

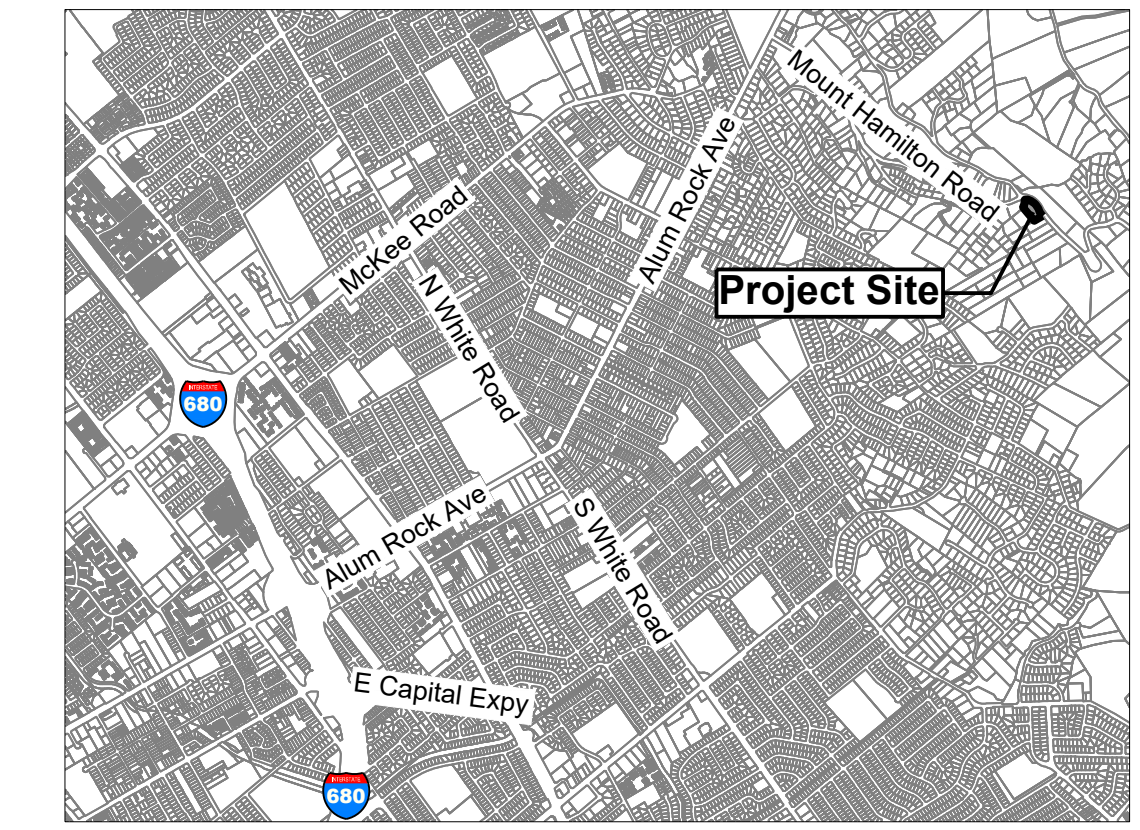
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REVISIONS BY

FARIA ENGINEERING & SURVEYING
 PLANNING • BUILDING • SEPTIC
 david@fariaengineering.com
 (602) 515-7650

Pope - OWTS Plot Plan
15300 Garcal Drive - APN 612-14-053

DATE: 6/11/2024
 SCALE: 1" = 20'
 DRAWN BY: DF
 CHECKED BY: DF
 JOB NO. **224029**
 SHEET NO. **1**
 OF **1**



Vicinity Map

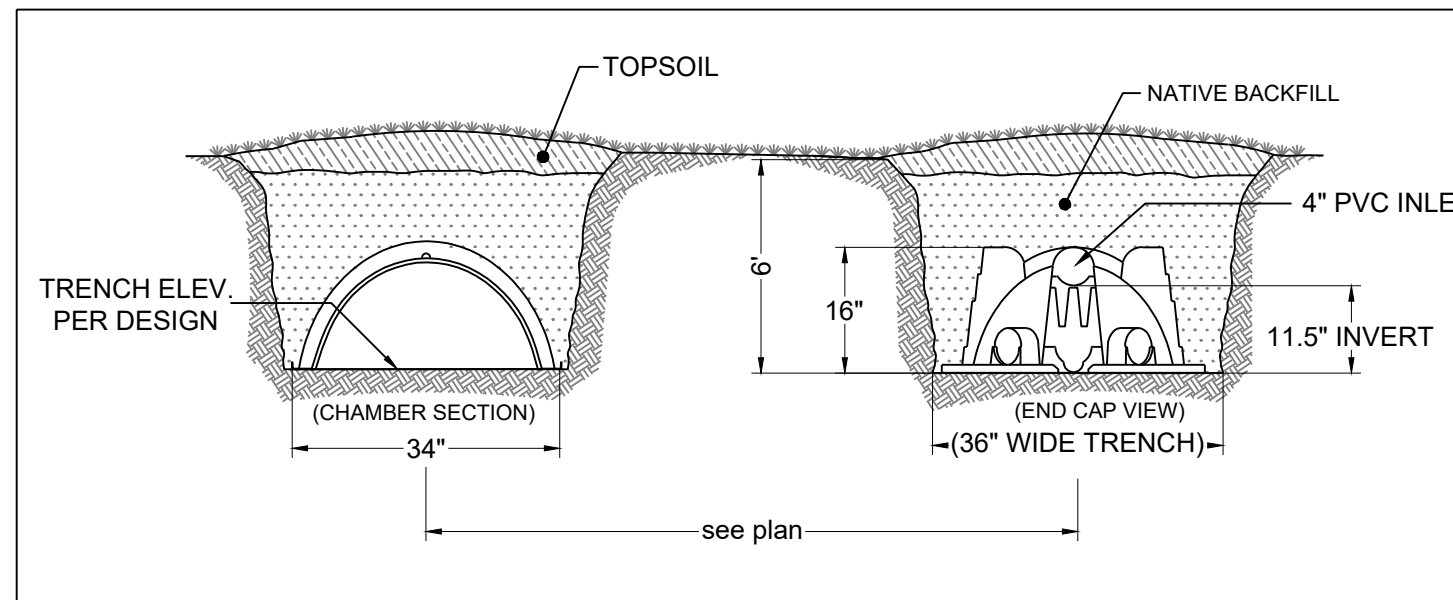
Applicant/Owner:
 David Pope
 15300 Garcal Drive
 San Jose, CA 95127
 408-307-0375
 davidpope@gmail.com

