PROJECT DISCUSSION

The property owner would like to do some construction, for which a new septic system will be required. This page shows the new system for the proposed new four bedroom home. Many of the details of this system are shown on pages 3, 4 & 5 as well.

A percolation test was performed which produced an "A" rate. At this rate the proposed 4 bedroom home will need 4 leach fields each with 90' linear feet of leach trench . Since infiltrator chambers are specified in the leach trenches instead of gravel, twice the normal length of trench is required - four leach fields with 180 linear feet of leach trench. This plan meets this requirement by showing four leach fields each with 220 linear feet of leach trench.

The septic tank specified here has a volume of 2000 gallons and meets or exceeds County requirements for this home. Since the leach field is uphill from the septic tank a 1000 gallon pump chamber and accouterments has been added that will pump the effluent above the level of the leach trenches to larger diameter pipe where it will gravity flow to the leach trenches as shown.

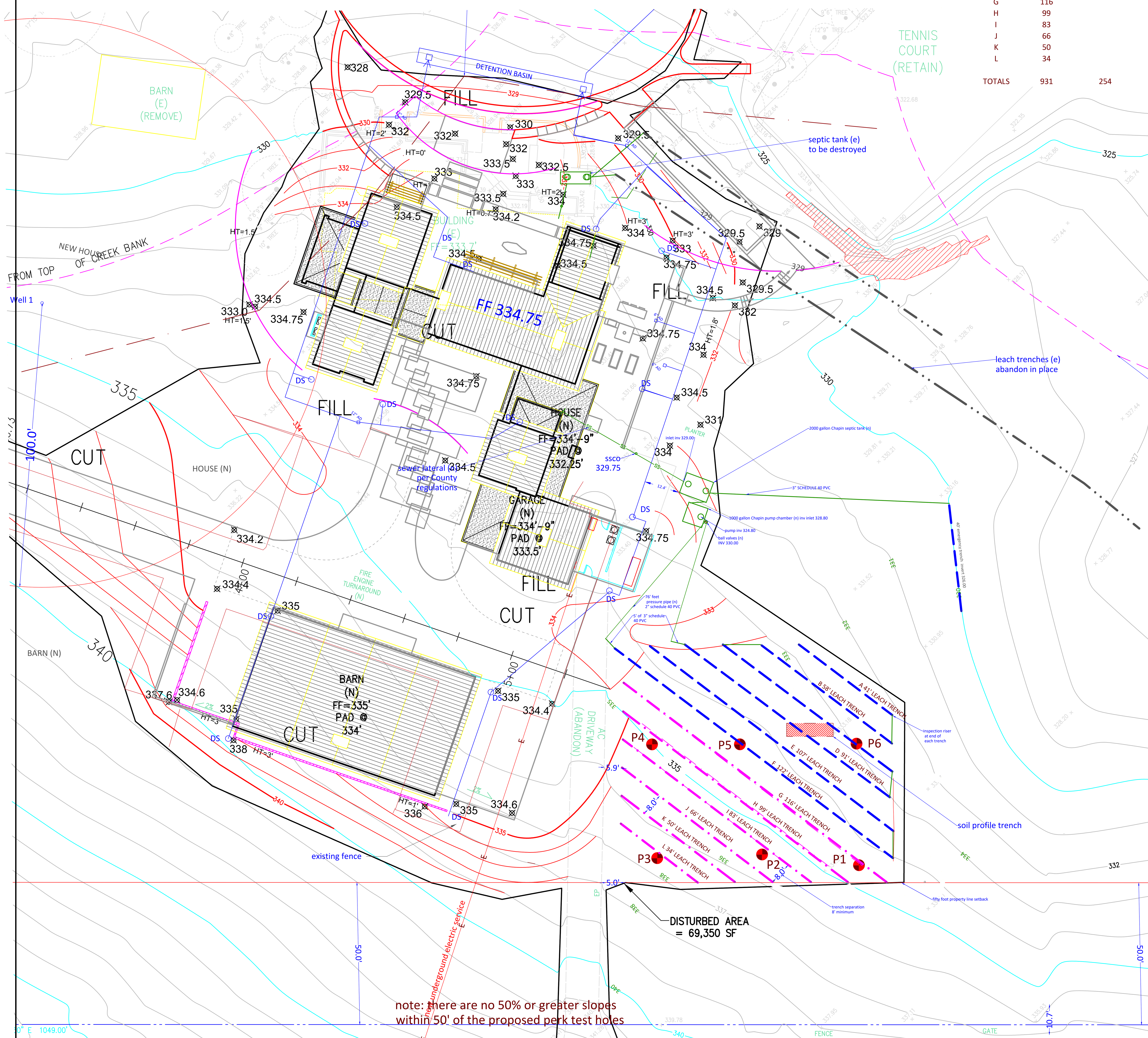
A secondary one bedroom dwelling will also be built on this property and the septic details are shown on page 2.

LEACH TRENCH LAYOUT

TRENCH	LENGTH IN FEET	PRIMARY 1	PRIMARY 2	EXPANSION 1	EXPANSION 2
A	41	41			
B	58	58			
C	74	74			
D	81	81			
E	107		107		
F	122		122		
G	116				116
H	99			99	
I	83			88	
J	66				66
K	50				50
L	34			34	
TOTALS	931	254	229	221	232

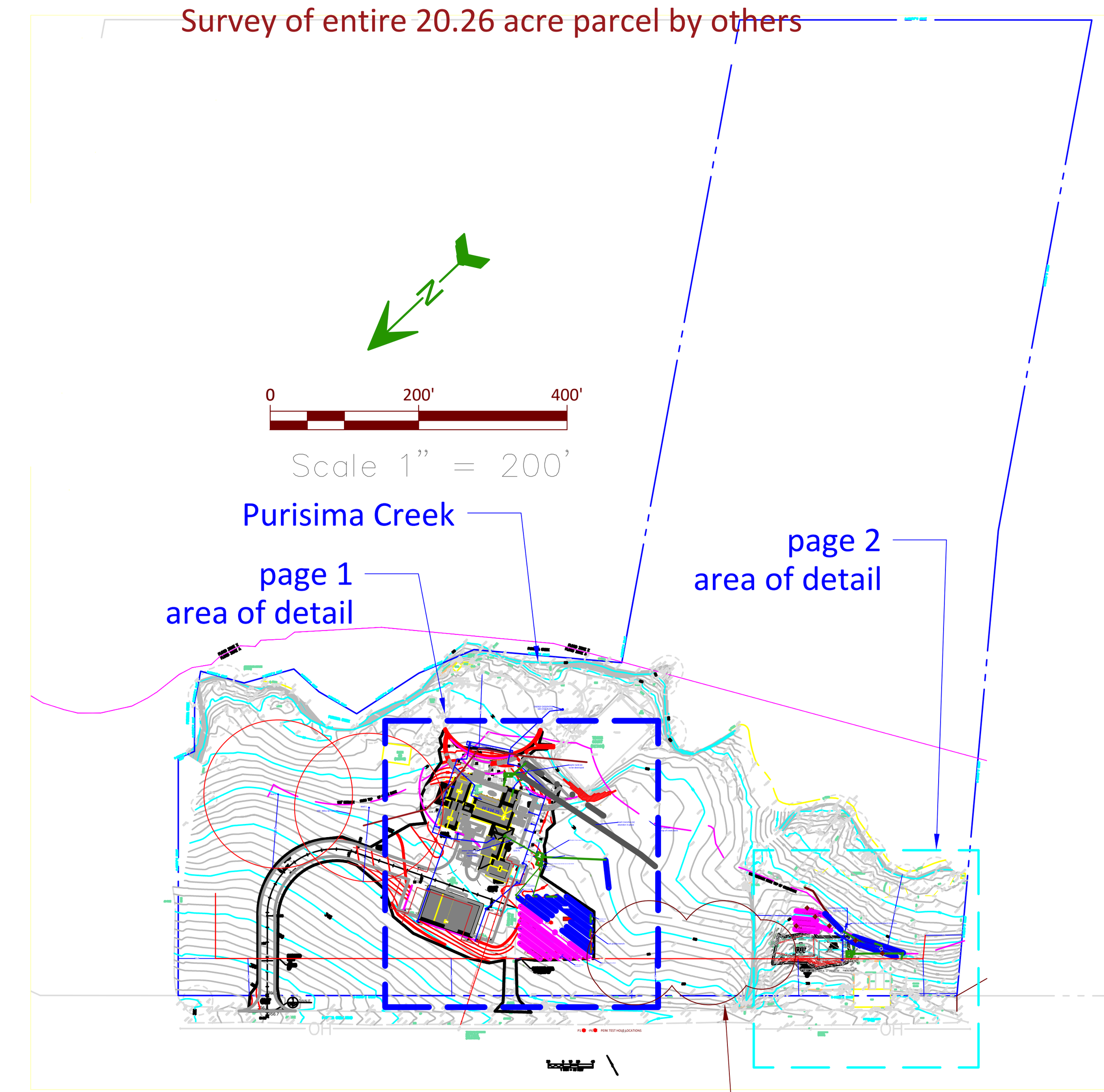
Scale 1" = 20'

survey by others



Survey of entire 20.26 acre parcel by others

Scale 1" = 200'



2 10-1-21 remove new barn

REVISION

proposed new barn removed

The proposed new barn has been deleted and the agricultural area increased. Agricultural area changes on other plans.

KEY TO PAGES

ONSITE 1 MAIN HOUSE SEPTIC PLAN AND OVERALL PARCEL MAP

ONSITE 2 SECONDARY DWELLING SEPTIC PLAN

ONSITE 3 AND ONSITE 4

PUMP SYSTEM DETAIL AND SELECTED EQUIPMENT

ONSITE 5 INFILTRATOR CHAMBER INSTALLATION INSTALLATION DIRECTIONS

FLOAT SWITCH SPECIFICATIONS

Langley Hill Quarry

Ph: 650-851-0126 • Septic Systems Installed & Repaired • Lic. No. A702033

SMC Certified Installer No. 01

SMC Soil Percolation Tester No. 07 = WATER Added

Observed in Field By: Allison Fang Date: 12-17-19

1/2 HOUR INTERVALS	READINGS	HOLE #1	HOLE #2	HOLE #3	HOLE #4	HOLE #5	HOLE #6
8:30	FINISH	6 2/16"	5 12/16"	5"	6 1/16"	5 14/16"	6 7/16"
1 8:00	START	4" =	4" =	4" =	4" =	4" =	4" =
	DIFF. =	2 2/16"	1 12/16"	1"	2 1/16"	1 14/16"	2 7/16"
9:00	FINISH	7 12/16"	7"	5 12/16"	8 4/16"	7 2/16"	7 9/16"
2 8:30	START	6 2/16"	5 12/16"	5"	6 1/16"	5 14/16"	6 7/16"
	DIFF.	1 10/16"	1 4/16"	12/16"	1 13/16"	1 4/16"	1 2/16"
9:30	FINISH	8 4/16"	7 4/16"	6 4/16"	8 12/16"	7 14/16"	8 7/16"
3 9:00	START	7 12/16"	7"	5 12/16"	8 4/16"	7 2/16"	7 9/16"
	DIFF.	8/16"	4/16"	8/16"	8/16"	9/16"	9/16"
10:00	FINISH	8 [illegible]/16"	8 3/16"	6 1[illegible]/16"	9 4/16"	8 4/16"	8 12/16"
4 9:30	START	8 4/16"	7 [illegible]/16"	6 4/16"	8 12/16"	7 [illegible]/16"	8 [illegible]/16"
	DIFF.	8/16"	8/16"	9/16"	8/16"	9/16"	10/16"
10:30	FINISH	5 12/16"	5 11/16"	5 12/16"	6 4/16"	6 4/16"	6 6/16"
5 10:00	START	5" =	5" =	5" =	5" =	5" =	5" =
	DIFF. =	12/16"	11/16"	12/16"	1 4/16"	1 4/16"	1 6/16"
11:00	FINISH	5 12/16"	5 11/16"	5 10/16"	5 15/16"	6"	6"
6 10:30	START	5" =	5" =	5" =	5" =	5" =	5" =
	DIFF. =	12/16"	11/16"	10/16"	15/16"	1"	1"
11:30	FINISH	5 12/16"	5 12/16"	5 10/16"	5 14/16"	5 12/16"	5 8/16"
7 11:00	START	5" =	5" =	5" =	5" =	5" =	5" =
	DIFF. =	12/16"	12/16"	10/16"	14/16"	12/16"	8/16"
12:00	FINISH	5 12/16"	5 12/16"	5 8/16"	5 12/16"	5 9/16"	5 8/16"
8 11:30	START	5" =	5" =	5" =	5" =	5" =	5" =
	DIFF. =	12/16"	12/16"	8/16"	12/16"	9/16"	8/16"
9	FINISH					excluded -	excluded -
	START					non-stabilized	non-stabilized
	DIFF.		Perc rate = 1.33"/hr				
10	FINISH		B rating #5				
	START						
	DIFF.						

