County of Routt
COLORADO

136 6th Street, 2nd Floor, Steamboat Springs, CO 80487
Phone: (970) 870-5588

PERMIT FOR ON-SITE WASTEWATER SYSTEM - NEW

Date: **1/20/2021**

Permit No. S-21-104

Parcel ID: **924181001**

Tank Type:

Permit Fee: **$600.00**

Minimum Tank Size:

Service Location: **25545 COUNTY ROAD 56, STEAMBOAT SPRINGS**

Bedrooms:

Type of Work: **On-Site Wastewater System - New**

Owner Name: **KURTZ, PETER L. & MARY B. (JT)**

Type of Occupancy: **Residential**

Owner Address: 25545 COUNTY ROAD 56

STEAMBOAT SPRINGS CO 80487-9424

Work Description: **New construction 2 bedroom residence. Soil Type 0. 3-foot deep sand filter pressure dosed. 1,000 gallon concrete tank with 400 gallon dosing tank or 3 chamber 1,250 gallon FLXX.**

As authorized and required by 25-10-101, et seq. C.R.S., permission is hereby granted to the owner or a Routt County On-Site Wastewater Treatment System (OWTS) installer to construct or repair an OWTS system at the property indicated above. All work must comply with the specifications on this permit and the Routt County On-Site Wastewater Treatment System Regulations. This permit expires one year from the date of issue.

Applicant: **KURTZ, PETER L. & MARY B. (JT)** Phone#

Address: **25545 COUNTY ROAD 56** City/State/Zip: **STEAMBOAT SPRINGS CO 80487-9424**

NOTICE: All tanks and vaults must meet Design Criteria as specified in Section 43.9 of the Colorado Department of Public Health and Environment Water Quality Control Commission On-Site Wastewater Treatment system Regulation #43 (5 CCR 1002-43). Inspections required (24 hours advanced notice required). Call (970) 870-5588

1/20/2021

Environmental Health Specialist — Date

The above individual on-site wastewater system has received a final inspection. The system is hereby approved for use.

3/15/2022

Environmental Health Specialist — Date

County of Routt
COLORADO
Environmental Health Department
136 6th Street, 2nd Floor, Steamboat Springs, CO 80487
Phone: (970) 870-5588

Permit No. **S-21-104** Parcel ID: **924181001**

RECEIPT FOR ON-SITE WASTEWATER SYSTEM

Date: **1/20/2021** Permit For: **On-Site Wastewater System - New**

Applicant: **KURTZ, PETER L. & MARY B. (JT)**

Address: **25545 COUNTY ROAD 56 STEAMBOAT SPRINGS CO 80487-9424**

Phone: _____ Email: _____

Work Location: **25545 COUNTY ROAD 56, STEAMBOAT SPRINGS**

Total amount paid: **600.00**

Payment method: **Check**

BUILDING PERMIT # TB-20-1244
PERMIT PD 600.
dl 1253
1/19/21

APPLICATION FOR ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT

NEW ✓ EXISTING/UNPERMITTED____ REMODEL/REPAIR____ EMERGENCY USE____

Name of Owner Peter Kurtz Mailing Address 25545 RCR 56 SS, CO. 80487 Phone 970-879-5029

Name of Applicant Same Mailing Address________ Phone________

LOCATION OF PROPOSED SYSTEM: Street Address 25535 County Rd. 56, SS. CO. 80487

Legal Description N/A (Lot# and Subdivision if applicable) Parcel ID# 924181001 (this # can be found in the Assessor's Office)

Size of Lot 35 ☑ Residential ☐ Commercial ☐ Other (Describe)________

Number of: Bedrooms 2

Water Supply: ☑ Private Well ☐ Private Spring
☐ Public (give name of supply)________

An appropriate plot plan must accompany this application showing required information. An applicant must submit a complete application that is consistent with section 43.4.B.3 of The Department of Public Health and Environment Water Quality Control Commission Regulation 43 'On-Site Wastewater treatment system regulation 5 CCR 1002-43' to the local public health agency, prior to installing, altering, or repairing a system. The permit, upon approval of this application may be obtained at the Routt County Department of Environmental Health with payment of the required fee.

Application for an on-site wastewater treatment system is hereby submitted. The on-site wastewater system will be constructed, installed and operated in accordance with the regulations governing individual sewage disposal systems within Routt County and will comply with applicable State Regulations adopted pursuant to Article 10 of Title 25, C.R.S. 1973, as amended. The undersigned acknowledges that the above information is true and that false information will invalidate the application or subsequent permit. The owner assumes all responsibility in case of failure or inadequacy of this sewage disposal system. (*Hot tubs and Jacuzzis shall not be connected to on-site sewage disposal systems.)

Signature of Applicant [signature] Date 1/14/2021

PLOT PLAN

Name Peter Kurtz Address 25545 County Rd. 56

Location of proposed system:

Street Address 25535 County Rd. 56

Legal Address _____

PLOT PLAN MUST INCLUDE THE FOLLOWING INFORMATION: (LOCATE BY MEASURED DISTANCES)

1. Property lines and dimensions.
2. Proposed and existing water wells on subject property and adjacent property.
3. Domestic water service lines.
4. Proposed and existing building, driveways and other structures.
5. Streams, lakes, ponds, irrigation ditches and other water courses.
6. Proposed and existing waste disposal facilities.

SUBMIT A REVISED PLOT PLAN TO CONSTRUCTION IF INSTALLATION IS TO BE CHANGED FROM ORIGINAL PLAN.

January 12, 2021

Pete Kurtz
25545 County Road 56
Steamboat Springs, Colorado 80487

Re: On-Site Wastewater Treatment System Design
Proposed Kurtz Residence
25545 County Road 56
Routt County, Colorado
Western Slope Geotech Project No. 20-1093

Dear Pete,

Western Slope Geotech, Inc. (WSG) has completed the On-site Wastewater Treatment System (OWTS) design you requested for your proposed residence to be constructed at the Kurtz Ranch located at 25545 County Road 56, Routt County, Colorado. The results of our site and soil evaluations, design calculations, system design drawings and other pertinent information are included with this report.

PROPOSED CONSTRUCTION

Based on our discussions with the client, WSG understands the proposed residence will be constructed with a total of 2-bedrooms. No future building additions or other wastewater generating features are anticipated at this time.

SITE CONDITIONS

The property consists of approximately 35 acres of rural land located along the south side of County Road 56 and bordered on the east by the Elk River. Current site development includes two existing single-family residences, miscellaneous agricultural outbuildings and driveways. An existing small (bunkhouse) residence was also located just east of the proposed building site but was to be demolished as a part of the proposed construction. Based on client information, potable water for the existing residences is provided by on-site wells located near both buildings.

The proposed OWTS Soil Treatment Area (STA) consists of apparently undisturbed land located approximately 50 feet southeast of the proposed building site. Site vegetation consisted of grasses and weeds with scattered cottonwood trees. Site topography is

relatively flat and appears to slope gently down to the south on the order of 1 to 2 percent. The Elk River is located approximately 300 feet east of the proposed STA site. Existing and proposed site features are shown on Figure 1.