Engineer:
 David L. Faria, RCE 92432
 Faria Engineering & Surveying
 1656 Cienega Road Unit 100
 Hollister, CA 9502m 3
 (602) 515-7650
 david@fariaengineering.com

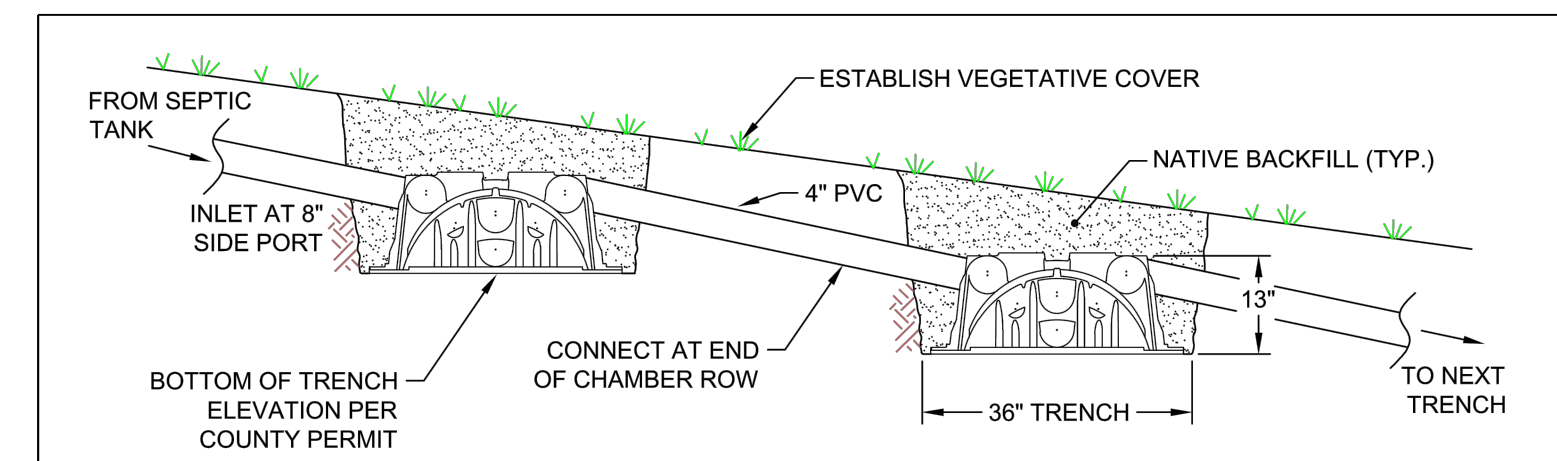
Project Information:
 APN: 612-14-053
 Present Use: Residential RR-d1
 Existing Zoning: As Shown
 Water: ex water company
 Sanitary Sewer: ex OWTS
 Gas & Electric: ex PGE and propane
 Fire Responsibility Area: LRA
 Wildland Urban Interface: in
 Gross Area: 1.2 ac

Boundary Note: Property lines shown on this plan are based on record data. A boundary survey was not performed.

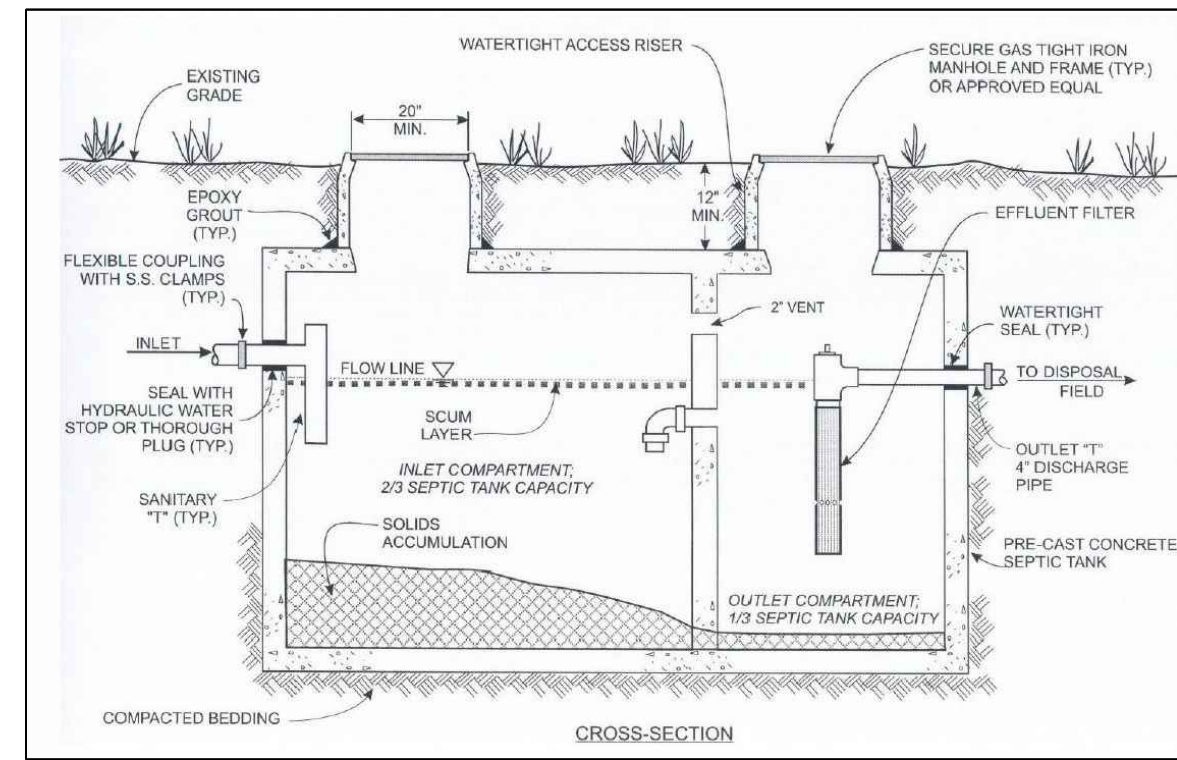
Elevation Note: A topographic survey was performed to locate the existing improvements and slopes. The elevation data is from GPS (NAVD88).



