Skamania County, WA
Total:$289.50
MISC
Pgs=37

2021-002934
08/26/2021 09:01 AM

Request of: GERALD SAUER

0001019220210002934037037 2

WHEN RECORDED RETURN TO:

GERALD SAUER
26300 NE 16TH ST.
CAMAS WA. 98607

Please print or type information **Washington State Recorder's Cover Sheet** (RCW 65.04)

DOCUMENT TITLE(S) (or transaction contained therein) (all areas applicable to your document must be filled in)

EVACUATION PLAN

REFERENCE NUMBER(S) of Documents assigned or released:

[ ] Additional numbers on page _____ of document.

GRANTOR(S):

1. THREE RIVERS RECREATIONAL AREA - SAUER
2.
3.
4.

[ ] Additional names on page _____ of document.

GRANTEE(S):

1. THREE RIVERS RECREATIONAL AREA - SAUER
2.
3.
4.

[ ] Additional names on page _____ of document.

LEGAL DESCRIPTION (Abbreviated: i.e. Lot, Block, Plat or Section, Township, Range, Quarter):

PORTION OF E 1/2 OF THE SW 1/4 AND W 1/2 OF SE 1/4 OF SEC 24 T7N R6E
07-06 24-0002 0000

[ ] Complete legal on page _____ of document.

Assessor's Property Tax Parcel #

070624-0002-0000

[ ] Additional parcel numbers on page _____ of document.

The Auditor/Recorder will rely on the information provided on this form. The staff will not read the document to verify the accuracy or completeness of the indexing information.

"I am signing below and paying an additional $50.00 recording fee (as provided in RCW 36.18.010 and referred to as an emergency nonstandard document), because this document does not meet margin and formatting requirements. Furthermore, I herby understand that the recording process may cover up or otherwise obscure some part of the text of the original document as a result of this request."

_____ **Signature of Requesting Party**

Note to Submitter: Do NOT sign above nor pay additional $50 fee if the document meets margin/formatting requirements.

advanced planning solutions

Evacuation and Emergency Management Plan for Volcanic Hazard Areas

Hazard Area:

MUDDY RIVER SUBDIVISION LOTS 1-6 (SUB-20-01)

LOOWIT LANE AND EAGLE'S VIEW LANE NEAR SWIFT RESERVOIR

SKAMANIA COUNTY, WA

Prepared for:

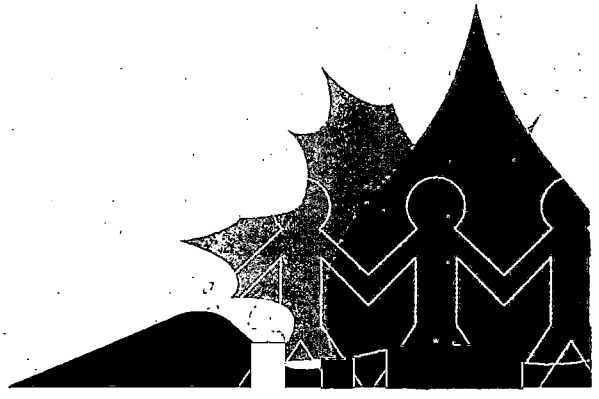
JERRY SAUER

CAMAS, WA

Date Prepared:

APRIL 3, 2021

Environmental & Land Use Planning
4721 354th Ave SE
Fall City, WA 98024
206.718.5173 (c)
charly@apsep.com



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INTRODUCTION

This Evacuation and Emergency Management Plan for Volcanic Hazard Areas ("Plan") has been prepared by Charly Boyd of Advanced Planning Solutions, Inc. (APS) for the Muddy River Subdivision (MRS) near the east end of Swift Reservoir in Skamania County, WA.

It is prepared to meet conditions of a Decision issued November 30, 2020 by the Skamania County Hearing Examiner (Muddy River Subdivision, 2020) to comply with the County's Critical Areas Ordinance (Google, Inc., 2021) (Skamania County Code Title 19).

Hazard Area

This Plan applies to 26.66 acres near the Muddy River and North Fork Lewis River confluence just upstream of Swift Reservoir. The MRS Vicinity Map, Plat map, Evacuation Route map (Figure 3), and local and regional road maps are included in this Plan's Appendix A.

OCCUPANCY

The MRS consists of 6 rural recreational lots. Only 1 lot is currently developed. Five new residential structures are anticipated. Full time occupancy is not permitted according to the Skamania County zoning regulations currently in effect (Muddy River Subdivision, 2020). Peak use is anticipated between Memorial Day and Labor Day – primarily on weekends – with limited winter use.

LIMITED SERVICES

The MRS is located within an area of Skamania County with few public services.

Volunteer fire and search and rescue organizations are active within the region. However, response capacity, capability, and times vary considerably due to the absence of permanent residents within this part of the County. Contacting these organizations by usual modes of communication is complicated due to a lack of community-supplied power, water, telephone, cable, or internet service.

In general, power is provided by electric generators or, perhaps, solar energy supplied by individual landowners to serve individual lots. Water is provided to each lot by small community water systems or individual private wells powered by generators or solar energy.

Cellular phone service, and internet access via cellular signal, is spotty and varies by service provider. Some individuals have satellite phone access in limited areas. Handheld and CB radios are heavily relied upon for communications.

Hazard Type & Limitations

This plan addresses only Volcanic Hazards that may affect the MRS lots. Other hazard types are present and may affect the MRS. Although this Plan does not specifically address other types of hazards, its information will be useful to landowners during and in advance of any non-volcanic hazards.

Hazard Assessment

This Plan is based on a Volcanic Hazard Study dated May 17, 2007, which was prepared by Mia Mahedy-Sexton, PE of Rapid Soil Solutions for the Pine Creek Short Plats in Skamania County, Washington (Mahedy-Sexton, 2007). This study is included in Attachment B of this Plan. The 2007 Study Area includes the MRS Hazard Area and more.

Plan Purpose

The purpose of this Plan is to inform future landowners of lots within the MRS of:

- Proximity to dangerous Volcanoes;
- Emergency Response contact information, areas of responsibility, and limitations;
- Potential Hazard types associated with owning property, recreating, and staying within a the MRS Volcanic Hazard Area;
- Information sources for Volcanic Hazard data, monitoring, notifications, and updates;
- Recommended Emergency Preparedness and Emergency Management actions; and
- Recommended Evacuation routes in case of need.

EMERGENCY CONTACTS

Following is a list of emergency contacts available at the time this Plan was written. MRS landowners should review this list and update it at least annually.

Emergency Management

Skamania County Emergency Management prepares for, coordinates response, logistical support, mitigation and recovery for all natural and man-made emergencies and disasters (SCDEM, 2021).

Skamania Emergency Management
John Carlson, Coordinator
200 Vancouver Avenue
PO. Box 790
Stevenson, WA. 98648
509-427-8076

Emergency Notification

The Skamania County Sheriff's Office has the capability to use a phone notification system for emergency notifications. However, to receive notifications on satellite, VOIP, or wireless systems, phones must be registered in the Skamania County Emergency Notification System database (SCSO SCENS, 2021). An account must be created, and each phone number desiring notification must be entered in the database.

Skamania County Emergency Notifications
https://signup.hyper-reach.com/hyper_reach/sign_up_page_2/?id=45528

Fire and Rescue

Volunteer fire and rescue services are provided by both Skamania County Fire District #6 – Northwoods Station (SCDEM Fire, 2021) and by Cowlitz-Skamania Fire District #7 Station 72 (Cowlitz-Skamania Fire District #7, 2021). The MRS Hazard Area is served by the Northwoods Station, while Station 72 serves the west end of the lake and assists Northwoods as needed. The Northwoods Station is about 5 miles from the MRS, and Station 72 is about 20 miles from the site.

Skamania County Fire District #6 – Northwoods Station
MP 16 USFS Road 90
PO Box 98
Cougar, WA. 98683
360-253-8433

Cowlitz-Skamania Fire District #7 Station 72
11670 Lewis River Road
Ariel, WA 98603
360-231-4357

Law Enforcement

Law enforcement in the MRS Hazard Area is provided by the Skamania County Sheriff. Online reporting is available for non-emergency crimes and those not currently happening (SCSO, 2021). For emergencies contact:

Skamania County Sheriff's Office
Dan Brown, Sheriff
200 Vancouver Avenue (SCSO SAR, 2021)
PO. Box 790
Stevenson, WA. 98648
509-427-9490

Search and Rescue

Skamania County Sheriff's Office Search and Rescue volunteers respond to those who become lost and/or injured in the wilderness (SCSO SAR, 2021).

Skamania County Sheriff's Office Search and Rescue
Dan Brown, Sheriff
200 Vancouver Avenue
PO. Box 790
Stevenson, WA. 98648
509-427-9490

SAR HQ
28851 State Highway 14
Washougal, WA. 98671

VOLCANIC HAZARDS

A volcano is an opening in the Earth's crust that allows molten rock, gases, and debris to escape to the surface (Ready, 2021). Alaska, Hawaii, California, and Oregon have the most active volcanoes in the United States. A volcanic eruption may involve lava and other debris that can flow up to 100 miles per hour, destroying everything in their path. Volcanic ash can travel hundreds of miles and cause severe health problems. A volcanic eruption can:

- Contaminate water supplies;
- Damage machinery;
- Reduce visibility through smog and harmful gases that may threaten low-lying areas; and
- Make it hard to breathe and irritate the skin, eyes, nose, and throat.

Assessments

The MRS is located 10 miles southeast of Mt. St. Helens (20 miles by road), and 20 miles southwest of Mt. Adams (35 miles by road). Site-specific information on potential volcanic hazards that may affect the MRS Hazard Area are found in Appendix B of this document (Mahedy-Sexton, 2007). A regional assessment and plan for the Mount. St. Helens – Mt. Adams region is also available online (WMD EMD, 2014).

