = slice rail scrips (12' and 15' en <math>V^{\dagger}$ Genrioge height (Inches): 14 — 141 (base faler) 86 = 361 (standard Feight) Fousing heigh (indies) 22 – básc hilotímoco 49 – when minimum liquid level is 37"-46" (9" diagony) 54 – when minimum liquid, level is 46"-63" ⁴

) . . .

bracket Note: Support coupling and support bracket are available on 12" and 15"

Sans $= 1/3^{\circ}$ filtra or $= 1/16^{\circ}$ fibration

Signifie ** effuer: The series ji nolcatos biradkot is opex od to housing (add on alarm alac svališblo). Tulse the silde rati when bully one access is available for the Titer chamber. FM ninuum build level is niessured from the liver of the bullet to the laukt box. Vault, pipe coupling, handle components, support coupling and bracket

WASTEFLOW PC our slow drain

Length - Ft.





The lockslip fittings shall be molded of high grade plastic. Wasteflow drip tubing shall be pushed over a barb end, then secured with a locking nut. The fitting shall have the ability to be removed and reapplied with the locking nut. The fitting shall be sized to match Geoffow Wasterlow tube. Standard size is 16mm and standard

a PVC fitting. The adapter glues into a 3/1" slip fitting. The drip tubing end requires no glue. The lockslip adapter shall be Geoflow part number ETSLIP-600 Lockslip Threaded Adapters The threaded adapter is used to connect Wastellow drip tubing

The coupling is used to connect Wasterlow drip lines together. The adapter glues into a 3/1" slip fitting. This fitting requires no glue. The lockslip coupling shall be Geoflow part number

plain tube together in a 90 degree configuration. This fitting re-The tee is used to connect Wasterlow drip lines or Wasterlow



http://www.weldon.com/howtovideo

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DESCRIPTION --- 11 1/2

- 134 1/2 ---INLET CENTERLINE

500 GALLON SEPTIC TANK

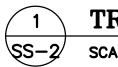
- DUTLET CENTERLINE **MINORWESCO**

JTP 18MAYOO B

The Solenoid Valve is used to Hush field and filters and as zone valves. It is electrically operated. It is normally closed, and in the event of a power failure the valve will close. Geoffow's automatic water control valves are designed for vertical or horizontal installation. The Wye Yi valve body design includes a full bore seat with unobstructed flow path free of any in-line ribs, supporting cage, or shafts. Its unitized Flexible Super Travel (FST) diaphragm and guid ed plug provide a significantly Took throught passage from and to and resulting in ultra high flow capacity with min m pressure loss. The combination of a long travel guided valve olug, peripherally supported diaphragm, and replaceable valve scal provides: ■ No chattering or slamming closed ■ Accurate and stable regulation with smooth motion ■ Low operating pressure requirements ■ No displinagin erosion and distortion

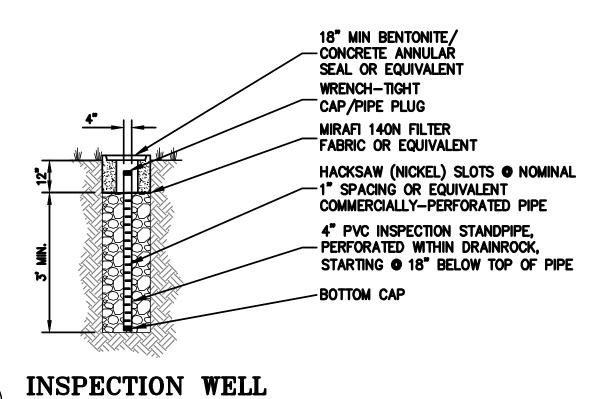
Chemical resistant

	SVLVB-100	SVLVB 150	SVLVB 200	SVLVB 300
Inlet/Outlet Size (FNPT)	<u> </u>	1.5"	2**	3"
Length (%)	4.3°	6.30	9.0**	12.2°
Feight (H)	4.5**	7.20	7.4"	11.05
Width (W)	3.5%	5.02	5.47	
R	7/87	1-3/89	1-5/87	1.0%
Whight	2.5 ov	2.2 lbs.	2.97 lbs.	8.8 lbs
Valve pattern	Globe	G obe	Wyo Y	W_{S}, Y
Operating range:	tr. 150 psi	16. 150 psi	7 140 psi	7 140 psi
Max pressure	180 deg F	180 deg 1/	180 dag 11	180 deg 1
Materials				
Body & cover	Nylon minforcod	Nylon reinforced	Glass filled nylon	Glass filled nylon
Metal parts	Stamless steel	Stainless steel	Stamless steel	Stamless steel
Daphragn	Natural rubber	Natural rubber	NER (Buna N); nylon reinforced fabric	NBR (Buna N), nylon reinforced fabric
Seals	NER & NR	NER-8: NR	NBR (Buna N)	NBR (Buna N)



