



A.M. BAIRD

ENGINEERING & SURVEYING, INC.

1257 Main Street • P.O. Box 396 • Fortuna, CA. 95540 • (707) 725-5182 • Fax (707) 725-5581

CONSULTING - LAND DEVELOPMENT - DESIGN - SURVEYING

SEPTIC DISPOSAL DESIGN

Standard Conventional Class "D"

3-Bedroom Residence

Primary and Reserve Field

PREPARED FOR

Greg Ester

APN: 211-184-006

Main House

West Area of Panther Gap



HUMBOLDT COUNTY, CA

PREPARED BY:

ALLAN M. BAIRD, RCE 23681



July 19, 2021
Job# 15-4310-6

Apps # 10820

July 19, 2021

Humboldt County Department of Environmental Health
100 H Street, Suite 100
Eureka, CA 95501

SUBJECT: CLIENT: Greg Ester
Design for a **conventional, CLASS D SEPTIC SYSTEM.**
APN: 211-184-006, Humboldt County, CA.

INTRODUCTION

The following septic design report is being submitted for the above referenced property in the western region of Panther Gap, CA. The following design is furnished to satisfy the requirements for an individual septic disposal system as required by the County of Humboldt. This office is preparing as-built plans for the existing 3-bedroom house. Soil analyses and percolation testing were conducted in October 2015.

SITE AND SOILS DESCRIPTION

The total area of the parcel is ± 41.5 acres. Access to the parcel will be provided via Panther Gap. The proposed lot has widely varying slopes with exposure generally from the south. There are several areas on the property where the slopes are less than 30%.

Two trenches have been excavated by backhoe to depths greater than eight feet and soil samples were taken from each distinct layer: locations shown on the site plan (TH#1 & TH#2). No evidence of soil mottling or groundwater was observed.

Laboratory texture analysis of the samples revealed Zone 2 Loam at both test holes. The soils at both test depths are suitable for leaching. These soil profiles are assumed to be representative of the entire designed leach area. See enclosed sheets for subsurface texture analysis data.

DESIGN RESULTS

There is an existing leach field at the location shown on the site map, our office has been informed that the field consists of three-foot infiltrators, but the lengths are unknown. Based on field observations and proximal soil analyses, no evidence of groundwater was found.

Based on the site investigation, there is plenty of room and suitable soils for a standard design if deemed necessary. Should the existing leach field be determined inadequate, the required length of leach line to treat the effluent for a 3-bedroom residence with 5.0-foot-deep, 2.0-foot-wide trenches, septic lines at a depth of 2.0 feet

and 3.0-feet of gravel depth below leach lines is 210-ft for both the primary and reserve fields. The primary and reserve field designs each consist of 3 lines with lengths of 70 feet as shown on the attached site map.

Leach lines should be placed parallel to contour lines and shall be 10 feet away from adjacent leach lines, structural foundations, and property lines. Additionally, they cannot be placed under driveways and must be set back 25 feet from any slopes dropping over 30%. A 1,500-gallon minimum capacity septic tank will be required for storage of waste. It is recommended that all surface water drainage from surrounding structures be diverted away from the location of the sewage disposal fields. Enclosed are the following items:

- A design evaluation summary
- Site & location maps with disposal field locations
- Soil texture sheet for TH#1 & TH#2
- Typical trench cross-section
- Minimum setbacks for septic tanks and disposal fields

Please feel free to contact this office should any questions arise concerning this report (707) 725-5182.

Sincerely,



Allan M. Baird
Principal, RCE# 23681



**SITE EVALUATION REPORT
INDIVIDUAL SEWAGE DISPOSAL SYSTEMS DESIGN**

DATE: 5/16/16
AP#: 211-184-006
WATER SUPPLY: Private
SITE ADDRESS: TBA
CITY:

OWNER: Greg Ester
CLIENT: Greg Ester
MAIL: 600 F Street #3, Box 208
CITY: Arcata, CA 95521
PHONE NUMBER: (707) 599-7705

SINGLE FAMILY RESIDENCE / NO. OF BEDROOMS (N): **3 (450 GPD)**

	EXISTING FIELD	PROPOSED FIELD
<u>LOCATION:</u>	TH#2	TH#1
<u>SLOPE:</u>	>10%	0-5%
<u>DEPTH:</u>	5 Feet	5 Feet
<u>TEXTURE ZONE:</u>	Zone 2	Zone 2
<u>USDA CLASS:</u>	Loam	Loam
<u>DEPTH TO WATER TABLE:</u>	>8 feet (no mottling observed)	>8 feet