Type

At the time of this Plan, all Oregon and Washington Cascade volcanoes – including Mt. St. Helens and Mt. Adams – are at normal, non-eruptive, background levels of activity (USGS CVO Hazards, 2021).

The MRS is located within the Near-Volcano Hazard Zone for Mt. St. Helens (Figure 1) and the Lahar Hazard Zone for Mt Adams (Figure 2) (USGS CVO Hazards, 2021). During a potential Mt. St. Helens volcanic event, the site could experience lava and pyroclastic flows, thick tephra, lahars (volcanic mudflows), ballistic ejecta, and rock fall. During a potential Mt. Adams volcanic event valleys could be inundated by volcanic mudflows draining the volcano.

The MRS Hazard Area is underlain by lahar and pyroclastic flow deposits from at least 6 prior eruptions of Mt. St. Helens, including the most-recent large eruption in 1980 (GeoPacific Engineering, Inc., 2005). However, all homesites are located on a plateau above surrounding river valleys providing protection from accumulation of volcanic materials (Mahedy-Sexton, 2007).

Crater-wall avalanches or steam-driven explosions from the dome have occurred without warning at Mt. St. Helens in the past and may happen again (Mahedy-Sexton, 2007). However, experience indicates that current monitoring is sufficient to detect the ascent of fresh magma that must take place before another large eruption. Interpretation of phenomena related to magma ascent will enable warnings to be provided and updated hazard assessments.

Data, Monitoring, Notifications & Updates

The current state of Mt. St. Helens and Mt. Adams are monitored by the United States Geological Survey (USGS) Pacific Northwest Seismic Network (PNSN) and is reported through the USGS Cascades Volcano Observatory (CVO) (USGS CVO, 2021). The following information can be found at the listed websites:

- Up to date Volcano updates: https://www.usgs.gov/volcano/volcano-updates#cvo.
- Images, graphics, and general information on Cascade Range volcanoes: https://www.usgs.gov/observatories/cascades-volcano-observatory
- Seismic information on Oregon and Washington volcanoes: http://www.pnsn.org/volcanoes
- Information on volcano alert levels and notifications: https://www.usgs.gov/natural-hazards/volcano-hazards/notifications

Maps

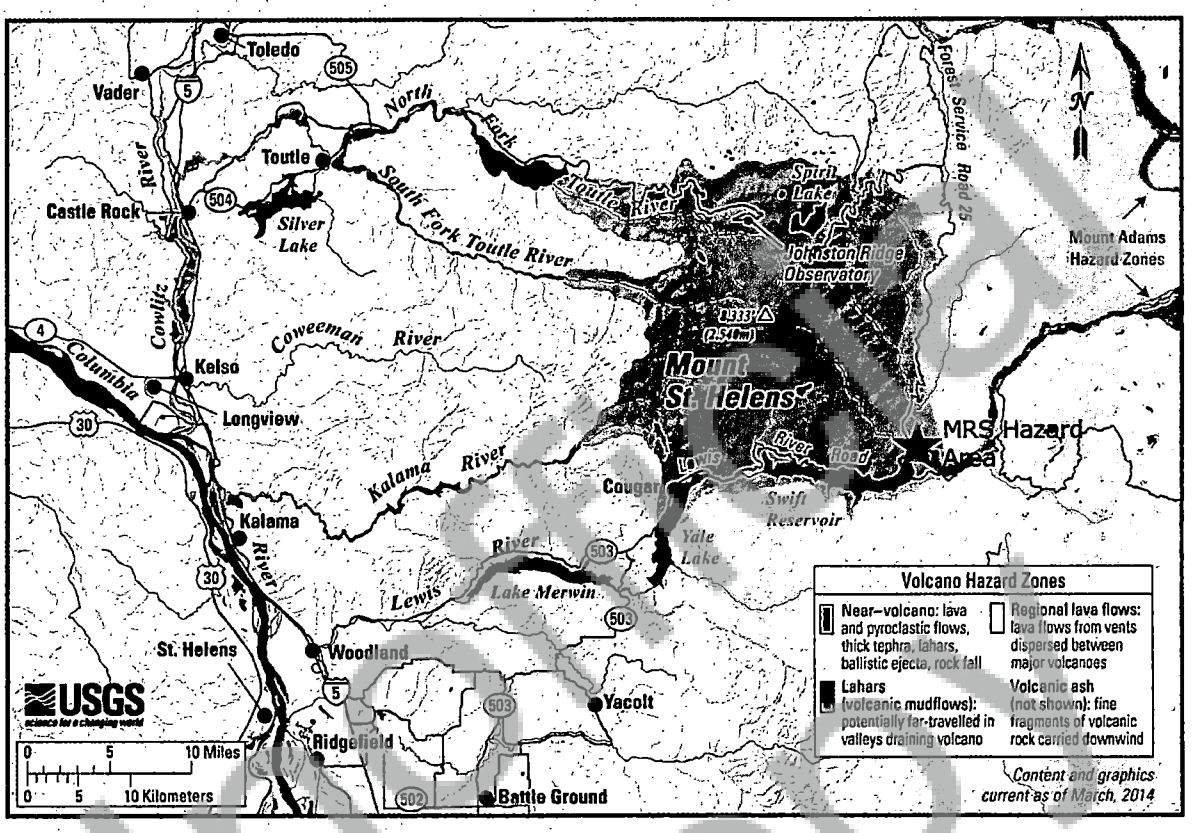

Figure 1. Mount St. Helens, Washington Simplified Hazards Map with MRS site (USGS CVO Hazards, 2021).

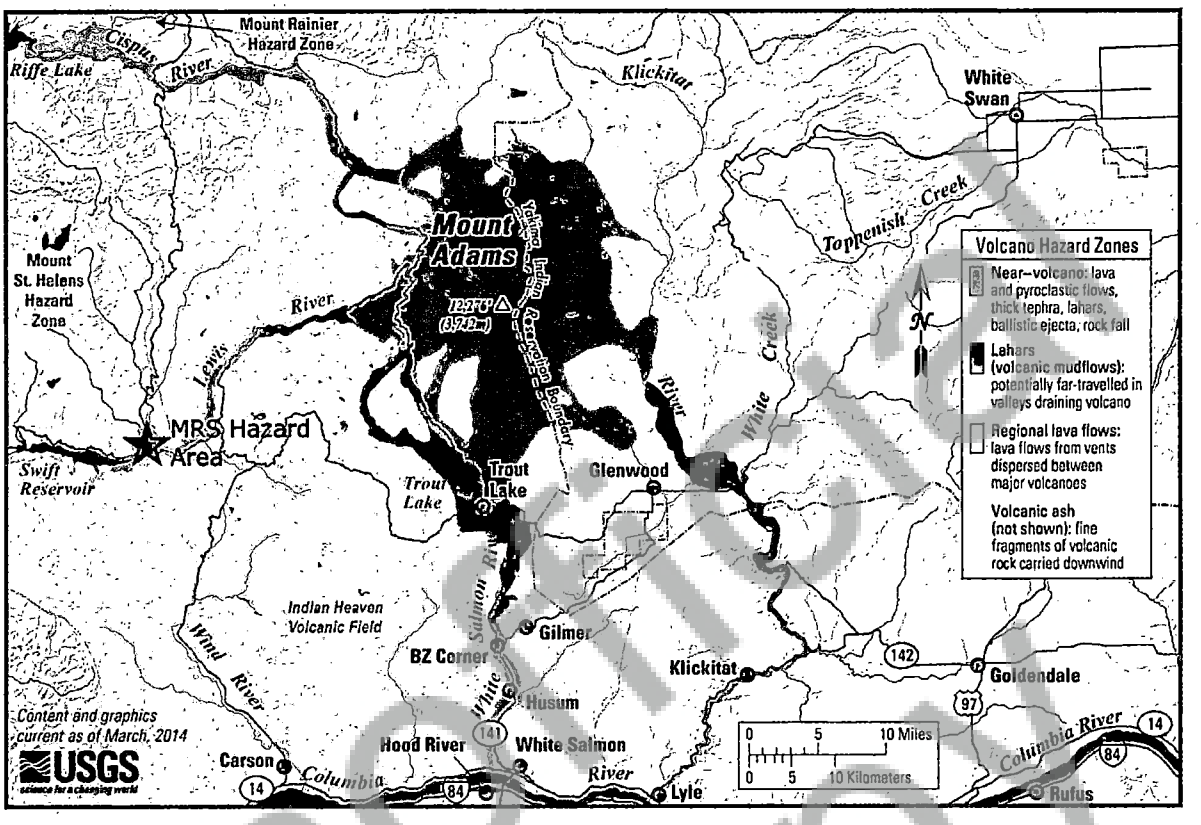

Figure 2. Mt. Adams, Washington Simplified Hazards Map with MRS location (USGS CVO Hazards, 2021).

EMERGENCY PREPAREDNESS

The following information has been adapted from the Skamania Emergency Management Preparedness website (SCDEM Preparedness, 2021) and the Washington State Military Department Emergency Management Preparedness website (WSMD EMD Preparedness, 2021).

Preparedness

It is very likely that First Responders will be over-extended in a disaster situation and WILL NOT be able to help everyone who needs it. Therefore, each person has the responsibility to be prepared.

The more done before a disaster strikes, the better the chances of reducing the impact to life and property. Three actions are recommended to prepare for any emergency. These are:

- Educate
- Plan, and
- Build Kits.