SOIL EVAULATION

A soil evaluation program consisting of the excavation and observation of two test and two profile pits was conducted at the project site to provide subsurface information at the proposed building site and STA location. Approximate test and profile pit locations are shown on Figure 2 and graphic logs, legend and notes are shown on Figure 5.

The subsurface conditions encountered in the profile pits were fairly consistent and generally consisted of a thin layer of topsoil and vegetation overlying natural gravel to the maximum depth explored, 5½ feet.

A layer of topsoil and vegetation was encountered at the ground surface in profile pit 2 was approximately 6 inches in thickness.

Natural gravel was encountered either at the ground surface or beneath the topsoil in both profile pits. The gravel was sandy, clean, non-plastic, medium dense, fine to coarse grained with cobbles and boulders, dry to moist and brown with iron staining.

Groundwater seepage was not encountered the profile pits at the time of excavation. Redoximorphic evidence indicates a likely high groundwater level of approximately 3 feet below existing ground surface for the site. WSG anticipates that groundwater levels will vary seasonally and over time based on water levels in the Elk River, any nearby irrigation ditches, surface runoff and weather conditions, site development, and other hydrologic conditions.

Visual and Tactile Soil Evaluation: Based on the results of the field exploration, WSG recommends the natural gravel material be considered the limiting soil type and classified as **Soil Type 0** in accordance with the regulations (Table 10-1). Based on anticipated high groundwater conditions and soil type classification, a mounded unlined sand filter system design is proposed and using a Treatment Level 1 (TL-1) and Long-Term Acceptance Rate (LTAR) of 1.0 gpd/ft^2 has been used for system bed design.

OWTS DESIGN ANALYSIS AND RECOMMENDATIONS

Site and soil evaluations indicate suitable soil conditions for wastewater disposal in the natural sandy gravel material. However, assumed high groundwater conditions (3-feet below existing site grades) indicate the use of a mounded (above existing grade) system is necessary to provide additional vertical separation between the wastewater discharge point and high groundwater elevation. In addition, coarse grained gravel soils (Soil Type 0) require additional wastewater treatment that will be provided by a 3-foot deep sand filter per regulations.

Based on proposed construction, site and soil evaluation and regulations, WSG recommends the OWTS consist of a septic tank and pressure dosed absorption field (3-foot deep unlined sand filter) sized using TL-1 treatment levels. Due to the anticipated seasonal high groundwater condition, the bed base elevation (top of sand filter) must be placed at least 1-foot above existing site grades.

Pertinent system components are summarized below, and associated design calculations are provided in Appendix A. Regulatory, inspection and system component specifications are provided in Appendix B. Pressure dosing system design and operational specifications are provided in Appendix C.

Septic Tank: 1,000-gallon, concrete with effluent filter; or 3-chambered 1,250-gallon FLXX with effluent filter.

Dosing Tank: 400-gallon concrete; not required if 3-chambered septic tank is used.

Effluent Pump: Design Flow = 29 gpm; TDH = 15 ft.; Recommended Pump System - Orenco (OSI) PFEF 40 Effluent Pump (0.4 hp, 115V).

Soil Treatment Area (STA): Unlined Sand Filter – 25' x 12' plan dimensions

Building Sewer Piping: 4-inch solid PVC, gravity discharge, 2% min. grade.

Pressure Transmission Piping: 1.5-inch Sch40 PVC.

Header Piping: 1.5-inch Sch40 PVC.

Distribution Piping: 1.5-inch Sch40 PVC. 3/16" Orifices @ 4' O.C. spacing.

Sand Filter Material: 3-foot Minimum depth; Well graded, washed concrete sand (ACI - C33 specifications).

Topsoil Cover & Revegetation: Provide all absorption field areas with minimum 12 inches topsoil cover and revegetation as appropriate.

Marking and Protection: Septic and dosing tank locations marked with metal T posts. Absorption field fenced off to prevent machinery and livestock damage.

Schematic OWTS site plan, seepage bed plan and typical absorption field cross section and details are shown on Figures 2, 3 and 4.

OWTS OPERATION AND MAINENANCE

Proper OWTS operation and maintenance is crucial for satisfactory long-term system performance. WSG recommends the following operation and maintenance criteria be observed by the owner/operator.

1. Regular inspection and pumping of the septic tank and effluent filter (if applicable) located at the tank outlet should be conducted by a qualified service provider. A recommended frequency of 3 to 5 years for pumping is typical for normal usage. More frequent pumping and filter cleaning may be required based on higher usage.
2. Effluent pumping system operation should be observed at approximate 6-month intervals. If high water alarm sounds or irregular operation is observed, a qualified system maintenance provider should be contacted immediately for servicing.
3. Inspection of absorption field area for signs of surfacing effluent should be conducted on a yearly basis.
4. The installation of water conserving plumbing fixtures, judicious use of water and minimization of solid waste directed to the OWTS is strongly recommended to extend system life.
5. Leaking plumbing fixtures should be repaired immediately. The additional hydraulic loading can permanently damage pumping components and the absorption field.
6. Discharge from spas, pools and water treatment systems should not be directed to the OWTS. The chemical and hydraulic loading from these features can permanently damage the absorption field.
7. The OWTS process is based on naturally occurring biological processes. Discharge of various harsh chemicals, solvents, excessive oil and grease and non-

organic wastes to the system can damage or limit biological treatment processes, reducing system performance and life. These materials should not be directed to the OWTS.

LIMITATIONS

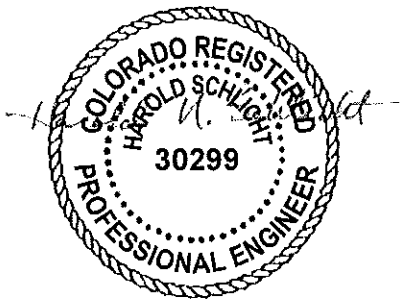
Site and soil evaluations and design report were conducted and prepared by Harold Schlicht (Colorado P.E. No. 30299). This report and design are based on the evaluations and were completed in accordance with the Routt County On-Site Wastewater Treatment System Regulations (2017) and using currently accepted OWTS design procedures and standard of care for the profession at the time of service.

This report has been prepared for the exclusive use of WSG's client for the specific application indicated. No warranties, express or implied, are made. Changes to the stated proposed construction and usage or addition of wastewater generating features may require changes to the OWTS.

Please be advised that construction or alteration of an OWTS requires a valid permit from the Routt County Department of Environmental Health ((970) 870-5588).