TRENCH CROSS SECTION 1

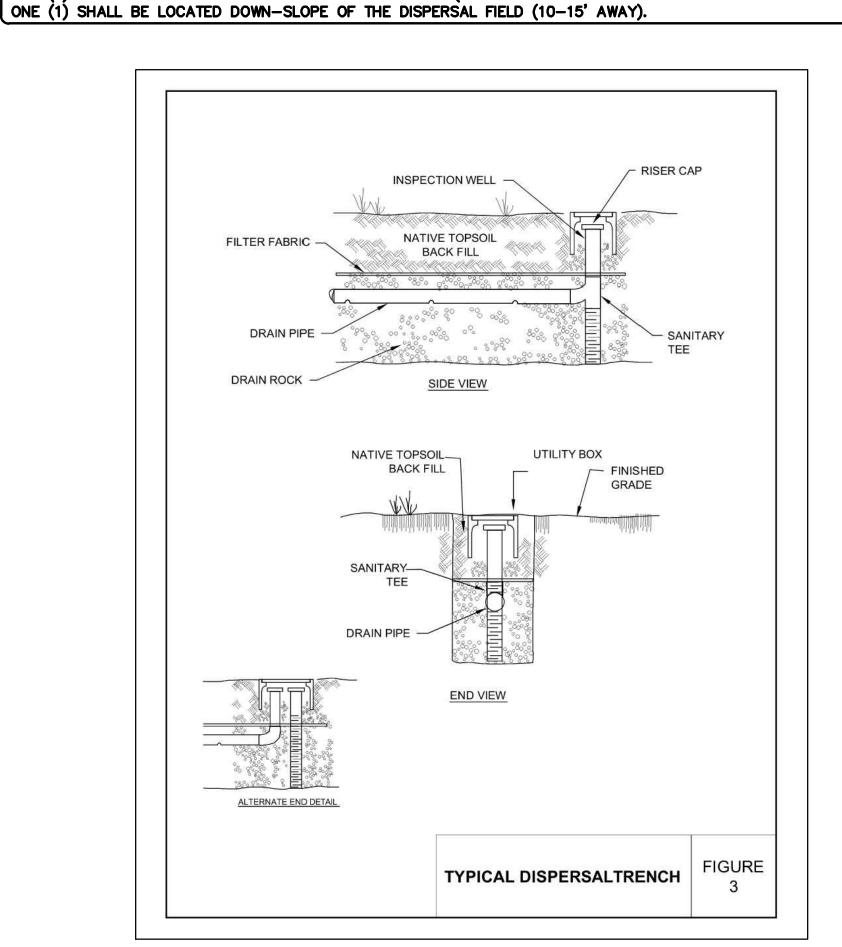
1"=5' VERT

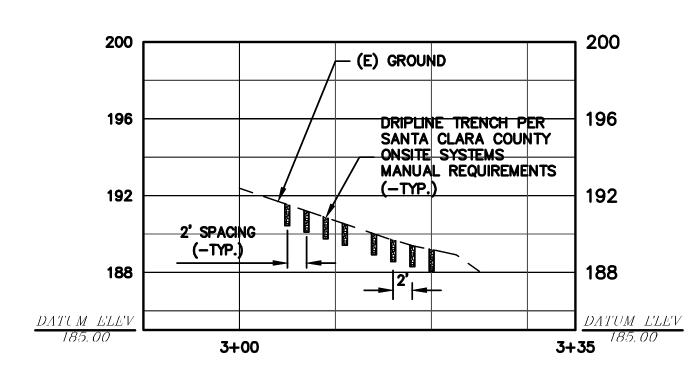




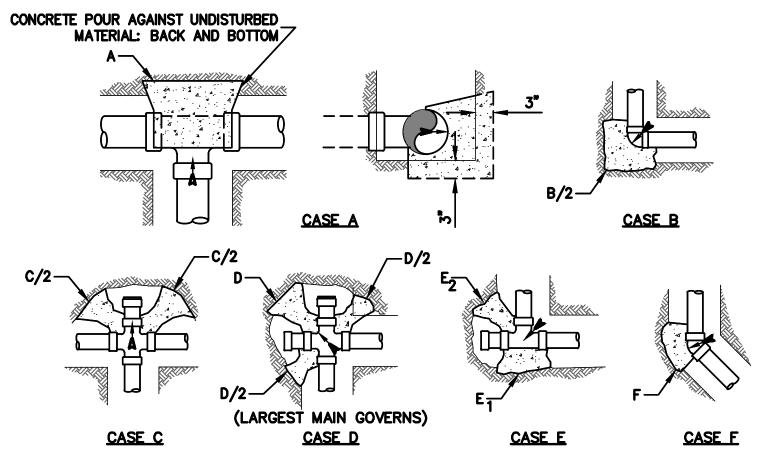
INSPECTION STANDPIPE NOTE;
THREE INSPECTION STANDPIPES SHALL BE INSTALLED WITHIN AND AROUND TRENCH SYSTEMS. ONE (1) SHALL BE LOCATED UPSLOPE OF THE DISPERSAL FIELD (10-15' AWAY).

ONE (1) SHALL BE LOCATED WITHIN THE DISPERSAL FIELD (TYPICALLY BETWEEN TRENCHES AND NEAR CENTER OF FIELD).





TRENCH CROSS SECTION 2 1"=10' HORIZ 1"=5' VERT



REQUIRED BEARING AREAS—SQ.FT.

