

**Galena Creek Regional Visitor Center
Exhibit Concept Plan**
"Living on the Edge"

submitted June 2007 to:

**Washoe County Department of
Regional Parks & Open Space**

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Reno, NV 89509
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**Carson Ranger District
Humboldt-Toiyable
National Forest**

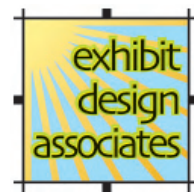
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I. Introduction

This exhibit concept plan is intended to supplement the interpretive plan for the Galena Creek Regional Visitor Center that was completed in October 2006. Six broadstroke exhibit concepts are presented here, as well as a summary of design criteria.

Readers wanting more detailed background information such as an audience analysis, discussions of budget issues, marketing strategies, partnerships and so forth are asked to refer to the interpretive plan.

Each exhibit concept described here was driven by goals and interpretive themes stated in the interpretive plan, but this is not a design plan that contains final art. The visual images presented here should be regarded as placeholders that suggest content, not finished products that will eventually be viewed by visitors.

This is the tool that will direct final exhibit design work and support fundraising efforts such as grant applications, not the tool that will direct actual exhibit fabrication. The type of decisions made during this phase of the planning process will be, for example, whether the project team wants to proceed with the design of artifact cases with cabinets beneath them, not whether the cabinets will be oak or pine, or what their exact dimensions will be.

This document was presented for review at approximately 50% completion in November 2006 and at approximately 90% completion in January 2007. Meetings were held in Reno on both occasions with representatives of the Forest Service, Washoe County and Exhibit Design Associates. Decisions were made at the January 2007 meeting that suggested fairly extensive changes to several exhibit concepts that had been approved in principle during the 50% review. Some of those changes were necessitated by the downsizing of the building (because of budget constraints). For example, the project team decided that using lenticular graphics in the exhibit space was no longer a viable option because of its small size. But the team did not want to place too great a workload on the graphic artist at the 90% level, and there was general agreement that most of the changes could be effectively communicated without re-doing all the graphics.

For that reason, some of the changes have been shown by banners placed over existing graphics or by text notes. The relative proportions of certain graphic panels may no longer be completely accurate, because the dimensions of the walls on which they are proposed to be installed have changed. The purpose of this plan, though, is to guide final design, and shop drawings showing the exact dimensions of exhibits and graphics will be produced during that process. The team felt that it was not necessary to completely re-do the graphics at this stage since the concept designs will be re-drawn with exact dimensions and final art in the design phase to come.

Cost estimates are included for each exhibit concept. Readers are cautioned that these estimates are preliminary in nature, and should be regarded as approximate pending decisions on dimensions, materials and so forth. None of the cost estimates in this plan constitute an offer to provide goods or services at a certain price.

The project team at Exhibit Design Associates would like to express sincere thanks to the staffs of the Forest Service and Washoe County for their hard work (and hospitality). It has truly been a pleasure to work with such professional and dedicated people.

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II. Design Criteria

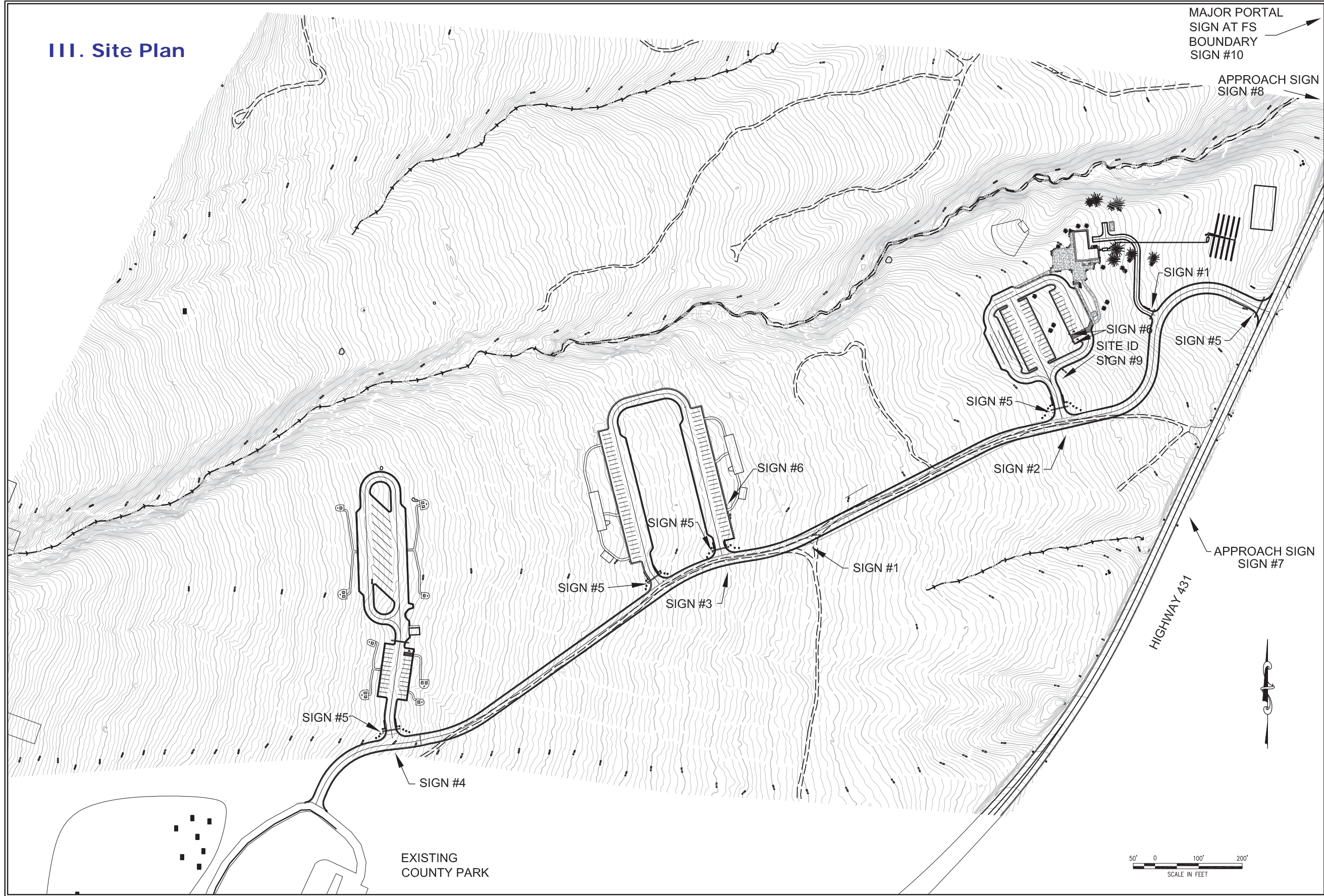
Readers wanting a more in-depth discussion of design criteria and the rationale(s) behind the decision to establish certain criteria should refer to the interpretive plan:

- "Summary of Strategic Implications from Audience Analysis" on p.8
- "Exhibit Design Criteria" on p.17
- "Accessibility" on p.23.

The following criteria are being observed and will continue to be observed throughout this process.

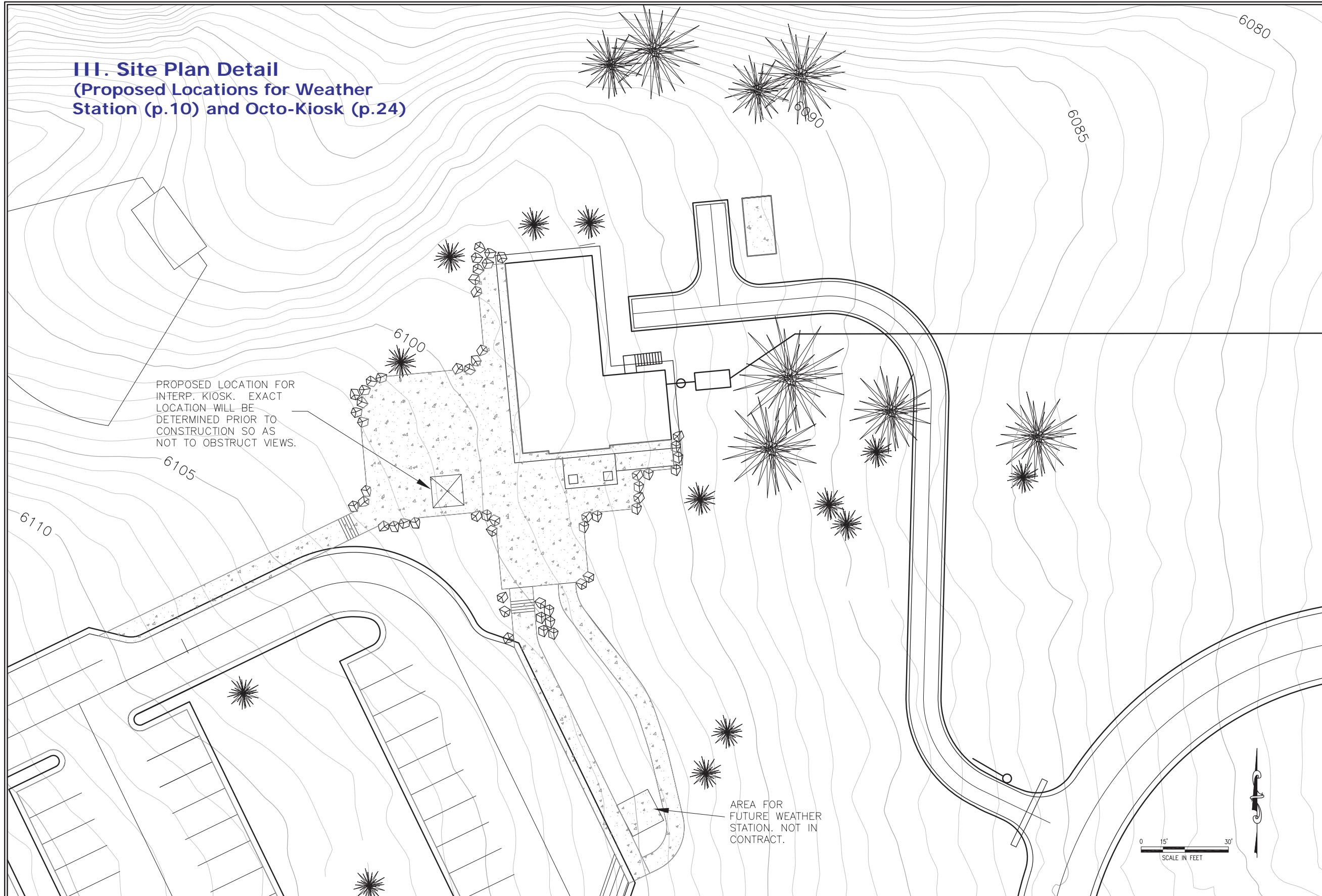
- Access to exhibits and exhibit content will be available to all persons to the greatest possible extent, regardless of their abilities. This includes strict adherence to Federal and State standards including, but not limited to, meeting the programming and exhibit universal access design requirements established by the Americans with Disabilities Act (ADA), the Architectural Barriers Act Accessibility Guidelines (ABAAG), the Forest Service Accessibility Checklist (FSAC) and the Forest Service Trail Accessibility Guidelines (FSTAG).
- Exhibits should be changeable to maintain interest in the local audience and to create the adaptability necessary to respond to changes in the local environment (i.e. fire events) and demographics of the visitor population.
- Exhibits should have a high degree of interactivity.
- Exhibits should focus on local (site-specific where possible) themes and storylines.
- Exhibits should be prominently branded with the Forest Service and Washoe County Department of Regional Parks and Open Space logos.
- Exhibit text should be presented in both English and Spanish.
- Exhibits should engage visitors on multiple levels, provide opportunities for in-depth learning where possible and make allowance for different learning styles.
- Exhibits should be linked to the Mount Rose Scenic Byway, specifically mention the Byway and encourage appreciation and understanding of Byway resources.
- Exhibits should be designed to achieve stylistic consistency with existing interpretive media to the greatest possible extent (see Appendix A for layouts of the existing interpretive panels that will be installed outside the visitor center. Photos of the existing text-only panels at Mount Rose Summit can be found in Appendix B). This will include use of similar color palettes, fonts and graphic style.
- Sepia tones should be used only on a limited basis to communicate age and historical ambience.

III. Site Plan




U. S. Department of Agriculture FOREST SERVICE Intermountain Region 4 HUMBOLDT-TOTYABE NATIONAL FOREST	
DESIGN BY: C. HARTMAN CHECK: D. JEPSEN	DRAWING BY: C. HARTMAN CHECK: D. JEPSEN
APPROVED: _____ DATE: _____ DIRECTOR, ENGINEERING	
GALENA RECREATION COMPLEX SIGN PLAN LAYOUT- PROPOSAL 1/24/07	
PROJECT No. DRAWING	SHEET 1 P 2

III. Site Plan Detail
(Proposed Locations for Weather Station (p.10) and Octo-Kiosk (p.24))

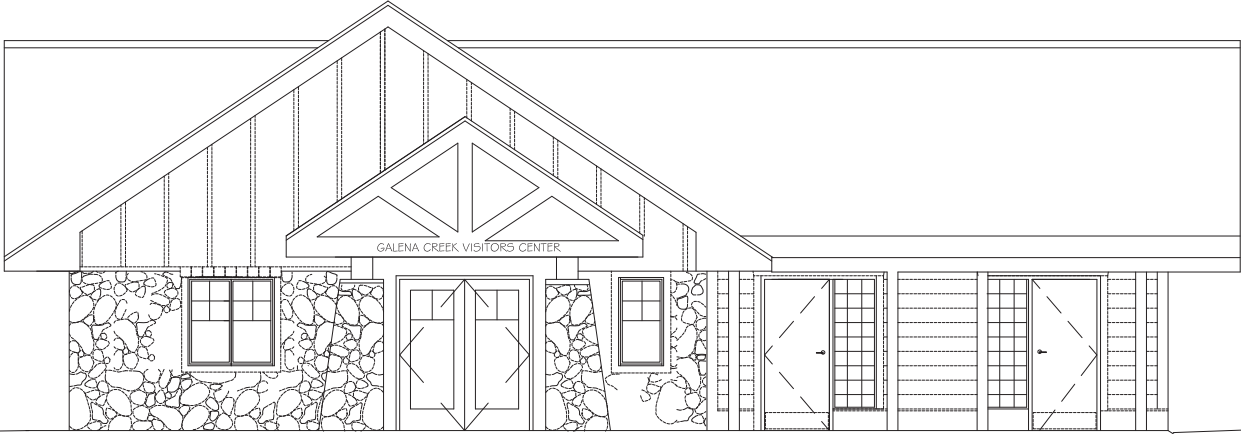


PROPOSED LOCATION FOR INTERP. KIOSK. EXACT LOCATION WILL BE DETERMINED PRIOR TO CONSTRUCTION SO AS NOT TO OBSTRUCT VIEWS.