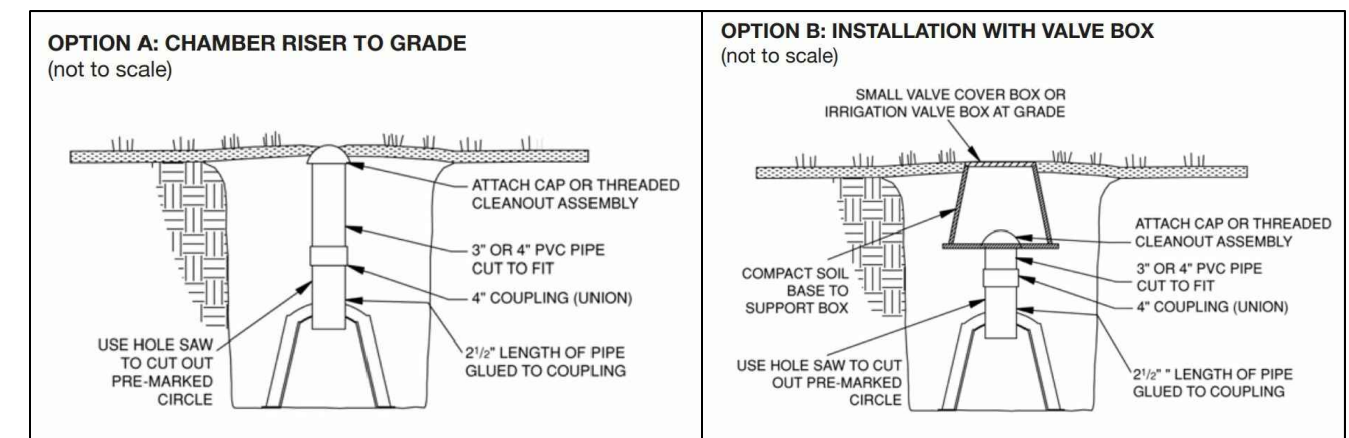
Quick 4 HC Infiltrator Chamber Trench Detail



Quick 4 HC Infiltrator Distribution Detail



Septic Tank Detail



Typical Inspection Port Detail

Sizing Calculations
 Existing Five Bedroom Single Family Residence and Proposed One Bedroom ADU

Adjusted Stabilized Percolation Rate
 P1 = 84.0, P2 = 9.4, P3 = 12.0, P4 = 48.0, P5 = FAIL, P6 = FAIL

Adjusted Average Stabilized Percolation Rate = 38 MPI
 Wastewater Application Rate = 0.50 GPD/SQFT

1. Wastewater design flow = 750 GPD
2. Adjusted Stabilized percolation rate = 38 MPI
3. Wastewater application rate = 0.50 GPD/SQFT
4. Width of Trench = 36 Inches
5. Rock below perforated drain pipe = HC Infiltrators
6. Infiltration area per linear foot = 6.6