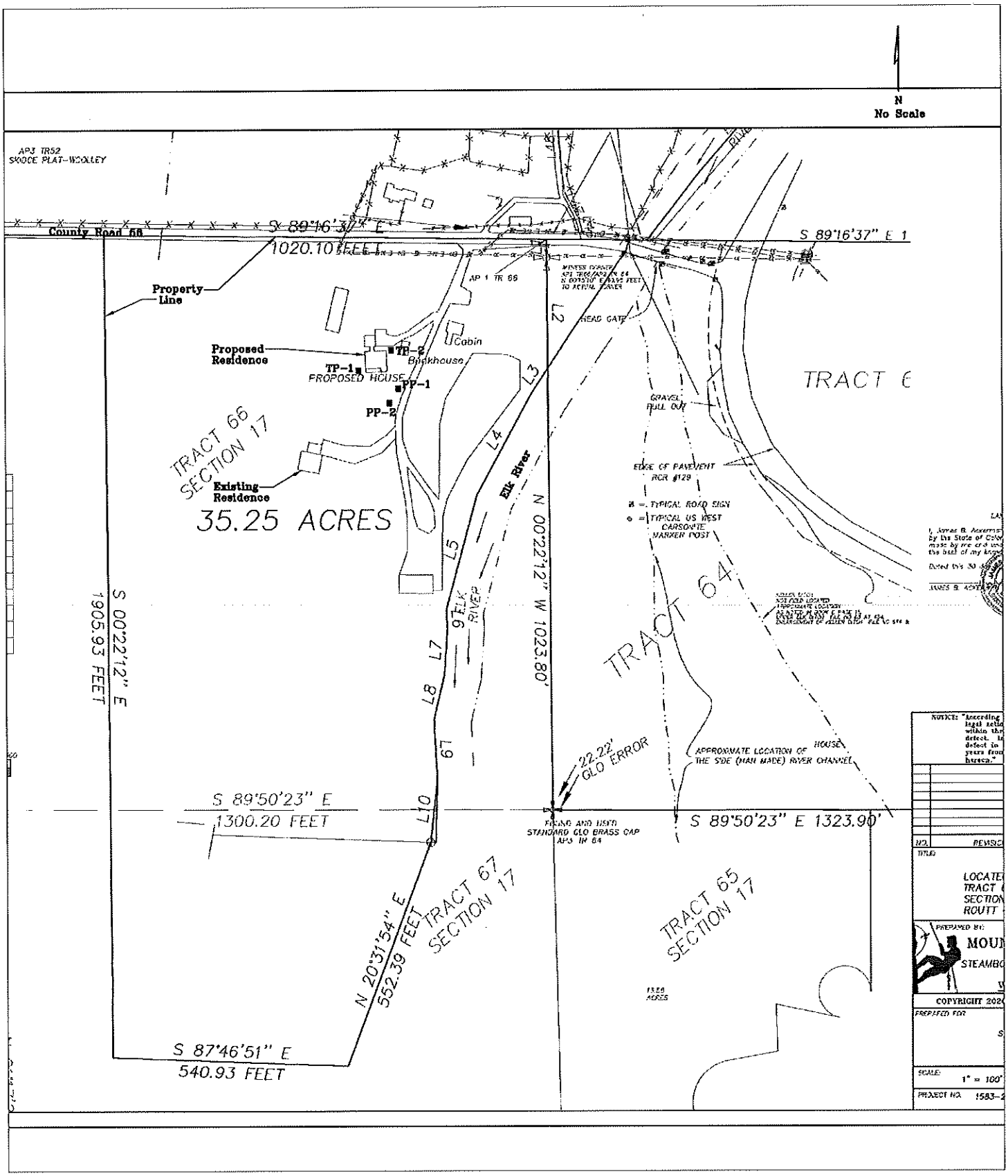
WSG appreciates the opportunity to be of service to you on this project. If you have any questions concerning the enclosed information or if we can be of further service to you in any way, please do not hesitate to contact us.

Very Truly Yours,
Western Slope Geotech, Inc.



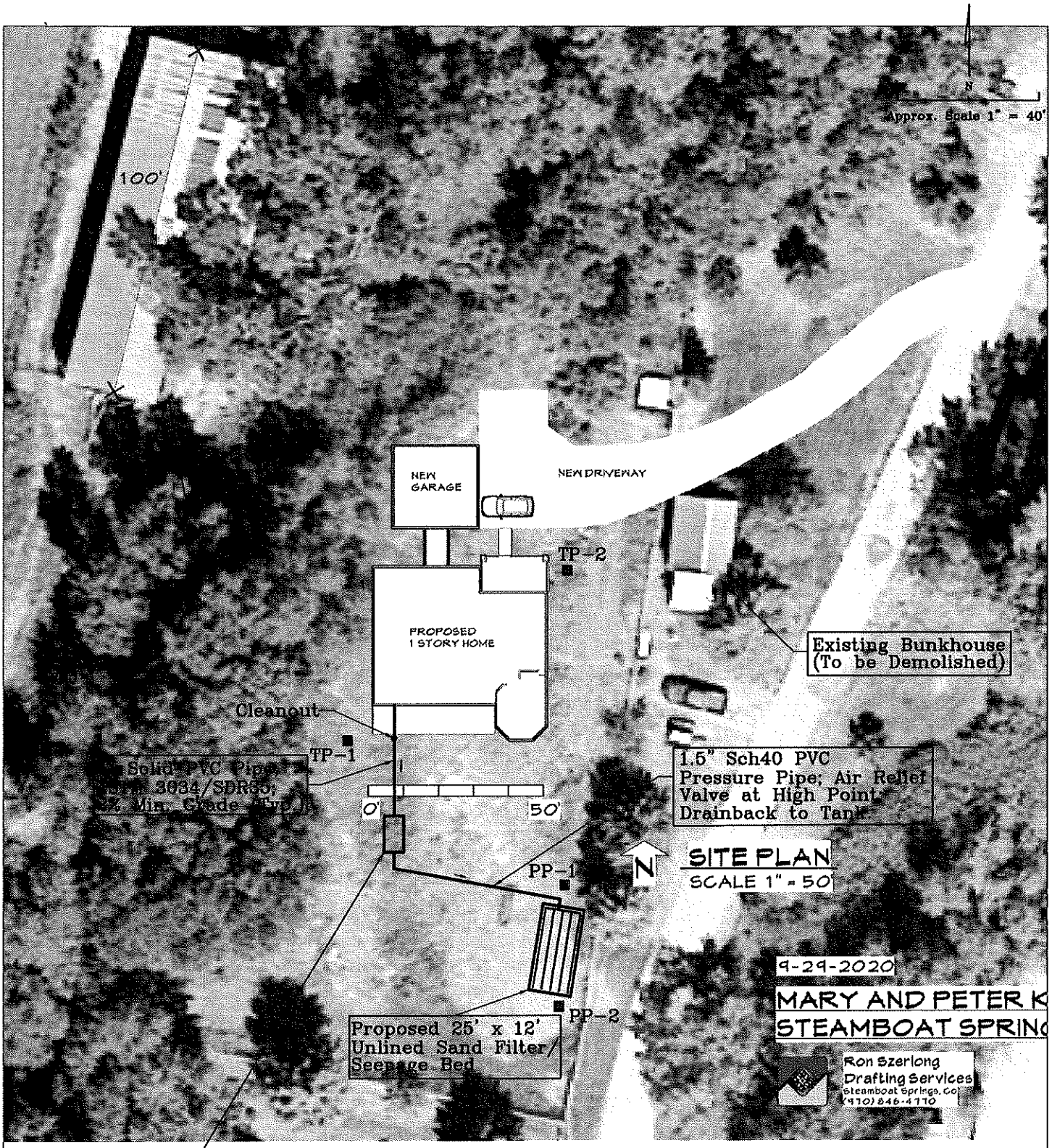
Harold Schlicht, P.E.
Principal Engineer