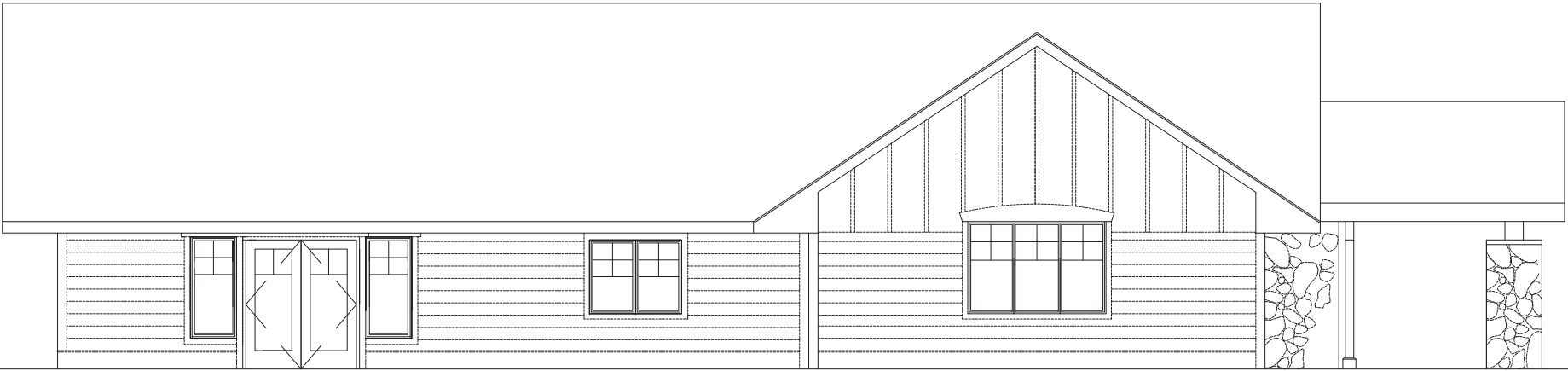
AREA FOR FUTURE WEATHER STATION. NOT IN CONTRACT.

		U. S. Department of Agriculture FOREST SERVICE Intermountain Region 4 <small>ENGINEERING</small> <small>HUMBOLDT-TOiyABE NATIONAL FOREST</small>	
DESIGN	BY: C. HARTMAN CHECK: D. JEPPESEN	DATE	
DRAWING	BY: C. HARTMAN CHECK: D. JEPPESEN	DATE	
GALENA RECREATION COMPLEX		APPROVED: _____ DATE: _____ <small>DIRECTOR, ENGINEERING</small>	
PROJECT No. _____ DRAWING _____		SHEET _____ OF _____	
		PROPOSED KIOSK LOCATION - 1/24/07	

IV. Exterior Elevations



GALENA VISITOR'S CENTER SOUTH ELEVATION



GALENA VISITOR'S CENTER WEST ELEVATION

U. S. Department of Agriculture
FOREST SERVICE
 Intermountain Region 4 Engineering
 H-TNATIONAL FOREST



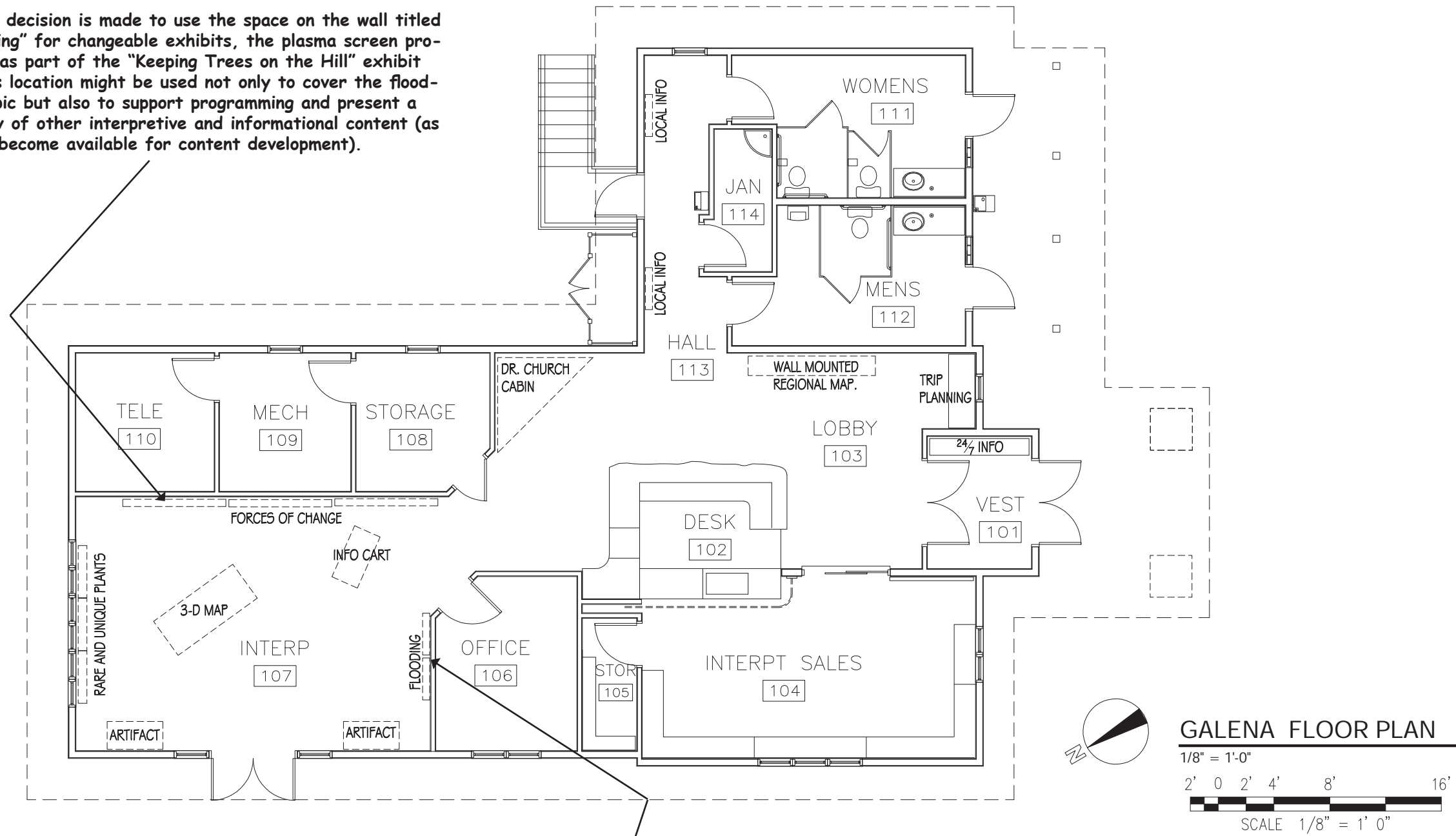
DESIGN	BY: SMHW
DRAWING	CHECK:
APPROVED:	BY: _____
	CHECK: _____
	DATE: _____

GALENA RECREATION COMPLEX
 SOUTH AND WEST ELEVATIONS

PROJECT No.
 DRAWING
A2.1
 SHEET
 P

V. Floor Plan

If the decision is made to use the space on the wall titled "Flooding" for changeable exhibits, the plasma screen proposed as part of the "Keeping Trees on the Hill" exhibit at this location might be used not only to cover the flooding topic but also to support programming and present a variety of other interpretive and informational content (as funds become available for content development).



The decision was made at the January 2007 review meeting to limit the "Forces of Change" exhibit to fire, and to present the flooding theme in this location. The preliminary thinking is to use a plasma-screen, but the concept is not further developed in this plan. This wall space is essentially a tabula rasa on which the exhibit designers can present the flooding theme or another theme deemed appropriate during the final design process. Alternatively, this wall space might be used for changeable exhibits.

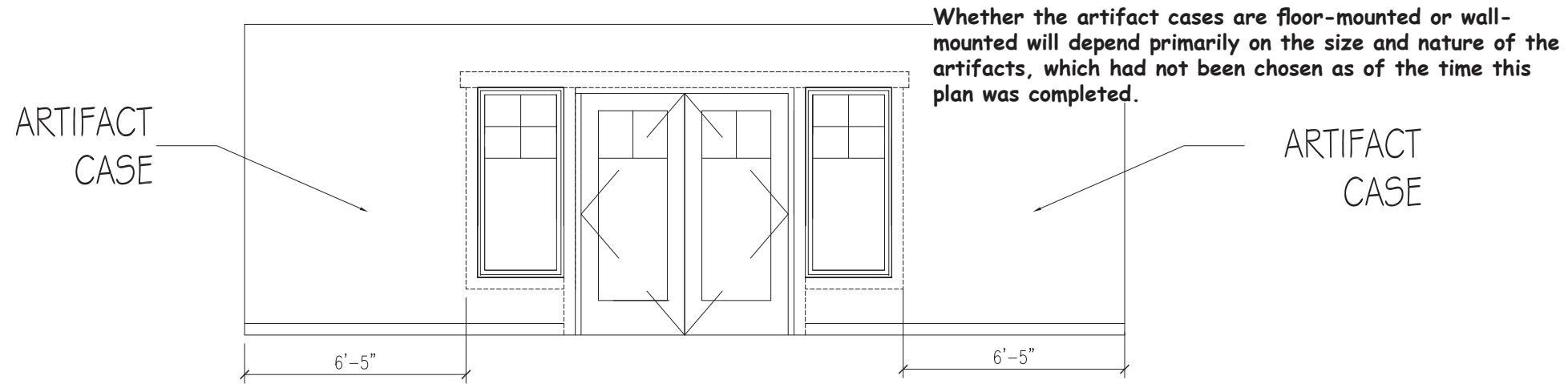
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APPROVED:				