APPLICANTS NAME: LANGLEY HILL QUARRY PHONE: 650-851-0126

OWNERS NAME: APN: 066-230-050

ADDRESS: 2450 PURISSIMA CREEK Rd. HALF MOON BAY SMC

SIZE OF PARCEL: WATER SOURCE: WELL SUBDIVISION:

WET WEATHER TESTING REQUIRED? YES NO DEPTH TO GROUND WATER: 13' NO WATER SEEN

SOIL LOG:

SOIL PROFILE RESULTS
CONVENTIONAL SYSTEMS

~~SR #:~~ DATE OF INSPECTION: 12-16-2019

APN #: 066-230-050 OWNER: Gregory Joswiak and Susan Joswiak

APPLICANT: Gregory Joswiak and Susan Joswiak

SITE ADDRESS: 2450 Purisima Creek Road, Half Moon Bay , CA 94019

CONDUCTED BY: Steve Hartsell CHECKED BY: Allison Fang

HOLE #: 1

0-2'
black, sandy, loamy, clay
roots present
structure massive

2-10'
tan, sandy, gravelly, clay rock fragments present; structure massive

10-13' dark brown sandy clay, gravel and a few cobbles present; structure massive

maximum depth 13' no water seen

HOLE #:

COMMENTS:

Revisions	
1 12-30-2020 County comments	srh
2 10-1-21 remove new barn	srh

STEVEN R. HARTSELL REGISTERED ENVIRONMENTAL HEALTH SPECIALIST # 5979 expires 12-31-21 STATE OF CALIFORNIA

S.R. HARTSELL, R.E.H.S.
202 WATERFORD DRIVE
VACAVILLE, CA 95688
srhartsell@gmail.com (650) 888-2419

SEPTIC SYSTEM PLAN

2450 Purissima Creek Rd
Half Moon Bay, CA 94019
APN 066-230-050

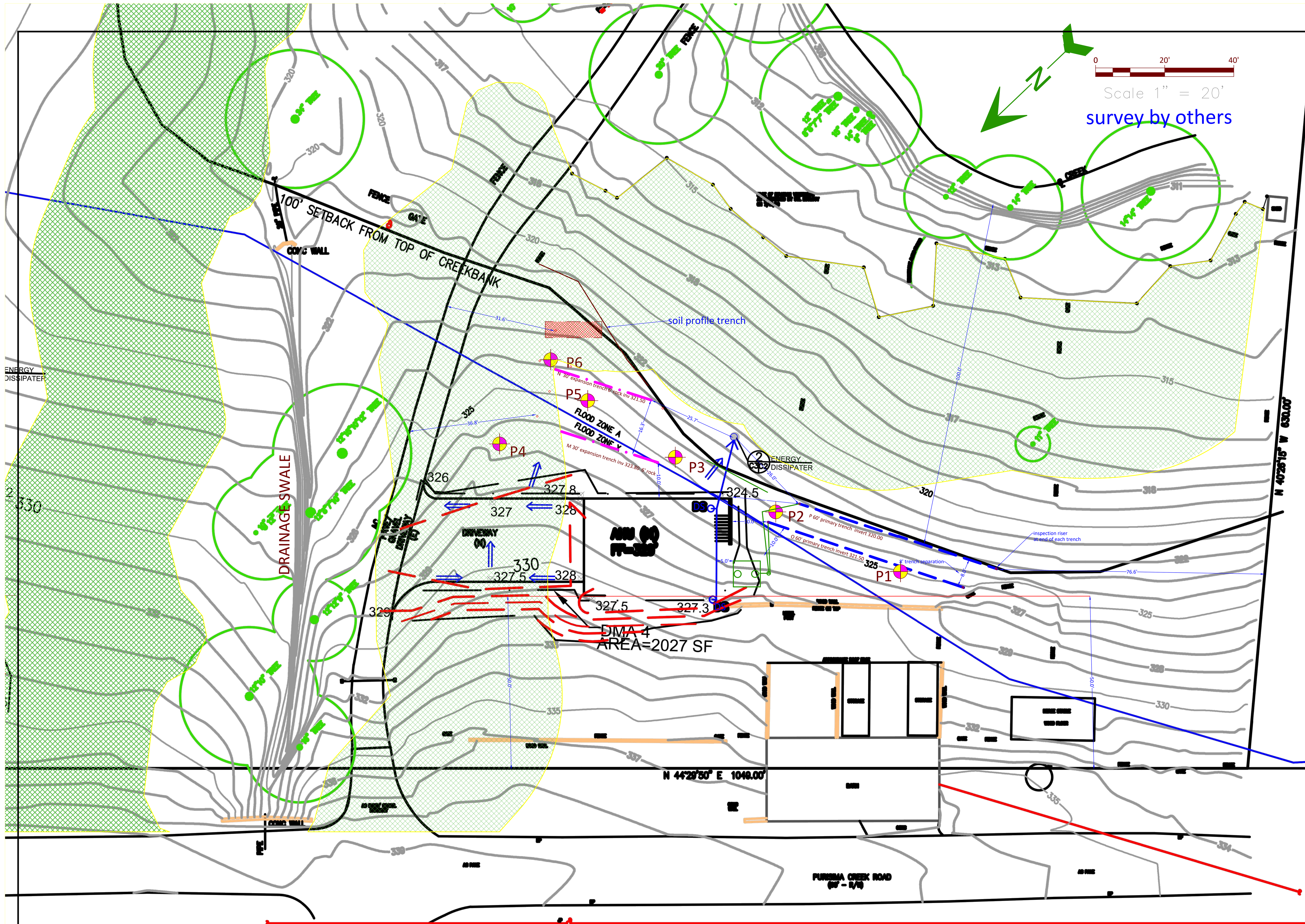
DECEMBER 30, 2020

SCALE AS NOTED

BY SRH

PAGE

ONSITE 1



P1 - P6 PERCOLATION TEST HOLE LOCATIONS6

50' riparian area setback by others

form is from Santa Clara County

SOIL PROFILE RESULTS
CONVENTIONAL SYSTEMS

SR #:

DATE OF INSPECTION: 11-25-2020

APN #: 066-230-050

OWNER: Gregory Joswiak and Susan Joswiak

APPLICANT: Gregory Joswiak and Susan Joswiak

SITE ADDRESS: 2450 Purisima Creek Road, Half Moon Bay , CA 94019

CONDUCTED BY: Steve Hartsell

CHECKED BY: Erwynn Rueda or Elizabeth Whitfo

HOLE #: 1

1 ft-	0-2' buff, sandy loam roots present, numerous rock fragments structure massive
2 ft-	
3 ft-	
4 ft-	
5 ft-	2-10' brown, sandy loam, numerous rock fragments present; structure massive
6 ft-	
8 ft-	
10 ft-	10-12' brown - orange sandy clay loam, gravel and a few cobbles present; structure massive
12 ft-	12-13' gray to black clay loam structure massive
14 ft-	maximum depth 13' no water seen
16 ft-	
18 ft-	
20 ft-	

HOLE #:

COMMENTS:

Langley Hill Quarry

Ph: 650-851-0126 • Septic Systems Installed & Repaired • Lic. No. A702033

SMC Certified Installer No. 01

SMC Soil Percolation Tester No. 07 =WATER Added

Observed in Field By: FR

Date: 11-25-20

1/2 HOUR INTERVALS	READINGS	HOLE #1	HOLE #2	HOLE #3	HOLE #4	HOLE #5	HOLE #6
1 8:30	FINISH	6 13/16"	5 6/16"	7 4/16"	6 6/16"	6 4/16"	5 12/16"
8:00	START	4"	4"	4"	4"	4"	4"
	DIFF.	2 13/16"	1 6/16"	3 4/16"	2 6/16"	2 4/16"	1 12/16"
2 9:00	FINISH	8"	6 13/16"	8 12/16"	7 10/16"	7 8/16"	6 12/16"
8:30	START	6 13/16"	5 6/16"	7 4/16"	6 6/16"	6 4/16"	5 12/16"
	DIFF.	1 4/16"	1 6/16"	1 8/16"	1 4/16"	1 4/16"	1"
3 9:30	FINISH	8 14/16"	8 1/16"	10"	8 11/16"	8 12/16"	7 11/16"
9:00	START	8"	6 13/16"	8 12/16"	7 10/16"	7 8/16"	6 12/16"
	DIFF.	14/16"	1 5/16"	1 4/16"	1 1/16"	1 4/16"	15/16"
4 10:00	FINISH	9 12/16"	9 1/16"	10 15/16"	9 4/16"	9 14/16"	8 3/16"
9:30	START	8 14/16"	8 1/16"	10"	8 11/16"	8 12/16"	7 11/16"
	DIFF.	14/16"	1"	15/16"	1"	1 2/16"	8/16"
5 10:30	FINISH	6 8/16"	6 8/16"	6 12/16"	6 12/16"	6 6/16"	6"
10:00	START	5"	5"	5"	5"	5"	5"
	DIFF.	1 8/16"	1 8/16"	1 12/16"	1 12/16"	1 6/16"	1"
6 11:00	FINISH	6 7/16"	6 7/16"	6 10/16"	6 7/16"	6 5/16"	6"
10:30	START	5"	5"	5"	5"	5"	5"
	DIFF.	1 7/16"	1 7/16"	1 10/16"	1 7/16"	1 5/16"	1"
7 11:30	FINISH	6 7/16"	6 6/16"	6 10/16"	6 10/16"	6 5/16"	5 15/16"
11:00	START	5"	5"	5"	5"	5"	5"
	DIFF.	1 7/16"	1 6/16"	1 10/16"	1 10/16"	1 5/16"	15/16"
8 12:00	FINISH	6 6/16"	6 4/16"	6 8/16"	6 10/16"	6 3/16"	5 12/16"
11:30	START	5"	5"	5"	5"	5"	5"
	DIFF.	1 6/16"	1 4/16"	1 8/16"	1 10/16"	1 3/16"	12/16"
9	FINISH						
	START				2.56"/hr	A rating	
	DIFF.						
10	FINISH						
	START						
	DIFF.						

APPLICANTS NAME: LANGLEY HILL QUARRY PHONE: 650-851-0126

OWNERS NAME: Joswiak APN: 066-230-050

ADDRESS: 2450 Purissima Creek Rd Half Moon Bay SMC

SIZE OF PARCEL: WATER SOURCE: SUBDIVISION:

WET WEATHER TESTING REQUIRED? YES ✓ NO DEPTH TO GROUND WATER: 13' Dug

SOIL LOG:

ACCESSORY DWELLING UNIT

The property owners' plan to build a new one bedroom dwelling as shown here. This plan was developed to show where and how a septic system will be installed to serve as the sanitary means of wastewater treatment and disposal for this structure.

A percolation test was done in this area which produced an "A" percolation rate. At this rate the drainfield system for a one bedroom secondary dwelling is required to have two leach fields installed (primary) with 30 linear feet of standard leach trench and for an area to be reserved where two more leach fields (expansion) with 30' of standard trench can be installed in the future if ever needed. The expansion trenches shown here meet this criteria.

For the primary trenches this plan calls for the use of High Capacity Infiltrator Chambers as shown. When chambers are used instead of rock the County requires the leach trench for these leach fields be twice as long (60' for each of the primary leach trenches) as shown here.

A fifteen hundred gallon septic tank and an effluent filter are also required and shown here.