Cc: Jack White



OWTS VICINITY PLAN

Project Name: Kurtz Ranch Residence	WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO	
Location: 25545 County Road 56, Routt County, CO	Project No.: 20-1093	Drawn/Checked:HS
	Date: 1/11/21	Figure No.: 1



OWTS SITE PLAN

Project Name: Kurtz Ranch Residence

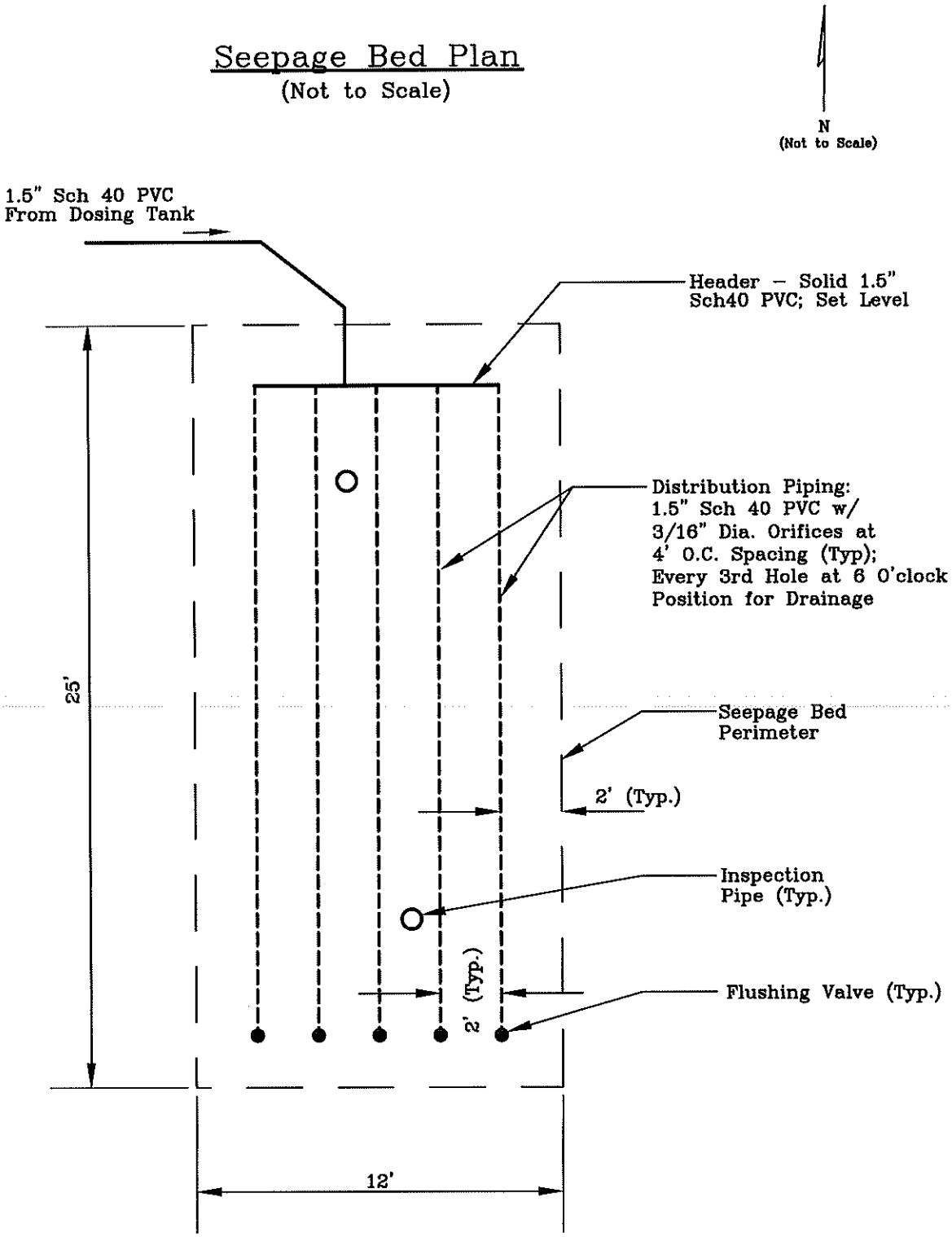
Location: 25545 County Road 56, Routt County, CO

WESTERN SLOPE GEOTECH — STEAMBOAT SPRINGS COLORADO

Project No.: 20-1093	Drawn/Checked:HS
Date: 1/11/21	Figure No.: 2

Seepage Bed Plan

(Not to Scale)

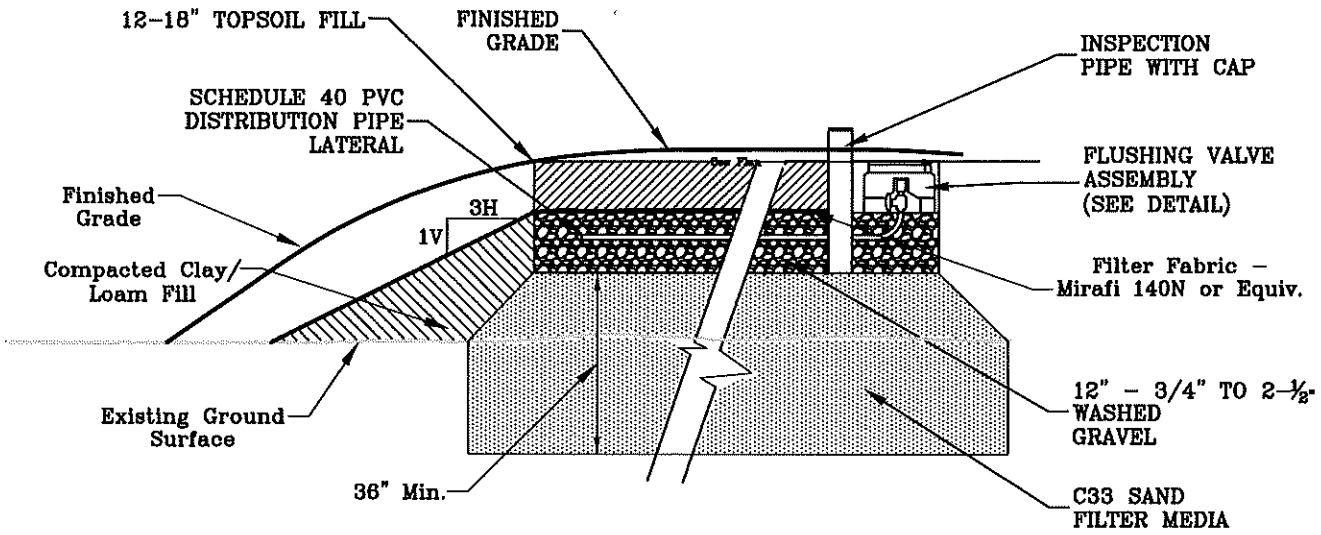


SEEPAGE BED PLAN & SYSTEM DETAILS

Project Name: Kurtz Ranch Residence	WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO	
Location: 25545 County Road 56, Routt County, CO	Project No.: 20-1093	Drawn/Checked:HS/HS
	Date: 10/10/19	Figure No.: 3