GALENA RECREATION COMPLEX

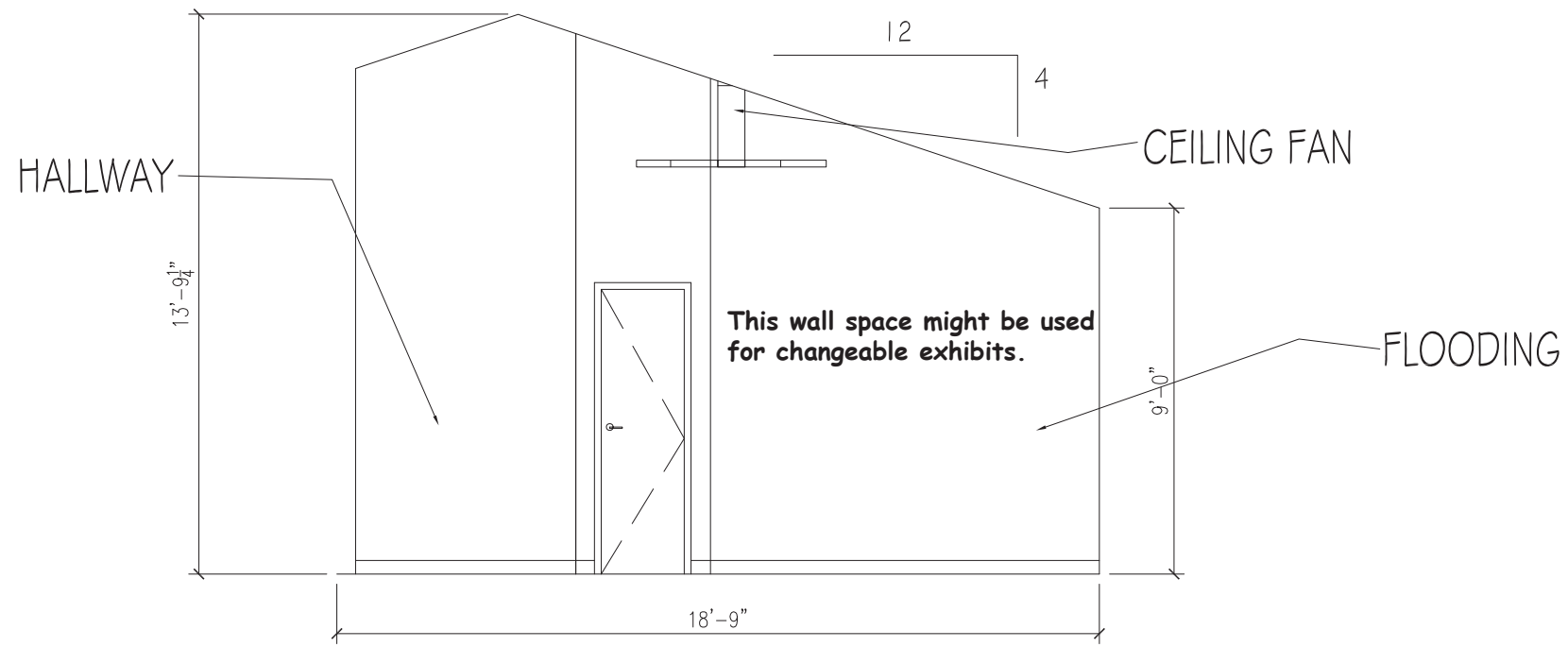
FLOOR PLAN

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DRAWING	A1.1
SHEET	0

VI. Interior Elevations



1 INTERPT AREA WEST ELEVATION



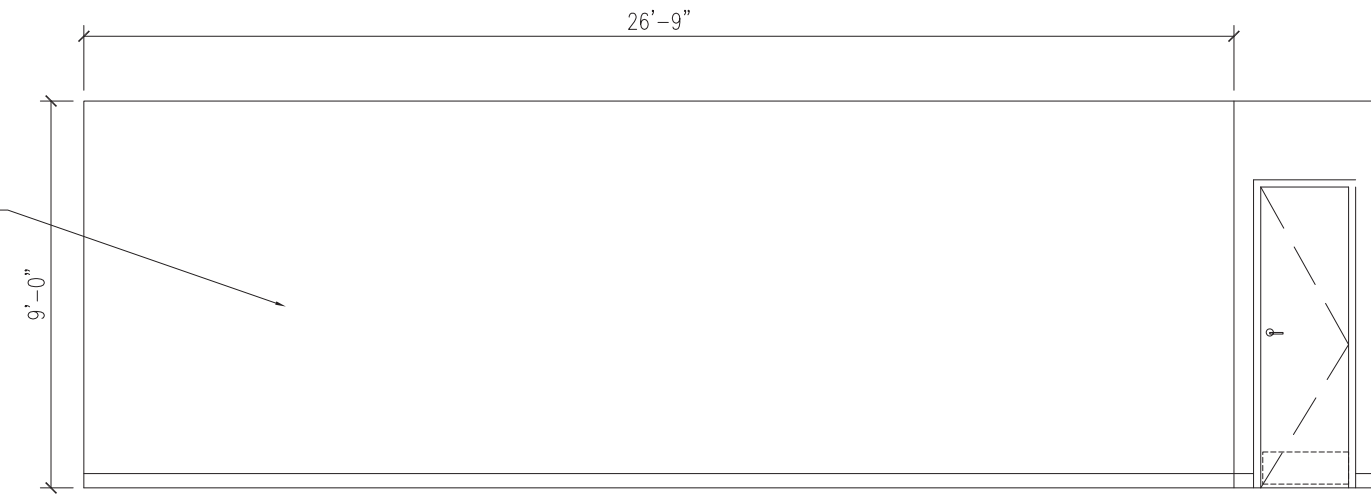
2 INTERPT AREA SOUTH ELEVATION

DESIGN	BY: SMHW
DRAWING	CHECK: _____
APPROVED:	BY: _____
	CHECK: _____
	DATE: _____

GALENA RECREATION COMPLEX
 INTERIOR ELEVATIONS

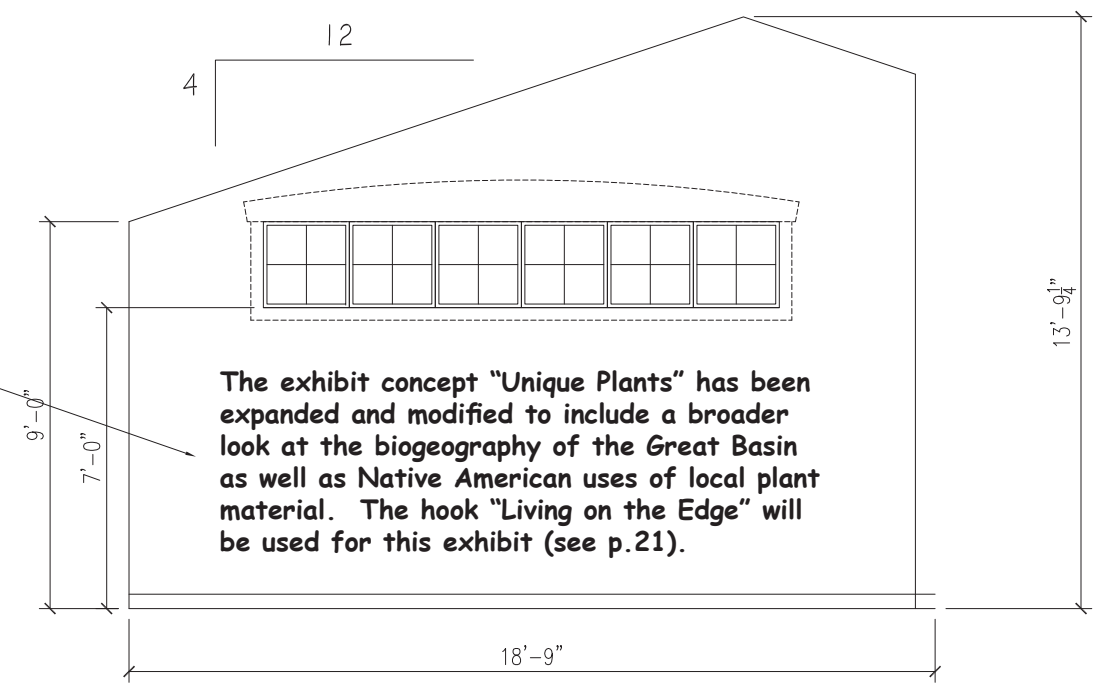
PROJECT No.	
DRAWING	A2.3
SHEET	P

FORCES OF CHANGE



3 INTERPT AREA EAST ELEVATION

UNIQUE PLANTS

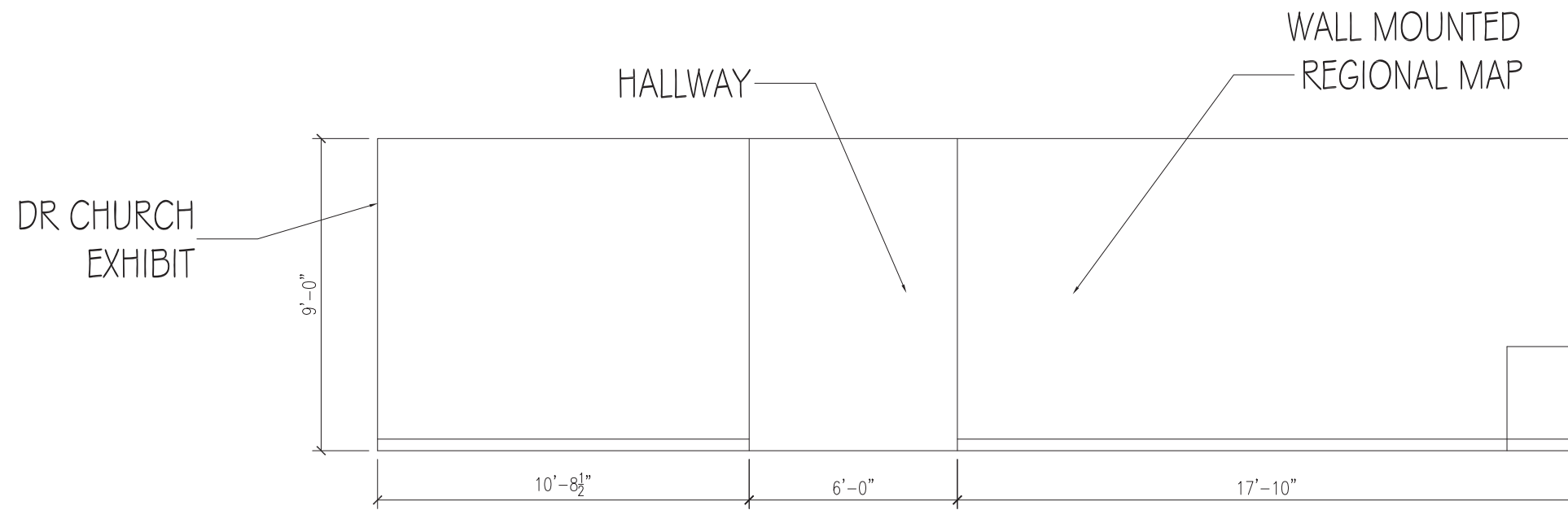


4 INTERPT AREA NORTH ELEVATION

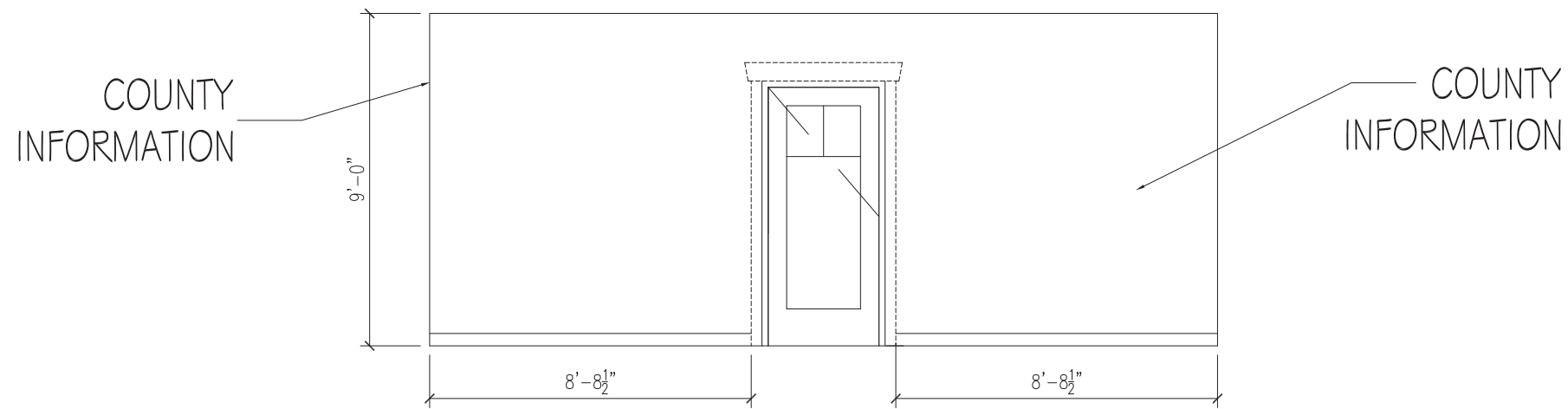
DESIGN	BY: SMHW	APPROVED:	DATE
DRAWING	CHECK: BY:		
	CHECK: BY:		

GALENA RECREATION COMPLEX
INTERIOR ELEVATIONS


PROJECT No.	A2.4
DRAWING	
SHEET	0
	F



5 LOBBY AREA EAST ELEVATION



6 LOBBY AREA EAST ELEVATION

 U. S. Department of Agriculture FOREST SERVICE Intermountain Region 4 Engineering <small>H-TWINNATIONAL FOREST</small>	
DESIGN	BY: SMHW
DRAWING	CHECK: _____
APPROVED:	BY: _____ DATE: _____
GALENA RECREATION COMPLEX INTERIOR ELEVATIONS	
PROJECT No.	DRAWING
	A2.5
	SHEET
	p

IV. Weather Station

Goal

To encourage safe travel and recreation

Primary Themes and Subthemes

- *The Galena Creek Regional Visitor Center, one of the gateways to Lake Tahoe, is located in mountainous terrain on a travel corridor used by both humans and wildlife, and the construction and maintenance of the highway is a story of people and machinery being taxed to their limits.*
 - *Maintaining access to Lake Tahoe over Mount Rose Summit, the highest year-round pass in the Sierra Nevada, requires an extraordinary commitment of manpower and machinery.*
- *Resource management issues are complicated, and user conflicts are intensified in natural areas on the urban/wildland interface, increasing the stewardship responsibilities of visitors, and necessitating a reliance on well-informed, well-oriented users to help the management agencies achieve their goal of providing safe, enjoyable recreational experiences.*
 - *Visitors need accurate information on recreational opportunities, safety and appropriate resource use in order to have enjoyable experiences with minimal impact on the land.*

Interpretive Objectives/Teaching Points

As a result of this interpretive experience, a majority of visitors will:

- be aware of weather and road conditions at both the park and at Mount Rose Summit
- know that keeping the road open during winter storms is a daunting challenge
- know that the road corridor is important to wildlife, and that it was used by American Indian cultures for seasonal migrations
- be familiar with the history of the highway and its construction
- be able to describe at least one technique used for avalanche control, and know that avalanche forecasting is an inexact science
- be motivated to drive safely, including understanding the importance of using designated pullouts and parking areas to view scenery and wildlife, or to park for snowplay.

Media Description & Discussion

Instruments to collect meteorological data will be mounted on the roof of a kiosk structure so that visitors can see and appreciate the technology involved. The kiosk will be a four-sided structure. One face will feature two data displays mounted side-by-side. One display will provide real-time weather information from the park, the other from a higher-elevation location on Slide Mountain.

The data display face might also offer a live feed from one of the cameras on Slide Mountain that are used in the newscasts of Reno TV stations. This will require the active cooperation and support of the station. To date, attempts to talk with station management about the possibilities of a partnership have not been successful.

Some sort of programmable electronic display to provide real-time fire and avalanche information is under consideration as part of the Forces of Change exhibit proposed for the interior exhibit space. A feed from this device might be used to create a duplicate display at the weather station.

Cumulative data will be collected and stored, with the idea in mind that the kiosk could eventually be upgraded to provide visitors the opportunity to view and manipulate a meteorological database (i.e. view average winter temperatures for the last twenty years). Provisions have been made in the site plan to provide electrical power to this kiosk, and sleeves will be installed during construction to facilitate the installation of cables to transmit data to/from the interior of the visitor center building. Providing another (duplicate) data display inside the building should be easy to accomplish.

The other three faces of the kiosk will be used for the temporary display of three of the twelve existing interpretive panels designed by Coulter & Associates (see Appendix A):

- Trails & Info
- Scenic Byway
- Highest Maintained Year-Round Sierra Pass.

Interactivity

No interactive elements are proposed for the kiosk at this time, but the real-time, parallel data displays (and the presence of actual meteorological instruments) should generate a high degree of interest and visitor involvement. The possibilities for eventual upgrade to a highly-interactive situation at this location are excellent.

Advances in technology have made it possible for touch-screen computers to be deployed at exterior locations. Since the site design already includes bringing power to the weather station, it is a good candidate site for the eventual installation of touch-screen computers that could offer a wealth of content from trip-planning information to in-depth interpretation.

Technology that allows users of I-Pods (or similar portable devices) to download content for a fee is also emerging (and becoming affordable). The weather station also appears to be a good candidate site for the eventual installation of a download station. This would enable delivery of an exponentially-greater amount of informational/interpretive content than can be delivered via traditional media such as signs or brochures. A download station can generate positive cash flow (with very low ongoing operations and maintenance costs) once startup expenses for hardware and content development are covered.

Exhibit Summary & Cost Estimate

Basic exhibit concept

- four-sided roofed kiosk w/ stone base
- stained concrete patio w/ directional markers
- meteorological data collection equipment mounted on the roof of the kiosk
- meteorological data display equipment mounted on one of the four sides (two sets, one providing site data, the other providing data from a high-elevation location)
- data link to weather station on Slide Mountain or Mount Rose Summit
- existing interpretive panels mounted on three of the four sides

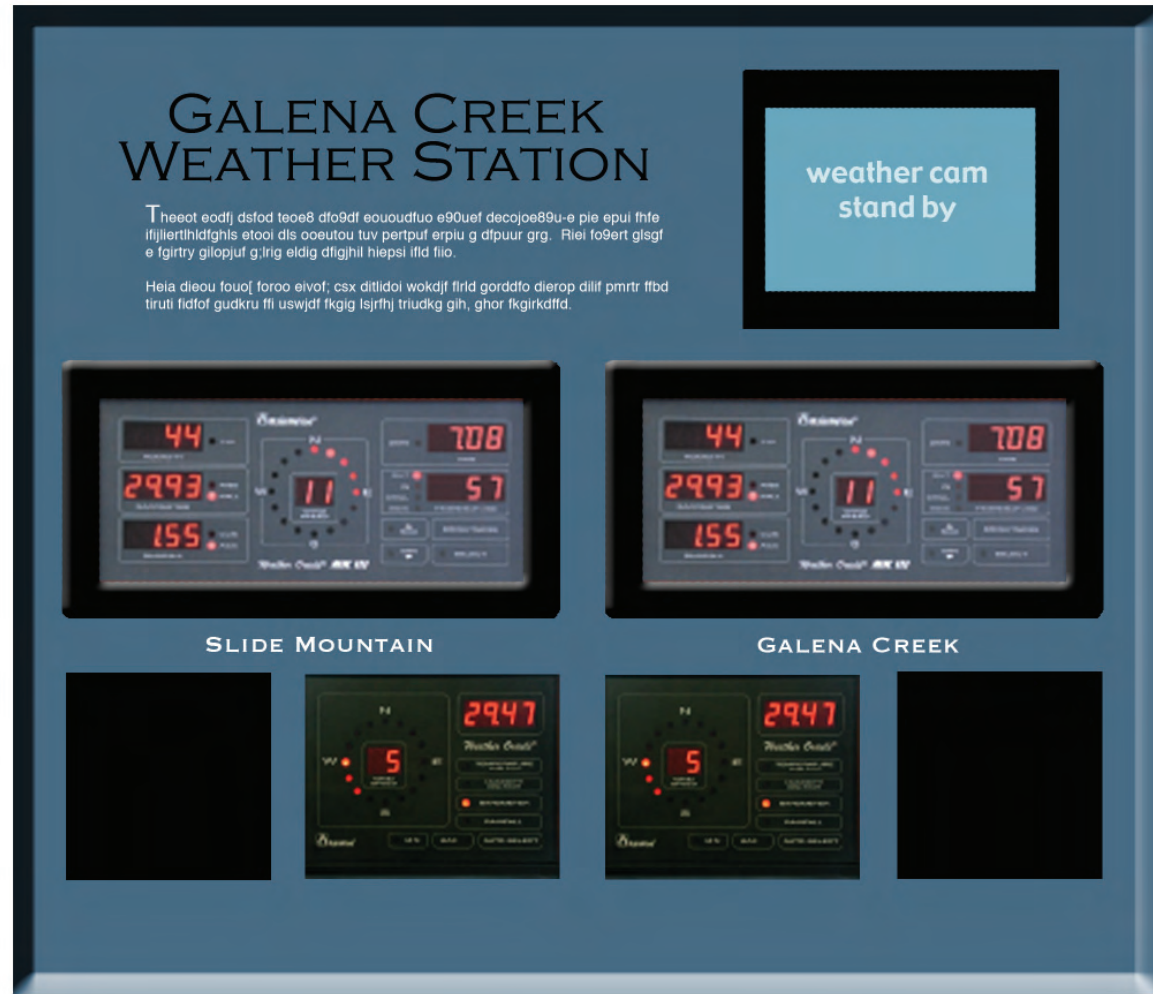
Possible upgrades

- download station for I-Pod users
- interactive meteorological database with historical weather information
- link to electronic fire/avalanche conditions display inside the visitor center
- link to a live weather camera at a high elevation location

The preliminary cost estimate does not consider upgrades, but includes final planning, design, research, fabrication and installation. A touch-screen computer interface (including preliminary content development and all hardware and software) for the kiosk would cost approximately \$25,000.