≤4" 2 3 3 3 2 3 2

6" | 5 | 6 | 7 | 7 | 5 | 7 | 4 |

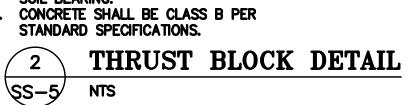
8" | 8 | 12 | 11 | 11 | 8 | 11 | 6 |

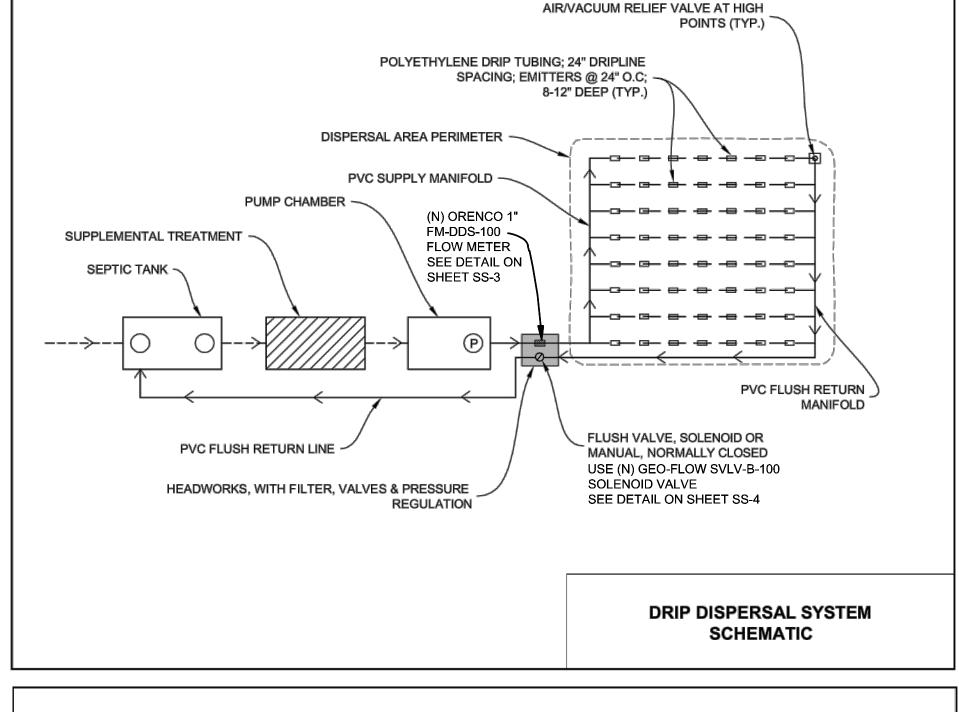
10" 12 18 17 17 12 17 8

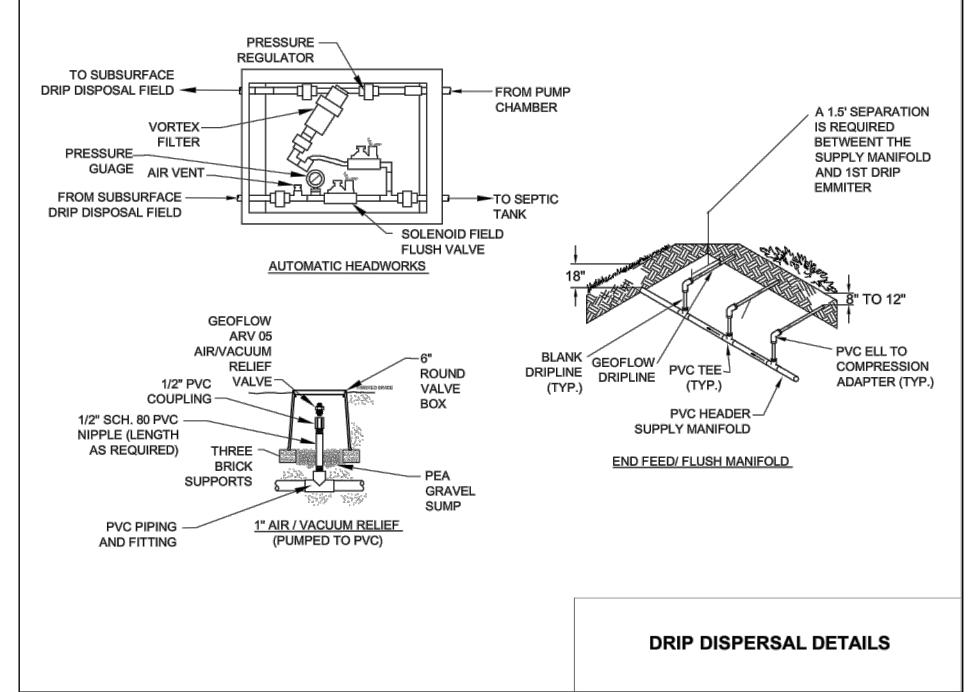
12" 17 24 24 24 17 24 12

A B C D E₁ E₂ F

- 1. CASE "A" IS TYPICAL FOR ALL. ALL BLOCKS TO BE KEPT CLEAR OF LUGS. UNSUPPORTED SURFACES TO BE FORMED.
- 4. ARROWS ON CASE "A", "C" & "E" INDICATE MAINS WHICH DETERMINE BEARING AREA. 5. BASED ON 150 PSI PRESSURE, 1,000 PSF
- SOIL BEARING. 6. CONCRETE SHALL BE CLASS B PER







