Resolution No. 11-93-295

RESOLUTION OF THE
WHITE MOUNTAIN APACHE TRIBE OF THE
FORT APACHE INDIAN RESERVATION

WHEREAS, the completion of the Apache Cultural Education Facility requires that the facility be maintained; and

WHEREAS, the costs of maintenance of the facility and its major equipment are above and separate from the operating costs of the organizational units occupying the facility; and

WHEREAS, the enclosed Maintenance and Operation Plan and Budget accurately reflect the needs and associated costs of maintaining the facility.

BE IT RESOLVED by the Tribal Council of the White Mountain Apache Tribe that the attached Plan and Budget be adopted;

BE IT FURTHER RESOLVED by the Tribal Council that $33,650 annually be committed to the maintenance of the completed facility.

The foregoing resolution was on November 04, 1993, duly adopted by a vote of nine for and zero against by the Tribal Council of the White Mountain Apache Tribe, pursuant to authority vested in it by Article V, Section 1 (b,h,i,j,k,u) of the Amended Constitution and Bylaws of the Tribe, ratified by the Tribe June 27, 1958, and approved by the Secretary of the Interior on May 29, 1958, pursuant to Section 16 of the Act of June 18, 1934 (48 Stat. 984).

Chairman of the Tribal Council

Virginia M. Dalton
Secretary of the Tribal Council

MAINTENANCE AND OPERATION BUDGET
APACHE CULTURAL EDUCATION FACILITY

This budget is for the facility only. Normal operating expenses of the units occupying the facility will pay for their operations such as office supplies, computer equipment, travel and other costs of operation. The maintenance and operation budget will supply the costs of the facility that are non-organizational specific.

Personnel		
Salary	$15,000	
Fringe Benefits (25%)	3,750	$18,750
Operating Expenses		
Water	$ 600	
Electricity	3,600	
Supplies	3,600	$ 7,800
Contract Services		
HVAC	$ 1,500	
Security System	2,400	
Monitoring equipment	1,000	
Sprinkler system	1,000	
Pest Control	1,200	$ 7,100
TOTAL ANNUAL COSTS		**$ 33,650**

Section 6 CREATING A MUSEUM ENVIRONMENT

I. Introduction

The Hohokam Heritage Center will function essentially as a museum with exhibits, research and curatorial services occupying major portions of the building. Standards have now been set in the Department of Interior Part 411 Museum Property Management Manual (Appendix D) with further guidance available in the Museum Property Handbook, Volume I Physical protection and Volume II Documentation of Museum Property.

These standards apply to prehistoric and historic objects, artifacts, archival documents, natural history specimens and to works of art. Office art such as personal desk art and posters which decorate walls is not included when these items are commercially-produced, unsigned works, low value and not specially framed. Brief summaries follow.

II. Specific preservation and protection standards for museum collections

1) Safe and Stable Environment

Museum property and associated documentation must be housed in a safe, stable environment, appropriate to the material type, to reduce its rate of deterioration, prolong its life, and minimize the need for conservation treatment.

Relative humidity and temperature must be monitored and controlled to minimize wide fluctuations over short periods of time and to avoid harmful extremes. While preservation of museum property should take precedence over energy conservation, it is essential that the decision-making process for controlling relative humidity and temperature support the goals of energy conservation.

2) Security and Fire protection

Storage and exhibit spaces must be secured against unauthorized entry and appropriate to the nature of the collections. Suitable equipment and systems shall be installed to provide for the detection and suppression of fire.

3) Spaces Housing Museum Property

Storage. All newly constructed museum property storage spaces must provide dedicated space and accommodate future growth.

Exhibits. Museum property must be exhibited in a manner that protects against vandalism, theft and deterioration. Exhibit planning must ensure that preservation, protection and maintenance needs of museum property are addressed.

Provisions requiring environmental controls on humidity, temperature, pollution, lighting and so on apply to objects on exhibit. Exhibit case designs, mounting support, monitoring and rotation, and appropriate physical, electronic and staffing methods of ensuring protection fully apply to museum property on exhibit.