Preliminary Cost Estimate

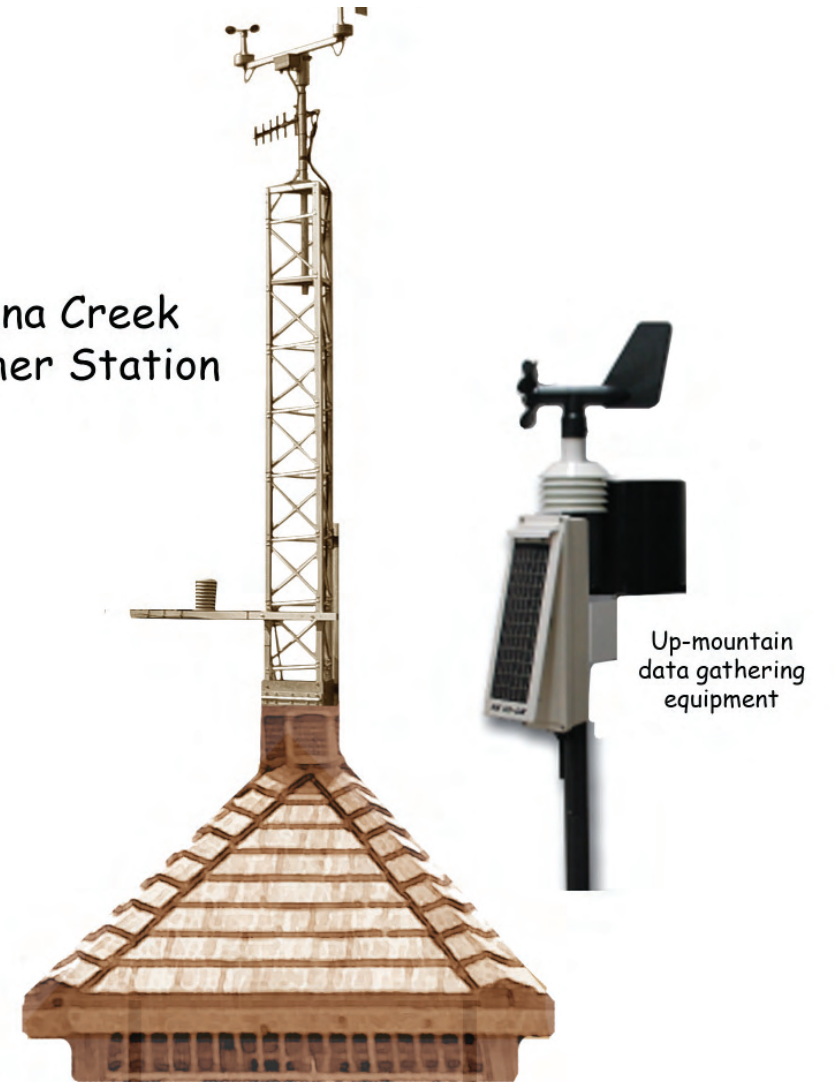
- **\$ 36,000**



sales text from a potential equipment supplier:

- The MKIII-LR Sensor Assembly is included in every system, as it collects and transmits the data. The solar-charged battery supply is guaranteed to provide continuous operation below 60° latitude, and will operate at least 25 days without sun. The passive solar shield for the temperature/humidity sensor is modeled after the National Weather Service design. The solar panel and battery are guaranteed for five years. It's sleek design (just 5' x 6" x 27", and under 7 lbs) belies its rugged construction. The extension mounting mast, fabricated from 1 1/2" schedule #80 PVC pipe, will fit any standard tripod or TV antenna mount.
- An attached Rain Gauge can also be included in a system.
- The Weather Oracle® multi-display can be purchased to display the Time (date), Temperature (outside, inside, wind chill, dew point), Relative Humidity (temperature/heat index), Barometric Pressure (rising, falling), Rainfall (current, accumulation), Wind Speed and Wind Direction (variation). Maximums and minimums are available to the month, day, hour and nearest minute. The display offers brightness controls to suit the ambient lighting conditions, and can be wall-mounted or placed free-standing (a wall transformer powers the receiver). The MKIII-LR allows for multiple peripheral use. You can have as many displays or interfaces as you wish. The only limitation is range and power availability. The multi-display is available in an attractive cherry, mahogany or black wooden frame.
- The CC-2000 wireless computer interface records and stores weather data received from the MKIII-LR sensor assembly. Purchase this with the multi-display or instead of. It can be placed anywhere, as it's not connected to the display in any way. The interface has 32K of RAM which allows you to log the weather data at rates from once-per-minute to once-per-hour. It will store data up to three months at once-per-hour record rates. Easy to install and use, it also includes an RS-232 cable to interface with your computer serial port. The interface can connect to a dial-up modem, permitting remote access to locations such as camps and summer homes.

Galena Creek Weather Station



The MKIII-LR measures, records and transmits the following data:

- WIND SPEED
- WIND DIRECTION
- TEMPERATURE—OUTSIDE
- TEMPERATURE—INSIDE
- RELATIVE HUMIDITY
- BAROMETRIC PRESSURE
- RAINFALL

It also computes:

- DEW POINT
- WIND CHILL
- TEMPERATURE/HEAT INDEX

Each informational panel could have a bulletin board area for updates and specialized information.

Each panel could be slightly recessed and have a sliding plexiglass covering, protecting it from the elements.

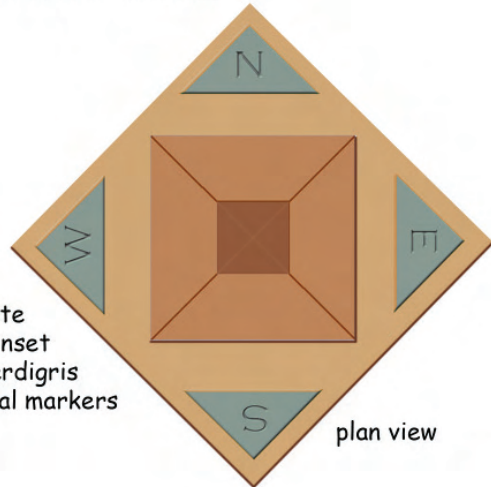


Safe Highways

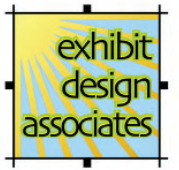
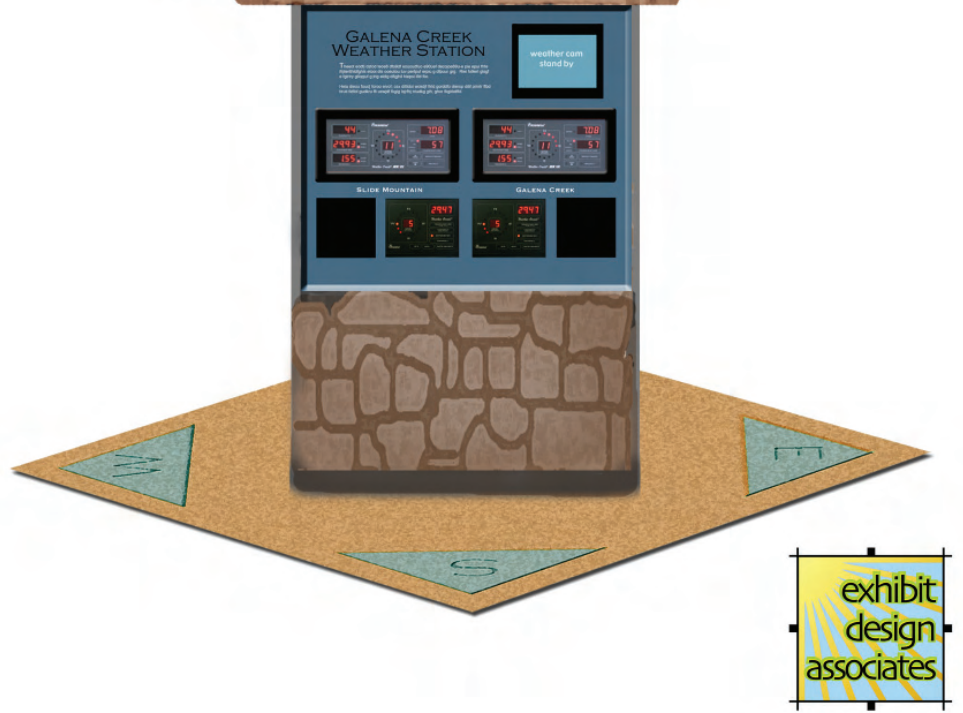
Scenic Byway Map

Trails & Info

Stained concrete patio with inset verdigris directional markers



plan view



V. Life & Times of Dr. James Edward Church

Goal(s)

To promote visitor appreciation and understanding of the natural, cultural and historical resources of the area.

Subtheme

- *Advances in snow measurement made by Dr. James Edward Church were made more significant because over-exploitation of timber resources led to fears of flooding.*

Interpretive Objectives/Teaching Points

As a result of this interpretive experience, a majority of visitors will:

- understand the significance of the advances in snow science made by Dr. Church
- grasp the basic concepts of measuring the water content of snow
- understand how the water content of snow ultimately has an affect on their daily lives
- have the opportunity to see and handle snow measurement tools, avalanche forecasting equipment and snow safety equipment
- realize how important the remote cabin was to Dr. Church and his assistant's safety while they conducted their ground-breaking snow survey scientific research.

Media Description & Discussion

The primary structure of this exhibit will be a reproduction of an exterior wall of Dr. Church's field cabin. It will be installed at a forty-five degree angle across one corner of the exhibit space. This configuration will allow visitors to look inside the structure through a plexiglass window, perhaps to view a reproduction of what the cabin interior might have looked like when Church used it.

A life-sized cutout of Church (see the layout titled "Snow" in Appendix A to view this image) will be installed in front of the cabin wall. Another possibility is a life-sized, 3D figure of Church carrying reproductions of his equipment.

Interactivity

Several interactive elements are proposed. The first will help visitors understand the basic concepts underlying the calculation of snow density. This will be a simple mechanical device consisting of two tubes mounted on the cabin wall. Visitors will be invited to place two cylinders (representing snow) of equal size but different weight into the tubes. The tubes will be spring-mounted in the fashion of a scale so that visitors will be (virtually) "weighing" the snow, and will see that the same volume of snow can have a different weight. This interactive experience will provide the segue to an explanation of how the water content of snow is calculated (and why it is important). A small graphic panel with explanatory text, charts and schematics will accompany this interactive element.

A second interactive element will be a flip-book to offer visitors an in-depth look at the life and times of Dr. Church. This flip-book is envisioned as having four changeable, computer-generated pages of interior-grade iZone (or similar high-density plastic material) that will be printed front and back with text, historic photos and illustrations. The cover will be high-quality leather or wood. Including the inside-front and inside-back pages, a total of ten 11x17" pages will be available for content.

A third dimension of interactivity will be a viewing window that allows visitors to look into the cabin's interior. The image they see might be a reproduction of the actual interior or, alternatively, some sort of "surprise" or visual trick that could be anything from a magnified view of snow crystals to images of deforestation, flooding or other content (such as a short video) that builds on the snow science and watershed themes.

The final interactive element will be a "discovery case" that staff and docents will use to support programs and informal visitor interaction. The discovery case might be a backpack that can be easily carried outside for guided hikes. Objects in the case could include an actual snow-density tube, a piece of rabbit fur (with which Church's sleeping bag was lined), snow safety gear such as an avalanche transceiver, or equipment used in the study of snow such as a hand lens. Other equipment too large to put in a carrying case or backpack, but that could be used to support programming might include historic and contemporary snowshoes and/or skis, an avalanche shovel, etc. The carrying case and other equipment could be stored in a lockable hidden cabinet in the cabin wall.

Real stone will be placed around the base of the cabin. The actual cabin might be moved from its location in the Mount Rose Wilderness Area (where it is threatened by an ongoing pattern of unauthorized use) to a site near the visitor center where it could be seen by the public but be more easily monitored and protected. Moving this artifact is not considered in the budget calculations.

This exhibit could also function as a "teaser" to encourage visitors to engage in a hands-on experience with a snow survey course outside the visitor center and along the loop interpretive trail, which is a probable location for Church's original cabin (if the cabin is moved from its current location in the Mount Rose Wilderness Area).

Exhibit Summary & Cost Estimate

Basic exhibit concept

- facsimile reproduction of exterior wall of Church's field cabin
- snow-tube interactive element w/ graphic panel
- flip-book w/ changeable, computer-generated pages
- discovery case
- viewing window
- provision to be made for future installation of touchscreen computer or plasma screen

Possible upgrades

- actual cabin moved to an accessible site in the park
- conceptually-linked snow survey course for winter programs about snow science, avalanche safety, etc.
- plasma screen and/or touchscreen computer that might display data from a SNOWTEL site (there is a SNOWTEL site at Mount Rose, and Mount Rose Ski Tahoe might be a sponsoring partner for this aspect of the exhibit) and/or weather data from the proposed exterior weather station

Preliminary Cost Estimate

- \$25,000

digitally printed background mural

Plexiglas viewing windows could be placed at various locations so visitors will be able to look inside the cabin. The image they see might be a reproduction of the actual interior or images of related topics such as avalanche safety and watershed management.

cut-out of cabin could be situated in a corner (as illustrated here), allowing for a viewing area through the window in the door, or if space doesn't permit, it can be lined up parallel to a wall with perhaps a picture of the cabin interior positioned just inside the window

Should viewing windows be installed, it will be necessary to provide one at a lower height than the existing windows so that wheelchair users will be able to see inside.

informational flip book

text & diagrams

snow density tube activity

Life and Times of Dr. James Edward Church

backpack discovery kit

cut-out of Dr. Church spaced several inches in front of cabin cut-out

Native stone will be placed around the base of the cabin to mimic its actual appearance and provide a rustic, rugged outdoor feel.