JOB NO: DATE: SCALE: AS NOTED DESIGN BY: KBC

SHEET NO: **OWTS SS-5** 05 OF 07 SHEETS

CHECKED BY: JH

Hydraulic Volume (gal): A. PRIMARY B. 1st AERATION C. 2nd AERATION D. FINAL

ANCHOR DETAIL

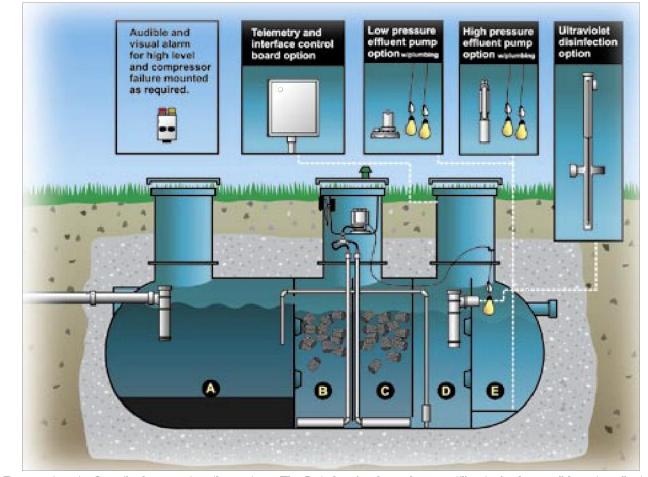
MODEL	SETTLING	CHAMBER	CHAMBER	CLARIFIER	STORAGE	GALLONS
ES6:	748	250	250	250	210	1708
ES12:	1566	502	502	486	380	3436
• Extended Storage of	of sludge in primary compa	irtment. Sludge needs to	be pumped every one to		F21	
three years depend	Carbon Page of reducing the Carbon Ca		Daily Power Consumption (kWh):			
	eatment configuration as I	EnviroServ	er	ES6 ES12		
same clean effluent quality				Gravity Outp	out	3.6 7.2

3 TANK INSTALLATION LAYOUT (TRANSVERSE VIEW)

- Requires less maintenance due to less moving parts Requires only 115 Volt / 15 Amp Service 22% Energy savings compared to SM Model Tank delivered with components already assembled, allowing for quick & easy installation
- Entire system installed below ground Includes audible and visual local alarm for detection of high water level in tank and of compressor failure. Alarm can be mounted indoor or outdoor away from tank
- · System includes effluent filter to protect dispersal field from solids carry-over during upset conditions Disinfection offered as an option, may be required when using shallow dispersal fields Optional effluent pumps for pressurized discharge
- Optional Telemetry & Controller for effluent pump and additional equipment Design and specifications are subject to change without notice

EnviroServer ES Model

EnviroServer ES Process



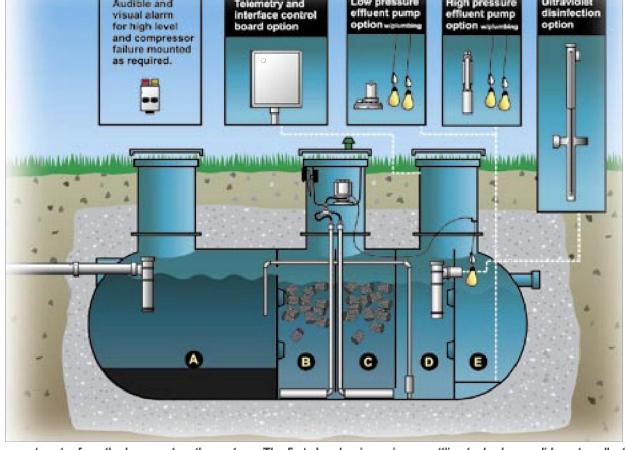
Raw wastewater from the home enters the system. The first chamber is a primary settling tank where solid waste collects on the bottom. The chamber is sized to hold sludge for one to three years depending on the usage of the system. The first baffle is structurally reinforced to be able to withstand the hydraulic pressure of the first compartment being empty and the second full. As the settling takes place, the water becomes clearer and as more water enters the system, it overflows into chamber B.

The primary clarified wastewater overflows into the chamber B and underflows into chamber C. At the base of the chambers B and C are air diffusers that create fine air bubbles, which allow for the aerobic digestion of waste. Unlike most on/off cycling air compressors, our system features continuous-flow compressors for maximum digestion. The EnviroServer ES utilizes a combination of an attached and suspended growth process. The attached film is growing on a biomedia and the suspended growth is created by mixing and recirculating sludge. This combination results in a treatment efficiency that exceeds the individual performance of an attached or suspended growth process.

Chamber C is a continuation of the aerobic process started in chamber B. Wastewater underflows from chamber C to chamber D. Chamber D is the clarifier where final settling of suspended solids and clarification of the effluent is taking place. It is designed for optimum performance without any chemical addition. To promote denitrification and remove accumulated biomass, the settled

solids are recirculated back to the first chamber by a recirculation pump. The recirculation pump is operated by an air-lift action and does not have any moving parts. . The EnviroServer ES provides increased residence time in the chamber A for improved denitrification, which may be important in colder climates. The clarified water leaves the treatment system through an effluent filter into chamber E which is the Effluent Storage compartment. The effluent filter protects the effluent storage and the dispersal field from solids carry-over during upset conditions. It is designed to remove all particles larger than 1/16".

The water flowing into chamber E is now very clear and clean. If desired, or required, ultra-violet can be introduced for disinfection of the water prior to surface or sub-surface discharge.



THE DESIGNED TANK BURY DEPTH IS 2' TO 6'. ANY TANK BURIED BEYOND MicroSepTec THAT RANGE NEEDS TO BE ANALYZED BY A CIVIL/GEOTECHNICAL ENGINEER.

