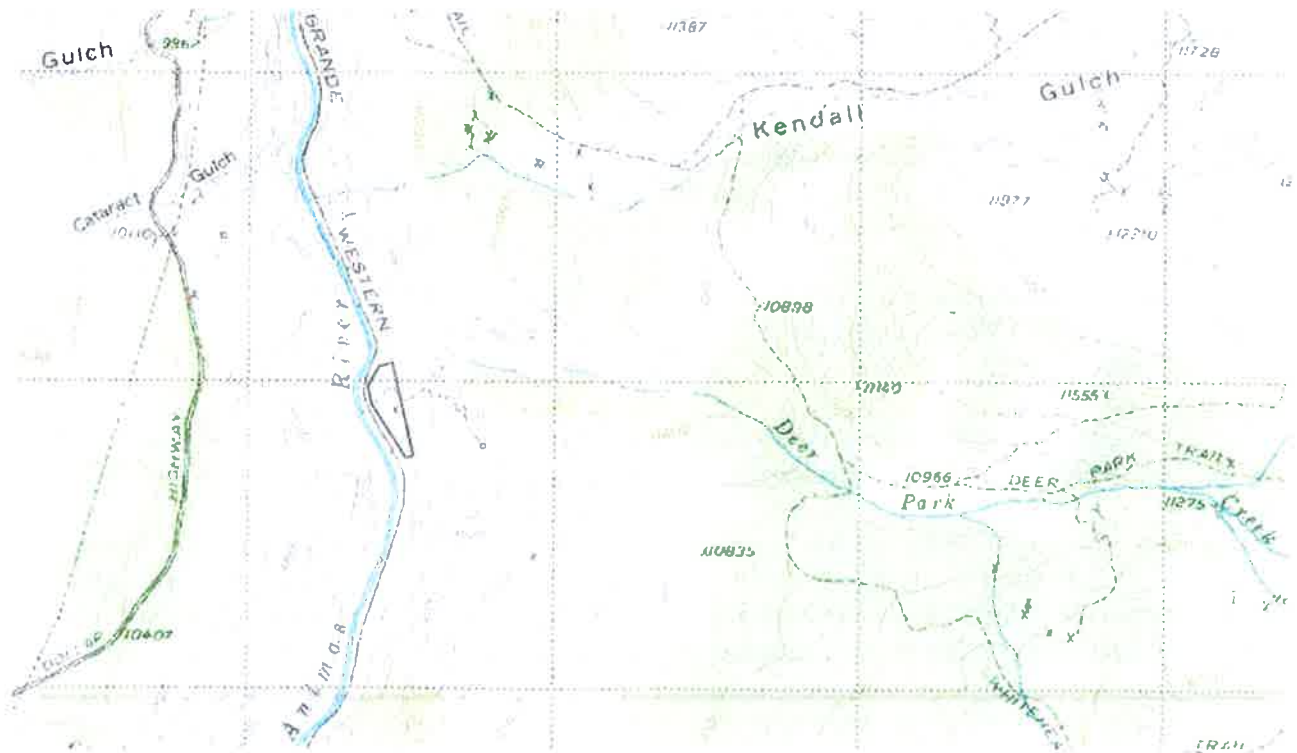


**IMPROVEMENT PERMIT APPLICATION  
Sketch Plan Submittal**

**Proposed Bowman Cabin  
Cumberland Mill Site USMS No. 693B  
Adjacent to DSNRRR Right-of-Way  
At the Confluence of Deer Park Creek & the Animas River  
Near Silverton, San Juan County, Colorado**



**Applicant:**

Gary Bowman  
910 North Leroux Street  
Flagstaff, Arizona 86001  
Gary.Bowman@nau.edu  
(928) 853-8180

**Prepared By:**

Engineer Mountain, Inc.  
Job No. 2014-103  
(970) 387-0500

**Submitted:**

April 29, 2015



\*SOILS \*RETAINING WALLS  
\*SEPTICS \*FOUNDATIONS  
\*GRADING AND DRAINAGE  
\*SITE DEVELOPMENT

April 29, 2015

San Juan County  
Attn: Bob Nevins  
1360 Greene Street  
Silverton, Colorado 81433

EMI Job No. 2014-103

Subject: Improvement Permit Application, Sketch Plan Submittal, Proposed Bowman Cabin, Cumberland Mill Site USMS No. 693B, Adjacent to DSNRR Right-of-Way, at Confluence of Deer Park Creek and Animas River, near Silverton, San Juan County, Colorado.

Dear Bob and Commissioners:

This submittal has been prepared to describe the proposed improvements on the Cumberland Mill Site, owned by Gary Bowman of Arizona. The property is located along the Durango & Silverton Narrow Gauge Railroad Right-of-Way, at the confluence of Deer Park Creek and the Animas River.

The attached documents have been prepared as a Sketch Plan submittal for a San Juan County Improvement Permit Application. The Applicant requests review of this project by the Planning Commission at their meeting in 21 days, on May 20, 2015.

The proposed improvements are located at an approximate elevation of 9200 feet, and consist of a one-story residential cabin, a shed, and associated utility improvements.

No driveway is proposed. The access for this project will be via the Durango & Silverton Narrow Gauge Railroad regularly scheduled passenger trains. There is also "casual use" pedestrian access across BLM land, from Deer Park and the Whitehead Trail. The access for this project was reviewed by the Planning Commission on December 10, 2014.

Please contact Engineer Mountain, Inc. if you have any questions.

Sincerely,

Lisa M. Adair, PE  
Engineer Mountain, Inc.

Attachments for Bob Nevins, with 14 Binders for Staff/Commissioners:

Receipt from County Treasurer for \$350 Improvement Permit Application Fee  
Original Signed San Juan County Application for Improvement Permit Form  
Adjacent Land Owner Envelopes

CC: Gary Bowman, Pete Maisel, Mark Mackie, Bob Larson

**IMPROVEMENT PERMIT APPLICATION  
Sketch Plan Submittal**

**Proposed Bowman Cabin  
Cumberland Mill Site USMS No. 693B  
Adjacent to DSNGRR Right-of-Way  
Near Silverton, San Juan County, Colorado  
Engineer Mountain, Inc.**

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11. Access Information Report
12. Scenic Evaluation Report

Front Cover Photo Credit: Scan of USGS Topo Quad Map

### Application for Improvement Permit

		APPROVAL CHECKLIST	
		Initial	Date
Applicant	Name <b>GARY DOWMAN</b>	<b>Land Use Administrator</b>	
	Address <b>910 NORTH LEROUX STREET</b>	Ownership of Surface	
	<b>FLAGSTAFF, AZ 86001</b> Phone <b>(928) 853-8180</b>	Ownership of Minerals	
Owner	Name <b>SAME AS APPLICANT</b>	Vicinity Map	
	Address	Certified Survey Plat	
	Phone	Monumentation	
Contractor	Name <b>MAISEL EXCAVATION, LLC</b>	Basic Plan Map	
	Address <b>P.O. BOX 286</b>	Plans and Drawings	
	<b>SILVERTON, CO 81433</b> Phone <b>759-9291</b>	Road System Relationship	
Legal Description of Property: <b>CUMBERLAND MILL SITE</b> <b>USMS No. 693 B</b>		Zoning Compatibility	
Township <b>41 N</b> , Range <b>7 W</b> , Section <b>29 &amp; 32</b>		State Mining Permit	
Nature of Improvement Planned: <b>ONE PROPOSED RESIDENTIAL CABIN, AND ASSOCIATED UTILITY IMPROVEMENTS.</b>		Owner Notification	
Land Use Zone: <b>MOUNTAIN</b>		Avalanche Hazard	
Applicant Signature <i>Gary C. Dorman</i>		Geologic Hazard	
Date Application Requested		Floodplain Hazard	
Date Submitted for Permit		Wildfire Hazard	
Date Permit Issued		Mineral Resource Impact	
Date Permit Expires		Wildlife Impact	
		Historic Site Impact	
		Watershed Clearance	
		<b>County Building Inspector</b>	
		Building Permit	
		<b>State Electrical Inspector</b>	
		Electrical Permit	
		<b>San Juan Basin Health Unit</b>	
		Sewage Disposal: Test	
		Design	
		Central Sewage Collection	
		<b>State Division of Water Resources</b>	
		Adequate Water Source	
		Well Permit	
		Water Conservation	
		Water Quality	



**Special Warranty Deed**  
(Pursuant to 38-30-115 C.R.S.)

State Documentary Fee  
Date: November 18, 2011  
\$ 4.70

THIS DEED, made on November 18, 2011 by SALEM MINERALS INC. Grantor(s), of the County of CLEAR CREEK and State of COLORADO for the consideration of (\$47,000.00) \*\*\* Forty Seven Thousand and 00/100 \*\*\* dollars in hand paid, hereby sells and conveys to GARY EDWARD BOWMAN Grantee(s), whose street address is 910 N. LEROUX STREET FLAGSTAFF, AZ 86001, County of COCONINO, and State of ARIZONA, the following real property in the County of San Juan, and State of Colorado, to wit:

CUMBERLAND MILLSITE, U.S.M.S. NO. 693B, SITUATED IN THE ANIMAS MINING DISTRICT, COUNTY OF SAN JUAN, STATE OF COLORADO.  
also known by street and number as: TBD SILVERTON CO 81433

with all its appurtenances and warrants the title against all persons claiming under the Grantor(s), subject to general taxes for the year 2011 and those specific Exceptions described by reference to recorded documents as reflected in the Title Documents accepted by Grantee(s) in accordance with Section 8.1 (Title Review) of the Contract to Buy and Sell Real Estate relating to the above described real property; distribution utility easements, (including cable TV); those specifically described rights of third parties not shown by the public records of which Grantee(s) has actual knowledge and which were accepted by Grantee(s) in accordance with Section 8.2 (Matters not Shown by the Public Records) and Section 8.3 (Survey Review) of the Contract to Buy and Sell Real Estate relating to the above described real property; inclusion of the Property within any special tax district; and other NONE

SALEM MINERALS INC.

  
BY TODD C. HENNIS, PRESIDENT

State of COLORADO )  
County of MONTROSE ) ss.  
CLEAR CREEK )

The foregoing instrument was acknowledged before me on this day of November 18, 2011 by TODD C. HENNIS AS PRESIDENT OF SALEM MINERALS INC.

Witness my hand and official seal,  
My commission expires





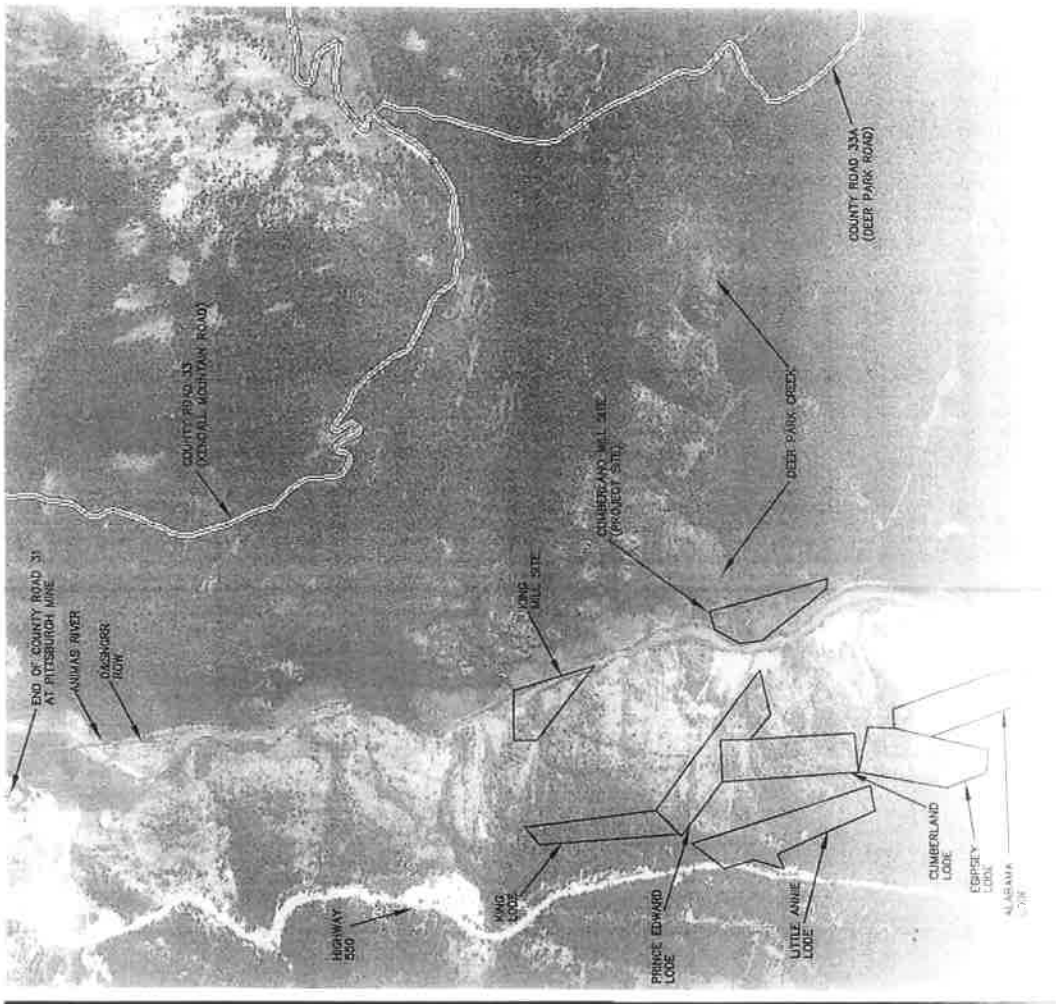
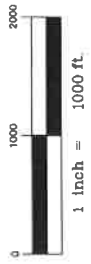


DATE: FEBRUARY 11, 2005	OWNER: BOYD L. LAM	PROJECT: MILL SITE, ADJACENT TO DSNRR	ENGINEER: ENGINEER MOUNTAIN INC. FORMERLY MOUNTAIN ENGINEERS 15101 75th AVENUE, SUITE 200 DENVER, CO 80231
LAST REVIEWED: 2/14/13	PROJECT: MILL SITE, ADJACENT TO DSNRR	SAN JUAN COUNTY, COLORADO	
DATE: FEBRUARY 11, 2005	OWNER: BOYD L. LAM	PROJECT: MILL SITE, ADJACENT TO DSNRR	ENGINEER: ENGINEER MOUNTAIN INC. FORMERLY MOUNTAIN ENGINEERS 15101 75th AVENUE, SUITE 200 DENVER, CO 80231
DATE: FEBRUARY 11, 2005	OWNER: BOYD L. LAM	PROJECT: MILL SITE, ADJACENT TO DSNRR	ENGINEER: ENGINEER MOUNTAIN INC. FORMERLY MOUNTAIN ENGINEERS 15101 75th AVENUE, SUITE 200 DENVER, CO 80231

THIS ADJACENT LAND OWNER MAP WAS PREPARED USING THE ASSESSOR'S INFORMATION AND AERIAL PHOTOS AND DOES NOT CONSTITUTE A SURVEY



GRAPHIC SCALE



**LIST OF ADJACENT LAND OWNERS**  
**Proposed Bowman Cabin**  
**Cumberland Mill Site USMS No. 693B**  
**San Juan County, Colorado**

As of 2/24/15  
Engineer Mountain, Inc.

Adjacent Land Owner

Property

Keefe Family Revocable Trust  
C/o Michael & James Field  
46 Cedar Hill Drive  
Asheville, NC 28803

Alabama Lode USMS No. 717

James Farrington  
226A Aceves Road  
Estancia, NM 87016

Cumberland Lode USMS No. 693  
(1/10th Undivided Interest)

Catherine Farrington  
5301 Stream Stone Avenue NW  
Albuquerque, NM 87114

Cumberland Lode USMS No. 693  
(9/10th Undivided Interest)

Jennifer Pearson  
8947 Breinig Run Circle  
Breinigsville, PA 18031

Egipsey Lode USMS No. 694

David Galus  
30 Lee Street  
Durango, CO 81301

King Mill Site USMS No. 15833B

George & Caterina Marsh  
242 Wapiti Drive  
Bayfield, CO 81122

A Portion of the King Lode USMS No. 15833

Bill Simon  
8185 County Road 203  
Durango, CO 81301

A Portion of the King Lode USMS No. 15833  
Little Annie Lode USMS No. 15833  
Prince Edward Lode USMS No. 15833

DSNGRR  
479 Main Avenue  
Durango, CO 81301

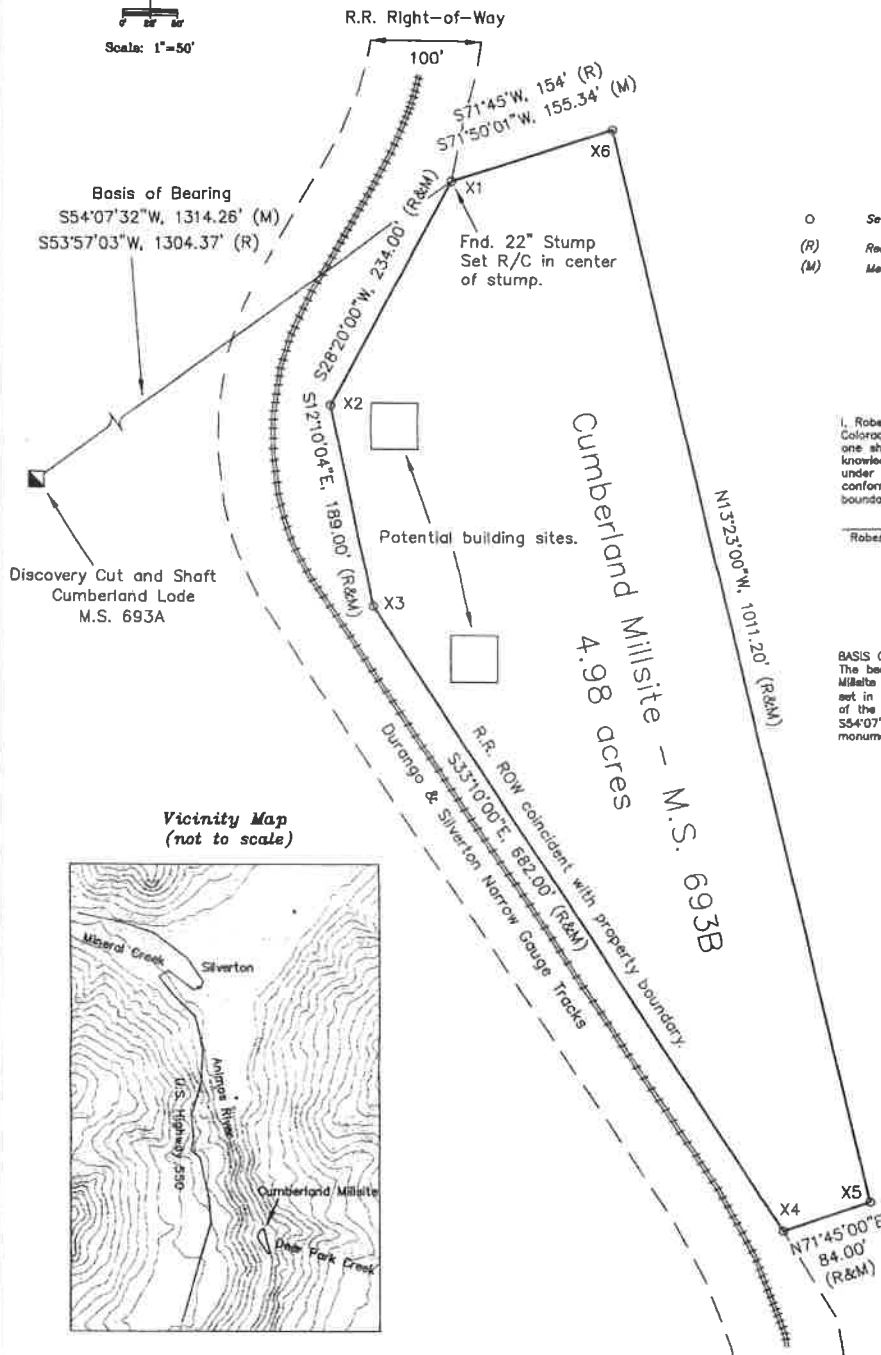
DSNGRR Private Land Right-of-Way Across  
Federal Lands Administered by the BLM

# BOUNDARY SURVEY

Cumberland Millsite - M.S. 693B

Suspended Sections 29 & 32 T41N R7W N.M.P.M.