STANDARD CONVENTIONAL DESIGN, CLASS D

DEPTH OF PIPE: 1.25 ft
DEPTH OF GRAVEL (D): 3 ft below pipe (standard)
TRENCH WIDTH (W): 1.5 ft (standard)
ABSORPTION AREA (A_T): 0.363

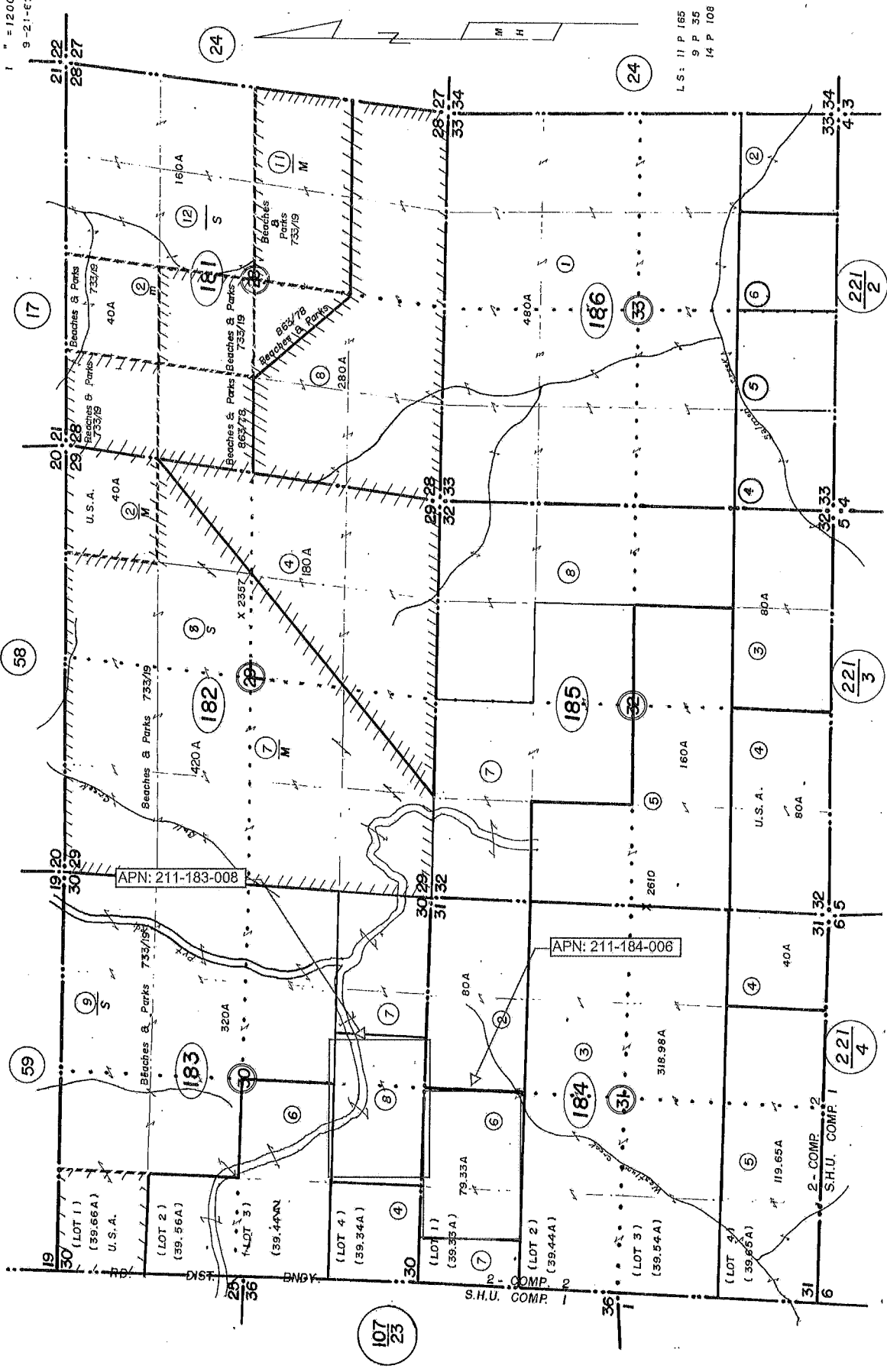
Primary LINEAR FT. OF SYSTEM: $450/(A_T \cdot 2 \cdot D) = 450 / (0.363 \cdot 6) =$ **69-ft**