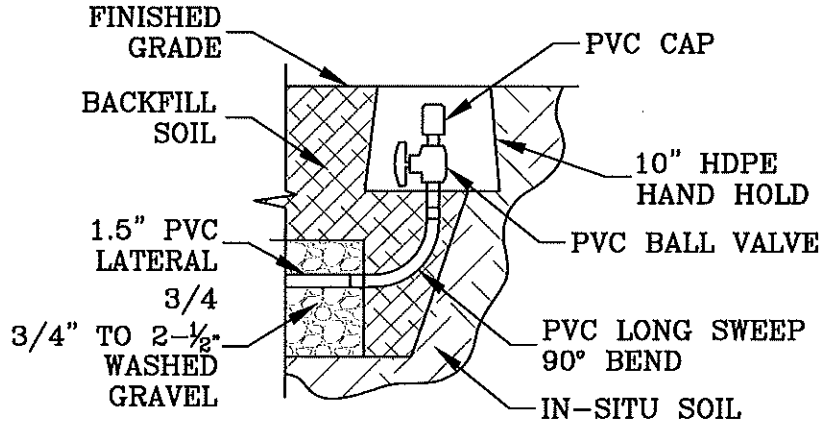
Mounded Sand Filter Cross Section

(NTS)



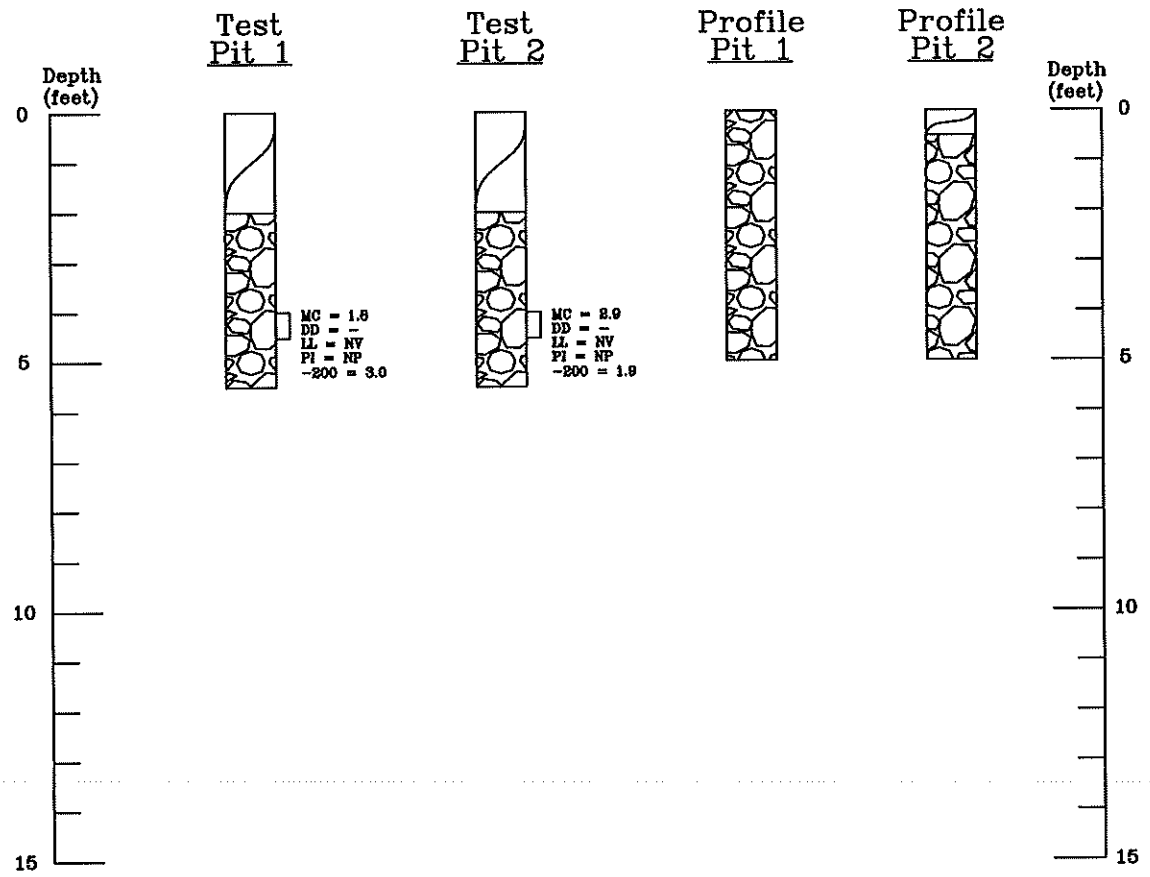
Flushing Valve Detail

(NTS)



MOUNDED SAND FILTER CROSS SECTION & DETAILS

Project Name: Kurtz Ranch Residence	WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO	
Location: 25545 County Road 56, Routt County, CO	Project No.: 19-1049	Drawn/Checked:HS/HS
	Date: 10/10/19	Figure No.: 4



Legend:

TOPSOIL/ORGANICS.

GRAVEL: Sandy, clean, non-plastic, medium dense, fine to coarse grained with cobbles and boulders, dry to moist and brown with iron staining.

Small disturbed bag sample.

MC = Natural Moisture Content (%)
DD = Natural Dry Density (pcf)
LL = Liquid Limit
PI = Plasticity Index
-200 = Percent Passing No. 200 Sieve
Swell = Percent Swell Under 500 or 1,000 psf surcharge

Notes:

1) Test pits were excavated on 12/10/20 with a Cat EL 200B trackhoe.
2) Locations of test pits were determined by pacing from existing and proposed features as described by the client.
3) Test pit elevations were not determined and logs are drawn to the depths explored.
4) Lines between materials types are approximate and transitions may be gradual.
5) Groundwater measurements were made at the time of excavation and levels may vary.