2. GEOLOGIST OR GEOTECHNICAL ENG. SHOULD DETERMINE IF ANCHORS AND TEXTILE FILTER ARE REQUIRED SEE SHEET IN12-01. PEA CRAVEL OR CRUSHED STONE BACKFILL. SEE STRUCTURAL NOTES FOR DETAILED REQUIREMENTS. AQX 🕝 ENGINEERING INC. 1520 BROOKHOLLOW, SUITE 45 SANTA ANA, CA 92705 OFF. (714) 652-0510 FAX. (714) 662-0539 WWW.ADXENGINEERING.COM GEDTEXTRE CLOTH TO ENCOMPASS ALL PEA GRAVEL BACKFILL IF REG BY GEDTECHNICAL ENG. L NOTE: GEOLOGIST OR GEOTECHNICAL ENGINEE SHOULD DETERMINE IF - STEEL CHAIN W/ MINL ALLOWABLE LOAD 5000 LB. EACH SHOULD BELEMBLE IF CORROSIVE RESISTANT MATERIAL SHOULD BE USED IN ANY STEEL PARTS. SPOSED IN THE SOIL. SEE SHEET IN12-01. THIS ITEM IS OPTIONAL STEEL SHACKLE W/ MM. ALLEMANE LOAD SOOD LEL TANK INSTALLATION LAYOUT (ELEVATION VIEW) REVISION DESCRIPTION: ELEVATION VIEW NOTE: GEOLOGIST OR GEOTECHNICAL ENGINEER
SHOULD DETERMINE IF
CORROSIVE RESISTANT
MATERIAL SHOULD BE
USED IN ANY STEEL
PARTS EXPOSED IN THE
SOIL. SEE SHEET ES 12 SEPTIC TANK DESIGN INSTALLATION DRAWING NON TRAFFIC W ANCHORS IN12-04

Low Pressure Discharge 4.0 7.9

reatment Capacity* 600 gpd 1200 gpd

Electrical Hookup 115 VAC, 15 Amp

ES6 ES12

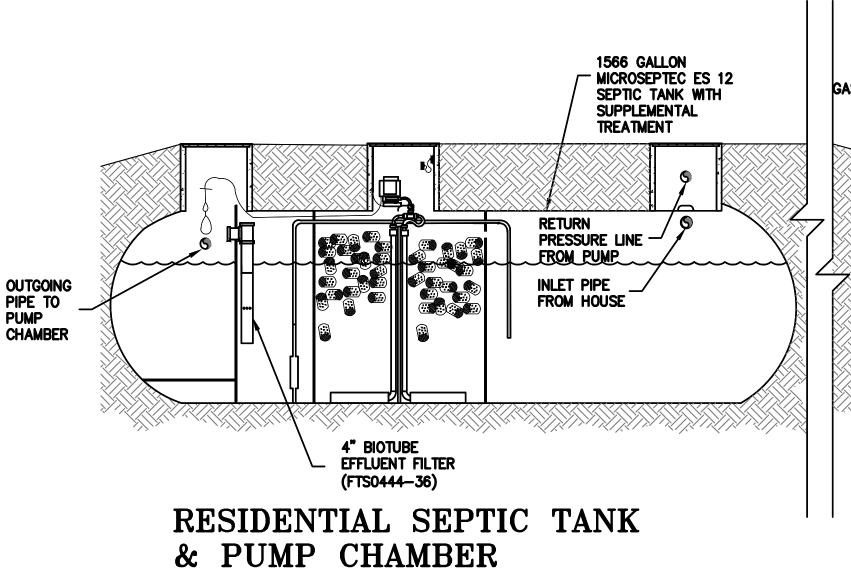
180" 242"

60" 72"

High Pressure Discharge 4.9 9.7

Specifications:

*Based on typical household waste



NTS

GASTIGHT RISER (-TYP.) MICROSEPTEC

2. PLACE ALARM FLOAT 17.75" FROM BOTTOM OF TANK

3. PLACE PUMP ON FLOAT 12" FROM BOTTOM OF TANK

COUNTY OF SANTA CLARA

CONSTRUCTION INSPECTION. THE FOLLOWING MINIMUM INSPECTIONS PRIOR TO COMMENCING CONSTRUCTION OR COVERING ANY ELEMENTS OF THE SYSTEM SHALL BE REQUIRED. JOINT

BY THE DESIGNER, INSTALLER, AND SANTA CLARA COUNTY DEH MAY BE REQUIRED. 1. PRE-CONSTRUCTION INSPECTION WHERE THE CONSTRUCTION STAKING OR MARKING OF THE

TREATMENT UNIT IS TO BE PLACED AND INSTALLATION PROCEDURES ARE DISCUSSED; 2. TESTING OF THE TREATMENT UNIT:

A. FUNCTION AND SETTING OF ALL CONTROL DEVICES AND ALARMS.

B. WATER-TIGHTNESS OF SEPTIC TANK, TREATMENT TANK(S), AND DOSING TANK, AS APPLICABLE.

3. CONSTRUCTION INSPECTION

- ONSITE SYSTEMS MANUAL PART 4 (5/2014) PAGE 64
 A. PRE-CONSTRUCTION INSPECTION WHERE THE CONSTRUCTION STAKING OR MARKING OF THE DRIP LINES, SUPPLY AND RETURN PIPING, PUMP SYSTEM AND APPURTENANCES IS PROVIDED AND CONSTRUCTION PROCEDURES DISCUSSED;
 - B. WATER TIGHTNESS OF EFFLUENT DOSING (PUMP) TANK; C. DRIP FIELD LAYOUT, PIPING MATERIALS AND INSTALLATION, AND ALL ASSOCIATED VALVES AND CONNECTIONS;