SCOPE OF WORK

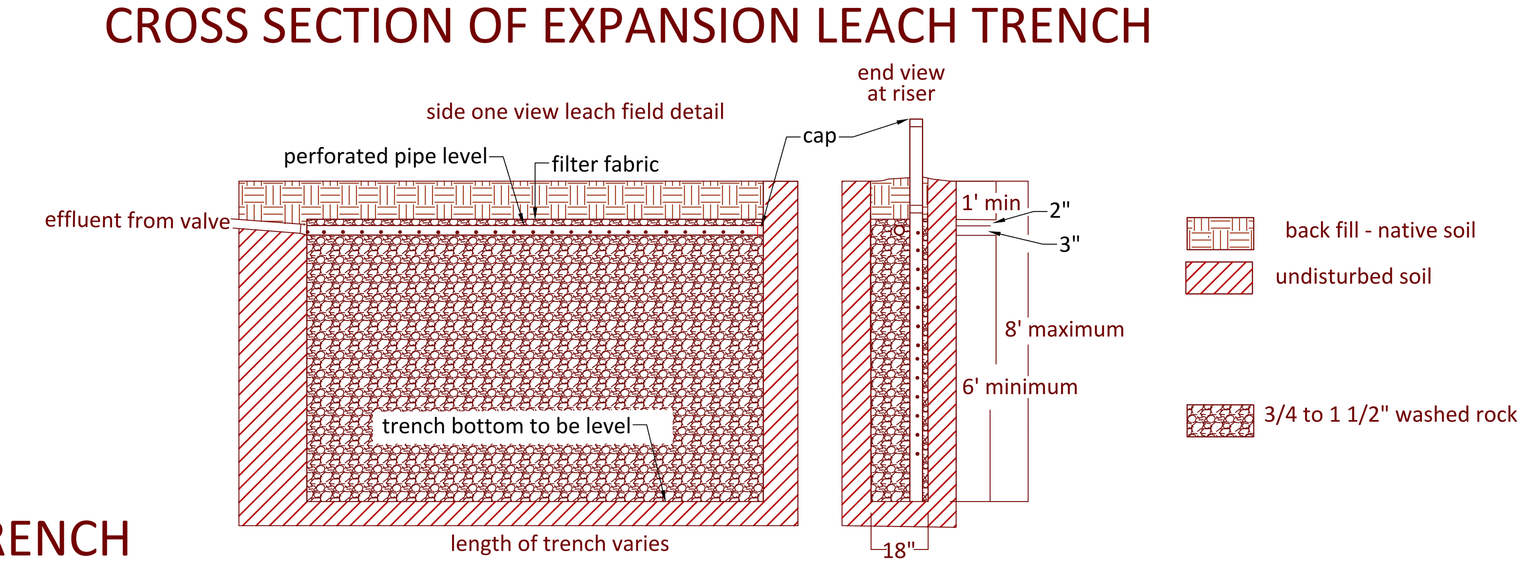
The following work will be done under permits.

1. Install new primary leach trenches as shown.
2. Install 1500 gallon septic tank and two way diversion valve as shown on this plan.
3. Install tight line (3" Schedule 40 PVC pipe) from tank to valve and from valve to leach trenches and from leach trench to leach trench as shown.
4. Connect septic tank to sanitary sewer lateral.
5. Septic system installation shall be done when the soil is "dry".

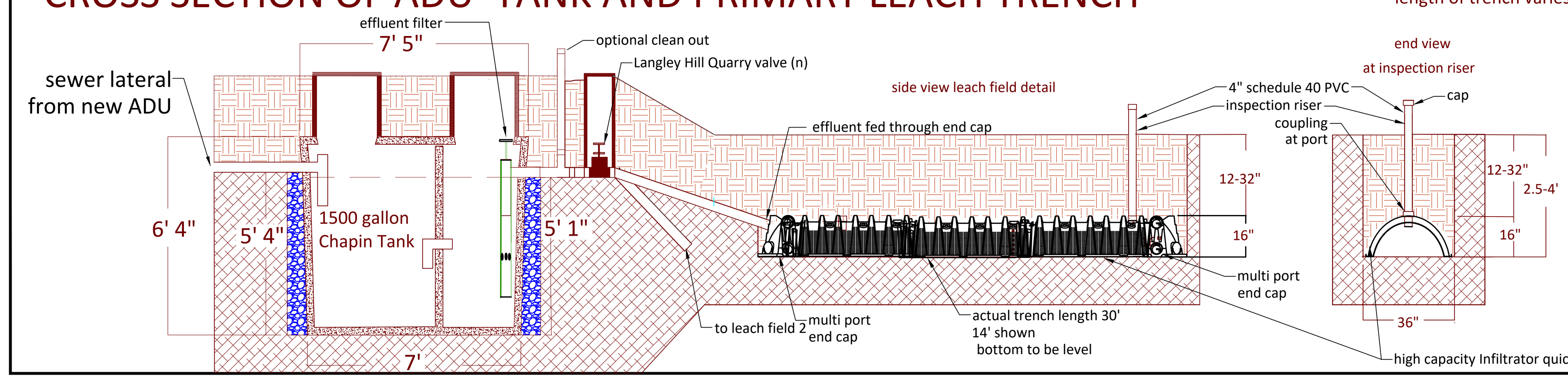
All material and methods shall comply with San Mateo County regulations and policies. All work must be inspected and approved before it is covered.

Nothing herein is a warranty or guarantee of any kind and the designer liability shall be limited to $500 or the fee paid for the design whichever is less.

CROSS SECTION OF EXPANSION LEACH TRENCH



CROSS SECTION OF ADU TANK AND PRIMARY LEACH TRENCH

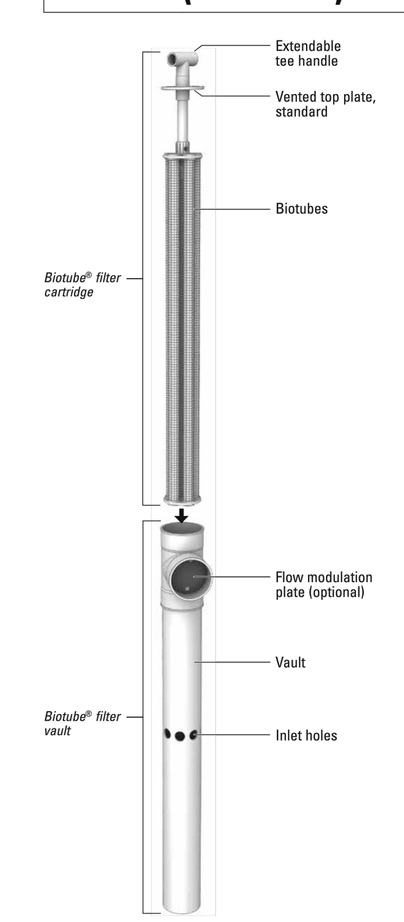


by srh

scale 1/4" = 1'

Orenco *Technical Data Sheet*

4-inch (100-mm) Biotube® Effluent Filters



Applications

Orenco® 4-inch Biotube® Effluent Filters are designed to remove solids from effluent leaving residential septic tanks. They can be used in new and existing tanks at flows of up to 1200 gpd.

General

Orenco 4-inch Biotube Effluent Filters (U.S. Patents No. 4,439,323 and 5,492,635) are used to improve the quality of effluent exiting a septic tank in a residential septic system. Increased effluent quality improves system performance and extends drainfield life.

The Biotube cartridge fits tightly in the vault and is removable for maintenance, and the tee handle can be extended for easy removal of the cartridge.

Standard Models

FTS0444-36, FTS0444-36M, FTW0436-28, FTW0436-28M
FTW0444-36, FTW0444-36M

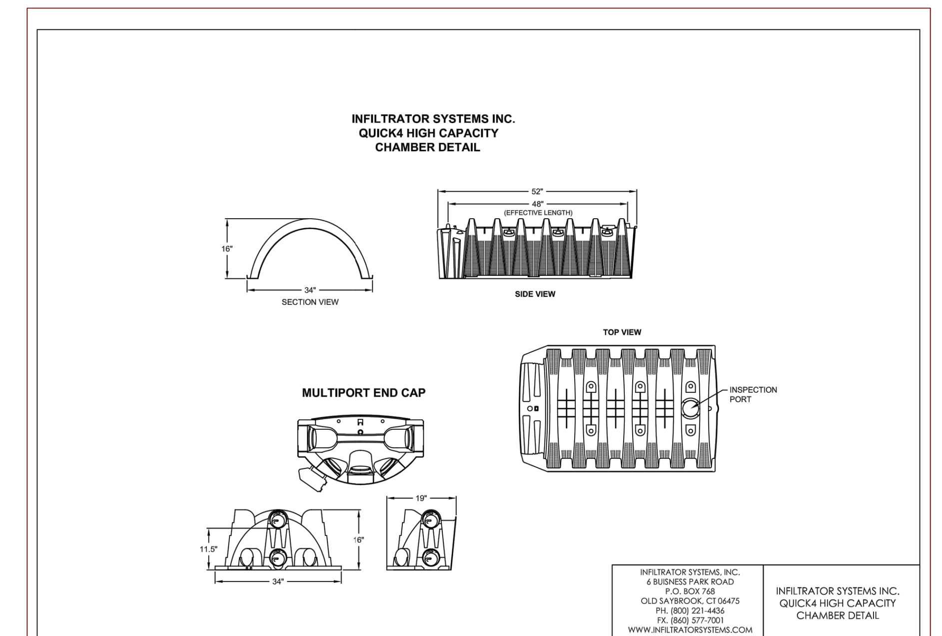
Nomenclature FT S04 44-36

FT ☐ ☐ 04 ☐ - ☐ - ☐

- Flow modulator and float switch bracket options: Blank = no options selected; M = flow modulation plate installed; A = float switch bracket installed
- Cartridge height, in. (mm): 28 = 28 (711), standard; 36 = 36 (914), standard
- Filter housing height, in. (mm): 36 = 36 (914), standard; 44 = 44 (1118), standard
- 4-in. (100-mm) filter diameter
- Outlet tee: W = fits Type 3034 outlet tee; S = fits Schedule 40 outlet tee
- Filter mesh option: Blank = 1/8-in. (3-mm) filter mesh; P = 1/16-in. (1.6-mm) filter mesh
- Biotube® effluent filter

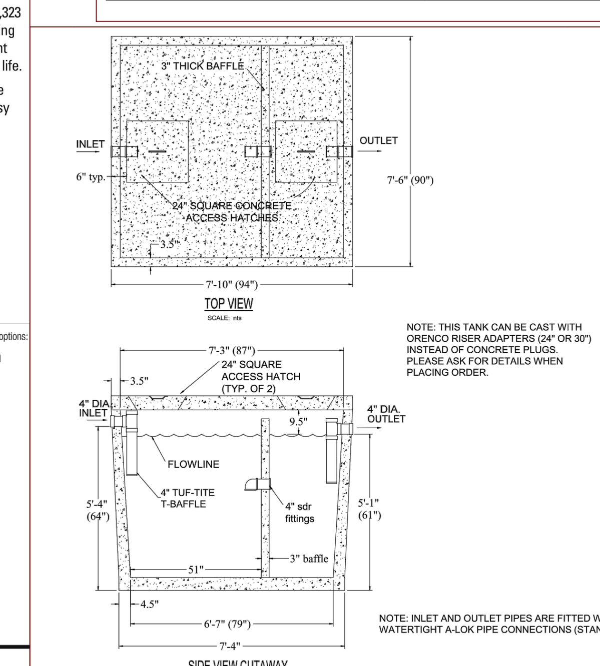
Materials of Construction

Vault	PVC
Biotube® cartridge	Polypropylene and polyethylene
Handle components	PVC, polyethylene, stainless steel



INFILTRATOR SYSTEMS, INC.
6 BUISNESS PARK ROAD
P.O. BOX 768
OLD SAYBROOK, CT 06475
PH. (800) 221-4436
FX. (860) 577-7001
WWW.INFILTRATORSYSTEMS.COM

INFILTRATOR SYSTEMS INC. QUICK4 HIGH CAPACITY CHAMBER DETAIL	
Scale NOT TO SCALE	Checked BCP
Date 08/08/2007	Q4_HCTECH
Drawn By: KJB	Sheet 1 Of 1



NOTES:

1). EXCAVATION SPECIFICATIONS:
LENGTH 9' - 0"
WIDTH 9' -0"
DEPTH BELOW INLET 5' - 4"

2). DON CHAPIN PRE-CAST MAY MAKE CHANGES TO THE DESIGN AND OR TO THE DIMENSIONS WITHOUT NOTICE. PLEASE CONTACT DON CHAPIN PRE-CAST WHENEVER NECESSARY TO CONFIRM DESIGN CRITERIA.