LOGS, LEGEND & NOTES

Project Name: Kurtz Ranch Residence

Location: 25545 County Road 56, Routt County, CO

WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO

Project No.: 20-1093	Drawn/Checked:HS/HS
Date: 1/11/21	Figure No. 5

APPENDIX A

DESIGN CALCULATIONS & SETBACK REQUIREMENTS

A. Sewage Volume Calculations
   1. 2 Bedroom Residence: 300 gpd
   2. Design Flow: Q = 300 gpd

B. System Sizing
   1. Treatment Level: TL-1 (3' Min. Sand Filter Thickness)
   2. Unlined Sand Filter Bed Sizing
      a. Soil Type: 0
      b. LTAR: 1.0 gpd/ft^2 (per Section 11.C.2.a(4)(i)[1])
      c. STA = Q/LTAR = 300 gpd/1.0 gpd/ft^2 = 300 ft^2
      d. Adjustment Factor – Appl. Method (Bed - Pressure Dosed) = 1.0
      e. Adjustment Factor – Distribution/Storage Media (Rock) = 1.0
      f. STA (Adjusted) = 300 ft^2 x 1.0 x 1.0 = 300 ft^2
      g. Bed Sizing: 300 ft^2/12 ft = 25 ft; Use a 25' x 12' Bed.
   3. STA Setback Requirements
      a. Water Body: 50 ft.
      b. Property Line: 10 ft.
      c. Well: 100 ft.
   4. Pressure Dosing Requirements
      a. Dosing Frequency/Volume: 60 gals, on demand.
      b. Distal Head Pressure: 3-5 feet.

[1] Routt County On-Site Wastewater Treatment System Regulations (2017)

APPENDIX B

SPECIFICATIONS

A. Installer and owner must comply with all requirements contained in the Routt County On-Site Wastewater Treatment System Regulations (2017).

B. OWTS components shall be installed at the approximate locations, depths and grades as indicated on the plans. Variations from the plans may be required due to variations in topography, final building site location and elevation. If variations are necessary, WSG must be contacted for approval. A preconstruction meeting is strongly recommended to discuss system layout, construction and inspection requirements and to reduce potential changes to OWTS plans.

C. Engineer (WSG) must be contacted at least 24 hours in advance for necessary inspections/observations of installed OWTS components including:
   1. Building sewer, tank discharge and distribution piping;
   2. Septic tank, inlet and outlet Ts and effluent filter;
   3. Distribution piping, chambers and/or washed rock;
   4. Pressurized piping shall be pressure tested as directed by engineer;
   5. Approved sand filter material – gradation (C33), depth and dimensions;
   6. Approved pumping system components;
   7. Approved mechanical filter units, automatic distribution valves and other mechanical components (when applicable);
   8. Contractor shall assist engineer in compiling as-constructed system information including product information and 2-point ties to permanent site features.

D. All system gravity piping shall consist of 4-inch solid or perforated PVC meeting or exceeding ASTM 3034/SDR35 requirements. Joints shall be watertight, cemented/bonded or gasketed.
   1. All piping shall be bedded and shaded with fine grained on-site or imported material. Bedding and shading will be installed such that it shall provide uniform support and protection to piping.
   2. Trenching and component backfill shall be uniformly compacted to at least 95% of the standard Proctor density near optimum moisture content, unless otherwise noted.
   3. Provide minimum 24 inches soil cover over all piping and components, unless otherwise noted. Provide cleanouts at min. 100' intervals.

E. Inspection pipes shall be provided two per bed at approximate locations on drawings.

F. Septic tank inlet and outlet piping shall be supported by compacted (Min. 80% Relative density (ASTM D4253/4254)) screened or washed rock fill where piping enters and leaves the tank excavation limits. Lids, risers and securable access ports shall be watertight and extend to or be exposed at final grades.

G. Absorption areas shall be fenced off from construction or other activity that contributes to disturbance or soil compaction. Absorption field construction shall not be commenced during periods of high soil moisture content to minimize disturbance and smearing of infiltrative surfaces.

H. Finished grading shall be sloped to provide positive drainage away from all absorption field surfaces. Surface and subsurface runoff, foundation drains and other sources of water located upslope of the absorption field shall be directed away from absorption field areas by grading, ditching, piping or use of subsurface drainage collection and discharge systems.

I. All pressurized piping shall be Sch40 PVC or higher rating, or other material approved for wastewater applications. All joints shall be cemented, mechanically or chemically bonded to provide an airtight fit. Pressure testing shall be conducted as directed by the engineer.

J. Pumping, mechanical systems and electrical systems and controls shall be installed by qualified installers and shall meet all applicable local plumbing and electrical code requirements.

K. Imported fill materials used for storage and distribution media, sand filter material or mound fill shall be approved by WSG prior to transportation to the site.

L. It is the responsibility of the installer and owner to comply with and maintain all setback requirements throughout the life of the system.

APPENDIX C

PRESSURE DOSING SYSTEM DESIGN & DETAILS

A. Pumping System: Minimum Pump Requirements – Design Flow Rate = 29 gpm; TDH = 15 ft.
B. Recommended Pumping System: One (1) Orenco (OSI) PFEF 40 (0.4 hp, 30 gpm, 115V Effluent Pump). Duplex Pumping System also recommended; See attached recommended component data sheets.
C. Piping:
    1. Transport & Transmission: 1.5" Sch40 PVC
    2. Manifold: 1.5" Sch40 PVC
    3. Distribution Lines: 1.5" Sch40 PVC; 3/16" Orifices at 4' O.C.
    4. Cleanouts: 1 per each distribution lateral.
D. Dose Size: 60 gallons, on demand
E. Distal Pressure Head: 3 - 5 feet

Pump Selection for a Pressurized System - Single Family Residence Project

Kurtz Ranch Residence / Job No. 20-1093

Parameters

Discharge Assembly Size	1.50	inches
Transport Length	50	feet
Transport Pipe Class	40	
Transport Line Size	1.50	inches
Distribution Valve Model	None	
Max Elevation Lift	5	feet
Manifold Length	8	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.50	inches
Number of Laterals per Cell	5	
Lateral Length	21	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.50	inches
Orifice Size	3/16	inches
Orifice Spacing	4	feet
Residual Head	5	feet
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet

Calculations

Minimum Flow Rate per Orifice	0.97	gpm
Number of Orifices per Zone	30	
Total Flow Rate per Zone	29.2	gpm
Number of Laterals per Zone	5	
% Flow Differential 1st/Last Orifice	0.2	%
Transport Velocity	4.6	fps

