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U-004-409 .5

**FAIRCHILD, A, 1991, STATE OF UTAH DEPT OF NATURAL
RESOURCES, JUNE 1991, LETTER TO DUNN WITH ATTACHMENT
(ENVIRONMENTAL ASSESSMENT INFORMATION SCIENCES
DIVISION, ARGONNE NATIONAL LABORATORIES) - (USED AS A
REFERENCE IN OU2 FS REPORT)**

06/19/91

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REPORT**

Post-it Fax Note 7672

No. of Pages 1		Today's Date 5/3/85		Time 5:11
To Alicia Taylor	From John Fairchild			
Company	Company DWR			
Location	Location	Dept. Charge		
Fax # 513-738-9150	Telephone #	Fax # 801- 489-7000	Telephone # 801-489-5618	
Comments	Original Disposition:	<input type="checkbox"/> Destroy	<input type="checkbox"/> Return	<input type="checkbox"/> Call for pickup
This is all I could find. All the material was sent to Mr. Dunn. No copies were kept for our files.				

6881

June 19, 1991

Mr. Christopher Dunn
 Argonne National Laboratory
 Bldg. 900
 9700 So. Cass Ave.
 Argonne, Ill. 60439

Dear Mr. Dunn,

The enclosed material is provided as per your request for information regarding threatened and endangered plant and animal species affected by the construction and operation of a hazardous waste incinerator at Clive, Utah. The material is taken from the Final Environmental Impact Statement for USPCI Clive Incineration Facility (June 1990).

Please contact me if you need additional information.

Sincerely,

John Fairchild
 Habitat Manager

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COVER SHEET
 FINAL ENVIRONMENTAL IMPACT STATEMENT
 USPCI CLIVE INCINERATION FACILITY

() DRAFT

(X) FINAL

Lead Agency: U.S. Department of the Interior
 Bureau of Land Management
 Salt Lake District
 Salt Lake City, Utah

Federal Cooperating Agency: U.S. Environmental Protection Agency

Counties That Could be Directly Affected: Tooele County, Utah

EIS Contacts: Correspondence on this Final EIS should be directed to:

Mr. Ernie Eberhard Salt Lake District Office (801) 977-4300	Mr. Deane H. Zeller District Manager BLM Salt Lake District 2370 South 2300 West Salt Lake City, UT 84119
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Date Draft EIS filed with EPA: July 7, 1989
 Date Final EIS filed with EPA: June 22, 1990

ABSTRACT

USPCI proposes to construct and operate a facility for the transfer, storage, and incineration of toxic, hazardous, non-hazardous industrial, and medical wastes in Tooele County, Utah. The incinerator would be designed to thermally destruct both "hazardous" chemical waste materials, as defined under the Resource Conservation and Recovery Act (RCRA) and "toxic" chemical waste materials, as defined under the Toxic Substances Control Act (TSCA). The proposed facility would incinerate up to 130,000 tons of wastes per year. The transfer and storage area would operate 365 days a year, 24 hours a day. While the actual facility is proposed to be constructed on private land, the transportation and utility corridors would cross federal land administered by the Bureau of Land Management (BLM).

This Final Environmental Impact Statement (EIS) for the proposed USPCI Clive Incineration Facility analyzes the environmental impacts of the proposed transfer, storage, and incineration facility, and the transportation and utility corridors through construction, operation, and closure. This Final EIS addresses USPCI's proposed Clive site, two alternative sites (the Grassy Mountain Alternative site and the Section 23 Alternative site), and the No Action Alternative.

mercury, selenium, and silver (primary standards) (DOE 1984). In addition, some radionuclides also exceeded primary drinking water standards (DOE 1984). Water was classified as "briny".

3.2.4 Biological Resources

3.2.4.1 Vegetation. The overall dominant vegetation in Tooele County, and on the Clive site in particular, is the desert shrub/saltbush type (BLM 1988b). Representative of the desert shrub/saltbush community are low widely spaced shrubs, totaling approximately 10 percent ground cover (Cronquist et al. 1972). Dominant shrubs on the Clive site include shadscale, Nuttall's saltbush, and winterfat (SCS 1987; Kidd 1989). Dominant grasses and forbs on the site include Indian ricegrass, alkali sacatan, cheatgrass, gray molly, and seepweed. Proposed utility, railroad, and access road ROWs are located within the same vegetation type and should contain similar species.