EDUCATE

Education should include learning about the potential hazard(s) that could affect where you live, work and recreate. This includes knowing potential hazard types, emergency contacts, evacuation routes, personal preparedness actions, and actions to take during and immediately after a disaster. Aside from the information in this Plan, other sources of emergency preparedness information can be found at:

- Preparedness – Washington State Military Department Emergency Management Division (WSMD EMD Preparedness, 2021):
  mil.wa.gov/preparedness
- Be Prepared, Be Safe – Washington State Public Health (WADOH Be Prepared, Be Safe, 2021):
  doh.wa.gov/Emergencies/BePreparedBeSafe
- Prepare in a Year (WSMD EMD Prepare In a Year, 2021):
  mil.wa.gov/asset/5f171cc0a935f
- 2 Weeks Ready (WSMD EMD 2 Weeks Ready, 2021):
  mil.wa.gov/asset/5ba41f68316c1

Have a Plan

Each household should preplan actions to take in the event of an emergency or disaster. Most disasters strike without sufficient warning to take meaningful protective measures. Prepare before.

For example, each family should decide where to meet if separated and select an out-of-area contact. Other things to consider can be found at:

- Be Prepared: Make a Plan (WSMD EMD Plan, 2021)
  mil.wa.gov/plan

2 Weeks Ready

When a disaster happens, normal services will be disrupted. Supplies should be stored onsite with the goal of being 2 weeks ready. This means 2 weeks' worth of food, water, pet food, warm clothes, medical supplies, and sanitation materials. Try to use materials you already have. Gradually work toward assembling these supplies using the Prepare in a Year Guide (WSMD EMD Prepare In a Year, 2021) and 2 Weeks Ready Brochure (WSMD EMD 2 Weeks Ready, 2021).

Smaller, mobile grab-and-go kits should also be assembled for each family member, including pets. Vehicle safety kits are also recommended.

Water is a key emergency preparedness item. Water should be included in your kits. At least 1 gallon of water per person or pet per day is recommended. (That's at least 14 gallons each for 2 weeks.) In addition to this emergency water supply, consider storing as much as you can since it will be needed for drinking, cooking, and hygiene. Also consider water purification options.

Additional Actions

Given the remoteness of the MRS Hazard Area, the following emergency preparedness actions are also recommended:

- Ensure adequate communications via cellular service, satellite phone, and/or handheld/CB radio;
- Register all phones in the Skamania County Emergency Notification System database to receive timely emergency notifications (SCSO SCENS, 2021);
- Keep a traditional radio onsite (with spare batteries) to receive updates;
- Keep emergency contacts up-to-date and easily accessible at your property;
- Regularly evaluate and replenish emergency supplies; and
- Regularly review volcano status (USGS CVO, 2021).

RECOMMENDED EMERGENCY ACTIONS

The following information has been adapted from the National Ready public service campaign's Volcanoes section (Ready, 2021).

Volcano Warning

If you are under a volcano warning:

- Listen for emergency information and alerts.
- Follow evacuation or shelter orders. If advised to evacuate, do so early.
- Avoid areas downstream of the eruption.
- Protect yourself from falling ash.
- Do not drive in heavy ash fall.
- Cloth masks help prevent the spread of COVID-19, but they will not adequately protect you from inhaling ash for longer periods of time like a respirator will. Respirators, like an N-95, are not meant to fit children.
- Reduce your ash exposure by doing the following:
  - Limit your time outdoors and use a dust mask or cloth mask as a last resort.
  - Avoid areas downwind and river valleys downstream of the volcano.
  - Take temporary shelter from volcanic ash where you are.
  - Cover ventilation openings and seal doors and windows.
  - Avoid driving in heavy ash. If you must drive, keep the windows up and do not use the air conditioning system.
  - Do not get on your roof to remove ash.
  - If you have any breathing problems, avoid contact with ash and stay indoors until authorities say it is safe to go outside.

Survive During

- Listen to alerts. The Volcano Notification Service provides up-to-date information about eruptions https://www.usgs.gov/natural-hazards/volcano-hazards/notifications.
- Follow evacuation orders from local authorities. Evacuate early.
  - Make plans to shelter with friends or family, if that is a feasible and safe option, or to a public shelter. Check with local authorities to determine which public shelters are open.
  - If you must stay at a public shelter or other public facility, take steps to keep yourself and others safe from COVID-19. Wash your hands often, maintain a physical distance of at least six feet between you and people who are not part of your household, and avoid crowds and gathering in groups. When possible, wear a mask. Avoid touching surfaces and your eyes, nose, and mouth.

  - Review the CDC's guidelines for "Going to a Public Disaster Shelter During the COVID-19 Pandemic."
- Avoid areas downwind, and river valleys downstream, of the volcano. Rubble and ash will be carried by wind and gravity.
- Take temporary shelter from volcanic ash where you are if you have enough supplies. Cover ventilation openings and seal doors and windows. Wear a mask and maintain a distance of at least six feet between yourself and those who are not a part of your household to slow the spread of COVID-19.
- If outside, protect yourself from falling ash that can irritate skin and injure breathing passages, eyes, and open wounds. Use a well-fitting, certified face mask such as an N95. The Centers for Disease Control and Prevention (CDC) has a list of certified masks and the maker's instructions on how to use the masks. Use a cloth mask to protect yourself for shorter periods of time.
- Avoid driving in heavy ash fall.

Be Safe After

- Listen to authorities to find out when it is safe to return after an eruption.
- Send text messages or use social media to reach out to family and friends. Phone systems are often busy after a disaster. Only make emergency calls.
- Avoid driving in heavy ash. Driving will stir up volcanic ash that can clog engines and stall vehicles.
- If you have any breathing problems, avoid contact with ash. Stay indoors until authorities say it is safe to go outside.
- Do not get on your roof to remove ash unless you have guidance or training. If you have to remove ash, then be very careful as ash makes surfaces slippery. Be careful not to contribute additional weight to an overloaded roof.
  - When cleaning, wear protective clothing, use appropriate face coverings or masks, and maintain a physical distance of at least six feet while working with someone else. Poor air quality can worsen asthma symptoms. People with asthma and/or other lung conditions should take precaution in areas with poor air quality. Children should not help with cleanup efforts.
  - Engage virtually with your community through video and phone calls. Know that it's normal to feel anxious or stressed. Take care of your body and talk to someone if you are feeling upset. Many people may already feel fear and anxiety about the coronavirus 2019 (COVID-19). Follow CDC guidance for managing stress during a traumatic event and managing stress during COVID-19

EVACUATION ROUTES

Access to the MRS Hazard Area is limited. There are 3 potential evacuation routes (Figure 3). The Southeast Route to Highway 14 (US-14) is the recommended MRS emergency evacuation route in most situations since it keeps the most distant from both Mt St. Helens and Mt. Adams. However, during any volcanic event use whichever route is recommended by the Skamania County Emergency Notification System (SCSO SCENS, 2021) or other local authorities.

- Heading **Southeast** to Highway (US-14) near Carson, WA (about 37 miles; 1 hour drive time)
  - Loowit Lane west to USFS 25 Road for 1.5 miles
  - USFS 25 Road south for 2 miles to USFS 90 road
  - USFS 90 Road east for 4 miles to Curly Creek Road
  - Curly Creek Road south for 5 miles to Meadow Creek Road
  - Meadow Creek Road (USFS 30 Road) south for 10 miles to Wind River Road
  - Wind River Road south, which turns into Wind River Highway, for 15 miles to US-14 near Carson, WA
- Heading **West** to Interstate 5 (I-5) in Woodland, WA (50 miles; 1 hour, 15-minute drive time)
  - THIS ROUTE IS IN CLOSE PROXIMITY TO MT. ST. HELENS, use during a Mt. Adams event or when recommended by local authorities
  - Loowit Lane west to USFS 25 Road for 1.5 miles
  - USFS 25 Road south for 2 miles to USFS 90 road
  - USFS 90 Road west, which turns into Lewis River Road (WA-503), for 46 miles to I-5 at Woodland, WA
- Heading **North** to US-12 in Randle, WA (45 miles; 1 hour, 20-minute drive time)
  - **THIS ROUTE MAY BE CLOSED IN WINTER**
  - THIS ROUTE IS IN CLOSE PROXIMITY TO BOTH MT. ST. HELENS and MT. ADAMS, use when recommended by responsible officials
  - Loowit Lane west to USFS 25 Road for 1.5 miles
  - USFS 25 Road north for 41 miles to WA-131
  - WA-131 north for 3 miles to US-1

4/5/2021 Google Maps

- Yellow – Southeast Route: **Recommended Evacuation Route** unless directed otherwise.
- Orange – West Route: This route is in CLOSE PROXIMITY TO MT. ST. HELENS; use during a Mt. Adams event, or as recommended by responsible officials.
- Red – North Route: This route is CLOSED IN WINTER and is CLOSE TO BOTH VOLCANOES

https://www.google.com/maps/@46.0702786,-122.0864788,11839m/data=!3m1!1e3 1/1

Figure 3. MRS Evacuation Routes.