Frictional Head Losses

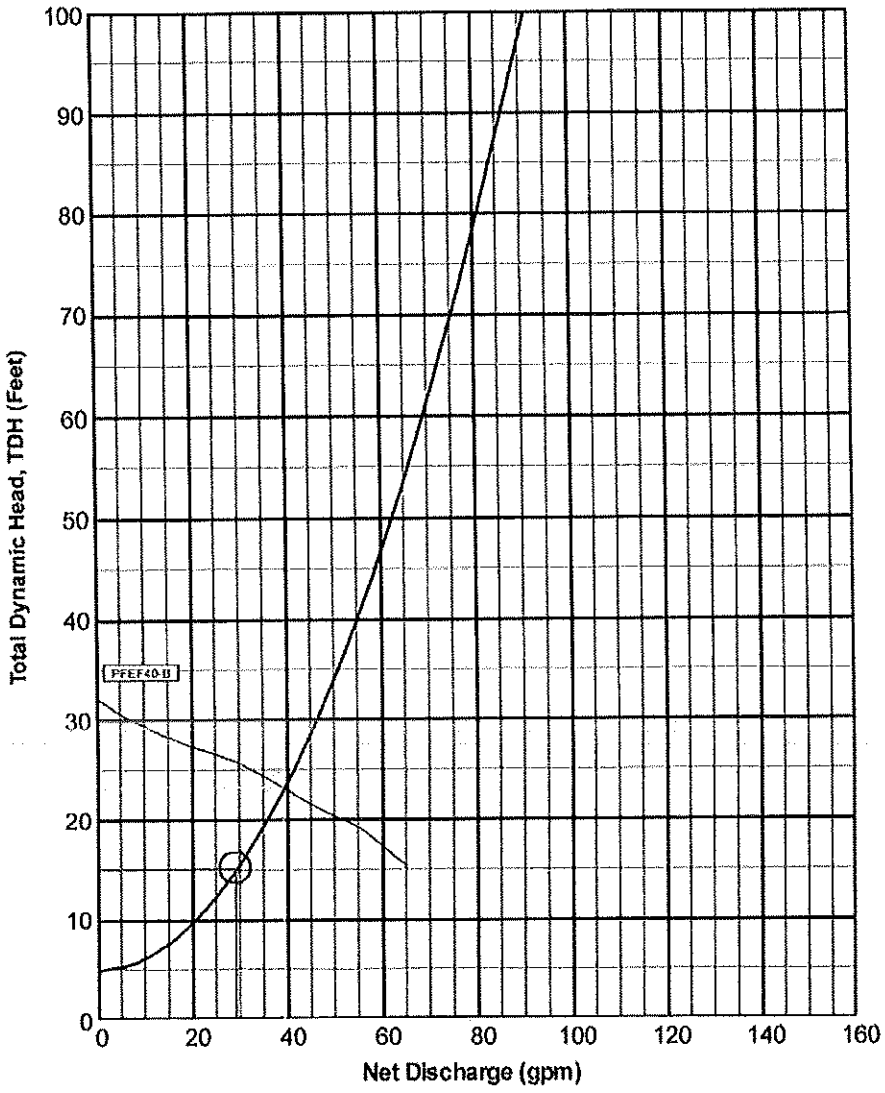
Loss through Discharge	2.6	feet
Loss in Transport	2.5	feet
Loss through Valve	0.0	feet
Loss in Manifold	0.1	feet
Loss in Laterals	0.0	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes

Vol of Transport Line	5.3	gals
Vol of Manifold	0.8	gals
Vol of Laterals per Zone	11.1	gals
Total Volume	17.2	gals

Minimum Pump Requirements

Design Flow Rate	29.2	gpm
Total Dynamic Head	15.2	feet



Pump Data

PFEF40 Effluent Pump
4/10 HP, 115/230V 1Ø

Legend

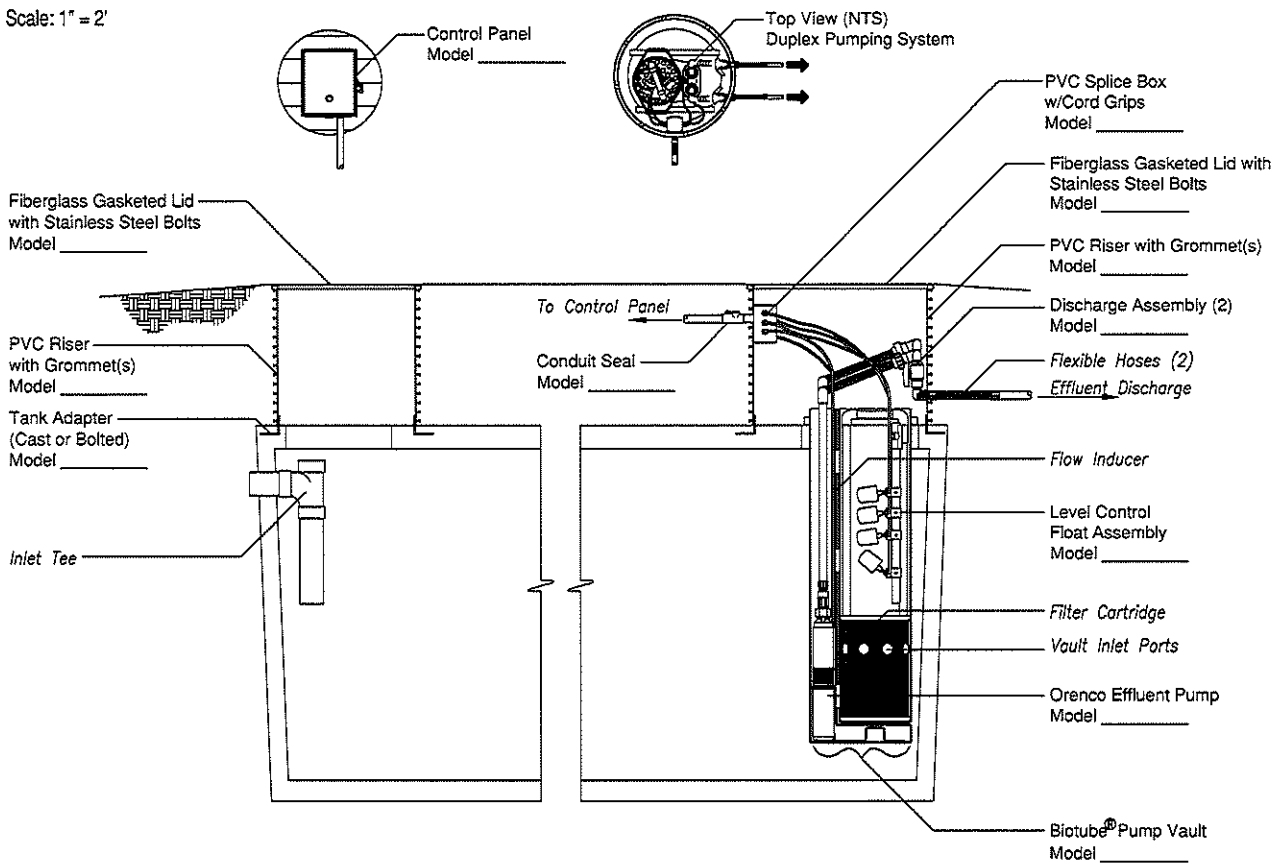
System Curve
Pump Curve
Pump Optimal Range
Operating Point
Design Point

Orenco Systems®
Incorporated

Changing the Way the World Does Wastewater®

Effluent Pumping System - Duplex

Scale: 1" = 2'



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SUTHERLIN, OREGON
97479-9012

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(800) 348-9843

TELEPHONE:
(541) 459-4449

FACSIMILE:
(541) 459-2884

NDW-TD-EPS-DAX-01
Rev. 3.0 (03/06)

March 2, 2022

Pete Kurtz
25545 County Road 56
Steamboat Springs, Colorado 80487

Re: On-Site Wastewater Treatment System Design
Proposed Kurtz Residence
25545 County Road 56
Routt County, Colorado
Western Slope Geotech Project No. 20-1093

Dear Pete,

This report summarizes Western Slope Geotech, Inc.'s (WSG's) observations of the On-site Wastewater Treatment System (OWTS) conducted for the above referenced project. WSG conducted one site visit for observation of the OWTS installation on September 27, 2021.