III. Departmental Preservation and Protection Standards Applying to Artwork

Artwork, whether sculptural or attachable, when used in contexts such as administrative offices spaces and public places as envisioned for the Center, require similar measures which are in brief:

1) Security and Fire Protection

Keys to office spaces and display cases must be controlled with opening and closing procedures in written form and implemented.

2) Environment

Levels of relative humidity and temperature must be monitored, recorded, evaluated, and controlled, to the extent possible, to minimize rapid fluctuations and avoid harmful extremes. Visible light and ultraviolet radiation must be monitored and controlled to the standard required above. Spaces and objects are to be monitored for pest infestations, and pest control actions

3) Display techniques

Two-dimensional artwork must be properly secured in a frame with a protective backing. Watercolor paintings, prints, and drawings must be matted with archival-quality material and protected by glass or other appropriate materials. Museum property must be displayed in areas that provide protection from accidental damage and is not to be used for secondary functions, i.e. as containers or paperweights.

IV. Meeting the Standards at the Hohokam Heritage Center

Further discussions on what the standards entail and techniques for meeting these are available in the Department of the Interior Museum Property Handbooks. Discussions which follow have been tailored for the Hohokam Heritage Center.

1) Humidity levels

Establishing correct and long term humidity levels is critical depending on the types of materials curated. Organic objects--woods and skins for instance--require greater RH control than inorganic under normal circumstances. The origin of the materials--whether desert Southwest rockshelter or excavated from an open site--is critical in reestablishing the circumstances which preserved the artifact in place.

In humidity, stability is preferred over fluctuation. RH is stated as a set point but also as a range of percent values.

What levels? The Departmental museum property standards require monitoring, constant recording and fine tuning and require that data must be recorded daily for 1 year before establishing acceptable ranges and limits. Acceptable ranges and limits of RH must be established for each unit, based on the local climate, the nature and condition of the materials constituting the collection, the structure housing museum property and other relevant factors.

In the absence of the one year baseline data, the nature of the collections is a better source for establishing the range. For these collections, a 5% fluctuation, giving a range between 30% and 40%, is acceptable for all but a few items. For one area--Zone 6: special collections--a 3% fluctuation is preferred. If this is not readily achievable or affordable (because of operating costs), the conditions will be achieved through built-in or specially-designed units.

Which zones? At the Center, Zone designations reflect the degree of humidity control required:

Zone 1 Public Service Areas
Spaces in which artifacts or artwork of humidity-sensitive materials would be displayed or studied, multi-use room, classroom studio, possibly the lobby and auditorium.
Zone 2 Public Galleries--all spaces
Zone 3 Operations--spaces with humidity-sensitive artwork, the library

Zone 4 Restricted Operations--all interior spaces
Zone 5 Curatorial Services--all processing and study labs
Zone 6 Collections storage--all spaces
All circulation areas in which collections travel or reside including elevators and stairs; and, areas where artworks are placed with humidity sensitive materials.

Since the expense and practicality of setting up several, independent control areas must also be considered, the proper range should be set for larger spaces with further refinements achieved through storage techniques such as controllable cabinets and setting aside a special collections area for storing particularly sensitive organic, composite and related materials. Humidistats should be carefully placed to reflect the readings in the areas controlled rather than pockets of air. The precise locations should be accessible and be monitorable as well at the centralized monitoring station (Zone 4).

Dehumidification. It is cheaper, easier and more desirable to humidify to correct levels than to dehumidify. Dehumidification capability should be placed into the general circulating system; independent units for some massive spaces would not achieve the overall desired effect, would involve heavy maintenance, and may have negative effects of condensation.

2) Water-Free

Obviously leakage from ceilings, walls, floors either as standing water, flooding, seeping or condensation must be avoided through the use of vapor proofing, barriers, sealing, painting, adequate drainage, quick removal of water from roofs, removing external watering, and so on.

Water pipes except for sprinkler systems must be placed specifically to avoid leaks in collections storage, labs, exhibit, library and other critical areas. The Anasazi Heritage Center water pipe placement serves as an excellent example of what NOT to do in a collections area.