3.2.4.2 Wildlife. The Clive site is located within the yearlong range of the pronghorn antelope. The West Desert Herd Unit 2A occurs south of I-80 and includes the Clive site (BLM 1988b). Pronghorn are rare in the project area south of I-80. The area is considered poor pronghorn habitat (Nelson 1989). I-80 acts as a barrier to most pronghorn movement south from the Puddle Valley Herd Unit (Ekins 1989). No critical pronghorn habitat occurs on the West Desert Herd Unit near the Clive site (Ekins 1989).

Mourning doves are summer residents, arriving in February or March and migrating out of the area in August or September. Doves are most abundant in edge or ecotone areas, particularly interspersions of agricultural, sagebrush, and pinyon-juniper types. Mourning doves are the only gamebird occurring on the Clive site.

Other wildlife species located within the proposed project area include the black-tailed jackrabbit, mountain cottontail, desert cottontail, and pygmy cottontail which is unique to the Great Basin (BLM 1982). Furbearers, including the kit fox and coyote, are found throughout the area.

A variety of non-game mammals, birds, and reptiles are supported by habitats found in the proposed project area and associated utility, railroad, and access road ROWs. Species that may occur include the Townsend's ground squirrel, Ord's kangaroo rat, desert woodrat, western harvest mouse, side-blotched lizard, gopher snake, Brewer's sparrow, black-throated sparrow, and horned lark (BLM 1982 and 1987).

Aquatic ecosystems do not occur on the Clive site.

3.2.4.3 Threatened, Endangered, or Special Status Species. No federal or state-listed threatened, endangered, or candidate plant species are known to occur within the Clive project area (Snyder 1989; BLM 1983, 1987, and 1988b).

The bald eagle and American peregrine falcon are federally-listed endangered species that could occur within the project area (Benton 1989; USFWS 1987). The bald eagle is a winter resident from late November to mid-March in the project vicinity. The majority of wintering eagles are found in Rush Valley with others occurring in Skull and Cedar Valleys. No bald eagle roosts are located within the proposed project area; however, the black-tailed jackrabbit is the primary food source utilized by bald eagles in Tooele County (Benton 1989; BLM 1988b), and eagles may potentially hunt within this area.

One historical eyrie of the American peregrine falcon was located near Timpie Springs Wildlife Management Area (WMA) in the northern end of the Stansbury Mountains. The nest site became inactive following the construction of I-80 in the late 1960s (Benton 1989; BLM 1988b). In an attempt to re-establish a breeding pair of peregrines, the Utah Division of Wildlife Resources, in cooperation with the U.S. Fish and Wildlife Service (USFWS), erected a hack site at the Timpie Springs WMA, approximately 26 miles from the Clive site. The hack site became active in 1983 and 1984, and a peregrine pair was observed using the site in Spring 1987. The hack site was occupied in 1989 by a nesting pair of peregrines (Benton 1989). Peregrines are known to arrive in the area in March and, if nesting, may remain until September (Benton 1989). Due to the distance between the Clive site and the eyrie, it is unlikely any peregrines utilize the project area.

The ferruginous hawk and Swainson's hawk occur within the project area (Benton 1989) and are both listed as federal candidate species (C2 and 3C, respectively) and state-listed candidate species (USFWS 1989). Other raptors commonly found in the area include the golden eagle, prairie falcon, turkey vulture, red-tailed hawk, and burrowing owl. No nesting raptors have been identified within 0.5 mile of the facility site (Nelson 1989).

The Cedar Mountains contain a wild horse herd protected under the Wild and Free Roaming Horse and Burro Act of 1971. The Cedar Mountain herd presently contains an estimated 125 horses and extends from 4 miles north of Eight Mile Spring to the southern portion of the Cedar Mountain range (BLM 1988b). Wild horses are seldom encountered on the Clive site (Kidd 1989). The state sensitive kit fox may occur throughout the West Desert Hazardous Industry Area (Johnston 1989).