VI. Forces of Change

Goal(s)

To promote visitor appreciation and understanding of the natural, cultural and historical resources of the area

To educate and inform visitors and local residents about issues related to fire and fuels

Primary Themes and Subthemes

- *Resource management issues are complicated, and user conflicts are intensified in natural areas on the urban/wildland interface, increasing the stewardship responsibilities of visitors, and necessitating a reliance on well-informed, well-oriented users to help the management agencies achieve their goal of providing safe, enjoyable recreational experiences.*
 - *Wildfire prevention through fuels management and public education is critical in forests adjoining urban areas to reduce the possibility of loss of life and/or property in a fire event, even though fire is an integral part of the natural processes that affect forests, and has always been a significant force of change.*
- *Exploitation of natural resources following Euro-American settlement in the mid-1800's altered the local environment, and, although the region's economic base has been transformed since the mining boom, and much of the ecological integrity of land has been restored, the rapid pace of modern development makes us wonder what environmental changes the future may hold, and what lessons might be learned from early cultures that had a more sustainable relationship with the land.*
 - *The possibility of catastrophic property damage from wildfire on the contemporary interface between human development and natural areas, and the historical devastation of mining and logging camps by floods suggests that history does, in fact, repeat itself.*

Interpretive Objectives/Teaching Points

As a result of this interpretive experience, a majority of visitors will:

- be aware of at least one fire mitigation measure they can take to protect their property
- be able to describe at least one fire mitigation technique practiced by public land management agencies (i.e. prescribed burning)
- understand the enormous costs of uncontrolled wildfires in terms of fighting the fire, risk to the safety and welfare of the firefighters, loss of property, resource damage to watersheds and timber, and impacts on scenery, recreation, wildlife and property values
- know that fire has always been a major force of change in the ecosystem
- be moved to consider the implications of human development on the urban/wildland interface and relate the effects of historic floods to modern fires
- understand that the management techniques that have been used to reduce the fire hazard in the park and adjoining lands also enhance forest health

Media Description & Discussion

This exhibit is conceived as a dramatic, visually-stunning graphic experience that will help visitors understand how fire changes the landscape. It will give both tourists and locals insight into the management of fire and fuels, the costs of uncontrolled wildfires and measures homeowners can take to protect their property.

The visual experience will be dominated by two large-format before-and-after graphics and a plasma screen display. The plasma screen on viewer's left will show the effects of fire over time on the Carson Ranger District. GIS data provided by the Forest Service will be used to create maps that depict burned areas on the District at several points in time. The "today" map will need to be periodically updated when fire events occur, but use of the electronic medium will allow relatively easy, inexpensive updating when the need arises.

A reader rail mounted below the plasma screen will offer explanatory text (and whatever additional visual content is needed/desired, i.e. a schematic of the defensible space concept). A programmable

electronic "crawler" mounted on the reader rail will display real-time fire conditions in summer, avalanche conditions in winter (plus whatever other information staff wishes to communicate, i.e. situational closures). This information could also be transmitted to a display on the weather station. Possibilities for reader rail upgrades include using electronic video monitors instead of static graphics.

A large-format before-and-after graphic in the center position of the exhibit will show the evolution of firefighting equipment and techniques. The images will include a scene showing the personnel and equipment that the Forest Service employed to fight fires at the beginning of its existence and a scene that depicts the personnel and equipment in use today.

A second set of sequential graphics on the right side of the exhibit will show forest evolution to help visitors understand the rationale behind various management techniques. "Before" images might show a progression from open, park-like stands of conifers (maintained by Native American tribes for centuries by setting fires to stimulate the growth of edible plants) morphing to an overgrown condition resulting from fire suppression. "After" images could include a healthy forest that has been treated by thinning (and/or prescribed burning) and an image of a burned-over area.

An alternative set of before-and-after images could use "before" images of one property with defensible space beside another property without defensible space, paired with "after" images of what both looked like following a fire event.

A flip-book mounted on a moveable cart will offer interpretive text and explanatory graphics related to the two before-and-after graphic panels. This will allow for changeability in messaging without replacing the large-format graphics. It also achieves the objective of not detracting from the punch of the visual content by placing text on the images.

Interactivity

The first level of interactivity will be built into the plasma screen display by offering visitors the opportunity to activate various videos on-demand. The types of visitor involvement that could be created with a simple touch-screen (or pushbutton) interface are limited only by financial considerations and the imagination of the designers and park staff.

A second level of interactivity will occur in the flip-book on the portable cart. Communication of issues related to fire and fuels is a high-priority for the Carson District. Some of these topics (i.e. defensible space) are not highly technical, but will require a fairly significant amount of text and graphic content to communicate them effectively. Flip-books are probably the most space-efficient, low-tech way to deliver such content. The leaves in the book can be easily updated and replaced as the messaging needs of the County and District evolve.

Exhibit Summary & Cost Estimate

Basic exhibit concept

- plasma screen display depicting the effects of fire on the Carson Ranger District over time
- reader rail associated with the plasma screen offering an interface between users and the plasma screen
- programmable, crawler-type electronic display (on the reader rail) offering real-time fire and avalanche conditions
- large-format, before-and-after graphics depicting change in firefighting techniques over time
- large-format, before-and-after graphics depicting forest progression and health
- portable cart with a flip-book and storage space

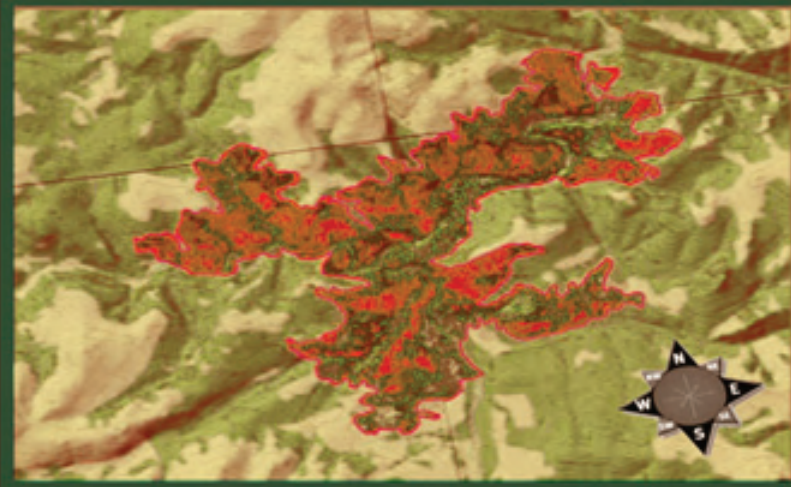
Possible upgrades

- additional video monitors on the reader rail below the plasma screen

Preliminary Cost Estimate

- **\$30,000**

F O R C E S O F C H A N G E



up to date information text crawler.....

Text & Graphics



This graphic will portray forest progression and the role of fire in the ecosystem.

portable, changeable text flipbook with storage

Forces of Change

Full wall display

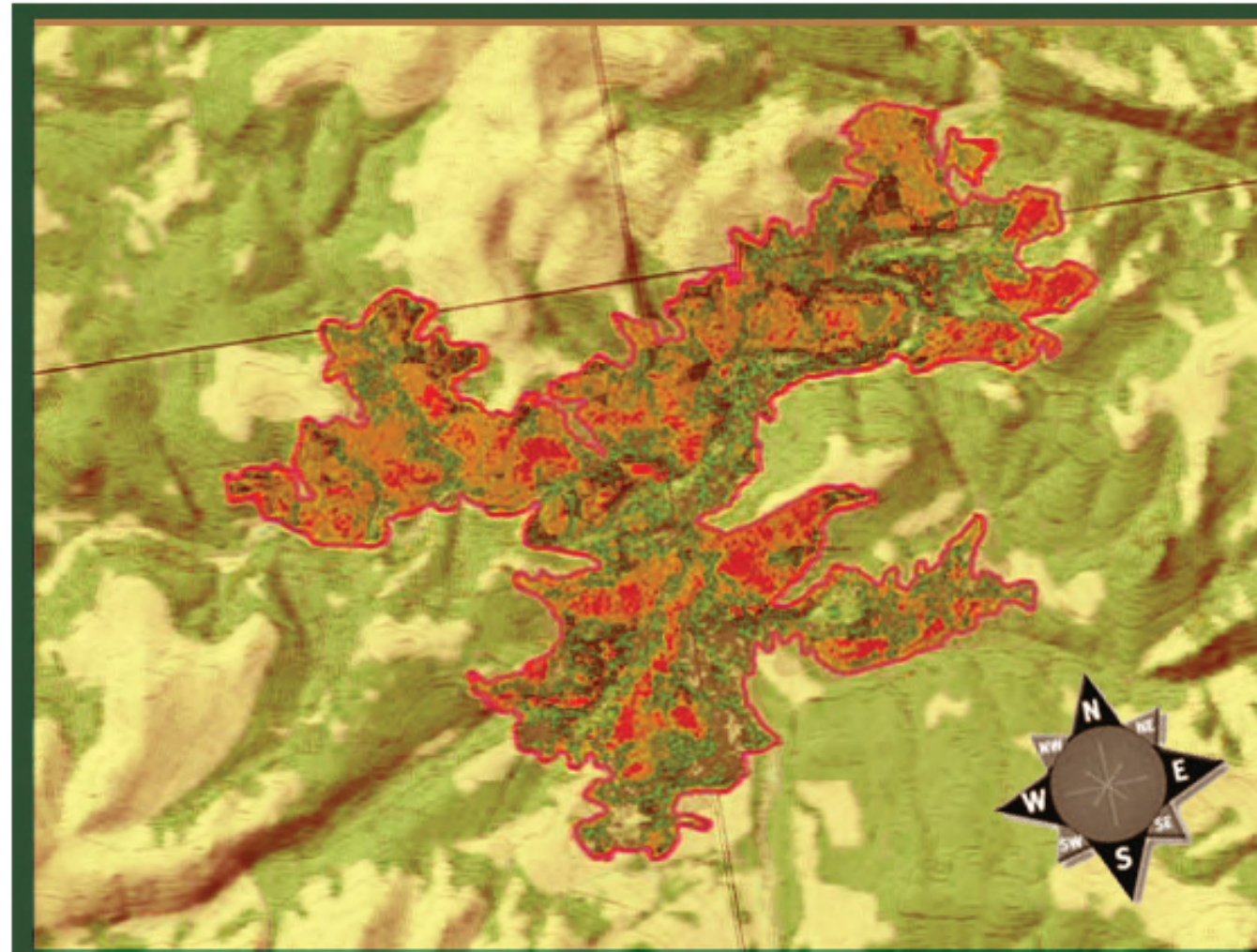
Details of panels are on the next 3 pages.



Forces of Change
(detail a)

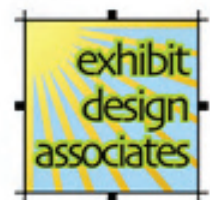
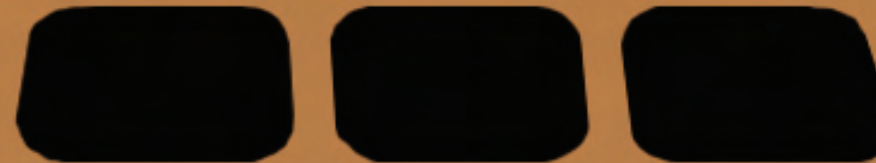
Plasma screen
computer graphics
could show phases of
burn areas on a map.
This is a placeholder
image.

Reader rail could have an
inset text crawler screen
for real time information.



up to date information text crawler.....

Graphics and/or video monitors





The small nature of the exhibit space, combined with the desire to create flexibility and changeability in the exhibit, argued against using lenticular graphics for this image sequence and for the use of flat screen video technology. The proposed video screen will be used to morph back and forth between modern and historic images. It can also be used to display other graphics and media to support the "Forces of Change" theme or other themes.

Forces of Change (detail b)

Careful consideration needs to be given to the possible inclusion of audio components in this (and other) exhibit modules. Audio bleed that distracts other visitors and reduces their enjoyment is a problem that should be mitigated to the greatest possible extent before any audio is included.

This portion of the exhibit (on viewers' right) will either be static, before-and-after graphics or use video effects to portray forest transitions caused by fire suppression, wild fire, fuels projects and other agents of change such as floods (shown here). One possible video sequence would portray two properties, one with defensible space and one without, both before and after a fire event.



Forces of Change (detail c)

X. Ranching History & Economic Transition

Goal(s)

To promote visitor appreciation and understanding of the natural, cultural and historical resources of the area.

Primary Themes and Subthemes

- *Exploitation of natural resources following Euro-American settlement altered the local environment, and, although the region's economic base has been transformed since the mining boom, and much of the ecological integrity of land has been restored, the rapid pace of modern development makes us wonder what environmental changes the future may hold, and what lessons might be learned from early cultures that had a more sustainable relationship with the land.*
 - *The economy of the region after Euro-American settlement was based on resource extraction that shifted focus from minerals and timber to ranching and eventually to recreation.*
 - *The changing economic base of the Galena Creek area is reflected in various historic sites that include stagestops and townsites from the mining and logging era, irrigation ditches still in use for ranching and other structures used for recreation and other purposes.*

Interpretive Objectives/Teaching Points

As a result of this interpretive experience, a majority of visitors will:

- be able to describe both the contemporary and historical importance of ranching to the area economy
- appreciate the hard work and rigors of life on a working ranch
- be able to describe the transition from an economy based on resource extraction to a recreation, experience-based economy
- be motivated to walk the interpretive trail and to learn more about local history.

Media Description & Discussion

This exhibit will consist of a series of artifact cases (accompanied by small graphic panels) inside the visitor center building that will be thematically linked with a roofed mini-kiosk to be erected at the stagecoach stop site on the proposed interpretive trail. For purposes of preliminary cost estimating, this plan suggests two floor-mounted artifact cases with storage cabinets to be located in the multipurpose/exhibit space and two wall-mounted artifact cases (sans cabinets) to be located elsewhere in the building (hallways? restrooms?). These ideas will evolve with the ongoing re-design of the building, and also respond to the availability (and size) of artifacts. The scope of work for this project calls for an inventory of artifacts to be provided by Washoe County staff. As of the date of completion of this plan, several local area ranching families had been contacted regarding use of artifacts specific to the site, but the collection of artifacts owned by Washoe County is stored in several different locations and a complete inventory was not available. Selection of artifacts will need to be a separate process undertaken during the final design phase. This will probably require the designers to spend at least several days on-site in the Reno area to work with County staff and local residents with access to collections.

The mini-kiosk, to be located along the interpretive loop trail, will provide mounting space for four large-format graphic panels yet to be developed. These will focus on the evolution of the local economy from resource extraction such as timbering and mining to a more service/experience-oriented economy based on recreation with a particular emphasis on the role that ranching has played since Euro-American settlement.

The interior components of this exhibit are intended to serve as teasers that will encourage visitors to walk the interpretive trail.

Interactivity

It should be possible (pending the artifact inventory) to include touchable elements on the graphic panels that accompany the artifact cases, as well as on the exterior graphic panels proposed for the mini-kiosk. These could be facsimile metal casts of actual artifacts.

Small flip-books (as an alternative to touchables) might be mounted on the interior graphic panels.