Sensors should alert when flooding occurs in storage and other areas. Floor drains and sump pumps should be adequate to remove water immediately. Also, flow monitors in sprinkler pipes should signal discharge or leakage to the operations panel in the monitoring station (Zone 4).

3) Stable Temperatures

Temperature is another critical element both in range and in stability. Constant temperatures are desired, and lower temperatures are preferred over higher if a tight range cannot be maintained. Fluctuation reflecting seasonal change or monitoring adjustments must be gradually produced but still fall within the range of acceptability. The areas identified as critical for humidity control are the same ones in which stable temperatures should be achieved.

The Departmental Museum standards for Temperature are specific:

> "In exhibit and storage spaces where human comfort is a factor, the recommended levels are 21-23°C (70 to 74 degrees). In storage spaces where comfort is not a factor, the temperature level for mixed collections may be gradually reduced to just above freezing, provided that the relative humidity level does not cause condensation on cold surfaces. The upper limit shall not exceed 23.9°C (75 degrees). Abrupt changes in temperature must be avoided."

For the Hohokam collections, the temperature range should first of all be stable for 24-hours a day with very slow, if any fluctuations; second, on the low as opposed to high side in storage areas; and third, be within the range of 5 degrees on either side of 65 degrees F. except where human comfort dictates a

higher range which still remains below 75 degrees F.

All exhibit halls as well as laboratories will require temperature stability within an acceptable range. Assume that personnel will only enter collections storage to carry out specific tasks; human comfort is therefore less important in storage but is a major concern in labs and public areas. Separate zones within the facility will require controls independent of each other. If possible, special collections should have a tighter controlled temperature and humidity range. Independent gauges should be set within the zones but controllable at the monitoring station.

Long term monitoring at the Anasazi Heritage Center has established that stable, almost flat lines, of temperatures between 65 and 70 degrees are reliable within the basement storage areas but that temperature extremes in the exhibit halls far exceed departmental standards. At the Hohokam Heritage Center, insulated rooms, basement or bermed storage space can also help to produce a constancy of temperature which is economical as well. Given the nature of the Hohokam collections as well as the immense operating costs, the Departmental-recommended extremely low range is not requested in storage areas. The few items requiring extremely low temperatures can be accommodated in special collections or isolated in a freezer.

4) Pollutants and Particulates

Departmental standards require that storage and exhibit areas shall be free from as much particulate matter and gaseous pollutants as is practical.

Filtration and air cleaning is covered under Section 7. In addition to filtration, dust-free spaces should be created through sealing floors and wall joints; an airlock is required for shipping/receiving, and venting and exhaust systems are required for fumes from any source. Special systems will be required for the conservation lab, dirty lab, photo lab and fumigation area.

5) Lighting, visible and ultraviolet

Collections materials are sensitive to both invisible/ultraviolet light and to visible light sources. Exposure to visible light must be limited in illuminance level and duration. Ultraviolet (UV) radiation from daylight and artificial light from sources such as fluorescent or mercury vapor must be eliminated to the extent possible.

Museum Departmental Standards for visible light (411 DM 2.2D (1) (c-d)) are fairly specific:

> "Levels of visible light shall be monitored and recorded (including daily and seasonal variations when daylight is involved) in exhibit and storage spaces. When light-sensitive objects and/or specimens are illuminated, the levels and duration of visible light shall be controlled. The maximum acceptable illuminance levels for light-sensitive materials shall be as follows:
>
> (i) 50 lux (5 foot-candles) for especially light-sensitive materials (eg dyed and treated organic materials, textiles, watercolors, tapestries, prints and drawings, manuscripts, leather, wallpapers, natural history specimens such as botanical specimens, fur and feathers, and certain types of photographs (eg films such as albumen and cyanotypes)).
>
> (ii) 200 lux (20 foot-candles) for undyed and untreated organic materials, oil and tempera paintings, and finished wooden surfaces.

(iii) Generally, other materials are less sensitive to light and may be exposed to higher levels, up to a maximum of 300 lux (30 foot-candle). However, when these materials are housed with light-sensitive materials, light levels must be controlled at levels appropriate for the most sensitive materials.