Design Calculations
 750 GPD / 0.5 = 1500
 1500 / 6.6 = 228 LF

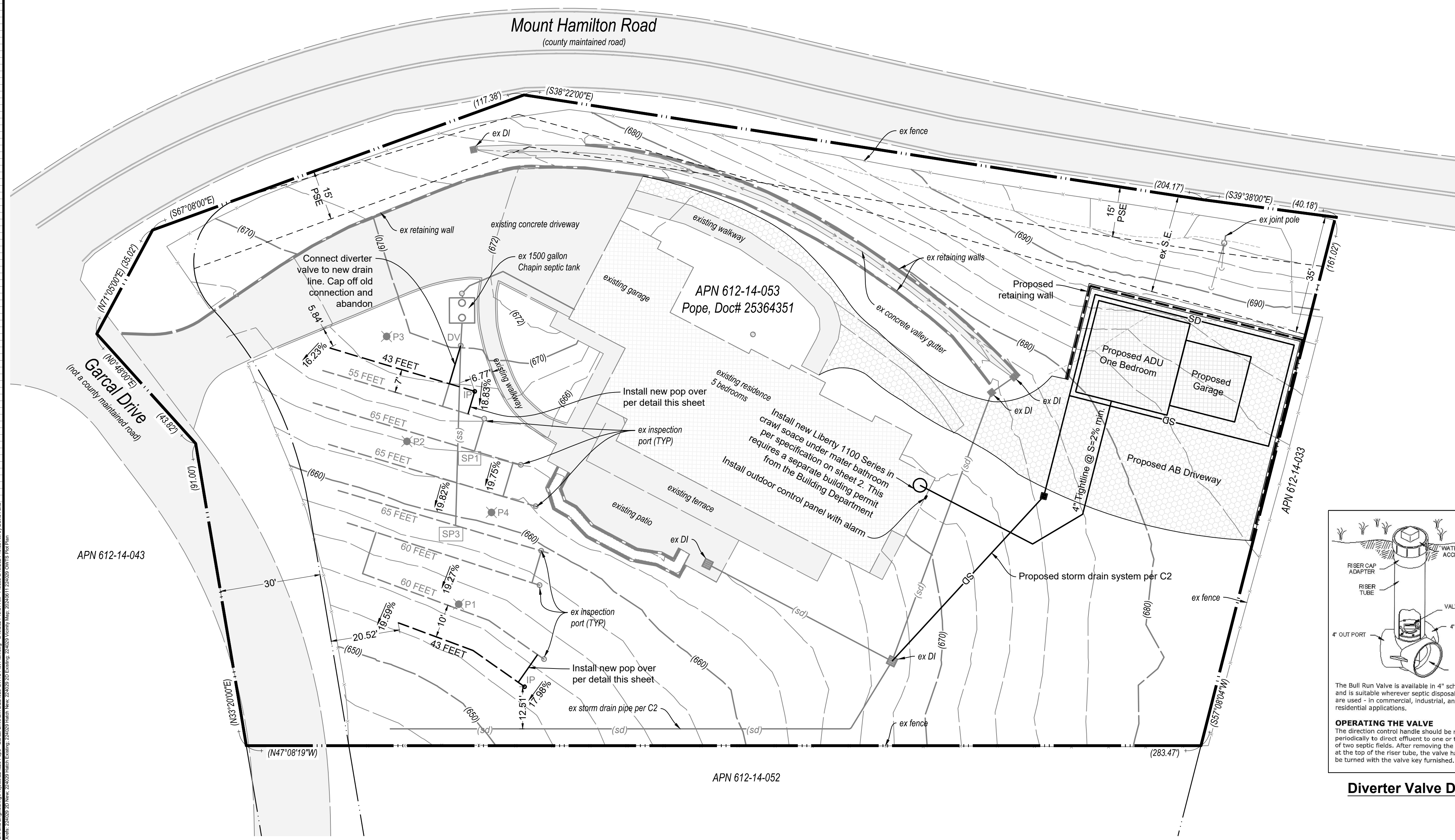
Total Dispersal Field Required = 228 LF + 228 LF
 Existing Dispersal Field = 185 LF + 185 LF

Additional Dispersal Field Required = 43 LF + 43 LF

Project Narrative
 This project will build a new ADU. The existing system was designed and installed per the previously approved OWTS plan under SR0852397. The previous soil profiles and percolation tests were used to design the expansion of the existing system. A topographic survey was performed to locate the existing inspection ports and slope in the existing drain field. The grading and drainage improvements were added to match the grading and drainage plans done by Cecilia Home sheets C1 - C4. A Liberty series 1100 duplex grinder pump system will be installed in the crawl space under the main house master bathroom. A separate permit from the building department will be required for the pump system and connection to the existing plumbing.

- Construction Notes**
1. Connect proposed ADU to pump tank with 4" lightline meeting 2022 CPC.
 2. Install Liberty Series 1100 Duplex Sewage System with grinder pump model PRG101M.
 3. Install outdoor control panel with alarm as shown on plan.
 4. Install additional Quick4 high capacity chambers of 43 linear feet each side of the diversion valve as shown.
 5. Each dispersal trench shall be separated a minimum of 6 feet apart measured from center to center.
 6. Install inspection port at end of each trench and cover each riser with a utility box for ease of access and protection from damage.
 7. No portion of the dispersal field shall be within 100 feet of a well.

Underground Service Alert Note
 Observed surface evidence of utility lines including facilities, appurtenances, and markings were used in depicting the locations of the underground features shown on these plans. Underground features depicted are approximate and it is the responsibility of the contractor to determine the actual location and depth of underground utilities prior to starting excavation. Call USA North: 1.800.227.2600 OR 811



Soils Data County - Department of Environmental Health
 SOIL PERCOLATION TEST RECORD MEASUREMENTS

DATE	TIME	TESTER	NO.	DEPTH	PERCENTAGE	REMARKS
06/11/2024	10:30	DAVID L. FARIA	1	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	2	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	3	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	4	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	5	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	6	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	7	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	8	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	9	12"	100%	PERCOLATION TEST
06/11/2024	10:30	DAVID L. FARIA	10	12"	100%	PERCOLATION TEST

SOIL PROFILE INSPECTION RESULTS

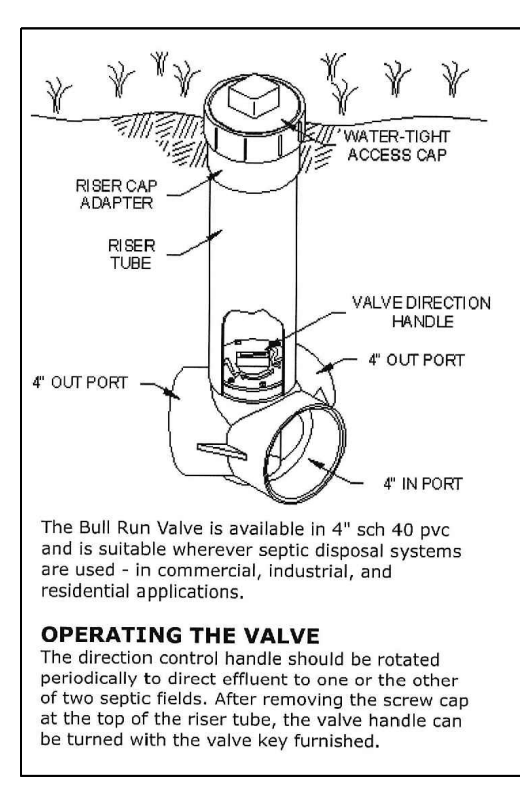
OWNER: David Pope DATE OF INSPECTION: 6/11/2024
 ADDRESS: 15300 Garcal Drive, San Jose, CA 95127
 APN: 612-14-053 CONDUCTED BY: David L. Faria