San Juan County - State of Colorado



### LEGEND

- Set #6 Rebar & 2-1/2" Survey Cap - LS 31160
- (R) Record Bearing and Distance
- (M) Measured Bearing and Distance

I, Robert A. Larson, a Registered Surveyor in the State of Colorado, do hereby certify that this plot, consisting of one sheet, accurately represents to the best of my knowledge and belief the survey made by me or under my direct supervision, and that said survey conforms to all state laws and standards for property boundaries.

Robert A. Larson  
10-26-11  
PLS 31160  
Date

**BASIS OF BEARING:**  
The bearing between Corner No. 1 of the Cumberland Millsite M.S. 693B, defined by a rebar & cap, LS 31160, set in a 22" tree stump, and the Discovery Cut & Shaft of the Cumberland Lode M.S. 693A, is assumed to be S54°07'32"W, as determined by a GPS survey of said monuments.

Vicinity Map  
(not to scale)



This plot was filed for record in the office of the Clerk and Recorder of San Juan County this \_\_\_ day of \_\_\_ 20\_\_\_ A.D. at Reception No. \_\_\_

NOTICE: According to Colorado Law you must commence any legal action same day defect in this survey within three years after you first discovered such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years from the date of the certification above herein.

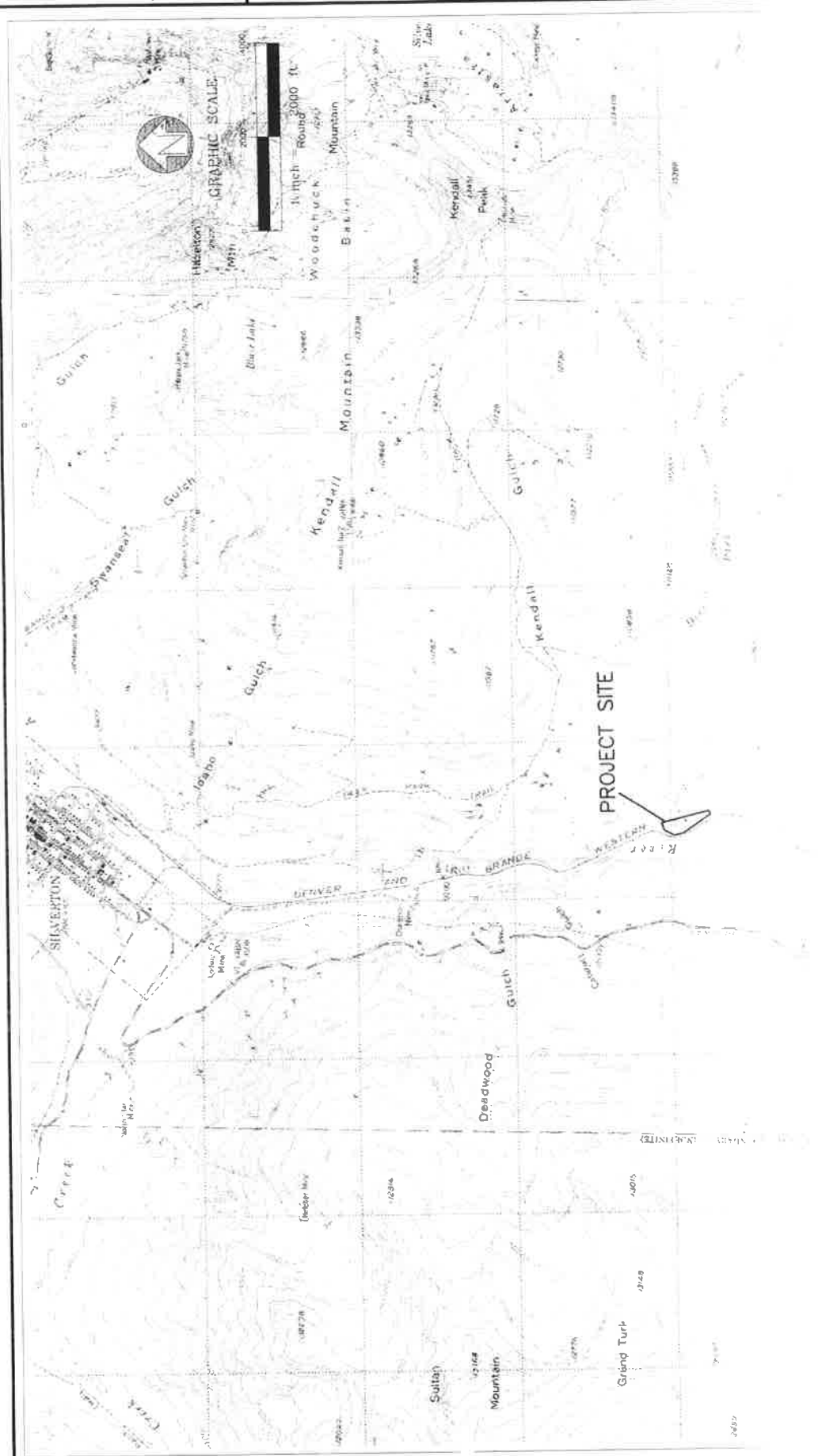
Gary E. Bowman P.O. Box 6010 Flagstaff, AZ 86011	
DATE 10/11	MONADNOCK MINERAL SERVICES 2011-10-11
T.A.P. 1"=50'	J11032 SHEET 1 of 1



DATE: FEBRUARY 3, 2015
DRAWN BY: LMA
LAST REVISION: 2/25/15
SCALE: 1/4" = 100' (PLAN VIEW) 1/8" = 100' (ELEVATION)
PROJECT: VICINITY MAP

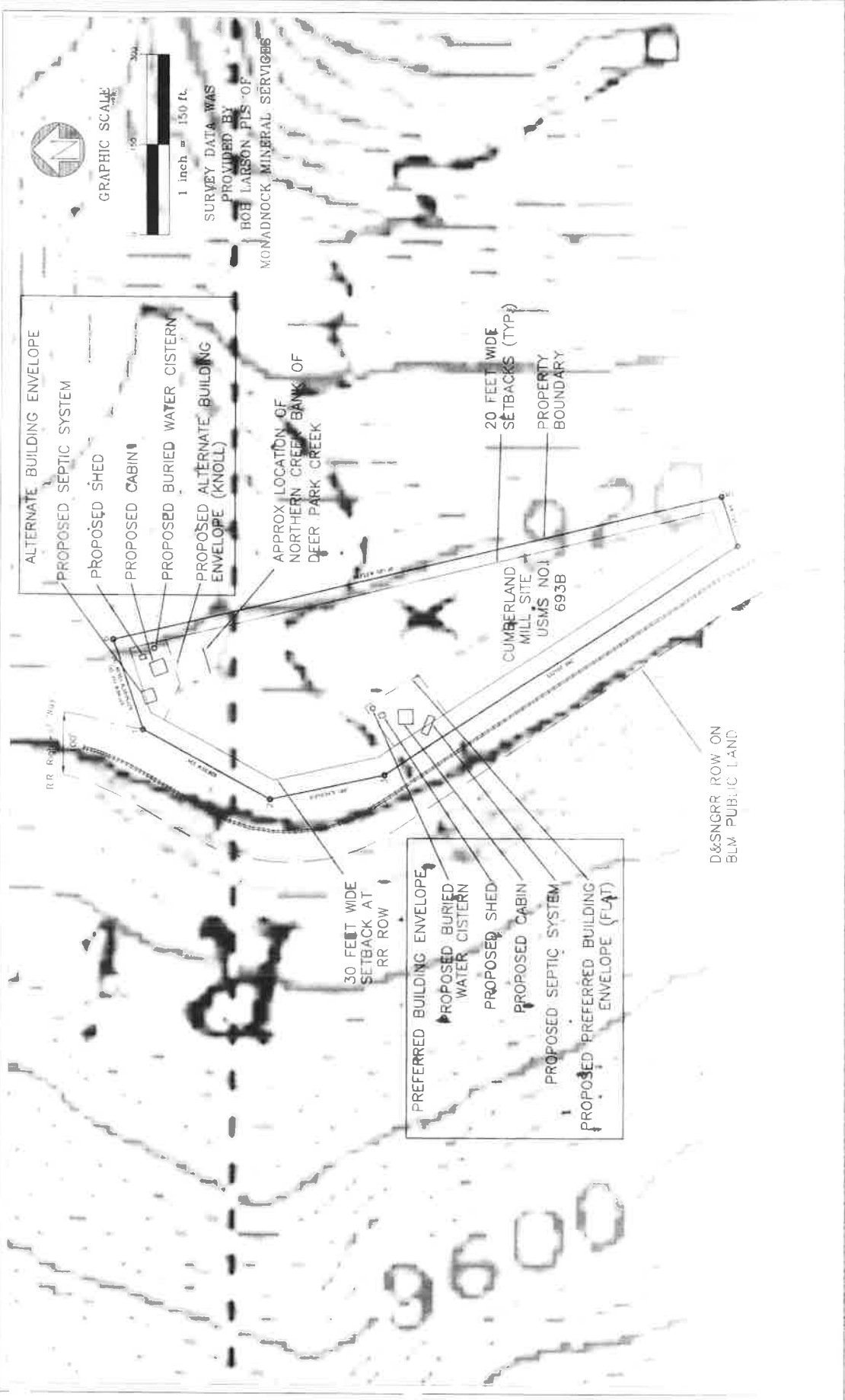
VICINITY MAP  
 PROPOSED BOWMAN CABIN  
 CUMBERLAND MILL SITE, ADJACENT TO DSNRR  
 SAN JUAN COUNTY, COLORADO

ENGINEER MOUNTAIN INC.  
 10000 W. 10TH AVENUE, SUITE 100  
 DENVER, CO 80202  
 (303) 733-0500  
 www.engineermountain.com





DATE: FEBRUARY 9, 2018 DRAWN BY: LAA	LAST REVISED: 4/27/19	PROJECT: 18-103/184 Cumberland Milling	LAYOUT/MAIN SKETCH TOPO/SKECHTOPO
	PROPOSED BOWMAN CABIN CUMBERLAND MILL SITE, ADJACENT TO D&SNGRR SAN JUAN COUNTY, COLORADO		



ENGINEER MOUNTAIN INC.  
 1000 W. 100th St., Suite 100  
 Englewood, CO 80150  
 (303) 287-0500  
 P.O. BOX 305, SILVERTON  
 CO 81062

GRAPHIC SCALE  
 1 inch = 150 ft.

SURVEY DATA WAS PROVIDED BY BOB LARSON, PLS OF MONADNOCK MINERAL SERVICES

ALTERNATE BUILDING ENVELOPE  
 PROPOSED SEPTIC SYSTEM  
 PROPOSED SHED  
 PROPOSED CABIN  
 PROPOSED BURIED WATER CISTERN  
 PROPOSED ALTERNATE BUILDING ENVELOPE (KNOLL)

APPROX. LOCATION OF NORTHERN CREEK BANKS OF DEER PARK CREEK

CUMBERLAND MILL SITE USMS NO. 693B

20 FEET WIDE SETBACKS (TYP)  
 PROPERTY BOUNDARY

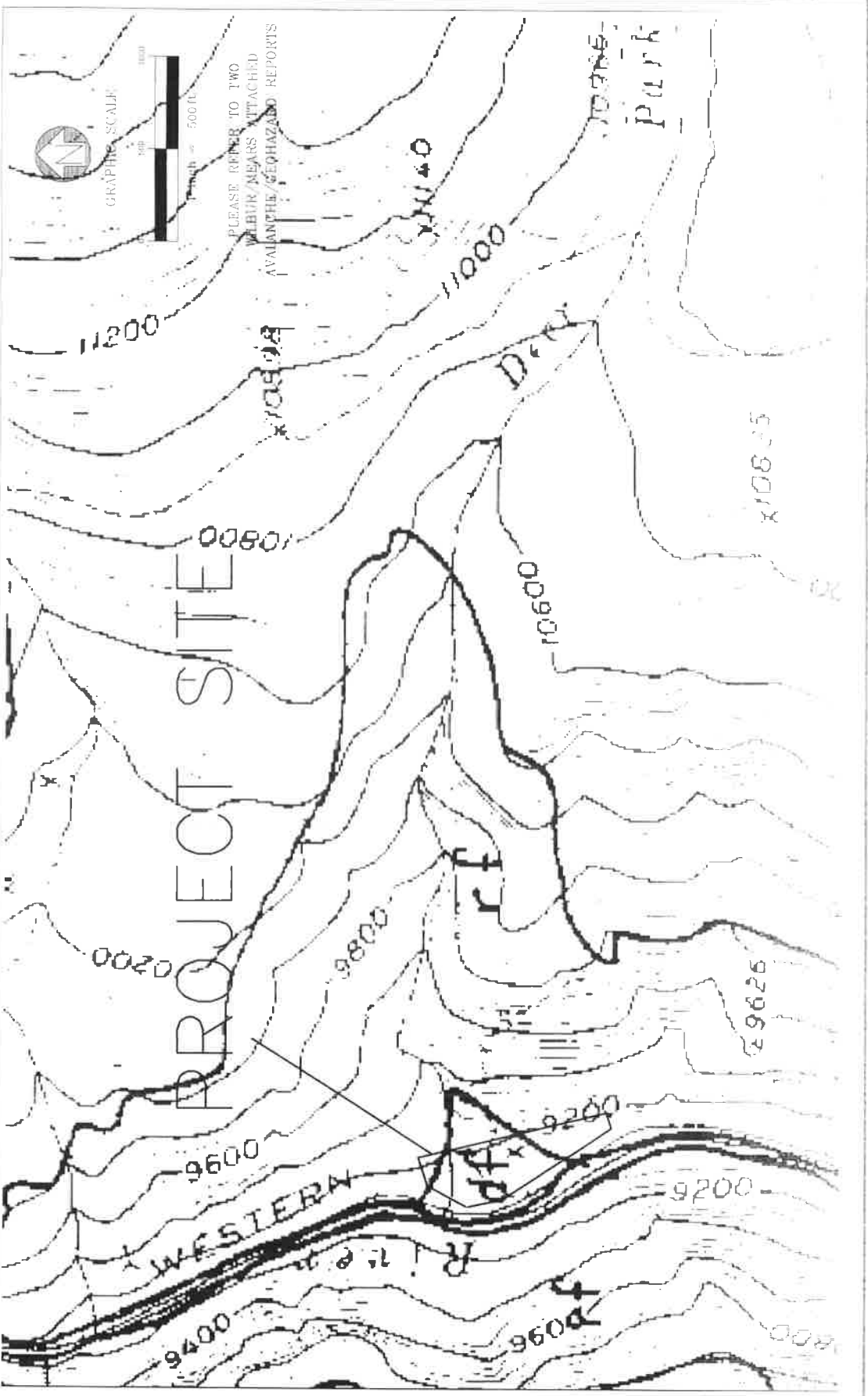
30 FEET WIDE SETBACK AT RR ROW

D&SNGRR ROW ON BLM PUBLIC LAND

PREFERRED BUILDING ENVELOPE  
 PROPOSED BURIED WATER CISTERN  
 PROPOSED SHED  
 PROPOSED CABIN  
 PROPOSED SEPTIC SYSTEM  
 PROPOSED PREFERRED BUILDING ENVELOPE (FLAT)

DATE: FEBRUARY 9, 2015	DESIGNER: JAMES W. BOWMAN	CAD: 1:1000/0.001 Scale Drawing	DATE: FEBRUARY 9, 2015
PROJECT: PROPOSED BOWMAN CABIN	CUMBERLAND MILL SITE, ADJACENT TO DSNORR	CLIENT: DSNORR	PROJECT: PROPOSED BOWMAN CABIN
LOCATION: SAN JUAN COUNTY, COLORADO	ENGINEER: MOUNTAIN ENGINEERING, INC.	SCALE: 1:1000/0.001 Scale Drawing	LOCATION: SAN JUAN COUNTY, COLORADO
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ENGINEER: MOUNTAIN INC. 10000 E. 100th Ave., Suite 100 Denver, CO 80231 PHONE: 303.440.1111 FAX: 303.440.1112 WWW.MOUNTAININC.COM	SAN JUAN COUNTY, COLORADO	DATE: FEBRUARY 9, 2019 SHEET:
	PROPOSED BOWMAN CABIN CUMBERLAND MILL SITE, ADJACENT TO DSNRR	PROJECT: BOWMAN CABIN DRAWN BY: JJA LAST REVISION: 2/9/19



**PROJECT NARRATIVE**  
**Cumberland Mill Site**  
**Engineer Mountain, Inc.**

- Applicant/Owner:** Gary Bowman of Arizona.
- Project Location:** Cumberland Mill Site USMS No. 693B, Parcel No. 48290000010261, adjacent to Durango & Silverton Narrow Gauge Railroad Right-of-Way (DSNGRR ROW), at the Confluence of Deer Park Creek and the Animas River, San Juan County, Colorado, Township 41 North, Range 7 West, Sections 29 and 32, N.M.P.M.
- Proposed Development:** A one-story residential cabin, shed, and septic system.
- Zoning:** Mountain Zoning District.
- Water Service:** The Applicant plans to draw water from the on-site Deer Park Creek, with the water to be placed and stored in a buried cistern. The proposed water cistern has a holding capacity of 500 gallons, to be buried uphill of the cabin for gravity flow. A draft Application for Surface Water Rights is included within this application for your review.
- Sewer Service:** A septic system is proposed for the cabin. The septic system will be “engineered” by a Colorado Licensed Professional Engineer according to the San Juan Basin Health Department (SJBH) regulations. The septic system will be a standard septic system, depending on the subsurface conditions encountered within the proposed septic leachfield area. A SJBH septic permit is included within this submittal for your review.
- Power:** The Applicant plans to utilize the following sources for power: passive and active solar, propane, and a generator kept within the shed for use during construction. The plans for the propane include small portable tanks, to be stored outside of the cabin and away from any combustibles. A solar panel for low voltage LED lights is proposed. The Applicant plans to have the solar panel mounted on the shed roof.
- Heating:** Heating for the cabin is planned to include passive solar and one wood stove.