(iv) Except for short durations required for access or housekeeping, no light is acceptable for museum property in storage."

Storage Area Lighting. Lighting produced by fixtures or by reflection is needed for emergency exits, for easy spotting of pests; for some task work that occasionally may take place and above all, for safe access and easy handling of store materials. Walls should be painted white--see pests. Lights should run the length of aisles and be in banks permitting only sections to be lighted. Incidental light should be approximately 200 lux (20 fc).

Laboratory and Study areas. Most of the materials handled in these areas are archaeological collections capable of withstanding up to 30 foot-candles. Light levels in these labs need to be controllable, especially in the conservation lab. Lighting fixtures in all processing and study labs need to be set up in banks with individual controls to permit sensitive materials to be handled.

Exhibit hall lighting will require special coordination to design track lighting that allows varying sensitive levels of lighting to be accomplished. Owing to the nature of items selected for exhibitry, a wider range of sensitive materials is to be expected. Individual case designs must also consider special mounting and design of light sensitive objects below 20 foot-candles.

Ultraviolet Radiation

All light sources for ultraviolet radiation (UV) must be monitored and recorded. If the UV radiation level exceeds 75 microwatts per lumen, it is mandatory to control it by installing UV-filtering materials between the light source and museum property. Ultraviolet radiation must be periodically monitored and recorded to ensure that the filtering material is effective.

For the Hohokam Center, the main sources would be daylight followed by fluorescent lamps, halogen lamps, mercury (if used) and minor amounts from incandescent. Eliminate by planning UV filtering materials on all windows, skylights and other daylight sources. Plan for UV sheets or tubes on all light fixtures in storage, laboratories, and galleries. Exhibit case design can filter out UV for further protection.

6) Pest Control

Pests include insects, small rodents and mammals. These not only enter the facility from time to time but take up permanent residence where poor construction, poor housekeeping or lack of treatment permits.

Departmental standards require implementation of an Integrated Pest Management Program in all spaces housing museum property to protect the property from pest damage and to reduce the amount of pesticides used. In addition to regularly scheduled inspections and appropriate actions once the Center is operational, these design aspects to control pests must be considered:

Prior to construction, remove all obvious nests, holes and pests homes through live trapping and pesticide treatments. Treat walls and gaps during construction.

Remove and keep vegetation away from the building walls during construction and in design. Plan to surround the building walls with non-organic materials and to place plants, mulches or top-soil berms further from the

walls.

Without compromising security needs, select lighting systems which do not attract insects and especially do not shine bright lights in doorways and entryways.

Remove and keep standing (non-circulating) water away from the building whether in ponds, canals, tanks or whatever.

Seal cracks, caulk doors, use doorsweeps and tight fitting door hardware to prevent insects and small pests from entering.

7) Vibration

Vibrations potentially produce mechanical destruction, even breakage, of objects. All equipment, traffic and other sources must be shielded by separate placement pads, wall dividers, buffering materials and vibration-proofing to prevent vibrations in storage spaces, exhibit galleries and processing and study labs.

8) Housekeeping and Cleanliness

The room walls, ceiling and edges must be sealed to prevent dust, pest and vapors from entering. These areas must be easily cleaned without cumbersome equipment and without the need for strong chemical cleaning products.

Regular housekeeping activities will be established once the Center is occupied.

NO SMOKING will be allowed anywhere within the Hohokam Heritage Center. Assume that storage areas will be cleaned either by the collections staff or under supervision of the staff on whatever monthly, quarterly or semi-annual basis that close monitoring determines to be necessary.

9) Special Materials

All sealants, paints, epoxies, solvents, adhesives and high-fume materials must be on a list of approved substances for museums or be approved specifically by a qualified conservator. These must be low in ammonia and other fumes. Special adhesives for carpeting have been approved by the Smithsonian Analytical Lab "blue glue". A list of acceptable materials can be provided at the appropriate time. The specifications will be reviewed by a conservator.

Finishing materials, new furnishings and sources of fumes and outgassing will have to be "aired out" before artifacts and susceptible items are moved into the new building.

