

O.S.T. SYSTEM DESIGNS, Inc.

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March 15, 2017

Mariposa County Health Dept.,
Environmental Health Services
Dave Conway
PO Box 5
Mariposa CA 95338

Re: **A Soils Report for Land Division Application # _____**
Applicant: Metropolis Property Group
Site: 4980 Hummingbird Lane, Cathey's Valley CA
APN#: 012-160-082
Tentative Parcel Map by: Freeman & Seaman Land Surveyors

INTRODUCTION:

The proposed Land Division is located near the intersection of Hummingbird Lane and State Highway 140 in Cathey's Valley, CA. A previous Soils Report dated February 13, 2015 addressed Parcels A, B, C & D. This report addresses the Remainder which is 85.69 Acres.

The purpose of the Sewage Feasibility Investigation and Soils Report is to address the feasibility of sewage dispersal using an Individual On-Site Sewage Treatment System (OSTS) on the Parcel labeled as **REMAINDER**. A Sewage Reserve Area meeting County Guidelines for Waste Disposal from Land Developments has been sized based on the Soils Analysis Data collected and County Policies.

SITE DESCRIPTION:

The proposed Parcel has plenty area available for building and sewage dispersal. Vegetal growth consists of Pine, Oak, and Manzanita Trees as well as native brushes, grasses and dense patches of Poison Oak. Site restrictions in the area selected for a Sewage Reserve are limited to soil depths (Bedrock Refusal) and an ephemeral drainage that is located well over 100 Ft away. Please see Tentative Parcel Map by Freeman & Seaman Land Surveyors for Topography, Contours, Vicinity Map, etc., dated March 2015.

SOILS ANALYSIS:

The Soils Analysis consisted of using a medium sized excavator to excavate and analyze two soil profile test pits and conducting four percolation tests. **Table A** below summarizes the Remainder Parcel information and Soils Analysis data as well as the size of Sewage Reserve Area required. The soil profile test pits and percolation test sites have been plotted on the attached Soils Report Plot Plan.

Soil Profiles

The Soil Profiles found that the top 60 inches of top soil consists of a slightly moist brown to dark brown, loose Ahwahnee-Auberry Rocky Sandy Loam mixed with fractured rock (SM) followed by an underlying layer of mostly fractured rock and bedrock refusal at 7.5 Ft within the proposed Sewage Reserve Area. There was no evidence of seasonal ground water encountered.

Percolation

Tests

Percolation Tests were conducted at depths ranging from 1.5 – 3.0 Ft. Six-inch diameter Percolation holes were bored out using a Bobcat – Toolcat 5600 and a 6” auger. All percolation holes were presoaked for a period of at least 24 hours and tested at thirty-minute intervals for 3 hours.

TABLE A
Parcel & Soils Analysis Data Summary

Parcel #	Lot Size (Gross) Acres	# Perc Tests	Perc Test Depths (Ft)	Avg. Perc Rate (MPI)	Sewage Reserve Area Required	# Soil Profiles	Soil Profile Depth (Ft)
A	6.00	4	2.5– 3.5	12.79	8,000 Ft ²	2	5.0 & 5.0
B	7.89	4	2.5– 3.5	19.87	8,000 Ft ²	2	6.0 & 5.0
C	5.18	4	2.5– 3.5	23.57	10,000 Ft ²	2	5.0 & 5.0
D	10.10	4	2.5– 3.5	28.74	10,000 Ft ²	2	8.0 & 8.0
Rem.	85.84	N/A	1.5 – 3.0	16.10	8,000 Ft ²	2	7.0 & 7.5

Note: Usable Sewage Reserve Areas were sized per Mariposa County Health Department Policy: 03-01.

PARCEL INFORMATION

PARCEL "REMAINDER"

The proposed Sewage Reserve Area on this **85.69 Acre Parcel** has slopes ranging from 5 - 10 % and natural contours which are ideal for leach line configuration, within the area tested for sewage disposal. Native grasses, Manzanita, Oak, and Pine trees are scattered throughout. The soils analysis data collected indicates that a conventional OSTS designed and permitted by the Mariposa County Environmental Health Department will be used to treat and disperse residential type wastewater on this proposed Parcel using Shallow At-Grade Leach Field. The OSTS should be sized based on the soils analysis data, number of bedrooms, and County Policy. The attached soils analysis data collected supports this recommendation.

- **Average Percolation Rate: 28.74 MPI**
- **Minimum Usable Sewage Reserve Area Required: 10,000 Ft²**
- **Recommended Total Trench Depth for a Rock Leach Field: 2.0 Ft**
- **Site Restrictions:** Shallow Soils, an ephemeral drainage/swale. There were no other site restrictions noted.