Exhibit Summary & Cost Estimate

Basic exhibit concept

- two floor-mounted artifact cases with storage cabinets in the multipurpose/exhibit space
- two wall-mounted artifact cases without storage cabinets elsewhere in the visitor center building
- four small-format graphic panels associated with the interior artifact cases
- touchable elements (i.e. facsimile casts of artifacts) and/or small flip-books on the interior graphic panels
- four-sided roofed mini-kiosk w/ stone base at stagecoach stop
- stained concrete patio w/ directional markers
- four large-format graphic panels
- touchable elements (i.e. facsimile casts of artifacts) on the exterior graphic panels

Possible upgrades

- living history video
- audiovideo presentation of interviews with persons whose lives included living/working on a Reno-area ranch
- teaser exhibit, perhaps a small graphic panel, to encourage visits to other Washoe County parks such as the Galena Town site, Callahan Ranch, Galena Schoolhouse, Bartley Ranch and Wilbur May Museum

Preliminary Cost Estimate

- \$ 56,000



Wall-Mounted
Artifact Cases



Floor-Mounted
Artifact Cases



Ranching History & Economic Transition



Kiosk to be placed at a yet-to-be-determined location on the interpretive trail.

Mini-Kiosk



IX. Living on the Edge

Goal(s)

To promote visitor appreciation and understanding of the natural, cultural and historical resources of the area.

Primary Themes and Subthemes

- *The location of Galena Canyon in a transition zone between arid, sagebrush-dotted valleys and moister, forested mountains has resulted in an uncommon ecosystem where several rare or unique plant species occur and where, as elsewhere in the eastern Sierra, water is scarce, streamflows unreliable, and flora and fauna must adapt to climatic extremes if they are to survive.*
 - *Several species of rare or unique plants occur in the area, creating both intrinsic and scientific value that increase its importance to society.*
 - *The existence of mutually-dependent, co-evolutionary relationships among certain area plants and animals reminds us of the intricate connections among living organisms, including humans, and their environment.*
 - *The presence or absence of water in microclimates such as the Jones Creek drainage ultimately determines the composition and distribution of natural communities.*

Interpretive Objectives/Teaching Points

As a result of this interpretive experience, a majority of visitors will:

- understand that the Eastern Sierra is a unique ecosystem, and that the Galena Creek area lies in a transition zone between mountains and desert
- feel motivated to contribute to the conservation of rare and/or unique plant species

Media Description & Discussion

This exhibit will consist of several linked components:

- a wall mural showing a scene from the park
- two “embedded roller-prisms”
- one “tube diorama”
- one soil profile
- one “tree cookie”

The wall mural will function as a backdrop for the other elements. The embedded roller-prisms are conceived of as three-sided objects on axles. They will be mounted within the wall so that one of the three faces of the prism is flush with the wall and visible to visitors while the other two are hidden. Visitors will be able to turn the prism on its axle to view each of its faces in turn. The image on one of the faces will be a part of the mural, the other two will offer graphics, text and illustrations that help visitors understand what “Living on the Edge” is all about. The preliminary thinking is that one of the prisms will focus on the geography of the Great Basin, the other on ethnobotany and Native American uses of local plants.

The critical teaching points for this exhibit revolve around the ecological tension on the edge that divides mountain from desert. The transition zone between the Eastern Sierra and the Great Basin is unique, and the exhibit designers’ most important task will be to craft interpretive messages that create a strong sense of place. Nevada has a high biodiversity index largely because of geographic variation. It is vital that visitors leave the facility with an understanding of how the topography of Great Basin/Eastern Sierra edge has created a unique environment where not only do several plant communities overlap, but where a number of endemic species occur that are found nowhere else on the planet.

When visitors walk away from this exhibit, it is important that they understand what the Great Basin is, why ecotones are so rich in biodiversity and what a rainshadow is. But, more importantly, the project team hopes that this exhibit will foster a sense of stewardship by making the messages personal, by helping locals value their own backyard and by helping visitors understand the truly special qualities of place that cause people to want to live on the edge.

It accomplishes little, though, to help visitors grasp geographical nuance without a global context. Messaging needs to be personal, to help each visitor understand that conserving biodiversity serves their self-interest because they are one of the organisms in a complex (and threatened) food web without which they cannot survive. And, should the interpretive messaging be successful in motivating visitors to do something about species conservation, the answers to questions like “How can I help?” and “What can I do?” need to be answered. Toward this end, and also to nurture the possibilities of funding or in-kind assistance, partnerships with the Nevada Native Plants Society and the Nevada Natural Heritage Program will be pursued. The work of deceased schoolteacher Margaret Williams, whose passion for native plants is well-known, may be a worthwhile topic. Also worthy of emphasis in this exhibit is the public/private partnership between the Forest Service and the Mount Rose and Heavenly Valley ski areas to protect the Tahoe draba.

A tube diorama is also suggested, to display some of the biota that are only found in the eastern Sierra due to its unique climate and extreme topographical variations. It will consist of a 24” diameter Plexiglas tube cut in half and mounted on the wall. Representative plants and small animals will be displayed in diorama fashion against the backdrop of the wall mural. This diorama might be changeable to reflect seasonal or other variability. Small taxidermy specimens such as small mammals, insects and reptiles will be included in the diorama to help visitors appreciate lesser-known and harder-to-see fauna. Magnifiers attached to the tubes will allow visitors to take a closer look.

Another transparent tube (also with a magnifying device) showing a soil profile is suggested as well, to help visitors grasp the fact that life does not end above-ground, but continues beneath their feet in complex communities of plants and animals whose interactions we are only beginning to understand and appreciate. A touchable “cookie,” or “round” from a Washoe pine log is also suggested.

Interactivity

Several interactive dimensions exist in this concept. Visitors will manipulate the mural itself when they rotate the embedded roller-prisms to see each of their three faces. The magnifiers (and/or fisheye viewing lenses) associated with the tube diorama and soil profile will stimulate visitors to change the way they observe the natural world by showing them a different way to look at things. An I-Spy sort of game for kids, or a series of interactive questions and answers could be integrated into this micro-viewing concept.

Visitors might be encouraged, for instance, to use a magnifying device to observe a subalpine plant with hairy or waxy stems and then answer a question about the adaptations that help plants survive high-elevation wind and cold. Or an illustrated list of soil animals might be posted next to the soil profile that would challenge visitors to find those animals, helping them to comprehend soil as a living thing.

Exhibit Summary & Cost Estimate

Basic exhibit concept

- wall mural depicting a Galena Creek Regional Park scene
- two roller prisms embedded in the wall
- one tube diorama
- one soil profile
- one “tree cookie” from a Washoe pine

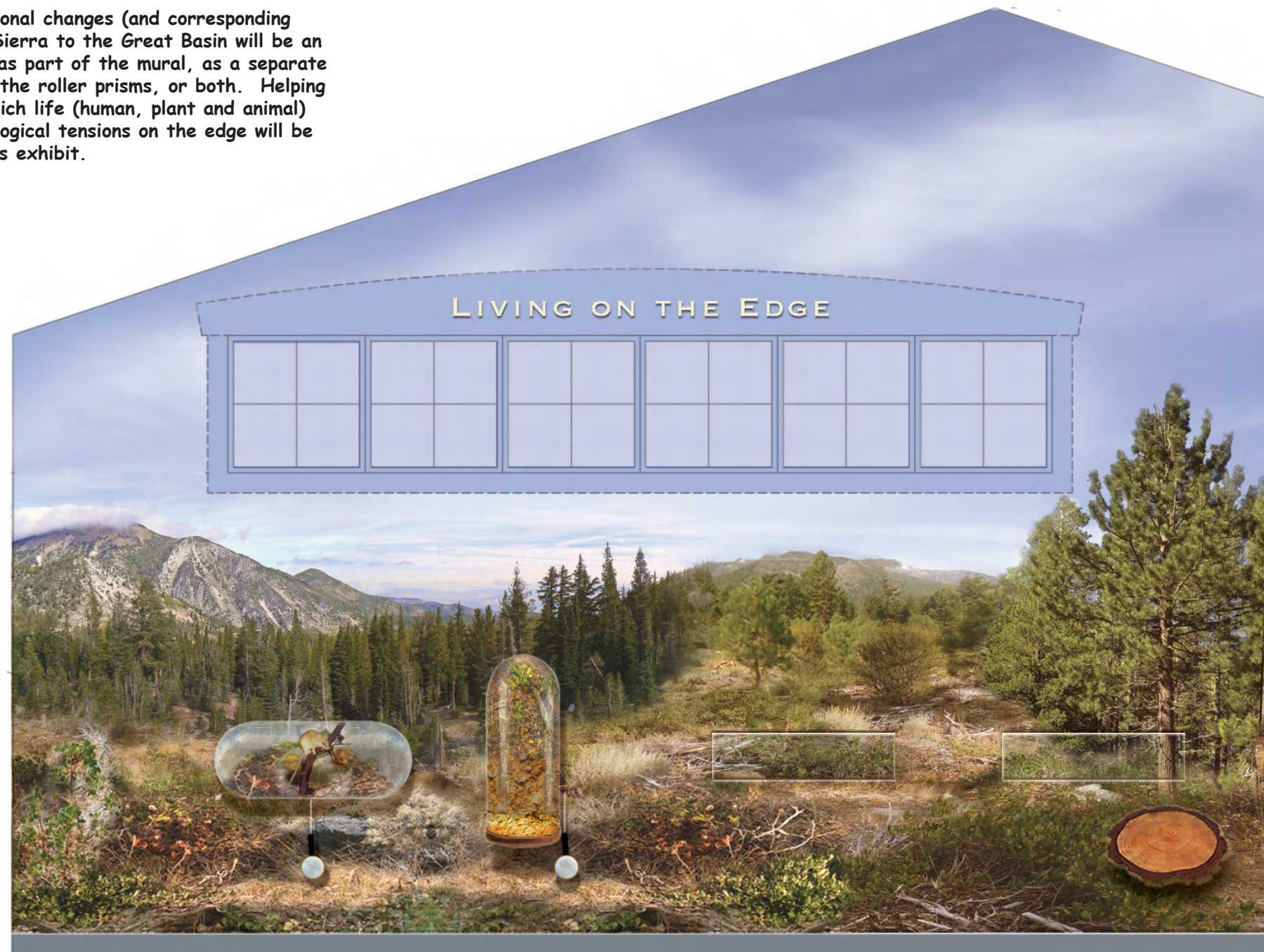
Possible upgrades

- none suggested at this time

Preliminary Cost Estimate

- **\$34,000**

A cross-sectional view of the elevational changes (and corresponding changes in biota) from the Eastern Sierra to the Great Basin will be an integral part of this exhibit, either as part of the mural, as a separate schematic to be displayed on one of the roller prisms, or both. Helping visitors understand the manner in which life (human, plant and animal) is affected through time by the ecological tensions on the edge will be among the key teaching points of this exhibit.



Rare and unique plants of the Galena Creek region

Mural (either digital or painted)

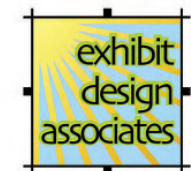
Tree 'cookie', 3 dimensional, mounted on angle

Changeable glass encased 3 dimensional mini-diorama, with magnifying glass attached to flexible cord for detail viewing

Soil profile

Great Basin & rainshadow roller prism

Ethnobotany roller prism



XII. Raised Relief Map/Porta-Map Cabinet

Goal(s)

To welcome and orient visitors to the facilities, services and recreational and interpretive opportunities in the area of Galena Creek and the Mount Rose Scenic Byway

Primary Themes and Subthemes

- *Resource management issues are complicated, and user conflicts are intensified in natural areas on the urban/wildland interface, increasing the stewardship responsibilities of visitors, and necessitating a reliance on well-informed, well-oriented users to help the management agencies achieve their goal of providing safe, enjoyable recreational experiences.*
 - *Visitors need accurate information on recreational opportunities, safety and appropriate resource use in order to have enjoyable experiences with minimal impact on the land.*

Interpretive Objectives/Teaching Points

As a result of this interpretive experience, a majority of visitors will:

- be able to name one site and one alternative site in the Carson Ranger District, Washoe County Park system or Lake Tahoe Basin Management Unit where they can pursue a preferred activity
- have a basic grasp of the topography of both the immediate vicinity of the park and the Reno/Tahoe region.

Media Description & Discussion

This exhibit has evolved into a two-part concept. The first element will be a wall-mounted, raised-relief map with a regional focus. The second will be a portable cabinet (on casters) that will feature a raised-relief map of the local park area on top.

Forest Service and Washoe County staff will make a determination on the geographical extent of the area to be portrayed on each map. This information will be provided to EDA in a digital format that will allow inclusion of graphics of the map areas in the final version of this plan.

The wall map will be associated with a reader rail to provide visitors with information on regional recreation sites and amenities such as campgrounds and boat launches. It will include distances, estimated driving times, safety tips and other information visitors need to make recreational decisions.

The portable "roller map" will be exterior grade to the greatest possible extent (it can not practically be designed to withstand an entire winter outside) so that park staff can move it to the patio in fine weather to support informal visitor interaction and/or programming focused on park resources.

The Reno-Sparks Convention and Visitors Authority (RSCVA) is a possible partner for the development of this exhibit. They would like visitors to be able to use the map to easily locate area ski areas and golf courses

Interactivity

The wall-mounted map will be highly interactive. Buttons on the proposed reader will light up LED's at points of interest and recreation sites. Text on the reader rail will provide information about the sites.

The local area relief map on the moveable cabinet will be touchable, but including electronic components is not practical if portability and exterior use are desired.

Exhibit Summary & Cost Estimate

Basic exhibit concept

- wall-mounted raised-relief map of regional extent with visitor-activated LED's at recreation sites and points of interest
- reader rail associated with wall-mounted map to serve as user interface
- portable, exterior-grade cabinet with raised-relief map of park area on top

Possible upgrades

- laser projector to locate and highlight points of interest on the wall-mounted map; this technology is easily upgraded/changed to reflect real-world changes such as, for example, the addition of another wayside to the Mount Rose Scenic Byway

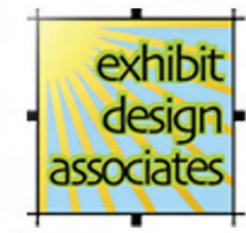
Preliminary Cost Estimate

- \$ 35,000

Cart Mounted Local Area Raised-Relief Map



Wall-Mounted
Regional
Raised-Relief Map



XIII. Octo-Kiosk

Goal

To provide a structure for the display of eight of the twelve existing interpretive panels (some of which may be rotated on a seasonal basis)

Primary Themes and Subthemes

Twelve interpretive panels have already been developed by Coulter & Associates (see Appendix A). Three of these will be displayed on the proposed weather station. Eight of the remaining nine will be displayed temporarily on the octo-kiosk described here. Four of the existing panels focus on wildlife, and these might be rotated seasonally. When additional panels are funded (which is probably at least a few years in the future), the existing panels will be moved to the Stone House.

The titles of the nine existing panels to be installed on the octo-kiosk are:

- Fire and Flood
- Snow
- Indians
- History
- Birds
- Trees & Plants
- Animals (2)
- Black Bears

The primary theme and subthemes to which the existing panels most closely correspond are:

- *Exploitation of natural resources following Euro-American settlement altered the local environment, and, although the region's economic base has been transformed since the mining boom, and much of the ecological integrity of land has been restored, the rapid pace of modern development makes us wonder what environmental changes the future may hold, and what lessons might be learned from early cultures that had a more sustainable relationship with the land.*
 - *The possibility of catastrophic property damage from wildfire on the contemporary interface between human development and natural areas, and the historical devastation of mining camps by floods suggests that history does, in fact, repeat itself.*
 - *Wildfire prevention through fuels management and public education is critical in forests adjoining urban areas to reduce the possibility of loss of life and/or property in a fire event.*
 - *Advances in snow measurement made by Dr. James Edward Church were made more significant because over-exploitation of timber resources led to fears of flooding.*
 - *Artifacts and rock art from indigenous cultures indicate that the abundant resources of the region supported sustainable societies for millennia before Euro-American settlement.*

Interpretive Objectives/Teaching Points

See Appendix A for panel layouts that include text.