## **PROJECT NARRATIVE**

### **Cumberland Mill Site**

(Continued)

Engineer Mountain, Inc.

- Lighting:** For safety, a minimal amount of exterior lighting may be installed at the cabin. The Applicant may install automatic on/off motion detection solar exterior light(s). Exterior lighting will be in conformance with the requirements of San Juan County. Interior lighting is planned to include low voltage LED lights using solar power.
- Solid Waste Management:** The Applicant will be responsible for trash disposal. According to County regulations, property owners are responsible for solid waste transportation and solid waste disposal fees. On-site trash will need to be contained within a structure at all times until removal to the Transfer Station.
- Phone Service:** Cell phones work at the project site. No phone "land line" is proposed.
- Landscaping:** Landscaping is to be minimal. Raking and removal of combustible ground cover will be needed, as recommended by the Colorado State Forest Service Firewise Practices, to develop adequate defensible space. Revegetation and screening will be provided by the Applicant in accordance with the requirements of San Juan County.
- Access:** No driveway is proposed for this project. The site will be accessed via the regularly scheduled passenger trains, operated by the Durango & Silverton Narrow Gauge Railroad. The railroad right-of-way borders the site on the west. There is also "casual use" pedestrian access across BLM land to this site from Deer Park and the Whitehead Trail. The Planning Commission reviewed the proposed access for this project in December 2014. The Planning Commission instructed the Applicant in December to proceed with working out all the access details further in writing with the train personnel. We have included a report titled "Access Information" within this submittal, to provide the County with additional information about the train access and BLM access.

## **PROJECT NARRATIVE**

### **Cumberland Mill Site**

(Continued)

**Engineer Mountain, Inc.**

- Foundation:** Depending on the bearing conditions encountered during excavation, the foundation for the proposed cabin will most likely consist of a concrete pier system. No basement is proposed.
- Surveying:** The survey plat for the Cumberland Mill Site was prepared by Professional Licensed Surveyor (PLS) Bob Larson of Monadnock Mineral Services of Ouray. A signed and stamped copy of the survey plat is included within this application for your review.
- Subsurface Conditions:** Subsurface conditions in the area generally consist of topsoil overlying sand-and-gravel soil. The sand-and-gravel soil typically includes cobbles and boulders. Underlying the surface soil is bedrock. The USGS geology map for the "Silverton caldera" area indicates that the geologic formations at the site consist of Qal and Qtg. Qal represents Quaternary Alluvium. Qtg represents Quaternary Talus, Glacial deposits, and rock glaciers.
- Building Envelopes:** There are two building envelopes shown on the attached plans and described within this application. Only one cabin within one building envelope is proposed; the other building envelope will be eliminated by the Applicant and County during the Sketch Plan review process. Both of the building envelopes have been evaluated for avalanche and geohazards potential. Both have found to be buildable, and either relatively safe or the hazards are low and able to be mitigated.
- Knoll Building Envelope:** The northern building envelope is located on a flat-topped rocky knoll, at the north end of the property. The knoll is treed, and has excellent screening to prevent visibility from the nearby train right-of-way. The knoll was selected by the avalanche/geohazards expert as the safest cabin location on the property, with little hazard, and requiring little or no mitigation. The knoll is located north of and above Deer Park Creek. The sides of the flat-topped knoll are rocky and sloped, and therefore heavy equipment access could be somewhat difficult getting up onto the knoll.



## PROJECT NARRATIVE

### Cumberland Mill Site

(Continued)

Engineer Mountain, Inc.

#### **Flat Building Envelope:**

The second building envelope is located in a flat meadow area south of Deer Park Creek. This flat building envelope was pointed out by the Planning Director as an option to consider during the site visit, and is the building envelope now preferred by the Applicant. The flat building envelope would be easier to build on for logistics. The building envelope was evaluated by the avalanche/geohazards expert as buildable, with some minimal mitigation required. The building envelope limits were selected due to nearby potential rockfall, debris flow, and avalanche areas. Some of the suggested mitigation consists of pointing a back corner of the structure uphill (rather than having a solid flat wall facing uphill), constructing a low concrete wall at that back corner, and constructing a V-shaped ditch uphill of the structure. Due to limited existing screening, a cabin at the flat building envelope would be visible to an east-facing train tourist for about 10 seconds as the DSNRR train travels by the site - unless a row of trees is planted, for screening, between the cabin and train tracks.

#### **Avalanche Hazards:**

The Sketch Plan for this project has been overlaid onto the generalized County Avalanche Hazard Map. The plan sheet is included within this submittal for your review. The project site is within the Animas River canyon area, which is generally all located in an area with variable avalanche potential. Therefore the Applicant retained an avalanche consultant Professional Engineer to further evaluate the project site (Chris Wilbur PE of Durango, who works with the well-known avalanche engineer Art Mears PE). Two avalanche/geohazards reports have been prepared, and are included for your review. The reports describe three on-site areas found to be relatively safe from avalanche potential on the property, and/or buildable with minimal avalanche mitigation. Two of the buildable on-site areas represent the two building envelopes presented in this application. One of the two building envelopes is relatively avalanche free, and the other is relatively low hazard and able to be mitigated. Whichever of the two building envelopes is selected, the avalanche expert will be consulted prior to construction, to check mitigation measures.

## **PROJECT NARRATIVE**

### **Cumberland Mill Site**

(Continued)

**Engineer Mountain, Inc.**

#### **Geohazards:**

The Sketch Plan for this project has been overlaid onto the generalized County Geohazards Map. The plan sheet is included within this submittal for your review. According to the County Geohazards map, the site is generally located in an area which needed to be further evaluated, for potential rockfall (rf) and/or debris flow (df) geohazards. There are two avalanche/geohazards reports attached, which address the geohazards potential at the two proposed building envelopes. The reports were prepared by Chris Wilbur PE of Durango, who works with the well-known avalanche engineer Art Mears PE. The northern building envelope is located on a knoll, formed by an ancient debris flow, and, according to the evaluation, is relatively safe from geohazards, requiring no mitigation. The southern building envelope is located in a flat meadow area. Its limits were determined in the field by the Applicant, Engineer Mountain Inc., and the geohazards/avalanche expert. The flat building envelope was selected to be in the meadow area suggested by the Planning Director for consideration, with its limits defined by the least hazard from potential nearby avalanche, rockfall, and debris flow zones. The flat building envelope could supposedly be located in a run out type zone of a potential debris flow area. For example, in the unlikely event that a debris flow (mud, rocks, etc.) were to travel down the Deer Park Creek drainage gulch, jump the creek bank, and turn left towards this building envelope, some shallow mud and cobbles could flow towards the cabin. For mitigation, the cabin can have a back corner facing uphill, instead of a back wall. A low concrete wall at that cabin back uphill corner could also be used as mitigation (similar to an avalanche splitter shape/function). A V-shaped ditch uphill of the cabin was also suggested as a mitigation effort, in order to channel any mud to go around the cabin instead of into/under the cabin. Please refer to the two avalanche/geohazards reports. Whichever of the two building envelopes is selected, the avalanche/geohazards expert will be consulted prior to construction, to check mitigation measures.

#### **Elevation at Structure:**

Approximately 9,180 feet – which is below 11,000 feet elevation, where additional County requirements apply.

## PROJECT NARRATIVE

### Cumberland Mill Site

(Continued)

Engineer Mountain, Inc.

- Cabin Size:** The current proposed cabin size is one story, with a possible attic loft, with a cabin footprint of up to 24 feet by 24 feet (576 square feet). The small partial loft level is being designed as large enough to contain a bed, but small enough that it will not require significantly raising the roof/structure height. No basement is proposed. A non-enclosed small exterior deck and front porch are also proposed. The size and location of the deck and the porch will depend somewhat on which building envelope is selected.
- Cabin Height:** The proposed roof pitch is 6:12. The cabin height is estimated to be approximately 18 feet above the finish floor elevation. There will be about three feet between the ground surface and cabin floor, to prevent or reduce snow melting into the cabin.
- Cabin Style:** The Applicant is designing the cabin with the style of a basic “timber frame” building, with features of a historic mining structure.
- Building Materials:** Photos of the proposed building materials are included within this submittal for your review, and the materials consist of the following:
- structural framing consisting of wood timbers and/or structural steel (minimally exposed on the structure exterior);
  - non-reflective, rust colored “Rust Wall” brand, rusted metal siding;
  - minimal window glazing;
  - non-reflective, dark green, “standing seam” metal roofing material.
- Proposed Shed:** The proposed shed is being designed as one story, with a footprint of up to 8 feet by 12 feet, with the shed building style to match the proposed cabin.
- Building Plans:** Draft building plans for the proposed cabin have been prepared by the Applicant, and are included in this submittal for your review. The plans have been drawn with the preferred, flat building envelope in mind, and could be revised slightly (such as the deck and porch areas) if the knoll building envelope is selected instead.

SAN • JUAN • BASIN  
**HEALTH**  
 DEPARTMENT

Permit # \_\_\_\_\_  
 Year \_\_\_\_\_

APPLICATION to INSTALL, CONSTRUCT, ALTER or REPAIR INDIVIDUAL SEWAGE SYSTEM

Owner: Gregory E. Eversman Phone: (603) 853-3114  
 Mailing Address: 1910 W. Leeway St., Fingert, VT 05601  
 Site Address: Cumberland Bl. Lote 134569315 Assessor's Parcel # 98270005510261  
 Subdivision: N/A (San Juan County, VT) Unit N/A Block 57 Lot D/A  
 Lot Size: 5.2012 Living Units: 1 Bedrooms: 1 Water Supply: 2 1/2" x 1"

Date: 4/27/15 Owner's Signature: [Signature]

I acknowledge this application does not guarantee a permit to install an ISDS on a marginal lot and that the issuance of this permit does not imply any warranty by this department to the operation of the system. This system will be constructed in accordance with the San Juan Basin Health Department individual sewage disposal system regulations.

Permit Fee: \$ 300.00 Perc Test Fee: \$ \_\_\_\_\_ Rec'd By: \_\_\_\_\_ Date: \_\_\_\_\_

PERMIT to INSTALL, CONSTRUCT, ALTER or REPAIR INDIVIDUAL SEWAGE SYSTEM

Percolation Rate: \_\_\_\_\_ Min/ Inch Limiting Zone: \_\_\_\_\_ Feet: \_\_\_\_\_  
 Soil Profile: \_\_\_\_\_ Slope % : \_\_\_\_\_ Requires Eng. Design: \_\_\_\_\_  
 From the application information & the site evaluation, the following minimum installation specifications are required:  
 Septic Tank: \_\_\_\_\_ Equivalent Sizing: \_\_\_\_\_ 60% 75% 100%  
 Final Disposal: \_\_\_\_\_ Ft2 Lines: \_\_\_\_\_ Length: \_\_\_\_\_ Width: \_\_\_\_\_ Depth: \_\_\_\_\_  
 Gravel-less chambers: \_\_\_\_\_ Number of Units: \_\_\_\_\_ Number of Rows: \_\_\_\_\_  
 Lagoon Bottom Size: \_\_\_\_\_ Depth: \_\_\_\_\_ Slopes: \_\_\_\_\_ Lining: \_\_\_\_\_

COMMENTS:

District Court, Water Division 7, Colorado  
 Court Address:

---

CONCERNING THE APPLICATION FOR WATER RIGHTS OF

Applicant: Gary Bowman

In the Animas River or its Tributaries

In San Juan COUNTY

Attorney or Party Without Attorney (Name and Address):

Gary Bowman; 910 North Leroux Street; Flagstaff, AZ 86001

Phone Number: (928) 853-8180 E-mail: Gary.Bowman@nau.edu

FAX Number: N/A Atty. Reg. #: N/A

**COURT USE ONLY**

Case Number:

Division: 7 Courtroom: 1

**APPLICATION FOR  CONDITIONAL  ABSOLUTE WATER RIGHTS (SURFACE)**

It is the applicant's responsibility to provide the location for each structure in this application. For structures that are already decreed, use the location from the most recent decree that adjudicated the location. UTM coordinates (for example from a GPS device) or measured distances in the field from known section lines are acceptable. The Division Engineer, the Water Referee, or the Water Judge may order the applicant to confirm the location of any structure with UTM coordinates, a survey, or other method.

1. Name, mailing address, email address and telephone number of applicant(s) (if there are multiple applicants, and the space provided is not adequate to list all of the applicants, the names, addresses, telephone numbers and available email addresses must be provided as an attachment):

Name of Applicant	Mailing Address	Email address	Telephone Number
Gary Bowman	910 North Leroux Street; Flagstaff, AZ 86001	Gary.Bowman@nau.edu	(928) 853-8180

2. Name of structure: Bowman Diversion  ditch  spring  other pump and pipe in creek

3. Legal description of each point of diversion:

**Location information in UTM format (Preferred):**

UTM Zone must be 12 or 13; Units must be Meters; Datum must be NAD83; and Units must be set to true North. Include the source of the UTM coordinates, for example: GPS device; GIS System such as DWR AquaMap or CDSS MapViewer; scaled from USGS topographic map; or other source. In areas having generally recognized street addresses, also include street address, and if applicable, the lot, block, and subdivision. Attach a legible 8 1/2 x 11 inch map to this application illustrating location of the structure.

UTM coordinates

Northing \_\_\_\_\_ Easting \_\_\_\_\_

Zone 12  Zone 13

Street Address

Subdivision

Block



N/A, no irrigation proposed

- B. If non-irrigation, describe purpose fully. Mark location of use on a USGS topographic map and attach to this application a legible 8 1/2 x 11 inch copy of the applicable portion of the map.

Domestic use for one residential cabin

8. Name(s) and address(es) of owner(s) or reputed owner(s) of the land upon which any new or existing diversion or storage structure, or modification to any existing diversion or storage structure is or will be constructed or upon which water is or will be stored, including any modification to the existing storage pool. The applicant must notify these persons that the applicant is applying for this water right, and certify to the Court that the applicant has done so by no later than 14 days after filing this application. The certification form is on page 4 of this form.

Name of Owner	Mailing Address
Owner/Applicant Gary Bowman	N/A

9. Remarks or any other pertinent information:

Signature of Applicant(s) (if self-represented) or Attorney

Date

**PRELIMINARY  
AVALANCHE HAZARD ANALYSIS  
AND AVALANCHE MAPPING**

*for*

**BOWMAN PROPERTY  
CUMBERLAND MILL SITE  
SAN JUAN COUNTY, COLORADO**

August 9, 2013

Prepared for:

Gary Bowman  
P.O. Box 6010  
Flagstaff, AZ 86011

Prepared by:

Wilbur Engineering, Inc.  
150 East 9<sup>th</sup> St. Suite 201  
Durango, Colorado 81301  
(970) 247-1488



WILBUR ENGINEERING, INC.  
Engineering with Soil, Rock & Water

---

150 East 9 St., Suite 201 • Durango CO 81301  
E-mail: [chris@mearsandwilbur.com](mailto:chris@mearsandwilbur.com)  
(970) 247-1488

August 9, 2013

Gary Bowman, Ph.D.  
P.O. Box 6010  
Flagstaff, AZ 86011

RE: Avalanche Study  
Cumberland Mill Site, San Juan County, Colorado

Dear Dr. Bowman:

Please find attached our report on avalanche hazards at your property. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,  
Wilbur Engineering, Inc.



Chris Wilbur, P.E.

## Introduction

This report presents the results of a study to evaluate the degree of avalanche hazard at the Cumberland Mill Site in San Juan County, Colorado (Figure 1). The site lies about 2 miles south of Silverton, Colorado within the upper section of the Animas River Canyon. Deer Park Creek flows through the site and has formed an alluvial fan that extends over most of the site. Previous avalanche mapping has designated the entire site as an avalanche hazard area without subdividing the hazard by frequency or intensity of the hazard (Ref. 5).

This report presents a summary of avalanche history, previous studies, and site specific mapping and analyses of avalanche hazard.

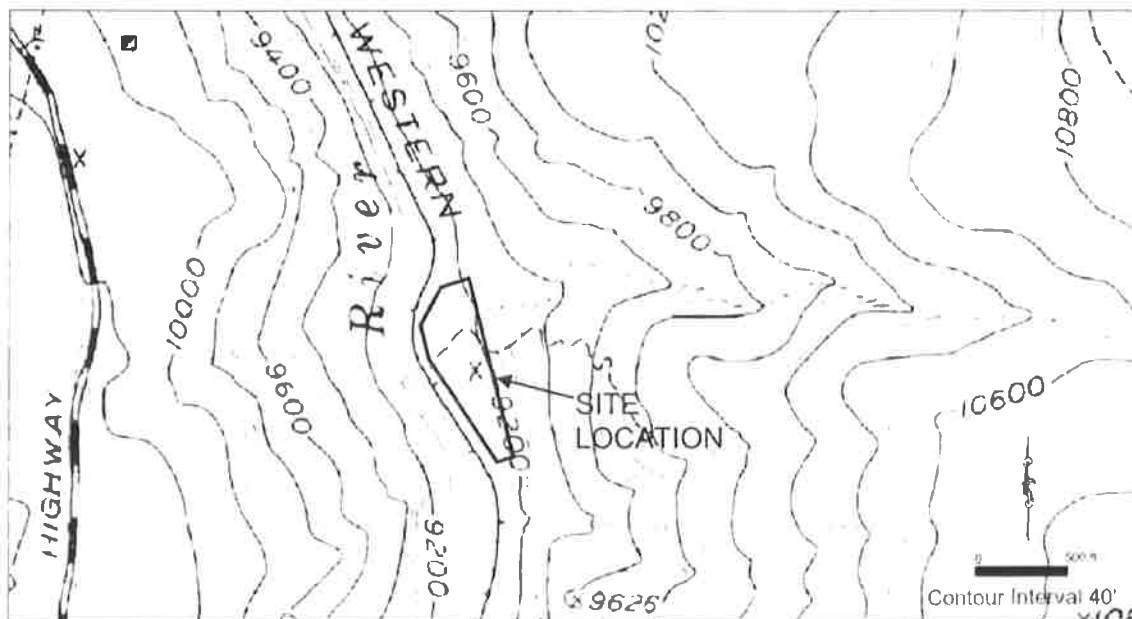


Figure 1 –Site Location on USGS 1:24,000 Topographic Map

## Avalanche History

A limited historic record exists at the site largely due to impacts on the railroad which operated during the winters from 1882 through the 1950s(?). Figure 2 shows the location of the “Watertank Slide” apparently named because it destroyed a water tank on an unknown date. We observed steel bands from the tank during our site visit (Figure 3). Also shown in Figure 2 is a linear concrete foundation located about 40 feet west of the tank steel bands. The alignment of the foundation and steel indicates that a

smaller avalanche path south of the main Watertank slide may have caused the damage.