3). CERTIFIED ENGINEERING IS AVAILABLE UNPON REQUEST.

4). THIS IS ALSO AVAILABLE AS AN H20 RATED ASSEMBLY

5). INTEGRAL TOP TO BODY DESIGN

NOTE: THIS TANK CAN BE CAST WITH ORENCO RISER ADAPTERS (24" OR 30") INSTEAD OF CONCRETE PLUGS. PLEASE ASK FOR DETAILS WHEN PLACING ORDER.

NOTE: INLET AND OUTLET PIPES ARE FITTED WITH WATERTIGHT A-LOK PIPE CONNECTIONS (STANDARD).

THE DON CHAPIN COMPANY
PRE-CAST DIVISION
2735 BOLSA RD.
HOLLISTER, CA 95023
831-630-1042
831-630-5763 FAX

PRE-CAST CONCRETE WATER TIGHT SEPTIC TANK
CAPACITY 1500 GALLONS
MODEL IPS1500

DON CHAPIN PRE-CAST

2/12/09

Revisions	
1 12-30-2020 County comments	srh
2 10-1-21 remove new barn	srh

STEVEN R. HARTSELL REGISTERED ENVIRONMENTAL HEALTH SPECIALIST STATE OF CALIFORNIA # 5979 expires 12-31-21

S.R. HARTSELL, R.E.H.S.
202 WATERFORD DRIVE
VACAVILLE, CA 95688
srhartsell@gmail.com (650) 888-2419

SEPTIC SYSTEM PLAN

2450 Purissima Creek Rd
Half Moon Bay, CA 94019
APN 066-230-050

DECEMBER 30, 2020

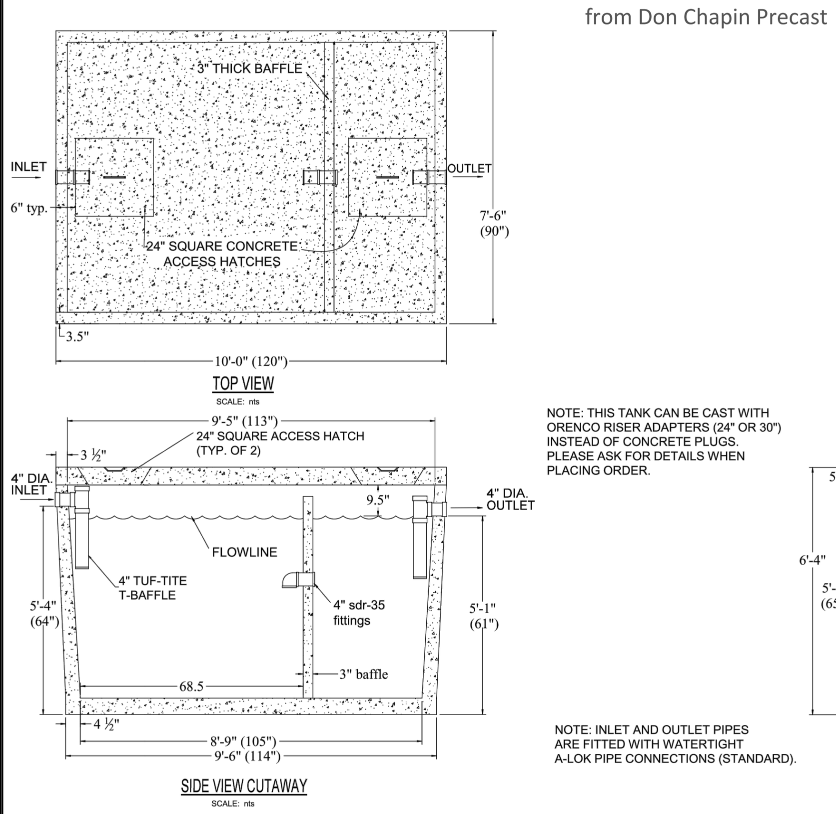
SCALE AS NOTED

BY SRH

PAGE

ONSITE 2

from Don Chapin Precast



NOTES:

1). EXCAVATION SPECIFICATIONS:

LENGTH 11' - 0"
WIDTH 9' -0"
DEPTH BELOW INLET 5'-4"

2). DON CHAPIN PRE-CAST MAY MAKE CHANGES TO THE DESIGN AND OR TO THE DIMENSIONS WITHOUT NOTICE. PLEASE CONTACT DON CHAPIN PRE-CAST WHENEVER NECESSARY TO CONFIRM DESIGN CRITERIA.

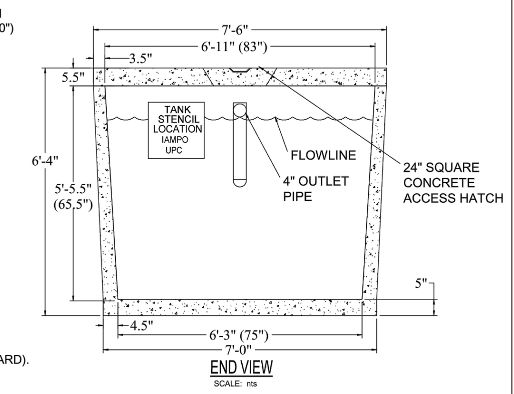
3). CERTIFIED ENGINEERING IS AVAILABLE UNPON REQUEST.

4). THIS IS ALSO AVAILABLE AS AN H20 RATED ASSEMBLY

5). INTEGRAL TOP TO BODY DESIGN

NOTE: THIS TANK CAN BE CAST WITH ORENCO RISER ADAPTERS (24" OR 30") INSTEAD OF CONCRETE PLUGS. PLEASE ASK FOR DETAILS WHEN PLACING ORDER.

NOTE: INLET AND OUTLET PIPES ARE FITTED WITH WATERTIGHT A-LOK PIPE CONNECTIONS (STANDARD).

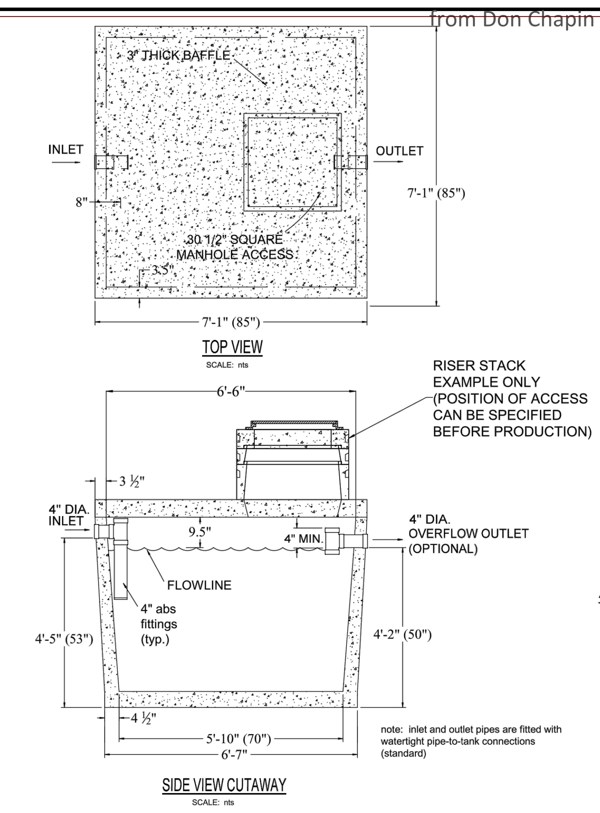


DON CHAPIN PRE-CAST
2735 BOLSA RD.
HOLLISTER, CA 95023
(831) 630-1042
(831) 630-5763

PRE-CAST CONCRETE WATER TIGHT
SEPTIC TANK
CAPACITY 2000 GALLONS
MODEL IPS2000

3/13/09

from Don Chapin Precast



NOTES:

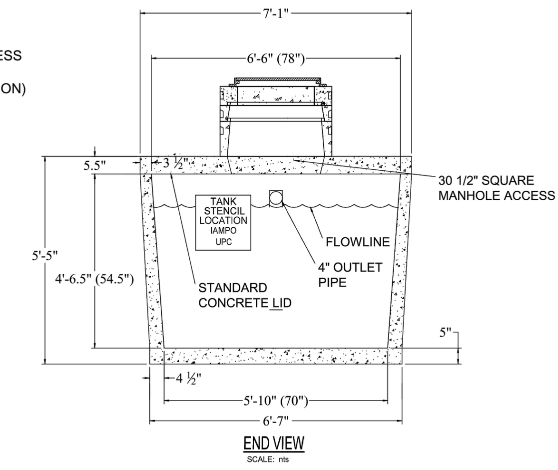
1). EXCAVATION SPECIFICATIONS:

LENGTH 8' - 0"
WIDTH 8' -0"
DEPTH BELOW INLET 4'-5"

2). DON CHAPIN PRE-CAST MAY MAKE CHANGES TO THE DESIGN AND OR TO THE DIMENSIONS WITHOUT NOTICE. PLEASE CONTACT DON CHAPIN PRE-CAST WHENEVER NECESSARY TO CONFIRM DESIGN CRITERIA.

3). CERTIFIED ENGINEERING IS AVAILABLE UNPON REQUEST.

4). INTEGRAL TOP TO BODY DESIGN



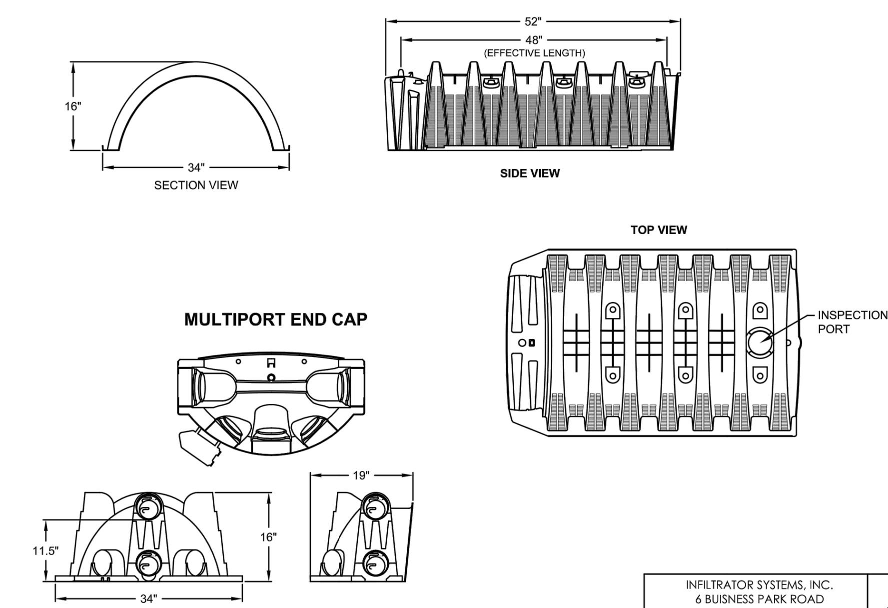
DON CHAPIN PRE-CAST
2735 BOLSA RD.
HOLLISTER, CA 95023
(831) 630-1042
(831) 630-5763

PRE-CAST CONCRETE WATER TIGHT
TRAFFIC RATED PUMP TANK
CAPACITY 1000 GALLONS
MODEL IPH1000

12/16/09

from Infiltrator Systems Inc

INFILTRATOR SYSTEMS INC.
QUICK4 HIGH CAPACITY
CHAMBER DETAIL



INFILTRATOR SYSTEMS, INC. 6 BUISNESS PARK ROAD P.O. BOX 768 OLD SAYBROOK, CT 06475 PH. (800) 221-4436 FX. (860) 577-7001 WWW.INFILTRATORSYSTEMS.COM	INFILTRATOR SYSTEMS INC. QUICK4 HIGH CAPACITY CHAMBER DETAIL
Scale NOT TO SCALE	Checked BCP
Date 08/08/2007	Q4_HCTECH
Drawn By: KJB	Sheet 1 Of 1

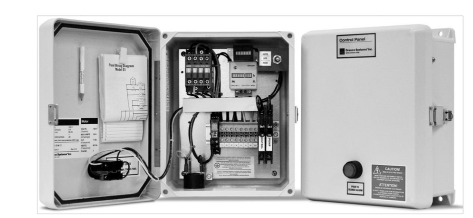
from ORENCO Systems inc.