Material Safety Data Sheets must be provided for all materials utilized for review by a qualified conservator and others.

Conservation and fumigation substances in those labs will require special vented storage and handling equipment, non-return venting systems and special disposal of materials. See Section 8.

V. Physical Protection, Security and Fire

A zonal-based, centralized monitoring detection and suppression system should be designed to provide adequate fire, intrusion and back-up protection. Additionally, access and entry points, doorways and windows, and other elements of the grounds and facility should be designed with special museum requirements in mind.

The systems must also meet Maricopa County requirements for interfacing with

fire, police and emergency response and for the installation of monitoring equipment within appropriate substations in the area.

1) Fire Protection--prevention, detection, suppression

Departmental standards for Fire Protection (411 DM 2.2d (3)):

> "Equipment and/or systems appropriate to the nature of museum property in the space it occupies shall be installed to provide for the detection and suppression of fire. Structures and spaces housing museum property shall be made fire-resistant to the extent possible given the nature of the structure. Museum records shall be stored in an appropriate fire- and burglary-resistant locking container or vault that shall be locked when not in use. The fire prevention, detection, and suppression needs of museum property shall be addressed in a fire plan. Flammable liquids shall not be stored in the museum property storage area.

Prevention should be built into materials selection and through containment design such as fire walls and automatic damper closing. File cabinets, vaults and safes which retard fire damage are discussed in Section 8 for particular storage areas.

Alternative fire protection systems should be recommended, each suitable for a museum environment including the smoke detection and control system, sprinkler piping, heads and drainage types, ability to tie into local fire department fire alarm computers. The Anasazi Heritage Center system as improved since occupancy is an example of a desirable system.

Smoke and fire detection system

Sensors must be installed in all spaces in sufficient numbers to immediately recognize the affected area. These should detect smoke first, then heat and be tied into an alarm system which sends a signal automatically to a central alarm, 24-hour monitoring service. This system should be backed by a cellular transmitter as well. The system should be able to distinguish trouble in the system from actual fire alarms. The sprinkler system flow must be monitorable and connected to the fire alarm system panel and alarm bell. Sensors, connected to the central monitoring station, should indicate whether any sprinkler head is flowing or had discharged water but shut off.

As part of the alarm system, design vents which shut down with sensor detection and which may be automatically opened and reset--not manually after each test or alarm. Also equip with manual pull stations in each major zone to facilitate testing and practice evacuations. Fire alarms or bells should also sound locally as well as send an alarm.

Fire Suppression

For first response, fire extinguishers should be planned either installed as built-ins or attached with wall brackets for all areas where heat sources are planned such as kitchens, projection room, shop, conservation lab and where unplanned sparks or trash fires may occur such as restrooms. Other large spaces should contain extinguishers as well. Plan for dry, portable extinguishers.

Museum Sprinkler system

For the Hohokam Heritage Center, a wet sprinkler (water in the pipe) system is selected over a pre-action dry system. In weighing the advantages and disadvantages in selecting a system which meets the types of collections to be managed and for the exhibit and public safety, these factors were considered:

wet systems have been proven highly effective and reliable in preventing

fires from spreading and in directing a few sprinkler heads to discharge the flow needed for the size of the fire;

sprinkler systems to be most effective must be discharged immediately before fire spreads requiring a larger volume of water;

discharged water from a wet system is generally cleaner;

if fires spread, hoses and other suppressions actions may cause more damage than water;

negative drawbacks such as sprinkler head leaks or pipe leakage can be somewhat overcome by staff monitoring, covering certain storage areas or utilizing cabinets, and by placement of floor drains to remove any accidental discharge of water.

The Anasazi Heritage Center has a wet pipe system and is suitable in design except for: 1) the placement of sump pump drainage within the basement artifact storage; and, 2) drainage pipes within the collections storage areas are not acceptable.

Sprinkler heads should be the fusible link type which result in flooding only for the immediate area, should operate individually and only if the heat has risen above 135-140 degrees. Heads should be easy to replace.

An adequate number of floor drains and cutoff valves should be planned. Such valves should be reachable by staff members without a ladder.