D. HYDRAULIC TESTING OF THE DRIP SYSTEM;

E. FUNCTIONING AND SETTING OF ALL CONTROL DEVICES; AND F. FINAL INSPECTION TO VERIFY THAT ALL CONSTRUCTION ELEMENTS ARE IN

CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS, AND MANUFACTURE RECOMMENDATIONS; ALL INSPECTION WELLS ARE INSTALLED; AND EROSION CONTROL HAS BEEN COMPLETED. OWNER AND SERVICE PROVIDER SHALL BE PROVIDED. 4. MANAGEMENT REQUIREMENTS

RECOMMENDED MINIMUM PROCEDURES AND FREQUENCY FOR INSPECTION, MAINTENANCE, MONITORING AND REPORTING ACTIVITIES FOR PROPRIETARY TREATMENT SYSTEMS ARE OUTLINED IN TABLE DD-1 BELOW.

Table DD-2 Drin Dienersal System Management Pequirements

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 system size, usage, history, location. 		

PUMP STORAGE VOLUME CALCULATION

DOSING VOLUME = 33 GALLONS (FROM LEACHFIELD CALCULATIONS ON SHEET SS-3)

TANK CAPACITY = 1500 GALLONS

HEIGHT OF TANK TO INVERT OF INLET PIPE = 56.75 INCHES

DETERMINE RESERVE STORAGE HEGIHT

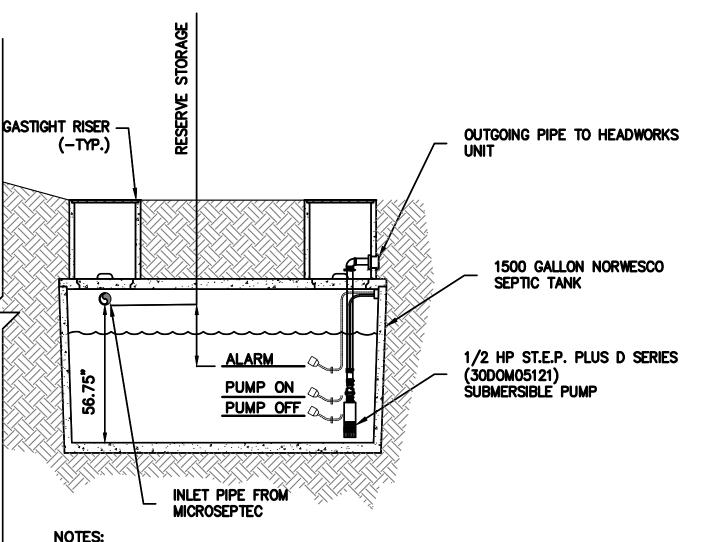
REQUIRED STORAGE VOLUME = 1012.50 GALLONS (1.5×675 GALLONS FOR 6 BEDROOM HOUSE)

1500 GALLONS S6.75 (NORES = 26.43 GALLONS/INCHES

REQUIRED HEIGHT FOR RESERVE STORAGE = 39 INCHES

 H_{ALARM} • 56.75 INCHES - 39 INCHES = 17.75 INCHES

PLACE ALARM FLOAT 17.75 INCHES FROM BOTTOM TO ENSURE MINIMUM 1.5 DAY RESERVE



1. PROVIDE RESERVE STORAGE CAPACITY FOR 1.5 DAYS

4. PLACE PUMP OFF FLOAT 9" FROM BOTTOM OF TANK

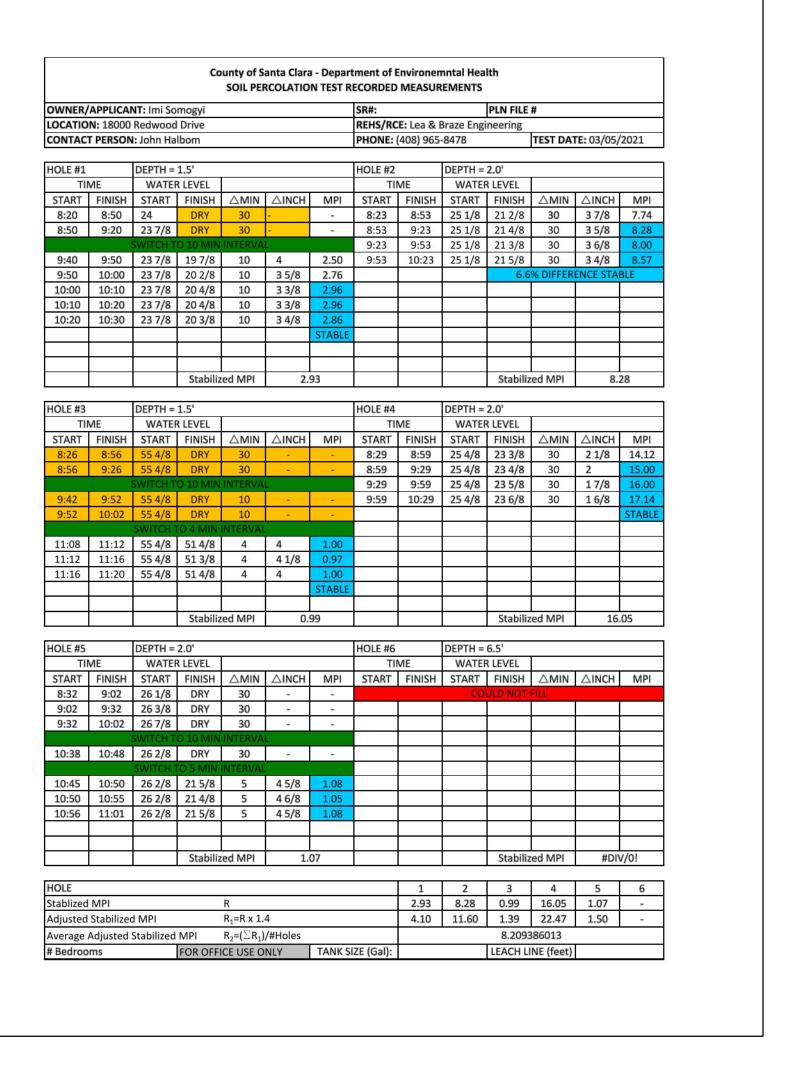
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REVISIONS 2201112 JOB NO: 03 - 09 - 2AS NOTED SCALE: DESIGN BY: KBC CHECKED BY: JH