Orenco Systems — Technical Data Sheet

S-Series Simplex Control Panels

Applications

Orenco® S-Series Simplex Control Panels control single pumps in effluent sewer (STEP) systems, onsite septic systems, and for pump control into conventional gravity sewer systems.



Orenco S-Series Simplex Control Panel (S1ETMCT shown)

General

Orenco® S-Series Simplex Control Panels are electromechanical panels for controlling single pumps. Standard features include an Automatic/Off/Manual (Auto/Off/Man) toggle switch, controls circuit breaker, pump circuit breaker, automatic motor control operation, and an audible/visible high water level alarm with auto reset. Specifications for standard and optional features are listed on page 2.

All S-Series control panels have a 120 VAC controls circuit breaker. S1 panels have a 120 VAC pump circuit breaker, while S2 panels have a 240 VAC pump circuit breaker.

All S-Series panels can be used with both mechanical and mercury float switches.

Listed per UL-508 and cUL-508; CE-listed versions of S-Series panels are available.

Standard Models

S1, S2

Materials of Construction

Component	Material
Enclosure	UV-resistant fiberglass, Type 4X (IP 66)
Hinge	Stainless steel
Latch	Stainless steel

Specifications

Feature	Specifications
Height, in. (mm)	11.5 (292)
Width, in. (mm)	9.3 (236)
Depth, in. (mm)	5.4 (137)
S1 panel ratings*	120 VAC, 1 hp (0.75 kW), 16 A, 1-phase, 60 Hz
S2 panel ratings*	240 VAC, 3 hp (2.24 kW) 16 A, 1-phase, 60 Hz

* Pump motors used with these panels require internal overload protection.

Product Code Diagram

S 1 [ ] CT

Standard options (list in order):
PT = programmable timer
RO = redundant off relay
DS = disconnect switch
ETM = elapsed time meter
CT = event counter
HT = heater
PRL = pump run light
PL = power light
SA = surge arrestor

Intrinsically safe relays:
Blank = standard, no IR relays
IR1 = up to 2 float switches
IR2 = up to 4 float switches

Pump voltage:
1 = 120 VAC
2 = 120 VAC or 240 VAC

S Series simplex control panel

Orenco Systems® Inc. , 814 Airway Ave., Sutherlin, OR 97479 USA • 800-348-9843 • 541-459-4449 • www.orenco.com

NTD-CP-S-1
Rev. 2.1, © 04/18
Page 1 of 2

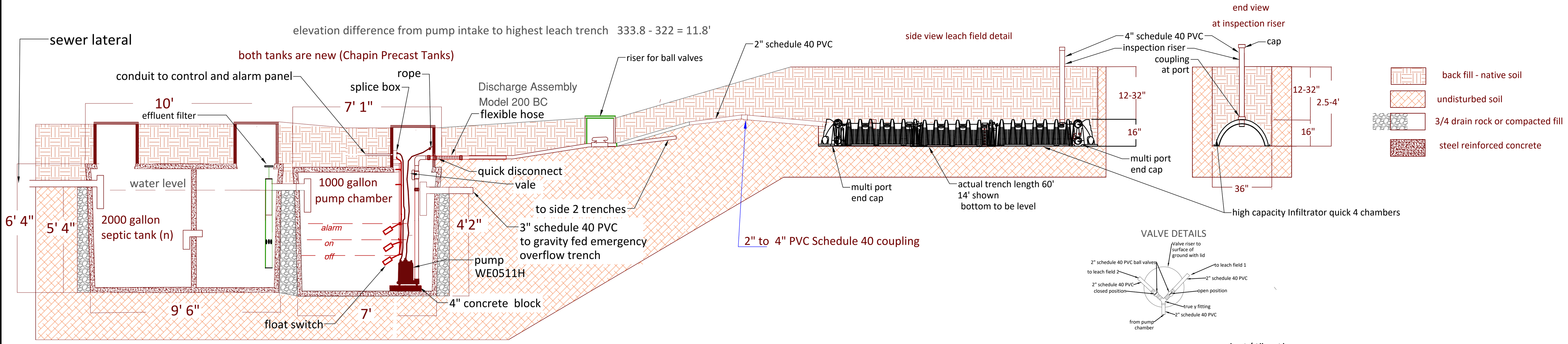
MAIN HOUSE SCOPE OF WORK

The following is a brief summary of work to be done under permits issued by the County of San Mateo.

1. Destroy existing septic tank as per County guidelines;
   a. Have existing tank pumped and rinsed by a County approved septic pumper.
   b. Break up the old tank and remove pieces from resulting hole.
   c. Discard old tanks as per County regulations (they can be disposed of at the Ox Mountain Landfill).
   d. Reconfigure the resultant tank hole so that the new tank can be installed as shown.
2. Install the new 2000-gallon Chapin Concrete Products septic tank as shown.
3. Install the new 1000-gallon Chapin Concrete Products holding tank (pump chamber) as shown.
4. Connect new septic tank to pump chamber as shown.
5. Install pump, wiring, control panel and accoutrements.
6. Install primary leach trenches as shown.
7. Install ball valves with riser and lid.
8. Install pressure line from pump chamber to valves and from valves to gravity flow 4" Schedule 40 PVC pipe which feeds the leach trenches as shown.
9. Connect new sewer lateral to inlet of new septic tank as shown.

All material and methods shall comply with San Mateo County regulations and policies. All work must be inspected and approved before covering it. Nothing herein should be considered to be a warranty or guarantee of any kind and the designer liability is hereby limited to $500 or the fee paid for the design whichever is less.

CROSS SECTION OF MAIN HOUSE TANK AND LEACH TRENCH

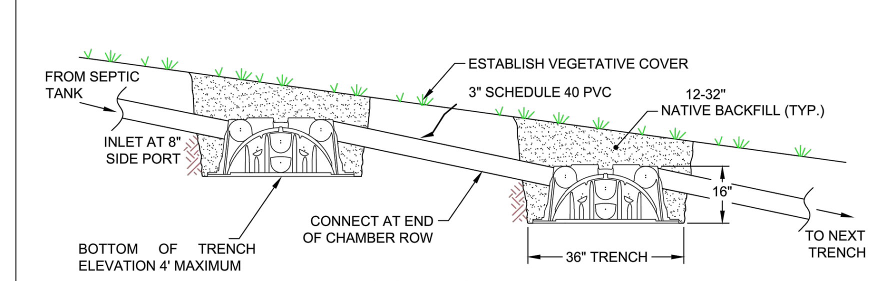


by srh

scale 1/4" = 1'

BASE DRAWIGN FROM INFILTRATOR SYSTEMS INC - MODIFIED FOR THIS PROJECT BY SRH

INFILTRATOR SYSTEMS INC.
QUICK4 PLUS HIGH CAPACITY CHAMBER
SERIAL DISTRIBUTION TYPICAL DETAIL
SECTION VIEW
(NOT TO SCALE)



*NUMBER OF ROWS DETERMINED BY DESIGN AND CENTER TO CENTER SPACING PER CODE.

INFILTRATOR systems inc.			
INFILTRATOR SYSTEMS INC. 4 Business Park Rd. Old Saybrook, CT 06475 (800) 221-4436			
QUICK4 PLUS HIGH CAPACITY CHAMBER SERIAL DISTRIBUTION TYPICAL DETAIL SECTION VIEW			
Drawn by: EMB		Date: 07/16/2013	
Scale: NOT TO SCALE	Checked by: DFH	Sheet: 1 of 1	

some local suppliers contact information

Shelton Pipe
9860 Monterey Rd, Morgan Hill, CA 95037
1 408 463 0800

Pace Supply Corp. - Santa Clara
605 Laurelwood Rd
Santa Clara,California 95054
Office: (800) 244-8893
Fax: (707) 521-4343

Bonny Don Environmental Systems, Inc. -
5905 Highway 9
Felton, CA US 95018
Phone: (831) 335-3666

R. F. MACDONALD
25920 Eden Landing Road
Hayward, CA 94545, USA
Tel: 510-784-0110
Contact:Bob Sygiel
Email: robert.sygiel@rfmacdonald.com
www.rfmacdonald.com

Revisions	
1 12-30-2020 County comments	srh
2 10-1-21 remove new barn	srh

STEVEN R. HARTSELL — REGISTERED ENVIRONMENTAL HEALTH SPECIALIST — STATE OF CALIFORNIA — # 5979 — expires 12-31-21

S.R. HARTSELL, R.E.H.S.
202 WATERFORD DRIVE
VACAVILLE, CA 95688
srhartsell@gmail.com (650) 888-2419

SEPTIC SYSTEM PLAN

2450 Purissima Creek Rd
Half Moon Bay, CA 94019
APN 066-230-050

DECEMBER 30, 2020

SCALE AS NOTED

BY SRH

PAGE

ONSITE 3

PUMP SELECTION & CALCULATIONS

Total difference in elevation = 333.8'-324.8' = 9'

Friction loss
76' of two inch pipe + 4.5 ' (3 valves) + 18' (three 90 degree elbows) + 10' (four forty five degree elbows) = 108.5 feet (.74 friction loss per 100 feet of pipe for 2" schedule 40 PVC with a flow of 20 gpm)/100 = .8 feet of head

Total head = 9' elevation difference + .8 + 1 discharge assembly = 10.8' of head (TDH)

The pump selected is a 1/2 horse power WE series Gould's Effluent pump model number **WE 0511H.**

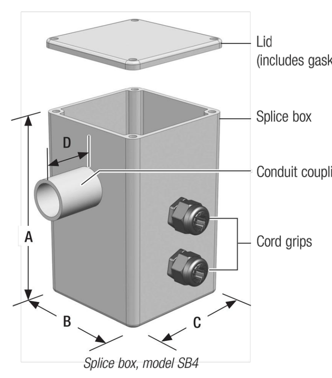
from ORENCO Systems inc.

Orenco SYSTEMS | *Technical Data Sheet*

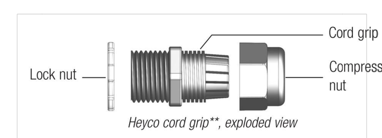
Internal Splice Boxes

Applications

Orenco® internal splice boxes* are used in risers to house spliced wire connections between an electrical control panel and such equipment as effluent pumps and float switches. They conform to UL 514C, CSA C22.2 No. 85 1968, and meet UL Type 4X rating. Cord grips can withstand temperatures of up to 212° F (100° C). Standard ½-in. (13-mm) cord grips can accommodate round cord diameters from 0.17 to 0.47 in. (4.3 to 12 mm). Large ¾-in. (19-mm) cord grips can accommodate round cord diameters from 0.45 to 0.70 in. (11 to 18 mm). Cord grips are also available to accommodate single- and three-phase CE-rated 1.5 × 3 flat cords.



Splice box, model SB4



*Heyco cord grip**, exploded view*

General

Orenco splice boxes come standard with one to six watertight cord grips. Included are waterproof wire nuts, a sealing gasket, and four stainless steel lid screws.

Splice boxes also come standard with ½-in. (13-mm) cord grips and a 1⅝-in. (41-mm) long conduit coupling. Large ¾-in. (19-mm) cord grips and 3¼-in. (83-mm) long conduit couplings (for square or round concrete risers) are available.

Standard Models

SB1, SB2, SB3, SB4, SB5, SB6.