Fire protection support

See Section 7 for telecommunications and for facility monitoring.

Ensure adequate source of water for full structural fire and coordinate with the requirements of the plumbing system. Ensure potable water for the domestic system is maintained free from potential contamination. Design with safety precautions such as backflow preventers to protect if cross-connections are made with other systems. Support needed to the fire protection/sprinkler system should include automatically controlled fire pump and accessories sized to provide design flows and pressures.

Place hydrants/fire department connections in easily accessible locations as recommended by the local fire departments. Allow for auxillary pumping supplies which bring tankers to supplement water supply. Hose connection size and pipe threads are to be coordinated with the local fire departments. At this time, responding units to Lake Pleasant are being dispatched from the Cities of Peoria and Sun City with Rural Metro and Daisy Mountain Services also involved. Through the Lake Pleasant Area Task Group, Sub-Committee on Law Enforcement and Public Safety, this issue and related problems are being worked on currently.

2) Security of the Collections and the Facility

Museum Standards for Security (411 DM 2.2D (2))

"Storage and exhibit spaces must be secured against unauthorized entry. Access to the locked storage areas must be limited to the curatorial staff and those people who have a legitimate reason to enter. A visitor and researchers sign-in log must be established to record visitor name, address, the date and time entered, the time left, and the reason for entering. Written procedures must be adequate to control access to and use of keys and combinations. Opening and closing procedures shall be written and implemented for storage and exhibit spaces. Written policies and

procedures for access to museum property and associated records shall be prepared and implemented.

As required, an appropriate combination of mechanical and electronic systems shall be in place. The spatial needs of the museum property shall be addressed in an emergency management plan. As appropriate, a separate emergency management plan for museum property shall be written and implemented."

Risk Assessment

Intrusions by professional thieves are highly unlikely given the nature of the materials stored at the museum. Artworks, computer equipment, vehicles, shop equipment and other items may be targeted and should be protected. Vandalism is a definite possibility. Cash areas which need protection are: any vending machines, donation box, museum shop, and administration. Other areas needing special monitoring will be the exhibit galleries.

Prevention

Minimize the number of entry points into the building and the number of locations that breaking and entering might more readily occur.

Provide high visibility of visitor areas especially all galleries and the museum shop.

Plan active alarm circuits for all exits and entrances including doors, windows, roof access, skylights, and so on. Include occupancy monitoring if not cost prohibitive.

Design a nearby storage area in Zone 1: public areas for placing bags, packs, and other parcels in a lockable situation.

Intruder Alert System

To be effective electronic and physical monitoring must be designed as zonal, overlapping and duplicative. When fully designed, the system should have appropriate electronic, magnetic, infrared, video surveillance and other elements centrally connected and providing state of the art museum coverage.

Install detection systems for protecting zone entrys. Assume that individuals enter Zones 4, 5 and 6 only as keyed personnel or with escorts. Use motion detectors --infrared, ultrasonic or microwave--to create a curtain/screen for entering a zone.

Most doors should be armed with magnetic contact switches; to be identified once the building has been laid out complete with door locations.

Access system

Access to the building should be limited to a few entryways but allow for emergency responses such as evacuations of large numbers of persons.

The preferred system is one of zoned areas with doors accessible through a combination of keyed and keyless entry systems. A keyless system with computer station for immediate monitoring and accessing is the preferred access system once entry has been achieved through certain key-controlled doors. Keyless/cards also permit the identification of individuals and their comings and goings to be tracked. The Anasazi Heritage Center key-entry/code system with cellular "Telguard Model T-1000" radio back-up, Moose 1100 E pad panel, 24-hour monitoring and other features is a workable model for the Hohokam Heritage Center except that keyless entry should be added.

Public access would be via a main entrance door.

Plan one entry point for staff with both a keyed lock and a five-digit code. Once the door is key-opened, the staff person will have a few seconds to punch in a code at a key pad just inside the doors. Certain internal doors would require a key and code; others would have keycard slots. Access to external features or buildings such as shops, recycling/vendor kiosk, etc. would be by assigned key.