The 1976 INSTAAR publication, *Century of Struggle against Snow: a History of Avalanche Hazard in San Juan County, Colorado* (Ref. 4) lists two avalanche events at the Watertank Slide.

1. Unnamed date in 1927, the Watertank snowslide "buried station depot agent while shoveling snow off tracks."
2. March 1927/28 winter, listed one buried person and no deaths at the Watertank Slide.

The historic reports and evidence conclusively show the potential for avalanches originating west of the Animas River to reach and extend beyond the railroad tracks.



Figure 2 – Water Tank Avalanche Path (Ref. 4)

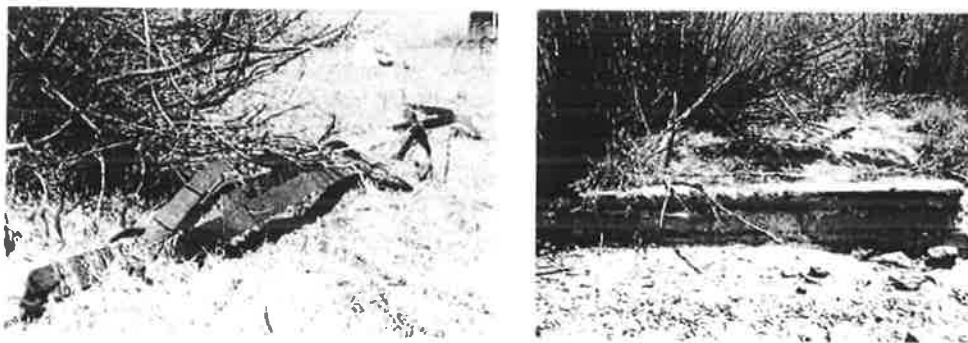


Figure 3 –Steel Bands and Concrete at Location "Tank" in Figure 5

## Analyses Methods

We applied a combination of methods in this study, including field observations, review of previous studies, historical research, topographic analysis, aerial photo interpretation and avalanche dynamics modeling with the Swiss program Aval-1D, version 1.4. We also took into account climatic factors, elevation, aspect and vegetation conditions.

Aerial photos and Google Earth imagery from the following dates were studied: 1998, 2003, 2005, 2006 and 2011. Topography from the USGS 7.5 minute quadrangle for Silverton was used in addition to site observations.

We mapped areas of "high" avalanche hazard (red line) and moderate avalanche hazard (blue line). These are defined below:

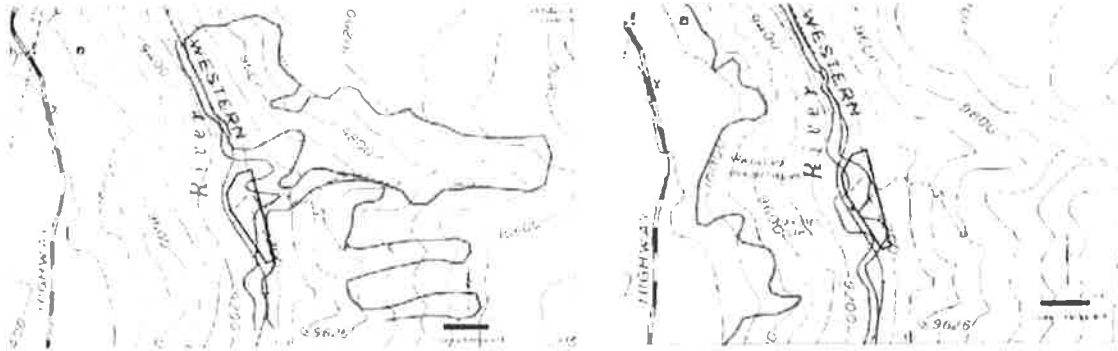
1. High hazard – area where avalanches can be destructive and/or frequent; these are "red" hazard areas within San Juan County, areas where avalanches have return periods of 30 years or less and/or can produce impact pressures of 600 lbs/ft<sup>2</sup> or more on flat surfaces normal to the flow.
2. Moderate hazard – area where avalanches are not as frequent and are less destructive than in the high-hazard zone; these are "blue" hazard areas within the County where avalanches have return periods of 30 to 100 years and produce impact pressures of less than 600 lbs/ft<sup>2</sup>.

Residential construction is permitted in the blue zone provided it is protected from the "design-magnitude," or 100-year return period avalanche.

## Findings

The avalanche hazards from avalanche paths starting on the east and west sides of the canyon are shown separately for clarity in Figure 4 (a) and Figure 4(b). The east and west avalanche paths are shown together in Figure 5 with an aerial image background. The "Watertank Slide" was modeled using Aval-1D, a Swiss avalanche dynamics model. Default friction parameters were used for release slab thicknesses of 1.0 meters and 1.2 meters, corresponding to release volumes of about 12,000 m<sup>3</sup> and 14,000 m<sup>3</sup>, respectively. The resulting runout distances and impact pressures were considered in developing the maps in Figures 4 and 5.

The west avalanches can produce powder avalanches during/after impact with the river and the abrupt slope change. Because of this and the possibility of strong winds blowing up the Animas canyon during southern storms, powder-avalanche debris can be pushed to the north somewhat as avalanches fall and impact the river. Therefore, the northern site could be exposed to light overpressures that should be considered during design.



(a) East Paths

(b) West Paths

Figure 4 – Preliminary Red and Blue Avalanche Zones



Figure 5 – East and West Avalanche Paths on Google Earth Aerial Image  
 (Hazard zone boundaries are approximate; "tank" is location of steel bands;  
 "site" is location on elevated bench with lowest avalanche risk for the property)

## Conclusions

We conclude that residential development of the site could be mitigated for the design magnitude avalanche using site specific analyses and designs. The site identified in Figure 5 lies in an area either outside of the "blue" avalanche hazard zone or near the

end of the "blue" zone where avalanche frequency and magnitude are low enough that they can be mitigated by site-specific designs. Such analyses and designs are beyond the scope of this study. Final designs would require additional mapping and more detailed topographic data in the runout zone.

## **Limitations**

This report is subject to the following limitations:

1. Avalanches larger than the design 100-year return period events are possible, will travel farther, and possess greater impact and static pressures.
2. The study is site and time specific; thus it applies only to the planned site improvements at the time of this report.
3. We have assumed existing forest, terrain and climatic conditions. Changes to these conditions could increase or decrease the avalanche hazard.
4. The recommendations in this report are based on the standard of care for avalanche hazard evaluation at this time and locality. No other warranties, expressed or implied, are made.

## **References**

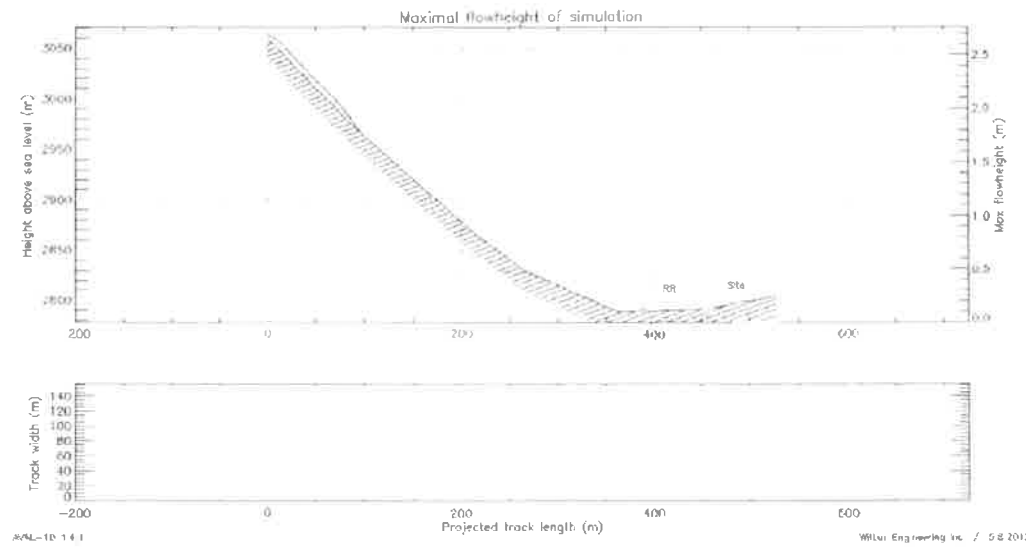
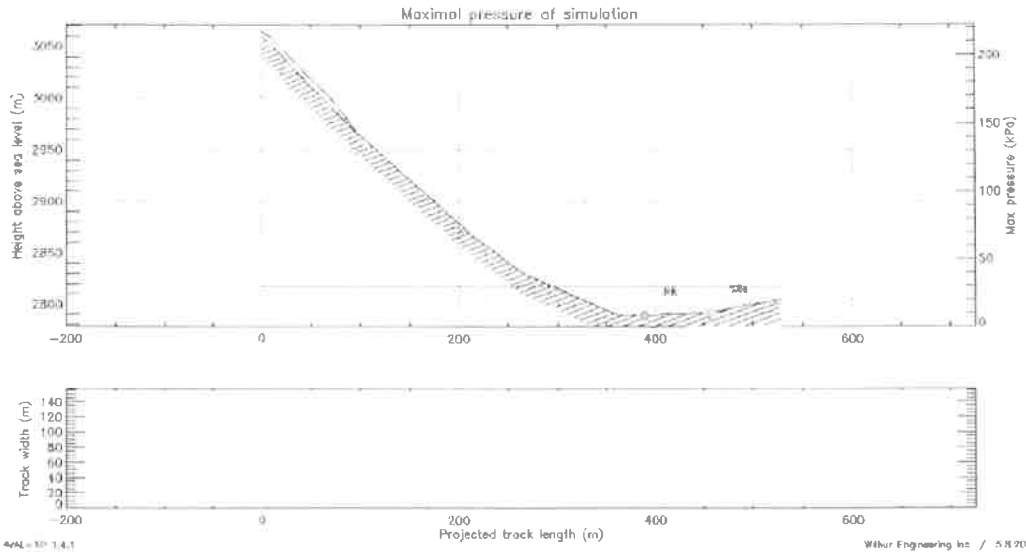
1. "Avalanche Hazard Map, San Juan County", prepared by Rebecca Summer and Margaret Squier, INSTAAR (Institute of Arctic and Alpine Research), Boulder, Colorado, for San Juan County in 1976
2. "Natural Hazards of San Juan County, Colorado", prepared by Michael J. Bovis, Institute of Arctic and Alpine Research, Boulder, Colorado, for San Juan County in 1976
3. "Avalanche Atlas, San Juan County, Colorado", prepared by Len Miller, Betsy R. Armstrong and Richard L. Armstrong, Institute of Arctic and Alpine Research, for San Juan County in 1976, published as Occasional Paper No. 17 by INSTAAR
4. "Century of Struggle Against Snow: A History of Avalanche Hazard in San Juan County, Colorado", prepared by Betsy R. Armstrong, Institute of Arctic and Alpine Research, for San Juan County in 1976, published as Occasional Paper No. 18 by INSTAAR "Overall Hazard Map", prepared by INSTAAR for San Juan County in 1976.

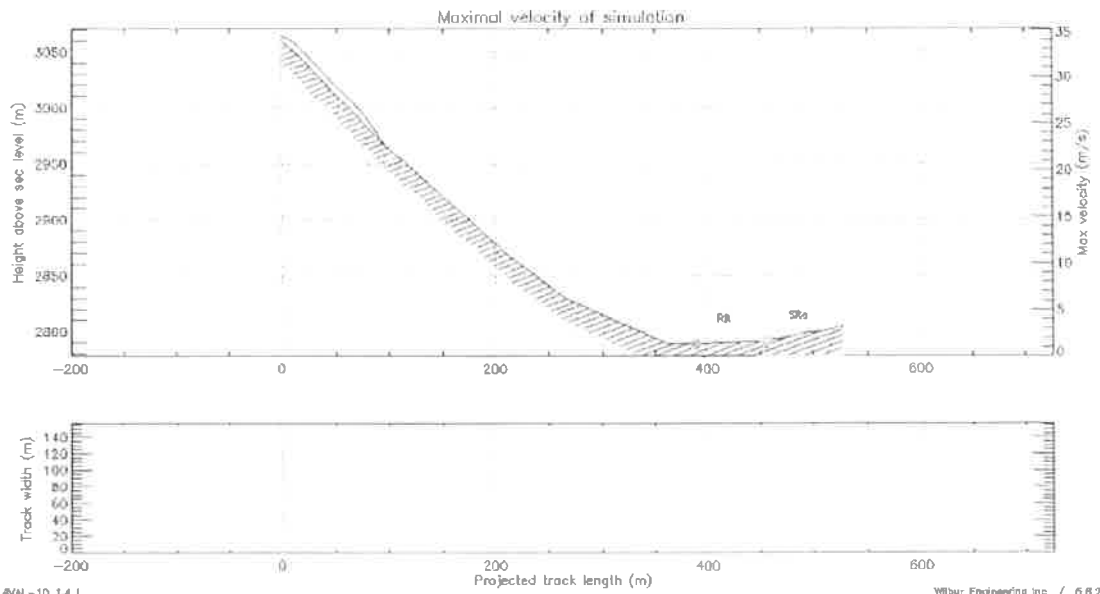
Sincerely,  
Wilbur Engineering, Inc.



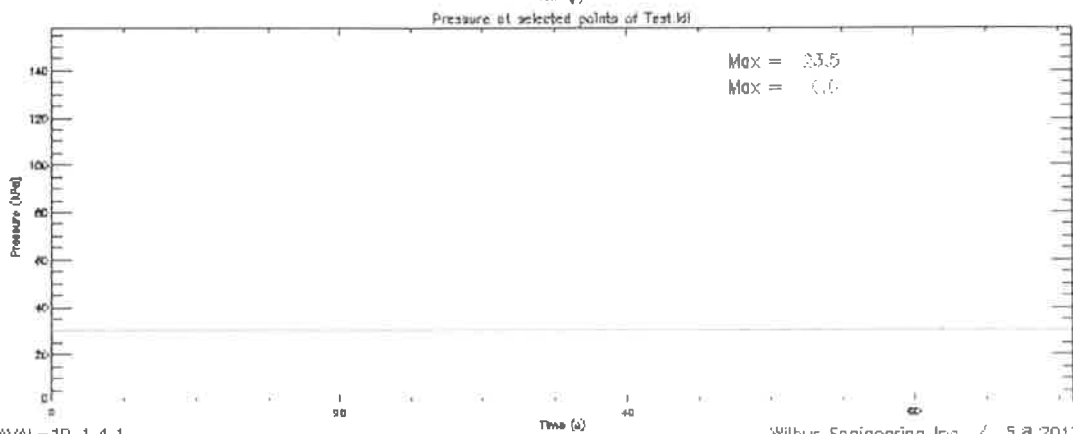
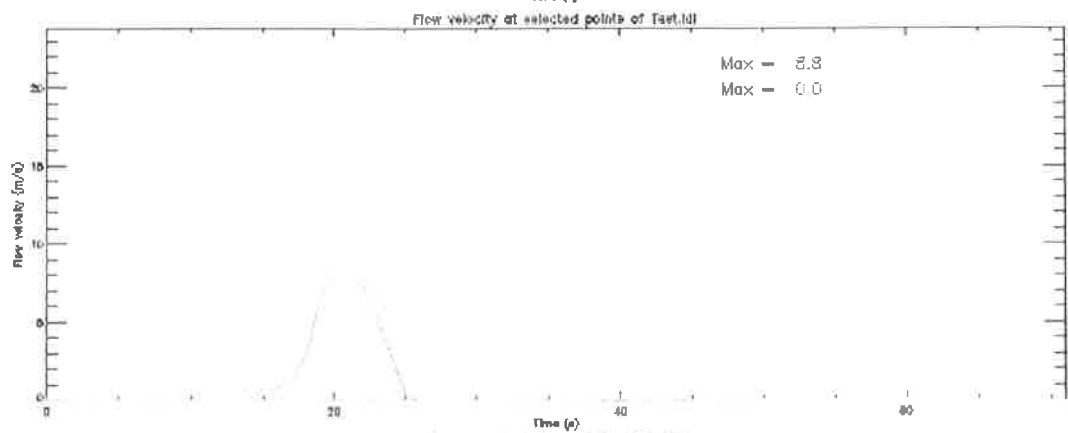
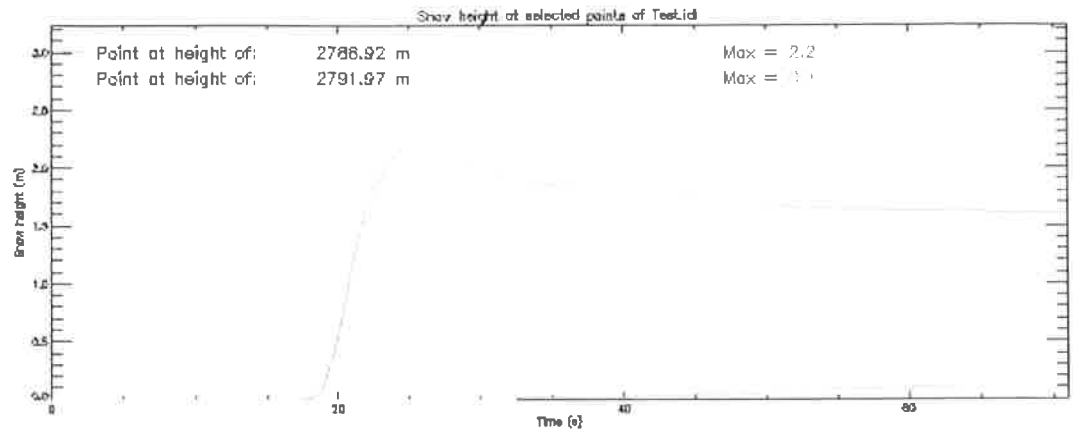
Chris Wilbur, P.E.

## Appendix Modeling Results









AWAL-10 1.4.1

Wilbur Engineering Inc / 5.8.2013

October 27, 2014

Gary Bowman, Ph.D.  
P.O. Box 6010  
Flagstaff, AZ 86011

RE: Preliminary Geologic Hazard Assessment for Alternative Site  
Cumberland Mill Site, San Juan County, Colorado

Dear Dr. Bowman:

We previously completed a *Preliminary Avalanche Hazard Analysis and Avalanche Mapping Report*, dated August 9, 2013 that identified approximate areas of land that lie outside of the Moderate (Blue) Avalanche Hazard Zone. The report identified a building site on a sloping bench north of Deer Park Creek that avoided avalanche hazards (Site 1 on Figure 1). Although our previous study was limited to avalanche hazards, this site also avoids rockfall and debris flow hazards.

Due to access, water supply and on-site wastewater system considerations, an alternate building site (Site 2 on Figure 1) is being considered. We made a field visit on October 25, 2014, to assess this alternate site for avalanche, rockfall and debris flow hazards. The level of study is cursory and should not be used to design mitigation measures for any geologic hazards. The descriptions of geologic hazards should be considered along with other site constraints to select a building site.