Reserve LINEAR FT. OF SYSTEM: $450/(A_T \cdot 2 \cdot D) = 450 / (0.363 \cdot 6) =$ **69-ft**

DESIGN SUMMARY: **THREE 70-ft lengths: Primary Field**
 THREE 70-ft lengths: Reserve Field

SECS 28, 29, 30, 31, 32 & 33, 2S 2E

211-18
 T.C.A. 156-04
 1" = 1200'
 9-21-82



L.S.: 11 P 165
 9 P 36
 14 P 108

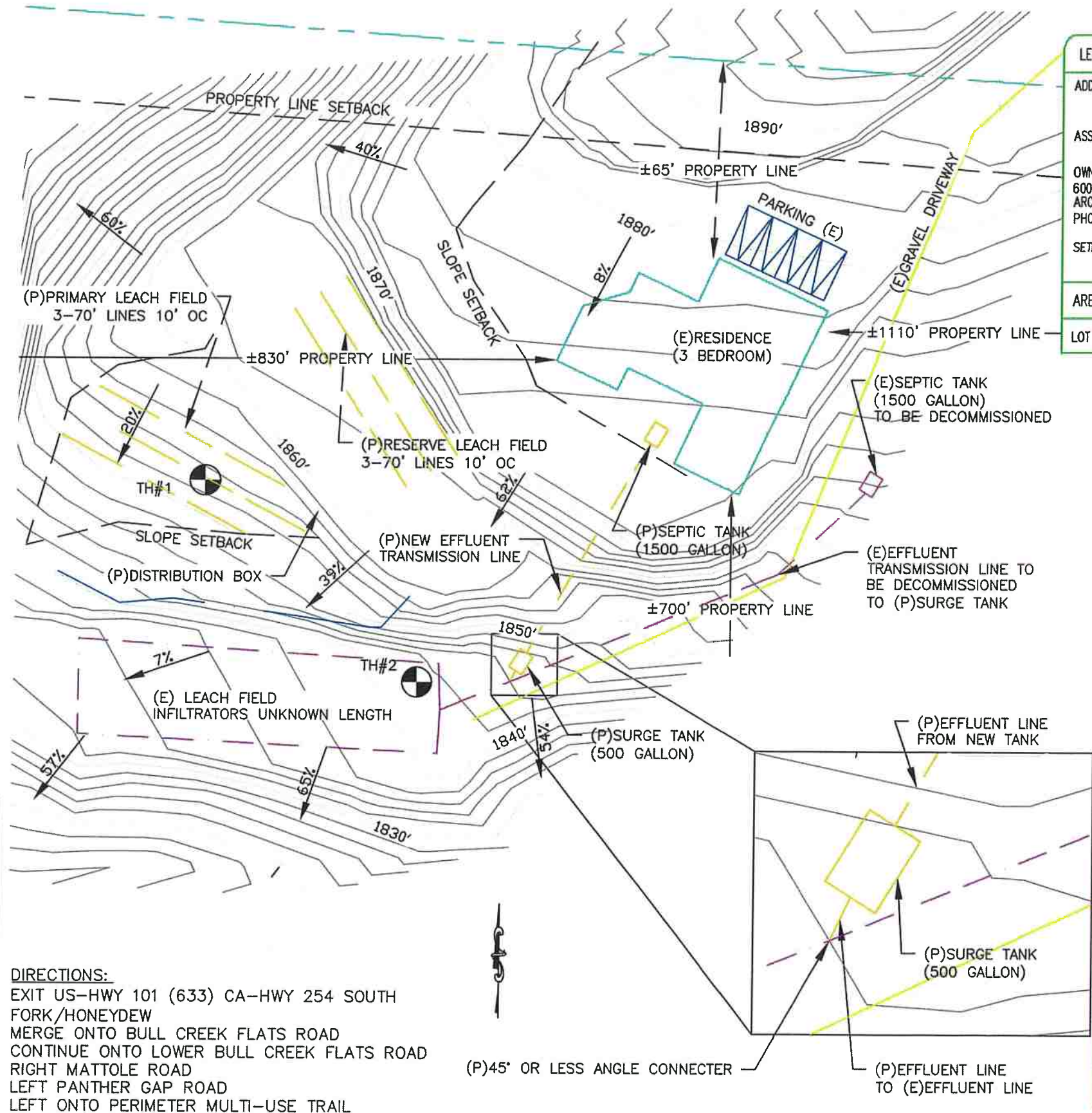
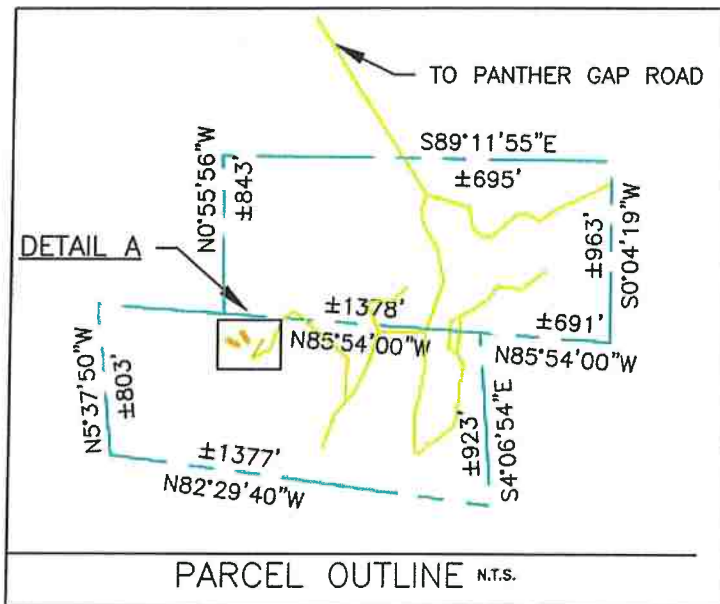
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NOTES