Nomenclature

SB 4 LN G

Options:
A = Splice box factory-installed
LN = 3¼-in. (83 mm) conduit coupling, round concrete risers
C = 3¼-in. (83 mm) conduit coupling, square concrete risers
G = cord grip, ¾-in. (19 mm)
CE = cord grip for CE-rated 1.5 × 3 flat cable, 50 Hz

Number of cord grips:
1, 2, 3, 4, 5, or 6

Splice box

Materials of Construction

Lid	PVC per ASTM D-1784
Splice box	PVC per ASTM D-1784
Conduit coupling	PVC per ASTM D-1784
Cord grip	Nylon
Lock nut	Stainless steel
Sealing gasket (not shown)	Proprietary elastomer
Lid screws (not shown)	Stainless steel

Specifications

Model	SB1	SB2	SB3	SB4	SB5	SB6
A, in (mm)	6¼ (159)	6¼ (159)	6¼ (159)	6¼ (159)	6¼ (159)	6¼ (159)
B, in. (mm)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
C, in. (mm)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
D, standard size, in. (mm)	1⅝ (41)	1⅝ (41)	1⅝ (41)	1⅝ (41)	1⅝ (41)	1⅝ (41)
Conduit diameter, nominal, in. (DN)	¾ (20)	¾ (20)	¾ (20)	¾ (20)	1 (25)	1 (25)
Number of cord grips	1	2	3	4	5	6

*For information on Orenco® external splice boxes, see NTD-SBEX-1, External Splice Boxes

**Cord grips are listed under UL file number E-51579 and CSA file number LR-93876

from ORENCO Systems inc.

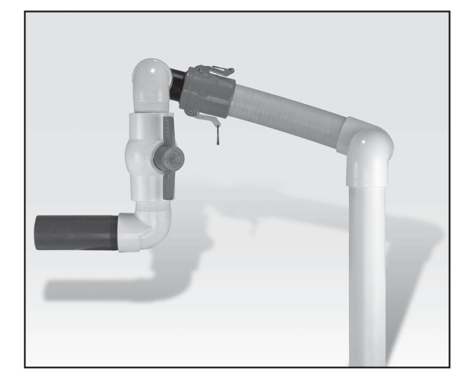
Orenco SYSTEMS | *Technical Data Sheet*

Discharge Assemblies

Applications

Orenco Discharge Assemblies are used to convey effluent from a pump to the exterior of a riser or pump basin. They come in the following configurations:

- High head, for use with submersible turbine pumps
- Low head, for use with common effluent pumps
- Drainback, for use with shallowly buried tanks and transport lines in cold climates
- Two additional applications are available:
- The cold weather kit coupled with a high-head discharge assembly is intended for use with deeply buried tanks and transport lines in cold weather
- The external flex extension is recommended for installations where tank settling may occur to avoid line breakage during settling.



High head style shown with optional quick-disconnect

General

Orenco Discharge Assemblies are corrosion-resistant and adjustable for a proper fit. Discharge assemblies are composed of PVC valves and flexible hose that simplify installation and maintenance. The flexible hose damps vibrations from the pump and allows for easy installation. Cam-style quick-disconnect fittings are available on all configurations. All parts are either solvent welded or threaded and sealed with Teflon® paste.

Teflon® is a registered trademark of DuPont.

Standard Models

HV100, HV125, HV150, HV200

Product Code Diagram

HV 2 0 0 BXQ -

Configuration:
Blank = field cut (high-head style)
H = high-head style pump
L = low-head style pump
DB = drainback (always field cut)

Options:
B = ball valve
C = check valve
FC = flow controller (1" diameter only)
AS = antisiphon
X = external flex house
Q = quick disconnect
S = true-union ball check valve*
PR = high pressure

Discharge diameter:
100 = 1"
125 = 1-1/4"
150 = 1-1/2"
200 = 2"

Pump discharge assembly

* Available for 1-1/2" discharge only

HV CW -KIT- *

Drain hole:
Blank = 1/8" drain hole in elbow
NDH = No drain hole

Kit

Discharge diameter:
100 = 1"
125 = 1-1/4"
150 = 1-1/2"
200 = 2"

Cold weather application

Pump discharge assembly

* Always ordered with high head discharge assembly

HVX -

Discharge connection (inches):
Blank = same as discharge diameter
100 = 1"
125 = 1-1/4"
150 = 1-1/2"
200 = 2"

Discharge diameter (inches):
100 = 1"
125 = 1-1/4"
150 = 1-1/2"
200 = 2"

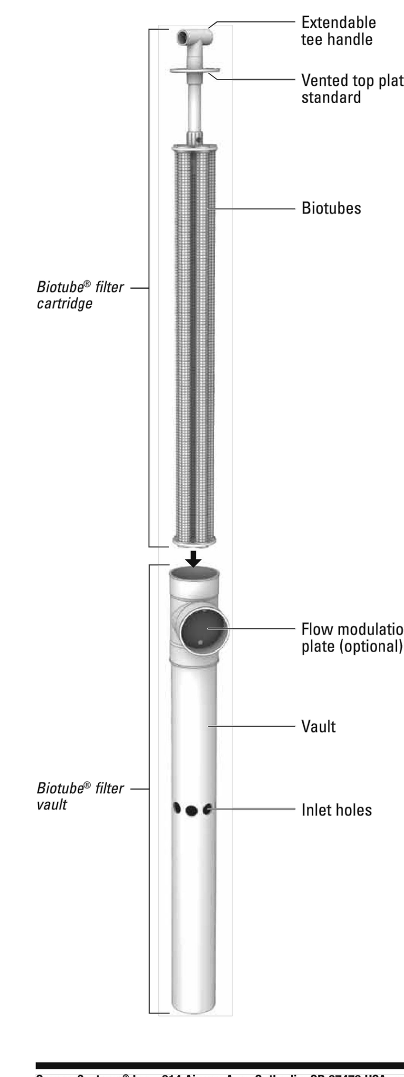
Flex extension

Pump discharge assembly

from ORENCO Systems inc.

Orenco | *Technical Data Sheet*

4-inch (100-mm) Biotube® Effluent Filters



Applications

Orenco® 4-inch Biotube® Effluent Filters are designed to remove solids from effluent leaving residential septic tanks. They can be used in new and existing tanks at flows of up to 1200 gpd.

General

Orenco 4-inch Biotube Effluent Filters (U.S. Patents No. 4,439,323 and 5,492,635) are used to improve the quality of effluent exiting a septic tank in a residential septic system. Increased effluent quality improves system performance and extends drainfield life.

The Biotube cartridge fits tightly in the vault and is removable for maintenance, and the tee handle can be extended for easy removal of the cartridge.

Standard Models

FTS0444-36, FTS0444-36M, FTW0436-28, FTW0436-28M
FTW0444-36, FTW0444-36M

Nomenclature

FT S 04 36 - 36 -

Flow modulator and float switch bracket options:
Blank = no options selected
M = flow modulation plate installed
A = float switch bracket installed

Cartridge height, in. (mm):
28 = 28 (711), standard
36 = 36 (914), standard

Filter housing height, in. (mm):
36 = 36 (914), standard
44 = 44 (1118), standard

4-in. (100-mm) filter diameter

Outlet tee:
W = fits Type 3034 outlet tee
S = fits Schedule 40 outlet tee

Filter mesh option:
Blank = ⅛-in. (3-mm) filter mesh
P = ¹⁄₁₆-in. (1.6-mm) filter mesh

Biotube® effluent filter

Materials of Construction

Vault	PVC
Biotube® cartridge	Polypropylene and polyethylene
Handle components	PVC, polyethylene, stainless steel

from Goulds Pumps

B3885

ITT

Wastewater

Goulds Pumps

WE Series Model 3885

Submersible Effluent Pump

PROSURANCE AVAILABLE FOR
RESIDENTIAL APPLICATIONS.

FEATURES

- **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.
- **Mechanical Seal:** Silicon Carbide vs. Silicon Carbide sealing faces. Stainless steel metal parts, BUNA-N elastomers.
- **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.
- **Fasteners:** 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation when fully submerged.

GOULDS PUMPS

Goulds Pumps is a brand of ITT Corporation.

www.goulds.com

Engineered for life

from Goulds Pumps

ITT

GOULDS PUMPS
Wastewater

APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on ⅓ – 1½ HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ – 1 HP models have NEMA three prong grounding plugs.
- 1½ HP and larger units have bare lead cord ends.

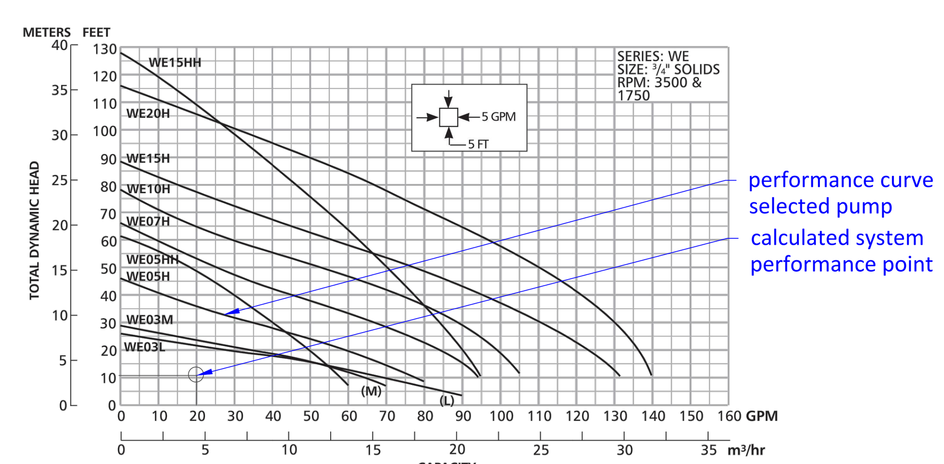
Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- **Bearings:** Upper and lower heavy duty ball bearing construction.
- **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association File #LR38549
Goulds Pumps is ISO 9001 Registered.



from Goulds Pumps

ITT

GOULDS PUMPS
Wastewater

MODELS

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance Start	Resistance Line-Line	Power Cable Size	Weight (lbs.)
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L			230			4.9	14.1	L	53	14.5	8.0		
WE0311M			115			10.7	30.0	M	54	11.9	1.7		
WE0318M			208			6.8	19.5	K	51	9.1	4.2		
WE0312M			230			4.9	14.1	L	53	14.5	8.0		
WE0511H	0.5		115	3450	3.56	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512H			230			7.3	34.5	M	53	9.6	4.0		
WE0538H		3	200			4.9	22.6	R	68	NA	3.8	14/4	60
WE0532H			230			3.3	18.8	R	70	NA	5.8		
WE0534H			460			1.7	9.4	R	70	NA	23.2		
WE0537H			575			1.4	7.5	R	62	NA	35.3		
WE0511HH		1	115		3.88	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518HH			208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512HH			230			7.3	34.5	M	53	9.6	4.0		
WE0538HH		3	200			4.9	22.6	R	68	NA	3.8	14/4	60
WE0532HH			230			3.6	18.8	R	70	NA	5.8		
WE0534HH			460			1.8	9.4	R	70	NA	23.2		
WE0537HH			575			1.5	7.5	R	62	NA	35.3		
WE0718H	0.75	1	208		4.06	11.0	31.0	K	68	9.7	2.4	14/3	70
WE0712H			230			10.0	27.5	J	65	12.2	2.7		
WE0738H		3	200			6.2	20.6	L	64	NA	5.7	14/4	70
WE0732H			230			5.4	15.7	K	68	NA	8.6		
WE0734H			460			2.7	7.9	K	68	NA	34.2		
WE0737H			575			2.2	9.9	L	78	NA	26.5		
WE1018H	1	1	208		4.44	14.0	59.0	K	68	9.3	1.1	14/3	70
WE1012H			230			12.5	36.2	J	69	10.3	2.1		
WE1038H		3	200			8.1	37.6	M	77	NA	2.7	14/4	70
WE1032H			230			7.0	24.1	L	79	NA	4.1		
WE1034H			460			3.5	12.1	L	79	NA	16.2		
WE1037H			575			2.8	9.9	L	78	NA	26.5		
WE1518H	1.5	1	208		4.56	17.5	59.0	K	68	9.3	1.1	14/3	80
WE1512H			230			15.7	50.0	H	68	11.3	1.6		
WE1538H		3	200			10.6	40.6	K	79	NA	1.9	14/4	80
WE1532H			230			9.2	31.7	K	78	NA	2.9		
WE1534H			460			4.6	15.9	K	78	NA	11.4		
WE1537H			575			3.7	13.1	K	75	NA	16.9		
WE1518HH		1	208		5.50	17.5	59.0	K	68	9.3	1.1	14/3	80
WE1512HH			230			15.7	50.0	H	68	11.3	1.6		
WE1538HH		3	200			10.6	40.6	K	79	NA	1.9	14/4	80
WE1532HH			230			9.2	31.7	K	78	NA	2.9		
WE1534HH			460			4.6	15.9	K	78	NA	11.4		
WE1537HH			575			3.7	13.1	K	75	NA	16.9		
WE2012H	2	1	230		5.38	18.0	49.6	F	78	3.2	1.2	14/3	83
WE2038H		3	200			12.0	42.4	K	78	NA	1.7	14/4	83
WE2032H			230			11.6	42.4	K	78	NA	1.7		
WE2034H			460			5.8	21.2	K	78	NA	6.6		
WE2037H			575			4.7	16.3	L	78	NA	10.5		