1. **Avalanches** – Site 2 is at the approximate edge Moderate (Blue) Avalanche Hazard Zone. Mitigation will be required. Design parameters will depend on the final location, orientation and geometry of the structure.
2. **Rockfall** – Site 2 may be subject to rockfall hazards. Existing 3 to 4-foot angular boulders that appear to be a result of rockfall have stopped about 40 feet from the base of the slope near Site 2. The site has more favorable terrain protection than the location of the two boulders. Therefore a slope setback of 40 to 50 feet should provide adequate rockfall avoidance.
3. **Debris Flows** – Site 2 is subject to potentially destructive debris flows from Deer Park Creek. Field evidence indicates that this is an active debris fan and the main channel has migrated in historic times. Site 2 is low on the fan and south of the current channel and most recent channel migrations. However, the entire fan is subject to debris flows, so mitigation for debris flows will be necessary.

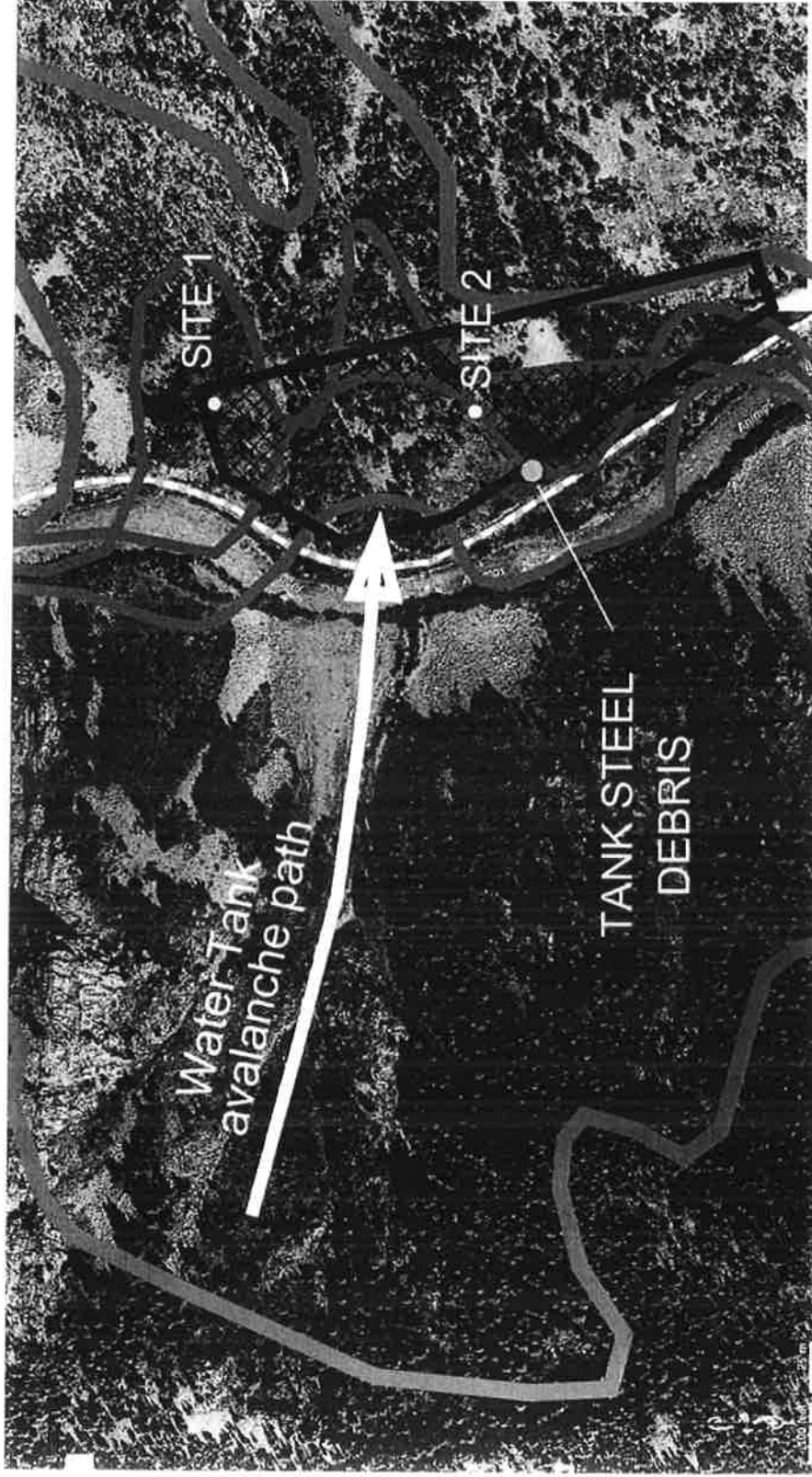
In summary, Site 2 is subject to significantly higher hazards from avalanche, rockfall and debris flows than Site 1. The frequency and intensity of these hazards is low enough that they could be mitigated through site-specific designs. Design parameters are beyond the scope of this letter. However it should be noted that conventional wood-frame construction is not likely to be feasible at Site 2. Site 1 is not likely to require significant mitigation measures for geologic hazards.

We hope this letter helps you in selecting an appropriate building site. Please contact me if you have any questions.

Sincerely,  
Wilbur Engineering, Inc.

A handwritten signature in black ink, appearing to read "Chris Wilbur". The signature is fluid and cursive, with the first name "Chris" and last name "Wilbur" clearly distinguishable.

Chris Wilbur



Notes:

1. All locations and property boundaries are approximate.
2. Red & Blue Zones defined per San Juan County Code.
3. Hatched areas are outside of 100-year Avalanche limits, but could be reached by lower probability avalanches.

# Preliminary Avalanche Hazard Map Cumberland Mill Site, San Juan County, Colorado

Wilbur Engineering, Inc.  
Revised October 25, 2014



## **ACCESS INFORMATION REPORT**

### **Cumberland Mill Site**

**Prepared By Engineer Mountain, Inc.**

This report is regarding site access information for the Proposed Bowman Cabin, located on the Cumberland Mill Site USMS No. 693B, prepared by Engineer Mountain, Inc.

The Cumberland Mill Site is located south of Silverton. There are no County Roads leading to the site.

Adjacent to the site is the Right-of-Way (ROW) of the Durango & Silverton Narrow Gauge Railroad (DSNGRR).

The other three sides of the site are bordered by Public Lands administered by the Bureau of Land Management (BLM).

The typical access for a proposed cabin on a mining claim in San Juan County is via existing County Roads and a proposed on-site driveway. There are no County Roads leading directly to this site, and there is no driveway proposed for this project.

There are currently two legal methods of access for this site/project.

The first is via the regularly-scheduled passenger tourist trains operated by DSNGRR. The railroad owner (Al Harper) and his staff have agreed in writing that the project site Owner/Applicant Gary Bowman will be provided with access via the trains for this site/project.

This concept - access via the tourist trains - was reviewed by the Planning Commission on December 10, 2014.

The train staff has noted that in exchange for the purchase of a Season Pass, the Owner/Applicant can arrange transportation with the train staff in advance, and the tourist trains will stop at the project site for him to get on/off the train. They also have made arrangements for transportation of construction equipment, building materials, and construction personnel (for a fee, and prearranged through the "Special Handling Department" using the "Work Extra" trains).

Please review the email from train Vice-President Evan Buchanan, which follows this page, and summarizes the train access arrangements.

**ACCESS INFORMATION REPORT**  
**Cumberland Mill Site**  
**Prepared By Engineer Mountain, Inc.**

**From:** Evan Buchanan [mailto:ebuchanan@durangotrains.com]  
**Sent:** Friday, October 10, 2014 1:40 PM  
**To:** Gary E Bowman  
**Cc:** Paul Schranck  
**Subject:** Deer Creek Access

Gary Bowman,

In response to your inquiry concerning rail access to property located south of Silverton, Colorado, I would suggest the following options. A Season Pass is available for sale through our Ticket office that would allow multiple trips by rail (on scheduled passenger trains) for a reasonable cost per individual traveler. A new flag stop location at this location would not be necessary. The occasional stop here could be organized through "Special Handling" procedures followed through the Ticket Office and the Train Operating Department.

The transport of equipment and materials is also possible through the Railroad. "Work Extra" trains can be assembled and operated to move materials, heavy equipment and personnel. The Railroad generally has Diesel Power and equipment ("Flat Cars") available for this kind of work. Pricing structures can vary as to material transported, amount of material and distance traveled. We can review these details during future conversation should you decide to pursue this form of transport.



Evan Buchanan

Vice President/Supintendent of Operations

Direct (970) 385-8828

Cell (970) 946-7599

Main (970) 259-0274

Fax (970) 259-3570

Please see the following pages for additional information about the access for this project.

## **ACCESS INFORMATION REPORT**

### **Cumberland Mill Site**

**Prepared By Engineer Mountain, Inc.**

The Planning Commission reviewed the access options for this project in December 2014. They directed the Applicant/Owner Gary Bowman to proceed with working out the access details with train staff.

The Applicant then approached the train staff with an Access Agreement document prepared by Engineer Mountain, Inc. The access agreement document reiterated and expanded upon the arrangements described in the email on the preceding page of this report. (The access agreement document is available for your review upon request from Engineer Mountain, Inc. at 387-0500.) The train staff were hesitant to sign anything because they never had to do so before. They have worked on several similar projects in La Plata County, where cabins in La Plata County are accessed using the train. Those projects did not require any signed access agreement documents. The train staff were hesitant to sign anything because they thought that it should not be required by the County. Discussions ensued between train staff (Vice President Evan Buchanan), the Applicant/Owner, Engineer Mountain Inc., County Planning Director Bob Nevins, and railroad attorney Frank Anesi. Frank Anesi suggested a DSNGRR "license" would be the train's typical document to handle this arrangement. However the train staff was still hesitant to sign anything, because they thought it unnecessary - and may have feared that if someday far in the future DSNGRR stops running the tourist trains, that Gary Bowman's access agreement would be violated by the train.

The Owner/Applicant Gary Bowman had previously discussed this access in 2012 with train owner Al Harper, prior to purchasing the property. Al Harper had indicated that access could be granted by the train. Therefore this spring Gary Bowman contacted Al Harper again, to let him know that discussions with the train staff had stalled out, and the staff was hesitant to sign anything because they thought it should be unnecessary.

The following (below and next page) is the email exchange between the project site Owner/Applicant (Gary Bowman) and the DSNGRR train owner (Al Harper).



**ACCESS INFORMATION REPORT**  
**Cumberland Mill Site**  
**Prepared By Engineer Mountain, Inc.**

---

Quoting Gary E Bowman <Gary.Bowman@nau.edu>:

Lisa,  
See below from Al Harper.  
GB

ESSENTIAL QUANTUM MECHANICS  
Gary E. Bowman, Oxford University Press (2008)  
<http://www.oup.com/uk/catalogue/?ci=9780199228928>

Gary E. Bowman  
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Department of Physics and Astronomy  
P.O. Box 6010  
Flagstaff, AZ 86011 USA  
Phone: 928-523-1114  
Fax: 928-523 1371  
[gary.bowman@nau.edu](mailto:gary.bowman@nau.edu)

---

**From:** Al Harper [[alharper@durangotrain.com](mailto:alharper@durangotrain.com)]  
**Sent:** Saturday, April 11, 2015 9:39 AM  
**To:** Gary E Bowman  
**Subject:** RE: DSNG Access Issue

**Hi Gary:** I definitely will try to work something out. I will leave the decision of the final method of how to do it with Paul Schranck, my GM and Sr. VP. Al

---

*From:* Gary E Bowman [<mailto:Gary.Bowman@nau.edu>]  
*Sent:* Thursday, April 09, 2015 5:37 PM  
*To:* Al Harper  
*Subject:* DSNG Access Issue

Dear Mr. Harper,

You may recall that back in May, 2012, we discussed my proposed cabin project (about 2 miles south of Silverton). At that time we were both hopeful that I would be able to obtain an easement to access my property via DSNG. My easement request was ultimately denied, however DSNG said it could (for a fee) provide passenger access and transport of construction materials and equipment to the site.

Personally, I am quite satisfied with this arrangement. But at a meeting in Silverton last December, the County Planning Commission made clear that they would like a signed agreement between DSNG and myself. Let me emphasize that the County is *\*not\** asking for an *\*easement,\** but more of a formalization of the access arrangements already offered by DSNG.

(Email from Gary Bowman to Al Harper is continued on next page)

## ACCESS INFORMATION REPORT

### Cumberland Mill Site

Prepared By Engineer Mountain, Inc.

(Email from Gary Bowman to Al Harper, continued from previous page)

I've spoken with Evan Buchanan at DSNG, but he is reluctant to sign such an agreement because he feels it is unnecessary. I understand Mr. Buchanan's point. Unfortunately, I have no control over the Planning Commission, and I'm afraid if I submit my project to them without an agreement it will be turned down.

The civil engineer I'm working with in Silverton (Lisa Adair) spoke with Durango attorney Frank Anesi, who mentioned a "license" as a perhaps simpler and better alternative to a formal access agreement.

There has, in fact, already been quite a bit of discussion/correspondence about this issue amongst myself, Lisa Adair, Frank Anesi, Pete Maisel, and Evan Buchanan (who, by the way, is always a pleasure to talk to). But I thought it best not to bog you down with those details right now.

My hope is that you and I could discuss creating a document that would satisfy the county, yet be fully acceptable to DSNG. Even if I can't give the county an "ideal" agreement, perhaps we could together come up with something that everyone would be happy with, so my project can finally move forward.

Please feel free to contact me by email or cell (928-853-8180). Weekdays later in the afternoon are usually good for me; mornings are not. Thanks in advance for your consideration.

Best Regards,  
Gary

ESSENTIAL QUANTUM MECHANICS  
Gary E. Bowman, Oxford University Press (2008)  
<http://www.oup.com/uk/catalogue/?ci=978019228928>

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Please see the following pages for additional information about the access for this project.

## **ACCESS INFORMATION REPORT**

### **Cumberland Mill Site**

**Prepared By Engineer Mountain, Inc.**

The status of the arrangements between the project site owner (Gary Bowman) and the train owner (Al Harper) and his staff is that we are awaiting further contact from the train staff. This week the Owner/Applicant Gary Bowman has prepared a new, simplified access document to send to Al Harper for review. The train owner and staff currently have no problem with the arrangements described above (see email from Evan Buchanan on page 2) and have no problem with Gary Bowman riding the train to and from the project site. It appears that the staff, so far, just have had a problem with the County's requirement of additional paperwork. It appears the train owner/staff are trying to figure out what kind of written document (such as the train's typical "license" document suggested by railroad attorney Frank Anesi) will suffice for the purposes of the site Owner, the train staff, and the County.

If allowed by the County, the access for this project site will be via the tourist trains, as described above in the correspondence from the train owner and staff - either with or without additional paperwork from the train, depending on County requirements.

However, there is also a second method of legal access for this project site. The secondary access method has been approved by San Juan County for other recent similar projects. The access is across Public Lands administered by the BLM. The BLM access was briefly discussed by the Planning Commission in December 2014, and is called (by the BLM and County) "casual use" BLM access (pedestrian access across Public Lands).

The access to/from the site across BLM land was walked last year by the Applicant/Owner. The route is from/to Deer Park, using the BLM public lands around the Whitehead Trail.

The route is entirely located on public lands - the Owner/Applicant does not need to trespass across any private land or mining claims between the Whitehead Trail and the project site.

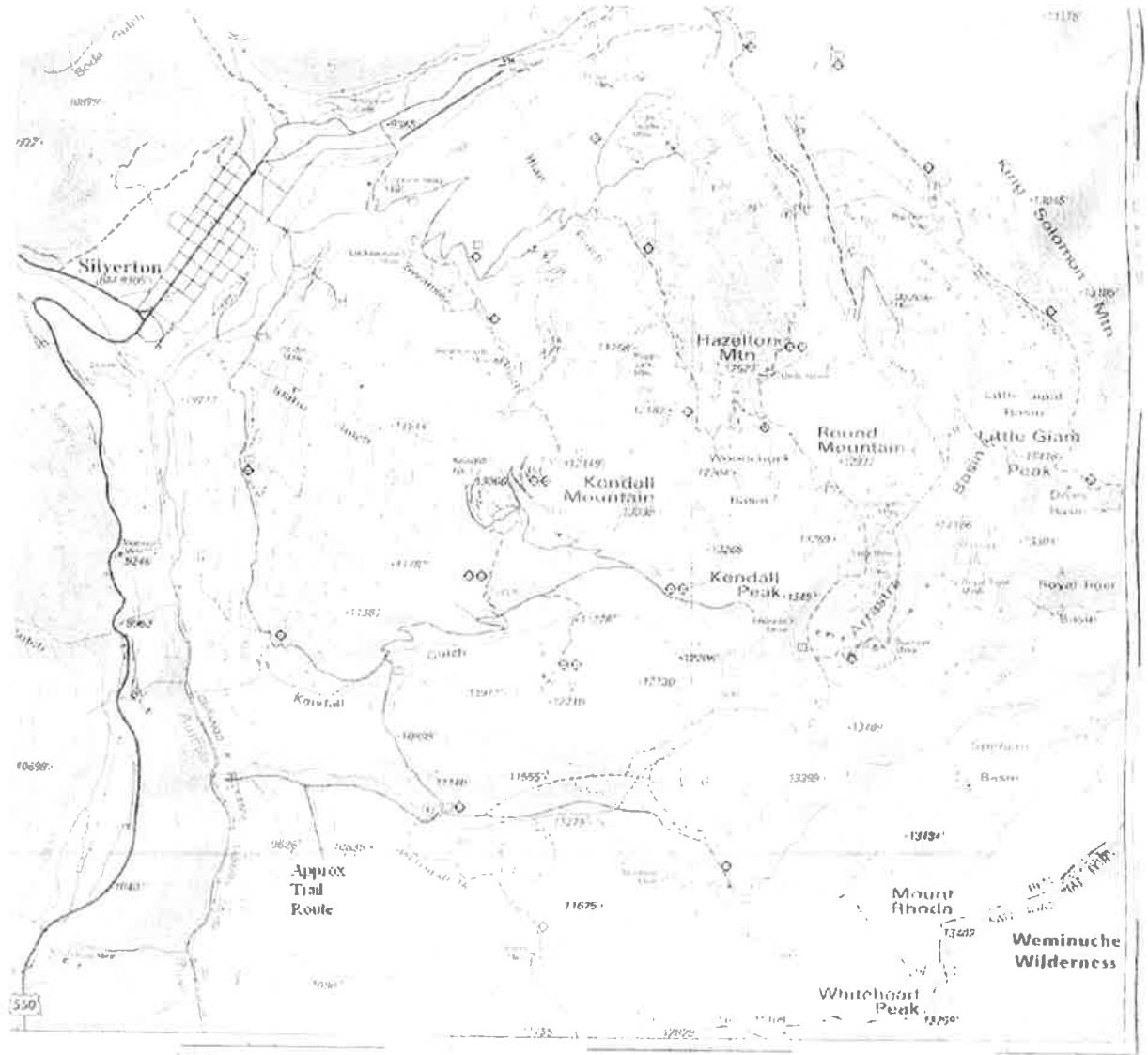
A trail map on the following page shows the approximate pedestrian route across BLM lands walked last summer by the Applicant/Owner Gary Bowman.