CONCLUSION AND RECOMMENDATIONS

The Soils Analysis conducted indicates the soils found on-site are an excellent medium for Sewage Dispersal from residential type sewage effluent using a standard/conventional County Designed On-Site Sewage Treatment Systems. OSTS Installers should follow the recommendations noted above.

Septic Tank sizing shall meet current County Requirements. All County drainage, well and boundary setback requirements should be complied with.

Testing was performed per the Mariposa County Rules and Regulations Governing On-Site Sewage Disposal Systems, Land Division Applications.

Limitations:

Recommended Design Criteria is based on field data collected and does not reflect variations, which may occur between weather seasons and areas tested. The extent of variation may not become evident until the property development has been commenced. The client should recognize that exposure of unexpected adverse conditions would require additional costs at the rate of \$125.00 per hour, portal-to-portal. Services performed by O.S.T. System Designs, Inc. have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.

Please contact me at 559-288-8494 if you have any questions regarding this report.

Respectfully Submitted,

ARMANDO G. FLORES
Registered Environmental
Health Specialist #6579

Enclosed:

1. Percolation Test Data
2. Soil Profile Data
3. A Soils Report Site Plan indicating Test Sites, Site Restrictions, and Sewage Reserve Area.

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PERCOLATION TEST DATA SHEET

Property Owner Name : Metropolis Property Group APN # 012 160 082

Location : 4980 Hummingbird Lane, Cathey's Valley CA Diameter of Holes: 6"

Start Time	Ref. Point	Refilled Yes / No	Time Elapsed (minutes)	Water Level Difference	Drop In Inches	Drop In MPI	Comments:
PERC # 1			Depth of Perc 1.0 - 1.5 Ft				
10:00 am	18"	y	30	21 1/3"	3 1/2"	9.6	Pre-soak: 3/2/17 - 10:00 am
10:30	18"	y	30	20 1/2"	2 1/2"	12	Test: 3/3/17 - 10:00 am
11:00	18"	y	30	20 1/2"	2 1/2"	12	
11:30	18"	y	30	20 3/8"	2 3/8"	12.67	12.67 mpi
12:00	18"	y	30	20 3/8"	2 3/8"	12.67	
12:30	18"	y	30	20 3/8"	2 3/8"	12.67	
PERC # 2			Depth of Perc 2.5 - 3.0 Ft				
	60"	y	30	61 7/8"	1 7/8"	16.0	
	60"	y	30	61 1/2"	1 1/2"	20.0	
	60"	y	30	61 1/2"	1 1/2"	20	
	60"	y	30	61 1/4"	1 1/4"	24	24.0 mpi
	60"	y	30	61 1/4"	1 1/4"	24	
	60"	y	30	61 1/4"	1 1/4"	24	
PERC # 3			Depth of Perc 1.5 - 2.0 Ft				
	44"	y	30	48 1/2"	4 1/2"	6.67	
	44"	y	30	48"	4"	7.5	
	44"	y	30	48"	4"	7.5	
	44"	y	30	48"	4"	7.5	7.74 mpi
	44"	y	30	47 7/8"	3 7/8"	7.74	
	44"	y	30	47 7/8"	3 7/8"	7.74	
PERC # 4			Depth of Perc 2.0 - 2.5 Ft				
	28"	y	30	29 3/8"	1 3/8"	16	
	28"	y	30	29 1/2"	1 1/2"	20	
	28"	y	30	29 1/2"	1 1/2"	20	
	28"	y	30	29 1/2"	1 1/2"	20	20.0 mpi
	28"	y	30	29 1/2"	1 1/2"	20	
	28"	y	30	29 1/2"	1 1/2"	20	Avg Perc: 16.1 mpi

O.S.T. SYSTEM DESIGNS, INC. SOIL PROFILE LOG

PROPERTY OWNER(S): Metropolis Property Group

LOCATION: 4980 Hummingbird Lane, Cathey's Valley CA **APN #:** 012-160-082

DATE: March 2, 2017

EQUIPMENT USED: BACKHOE

SOIL PROFILE/DESCRIPTION	
DEPTH	SOIL PROFILE # 1
0_	Brown to dark brown, slightly moist, fine grained Ahwahnee-Auberry Rocky sandy loam (SM). Slight plasticity
2_	
4_	
6_	
8_	
10_	Bedrock Refusal at 7.0 Ft. Tree roots visible to 5.5 Ft.
12_	
14_	
16_	
16_	
DEPTH	SOIL PROFILE # 2
0_	Brown to dark brown, slightly moist, fine grained Ahwahnee-Auberry Rocky sandy loam (SM). Slight plasticity.
2_	
4_	
6_	
8_	
10_	Brown/red slightly moist med. to coarse grained sandy DG Bedrock Refusal at 7.5 Ft. Tree roots visible to 6.5 Ft.
12_	
14_	
16_	
16_	