NO.	DEPTH	SOIL TYPE	REMARKS
1	0-12"	Dark brown silty clay	Dark brown silty clay
2	12-18"	Dark brown silty clay	Dark brown silty clay
3	18-24"	Dark brown silty clay	Dark brown silty clay
4	24-30"	Dark brown silty clay	Dark brown silty clay
5	30-36"	Dark brown silty clay	Dark brown silty clay
6	36-42"	Dark brown silty clay	Dark brown silty clay
7	42-48"	Dark brown silty clay	Dark brown silty clay
8	48-54"	Dark brown silty clay	Dark brown silty clay
9	54-60"	Dark brown silty clay	Dark brown silty clay
10	60-66"	Dark brown silty clay	Dark brown silty clay
11	66-72"	Dark brown silty clay	Dark brown silty clay
12	72-78"	Dark brown silty clay	Dark brown silty clay
13	78-84"	Dark brown silty clay	Dark brown silty clay
14	84-90"	Dark brown silty clay	Dark brown silty clay
15	90-96"	Dark brown silty clay	Dark brown silty clay

SOIL PROFILE INSPECTION RESULTS

OWNER: David Pope DATE OF INSPECTION: 6/11/2024
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2	12-18"	Dark brown silty clay	Dark brown silty clay
3	18-24"	Dark brown silty clay	Dark brown silty clay
4	24-30"	Dark brown silty clay	Dark brown silty clay
5	30-36"	Dark brown silty clay	Dark brown silty clay
6	36-42"	Dark brown silty clay	Dark brown silty clay
7	42-48"	Dark brown silty clay	Dark brown silty clay
8	48-54"	Dark brown silty clay	Dark brown silty clay
9	54-60"	Dark brown silty clay	Dark brown silty clay
10	60-66"	Dark brown silty clay	Dark brown silty clay
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13	78-84"	Dark brown silty clay	Dark brown silty clay
14	84-90"	Dark brown silty clay	Dark brown silty clay
15	90-96"	Dark brown silty clay	Dark brown silty clay



Divertor Valve Detail

1100-SERIES

Pre-Assembled Duplex Sewage System



30" x 36" Basin
110 Gallon capacity
2" or 3" Discharges available

For multi-unit residential and commercial installations requiring the security of two pumps

Factory pre-assembled with LE-Series solids handling pumps or PRG-Series grinder pumps... You select the pump and control panel - we build the system!

Features

- Heavy duty structural foam basin; 30" diameter x 36" high, 110 gallon capacity
- Completely assembled system with piping included
- Floats for control unit factory pre-set
- 4" inlet hub with rubber pipe seal
- Heavy, 1/4" enamel coated steel cover with separate pump access covers and a 10" diameter inspection cover (fiberglass cover assembly available)
- Pump restraints "torque stops" hold pumps securely in proper position
- PRG grinder models come with 2" discharge only



*NOTE: 1100-Series systems require a separately ordered control panel for automatic operation and alternation of pumps. Floats are included as part of the control panel and are pre-mounted in system when the control is ordered with the basin 1100-series unit. See AE-series literature or consult factory for proper control selection.



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1100-Series Duplex Sewage System

System

Factory pre-assembled with pumps, discharge piping and floats
 Floats pre-mounted in basin
 28 gallon pump cycle (factory set)
 Floats tethered to a removable stand pipe/access cover assembly

Basin

Structural foam
 Total capacity of 110 U.S. gallons
 Internal dimensions 30" diameter x 36" deep
 4" inlet hub provided

Cover

Heavy-duty 1/4" plate steel, enamel coated on both sides
 34" diameter
 Either 2" or 3" discharge and vent flange
 Two 16" diameter pump access openings
 10" inspection cover
 Integral stand pipe for float tethering
 All necessary bolts and gaskets for mounting to basin provided

Pumps

See individual LE-Series or PRG-Series literature sheet for specifications on the pumps selected

2" Discharge Models

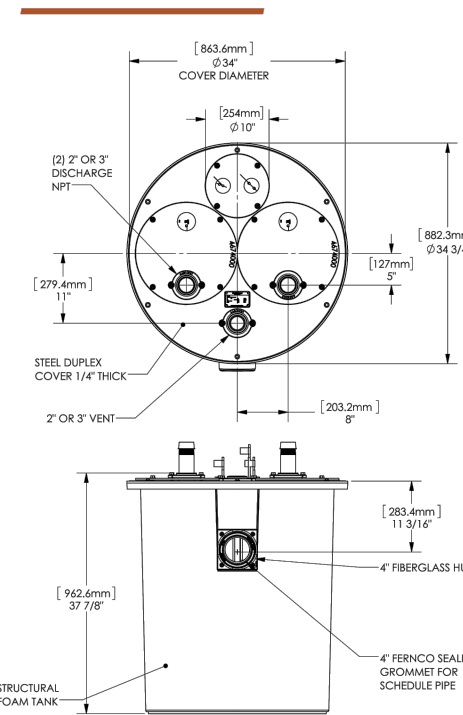
MODEL	HP	VOLTS	PHASE	WEIGHT IN LBS
1102LE41M	4/10	115	1	200
1102LE51M	1/2	115	1	200
1102LE52M	1/2	208-230	1	200
1102LE71M	3/4	115	1	240
1102LE72M	3/4	208-230	1	240
1102LE73M	3/4	208-230	3	250
1102LE74M	3/4	440-480	3	260
1102LE75M	3/4	208-230	3	260
1102LE102M	1	230	1	260
1102LE103M	1	208-230	3	260
1102LE104M	1	440-480	3	260
1102LE105M	1	575	3	260
1102LEH102M	1	230	1	260
1102LEH103M	1	208-230	3	260
1102LEH104M	1	440-480	3	260
1102LEH105M	1	575	3	260
1102LEH152M	1.5	208-230	1	300
1102LEH153M	1.5	208-230	3	310
1102LEH154M	1.5	440-480	3	310
1102LEH155M	1.5	575	3	310
1102LEH202M	2	230	1	300
1102LEH203M	2	208-230	3	300
1102LEH204M	2	440-480	3	300
1102LEH205M	2	575	3	300
1102PRG101M	1	115	1	240
1102PRG102M	1	230	1	240

10" cord standard on smaller models with option to add 20" cord; 20" cord standard on larger and 3-phase models. For 2" discharge models change "1102" to "1103". Example: 1103LE41M. Note: PRG models not available with 3" discharge.

Specifications subject to change without notice.
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Liberty Pumps - 7000 Apple Tree Avenue - Bergen, New York 14416
 Phone 800-543-2550, Fax 585-494-1839 - LibertyPumps.com

Dimensional Data



IMPORTANT: Control panel must be ordered separately.
 AE-Series panels must be matched to the amperage of the pumps selected. See AE-Series literature or consult factory for proper selection. 800-543-2550

For 3" discharge models, change the model prefix to 1103. Example: 1103LE51M (add 12 lbs to wgt, 3" not available on PRG models)

Individual part numbers for basins & covers

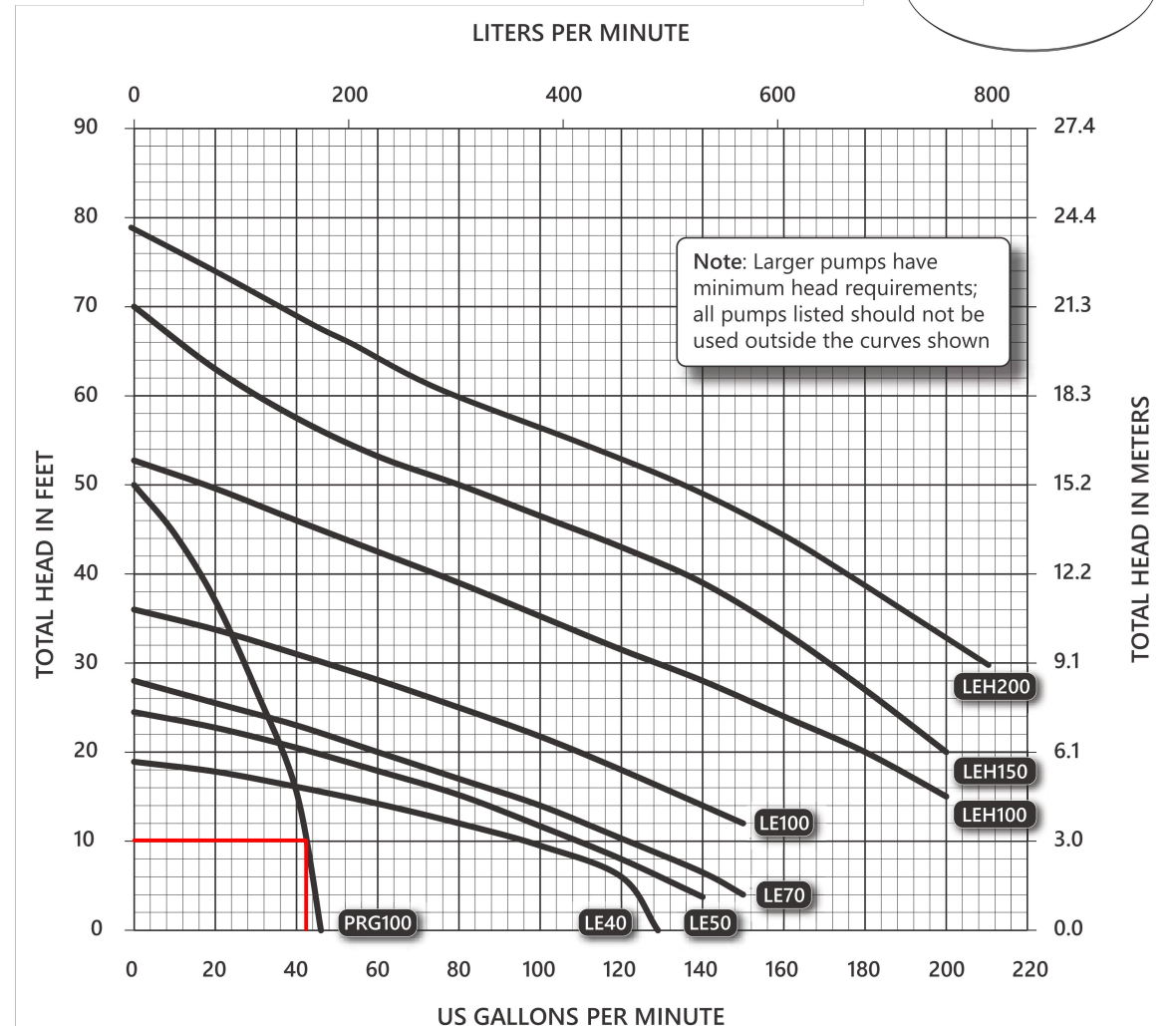
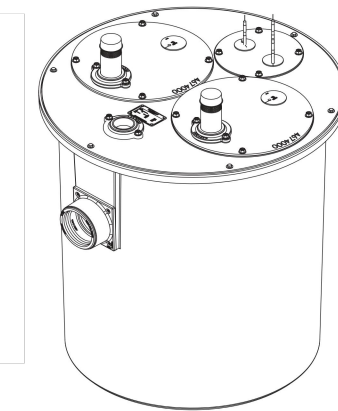
Part #	Description
K003000	30" x 36" basin, with inlet hub
K001267	Cover, 2" discharge & vent with blank inspection cover
K001268	Cover, 3" discharge & vent with blank inspection cover
K001203	10" inspection cover with float tree for 3" float control (floats not included)



A Family and Employee Owned Company

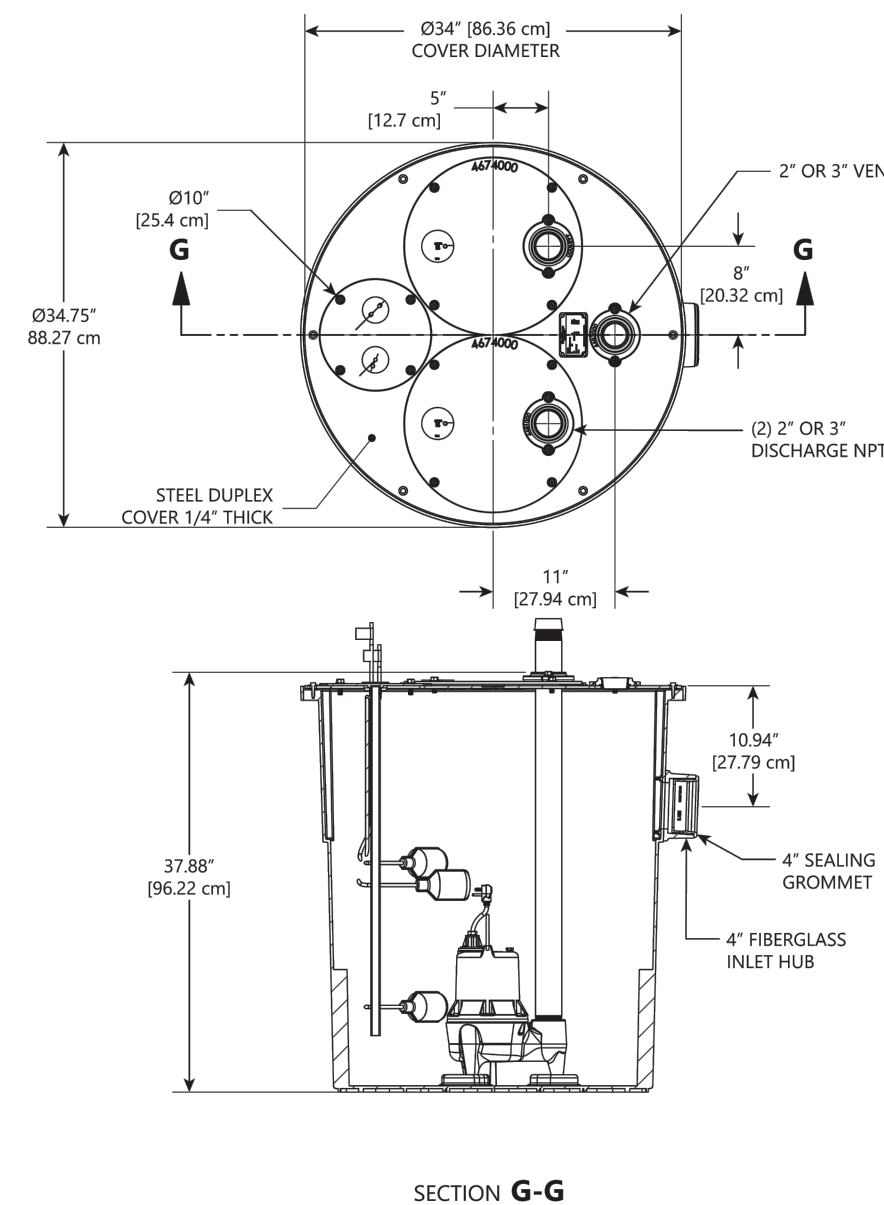
System Specification

1100-Series
Pre-assembled Duplex Sewage System
30" x 36", 110 Gallon
Indoor Use ONLY



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 1100_P1_R03/2024
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1100-Series Dimensional Data



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1100-Series Electrical Data

MODEL	HP	VOLTAGE	PHASE	SF	FULL LOAD AMPS ¹	LOCKED ROTOR AMPS ¹	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	DISCHARGE	AUTOMATIC
1102LE41M	4/10	115	1	1.0	12	22.5	105°C / 221°F	B	2"	NO
1102LE51M	1/2	115	1	1.0	12	22.5	105°C / 221°F	B	2"	NO
1102LE52M	1/2	208-230	1	1.0	6.8	12	105°C / 221°F	B	2"	NO
1102LE71M	3/4	115	1	1.0	12	29.1	105°C / 221°F	B	2"	NO
1102LE72M	3/4	208-230	1	1.0	6	13.5	105°C / 221°F	B	2"	NO
1102LE73M	3/4	208-230	3	1.0	4.1	14.7	N/A	B	2"	NO
1102LE74M	3/4	440-480	3	1.0	2.1	7.4	N/A	B	2"	NO
1102LE75M	3/4	208-230	3	1.0	8	22.3	105°C / 221°F	B	2"	NO
1102LE102M	1	208-230	3	1.0	5.3	18.3	N/A	B	2"	NO
1102LE103M	1	208-230	3	1.0	5.3	18.3	N/A	B	2"	NO
1102LE104M	1	440-480	3	1.0	2.5	9.2	N/A	B	2"	NO
1102LE105M	1	575	3	1.0	1.9	7.1	N/A	B	2"	NO
1102LEH102M	1	230	1	1.0	12	28.6	120°C / 248°F	B	2"	NO
1102LEH103M	1	208-230	3	1.0	9	32.4	N/A	B	2"	NO
1102LEH104M	1	440-480	3	1.0	4.5	16.2	N/A	B	2"	NO
1102LEH105M	1	575	3	1.0	3.3	12.8	N/A	B	2"	NO
1102LEH152M	1-1/2	208-230	1	1.0	15	53	135°C / 275°F	B	2"	NO
1102LEH153M	1-1/2	208-230	3	1.0	10.6	61	N/A	B	2"	NO
1102LEH154M	1-1/2	440-480	3	1.0	5.3	31	N/A	B	2"	NO
1102LEH155M	1-1/2	575	3	1.0	4.8	24	N/A	B	2"	NO
1102LEH202M	2	230	1	1.0	18	53	135°C / 275°F	B	2"	NO
1102LEH203M	2	208-230	3	1.0	13.2	61	N/A	B	2"	NO
1102LEH204M	2	440-480	3	1.0	6.6	31	N/A	B	2"	NO
1102LEH205M	2	575	3	1.0	5.5	24	N/A	B	2"	NO
1102PRG101M	1	115	1	1.0	12	47.5	105°C / 221°F	B	2"	NO
1102PRG102M	1	230	1	1.0	6	23.7	105°C / 221°F	B	2"	NO

¹ Amperage values are for each pump. Electrical service shall be sized to support both pumps running simultaneously.

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1100-Series Technical Data

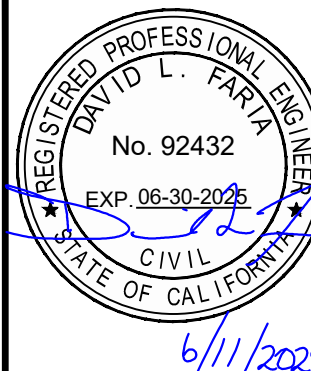
BASIN		HEAVY-DUTY POLYETHYLENE BASIN
COVER		POWDER COATED STEEL
GUIDE RAIL		NONE - PUMPS PULL OUT WITH COVER
INSPECTION COVER		10" STEEL WITH INTEGRAL FLOAT TREE
INLET HUB		4" (PRE-ASSEMBLED)
DISCHARGE PIPING		SCHEDULE 80 PVC (GALVANIZED OR STAINLESS STEEL OPTIONAL)
PUMP RESTRAINT		TORQUE-STOP SECURE PUMP LEGS
CONTROL PANELS		DUPLEX - INDOOR OR OUTDOOR ALARM WITH VISUAL AND AUDIBLE (80 dB) ALARM
IMPELLER		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
PAINT		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
MAX LIQUID TEMP		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
MAX STATOR TEMP		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
THERMAL OVERLOAD		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
POWER CORD TYPE		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
MOTOR HOUSING		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
VOLUTE		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
SHAFT		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
HARDWARE		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
O-RINGS		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
MECHANICAL SEAL		SEE INDIVIDUAL PUMP MODEL SPEC SHEET
MIN BEARING LIFE		SEE INDIVIDUAL PUMP MODEL SPEC SHEET

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1100-Series Specifications

- 1.01 SYSTEM**
 The duplex ejector system shall be (2) of model **PRG101M** as manufactured by Liberty Pumps, Bergen, NY or equal. The system shall be factory pre-assembled with pumps, discharge pipe nipples, and floats pre-mounted in the basin. Volume per pump cycle shall be factory set at 28 US gallons. Floats shall be tethered to a removable standpipe/access cover assembly. System is restricted to indoor use only.
- 2.01 BASIN**
 The basin shall be constructed of heavy-duty polyethylene. Dimensions shall be 30" diameter x 36" deep and shall have a total capacity of 110 US gallons. The inlet hub shall be 4" and pre-assembled to basin. The basin shall have "torque-stops" to locate and retain the pump in its proper position.
- 3.01 COVER**
 The cover shall be "heavy-duty" 1/4" steel plate, enamel-coated on both sides. The cover shall be 34" in diameter and have (2) (2" or 3") discharges and vent flange. The cover shall be fitted with two 16" diameter pump openings, and one 10" diameter inspection cover with integral standpipe for float tethering. All cover hardware shall be stainless steel.
- 4.01 PUMP**
 See specific LE, LEH, or PRG-Series literature for pump performance and technical specifications.
- 5.01 CONTROLS**
 The pump shall be controlled with:
 A NEMA 4X outdoor duplex control panel with three float switches including a high water alarm
 A NEMA 1 indoor duplex control panel with three float switches including a high water alarm
 A NEMA 4X outdoor duplex control panel with four float switches including a high water alarm
 A NEMA 1 indoor duplex control panel with four float switches including a high water alarm
- 6.01 WARRANTY**
 Standard limited warranty shall be 3 years.

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NO.	REVISIONS	BY
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

FARIA ENGINEERING & SURVEYING
 PLANNING • BUILDING • SPECIFIC
 6020 51st Avenue
 9029 51st-1600

Pope - OWTS Pump Specifications
15300 Garcal Drive - APN 612-14-053

DATE: 6/11/2024
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 DRAWN BY: DF
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