Media Description & Discussion

Three kiosks of varying size are proposed in this plan: the octo-kiosk, the weather station and a mini-kiosk to be located at the stagestop site on the interpretive trail. The kiosk designs will be similar and consistent: roofed structures with wood accents and/or log structural components, bases of stone (except in the case of the octo-kiosk where a solid base would hinder access to the media) and patios built of earth-tone stained concrete with inset directional markers. The mounting system will be designed so that the panels can easily be changed.

Interactivity

No interactive elements are suggested.

Exhibit Summary & Cost Estimate

Basic exhibit concept

- roofed octagonal kiosk with space to mount eight existing interpretive panels
- stained concrete patio w/ directional markers

Possible upgrades

- touchscreen computer technology that would allow visitors to access and print maps and other materials

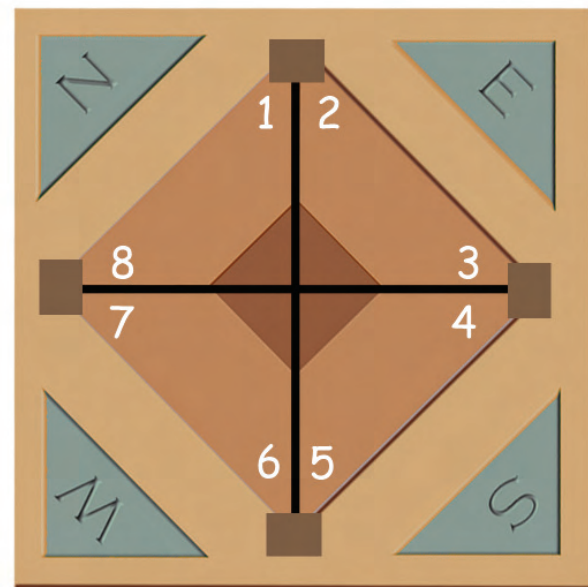
Preliminary Cost Estimate

\$ 18,000

Octo-Kiosk

(8-sided Kiosk)

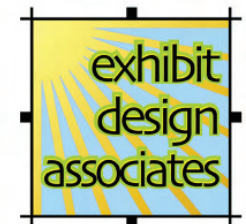
A venue to display
8 pre-existing panels.



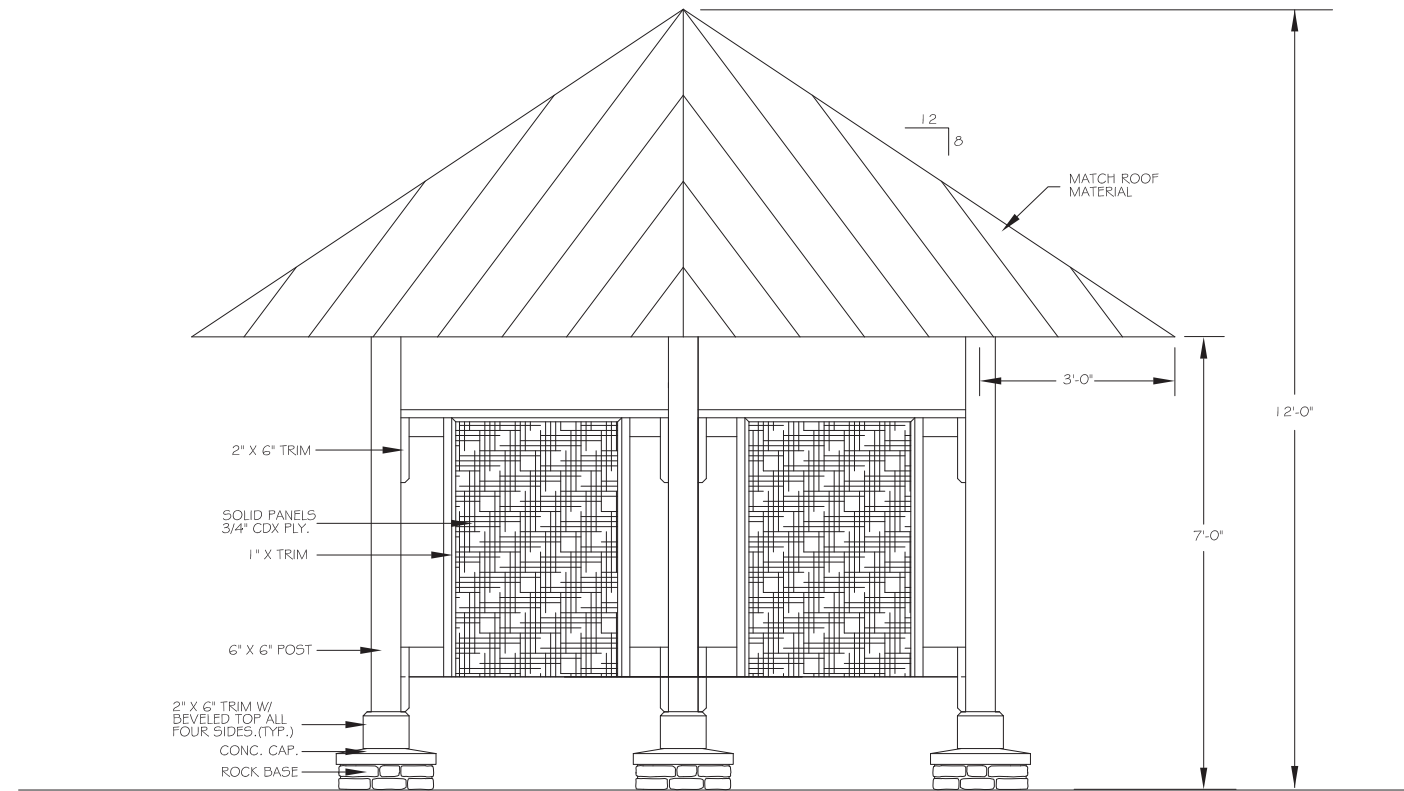
plan view
indicating
8 facets



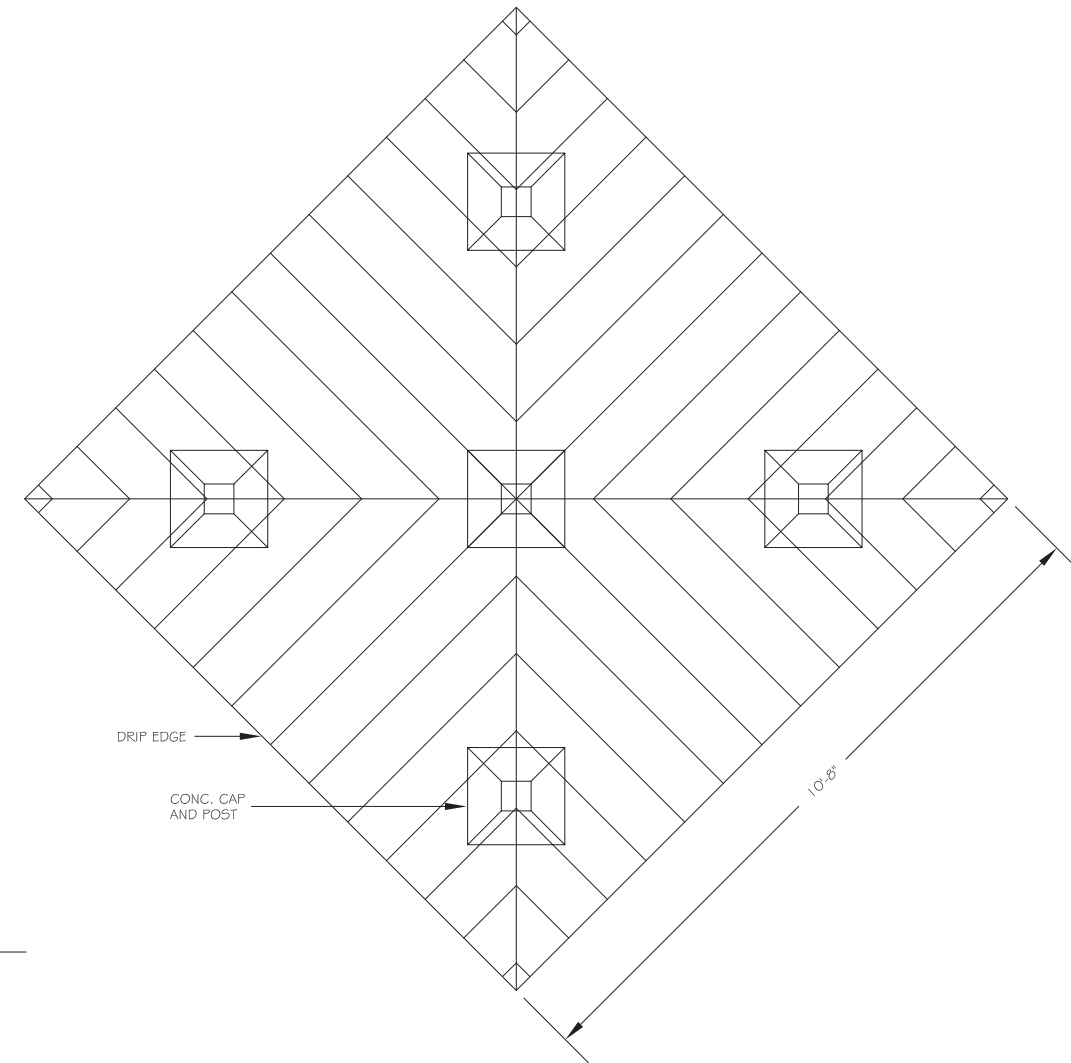
Later development
could be a large
plasma-touch-screen
interactive



The project team felt that the rooflines on the proposed kiosk on the previous page did not extend far enough out to protect visitors from the elements. The design on this page was developed by the Intermountain Region landscape architect to address that concern. It is basically the same design with a larger roof.



ELEVATION



PLAN VIEW

INTERPRETIVE
PANEL KIOSK

DESIGN	BY: C. HARTMAN/G. GIBBONS	APPROVED:	DATE
DRAWING	CHECK: C. HARTMAN/G. GIBBONS	DIRECTOR, ENGINEERING	
	BY: C. HARTMAN/G. GIBBONS		
	CHECK:		

GALENA RECREATION PROJECT	
KIOSK PROPOSAL 1/24/07	

PROJECT No.	1
DRAWING	1
SHEET	1

Appendix A: Existing Interpretive Panels by Coulter & Associates

The first panel shown in this appendix is included so that readers can see the image of Dr. James Edward Church on which the proposed life-sized cutout for the exhibit will be based. The three panels that follow will be installed on the proposed weather station. The eight panels after those (as well as the panel below entitled "Snow") will eventually be installed in the octo-kiosk. These are currently on display at the Stone House in the park.

Galena Creek Regional Park

Snow

Snow Surveying Began Here
 Innovative snow surveying techniques used around the world began right here at Mt. Rose!

In 1906, the 10,776-foot mountain was used as an "outdoor lab" by Dr. James E. Church, Jr. Dr. Church perfected a method of measuring depth and water content of snow by collecting a core sample in a tube and weighing it. This method is now called the Nevada System. As a child, Church got this idea from watching the grocer measure density of butter with a tube.

In 1895, on a dare, the 26-year-old Church became the first person to climb Mt. Rose in winter. Six years later, he spent his winter holiday camping in the open on top of the Carson Mountain Range.

Church was actually a Professor of Arts and Humanities at the University of Nevada, Reno, and had a simple philosophy: "Nature tells you things if you question her and open your eyes." In 1980 the north summit of Mt. Rose was officially named "Church Peak."

How Much Snow?
 The snow pack in the Galena and Mt. Rose area can average 400 inches per year (the height of a three story building!) providing the ultimate winter playground.

Winter Activities
 Humans have been using skis, snowshoes and sleds as a means of travel and fun for hundreds of years. Today, visitors to the Galena Creek Regional Park enjoy cross country skiing, snowshoeing, hiking and snowplay.

FUN FACT: Dr. Church's wife, Florence, sewed rabbit fur into a sleeping bag and often joined her husband on his mountain adventures.

Dr. James E. Church, Jr. — early 1900s

Nevada Department of Transportation

Highest Maintained Year-Round Sierra Pass

Keeping Mt. Rose Highway Open in Winter
 This 22-mile stretch of road from US 395 in Reno to State Route 28 in Lake Tahoe is no picnic for the Nevada Department of Transportation to keep open. Snow can pile up over 30 feet - a difficult job for dedicated road crews. Visibility can be zero during winter storms, but the highest maintained pass in the Sierra rarely closes! Thanks to the expertise of our NDOT professionals.

Know Before You Go!
 Check road conditions:
 AM 530 & AM 7610
 (877) NV-ROADS · nevadadot.com

Brush up on how to drive in snow. Do you have...
 anti-freeze, good lights, battery, brakes, defroster, heater and wiper blades? Carry proper fitting tire chains, blankets, water, working flashlight, gloves, shovel and flares. Drive slow and keep a safe distance from NDOT crews.

Safe Highways are not an Accident!
 During winter, special avalanche control is used to keep snow slides off the highway. A special mix of sand is used not only to keep the road from being slick, but to help protect the trees and the clarity of Lake Tahoe. Summer is the time for routine maintenance. NDOT is busy year-round taking care this scenic byway.

FUN FACT: Until 1932, the Mt. Rose Highway was a gravel road. It was completely paved by 1938. *Vintage photos courtesy of NDOT.*

431 NEVADA

MT ROSE SUMMIT ELEV 8900

HIGHEST YEAR-ROUND SIERRA PASS

MT. ROSE HIGHWAY—1940s

Avalanche Control—1940s

Trails & Info



Rules and Regulations

- Park hours are posted at the front gates and throughout the park. Please plan your visit accordingly.
- Plants, wildlife, geological & historical objects are protected by law. Please do not disturb or remove.
- Pets must be leashed and their waste bagged and thrown away. Bags are available in the park.
- Please do not feed or disturb the wildlife. Enjoy them from a distance.
- Stay on the trails.
- Fires are allowed only in barbecues.
- If you pack it in, pack it out.
- Amplified music is not permitted. Please be considerate of others.

Environmental Education Programs

Interpretive programs available:

- Ranger led nature walks.
- Slideshow presentations.
- Evening campfire programs in summer.
- Fun winter programs.

Ranger Office: (775) 849-2511
 Group Reservations: (775) 785-4319



Scenic Byway
 431 NEVADA

One of America's Most Beautiful Drives!
 Nevada's State Route 431 (Mt. Rose Highway) from South Reno to Lake Tahoe's north shore offers spectacular views, dramatic terrain, and a variety of habitats. This route winds its way from Reno at 5,400 feet to the summit at 8,740 feet down to lake level at 6,400 feet.

Points of Interest
 This 25-mile route has some amazing stops including: Galena Creek Regional Park and the Stonehouse; Whites, Jones and Browns Creek trails; Galena Recreation Complex; Slide Mountain, Mt. Rose Ski Area, The Summit, Tahoe Rim Trail, Incline Village and Lake Tahoe.