The land shown along the route is public land. There is a BLM map - included on page 2 within the Scenic Report, at the end of this submittal binder - which can be cross-referenced and shows that the route is located entirely on public land.

# ACCESS INFORMATION REPORT

## Cumberland Mill Site

Prepared By Engineer Mountain, Inc.



Traditionally hand-drawn in Nederland, Boulder County, Colorado by LATITUDE 40, Inc. © 2000 1/8 (203) 58 2595 ISBN 1 879866 11-1

The photo above is a picture of a trail map, showing the approximate pedestrian access trail route across BLM public lands, between the Whitehead Trail in Deer Park and the project site. The BLM and County typically call this type of legal access "BLM casual use." Similar recent projects have been approved by San Juan County with "BLM casual use" pedestrian access.

**ACCESS INFORMATION REPORT**  
**Cumberland Mill Site**  
Prepared By Engineer Mountain, Inc.

In summary there are currently two legal methods of access for this project:

**(1) Access by Train**

Access to this project site can be via the regularly-scheduled passenger trains operated by the Durango & Silverton Narrow Gauge Railroad (DSNGRR), as described in the correspondence from the train staff included within this report.

**(2) BLM Casual Use Pedestrian Access**

Access to this project site can be pedestrian use across BLM land from/to Deer Park/the project site. This type of legal access is typically referred to by the BLM and San Juan County as "BLM casual use" access.

Regarding the train access, we hope to soon have additional paperwork from the train staff, as described by train owner Al Harper in the email within this report, to submit to San Juan County for the County's review.

Regarding the "BLM casual use" access, San Juan County has recently approved similar projects with this type of legal access. One example is a cabin on a mining claim owned by Chris Blatter, recently approved during the tenure of Planning Director Dave Michaelson.

The easier method of legal access for this project site is via train, as described in the correspondence from the train staff. However the second method of legal access for this project (pedestrian access across BLM land) does provide a legal backup plan for the Applicant/Owner and the County, just in case of the unforeseeable event that DSNGRR were to stop operating the tourist trains in the future.

For additional access information, please contact Engineer Mountain, Inc. at (970) 387-0500, or Applicant/Owner Gary Bowman at (928) 853-8180.



**SCENIC QUALITY REPORT**  
**Cumberland Mill Site**  
Prepared By Engineer Mountain, Inc.

**1. INTRODUCTION AND SITE LOCATION**

San Juan County regulations state the following:

*All residential development shall be required to submit a Scenic Quality Report at the time of sketch plan submittal.*

This is a Scenic Quality Report for the Proposed Bowman Cabin, located on the Cumberland Mill Site USMS No. 693B, prepared by Engineer Mountain, Inc.

The Cumberland Mill Site is located south of Silverton, accessed by the Durango & Silverton Narrow Gauge Railroad passenger trains. The property can also be accessed on foot, by walking down across BLM land from Deer Park.

The property is located at the confluence of Deer Park Creek and the Animas River, about halfway between the Town of Silverton and Molas Lake. The property is located at the bottom of the deep Animas River canyon, alongside the river and railroad tracks.

A photo of a BLM map follows this page. It depicts the general location of the project site.



Photo of BLM Map with Cumberland Mill Site Circled.



## SCENIC QUALITY REPORT

### Cumberland Mill Site

Prepared By Engineer Mountain, Inc.

#### 2. SITE IS NOT VISIBLE FROM HIGHWAY 550 AND COUNTY ROADS

The photo on the previous page shows the general location of the Cumberland Mill Site. County regulations require that this Scenic Quality Report include the following information:

*Designations of scenic views of natural and historic features both from and toward the site and descriptions of how these vistas shall be preserved. Graphic depictions of the proposed structure's impact on these views shall be submitted to allow staff, the Planning Commission, and the Board of County Commissioners to assess the impacts of the project and the effectiveness of proposed mitigation measures.*

The project site, the Cumberland Mill Site, is near Highway 550 as shown on the preceding page. However, it is not visible from Highway 550 (to the best of our knowledge). Likewise, the highway is not visible from the site. We observed no visibility between the two viewpoints, due to the difference in elevation, terrain, and significant vegetation between the highway and the site. The elevation difference between the highway (at approximately 10,400 feet) and the site (at approximately 9,200 feet) is estimated at approximately 1,200 feet. The site is located at the very bottom of the Animas River canyon, located far below the Highway, adjacent to the railroad right-of-way, with the view blocked by terrain and vegetation.

There is no known location on any County Roads from which this site would be visible. The closest County Roads are in Deer Park, and the site would not be visible from there due to significant tree cover and elevation difference.

Two photos follow this page:

(1) The photo on the following page shows a location alongside Highway 550 which would most likely provide the best view of the site. The following page shows that there is no view of the bottom of the Animas River canyon and the project site from the highway, due to vegetation and grade change.

(2) The second photo shows the view towards the site when viewed from a short hike down from the highway right-of-way. The site is not visible from the highway, nor is it visible from a short hike downhill of the highway.



09.27.2014 12:14 pm

**Photo Looking East Along Highway 550 at Approximate Mile Marker 67. Project Site is Located at the Bottom of the Animas River Canyon Directly Below Highway. Project Site is Not Visible Due to Elevation Difference, Terrain and Vegetation. Project Site is Approximately 1,200 Feet Below Highway.**



View from Below Highway 550 ROW Towards Site (Milemarker 67, Looking East) – Site is Located at Bottom of Valley Adjacent to Animas River Canyon and is Not Visible. (Bog67.2-siteview)

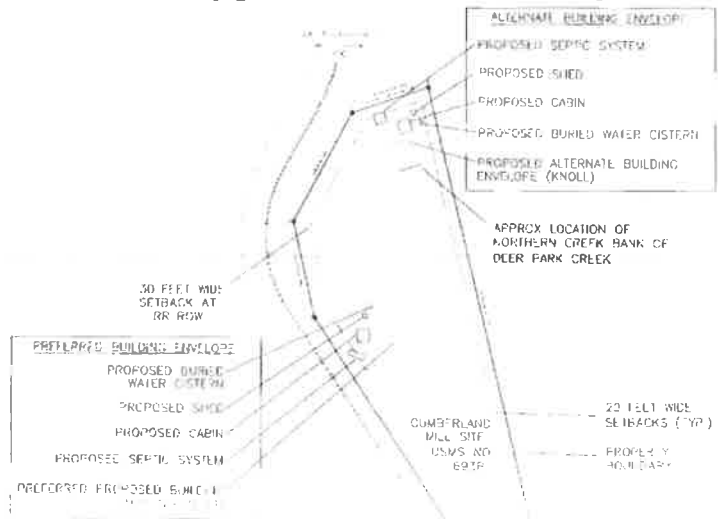
**SCENIC QUALITY REPORT**  
**Cumberland Mill Site**  
 Prepared By Engineer Mountain, Inc.

**3. TWO BUILDING ENVELOPES ARE PROPOSED**

There are two different building envelopes proposed at this time. Only one cabin within one building envelope is proposed for development. One of the two proposed building envelopes will be eliminated by the County and Applicant/Owner during the Improvement Permit Sketch Plan review. The two building envelopes were selected to avoid nearby avalanche and geohazard areas.

The Owner/Applicant prefers a building envelope located near the middle of the property, in a flat meadow area. The alternate building envelope is located at the northern end of the property, on a flat-topped rocky knoll.

The Owner-preferred, flat building envelope was first suggested by the Planning Director during our site visit. The alternate, knoll building envelope was suggested by the avalanche-geohazards expert as the safest area on the site. Both of the two building envelopes have been evaluated to be “buildable” – either relatively free from natural hazards, or having the potential for relatively low hazards, requiring some reasonable, minimal mitigation, due to nearby geohazards and/or avalanche potential.



A cabin built within the flat building envelope would be visible from the train right-of-way - unless screening trees are planted - whereas a cabin built at the knoll building envelope would not be visible from the train right-of-way.

The following page is a summary table of the characteristics of the two options for the proposed building envelope.

# SCENIC QUALITY REPORT

## Cumberland Mill Site

Prepared By Engineer Mountain, Inc.

There are two building envelopes. Only one cabin within one building envelope is proposed for development. The other building envelope will be eliminated by the County and Applicant during this Sketch Plan review. The following table provides a summary of building envelope characteristics.

### Summary of Building Envelope Characteristics

<u>Building Envelope Name And Characteristics</u>	<u>Knoll Building Envelope</u>	<u>Flat Building Envelope</u>
Terrain Type:	Flat-Topped Rocky Knoll/Hill	Flat Meadow Adjacent to Train ROW
Building Envelope Elevation Above Train Tracks:	+/- 100'	+/- 0'
Owner-Preferred:	No	Yes
<b>Visible from Train</b> With Screening/Vegetation As-Is:	<b>No</b>	<b>Yes</b>
Visible From Train With Addition of Screening (Such as a Row of Trees):	No	Perhaps
Requires Minimal Geohazards Mitigation:	No	Yes
Requires Minimal Avalanche Mitigation:	No	Yes
Construction Equipment Access:	Difficult	Easy
Pedestrian Access from Train:	Difficult	Easy
Probable Type of Creek Water System:	Pump/Siphon	Gravity-Fed

## **SCENIC QUALITY REPORT**

### **Cumberland Mill Site**

**Prepared By Engineer Mountain, Inc.**

#### **4. VISIBILITY OF THE TWO BUILDING ENVELOPES FROM TRAIN**

The preferred building envelope is located in a flat meadow area adjacent to the Durango & Silverton Narrow Gauge railroad right-of-way. Between the preferred building envelope and the train tracks there is little vegetation and almost no grade difference, and therefore little to no natural screening. A train tourist looking towards the proposed cabin would be able to see the cabin for a brief instant while the train travels by. We would estimate that the cabin would be visible to a train tourist passenger looking east along approximately 200 to 300 feet of train track, and that the train tourist watching for the cabin might be able to see it for about 8 to 11 seconds while travelling by (at 18 miles per hour). Artificial screening (such as a planting a row of trees along the property line) could potentially block all or some of the cabin from the train tourist view (depending on type of trees and tree spacing).

In contrast, the alternate, knoll building envelope would probably not be visible whatsoever, due to significant vegetation (tree cover) and a large elevation difference between the building envelope and train right-of-way.

The visibility of the two building envelopes from the train is depicted in photos and further described within this report.

## **SCENIC QUALITY REPORT**

### **Cumberland Mill Site**

**Prepared By Engineer Mountain, Inc.**

#### **5. NORTHERN KNOLL BUILDING ENVELOPE**

The first building envelope evaluated in this report is the northern building envelope. It is located on a flat-topped rocky knoll, near the north end of the property. It is located east of and elevated above the Durango & Silverton Narrow Gauge Railroad tracks. The building envelope has been evaluated by an expert for avalanche and geohazard potential, and has been found to be relatively hazard free, requiring little or no mitigation. The proposed cabin is not expected to be visible from the train right-of-way, due to heavy tree cover (mostly aspens) and a large elevation difference between the train and the proposed cabin.

The four corners of the proposed cabin have been staked, with the cabin perimeter marked with pink surveyor's flagging tape. The cabin was staked in the field with approximate dimensions of 20 feet by 20 feet (400 square feet). Adjacent to the proposed cabin is a proposed shed. The footprint of the shed was also staked, and marked with yellow flagging. The proposed septic system area was marked with one stake and flagging. The septic area is directly downhill of the proposed cabin.

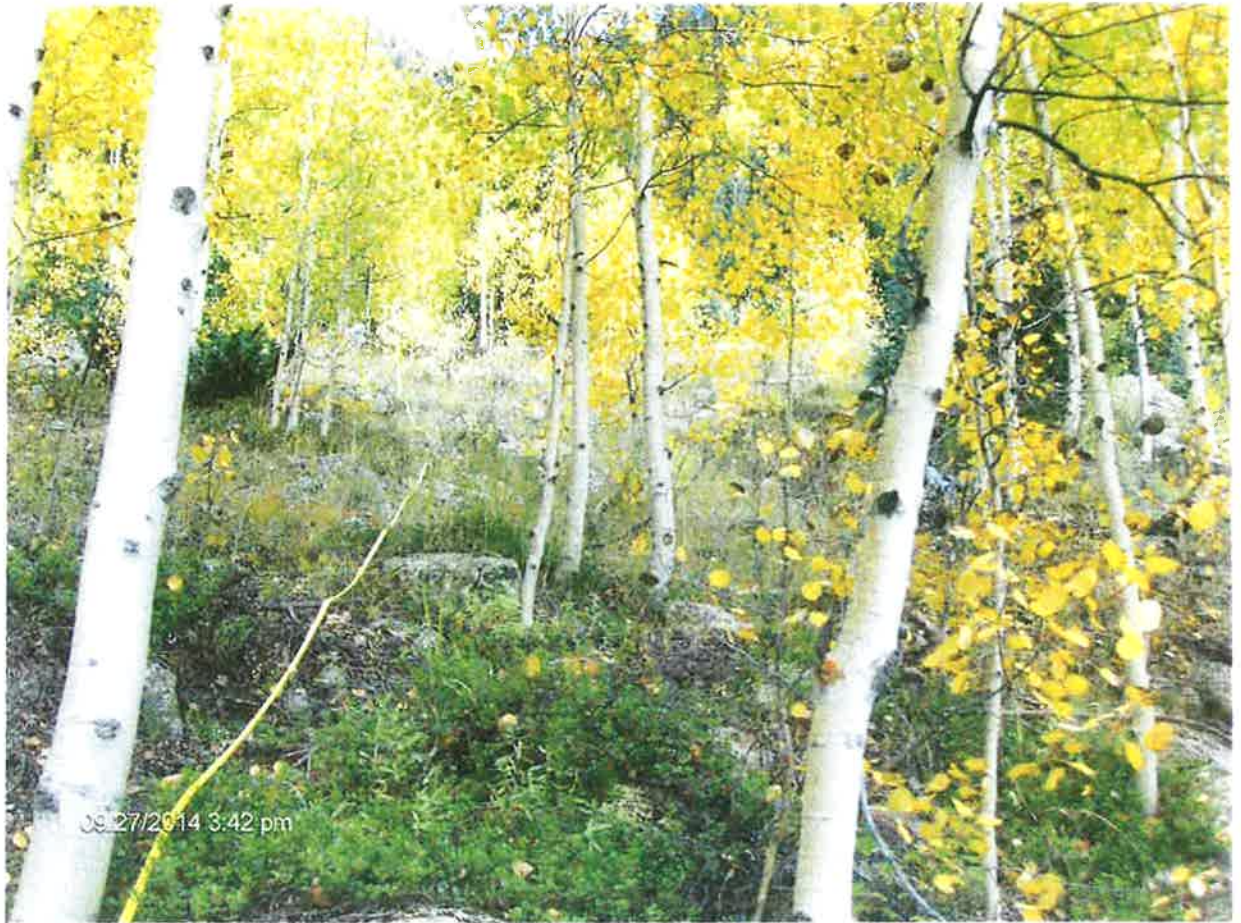
#### **A. PHOTOS OF KNOLL BUILDING ENVELOPE AND CABIN FLAGGING**

Photos of the proposed knoll building envelope and cabin flagging are included on the following five pages. The photos show that the views of the knoll building envelope and proposed cabin are blocked from people on the train by vegetation, elevation difference, and terrain.



**View of Cabin Footprint (Pink Flagging) at Knoll Building Envelope, with Camera Facing East, with Train Tracks Approximately 185 Feet Behind Camera (EView40)**





View of Cabin Footprint (Pink Flagging in Distance) at Knoll Building Envelope, with Camera Facing East, with Train Tracks Approximately 145 Feet Behind Camera (EView80)



**View Towards Cabin Footprint (Pink Flagging No Longer Visible) at Knoll Building Envelope, with Camera Facing East, with Train Tracks Approximately 125 Feet Behind Camera (EView100)**



View of Access Route Looking Up Towards Knoll Building Envelope, with Camera Facing East-Northeast, with Train Tracks Behind Camera (MS693B-approach)



**View of Access Route Looking Up Towards Knoll Building Envelope, with Camera Facing East-Northeast, with Train Tracks in Foreground (trksidepitch)**

**SCENIC QUALITY REPORT**  
**Cumberland Mill Site**  
Prepared By Engineer Mountain, Inc.

B. PHOTOS FROM PROPOSED CABIN AT KNOLL BUILDING ENVELOPE

In the County Scenic Quality Report regulations, it is requested that we provide information about the view FROM the building envelope(s).

Photos are included on the following pages, showing the view FROM within the staked cabin footprint at the knoll building envelope. The photos were taken in the approximate location of where the front wall of the cabin will be located.

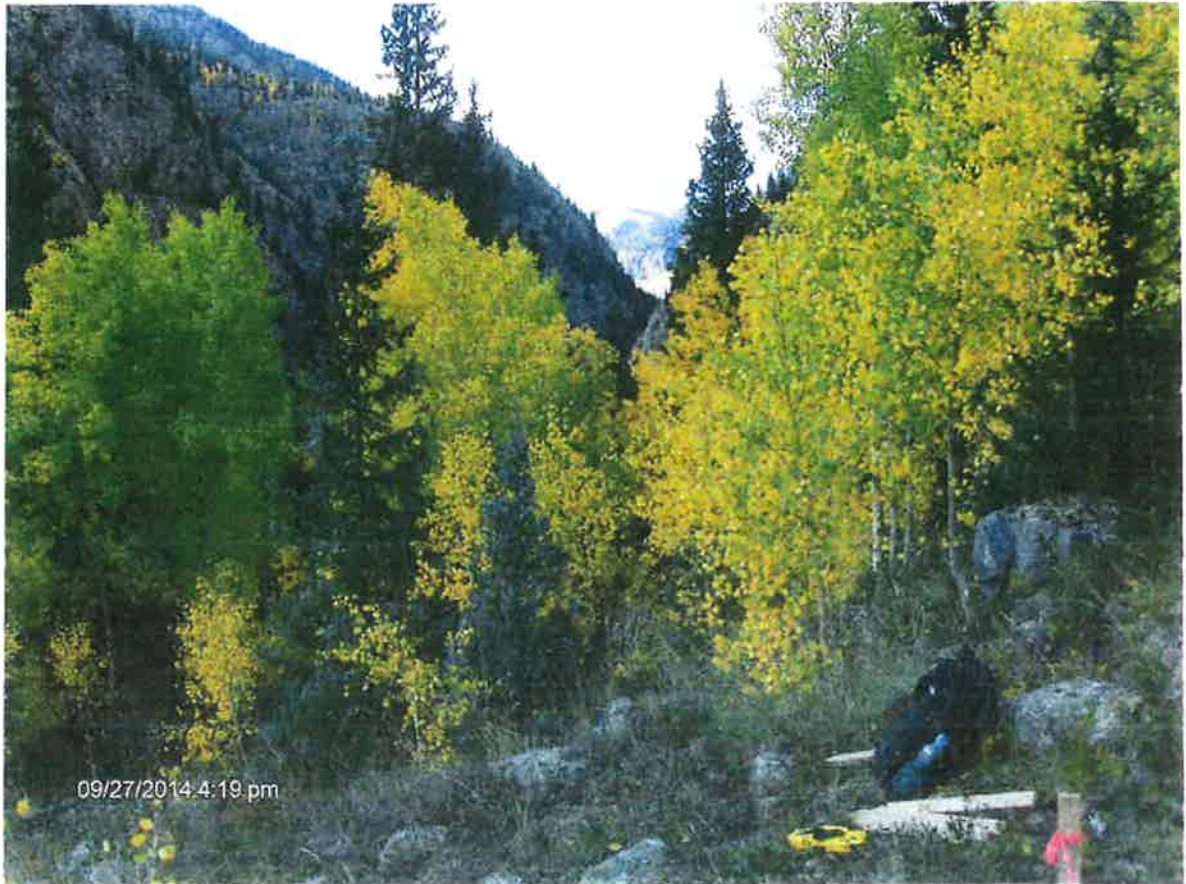
Highway 550, County Roads, and the train right-of-way are not visible from the knoll cabin location, as shown in the photos following this page. Therefore we expect that views of the cabin from County Roads, Highway 550, and the train would also be unlikely.