1. PROPERTY LINES WERE SURVEYED
2. BUILDING SETBACKS: 30' PERIMETER
3. NO EASEMENT
4. NO TREES TO BE REMOVED
5. STREAMS DO NOT EXIST WITHIN DEVELOPMENT AREA
6. SEPTIC FIELDS MUST BE AT LEAST 50 FT FROM ALL PROPERTY LINES, 100 FT FROM ALL STREAMS, SPRINGS, AND WELLS, 25 FT FROM SLOPES GREATER THAN 30%, AND 10 FEET FROM BUILDING FOUNDATIONS
7. SEPTIC TANK MUST BE AT LEAST 25 FT FROM ALL PROPERTY LINES, 100 FT FROM ALL STREAMS, SPRINGS, AND WELLS, 25 FT FROM SLOPES GREATER THAN 30%, AND 5 FEET FROM BUILDING FOUNDATIONS
8. BUILDING PLANS AND PARKING ASSUMED FOR SEPTIC DESIGN PURPOSES ONLY. AS-BUILT CONSTRUCTION PLANS UNDER DEVELOPMENT AS OF THE DATE OF THIS SEPTIC DESIGN

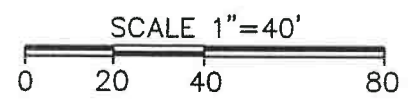
Legend:

PROPERTY LINE	
SETBACK	
(P) SEPTIC	
(E) SEPTIC	
SLOPEBREAK	
TEST HOLE LOCATION	
PROPOSED	(P)
EXISTING	(E)



DIRECTIONS:
 EXIT US-HWY 101 (633) CA-HWY 254 SOUTH
 FORK/HONEYDEW
 MERGE ONTO BULL CREEK FLATS ROAD
 CONTINUE ONTO LOWER BULL CREEK FLATS ROAD
 RIGHT MATTOLE ROAD
 LEFT PANTHER GAP ROAD
 LEFT ONTO PERIMETER MULTI-USE TRAIL

SEPTIC SITE PLAN (DETAIL A)



LEGAL
ADDRESS: PANTHER GAP HONEYDEW, CA
ASSESSOR'S PARCEL NUMBER: 211-184-006
OWNER: GREG ESTER 600 F ST. #3 BOX 208 ARCATA, CA 95521 PHONE: 707-599-7705
SETBACK: 30' PERIMETER
AREA ANALYSIS
LOT SIZE: ±41.5 AC