FUN FACT: Mt. Rose Highway is the highest maintained pass in the Sierra Nevada Mountain range with snow levels reaching over 30 feet in winter!

Other text on the poster includes: "View of Lake Tahoe from the 'Incline Lookout'", "View of Washoe Lake from Slide Mt.", "Cross Country Skiers at Tahoe Meadows", and "Snowboarders at Mt. Rose Ski Tahoe".

Black Bears

What Type of Bears Live in the Galena & Mt. Rose Area?

The Black Bear, whose fur color ranges from shades of blonde to cinnamon, brown or black. Bears are quick and can run up to 30 miles per hour for short distances. Adults weigh around 200 pounds and some males can weigh up to 500 pounds. They have poor eyesight but a very keen sense of smell.

Bears are omnivorous - eating grasses, berries, nuts, insects, small mammals, and dead animals known as "carion." In fall, Black Bears forage for food up to 20 hours a day to put on fat for the winter. During winter, local bears go in and out of hibernation. The bear controls its body temperature, allowing it to enter into and wake from a deep sleep as needed. This happens because the bear gets hungry and is close to a year-round food supply even during hibernation months.

Are Black Bears a Problem?

Not if we help them to flourish in their natural environment by never feeding them and never leaving food out for them to find. Always dispose of trash in bear-proof containers. If bears don't gain access to food from us, they will forage for themselves and stay free, wild and alive - living in harmony with humans.

FUN FACT: Black Bear's claws are over an inch long, making them excellent tree climbers.



NEVER feed the Bears or any wild animal!



Animals

Do Mountain Lions Live Here?

Yes. Also known as Cougar, Panther or Puma, the Mountain Lion is solitary and territorial. Mountain Lions are carnivores - mainly eating deer, rabbit and mice. They mate briefly, not for life, producing two to three kittens in a litter. The kittens are raised in natural shelters like caves or under thick bushes.

FUN FACT: Mountain Lions have a range of 100 square miles and like to keep to themselves, making it very rare to spot one.



The Bobcat

The Bobcat got its name from its short tail which is only 6-7 inches long. The Bobcat is a carnivore, eating rabbits, squirrels and mice. They favor rocky, brushy hillsides and can run up to 30 miles per hour, but prefer to walk.

Listen for the Coyotes at Night

The Coyote is a member of the Canine (dog) family. They hunt mostly at night and eat meat (rabbits are a major food source for the Coyote) and vegetation (omnivore). The Coyote is well known for its "howl" which can be heard throughout the forest at night.

What Do Mule Deer Eat?

Mule Deer eat a variety of vegetation like shrubs and grasses. Mule Deer move between the forest edges, making Galena Creek Regional Park a very important migration area. They prefer arid, open areas and rocky hillsides.

This forest is home to many animals. Please don't litter. Stay on the trails.



Animals



Brown Bat

Did You Know Bats are NOT Blind?

Bats see in black and white and fly by using echolocation or "acoustic orientation" which is precise enough to detect a small hair. Bats are nocturnal. Bats are mammals and may look like flying mice but are actually more closely related to primates. There are 22 different kinds of bats in Nevada and they hibernate or migrate to warmer climates in the winter.

FUN FACT: Small Brown Bats can eat up to 600 mosquitoes in one hour!



Red Fox

Sierra Nevada Red Fox

This Fox is a species found only in the Eastern Sierra, Carson and Galena areas. Foxes eat rodents, rabbits, reptiles and birds. After being hunted almost to extinction, their numbers are starting to grow. Foxes mate for life and their babies, called "kits," are born in early spring.

Raccoons

Raccoons are mostly nocturnal and they are omnivores eating, everything from berries to fish. Raccoons nest in trees. When natural food is scarce, they sometimes visit our homes to look for food. It is important not to feed or approach them.

What are Ground Rodents?

These include Golden Mantled Ground and Gray Squirrels, Chickaree, Short Tailed Weasel, Marmots and, of course mice, and rats. Ground rodents eat seeds and help regenerate the forest.

What Else Lives and Works Here?

Snakes such as the Rubber Boa, Bull and Garter Snakes help keep the ecosystem in check by eating ground rodents. Lizards sun themselves on rocks to regulate their temperature. Frogs and toads eat all types of insects. Insects eat plants and trees which decompose into the soil, contributing to healthy forest growth.

All these species are important to the health of this park.



Golden Mantled Squirrel



Birds

American Bald Eagle

Our national bird is unique to North America and is making a comeback from being endangered. At one time the word "bald" meant "white," not hairless. Eagles can fly up to 40 mph and dive at over 100 mph! They eat fish, small animals and carrion. Bald Eagles can sometimes be seen along Mt. Rose Highway and at Lake Tahoe.



American Bald Eagle

What Do Great Horned Owls Eat?

These Owls prey on rabbits, rodents and birds. They don't digest fur or bone but regurgitate it in the form of pellets which makes it easy to see what they ate for dinner! This is the largest of the common Owl. They are nocturnal and live in the forest and desert.

How Do You Recognize a Stellar's Jay?

This Jay has a black feather "mohawk" on the top of its head which puffs up and down while it shrieks loudly. The Stellar's Jay is a crafty thief, and will use other birds' nests for its own.

The Downy Woodpecker

Male and female Downy Woodpeckers use different food gathering techniques. The male's longer beak hammers holes deep into the wood and the female's shorter bill pries under bark for insects. This allows the woodpeckers to share food resources without competing with each other.

Mountain Chickadee

The Mountain Chickadee makes its nest out of animal fur. The eggs are covered with loose fur while the female is not in the nest. The Chickadee stays in the same area all its life. The call of the Chickadee sounds like the word "cheeseburger."

What Bird Walks Under Water?

The American Dipper can plunge into the water and walk along the bottom of streams. The Dipper walks under water by grasping stones with its elongated toes while searching for aquatic insects.

FUN FACT: The American Dipper is the only songbird who lives on insects in year-round streams.



Great Horned Owl

Stellar's Jay

Downy Woodpecker

Mt. Chickadee

American Dipper



History

What Happened - 1860s

The Township was founded and developed as a gold mining property called "Galena." It was not economical to mine here because of the lead sulfate mix in the gold. The town grew into a lumbering center, shipping timber to the Comstock silver mines in Virginia City. Galena housed sawmills, stores, schools and saloons. The forest you see here today has very few old growth trees and is second and third generation timber.

1865 - 1867

Two devastating fires wiped out the Galena Township and timber trade. After the second fire, the town was finally abandoned.

1931

This land was acquired for the park from the Holcomb Estate for \$10 per acre. A campground was built along with the Stonehouse warming hut.

1940s

A series of floods destroyed the campground during summer thunderstorms. Historic Comstock timber harvest practices caused deep canyon erosion within the creek beds, including the Galena watershed, setting the stage for future floods.

1948

The fish hatchery was built but only used for four years. A devastating flood caused extensive damage to the water intakes, closing down the hatchery.

1960s

The University of Nevada's Ski Team ran a training/ski jump area. This same ski jump area is used as a snowplay area today.

1980s

Camp We Ch Me Lodge was constructed for the Camp Fire Girls.

Present Day

Galena Creek Regional Park is a beautiful location to visit. The Park features an historic fish hatchery, Marilyn's Pond, Camp We Ch Me (which means "Where Children Meet"), picnic sites, hiking trails and a snowplay area. Park Rangers give interpretive talks about forest conservation, preservation, environmental and historic topics.

FUN FACT: Galena was once called the "Gayest, Rowdiest Little City in Western Nevada!"—The Nevadan, 1964

Vintage photos courtesy of Nevada Historical Society.



Indians

Washoe and Paiute Indians

The Washoe and Paiute were among the region's original inhabitants. The Washoe kept mostly to the Truckee Meadows, Lake Tahoe, and adjacent low-lying areas in the Sierra and Carson Ranges. It is believed the Washoe spent some winters at Lake Tahoe with the abundant food, shelter and campfire fuels available in the basin. Pyramid Lake, north of Reno, was a mecca or meeting place for the Paiute and other southern tribal groups. Historic and prehistoric findings locate the Paiute from Carson Valley to Pyramid Lake. Campsites for both tribes still can be found in this area.

What Were Traditional Things Indians Did?

Fall was a time for gathering and hunting to enable the tribes to sustain themselves over the winter months. Pine nuts, mule deer, fish and rabbits provided much of their diet. The Indians used snowshoes for travel in heavy snow. Homes and shelters were made mostly of bark and branches. Caves also were used for habitation. The Indians played games and entertained each other with stories and tribal history.

Where Are They Today?

With the impact of Euro-Americans in the 1800s, the Washoe and the Paiute adapted to changing times and a new economy by weaving and selling beautiful basketry and becoming ranchers, farmers and guides. The tribes continue to live in the region, developing modern businesses, while focusing on traditions and keeping their cultures vibrant and alive.

FUN FACT: The name Lake Tahoe comes from the Washoe Indian word da'aw, meaning "lake." So, when we say "Lake Tahoe" in English, we are really saying "Lake Lake!"

Vintage photos courtesy of Nevada Historical Society.



Paiute woman with baby in cradleboard — late 1800s



"Captain Pe" Washoe (1888)

Dot S. Lee (late 1800s)

Paiute children — 1888

Trees & Plants



What Tree Is Unique to This Area?

The Washoe Pine is a rare Galena area tree that was the last native pine species to be discovered. Found in 1938 on Mt. Rose, this pine was named to honor the Washoe Indians in 1945. Its bark is blackish brown to yellow brown. This tree has egg-shaped cones and looks similar to the Ponderosa Pine.

Meet the Gentle Jeffrey Pine

The Jeffrey's cones are gentle to the touch, unlike the Ponderosa's cones which are prickly. The Jeffrey contains a pure n-heptane resin which is extremely explosive when ignited, however, some can shed their bark during a forest fire increasing their chance of survival. This pine can grow up to 130 feet!

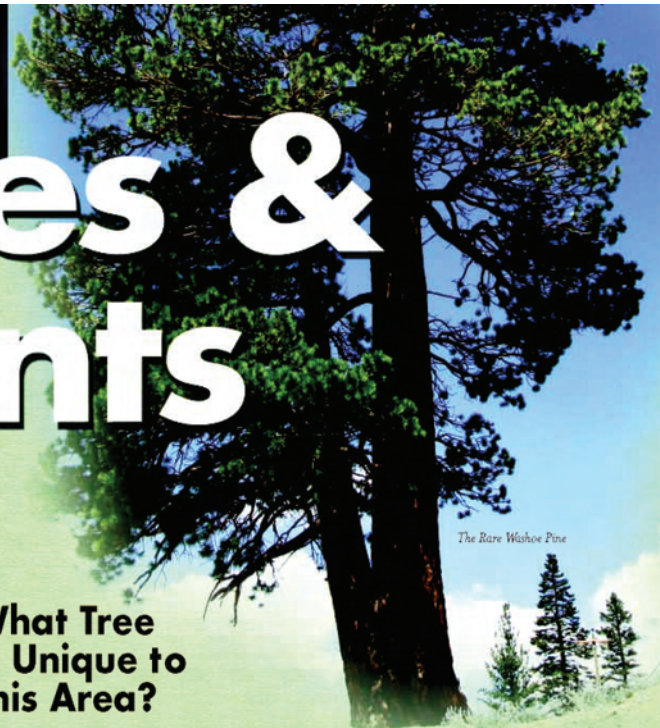
The Amazing Aspen

The largest living organism in the Galena forest is an Aspen "clone." Aspen clones are unusual because they are grouped by a single underground root system. When the wind blows, the leaves have a distinctive trembling appearance, giving the tree its nickname "Quaking Aspen." When traveling on Mt. Rose Highway during the fall season, you will see their leaves turn a stunning bright gold.

Beautiful Wildflowers

There are hundreds of wildflowers that bloom throughout the park at different times of the year. The stunning Indian Paintbrush was once used by Indians to treat arthritis. The striking Scarlet Gilia is a flower favored by the hummingbird for its nectar. The Wild Rose provides food and cover for birds and helps prevent streamside erosion. Phlox covers the forest floor and is a good food source for moths and larvae.

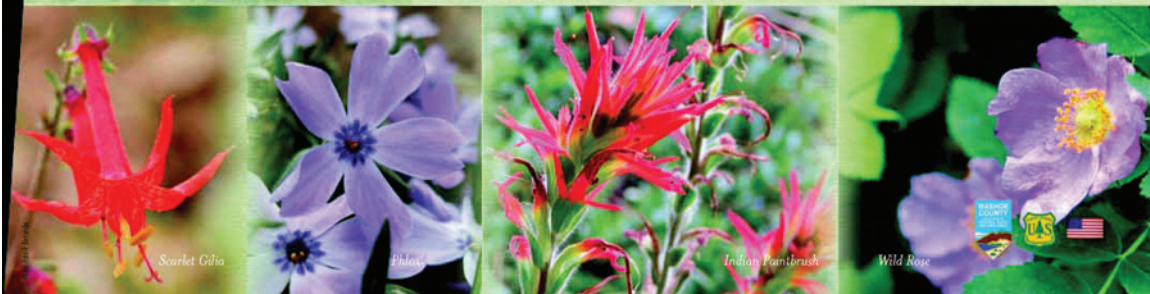
FUN FACT: If you smell the Jeffrey Pine, there is a faint scent of vanilla in between the bark.



The Rare Washoe Pine



Lupine



Scarlet Gilia

Phlox

Indian Paintbrush

Wild Rose

Fire & Flood



Good or Bad Fire?

Not all fires are bad. A constructive fire helps maintain a healthy forest. The USDA Forest Service uses forest management practices including "prescribed fire" to help reduce the possibility of a catastrophic fire. A catastrophic fire can destroy forests, animal habitats and homes.

Living in the Urban Interface

Do you have defensible space? Many people are choosing to build houses closer to the forest, creating an "urban interface." Homeowners living near the forest should clear shrubs and trees from around their homes to create "defensible space." Fire needs fuel to burn and this simple precaution can help save a home and give firefighters a safe place to work.

Massive Attack

A "massive attack" or a small army of people using fire engines, helicopters and air tankers keeps a wild fire from destroying the forest and structures. Wildfires can start from lightning or humans. Common mistakes made by humans include campfires not properly extinguished and cigarettes thrown out car windows.

How Can You Help?

- Get a campfire permit at any Forest Service office.
- Have campfires in designated areas and never leave a fire unattended.
- Always put a campfire completely out by drowning, stirring and feeling.
- Don't smoke in or near the forest.
- Never throw cigarettes out the car window.
- Always report a fire by calling 911.

What Causes Flooding?

The Galena Creek area is naturally prone to flooding due to a combination of soil type, heavy snowfall and rain. Floods are either "wet mantle" or "dry mantle." Wet mantle floods occur when heavy, long rainfall causes snow to melt in the upper elevations, saturating the ground. These floods happen between October and March. Dry mantle floods or "flash floods" occur from late spring through summer and are caused by thunderstorms pouring large amounts of rain over tributary basins. Areas that have recently burned are more susceptible to dry mantle floods, especially in the first few weeks after a fire.

FUN FACT: The 1940s flood that destroyed the Galena Creek Campground was a dry mantle flood.



Appendix B. Photos of Text Panels at Mount Rose Summit