Views from the proposed cabin out the back wall of the cabin, uphill, looking east towards Deer Park, are obscured by the existing trees.

On the following three pages are color photos of views from the proposed cabin, looking downhill, towards the train right-of-way, towards the north, west, and south.



**VIEW FROM PROPOSED CABIN (Pink Flagging) at Knoll Building Envelope, Looking West - Looking Towards Train Tracks and Animas River (Which Are Not Visible Due to Vegetation and Grade Difference). (CabinW1)**



**VIEW FROM PROPOSED CABIN (Pink Flagging) at Knoll Building Envelope, Looking Northwest. Train Tracks and Animas River are Located Below, in Bottom of Valley, and Are Not Visible Due to Vegetation and Grade Difference. (Nview1)**



**VIEW FROM PROPOSED CABIN at Knoll Building Envelope, Looking Southwest. Train Tracks and Animas River are Located Below, in Bottom of Valley, and Are Not Visible Due to Vegetation and Grade Difference. Deer Park Creek is Located Below Knoll Building Envelope in the Picture, in the Evergreens. (Sview1.JPG-2)**



**SCENIC QUALITY REPORT**  
**Cumberland Mill Site**  
Prepared By Engineer Mountain, Inc.

**6. OWNER-PREFERRED FLAT BUILDING ENVELOPE**

The second building envelope evaluated in this report is the flat building envelope, first suggested by the Planning Director, and preferred by the Owner/Applicant. It is located in a flat meadow area adjacent to the Durango & Silverton Narrow Gauge Railroad train tracks. It is located at approximately the same elevation as the train tracks. The flat building envelope has been evaluated by an expert for avalanche and geohazard potential, and has been found to be buildable with some reasonable mitigation efforts. The proposed cabin would be visible from the train right-of-way, due to limited existing vegetation and little elevation difference between the train and the proposed cabin. We would estimate that with existing conditions (existing grade and vegetation) the cabin would be visible to a train tourist looking east for approximately 10 seconds while the train travels by the site. Planting a row of trees could potentially block all or most of the structure from the train tourist's view.

The four corners of the proposed cabin have been staked, with the cabin perimeter marked with yellow surveyor's flagging tape. The cabin was staked in the field with approximate dimensions of 20 feet by 20 feet (400 square feet). Adjacent to the proposed cabin is a proposed shed. The footprint of the shed was not staked at this building envelope. The proposed septic system area would be located between the cabin and western property boundary.

**A. PHOTOS OF FLAT BUILDING ENVELOPE AND CABIN FLAGGING**

Photos of the proposed flat building envelope and cabin flagging are included on the following four pages.



**View of Cabin Footprint (Yellow Flagging in Distance) at Flat Building Envelope, with Camera Facing Northeast. Train Tracks and the Animas River are Located Behind Camera. Deer Park Creek is Located Within the Evergreens in Photo. (HPIM2722)**



View of Cabin Footprint (Yellow Flagging in Distance) at Flat Building Envelope, with Camera Facing East, with Train Tracks and the Animas River Behind Camera (HPIM2723)



**View of Cabin Footprint (Yellow Flagging) at Flat Building Envelope, with Camera Facing Southeast. (HPIM2730)**



View of Cabin Footprint (Yellow Flagging) at Flat Building Envelope, with Camera Facing South, with Train Tracks Located Beyond the Right Side of the Picture (HPIM2731)

**SCENIC QUALITY REPORT**  
**Cumberland Mill Site**  
Prepared By Engineer Mountain, Inc.

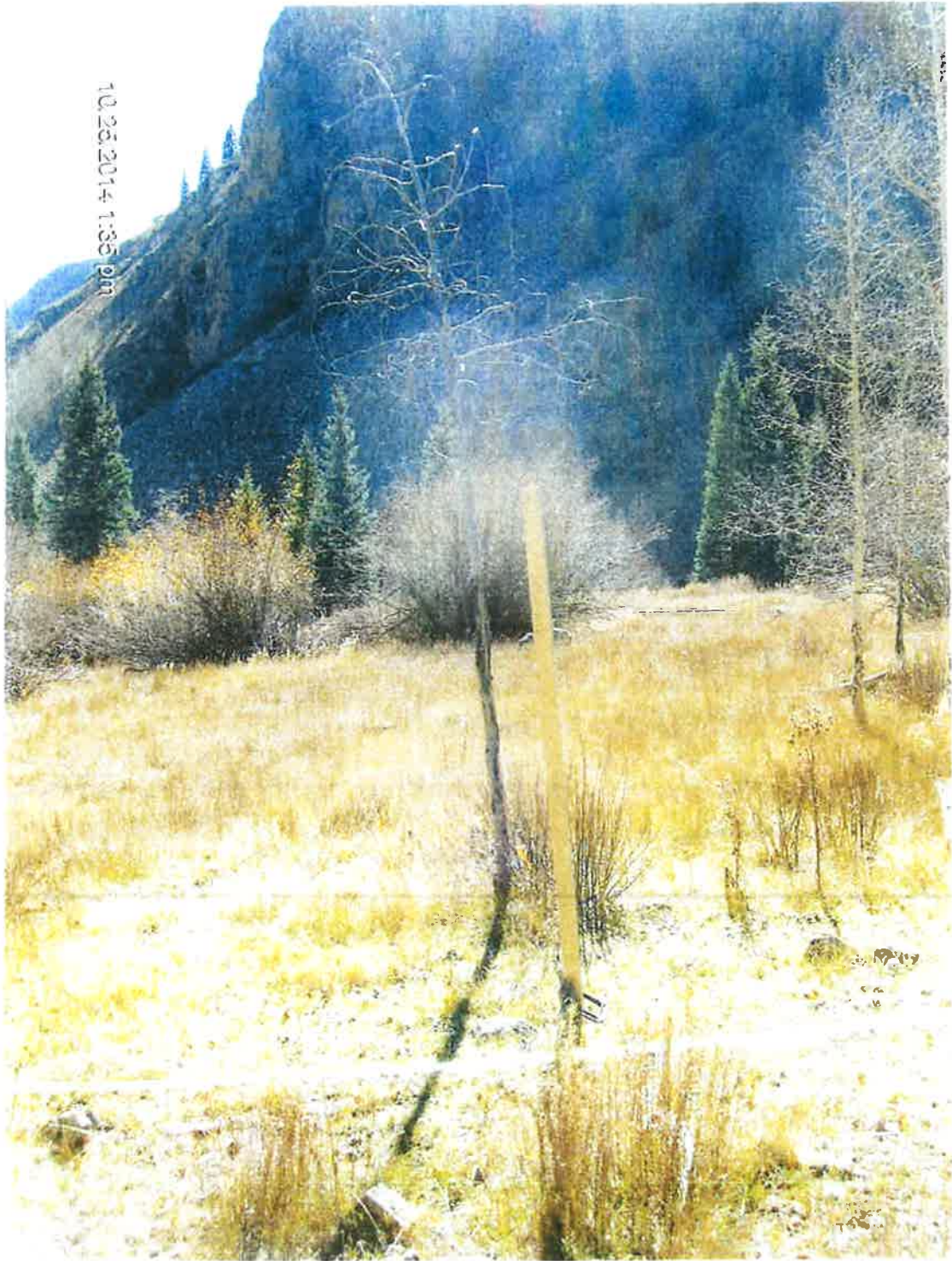
B. PHOTO FROM PROPOSED CABIN AT FLAT BUILDING ENVELOPE

In the County Scenic Quality Report regulations, it is requested that we provide information about the view FROM the building envelope(s).

A photo is included on the following page, showing the view FROM within the staked cabin footprint at the flat building envelope.

The train right-of-way is visible from the flat cabin location, as shown in the photo following this page.

The photo on the following page is a view from the proposed cabin, looking towards the train tracks, looking towards the west.



View FROM Cabin Footprint (Yellow Flagging) at Flat Building Envelope, with Camera Facing West, with Train Tracks Located in Center-Right of Picture (HPIM2726)

## SCENIC QUALITY REPORT

### Cumberland Mill Site

Prepared By Engineer Mountain, Inc.

#### C. PHOTO WITH PROPOSED CABIN ADDED, SHOWING VIEW FROM TRAIN, AT FLAT BUILDING ENVELOPE

The proposed cabin will be visible from the train right-of-way to an east-facing train tourist travelling by, for approximately 10 seconds, if the screening/vegetation remains as-is. The existing screening (vegetation) is limited. The addition of screening, such as planting a row of trees, if required by the County, would block all or some of the cabin from the train tourist view, depending on tree type and spacing.

The photo on the following page shows approximately what the cabin would look like, to a train tourist who is sitting on the east side of the train, looking eastward out the train window towards the cabin.





Graphic Depiction Prepared by the Applicant, Showing Approximate View of Proposed Cabin at Flat Building Envelope After Construction, from Train Passenger Viewpoint. The Cabin Would be Visible to a Train Passenger, Sitting on Eastern Side of Train, Looking East from the Train for Approximately 10 Seconds, as the Train Passes by the Project Site, if Screening Remains AS-IS. (HPIM2724+Cabin Elev)

## SCENIC QUALITY REPORT

### Cumberland Mill Site

Prepared By Engineer Mountain, Inc.

#### 7. LOCATION OF STRUCTURE WAS SELECTED TO MINIMIZE VISIBILITY FROM PUBLIC LANDS AND EXISTING TRAILS

The County Scenic Quality regulations require the following information:

*Evidence that the location of the structure is designed to minimize the visual impacts and to not detract from the scenic quality of adjacent public lands or existing trails.*

Here is information regarding individual (underlined) parts of the above regulation:

- Location of the structure:

There are two possible choices for the “location of the structure.”

- Adjacent public lands:

The project site is surrounded on three sides by BLM-administered public lands. The “adjacent public lands” are mostly steep river canyon slopes, with limited practical access and likely low usage. On the fourth side of the project site is the private Durango & Silverton Narrow Gauge Railroad right-of-way located across/on BLM public land. It is unclear whether the private railroad right-of-way is to be considered private land, or “adjacent public lands.”

- Existing trails:

There are no known significant existing trails in the viewing vicinity of the project site. The closest trail marked on maps “as the crow flies” would be the Whitehead Trail in Deer Park. It is unlikely that the site could be viewed from the Whitehead Trail, which is far above the project site, due to vegetation, terrain, and significant elevation difference. We have asked a few people familiar with summer hiking on the Whitehead Trail, who have stated that it would not be possible to look down from the trail, towards the Animas River, and to view the project site. There is a short on-site trail shown on the USGS topo quad map from the 1950s. “On paper” - on the 1950s topo quad map - the trail starts at the train right-of-way, and ends at the ruins of an old cabin located directly uphill of the project site. The trail traverses the privately owned project site, and ends on public land.

The Scenic Report regulation at the top of this page requires information about how the Applicant selected (or did not select) a “location of structure” which would minimize “visual impacts” from “adjacent public lands” and “existing trails.” The Applicant has

**SCENIC QUALITY REPORT**  
**Cumberland Mill Site**  
Prepared By Engineer Mountain, Inc.

done so. His choices for building envelope were limited to two areas deemed safe. Neither is significantly visible from adjacent public lands or existing trails.

The Applicant only has two possible options for the "location of structure" due to nearby avalanche/hazard zones, as evaluated by the avalanche/geohazard expert.

The Applicant originally selected the "location of structure" which would not be visible from the train. That area is represented by the knoll building envelope. The Applicant originally assumed that any building envelope he selected had to be basically invisible from the train. It is unclear if the privately owned train right-of-way is considered private land or "adjacent public lands."

During the site visit with the Planning Director, a second building envelope was suggested by the Planning Director for consideration. The second building envelope is represented by the flat meadow building envelope. The flat building envelope would be visible from the train with existing screening (limited vegetation) remaining as-is. It would be visible to an east facing train tourist for about 10 seconds. At the time of the site visit, the Applicant did not think that the flat building envelope would even be allowable or considered by the County, due to its visibility from the train. However the Planning Director suggested it could be considered, due to easier logistics for construction (flat access) and a larger, more buildable, flatter area.

Therefore, there are currently two proposed building envelopes for your consideration, and the Owner now prefers the visible building envelope located in the flat meadow area. It is up to the County to decide if the flat building envelope would be allowable, due to its visibility from the train - and/or if additional screening, such as planting a row of trees, should be a requirement, to block all or part of the view of the structure from the train. Both of the two options for the "location of the structure" have limited or no visibility from "adjacent public lands" and "existing trails." It is unclear if the private railroad right-of-way located across BLM public lands is considered private land or "adjacent public lands."

The site is located at the bottom of a rather steep river canyon. The surrounding and adjacent public lands are mostly steep canyon walls which are difficult to access. The nearby existing trails include only one significant trail, the Whitehead Trail, located far above the site and visually separated from the site by a change in elevation and terrain.

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### Cumberland Mill Site

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The lack of visibility of the entire project site makes it difficult to select any "location of structure" that would be visible from "adjacent public lands" or "existing trails." However one of the two options for the proposed cabin "location of the structure" would be briefly visible from the train right-of-way, which is a private right-of-way located across BLM public lands, if screening (vegetation) remains as-is.

There are two proposed building envelopes for the County to consider. One is to be eliminated during the Sketch Plan review. The two building envelopes have been selected based on nearby potential avalanche areas, and geohazards evaluation.

The "location of the structure" on the northern, knoll building envelope is in an area where it will not be seen from the train. Adjacent to the knoll building envelope is BLM "public land," and it is possible that the cabin could be viewed from that BLM land, if the person is standing right on the property line, and peeking through the trees towards the cabin. However there is no existing trail located near the knoll building envelope.

The Owner/Applicant has selected two options for the building envelope in order to allow the County to weigh in on visibility versus the "location of structure" when viewed from "adjacent public lands" and "existing trails."

Another way that the Applicant has reduced the possible visual impacts of the project from adjacent public lands and adjacent private lands is through the proposed cabin design – a small footprint with one story.

The cabin size is relatively small. The proposed cabin is up to 24 feet by 24 feet, which is 576 square feet. (The cabin will probably end up being built smaller than that, such as 20 feet by 24 feet, which is 480 square feet.) The Owner/Applicant plans to build "small" even though this site is located at an elevation (approximately 9,200 feet) where the County does not currently restrict cabin size.

The Owner has selected a one story cabin design, even though County regulations allow for a taller structure. He is considering a small partial loft, big enough to hold a bed, but not so large that it would significantly raise the level of the roof and total height of structure.

Draft building plans have been prepared by the Owner/Applicant, and are included on the following five pages for your review. The plans have been drawn with the preferred, flat building envelope in mind. The plans could need some revisions (mostly to deck and porch design) if the alternate, knoll building envelope is instead selected.