DISCLAIMER:
 MAPPING INFORMATION PROVIDED IS FOR SEPTIC DESIGN PURPOSES ONLY.
 THIS SITE PLAN REFLECTS MANY MAPPING DETAILS THAT ARE USEFUL TO ASSURE THAT THE SEPTIC DESIGN IS LOCATED APPROPRIATE TO ITS SURROUNDINGS. HOWEVER, NONE OF THE INFORMATION SHOWN IS IMPLIED TO SUGGEST OR SUBSTITUTE FOR A CONTRACTED ACTUAL LAND SURVEY.
 A. M. BAIRD, ENGINEERING AND SURVEYING, INC. ASSUMES NO RESPONSIBILITY ARISING FROM THE USE OF INFORMATION PROVIDED, OTHER THAN WHAT HAS BEEN SPECIFICALLY INTENDED FOR THE SEPTIC DESIGN.

 A.M. Baird Engineering & Surveying, Inc. 1257 Main Street, P.O. Box 396, Fortuna, CA 95540, (707) 725-5182	
GREG ESTER AP# 211-184-006 PANTHER GAP, HONEYDEW CA SINGLE FAMILY RESIDENCE SEPTIC SITE PLAN	NO. DATE DESCRIPTION REVISIONS
SCALE: 1" = 40' DRAWN BY: PDS CHKD: A.M.B. DATE: 7/19/2021	JOB # 15-4310-6 SHEET # 1 of 1



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CONSULTING - LAND DEVELOPMENT - DESIGN - SURVEYING

WORKSHEET FOR SOIL TEXTURE

Project: ESTER

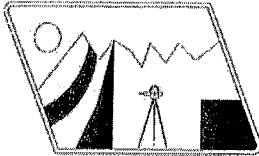
by: PDS

AP#: 211-184-006

Lab Test Date: 10/12/2015

1	2	SAMPLE NUMBER
1	1	TEST HOLE
3	5	Depth (ft)
889	862.8	TOTAL SAMPLE WEIGHT (gm)
544.1	473	Coarse Weight (gm)
75	75	A. Owendry Weight (gm)
9:55	9:57	B. Starting Time (hr:min:sec)
71	71	C. Temp @ 40 sec. (°F)
55	56	D. Hydrometer Reading @ 40 sec. (gm/l)
-5.9	-5.9	E. Composite Correction (gm/l)
49.1	50.1	F. True Density @ 40sec. (gm/l), (D-E)
70	69	G. Temp @ 2 hrs. (°F)
28	30	H. Hydrometer Reading @ 2hrs. (gm/l)
-6.1	-6.3	I. Composite Correction (gm/l)
21.9	23.7	J. True Density @ 2 hrs. (gm/l), (H-I)
34.5	33.2	K. % Sand = $100 - [(F/A) \times 100]$
29.2	31.6	L. % Clay = $(J/A) \times 100$
36.3	35.2	M. % Silt = $100 - (K + L)$
LOAM	LOAM	N. USDA Texture
2	2	O. Soil Percolation Suitability Chart Zone
65.5	66.8	P. Combined % Silt and Clay
61.2	54.8	Q. Coarse % by weight
9.1	7.9	R. % Coarse Adjustment*

* [(.2)(.00003Q^3+.0006Q^2+.5968Q-.0941)]