from Goulds Pumps

ITT

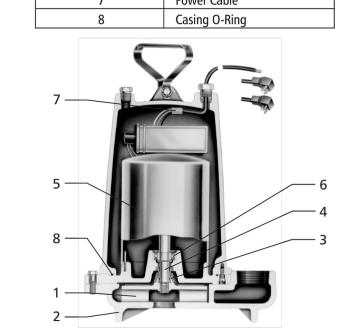
Wastewater

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
	HP	⅓	⅓	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
Total Head Feet of Water	5	86	–	–	–	–	–	–	–	–
	10	70	63	78	94	–	–	58	95	–
	15	52	52	70	90	103	128	53	93	138
	20	27	35	60	83	98	123	49	90	136
	25	5	15	48	76	94	117	45	87	133
	30	–	–	35	67	88	110	40	83	130
	35	–	–	22	57	82	103	35	80	126
	40	–	–	–	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	–	70	110
	55	–	–	–	–	40	67	–	66	103
	60	–	–	–	–	30	56	–	63	96
	65	–	–	–	–	20	45	–	58	89
	70	–	–	–	–	–	35	–	55	81
	75	–	–	–	–	–	25	–	51	74
	80	–	–	–	–	–	–	–	47	66
	90	–	–	–	–	–	–	–	37	49
	100	–	–	–	–	–	–	–	28	30

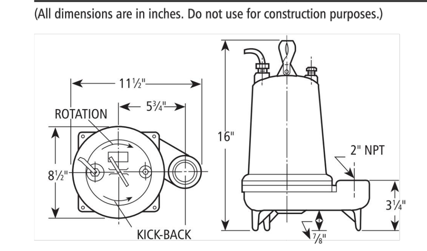
COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



GOULDS PUMPS

Goulds Pumps and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Corporation.

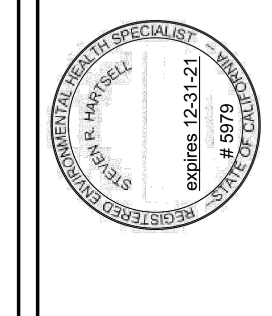
SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

B3885 June, 2008

Engineered for life

Revisions

1	12-30-2020 County comments	srh
2	10-1-21 remove new barn	srh



S.R. HARTSELL, R.E.H.S.
202 WATERFORD DRIVE
VACAVILLE, CA 95688
srhartsell@gmail.com (650) 888-2419

SEPTIC SYSTEM PLAN

2450 Purissima Creek Rd
Half Moon Bay, CA 94019
APN 066-230-050

DECEMBER 30, 2020

SCALE AS NOTED

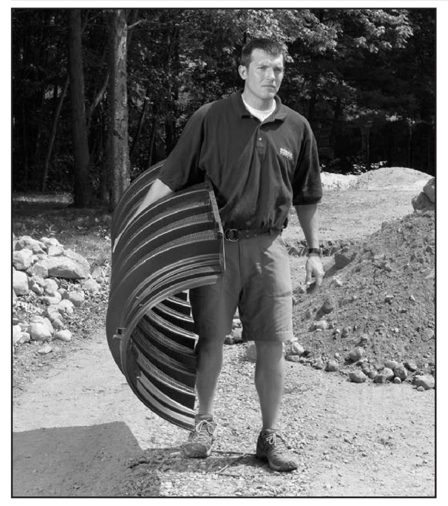
BY SRH

PAGE

ONSITE 4

Septic System Installation Instructions

INFILTRATOR water technologies



Quick4® High Capacity Chambers
Quick4® Standard Chambers

from Infiltrator Systems Inc

Before You Begin

Quick4 High Capacity Chambers and Quick4 Standard Chambers may only be installed according to State and/or local regulations. If unsure of the installation requirements for a particular site, contact the local health department.

Like conventional systems, the soil and site conditions must be approved prior to installation. Conduct a thorough site evaluation to determine the proper sizing and siting of the system before installation.

Materials and Equipment Needed

- ❑ Quick4 Chambers
- ❑ MultiPort End Caps
- ❑ PVC Pipe and Couplings
- ❑ Backhoe
- ❑ Laser, Transit, or Level
- ❑ Shovel and Rake
- ❑ Tape Measure
- ❑ Utility Knife
- ❑ Hole Saw*
- ❑ 2-inch Drywall Screws*
- ❑ Screw Gun*
- ❑ Small Valve-Cover Box*
- ❑ 4-inch Cap for Inspection Port*

* Optional

These guidelines for construction machinery must be followed during installation:

- ❑ Avoid direct contact with chambers when using construction equipment. Chambers require a 12-inch minimum of compacted cover to support a wheel load rating of 16,000 lbs/axle or equivalent to an H-10 AASHTO load rating.
- ❑ Only drive across the trenches when necessary. Never drive down the length of the trenches.
- ❑ To avoid additional soil compaction, never drive heavy vehicles over the completed system.

Excavating and Preparing the Site

Note: As is the case with conventional systems, do not install the systems in wet conditions or in overly moist soils, as this causes machinery to smear the soil.

Note: The Quick4 Standard and Quick4 High Capacity chambers have a maximum cover depth of 48" for bed applications and 96" for trenches. Please refer to Infiltrator Cover Policy or call Infiltrator Water Technologies with any questions.

1. Stake out the location of all trenches and lines. Set the elevations of the tank, pipe, and trench bottom.

2. Install sedimentation and erosion control measures. Temporary drainage swales/berms may be installed to protect the site during rainfall events.

3. Excavate and level 3-foot wide trenches with proper center-to-center separation. Verify that the trenches are level or have the prescribed slope.

Note: Over excavate the trench width in areas where you are planning to contour.

4. Rake the bottom and sides if smearing has occurred while excavating. Remove any large stones and other debris. Do not use the bucket teeth to rake the trench bottom.

Note: Raking to eliminate smearing is not necessary in sandy soils. In fine textured soils (silts and clays), avoid walking in the trench to prevent compaction and loss of soil structure.

5. Verify that each trench is level using a level, transit, or laser.

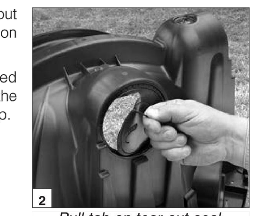
Preparing the End Cap

1. With a utility knife start the tear-out seal at the appropriate diameter for the inlet pipe. The seal allows for a tight fit for 3-inch, 4-inch SDR35, and 4-inch SCH40 pipe.

1 *Start tear-out seal.*

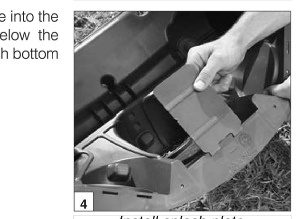
2. Pull the tab on the tear-out seal to create an opening on the end cap.

3. Snap off the molded splash plate located on the bottom front of the end cap.



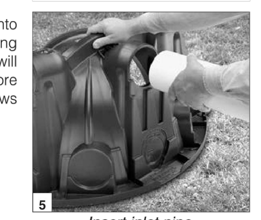
2 *Pull tab on tear-out seal.*

4. Install splash plate into the appropriate slots below the inlet to prevent trench bottom erosion.



4 *Install splash plate.*

5. Insert the inlet pipe into the end cap at the beginning of the trench. The pipe will go in several inches before reaching a stop. (Screws optional.)



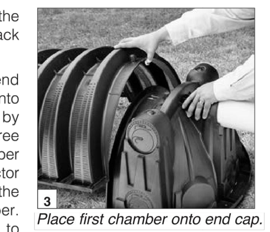
5 *Insert inlet pipe.*

Installing the System

1. Check the header pipe to be sure it is level or has the prescribed slope.

2. Set the invert height at 11.5 inches from the bottom of the trench for the Quick4 High Capacity Chamber. For the Quick4 Standard Chamber, set the invert height at 8 inches from the bottom of the trench.

3. Place the inlet end of the first chamber over the back edge of the end cap.

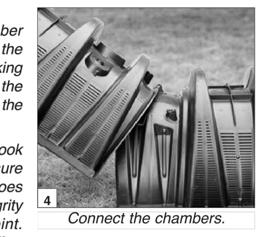


3 *Place first chamber onto end cap.*

4. Lift and place the end of the next chamber onto the previous chamber by holding it at a 90-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower to the ground to connect the chambers.

Note: When the chamber end is placed between the connector hook and locking pin at a 90-degree angle, the pin will be visible from the back side of the chamber.

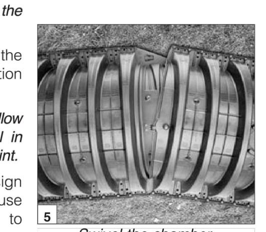
Note: The connector hook serves as a guide to ensure proper connection and does not add structural integrity to the chamber joint. Broken hooks will not affect the structure nor void the warranty.



4 *Connect the chambers.*

5. Swivel the chamber on the pin to the proper direction for the trench layout.

Note: Quick4 Chambers allow for 10 degrees of swivel in either direction at each joint.



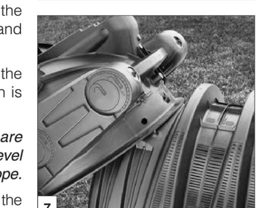
5 *Swivel the chamber.*

6. Where the system design requires straight runs, use the StraightLock™ Tabs to ensure straight connections. To activate the tabs, pop the tabs up with your thumb and lock into place.

7. Continue connecting the chambers until the trench is completed.

Note: As the chambers are installed, verify they are level or have the prescribed slope.

8. The last chamber in the trench requires an end cap. Lift the end cap at a 45-degree angle and insert the connector hook through the opening on the top of the end cap. Applying firm pressure, lower the end cap to the ground to snap it into place. Do not remove the tear-out seal.



7 *Attach end cap to chamber.*

9. To ensure structural stability, fill the sidewall area by pulling soil from the sides of the trench with a shovel. Start at the joints where the chambers connect. Continue backfilling the entire sidewall area, making sure the fill covers the louvers.

9 *Walking-in the fill.*

10. Pack down the fill by walking along the edges of the trench and chambers. This is an important step in assuring structural support.

Note: In wet or clay soils, do not walk in the sidewalls.

11. Proceed to the next trench and begin with Step 1.

Installing Optional Inspection Ports

1. With a hole saw drill the pre-marked area in the top of the chamber to create a 4-inch opening.

2. Set a cut piece of pipe of the appropriate length into the corresponding chamber's inspection port sleeve.

Note: The sleeve will accommodate a 4-inch SCH40 pipe.

3. Use two screws to fasten the pipe to the sleeve around the inspection port.

4. Attach a threaded cap or cleanout assembly onto the protruding pipe at the appropriate height.

5. A small valve cover box may be used if inspection port is below the desired grade.

Covering the System

Before backfilling, the system must be inspected by a health officer or other official as required by State and local codes. Create an as-built drawing at this time for future records.

1. Backfill the trench by pushing fill material over the chambers with a backhoe. Keep a minimum of 12 inches of compacted cover over the chambers before driving over the system.

Note: Do not drive over system while backfilling in sand.

Note: For shallow cover applications, you must mound 12 inches of soil over the system before driving over it, and then grade it back to 6 inches upon completion.

2. It is best to mound several inches of soil over the finish grade to allow for settling. This also ensures that runoff water is diverted away from the system.

3. After the system is covered, the site should be seeded or sodded to prevent erosion.

Note: If the system is for new home construction, it is important to leave marking stakes along the boundary of the system. This will show contractors where the site is located so they will not cross it with equipment or vehicles.

Infiltrator Water Technologies Limited Warranty

(a) The structural integrity of each chamber, end cap and other accessory manufactured by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required by applicable law, the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for Units determined by Infiltrator to be covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the chamber system is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty.

Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by State and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

* * * * * * *

The above represents the standard Limited Warranty offered by Infiltrator. A limited number of States and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

For more information on the Quick4 Chambers, call **1-866-4QUICK4** or 1-866-478-4254.

Distributed By:

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6 Business Park Road, • P.O. Box 768
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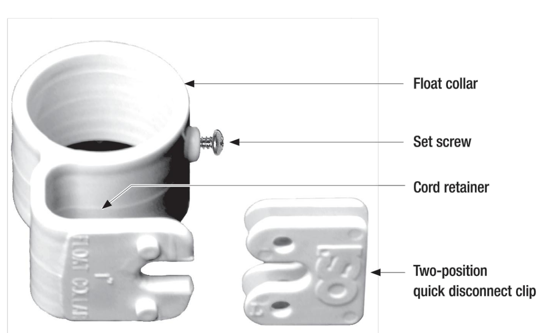
860-577-7000 • FAX 860-577-7001

from ORENCO Systems inc.

Orenco SYSTEMS **Product Sheet**

1-in. Float Collar

Orenco's Float Collars for 1" Schedule 40 pipe are the simplest, most reliable way to attach liquid level control floats. Tough ABS construction ensures long life, and the quick release clip requires no special tools to mount or adjust.



Orenco 1" Float Collar Kit

Orenco's float collars make cable ties obsolete. More importantly, they make installations more reliable by keeping liquid level floats separate and secured in position.

Standard Features & Benefits

- Each float collar kit includes one float collar, one two-position, quick disconnect clip, one stainless steel set screw, and installation instructions.
- Lasts years longer than commonly used cable ties.
- Constructed of tough ABS plastic, capable of withstanding corrosive septic tank environment.
- Quick disconnect clip makes it easy to mount float cord; no tools required.
- Clip holds cable tight without chafing wiring sheath.
- Integral cord retainer keeps float cords from becoming tangled with floats.
- Tether length easily adjustable; no tools required.
- Stainless steel set-screw positively locates float collar; no float slippage or orientation problems.
- Fits virtually all common cord diameters; best fit is 0.28" to 0.36".
- Bulk quantities of 100 kits available.

Model Code

MF COLLAR1

To Order

Call your nearest Orenco Systems®, Inc. Distributor. For nearest Distributor, call Orenco at 800-348-9843, or visit www.orenco.com and click on "Distributor Locator."

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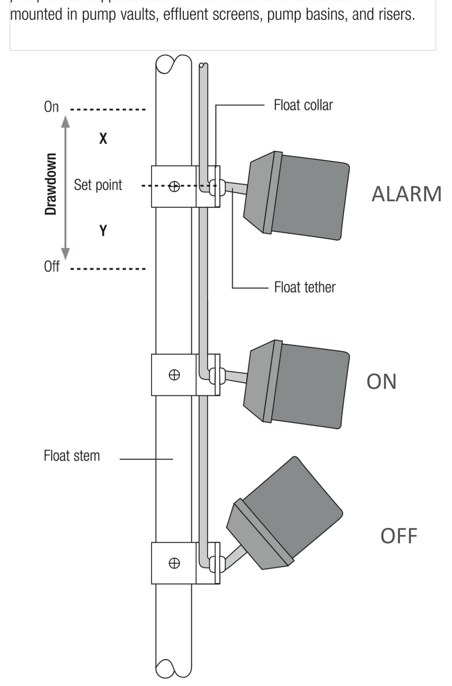
Orenco SYSTEMS **Technical Data Sheet**

Float Switch Assemblies

Applications

Float switches are used to signal liquid level positions for alarm and pump control applications. Orenco float switch assemblies can be mounted in pump vaults, effluent screens, pump basins, and risers.



The "On" and "Off" positions describe normally open floats. For normally closed floats, the functions are reversed.

Materials of Construction

Float housing	Impact-resistant, noncorrosive polypropylene for use in liquids up to 140° F (60° C)
Float cord	Flexible, 2-conductor (UL, CSA) SJOW; CPE cord jacket with EPDM insulated conductors
Float collar	ABS

General

All models listed are UL listed and CSA certified for use in water or sewage. Non-mercury float switches (models B, C, N, and P) are used where components containing mercury are prohibited.

Float switches are typically ordered in assemblies that include one or more switches mounted on a 1-inch PVC float stem. ABS float collars are used to provide secure mounting that is easily adjustable.

Normally-open "P" float switches have a blue cap for easy identification; normally-closed "N" float switches have a red cap.

Standard Models

B, C, G, N, P

Product Code Diagram

MF ☐ PPN - 57 FS - 50

- Cord length option:
  - Blank = 10 ft (3 m), standard
  - 20 = 20 ft (6 m)
  - 30 = 30 ft (9 m)
  - 50 = 50 ft (15 m)
- Application:
  - FS = field set
  - FTL = elbow-style (base-inlet filters only)
  - PB = pump basin
  - V = pump vault (standard float settings)
  - STEP = Standard float settings for STEP
  - STEPRO = Standard float settings for STEP with redundant off
  - SVCOM = Standard float settings for VCOM simplex
- Float stem length:
  - Blank = no float stem (floats and collars only)
  - 19, 21, 27, 33, 37, 39, 45, 51, 57, 66 = stem length, in.
  - 5, 11 = stem length, in. (for elbow-style float brackets)
- Float switch models (listed in order from the top of the float stem down): B, C, G, N, P
- Number of float switches (when using multiples of the same float switch model): Blank = no multiples of the same float switch model
- Float switch assembly

Note:

When ordering float switch assemblies, remember to list float switches from the top of the float stem down. An "MFPBN-" product code indicates one "P" switch at the top of the stem, one "B" in the middle of the stem, and one "N" switch at the bottom of the stem; an "MF2PN-" indicates "P" switches at the top and middle of the stem, and one "N" switch at the bottom of the stem.

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Orenco SYSTEMS **Technical Data Sheet**

Signal- and Motor-Rated Float Switch Matrix

Float	State[1]	Type	IR[2]	Volts	Amps	hp	Tether	X	Y	Drawdown[3]
Signal-rated mechanical floats[4] (for control switch applications)										
P Model[a]	Normally open	Mechanical	Yes	n/a	n/a	n/a	2.00 in.	1.50 in.	0.50 in.	2.00 in.
N Model[a]	Normally closed	Mechanical	Yes	n/a	n/a	n/a	2.00 in.	1.50 in.	0.50 in.	2.00 in.
Motor-rated floats[4] (for pump switch applications)										
B Model	Normally open	Mechanical	No	120V	13A	1/2 hp	2.00 in.[b]	2.50 in.	1.50 in.	4.00 in.
				240V	13A	1 hp	3.00 in.	3.00 in.	1.50 in.	4.50 in.
							4.00 in.	3.25 in.	1.50 in.	4.75 in.
C Model	Normally open	Mechanical	No	120V	13A	1/2 hp	2.00 in.	3.00 in.	2.50 in.	5.50 in.
				240V	15A	2 hp	3.00 in.[b]	3.50 in.	3.00 in.	6.50 in.
							4.00 in.	4.00 in.	3.50 in.	7.50 in.
							5.00 in.	4.50 in.	4.00 in.	8.50 in.
							6.00 in.	5.25 in.	4.25 in.	9.50 in.
G Model	Normally open	Mercury	Yes	120V	15A	3/4 hp	2.00 in.	1.50 in.	3.00 in.	4.50 in.
				240V	15A	2 hp	3.00 in.[b]	1.75 in.	3.00 in.	4.75 in.
							4.00 in.	2.00 in.	3.50 in.	5.50 in.

a. Suitable for use with VCOM and MVP.
b. Standard tether length

Notes

[1] *State: normally open or normally closed*
The default state of a float — normally open or normally closed — refers to the contact positions in the float when the float is resting (down). Float switches have an internal contact. The terms "normally open" (N/O) and "normally closed" (N/C) refer to the state of the float switch contact in the down position. A normally open float switch has an open contact (off) in the down position and a normally closed float switch has a closed contact (on) in the down position. Different panel functions require different types of float switches. Most applications require float switches that are normally open. One notable exception is the redundant off and low-level alarm function that requires a normally closed float switch, except with MVP and VCOM panels.

[2] *IR (intrinsically safe relay)*
Approved for use with intrinsically safe, Class I, Division 1 applications, where reliable float switch operation with very low current is required.

[3] *Drawdown*
Drawdown (in inches) refers to the difference in liquid level between a float switch's activation and deactivation points. Drawdown can be altered by adjusting the tether length of the float switch cord. When selecting float switches, keep in mind that any float switch that can directly start and stop a pump (one that has no motor contactor in the control panel) should have a drawdown capability, to avoid rapid cycling of the pump.

[4] *Signal-rated or motor-rated*
Every float has a maximum amount of current it can handle. Exceeding these limits may cause premature failure. Signal-rated or "control" floats are used to activate pump control panels and alarms. Only low-amperage signals pass through these float switches, hence the float switch is "signal-rated." All Orenco panels that use motor contactors can use signal-rated float switches. In some systems, a float switch is used to directly start and stop a pump. In this application, the current that is running the pump passes through the float switch as well, and the float switch must be "motor-rated." In most instances, a motor-rated float switch can be used as a signal float switch.

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from ORENCO Systems inc.

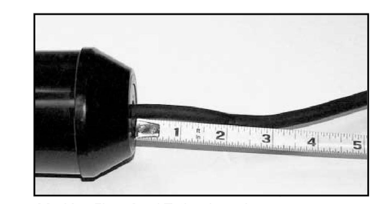
Float Collar Instruction Guide

Orenco Systems® Incorporated
1-800-348-9843

Float Collar Installation

Step 1: Marking Float Cord Tether Length

Using the manufacturers instructions provided with your floats, determine the proper float cord tether length, and mark the position on the cord.



Marking Float Cord Tether Length

Step 2: Attaching Float Collar to Float

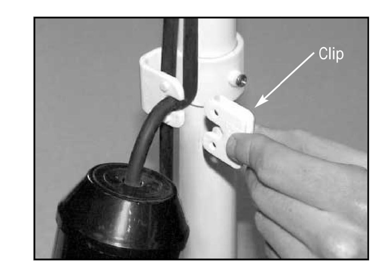
Insert the marked portion of the float cord into the slot in the float collar, and slide the clip onto the collar. The clip is secured by two retaining pegs molded onto the float collar.

The clip is labeled with an "L" on one side, and an "S" on the other, as viewed from the side facing away from the collar. The range of float cord diameters each clip position will clamp is listed below:

"L" Clip position: up to 0.35"

"S" Clip position: down to 0.28"

Use the clip position that holds the cord the tightest without distorting the clip. The cord should not slip when pulled moderately by hand.

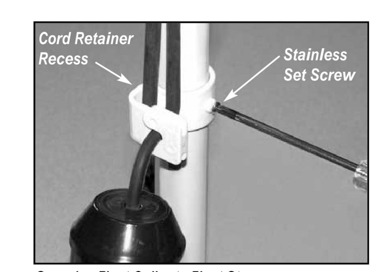


Attaching Float Collar

Step 3: Securing Float Collar to 1" Schedule 40 PVC Pipe

Secure float collars in proper location, using stainless steel set screw provided in the kit. Tighten the set screw until float collar is firmly clamped.

Note: A cord retainer recess is built into the collar. The cords from lower floats can be tucked into the recess, keeping the cords from becoming tangled with floats.



Securing Float Collar to Float Stem

Float Collar Adjustments

Adjusting Float Height

Float height can be adjusted by loosening the stainless steel set screw and simply sliding the float collar up or down the float stem.

Adjusting Float Cord Tether Length

Float cord tether length can be adjusted by removing the clip, adjusting the cord's position, and re-installing the clip.

Revisions	
1. 12-30-2020 County comments	srh
2. 10-1-21 remove new barn	srh

REGISTERED ENVIRONMENTAL HEALTH SPECIALIST
S.R. HARTSELL
expires 12-31-21
#5979

S.R. HARTSELL, R.E.H.S.
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SEPTIC SYSTEM PLAN

2450 Purissima Creek Rd
Half Moon Bay, CA 94019
APN 066-230-050

DECEMBER 30, 2020

SCALE AS NOTED

BY SRH

PAGE

ONSITE 5