All doors leading outside should have balanced magnetic contact switches and alarms [preferably contacts drilled into the doors] and motion detectors.

Side doors are essential for emergency evacuation and depending on building design, may be needed for access at other points. Except for rare events when side doors are kept open, these will normally have keyed outside entrance and be alarmed with audible bars on the inside to indicate unauthorized use. The one exception is a side door leading to the comfort station which may be unlocked for special events.

Loading dock doors will be kept locked during operations except when needed. These doors should be keyed with dead bolt locks and alarmed with motion and magnetic releases.

Entry doors and locks

Entry doors for the public must have panic bars as local codes provide and must meet accessible codes. The exterior surfaces should be readily identifiable as doors, have accessible handles, be made of heat-resistant materials and be weighted for easy entrance.

They should be solid core sheathed in metal with metal frames which resist attempts to remove. Hinges should be inaccessible from the outside. Doors should fit tightly for security and for energy-saving. Morticed locks with extra long screws. Exterior doors [and a few interior] will have both a deadbolt and knob lock of Medeco standards or better. Additionally, some doors will be self-locking--project room, curation entry doors, telecommunications, and additional to be indicated.

Any glass panels next to doors or inserted as portals should have security protection and/or glass breakage sensors.

Locks and keys

Once the floorplan has been developed, specific zones and doors requiring master keys may be identified. Probably 5 major key or card zones will be set up with other individual doors alarmed as well. Individually keyed doors are only needed for certain areas. Door keys should not be duplicated within 200 miles.

Interior doors

All curatorial doors should be solid core with steel frames. Office doors of wood with glass panels are suitable in most areas as long as doors are solid core and glass panels are small enough to deter entry. Kickplates should be added to all doors with quality of the plate reflecting the door quality.

Double-doors are needed to provide access for moving artifacts, exhibit sections and large deliveries. All hallways and doorways which are delivery ports need to be double-door.

Windows

See also architectural section 4. For security purposes, all windows must have

protection such as reinforced wire glass, mesh grill, or glass breakage sensors or the equivalent and all indirect lighting such as skylights must be alarmed. Windows should not be openable or priable.

Windows are permitted in Zone 3: the administration area, office areas and public areas as indicated elsewhere but none in curation labs except offices and no windows in doors in storage or telecommunications. See Section 8 for specific room appropriateness.

Individual Area Needs

Exhibits

Doors should be designed to close and secure while other rooms are in use such as during events. Exhibit halls should be alarmable even when other areas are left open.

Plan for support in the exhibit halls for individual sensing units on certain cases and/or artifacts. Additionally the design of the exhibit security must be highly coordinated since certain open exhibits or specific areas may require special magnetic, infrared, microwave/heat or other alarms.

Areas with cash storage

These spaces will have tight accountability procedures and safes with lockable cash drawers. Design panic buttons for daytime incidents near the front desk and sales area register. The donation box will be constructed as vandal-resistant, lockable and emptied often [with signage to indicate-no cash storage].

External Perimeter and Fencing

The perimeter should be well-lighted for safe entrance/exit and to ensure easy view by patrols or response personnel. Well-lit buildings tend to have a reduced vandalism rate especially when these give the feel that personnel may be on-site.

The loading dock, over-night vehicle storage and shop areas should especially be well-lighted.

Outside lighting should have vandal resistant lenses.

External controls to electrical, security, telephone, lighting and other utilities should not be accessible.

Vegetation should not be up against the building walls.

Fencing

Depending on building design, a security fence should protect certain areas and features such as overnight vehicle storage, the shop and maintenance. Fences can be better planned once the facility design is underway. Facility security fencing should be 6-ft high with gates and locking mechanisms. Color and materials used for fencing to complement color and materials used in the design of main building. A boundary fence encompassing the general location is not required.

Gating

As discussed under access, a gate with turnaround area will be closed each evening. The placement of the gate/turnaround must be planned in conjunction with the road design. The gate should block vehicles and discourage closed-hour visitors from walking up to the facility.

Back-Up Systems

Detection and monitoring systems, emergency lighting for all circulation zones, and limited telephone service should be provided. See Section 7 for additional discussions.