Site Observations: Tank & Pump: At the time of WSG's site visit, a 1,250 gallon (Front Range Precast (FLXX), 3-chambered) concrete septic/dosing tank was installed near the plan location. Sanitary tees and plastic access risers were observed installed at the tank inlet, outlet and dosing chamber. We observed an Goulds PE51 (0.5hp) pump was installed in the dosing tank compartment. Wiring hookups were not complete and no pumping tests had been conducted. Transport pressure piping was installed (1.5" Sch40 PVC) to the Soil Treatment Area (STA) and appeared to be constructed to drain back to the tank.

Sewer Gravity and Transport Piping: Building sewer piping from the residence was installed at the time of our site visit and consisted of 4-inch SDR35 PVC pipe with adequate grade.

Soil Treatment Area (STA): The STA was installed near the plan location and observed at the time of our site visit. Our observations indicated a bed with approximate dimensions of 25' x 12' was installed in the plan configuration. We could not verify the sand filter material or depth, but, per installer, was reportedly a minimum of 24 inches in depth and consisted of imported clean concrete sand (C33 grading – Precision Pit). Installation depth resulted in top of STA above original ground surface.

Manifold piping (1.5-inch Sch40 PVC) and lateral piping (1.5-inch Sch40 PVC) were installed to approximate plan dimensions. Lateral piping were spot checked and observations indicated 1/8-inch orifices at 4-foot centers, per plan requirements. Flushing valves and inspection pipes were also in place.

Approximate OWTS features and locations are shown on the attached Figure 1.

Conclusions: Based on WSG's observations, the portions of the system observed appeared to have been installed in general accordance with the OWTS design requirements. We advised the installer to carefully bed all piping to protect against settlement, damage from rocks and provide minimum cover depths and final grading in accordance with the plans and specifications. In addition, we advised the installer to conduct pumping system tests after the pumping system was had been installed to confirm effluent delivery, satisfactory pumping system operation and dosing volume.

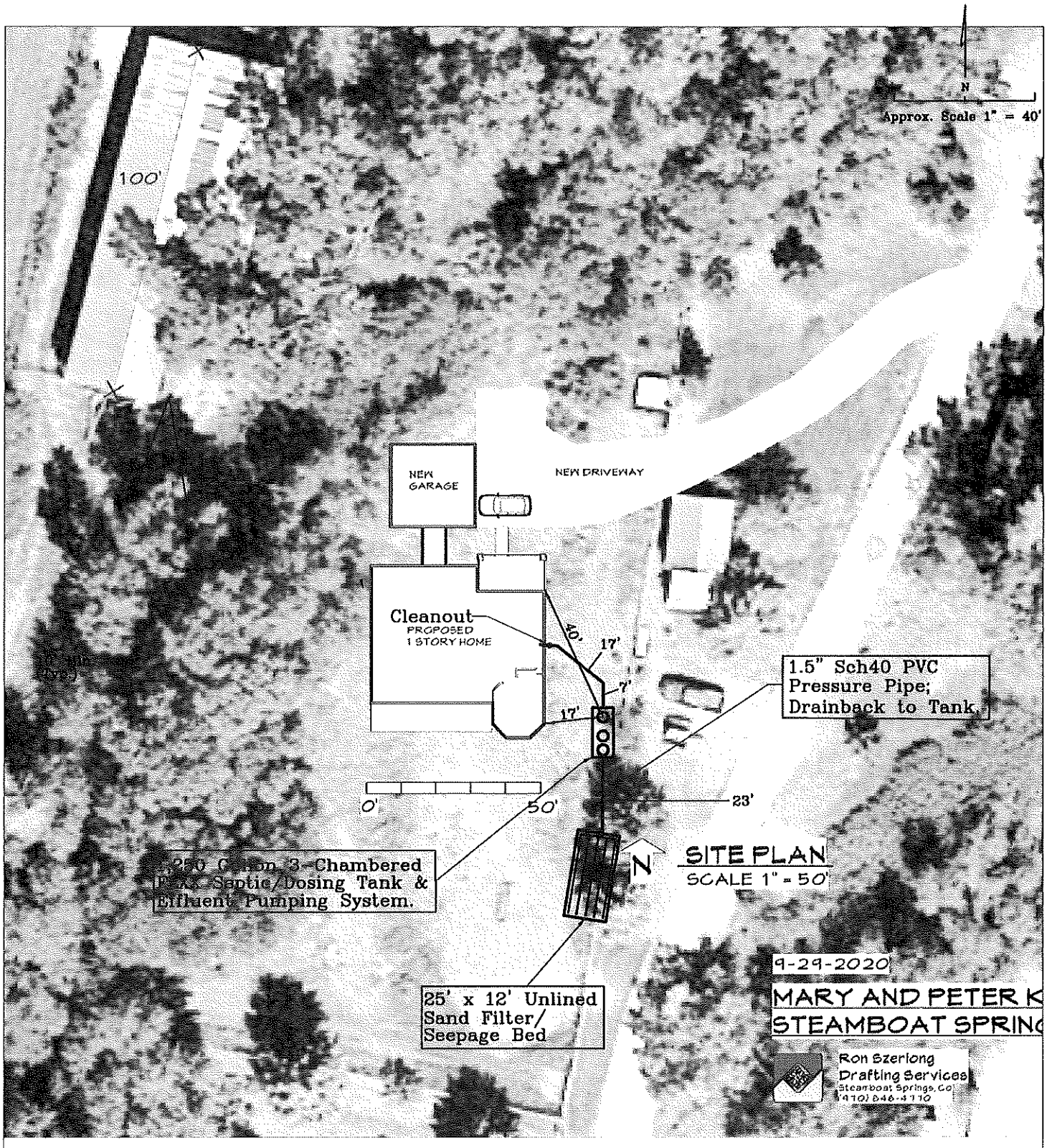
The owner should be advised that regular system maintenance including tank pumping, filter cleaning, pump testing and STA flushing should be conducted by a qualified service provider.

WSG, Inc. appreciates the opportunity to be of service to you on this project. If you have any questions concerning this report or if we can be of further service to you in any way, please do not hesitate to contact us.

Very Truly Yours,
Western Slope Geotech, Inc.

Harold Schlicht, P.E.
Principal Engineer

Cc: Routt County Department of Environmental Health



OWTS AS-CONSTRUCTED PLAN

Project Name: Kurtz Ranch Residence	WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO	
Location: 25545 County Road 56, Routt County, CO	Project No.: 20-1093	Drawn/Checked:HS
	Date: 3/2/22	Figure No.: 1