SHEET NO: OWTS **SS-6**



OWTS OPERATING PERMIT NOTES

PER SANTA CLARA COUNTY ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS) ORDINANCE, GENERAL REQUIREMENTS PERTAINING TO OPERATING PERMITS ARE AS FOLLOWS:

- 1. THE OPERATING PERMIT WILL BE ISSUED BY THE COUNTY DIRECTOR FOLLOWING: (A) COMPLETION OF CONSTRUCTION OF THE ALTERNATIVE OWTS; (B) SATISFACTORY COMPLIANCE WITH THE INSTALLATION PERMIT REQUIREMENTS: AND (C) PAYMENT OF APPLICABLE FEES. OPERATING PERMITS ARE NON-TRANSFERABLE.
- 2. AFTER INITIAL ISSUANCE. THE OPERATING PERMIT IS REQUIRED TO BE RENEWED PERIODICALLY, THE STANDARD RENEWAL PERIOD BEING ONE YEAR. THE DIRECTOR MAY ESTABLISH CONDITIONS ALLOWING THE TIME PERIOD BETWEEN RENEWALS TO BE EXTENDED FOR CERTAIN TYPES OF OWTS BASED ON A RECORD OF FAVORABLE PERFORMANCE OR OTHER FACTORS WARRANTING A REDUCTION IN SYSTEM OVERSIGHT BY COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH). PROVISIONS FOR ADJUSTING THE OPERATING PERMIT RENEWAL PERIOD SHALL BE PRÉSCRIBED BY THE DIRECTOR IN THE ONSITE SYSTEMS MANUAL. OPERATING PERMITS MUST ALSO BE RENEWED AT THE TIME OF CHANGE IN PROPERTY OWNERSHIP.
- 3. OPERATING PERMITS ARE INTENDED TO SERVE AS THE BASIS FOR VERIFYING THE ADEQUACY OF ALTERNATIVE OWTS PERFORMANCE AND ENSURING ON-GOING MAINTENANCE. PERMIT CONDITIONS SHALL INCLUDE MONITORING AND INSPECTION REQUIREMENTS, PERMIT DURATION, AND OTHER PROVISIONS AS PRESCRIBED BY THE DIRECTOR IN THE ONSITE SYSTEMS MANUAL OR AS DEEMED APPROPRIATE BY THE DIRECTOR ON A CASE-BY-CASE BASIS.
- 4. RENEWAL OF AN OPERATING PERMIT REQUIRES: (A) PAYMENT OF THE APPLICABLE FEES, UPON RECEIPT OF NOTICE FROM THE DIRECTOR; AND (B) SUBMISSION OF THE RESULTS OF REQUIRED SYSTEM INSPECTION AND MONITORING.
- 5. FAILURE TO PAY THE REQUIRED FEE OR SUBMIT THE SPECIFIED MONITORING AND INSPECTION INFORMATION, OR FAILURE TO UNDERTAKE ANY REQUIRED CORRECTIVE WORK SPECIFIED BY THE DIRECTOR MAY BE CAUSE FOR ISSUANCE OF A CITATION, PENALTY FEES, NON-RENEWAL AND/OR REVOCATION OF THE OPERATING PERMIT BY THE DIRECTOR. THE DIRECTOR MAY PLACE A LIEN ON THE PROPERTY FOR RECOVERY OF ANY ASSOCIATED ABATEMENT COSTS AND UNPAID FEES.
- 6. A CERTIFIED COPY OF THE FOLLOWING SHALL BE RECORDED AGAINST THE PROPERTY IN THE OFFICE OF THE COUNTY RECORDER OF SANTA CLARA COUNTY: (A) INITIAL OPERATING PERMIT ISSUED FOR THE SYSTEM;
- (B) REISSUANCE OF OPERATING PERMIT TO NEW OWNERS; AND
- (C) NOTICES OF WITHDRAWAL OF ANY OPERATING PERMIT.