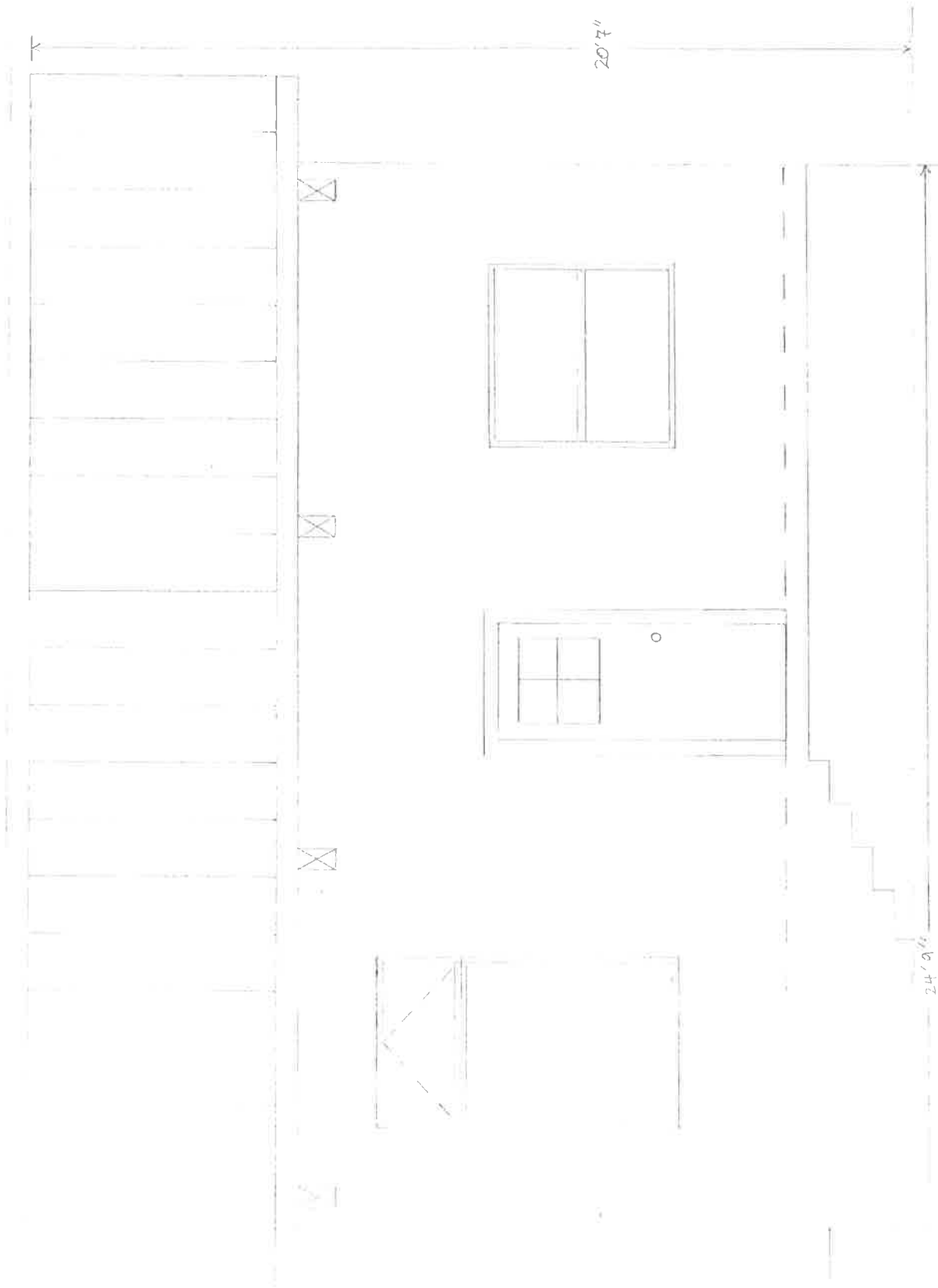


North Elevation  
 Bowman, Miss.  
 211 S. 693 E  
 San Juan City, CO

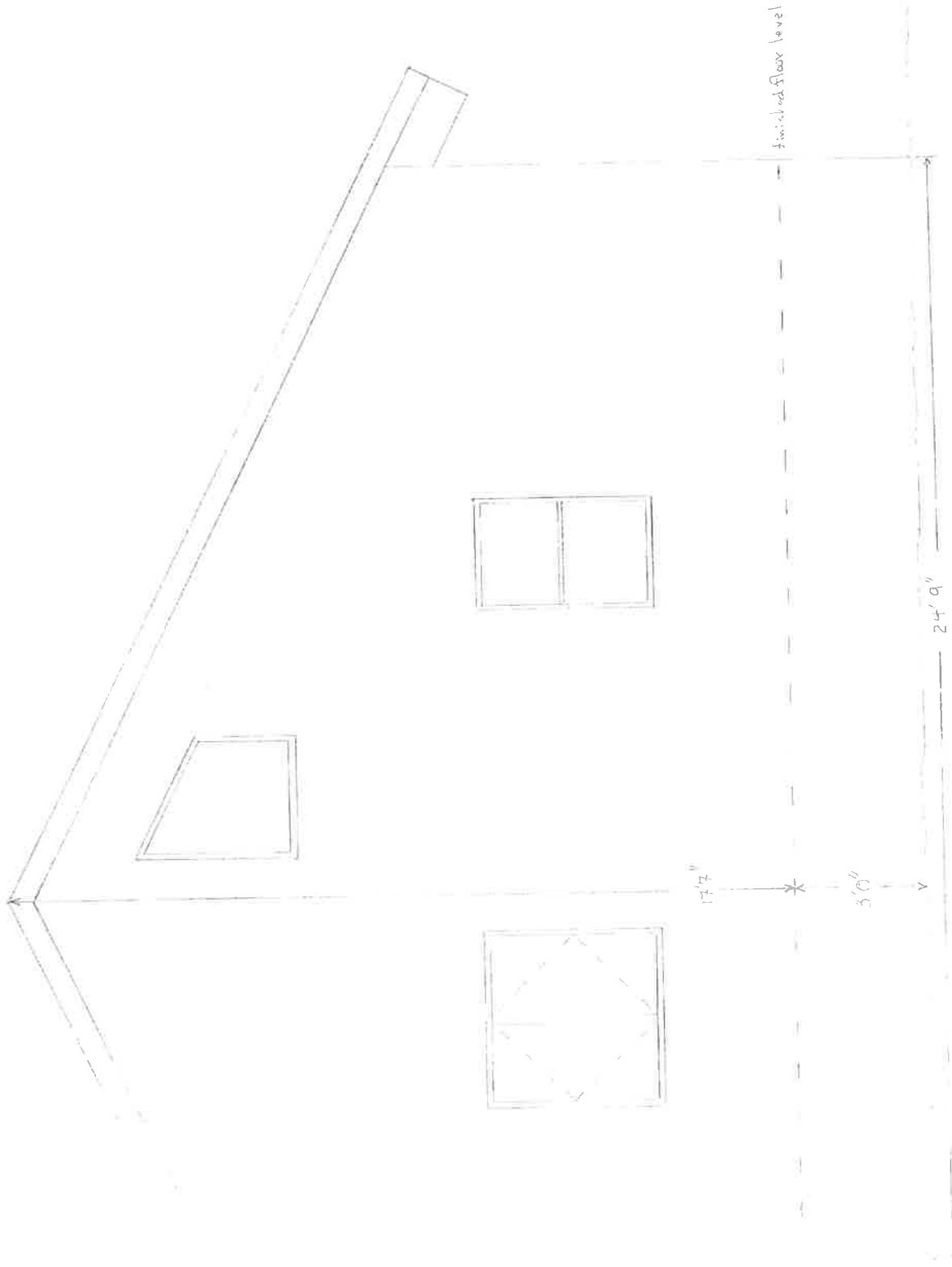
24'0"

11'4"

2'0"

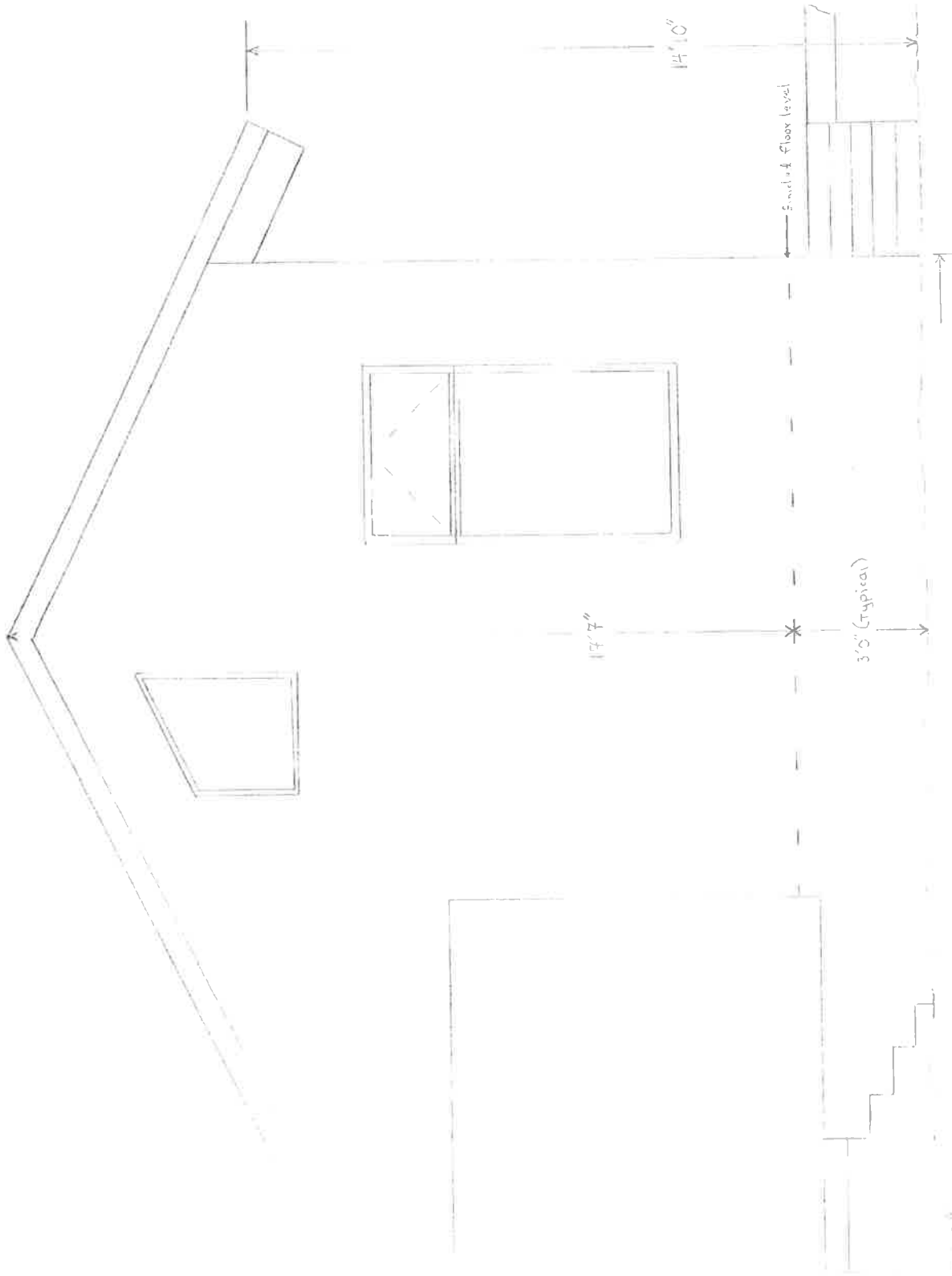


South Elevation  
Bowman Cabin  
N.S. 693 B  
San Juan City, CO



East Elevation  
 Bowman Cabin  
 N. S. 693 B  
 San Juan City, CO





West Elevation  
 Beacon Cabin  
 M.S. 693B  
 San Juan City, Coos

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**8. CABIN DESIGN WORKS WITH NATURAL TOPOGRAPHY**

County regulations require that the Scenic Quality Report includes information regarding the following:

*Evidence that the designs orient improvements in ways that allow them to blend in with and utilize the natural topography. The submittal shall include, but not be limited to, elevations at a scale suitable for a determination that all standards in this section have been met, Three-Dimensional Modeling, etc.*

The proposed cabin has been designed as a one-story structure with no basement. There is no second story on the proposed structure - but there may be a small partial loft.

The total height of the proposed cabin is estimated to be about 18 feet, from the finished floor elevation to the exterior peak of the roof at the roof ridge beam.

There are two options for the building envelope for your consideration. Both of the two options for the building envelope are relatively flat where the cabin would be located. The draft cabin design works with either of the two options for building envelope. The cabin design works with the natural grade of the two building envelopes, and not against it.

The proposed cabin design is shown on Applicant's drawings, on the five preceding pages. The proposed cabin design is also depicted from the east-facing train tourist's view on page 27 of this report.

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**9. TOPSOIL, UTILITIES, LIGHTING, AND DRIVEWAYS**

This section of the Scenic Report describes design features associated with topsoil, location of utilities, exterior lighting, and any proposed driveway(s).

**A. TOPSOIL**

County regulations require that the project should include the following:

*Plans to remove and save topsoil, prior to any grading or excavation and replacement, for reuse during re-vegetation.*

Any topsoil found during construction of the proposed improvements will be separately stockpiled on-site, to be used for landscaping. If the flat meadow building envelope is selected, and screening (such as a row of trees) is required by the County, then any topsoil found during construction can be used for the landscaping associated with the screening or row of trees.

**B. UTILITIES**

County regulations require that the project should include the following:

*Location and installation of utilities in ways that will cause the least damage to the natural environment.*

The project includes the following proposed utilities: a proposed underground septic system leachfield and a proposed underground water tank cistern, and some associated underground buried water and sewer piping. The septic system leachfield location was selected based on San Juan Basin Health Department regulations and setbacks. The buried cistern location has been selected as uphill of the cabin, to allow gravity flow of water down to the cabin. The water and sewer construction will occur with the least amount of disturbance necessary, in order to limit any damage to the natural environment. No electric, overhead powerlines, power poles, or phone/cable lines are proposed. Power sources are to include solar, propane, a woodstove, and a backup generator, and these items are not anticipated to cause physical damage to the natural environment. The Applicant is considering a solar panel mounted on one side of the proposed shed roof. The solar panel would provide power for some low voltage LED lights.

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C. EXTERIOR LIGHTING

County regulations require that the project should include the following:

*Provisions requiring shielding of exterior lighting to prevent direct visibility of light bulbs from off-site, directing of all exterior lighting toward either the ground or the surface of a building and prohibiting high intensity sodium vapor or similar lighting.*

The proposed exterior lighting for this project is a minimum amount of automatic on-off motion detection solar lights, just enough for safety purposes. No sodium vapor lights are proposed or will be used. We would suggest one solar powered light at each door, which we would assume would be a total of two doors and two lights.

D. DRIVEWAYS

County regulations require that the project should include the following:

*Design and construction plans for roads and associated structures that bear a logical relationship to existing topography to minimize the need for cuts and fills.*

There are no driveways or roads proposed for this project. The access would be via the Durango & Silverton Narrow Gauge Railroad regularly scheduled passenger trains. After exiting the train (at or near the Deer Park Creek railroad bridge located at the site), the Applicant would walk a short distance from the train to the cabin. The alternate route to the project site is via pedestrian access across BLM land from Deer Park. There may be other possible pedestrian routes across BLM land, such as traversing down to the site from Highway 550 across the public lands near the Molas Mine.

According to the railroad staff, during construction, "special work train(s)" is/are to be scheduled. The train will be providing access for construction equipment access (such as Maisel Excavation LLC's small trackhoe) and building materials delivered by the "special work train(s)." If the knoll building envelope, located at the north end of the property, is selected by the County, then a temporary construction equipment access path may be needed for the Maisel Excavation LLC equipment to traverse from the train right-of-way up to the top of the flat-topped knoll. The knoll building envelope is flat on top but has moderately steep sides. If a temporary construction equipment access path is needed, then the path will be constructed with the least amount of damage to vegetation (grass) and the least amount of grading (such as pushing aside of surface boulders). If

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required by the County, Applicant, and/or railroad, the temporary path can be reclaimed and revegetated after construction.

**10. BUILDING MATERIALS**

County regulations require that the building design should include the following:

*Utilization of colors and textures found naturally in the landscape and prohibition of reflective materials, such as highly reflective glass or metals.*

The proposed colors and textures of the cabin are the following:

- Wood timber framing, and/or structural steel framing (to be minimally exposed on the building exterior)
- “RustWall” brand rusted metal siding
- Non-reflective, dark green, metal “standing seam” roofing material
- Minimal window “glazing”

The photos on the following pages show the types of proposed cabin building materials selected by the Applicant.

**ENGINEER  
MOUNTAIN, INC.**

\*SOILS \*RETAINING WALLS  
\*SEPTICS \*FOUNDATIONS  
\*GRADING AND DRAINAGE  
\*SITE DEVELOPMENT



Three photos of “Rust-Wall” brand, non-reflective, rusted metal siding.

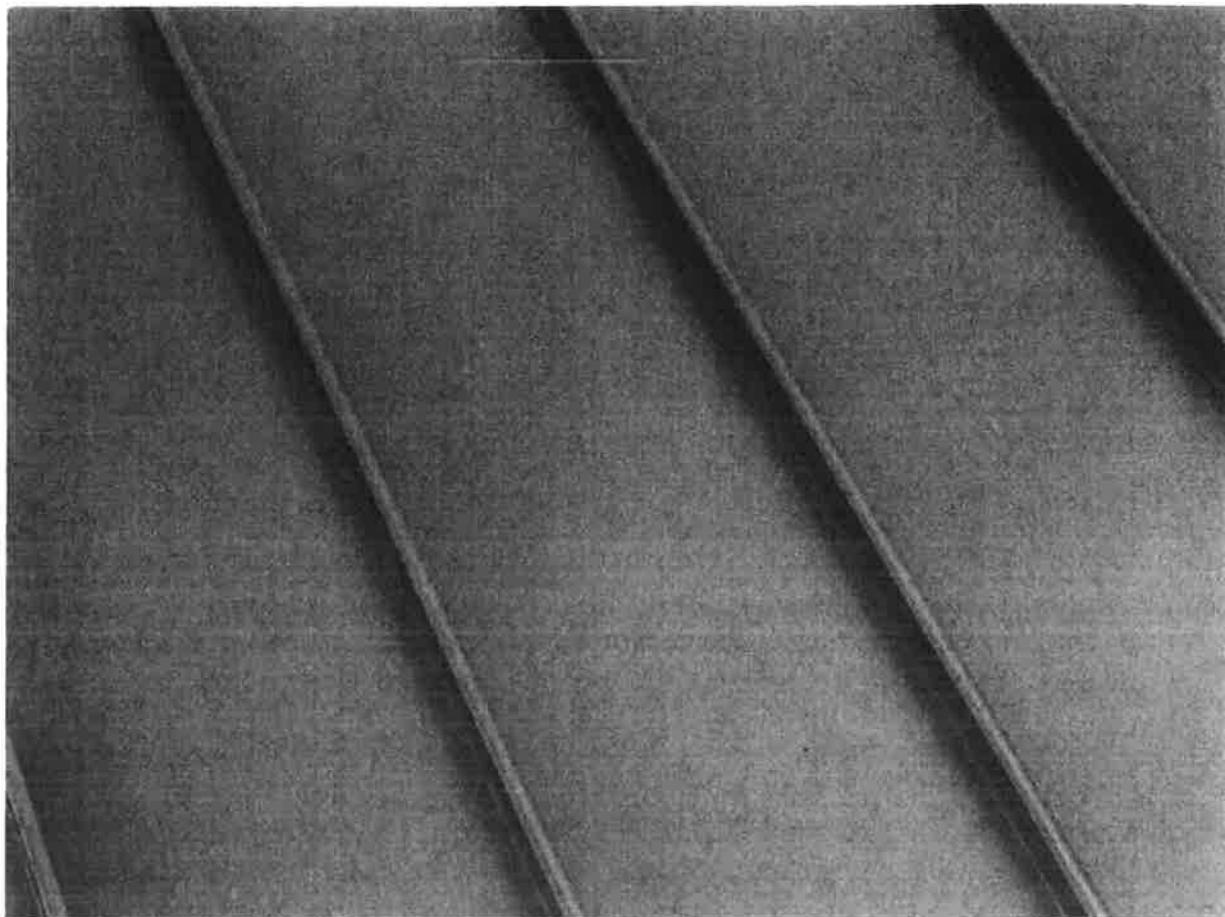


Photo of dark green, non-reflective metal, “standing seam” roofing material.

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#### 11. CONCLUSION

In conclusion, this project appears to be in general conformance with the County Scenic Quality regulations in the following ways:

- The project site and the two building envelope options are not visible from County Roads, Highway 550, and trails on adjacent public lands (to the best of our knowledge).
- The knoll building envelope was selected by the Owner/Applicant based on the existing screening (tree cover and elevation change) which will shield view of the cabin from the private train right-of-way.
- After it was suggested by the Planning Director as a possible alternative for the Owner/Applicant and the County Commissioners to consider, the more visible flat building envelope was added as a potential building envelope option. If the screening remains as-is, it is visible for only a relatively short amount of time to some tourists travelling by on the private train right-of-way.
- The cabin has been designed as one story, avoiding a taller, more easily seen structure.
- The proposed cabin footprint is quite small, even though the building envelope is well below 11,000 feet elevation (where the footprint size would have been limited by County regulations).
- The access is relatively low impact, environmentally and visually, using existing trains, and via pedestrian trail routes, with no proposed driveway, and therefore driveway/access impacts are less than those associated with similar typical projects.
- The colors and textures of the materials selected for the cabin and shed (browns and dark green, wood, timber, and rusted metal) blend in with the colors of the natural surroundings.
- The cabin includes a relatively small amount of proposed windows, limiting potential reflectivity.

Thank you for your consideration and review of the proposed Bowman Cabin on the Cumberland Mill Site. If you would like additional information, please contact Engineer Mountain, Inc. at (970) 387-0500, or Owner/Applicant Gary Bowman at (928) 853-8180.