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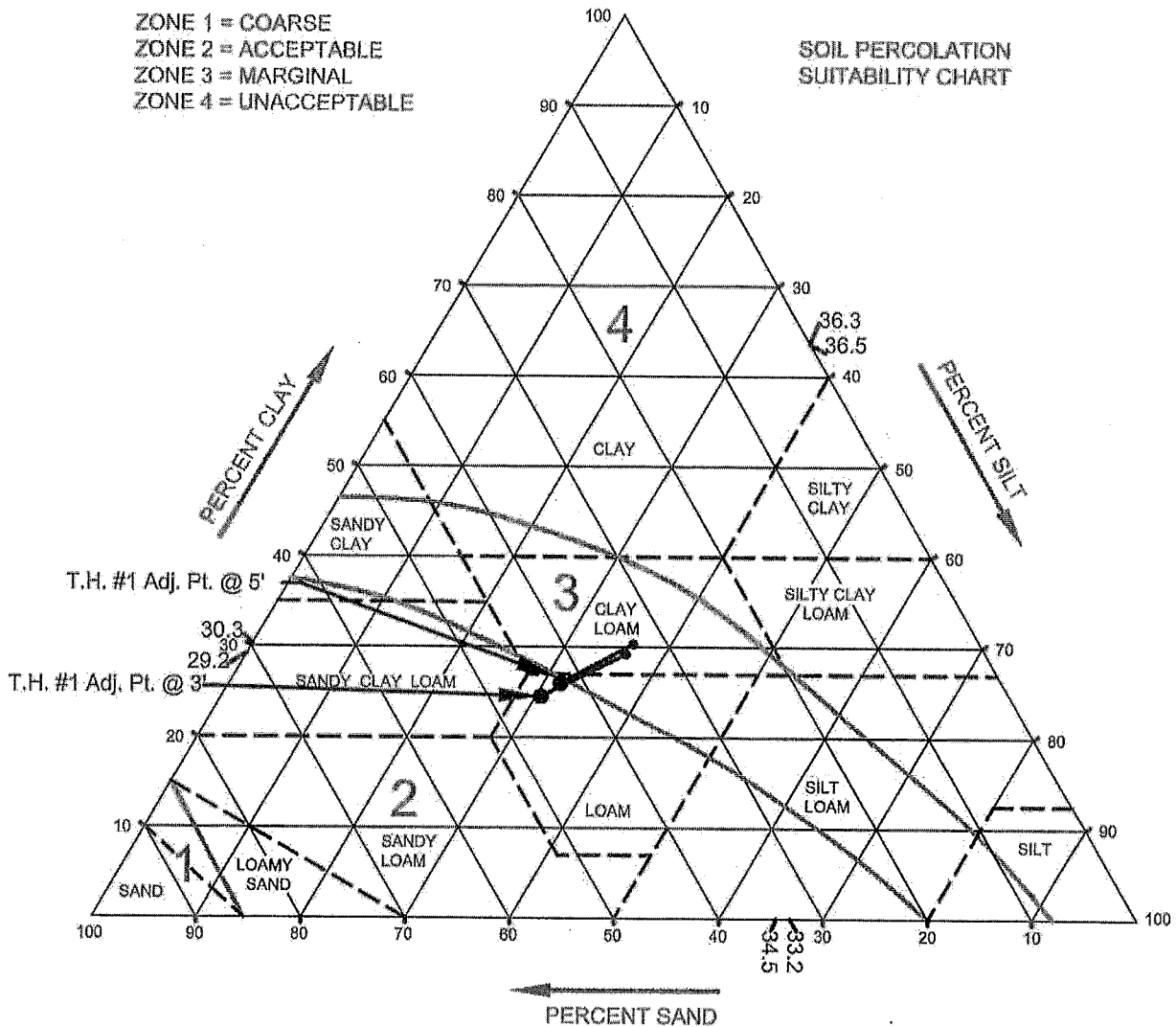
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CLIENT: ESTER