OWTS PERFORMANCE MONITORING AND REPORTING NOTES

- 1. A MONITORING PROGRAM WILL BE ESTABLISHED FOR EACH ALTERNATIVE OWTS AS A CONDITION OF THE OPERATING PERMIT AT THE TIME OF PERMIT ISSUANCE, AND MAY BE AMENDED AT THE TIME OF PERMIT RENEWAL. SAID MONITORING SHALL BE PERFORMED TO ENSURE THAT THE ALTERNATIVE OWTS IS FUNCTIONING SATISFACTORILY TO PROTECT WATER QUALITY AND PUBLIC HEALTH AND SAFETY. THE MONITORING PROGRAM WILL BE IN ACCORDANCE WITH GUIDELINES IN THE ONSITE SYSTEMS MANUAL AND MAY ALSO INCORPORATE RECOMMENDATIONS OF THE SYSTEM DESIGNER, MANUFACTURER, OR THIRD-PARTY REVIEWER.
- 2. THE REQUIRED FREQUENCY OF MONITORING WILL BE IN ACCORDANCE WITH GUIDELINES IN THE ONSITE SYSTEMS MANUAL. MONITORING FREQUENCY MAY BE INCREASED IF. IN THE OPINION OF THE DIRECTOR, SYSTEM PROBLEMS ARE EXPERIENCED.
- 3. MONITORING OF ALTERNATIVE OWTS SHALL BE CONDUCTED BY OR UNDER THE SUPERVISION OF ONE OF THE FOLLOWING:
 - (1) REGISTERED CIVIL ENGINEER;
 - (2) PROFESSIONAL GEOLOGIST:
 - (3) REGISTERED ENVIRONMENTAL HEALTH SPECIALIST; OR
 - (4) OTHER ONSITE WASTEWATER MAINTENANCE PROVIDER REGISTERED WITH THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND MEETING QUALIFICATIONS AS ESTABLISHED IN THE ONSITE SYSTEMS MANUAL. REGISTRATION SHALL ENTAIL:
 - (A) DOCUMENTATION OF REQUIRED QUALIFICATIONS:
 - (B) PARTICIPATION IN ANNUAL TRAINING/REVIEW CONDUCTED BY THE DIRECTOR; AND (C) PAYMENT OF AN ANNUAL FEE ESTABLISHED BY THE BOARD OF SUPERVISORS. ADDITIONALLY, THE DIRECTOR MAY REQUIRE THIRD-PARTY OR COUNTY MONITORING OF ANY ALTERNATIVE OWTS WHERE DEEMED NECESSARY BECAUSE OF SPECIAL CIRCUMSTANCES, SUCH AS THE COMPLEXITY OF THE SYSTEM OR THE SENSITIVE NATURE OF THE SITE. THE COSTS FOR SUCH ADDITIONAL MONITORING WOULD BE THE RESPONSIBILITY OF THE OWNER.
- 4. MONITORING RESULTS SHALL BE SUBMITTED TO THE DIRECTOR IN ACCORDANCE WITH REPORTING GUIDELINES PROVIDED IN THE ONSITE SYSTEMS MANUAL. THE MONITORING REPORT SHALL BE SIGNED BY THE PARTY RESPONSIBLE FOR THE MONITORING. NOTWITHSTANDING FORMAL MONITORING REPORTS, THE DIRECTOR SHALL BE NOTIFIED IMMEDIATELY OF ANY SYSTEM PROBLEMS OBSERVED DURING SYSTEM INSPECTION AND MONITORING THAT THREATEN PUBLIC HEALTH OR WATER QUALITY.
- 5. IN ADDITION TO REGULAR INSPECTION AND MONITORING ACTIVITIES, POST-SEISMIC INSPECTION AND EVALUATION OF ALTERNATIVE OWTS LOCATED IN HIGH-RISK SEISMIC AREAS WILL BE REQUIRED IN THE EVENT OF AN EARTHQUAKE CAUSING SIGNIFICANT GROUND SHAKING IN THE REGION, AS DETERMINED BY THE DIRECTOR IN CONSULTATION WITH THE COUNTY GEOLOGIST. THE DIRECTOR WILL BE RESPONSIBLE FOR ISSUING APPROPRIATE NOTICES WHEN SUCH INSPECTIONS ARE REQUIRED; THOSE CONDUCTING THE INSPECTIONS WILL BE REQUIRED TO REPORT THE INSPECTION RESULTS TO THE DIRECTOR. THE PURPOSE OF SUCH INSPECTIONS WILL BE TO ASSESS AND DOCUMENT ANY DAMAGE TO THE OWTS AND TO IMPLEMENT CORRECTIVE MEASURES, AS NEEDED, IN A TIMELY MANNER. POST-SEISMIC INSPECTION SHALL BE IN ACCORDANCE WITH REQUIREMENTS PRESCRIBED BY THE DIRECTOR, IN CONSULTATION WITH THE COUNTY GEOLOGIST, AND CONTAINED IN THE ONSITE SYSTEMS MANUAL.
- 6. THE DIRECTOR WILL. FROM TIME-TO-TIME. COMPILE AND REVIEW MONITORING AND INSPECTION RESULTS FOR ALTERNATIVE OWTS AND, AT LEAST EVERY TWO YEARS, WILL PROVIDE A SUMMARY OF RESULTS TO THE SAN FRANCISCO BAY AND CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARDS. BASED ON THIS REVIEW, THE DIRECTOR MAY REQUIRE CORRECTIVE ACTION FOR SPECIFIC PROPERTIES OR CERTAIN TYPES OF ALTERNATIVE OWTS. OR GENERAL CHANGES IN MONITORING AND INSPECTION REQUIREMENTS.

JOB NO: DATE: 03 - 09 - 2AS NOTED SCALE: DESIGN BY: KBC CHECKED BY: JH

SHEET NO: