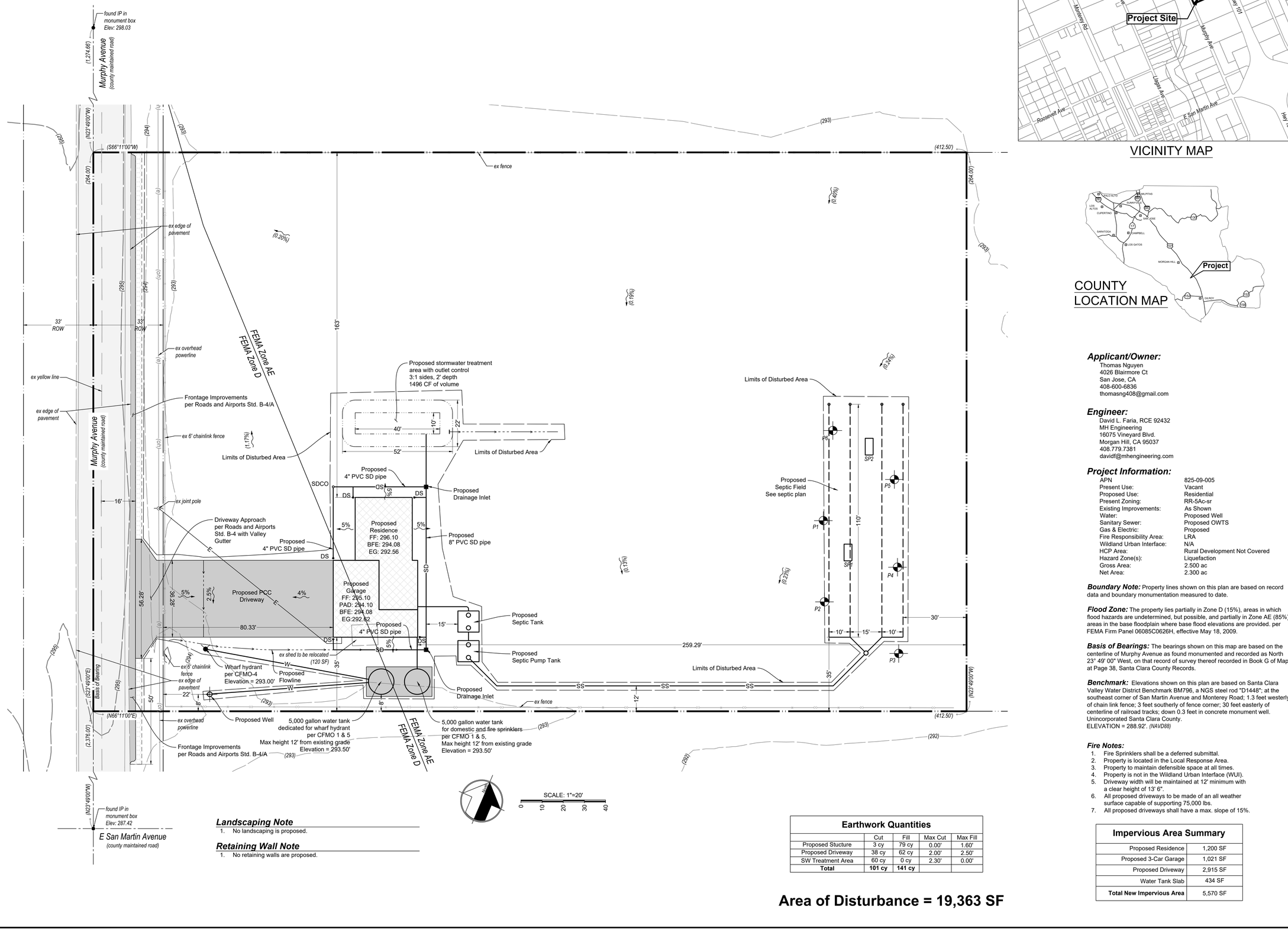


VICINITY MAP

COUNTY LOCATION MAP

Applicant/Owner:
Thomas Nguyen
4026 Blairmore Ct
San Jose, CA
408-600-6836
thomasng408@gmail.com

Engineer:
David L. Faria, RCE 92432
MH Engineering
16075 Vineyard Blvd.
Morgan Hill, CA 95037
408.779.7381
davidf@mhengineering.com

Project Information:

APN	825-09-005
Present Use:	Vacant
Proposed Use:	Residential
Present Zoning:	RR-5Ac-sr
Existing Improvements:	As Shown
Water:	Proposed Well
Sanitary Sewer:	Proposed OWTS
Gas & Electric:	Proposed
Fire Responsibility Area:	LRA
Wildland Urban Interface:	N/A
HCP Area:	Rural Development Not Covered
Hazard Zone(s):	Liquefaction
Gross Area:	2.500 ac
Net Area:	2.300 ac

Boundary Note: Property lines shown on this plan are based on record data and boundary monumentation measured to date.

Flood Zone: The property lies partially in Zone D (15%), areas in which flood hazards are undetermined, but possible, and partially in Zone AE (85%), areas in the base floodplain where base flood elevations are provided. per FEMA Firm Panel 06085C0626H, effective May 18, 2009.

Basis of Bearings: The bearings shown on this map are based on the centerline of Murphy Avenue as found monumented and recorded as North 23° 49' 00" West, on that record of survey thereof recorded in Book G of Maps at Page 38, Santa Clara County Records.

Benchmark: Elevations shown on this plan are based on Santa Clara Valley Water District Benchmark BM796, a NGS steel rod "D1448"; at the southeast corner of San Martin Avenue and Monterey Road; 1.3 feet westerly of chain link fence; 3 feet southerly of fence corner; 30 feet easterly of centerline of railroad tracks; down 0.3 feet in concrete monument well. Unincorporated Santa Clara County.
ELEVATION = 288.92'. *(NAVD88)*

Fire Notes:
1. Fire Sprinklers shall be a deferred submittal.
2. Property is located in the Local Response Area.
3. Property to maintain defensible space at all times.
4. Property is not in the Wildland Urban Interface (WUI).
5. Driveway width will be maintained at 12' minimum with a clear height of 13' 6".
6. All proposed driveways to be made of an all weather surface capable of supporting 75,000 lbs.
7. All proposed driveways shall have a max. slope of 15%.

Landscaping Note
1. No landscaping is proposed.

Retaining Wall Note
1. No retaining walls are proposed.

Earthwork Quantities

	Cut	Fill	Max Cut	Max Fill
Proposed Stucture	3 cy	79 cy	0.00'	1.60'
Proposed Driveway	38 cy	62 cy	2.00'	2.50'
SW Treatment Area	60 cy	0 cy	2.30'	0.00'
Total	**101 cy**	**141 cy**		

Area of Disturbance = 19,363 SF

Impervious Area Summary

Proposed Residence	1,200 SF
Proposed 3-Car Garage	1,021 SF
Proposed Driveway	2,915 SF
Water Tank Slab	434 SF
Total New Impervious Area	5,570 SF

REGISTERED PROFESSIONAL ENGINEER
DAVID L. FARIA
No. 92432
EXP. 06-30-2025
CIVIL
STATE OF CALIFORNIA

MH engineering Co.
16075 Vineyard Boulevard
Morgan Hill, CA 95037

Site Plan
Murphy Ave - APN 825-09-005

DATE: 7/6/23
SCALE: 1"=20'
DRAWN BY: DY
CHECKED BY: DF

JOB NO. 223008

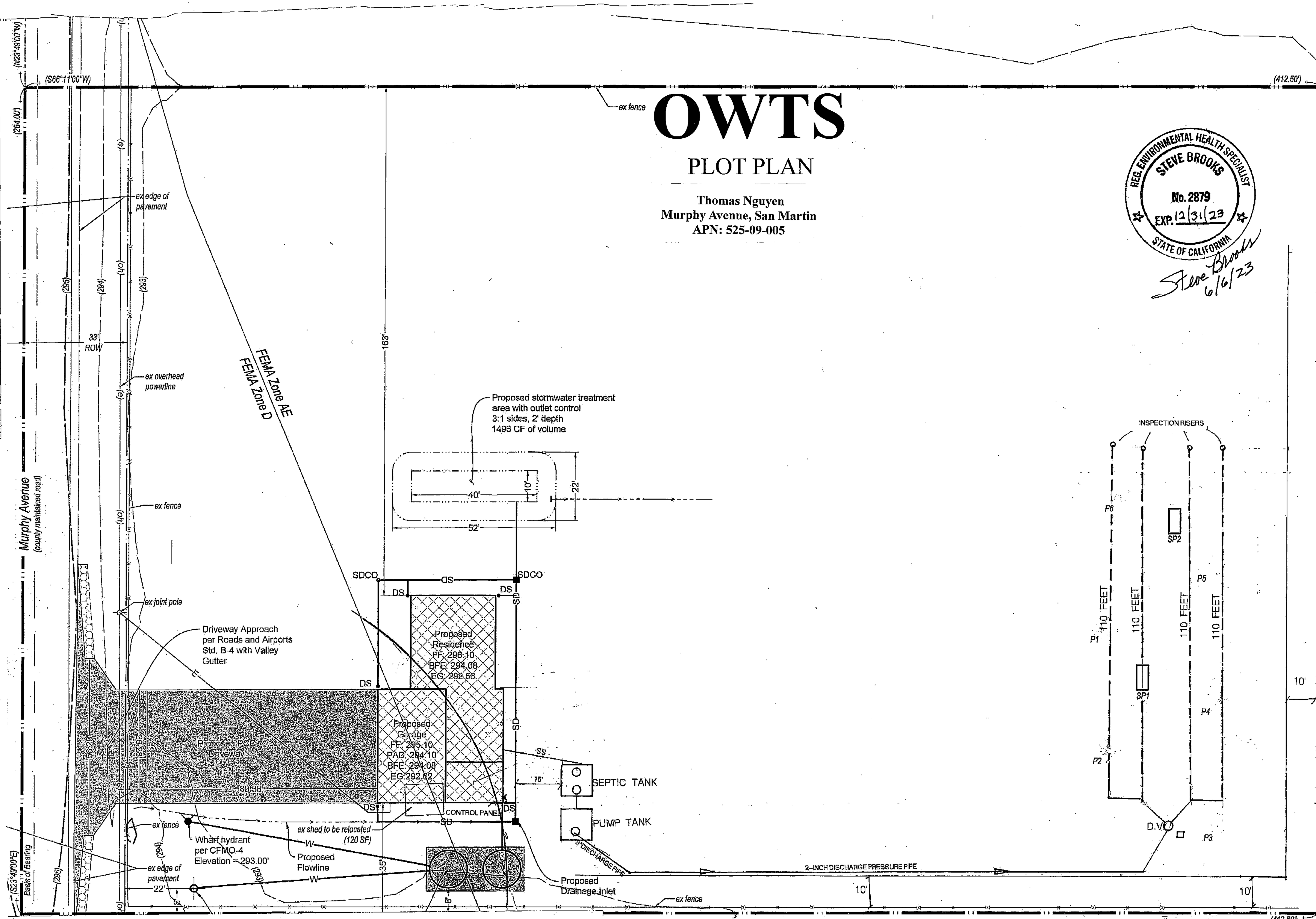
SHEET 1
OF 1

OWTS

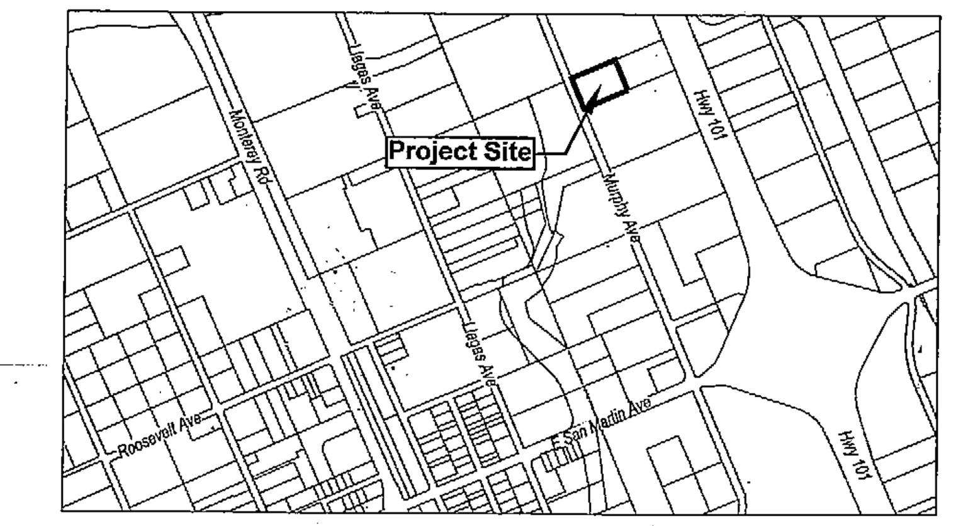
PLOT PLAN

Thomas Nguyen
Murphy Avenue, San Martin
APN: 525-09-005

REG. ENVIRONMENTAL HEALTH SPECIALIST
STEVE BROOKS
No. 2879
EXP. 12/31/23
STATE OF CALIFORNIA
Steve Brooks 6/6/23



SCALE: 1" - 20'



VICINITY MAP

SOIL PERCOLATION TEST RECORDED MEASUREMENTS

OWNER / APPLICANT: Than & Thomas Nguyen	SR #:	PLN FILE #:
LOCATION: Murphy Ave, San Martin	REHS: Mamaye Kebede	
CONTACT PERSON: Steve Brooks	PHONE: (408) 202 9234	DATE: 12-08-2021
APN 825-09-005		

HOLE # 1	DEPTH 3'0"					HOLE # 2	DEPTH 3'0"				
START	FINISH	START	FINISH	Δ MIN	Δ INCH	MPI	START	FINISH	START	FINISH	Δ MIN	Δ INCH	MPI
10:00	10:30	32.00	30.125	30	1.875	16.0	10:02	10:32	31.00	29.25	30	1.75	17.1
10:31	11:01	32.00	30.25	30	1.75	17.1	10:33	11:03	31.00	29.375	30	1.625	18.5
11:02	11:32	32.00	30.25	30	1.75	17.1	11:04	11:34	31.00	29.50	30	1.50	20.0
11:33	12:03	32.00	30.375	30	1.625	18.5	11:35	12:05	31.00	29.50	30	1.50	20.0
			AVG	30		17.6				AVG	30		19.5

HOLE # 3	DEPTH 3'0"						HOLE # 4	DEPTH 3'0"					
START	FINISH	START	FINISH	Δ MIN	Δ INCH	MPI	START	FINISH	START	FINISH	Δ MIN	Δ INCH	MPI
10:04	10:34	28.00	26.00	30	2.00	15.0	10:06	10:36	31.00	30.00	30	1.00	30.0
10:35	11:05	28.00	26.00	30	2.00	15.0	10:37	11:07	31.00	30.00	30	1.00	30.0
11:06	11:36	28.00	26.125	30	1.875	16.0	11:08	11:38	31.00	30.00	30	1.00	30.0
11:37	12:07	28.00	26.125	30	1.875	16.0	11:39	12:09	31.00	30.00	30	1.00	30.0
			AVG	30		15.7							

HOLE # 5	DEPTH 3'0"						HOLE # 6	DEPTH 3'0"					
START	FINISH	START	FINISH	Δ MIN	Δ INCH	MPI	START	FINISH	START	FINISH	Δ MIN	Δ INCH	MPI
10:08	10:38	31.00	30.00	30	1.00	30.0	10:10	10:40	26.00	25.125	30	0.875	34.3
10:39	11:09	31.00	30.00	30	1.00	30.0	10:41	11:11	26.00	25.25	30	0.75	40.0
11:10	11:40	31.00	30.00	30	1.00	30.0	11:12	11:42	26.00	25.25	30	0.75	40.0
11:41	12:11	31.00	30.00	30	1.00	30.0	11:43	12:13	26.00	25.25	30	0.75	40.0

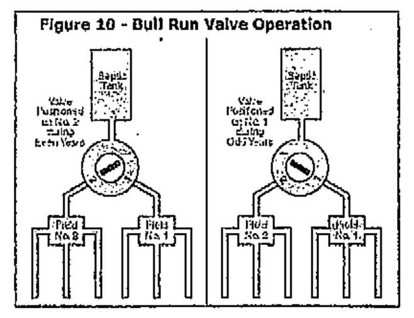
HOLE		1	2	3	4	5	6
Stabilized MPI	R	17.6	19.5	15.7	30.0	30.0	40.0
Adjusted Stabilized MPI	$R_1 = R \times 1.4$	24.6	27.3	22.0	42.0	42.0	56.0
Average Adjusted Stabilized MPI	$R_2 = (\Sigma R_1) / \#$ Holes	36					
# Bedrooms:	FOR OFFICE USE ONLY	Tank Size (Gal)		Leach line (Ft)			

SOIL PROFILE INSPECTION RESULTS

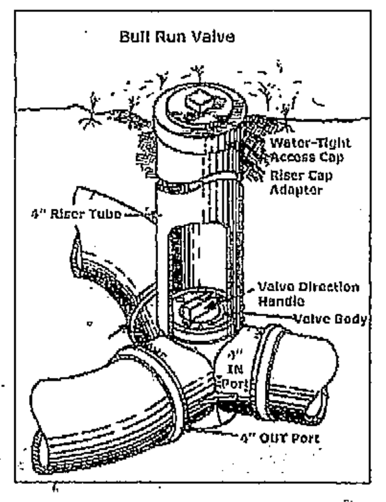
OWNER: Thomas Nguyen DATE OF INSPECTION: 11/16/22
ADDRESS: Murphy Ave CITY: San Martin
APN: 525-09-005 CONDUCTED BY: Morton CHECKED BY: Mamaye
Brooks - Wire

	HOLE # 1	HOLE # 2
0 ft.		
2 ft.	1' dobe Clay gravelly stiff w/ clay	Dark clayey; 3' - Change - signs of gravel - clayey
4 ft.		dark brown color
6 ft.	Gravel w/ cobbles clayey - sand	Change - Med brown; Silty clay -
8 ft.		7' - gravel - silty sandy increase gravel
10 ft.		10' - Same - dry - loose
12 ft.	11' same Sandy - gravel - loose	
14 ft.	Sandy loose v.s. damp gravel	13' - same v.s. moist
16 ft.	Terminate - v.s. moist (10:35)	16' Terminate same as #1 (10:50)
Comments:	No ground water observed	No ground water observed

Figure 10 - Bull Run Valve Operation



Bull Run Valve



1500-gallon Pinncale Tank (volume to the bottom of the tank lid)

	Height (inches)	Volume in Gallons (ignore baffles)	Volume in Gallons (with baffles)
	0	0	0
	1	25.754	24.778
	2	51.647	49.693
	3	77.681	74.744
	4	103.854	99.934
	5	130.168	125.261
	6	156.623	150.728
	7	183.219	176.33
	8	209.958	202.072
	9	236.835	227.953
(C)	10	263.855	253.973
	11	291.018	280.132
	12	318.323	306.432
	13	345.771	332.871
	14	373.362	359.451
	15	401.097	386.171
(D)	16	428.974	413.032
	17	456.998	440.034
	18	485.162	467.178
	19	513.472	494.463
(E)	20	541.927	521.891
	21	570.527	549.46
(F)	22	599.273	577.173
	23	628.163	605.028
	24	657.2	633.028
	25	686.383	661.168
	26	715.712	689.453
	27	745.188	717.882
	28	774.811	746.456
	29	804.581	775.174
	30	834.499	804.037
	31	864.564	833.045
	32	894.778	862.199
	33	925.14	891.498
	34	955.651	920.943
	35	986.31	950.534
	36	1017.119	980.272
	37	1048.076	1010.157
	38	1079.188	1040.189
	39	1110.444	1070.368
	40	1141.853	1100.695
	41	1173.412	1131.17
	42	1205.123	1161.793
	43	1236.984	1192.564
	44	1268.997	1223.485
	45	1301.162	1254.554
	46	1333.479	1285.773
	47	1365.948	1317.142
	48	1398.57	1348.66
	49	1431.345	1380.329
	50	1464.273	1412.148
	51	1497.355	1444.118
	52	1530.59	1476.239
	53	1563.98	1508.511
	54	1597.523	1540.935
	55	1631.222	1573.511
(B)	56	1665.075	1606.239
	57	1699.084	1639.118
	58	1733.248	1672.153
	59	1767.567	1705.339
	60	1802.043	1738.679
	61	1836.675	1772.172
	62	1871.464	1805.819
	63	1906.409	1839.62
	64	1941.512	1873.576
(A)	65	1976.772	1907.687

PUMP SYSTEM WORKSHEET

Applicant: Thomas Nguyen Date: May 29, 2023
Owner: Same File No.
Site Address: Murphy Av City: San Martin APN: 825-09-005
Designer (REHS or RCE): Steve Brooks REHS
Number of bedrooms ___ Total square footage of living space ___
Septic tank size: 1500 Installed drainfield: N/A Expansion drainfield: 100%

Elevation of highest drainfield (ft) 291
Elevation of pump off (ft) - 286
Total lift (Ft Head) = 5 (A)

TIGHT LINE
Diameter of tight line (inches) 2
Length of tight line from pump to upper drainfield (ft) 200 (B)

FITTINGS

No. of Fittings		Pipe Length Equivalent (ft) See chart	Total Pipe Equivalent (ft)
3 90° standard elbow	X	6	= 18
___ 45° standard elbow	X		=
___ 90° long radius elbow	X		=
___ other fittings Bull Valve	X		= 55
___ gate valve (fully open)	X		=
___ check valve (conventional swing)	X		= 13

Total Length of Pipe = B + C = 286 (D) TOTAL= 86 (C)

CALCULATIONS:

Friction Loss in Pipes and Fittings: (13.43 x 2.86)
(D/100 ft) x 3.43 (friction loss per chart) = 9.81 (E) Head in Feet

Required Pump Size:
5 (A) + 10 (E) = 15 (F) Total Pumping Head in Feet

Pump Size:
(F) versus GPM = Pump Size (refer to pump curve)

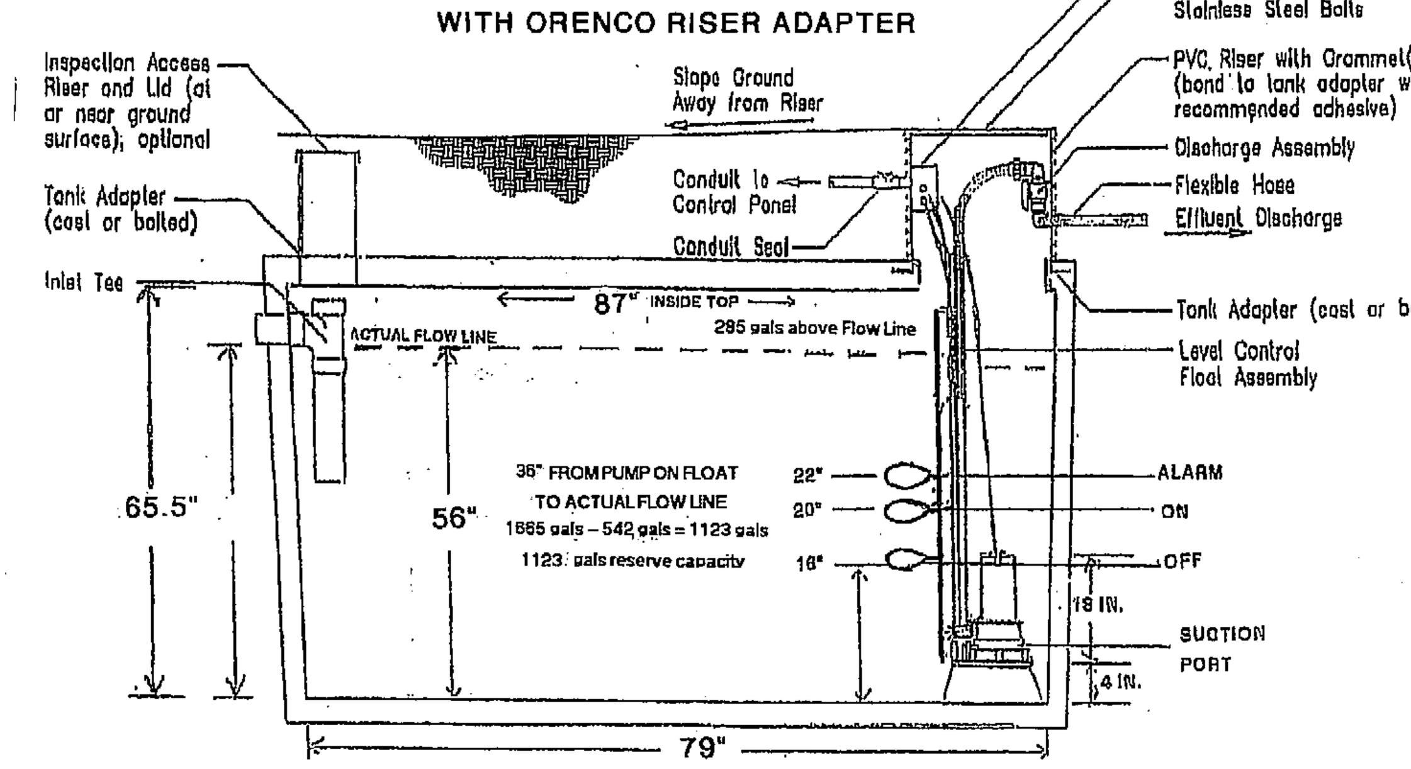
Pump Model: (Attach Pump Curve)
45 GPM at 17 (G) (ft of head: from pump curve) Manufacturer/Model Liberty LE41M

Required Capacity in Gallons
Dosing Volume 113
Storage Capacity (1 ½ days) 1435
Pump Displacement 5
Volume from tank bottle to pump base 105
Total tank capacity 1977 G

Pump Tank Information
Manufacturer: CHAPIN PRECAST Size: 1500 Gallons per Inch: 728

PUMP TANK

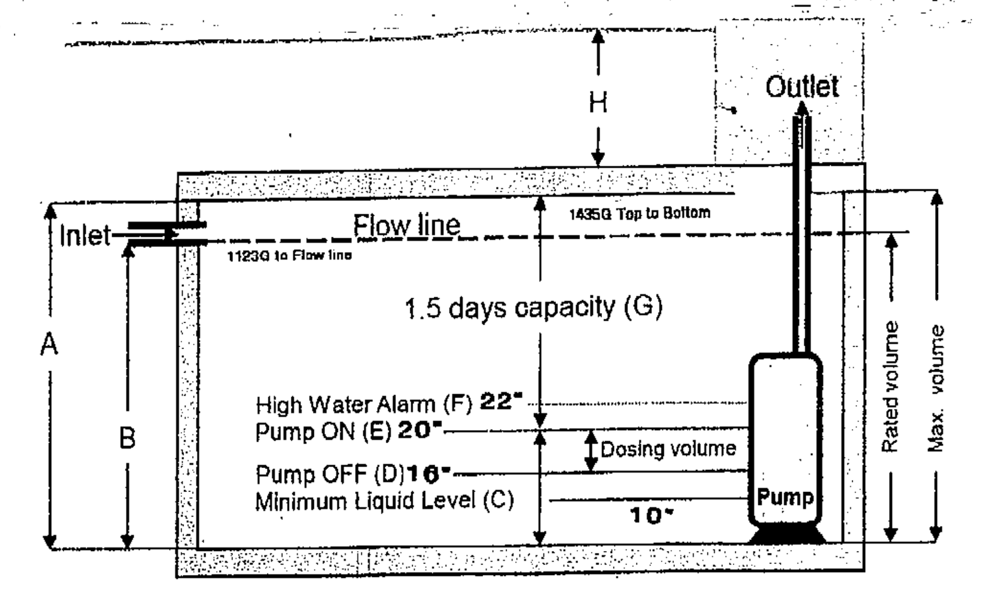
MODEL PS 1500 "PINNACLE WATER TIGHT" WITH ORENCO RISER ADAPTER



TANK	FLOWLINE CAPACITY	TOTAL CAPACITY	RESERVE CAPACITY
PS1500H	1665 GALS	1977 GALS	285 Above flow line

WATER – TIGHTNESS TESTING

Testing must be witnessed by a representative of the County Department of Environmental Health Services. Testing shall be done with the risers in place and the inlet and outlet pipes plugged. The tank shall be filled with water to a level two (2) inches into the risers, and monitored for a 1-hour period, with no measurable drop in the water level.



Pump Tank Manufacturer/Model:

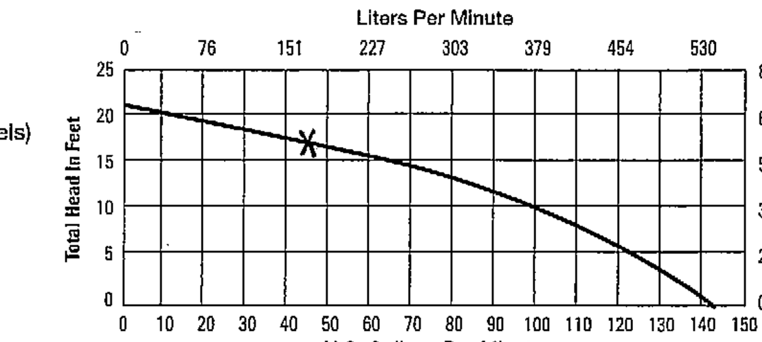
PINNACLE MODEL PS 1500 H-O

A	B	C	D	E	F	G	H
65.5"	56"	10"	16"	20"	22"	1435G	N/A
1977G	1665G	264G	429G	542G	599G		

PUMP CURVE

DIMENSIONAL DATA:
Weight: LE41M: 40 LBS.
Height: 14"
Major Width: 10.75" (manual models)
Maximum fluid temperature 140° F.

60 hz PERFORMANCE CURVE **1725 RPM**



SSPMA CERTIFIED
Specifications are subject to change without notice.

SIZING CALCULATIONS

NGUYEN

THREE BEDROOM HOUSE

STABILIZED PERCOLATION RATE

P1 = 25 MPI P2 = 28 MPI P3 = 22 MPI P4 = 42 MPI P5 = 42 MI P6 = 56 MPI
AVERAGE PERCOLATION RATE HOLES P1 – P6 = 36 MPI
WASTEWATER APPLICTION RATE = 0.52 GPD/SQFT

1. Wastewater design flow = 450 GPD
2. Stabilized percolation rate = 36 MPI
3. Wastewater application rate = 0.52 GPD/SQFT
4. Width of trench = 36 INCHES
5. Infiltration area per linear feet Quick 4 HC Infiltrator Chambers 6.6

DESIGN CALCULATIONS

450 GPD ÷ 0.52 GPD/SQFT = 866
866 ÷ 6.6 = 131

DUAL DISPERSAL FIELD REQUIRED FOR 3 BEDROOMS = 131 LF + 131 LF

DISPERSAL FIELD REQUIRED FOR 3 BEDROOMS + 2 BEDROOM ADU

450 GPD (Main House) + 300 GPD (ADU)
750 GPD ÷ 0.52 GPD/SQFT = 1443
1443 ÷ 6.6 = **218 LF + 218 LF**

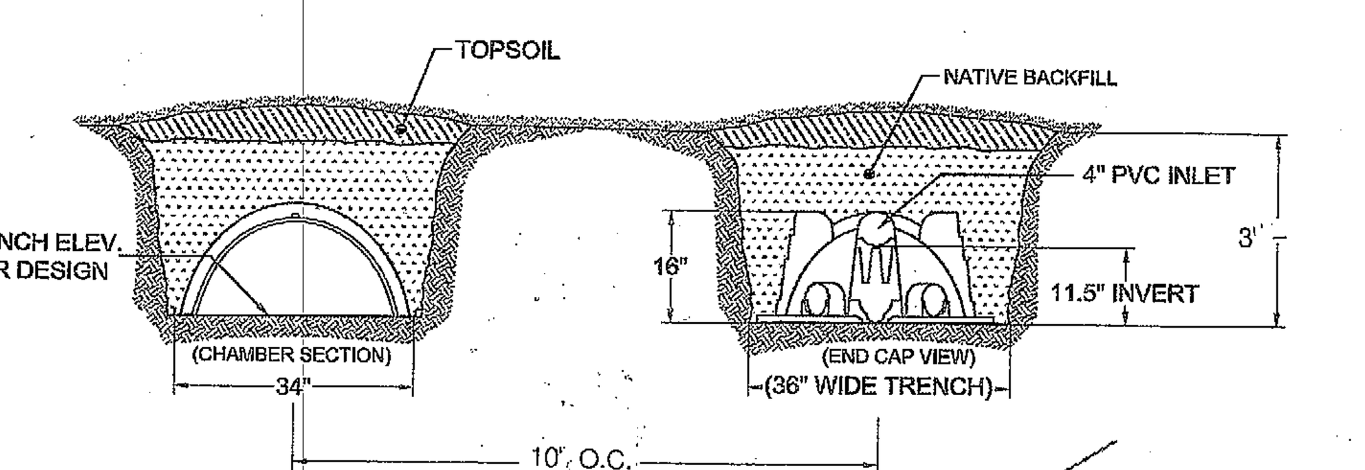
CONSTRUCTION NOTES

NGUYEN

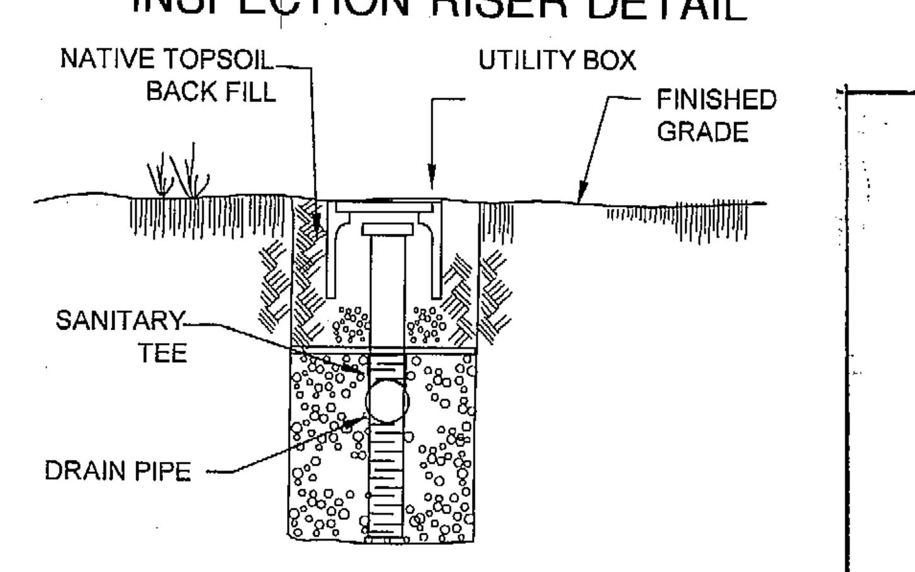
1. Install a Chapin Pre-Cast 1500-gallon concrete water tight Septic Tank Model IPS 1500 with 18-24 inch Orenco Adapter Risers to grade. The tank must have an approve Effluent Filter on outlet. The top of tank shall be 24-inches below EG.
2. Install a Chapin Pre-Cast concrete seamless pump tank Model IPS 1500H adjacent tot the septic tank as shown. The top f tank shall be 24-inches below EG.
3. Both tank must pass the water tightness test required by county (see details)
4. Connect the outlet of the Septic tank to inlet of pump tank as shown.
5. Install a Liberty Submersible Effluent Pump Model LE41M-2within the pump tank.
6. Install a Rhombus 1 PH Simplex Panel w/magnetic contractor, circuit breaker, alarm horn & beacon, (8-5), NEMA 4x enclosure & 3 N/O float switches, Auxiliary alarm contact (1020094) Install the control Panel on the house exterior wall nearest to the pump tank.
7. Connect the 2-inch PVC Sch. 80 discharge from the pump tank to the diversion valve approximately 200 feet from pump tank. The pipe shall be 10' to 12' from the existing fence and a minimum of 24-inches below grade. Markers shall be set each 50 feet to mark pipe location.
8. Connect the 2-inch discharge pipe to the inlet of the Diversion Valve 12-inches below grade.
9. Connect each outlet of the Bull Run Diversion Valve to the dispersal field as shown using a 4-inch PVC pipe. Water from the Diversion Valve shall flow by gravity (not pressure) to the dispersal field.
10. Install a 4" x 4" RW post embedded in concrete with 2 feet of the diversion valve. The post shall be a minimum of 4 feet high.
11. Install a dual dispersal field of 220 linear feet on each side of the diversion valve.
12. Dispersal field shall consist of Quick 4 HC Infiltrator Chambers.
13. Each trench shall be spaced 10 feet apart as measured from center to center and shall not exceed 36-inches in depth.
14. Install an Inspection Riser at the end of each trench.
15. No portion of the OWTS shall be within 10 feet of a well.

INFILTRATOR DETAIL

INFILTRATOR WATER TECHNOLOGIES
QUICK4 PLUS HIGH CAPACITY CHAMBER
TYPICAL TRENCH DETAIL
SECTION VIEW
(NOT TO SCALE)



INSPECTION RISER DETAIL



END VIEW

MH engineering Co.
16075 Vineyard Boulevard Morgan Hill, CA 95037

Site Plan
Murphy Ave - APN 825-09-005

DATE:	4/18/23
SCALE:	1"=20'
DRAWN BY:	DY
CHECKED BY:	DF
JOB NO.	223008
SHEET	1
OF	1