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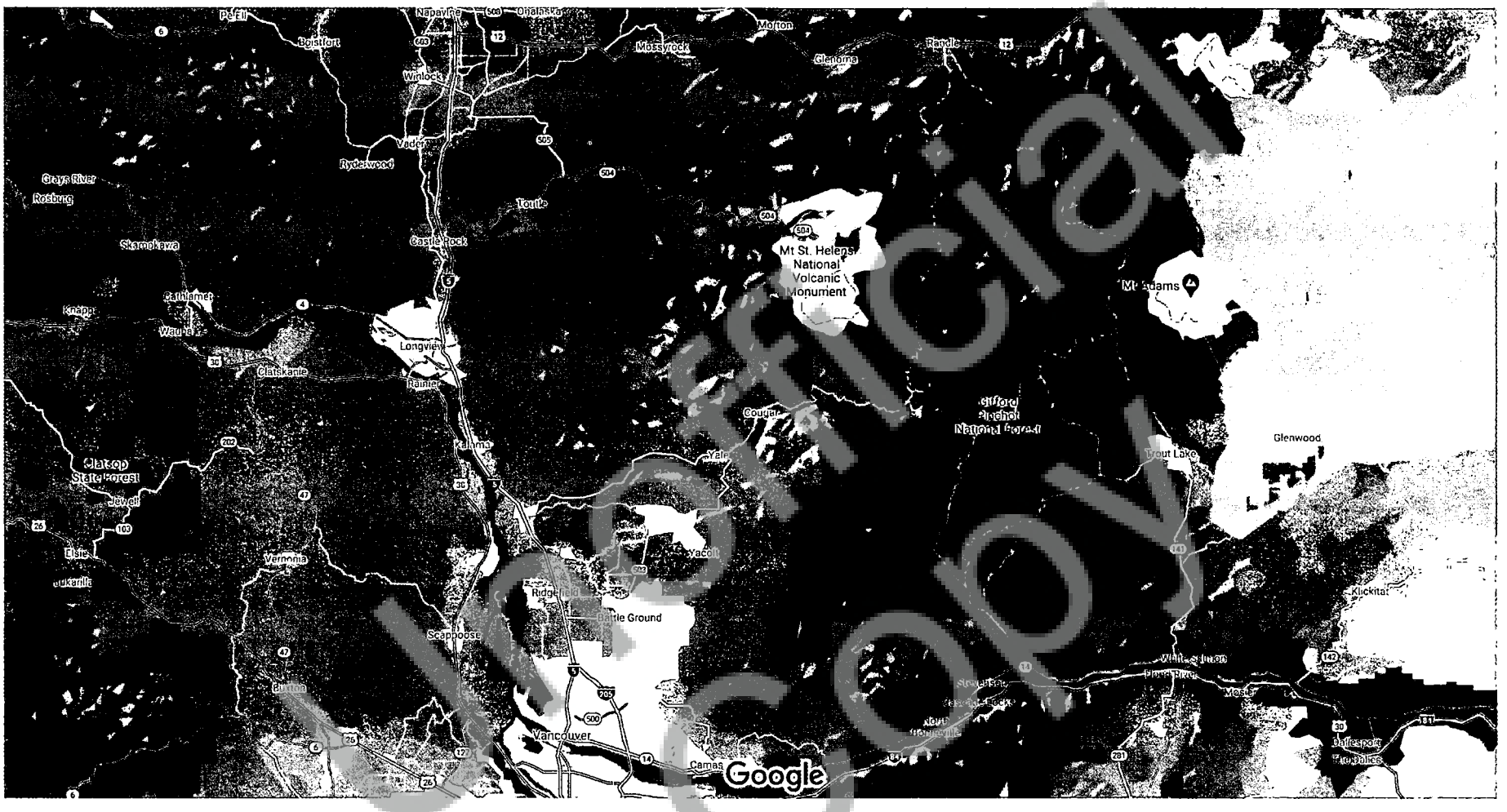
Appendix A

Google Maps



Map data ©2021 Google 5 mi

"MUDDY RIVER" SUBDIVISION

IN LOT 4 OF "SAUER SHORT PLAT"

IN A PORTION OF

THE E 1/2 OF THE SW 1/4

AND THE W 1/2 OF THE SE 1/4 OF

SECTION 24, T. 7 N., R. 6 E., W.M.,

SKAMANIA COUNTY, WASHINGTON

PROPERTY OWNER:
GERALD AND MARY SAUER
28300 NE 18TH STREET
CAMAS, WA 98607

DEED REFERENCE:
GRANTOR: GERALD AND MARY SAUER
GRANTEE: THREE RIVERS RECREATIONAL AREA–SAUER, LLC
AUDITOR'S FILE NUMBER 2014001422
DATE: AUGUST, 28, 2014

SURVEY REFERENCE:
1) "SAUER SHORT PLAT", AUDITOR'S FILE NUMBER 2005160078

REQUIRED NOTES:

A) THIS SITE LIES WITHIN A GEOLOGIC HAZARD AREA. RESTRICTIONS ON USE OR ALTERATION OF THE SITE MAY EXIST. FOR MORE INFORMATION, CONTACT THE SKAMANIA COUNTY COMMUNITY DEVELOPMENT DEPARTMENT.

B) LOTS IN THIS SUBDIVISION ARE LOCATED WITHIN AN EROSION HAZARD AREA. AN EROSION CONTROL PLAN WILL BE REQUIRED PRIOR TO ANY CONSTRUCTION.

C) LOT 1 AND LOT 2 INCLUDE LANDSLIDE HAZARD AREAS. DEVELOPMENT ON THESE LOTS MUST COMPLY WITH THE GEOTECHNICAL SETBACK LINES AS INDICATED AND WITH THE LANDSLIDE HAZARD STUDY RECORDED WITH THE SKAMANIA COUNTY AUDITOR'S OFFICE IN AF#2005-158678.

D) EACH OF THE LOTS WITHIN THE MUDDY RIVER SUBDIVISION MEETS THE MINIMUM ACCEPTABLE STANDARDS FOR SITING AN ONSITE SEWAGE DISPOSAL SYSTEM IN THE REFERENCED TEST PIT LOCATIONS. ANY CHANGES TO THE SITE AND/OR CONDITIONS OF APPROVAL MAY VOID THIS EVALUATION AND APPROVAL. A SATISFACTORY SITE EVALUATION DOES NOT CONSTITUTE AN INDEFINITE APPROVAL FOR A SEWAGE DISPOSAL SYSTEM.

E) THE APPROVED INITIAL, RESERVE, AND/OR EXISTING SEWAGE SYSTEM SITES SHALL BE PROTECTED FROM DAMAGE DUE TO DEVELOPMENT. THESE SITES SHALL BE MAINTAINED SO THEY ARE FREE FROM ENCROACHMENT BY BUILDINGS, ROADS, AND OTHER STRUCTURES. THESE AREAS SHALL NOT BE COVERED BY ANY IMPERVIOUS MATERIAL AND NOT BE SUBJECT TO VEHICULAR TRAFFIC OR OTHER ACTIVITY WHICH WOULD ADVERSELY AFFECT THE SOIL.

F) LOTS 2-5 IN THE MUDDY RIVER SUBDIVISION ARE SERVED BY THE GROUP B PUBLIC WATER SYSTEM AS APPROVED BY THE WASHINGTON DEPARTMENT OF HEALTH. (THIS NOTE SHALL ALSO INCLUDE THE NAME OF THE WATER SYSTEM AND DEPARTMENT OF HEALTH REFERENCE NUMBER)

G) A WILDLIFE HABITAT ASSESSMENT REPORT IS RECORDED UNDER SKAMANIA COUNTY AF# 2005158678.

H) A LANDSLIDE HAZARD STUDY IS RECORDED UNDER SKAMANIA COUNTY AF# 2005158678.

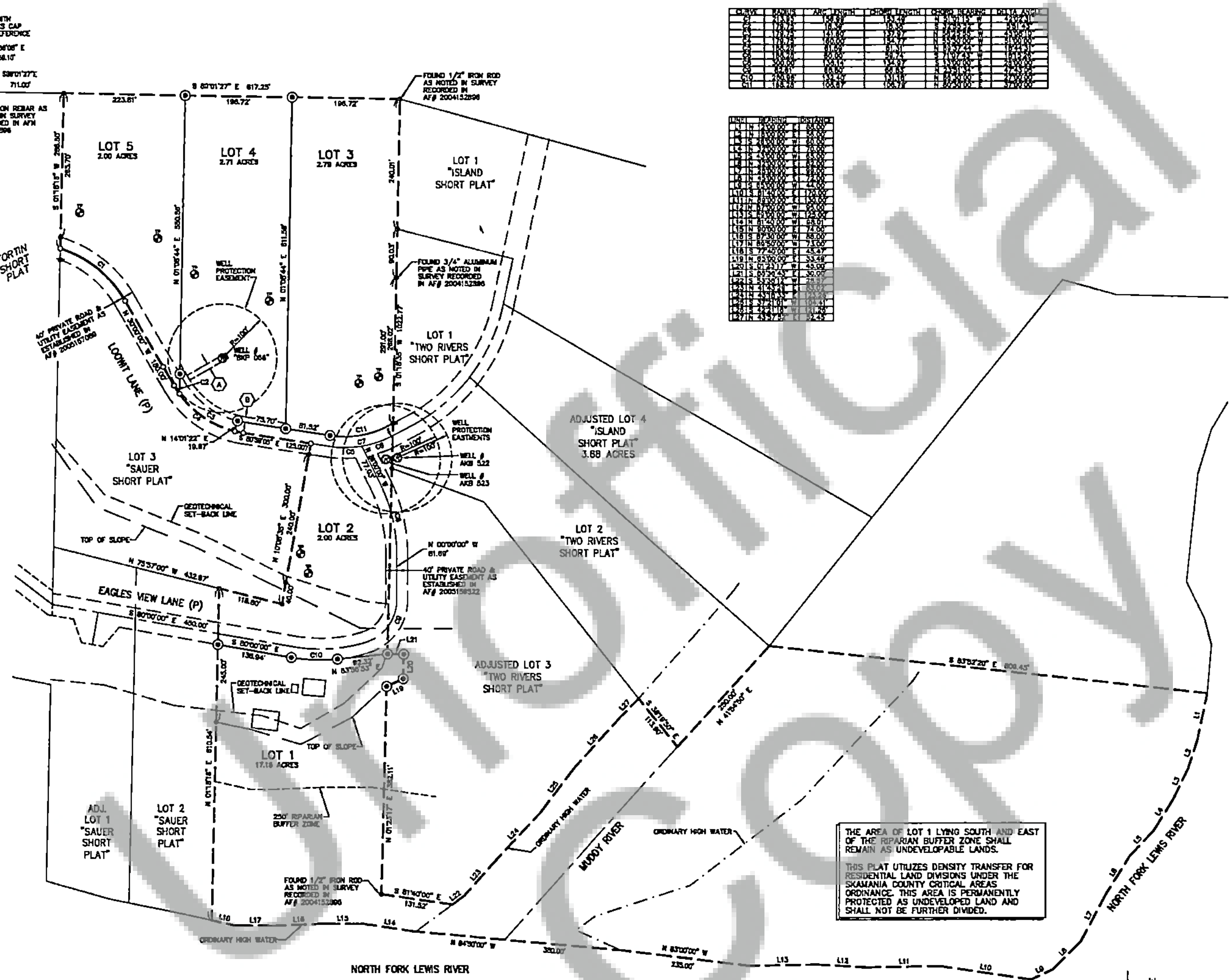
I) A 250' RIPARIAN BUFFER ZONE, AS SHOWN, IS ESTABLISHED BORDERING NORTH FORK LEWIS RIVER. NO VEGETATION REMOVAL IS ALLOWED WITHIN THE BUFFER AREA, UNLESS IT IS A MITIGATED NOXIOUS OR INVASIVE SPECIES.

J) THIS PROPERTY IS WITHIN BIG GAME WINTER RANGE. THE PROPERTY COULD BE DAMAGED, AND INDIVIDUAL LOT OWNERS WILL BE LIABLE FOR THE REPAIRS. ANY VEGETAION PLANTED ON THE SUBJECT SITE SHOULD BE NATIVE TO THE AREA.

K) CC&Rs ARE RECORDED UNDER SKAMANIA COUNTY AF#2005159105.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	213.13'	153.69'	[illegible]	[illegible]	[illegible]
C2	178.75'	18.36'	[illegible]	[illegible]	[illegible]
C3	178.75'	141.10'	[illegible]	[illegible]	[illegible]
C4	178.75'	160.00'	[illegible]	[illegible]	[illegible]
C5	138.24'	61.60'	[illegible]	[illegible]	[illegible]
C6	138.24'	60.00'	[illegible]	[illegible]	[illegible]
C7	300.00'	[illegible]	[illegible]	[illegible]	[illegible]
C8	88.87'	60.00'	[illegible]	[illegible]	[illegible]
C10	280.98'	132.40'	131.18'	[illegible]	[illegible]
C11	188.24'	105.87'	104.77'	[illegible]	[illegible]

LINE	BEARING	DISTANCE
L1	N 12°00'00" E	84.00'
L2	N 18°00'00" E	58.00'
L3	S 28°00'00" W	60.00'
L4	N 32°00'00" E	70.00'
L5	S 43°00'00" W	65.00'
L6	N 34°00'00" E	67.00'
L7	N 28°00'00" E	89.00'
L8	N 45°00'00" E	72.00'
L9	S 65°00'00" W	44.00'
L10	S 81°40'00" E	170.00'
L11	N 89°00'00" E	130.00'
L12	N 87°00'00" W	55.00'
L13	S 81°00'00" W	125.00'
L14	N 81°40'00" W	88.01'
L15	N 90°00'00" E	74.00'
L16	S 87°30'00" W	88.00'
L17	N 89°50'00" W	73.00'
L18	S 77°40'00" E	45.47'
L19	N 65°00'00" E	33.49'
L20	S 01°23'17" W	45.00'
L21	S 85°30'43" E	30.00'
L22	S 53°30'12" W	[illegible]
L23	N 41°45'21" E	[illegible]
L24	N 45°16'53" E	[illegible]
L25	S 37°21'01" W	104.41'
L26	S 42°21'16" W	121.26'
L27	N 45°57'45" E	52.45'



THE AREA OF LOT 1 LYING SOUTH AND EAST OF THE RIPARIAN BUFFER ZONE SHALL REMAIN AS UNDEVELOPABLE LANDS.

THIS PLAT UTILIZES DENSITY TRANSFER FOR RESIDENTIAL LAND DIVISIONS UNDER THE SKAMANIA COUNTY CRITICAL AREAS ORDINANCE. THIS AREA IS PERMANENTLY PROTECTED AS UNDEVELOPED LAND AND SHALL NOT BE FURTHER DIVIDED.

ALL ROAD EASEMENTS SHOWN ARE NON-EXCLUSIVE PRIVATE ROAD EASEMENTS FOR INGRESS, EGRESS AND UTILITIES. AUTHORIZED USE OF ALL ORIVATE ROADS IS TO ACCESS POSSIBLE FUTURE DEVELOPMENT OF ADJOINING PROPERTIEWS FOR INGRESS, EGRESS AND UTILITIES.

LAND WITHIN THIS SUBDIVISION SHALL NOT BE FURTHER SUBDIVIDED.

WARNING: PURCHASERS OF A LOT, OR LOTS, IN THIS PLAT ARE ADVISED THAT THE LOT, OR LOTS, IN THIS PLAT ARE SERVICED BY PRIVATE ROADS. PRIVATE ROADS ARE NOT MAINTAINED BY SKAMANIA COUNTY. LOT OWNERS WITHIN THIS PLAT MUST PAY FOR THE MAINTENANCE OF THE PRIVATE ROADS SERVING THIS PLAT, INCLUDING GRADING, DRAINAGE, SNOW PLOWING, ETC. THE CONDITION OF THE PRIVATE ROAD MAY AFFECT SUBSEQUENT ATTEMPTS TO DIVIDE YOUR LOT, OR LOTS. PRIVATE ROADS MUST COMPLY WITH SKAMANIA COUNTY'S PRIVATE ROAD REQUIREMENTS" (ORD. 1980-07, SEC. 6.20.)
SEE ROAD MAINTENANCE AGREEMENT RECORDED UNDER AUDITOR'S FILE NUMBER 2007166228.

PER FEMA MAP PANEL 5301600175B, ALL UPLANDS ARE IN A ZONE "C" (AREA OF MINIMAL FLOODING). THE LEWIS AND MUDDY RIVER ARE IN A ZONE "A" (AREA OF 100 YEAR FLOOD, BASE FLOOD ELEVATIONS AND FLOOD HAZARDS HAVE NOT BEEN DETERMINED)

(A) 10' WATER LINE EASEMENT TO LOTS 2, 4 AND 5
(B) 5' WATER LINE EASEMENT TO LOTS 3 AND 5

LEGEND

- ◎ INDICATES 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP STAMPED (FEEDER 41032) SET
- ● INDICATES MONUMENT FOUND PER SURVEY REFERENCE NO. 1 UNLESS NOTED OTHERWISE
- ○ INDICATES CALCULATED POSITION
- INDICATES WELL
- YPC INDICATES YELLOW PLASTIC CAP
- AFN INDICATES AUDITORS FILE NUMBER
- (SR#) INDICATES SURVEY REFERENCE NUMBER
- INDICATES SUBJECT PROPERTY
- INDICATES LOT LINE
- INDICATES ORDINARY HIGH WATER
- INDICATES TOP OF SLOPE
- INDICATES GEOTECHNICAL SETBACK LINE
- INDICATES RIPARIAN BUFFER LINE

N

BASIS OF BEARING: S 89°01'49" E HELD ALONG THE NORTH LINE OF "SAUER SHORT PLAT" RECORDED IN AF# 2005160078

0 100 200 300
SCALE: 1"=100'

SKAMANIA COUNTY ENGINEER

I, ________________, COUNTY ENGINEER OF SKAMANIA COUNTY WASHINGTON, CERTIFY THAT THIS PLAT MEETS CURRENT SKAMANIA COUNTY SURVEY REQUIREMENTS; CERTIFY THAT ANY ROADS AND/OR BRIDGES, DEVELOPED IN CONJUNCTION WITH THE APPROVED PLAN, MEET CURRENT SKAMANIA COUNTY DEVELOPMENT STANDARDS FOR ROADS; CERTIFY THAT THE CONSTRUCTION OF ANY STRUCTURES, REQUIRED FOR AND PRIOR TO FINAL APPROVAL, MEETS STANDARD ENGINEERING SPECIFICATIONS; APPROVE THE LAYOUT OF ROADS AND EASEMENTS; AND APPROVE THE ROAD NAMES AND NUMBERS OF SUCH ROADS.

SKAMANIA COUNTY ENGINEER DATE

DECLARATION

WE, THE OWNER(S) OF THE HEREIN SHOWN TRACT OF LAND, HEREBY DECLARE AND CERTIFY THAT THIS SUBDIVISION TO BE TRUE AND CORRECT TO THE BEST OF MY ABILITIES AND THAT THIS SUBDIVISION HAS BEEN MADE WITH MY FREE CONSENT AND IN ACCORDANCE WITH MY DESIRES.

OWNER(S) SIGNATURE NAME OF OWNER DATE

OWNER(S) SIGNATURE NAME OF OWNER DATE

SKAMANIA COUNTY TREASURER

ALL TAXES AND ASSESSMENTS ON PROPERTY INVOLVED WITH THIS SUBDIVISION HAVE BEEN PAID, DISCHARGED OR SATISFIED THROUGH FOR TAX PARCEL 07-06-24-0-0-0200-00

TREASURER DATE

SKAMANIA COUNTY BOARD OF COUNTY COMMISSIONERS

THE LAYOUT OF THIS SUBDIVISION COMPLIES WITH SKAMANIA COUNTY CODE TITLE 17, REQUIREMENTS AND THE PLAT IS APPROVED SUBJECT TO RECORDING IN THE SKAMANIA COUNTY AUDITOR'S OFFICE.

BOARD OF COUNTY COMMISSIONERS, CHAIR DATE

SKAMANIA COUNTY AUDITOR

STATE OF WASHINGTON) SS
COUNTY OF SKAMANIA)

I HEREBY CERTIFY THAT THE WITHIN INSTRUMENT OF WRITING FILED BY ________ OF ________ AT _____ __M., 2021.

AUDITOR'S FILE NUMBER ________

RECORDER OF SKAMANIA COUNTY, WASHINGTON

SKAMANIA COUNTY AUDITOR DATE

SURVEYOR'S CERTIFICATE:

I, KYLE FEEDER , REGISTERED AS A PROFESSIONAL LAND SURVEYOR BY THE STATE OF WASHINGTON, CERTIFY THAT THIS PLAT IS BASED ON AN ACTUAL SURVEY OF THE LAND DESCRIBED HEREIN, CONDUCTED BY ME OR UNDER MY SUPERVISION, DURING THE PERIOD OF JUNE 2020, THROUGH JULY, 2020; THAT THE DISTANCES, COURSE, AND ANGLES ARE SHOWN THEREON CORRECTLY; AND THAT MONUMENTS OTHER THAN THOSE MONUMENTS APPROVED FOR SETTING AT A LATER DATE HAVE BEEN SET AND LOT CORNERS STAKED ON THE GROUND AS DEPICTED ON THE PLAT.

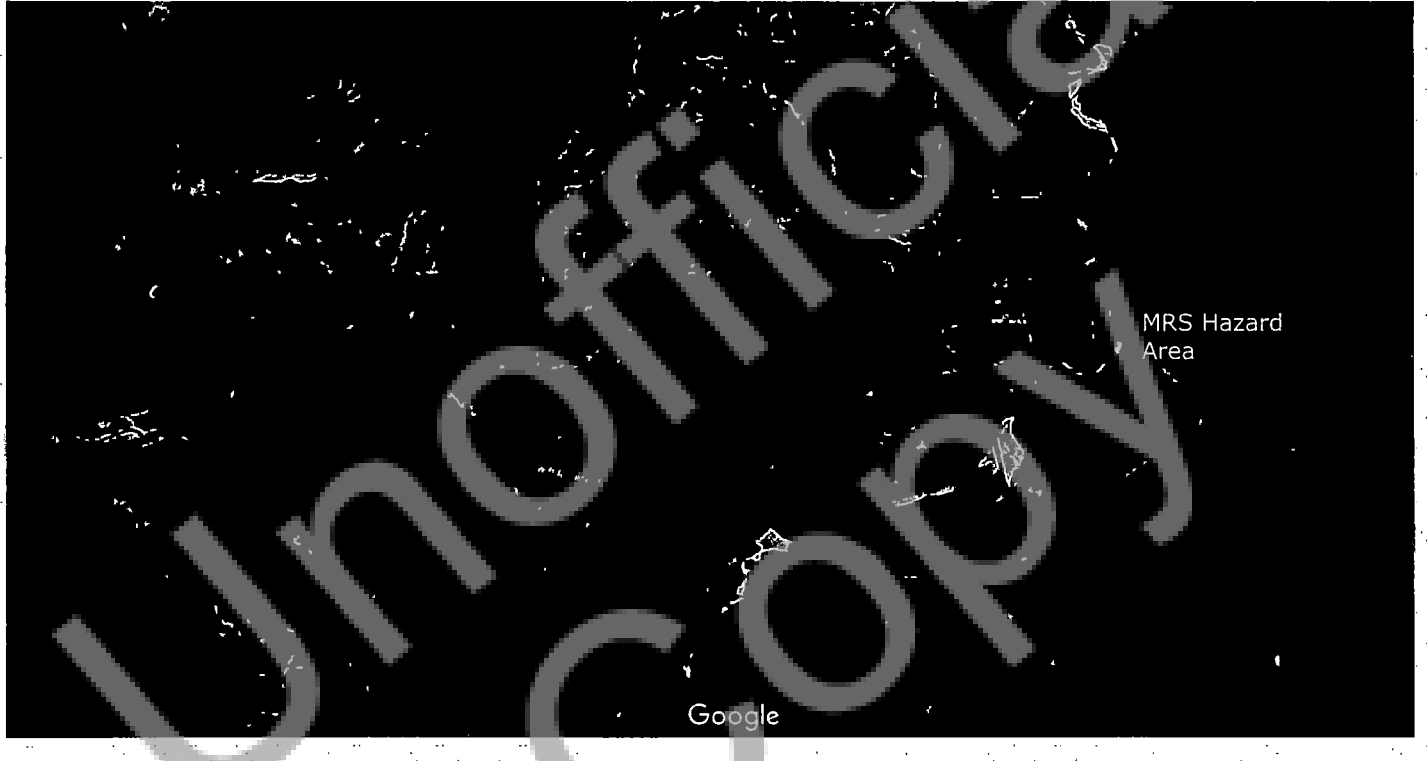
KYLE P. FEEDER, PROFESSIONAL LAND SURVEYOR, PLS NO. 41032 DATE

KYLE PATRICK FEEDER — STATE OF WASHINGTON — 41032 — REGISTERED PROFESSIONAL LAND SURVEYOR

DATE:	3-17-21
SCALE:	1"=100'
JOB NO.:	20-026
CALC BY:	KPF
DRAWN BY:	GLP
CHECKED BY:	KPF
SHEET 1 OF 1	

KPF
SURVEYING, INC.
2206 E. EVERGREEN BLVD. VANCOUVER, WA 98661
360-834-0174 FAX: 360-838-0155

Google Maps



Imagery ©2021 Landsat / Copernicus, Maxar Technologies, Metro, Portland Oregon, USDA Farm Service Agency, Map data ©2021 5000 ft

- Yellow – Southeast Route: **Recommended Evacuation Route** unless directed otherwise.
- Orange – West Route: This route is in CLOSE PROXIMITY TO MT. ST. HELENS; use during a Mt. Adams event, or as recommended by responsible officials.
- Red – North Route: This route is CLOSED IN WINTER and is CLOSE TO BOTH VOLCANOES

Google Maps

Google Maps

Map data ©2021 Google 5 mi

Appendix B

FINAL

FINAL

Volcanic Hazard Study

Pine Creek Short Plats
Skamania County, Washington

Prepared for:
Three Rivers Recreational Area
Vancouver, WA
May 2, 2007
Revised May 17, 2007

ATTACHMENT L

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Figure 1 Site Plan
Figure 2 Volcanic Hazard Zonation map of Mt St Helens
Figure 3 Site topography with recent lahar flows
Figure 4 Well logs

1.0 EXECUTIVE SUMMARY

Rapid Soil Solutions prepared this Volcanic Hazard report for the proposed development of 52 lots comprised in the 13 short plats: The project site is shown on Figure 1 in Appendix A. The proposed improvements will include single family recreational houses on the lots.

Pine Creek Short Plats:

Pine Nut	Sauer
Pine Squirrel	Fortin
Pine Needle	Loowit
Pine Tree	Eagle Cliff
Pine Cone	Island
Pine Boulder	Two Rivers
Pine Marteen	

The current state of Mount St. Helens is being monitored by the USGS (United States Geologic Survey) whereas the focus of this report is to inform the land owners their proximity to the Volcano and the hazards associated with living near it.

2.0 VOLCANIC HAZARDS

2.1 Location and Hazard Extent

The location of the project site is shown on Figure 1, in Appendix A. The Volcanic Hazard Zonation map for all of the Mt St. Helens area is Figure 2 in Appendix A. This is an estimate of area's vulnerable to passage of high concentration flows and areas that could be overrun by pyroclastic surges caused by low density flows (1). Figure 3 shows the site in relation to the eruption of 1980. The key to the project is the elevation of the site. The building sites within the short plats are not along the rivers, but up on the plateau's created by hundred's of years of erosion.

Since the on-going recent activity of Mt St Helens and in the Hawaii Islands the USGS has a started a Volcanic alert-notification system nationwide for characterizing the level of unrest and eruptive activity at volcanoes. The four-tiered Volcano Alert Level uses the terms **Normal, Advisory, Watch,** and **Warning** (from background levels to highest threat - see Table 1). The Volcano Alert Levels are intended to inform people on the ground about a volcano's status and are issued in conjunction with the Aviation Color Code. Notifications are issued for both increasing and decreasing volcanic activity and are accompanied by text with details about the nature of the unrest or eruption and about potential or current hazards and likely outcomes. (2) See web link below for the current state of Mount St. Helens.

---

1 Volcanic Hazard Zonation for Mt St. Helens 1995 by Edward W Wolf and Thomas Pierson
2 USGS Alert Nofication System (http://volcanoes.usgs.gov/2006/warnschemes.html)

2.2 Geomorphology

Volcanoes commonly repeat their past behavior. Thus, it is likely that the types, frequencies, and magnitudes of past activity will be repeated in the future. Among the possibilities for renewed eruptive activity at Mount St. Helens are resumption of dome growth, eruption of basaltic or andesitic tephra and lava flows, or explosive eruptions of dacitic tephra and pyroclastic flows in volumes that could be as large as or even larger than the volume erupted in 1980. Lahars (sediment-rich floods in volcanic terrain) generated by snowmelt are likely to accompany any eruptive activity (3). The Volcanic Hazard Zonation map was created to forcast future eruptions based on the prevailing winds, glacier, lava dome size.

2.3 Ground Water and Soil Stability

Ground water should be un-affected by future erupts of the mountain. Figure 4 in Appendix A shows the location of the wells installed on site and the depths that water was reached. Past lahar flows did not reach this far into the valley. Although future flows may. The elevation difference between well height and ground water should remain un-affected by future lahar flows into the area.

Soil stability of the area was covered in the Landslide Hazard Study by GeoPacific, dated June 4th 2005.

2.4 Short and long term geologic activity

2.4.1 Short Term Activity

Current activity of the mountain can be seen on the Mt St Helens volcanocam installed in 1996. The VolcanoCam is located at the Johnston Ridge Observatory at an elevation of approximately 4,500 feet, about five miles from the volcano. The VolcanoCam is looking approximately south-southeast across the North Fork Toutle River Valley towards Mount St. Helens.

Current Volcanic- Alert Level WATCH ; Aviation Color Code ORANGE :
Growth of the new lava dome inside the crater of Mount St. Helens continues, accompanied by low rates of seismicity, low emissions of steam and volcanic gases, and minor production of ash.

Potential ash hazards: Wind forecasts from the National Oceanic and Atmospheric Administration (NOAA), coupled with eruption models, show that any ash clouds rising above the crater rim today would drift NNE.

Potential ash hazards to aviation: Under current eruptive conditions, small, short-lived explosions may produce ash clouds that exceed 30,000 feet in altitude. Ash from such events can travel 100 miles or more downwind.

---

3 Obervations of Glacial, Geomorphic, Biologic, and Mineralog Development in the Crater at Mount St. Helens, Washington by Charles Anderson and Mark Vining, December 1999.

Recent observations: This morning, visibility is limited by a late season snow storm with expected snow levels dropping to 2500 to 3000 feet tonight. There have been no changes in background levels of seismicity or motion of the growing dome (2).

2.4.2 Long Term Activity

On going research is being conducted from the Johnston Ridge Observatory by the USGS. The following is a link to daily monitoring of the site at a many locations.

http://vulcan.wr.usgs.gov/Volcanoes/MSH/Hydrology/Stations/framework.html.

Future eruptions are certain. Although we do not know when the next one will occur, it should be planned for. This report delineates areas that are likely to be at risk (hazard zones) during another major eruption.

2.5 Summary of Impacts

The best description of impacts to the area is the Volcanic Hazard Zonation map in Appendix A. See section 2.4.2 for long term activity of the mountain.

3.0 RECOMMENDATIONS

Volcanic activity at Mount St. Helens is carefully monitored by the U.S. Geological Survey and the University of Washington. Some kinds of events, such as crater-wall avalanches or steam-driven explosions from the dome have occurred without warning in the past and may do so again. However, our experience since early 1980 at Mount St. Helens and elsewhere indicates that the monitoring is sufficient for us to detect the ascent of fresh magma that must take place before another large eruption. As in the past, interpretation of phenomena related to magma ascent will enable us to provide warnings and updated assessments of hazards.

The following web site link: http://vulcan.wr.usgs.gov/Hazards/Safety/framework.html Discuss the recommendations by both The US Red Cross and FEMA on what to do if the Volcano Erupts. It would be prudent to review it ½ yearly (like the replacement of batteries in smoke detectors) the actions they suggest if conditions change on Mt St. Helens.

The plus side to Volcanic materials is their ultimately break down and weather to form some of the most fertile soils on Earth, cultivation of which has produced abundant food and fostered civilizations.

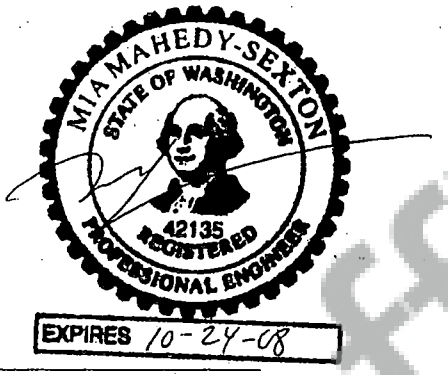
4.0 LIMITATIONS

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations.

If there is a substantial lapse of time between the submission of this report and the start of adjacent to, the site; or, if the basic project scheme is significantly modified from that

assumed, it is recommended this report be reviewed to determine the applicability of the conclusions and recommendations.

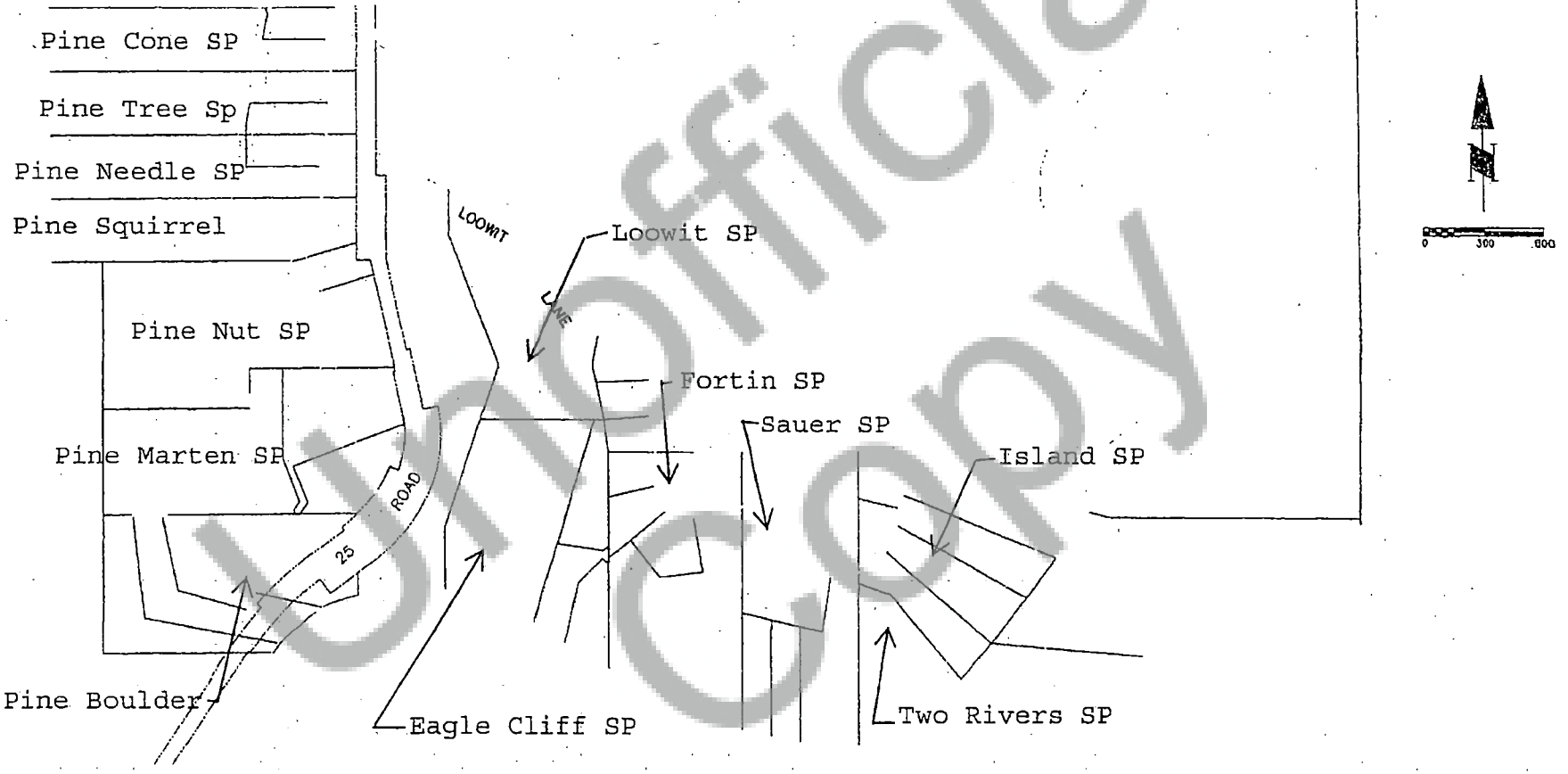
The work has been conducted in general conformance with the standard of care in the field of geotechnical engineering currently in practice in the Pacific Northwest for projects of this nature and magnitude. No warranty, express or implied, exists on the information presented in this report. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of development at the site, as outlined within the report.

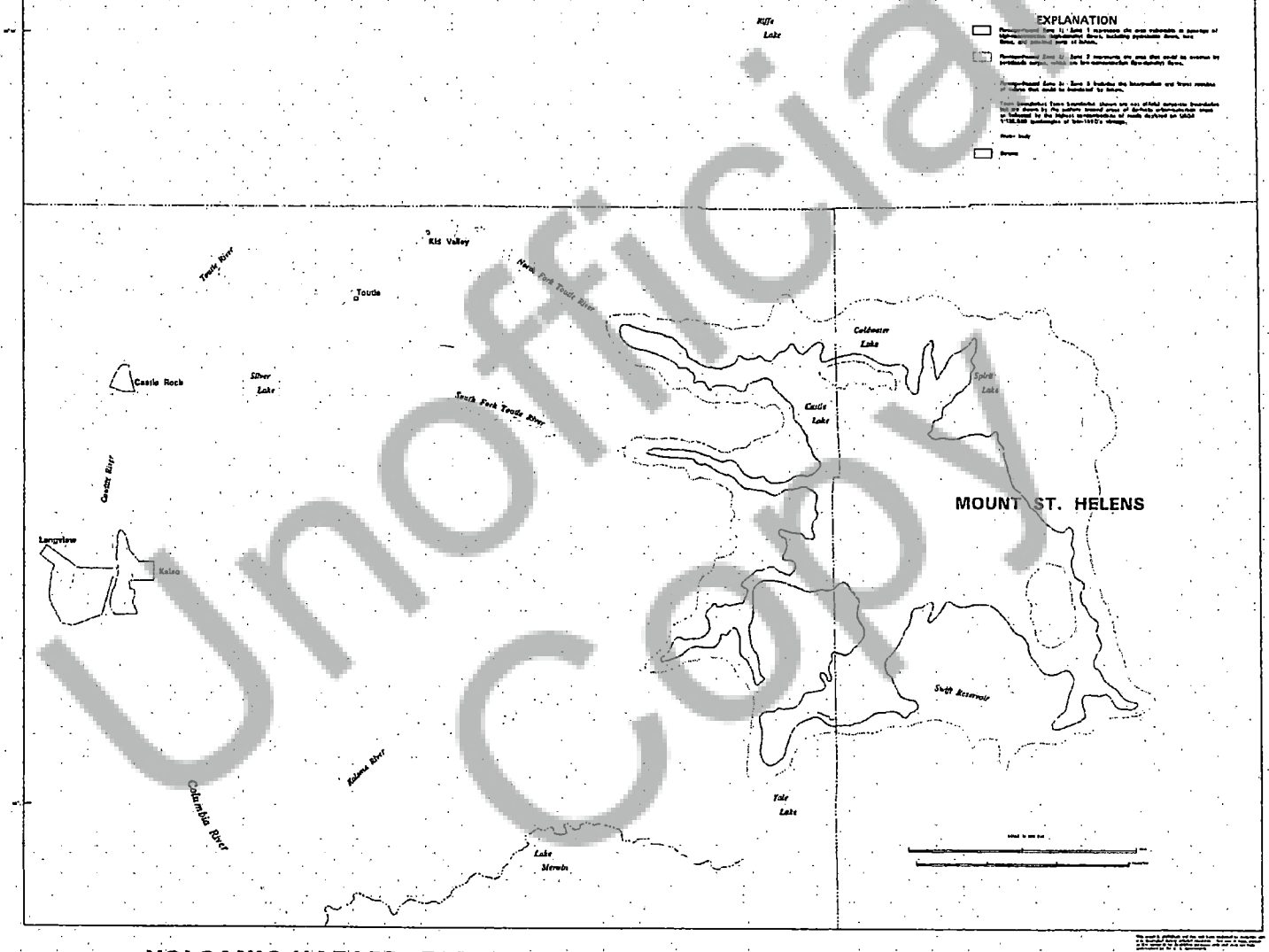


Mia Mahedy-Sexton, PE.

APPENDIX A

Figure 1 - Site Plan





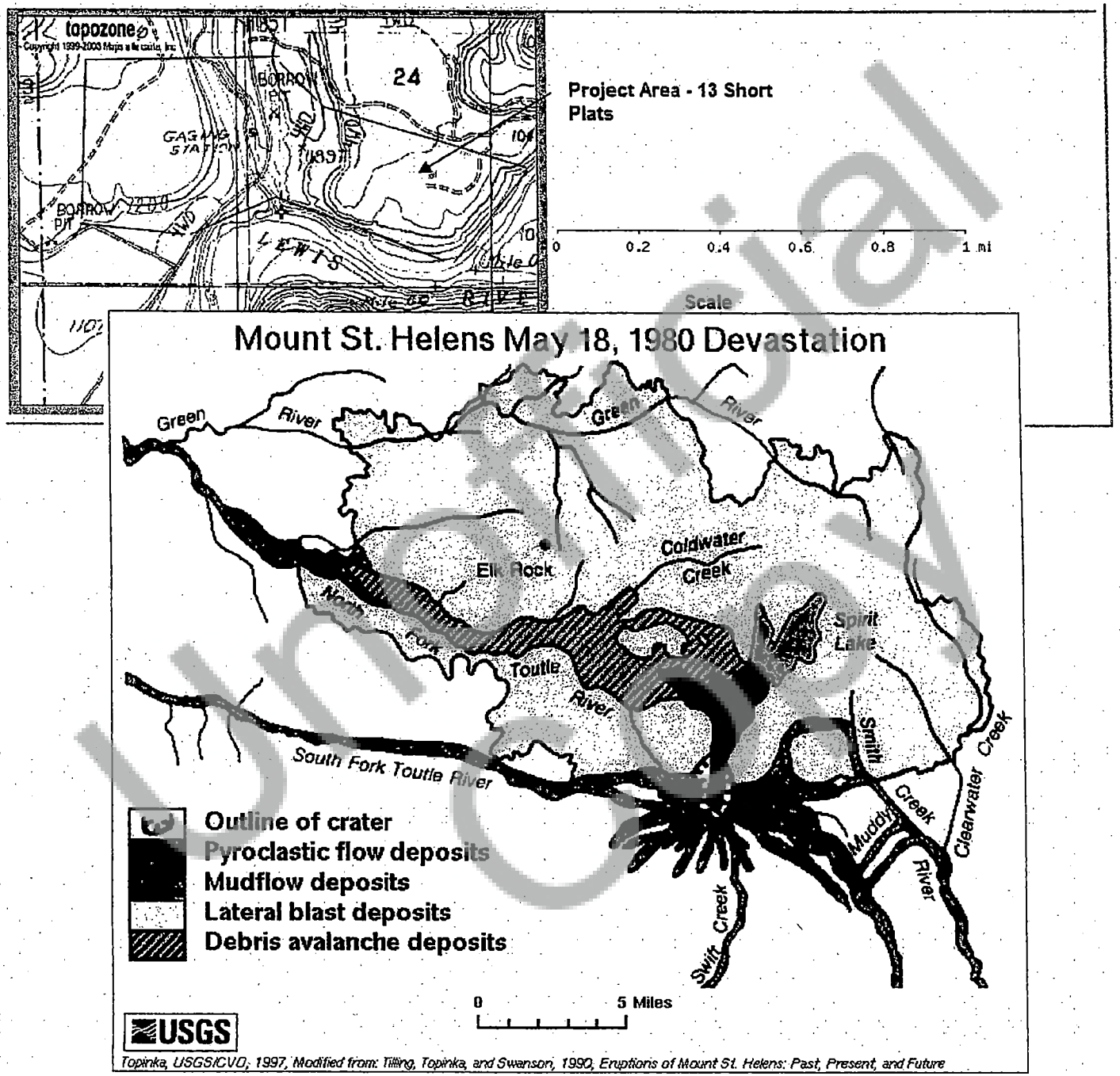
VOLCANIC-HAZARD ZONATION FOR MOUNT ST. HELENS, WASHINGTON

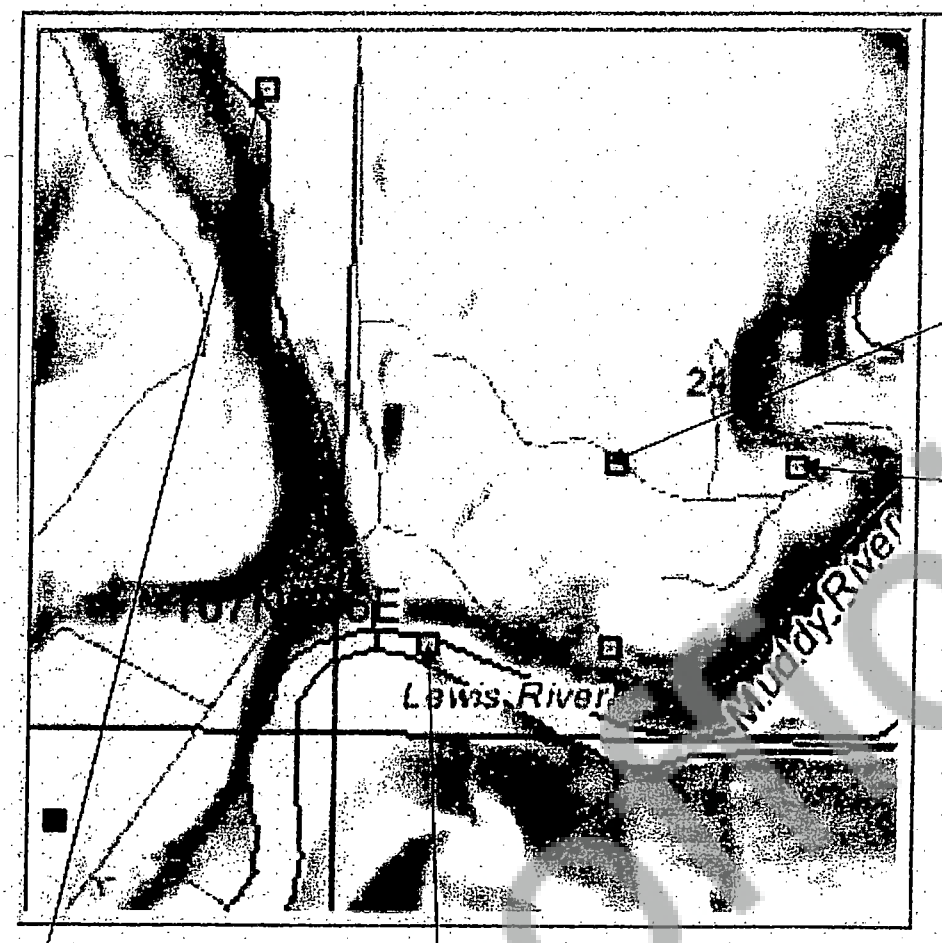
by

Edward W. Wolfe and Thomas C. Pierson

1995

Figure 3 - Site Topography with recent lahar flows





Well logs data from Washington Department of Ecology

Figure 4 - Well Logs