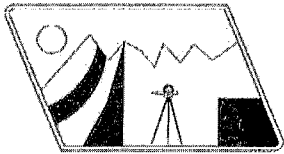
DATE: 10/12/2015

APN: 211-184-006



1. COARSE ADJUSTMENT: T.H. #1 @ 3' = 9.1%; T.H. #1 @ 5' = 7.9%

2. BULK-DENSITY ADJUSTMENT: NOT TESTED



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CONSULTING - LAND DEVELOPMENT - DESIGN - SURVEYING

SEPTIC DESIGN: TYPICAL X-SECTION

CLIENT: GREG ESTER

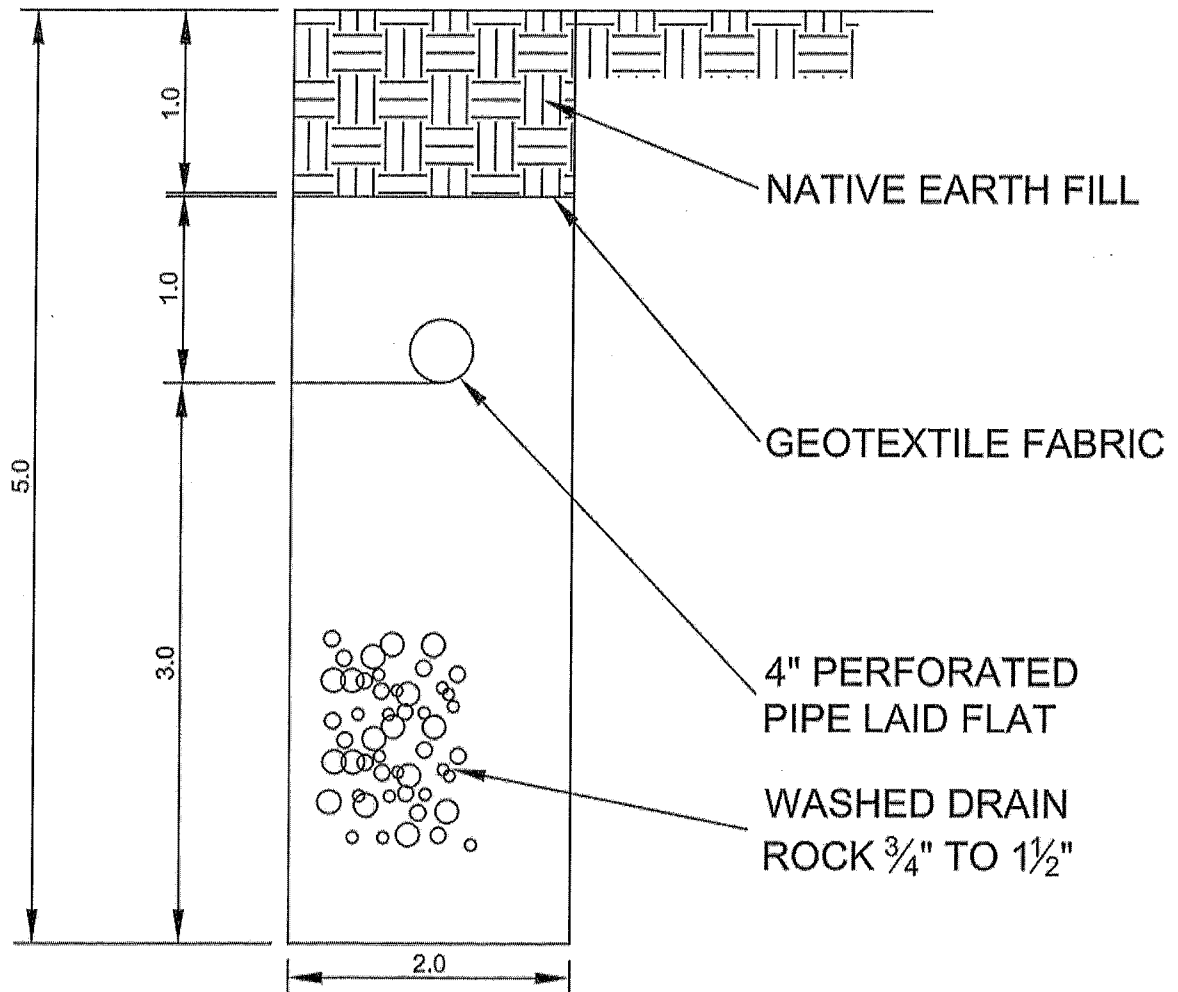
APN 211-184-006

JOB#: 15-4310-6

& 211-183-008

DATE: MAY 17, 2016

BY: ASB



TRENCH X-SECTION
NOT TO SCALE

SETBACKS FOR SEPTIC TANKS AND DISPOSAL FIELDS

	Property on Public Water System		Property on Individual Water System	
	Septic Tank (ft.)	Disposal Field (ft.)	Septic Tank (ft.)	Disposal Field (ft.)
Property Line	5	10	25	50
Foundation of Building or outside wall of Mobile Home	5	10	5	10
Wells, Springs, Ocean, Lake or Reservoir	100	100	100	100
Perennial stream (1)	100	100	100	100
Ephemeral stream (2)	50	50	50	50
Fill area, top of cuts, or edge of steep slopes (3)	25	25	25	25
Unstable Land Forms	50	50	50	50
Swimming Pools	25	50	25	50

(1) As measured from the line which defines the limit of a 10-year Frequency Flood.

(2) Measured from the edge of the water source.

(3) Where soil depth or depth to groundwater below the leaching trench is less than five (5) feet, a minimum set-back distance of fifty (50) feet shall be required.