3.2.5 Transportation

The proposed Clive site is located approximately 3 miles south of I-80, and approximately 70 road miles west of Salt Lake City. The only access to the site from both the east and west is provided by I-80 which is a 4-lane, divided highway. Road conditions along this section of I-80 are generally well maintained. Regional access to the site is also provided by I-15 and I-84 which travel in a north/south direction. While there is an existing freeway overpass near the Clive site, there is no permanent interchange on I-80 that provides direct access to the Clive site. Existing truck traffic reaches the Envirocare and Vitro tailings site in Section 32 by pulling off I-80 onto a temporary dirt exit road. The west-bound exit and east-bound entrance roads were temporarily established for the Vitro tailings project and are posted for authorized vehicles only.

Traffic count data are available for I-80 from the Utah Department of Transportation. Annual average daily traffic (AADT) for several locations along I-80 are listed in Table 3-5. The AADT data show that in 1987 traffic was fairly uniform along I-80 and exhibited a gradual increase from west to east. Traffic increased at these locations by approximately 7 to 9 percent between 1986 and 1987. There are currently 20 trains per day on Union Pacific's tracks west of Salt Lake City (Alder 1989).

transportation routes may also have shallow water tables (less than 50 feet). These shallow aquifers have the potential to be contaminated by an organic chemical spill. The probability of a spill penetrating to groundwater would depend upon soil type, climate, evapotranspiration, soil moisture, depth to groundwater, and permeability of the soil at the spill site. Rapid cleanup response times (see Section 4.2.10) should minimize the depth reached by any contaminants.

4.2.3.4 Closure. The dismantling of the facility and any cleanup of the soils, if necessary, conducted during closure would not impact water resources. The consumptive use of water would cease, eliminating further withdrawal of groundwater.

4.2.3.5 Significant Impact Summary. The only potential significant impacts to surface water and groundwater resources would be if a spill of toxic materials occurred into or near a surface water body or in an area of shallow groundwater (50 feet or less) and the materials entered the surface water or penetrated to the depth of groundwater, contaminating the water source. Otherwise, the Clive Alternative would not exceed any water resource significance criteria established for this EIS.

4.2.4 Biological Resources

4.2.4.1 Significance Criteria. Impacts to biological resources would be considered significant if:

- Vegetational species composition and cover following restoration were inadequate to support post-disturbance land uses such as grazing, and wildlife habitat.
- Wildlife habitat, plant species, or plant communities considered to be rare, unique, or sensitive by federal or state agencies were lost due to construction, a spill of hazardous wastes, or toxic emissions.
- Known critical ranges for important wildlife game species (fawning grounds or concentration areas) were affected during the season of use or during critical periods.
- Federal threatened or endangered, state threatened or endangered, or federal candidate species were adversely affected by the proposed project.

- A spill of toxic materials occurred in the Great Salt Lake or surface streams.

4.2.4.2 Construction. Construction procedures for the proposed project would include vegetation removal for site clearance and up to a 100-foot right-of-way (ROW) for linear facilities. Some vegetation would be completely destroyed by clearing, and other plants may be damaged but survive. Construction of the facility, the utilities, access roads, and rail spur to the Clive site would affect only the desert shrub/saltbush vegetation community. Facility construction would clear a total of 45 acres; sand and gravel extraction would disturb approximately 40 acres; and ROWs construction would remove approximately 153.3 acres for the utilities; 27.6 acres for the new and upgraded access roads; and 27.9 acres for the railroad spur. This disturbance would total 293.8 acres.

Restoration of disturbed areas following construction would be in accordance with the best management procedures recommended by the BLM (see Appendix B). Re-established ground cover and erosion control techniques would be utilized to reduce soil erosion. Revegetation in the West Desert is a very slow process and disturbed areas may be subject to the invasion of noxious weeds. However, overall disturbance following construction would be relatively small (about 200 acres) with the plant site, access road, and rail spur being stabilized by the construction of facilities and paving. Other linear ROWs would be distributed over several square miles of land. Thus, impacts to post-disturbance land uses would be minimal. No federal or state-listed threatened, endangered, or special status plant species are known to occur within the Clive area or along the proposed utility ROWs (BLM 1983 and 1988c; Snyder 1989).

Construction of the facility and project ROWs may result in the displacement or death of smaller, less mobile wildlife species onsite or within the ROW. Small mammals and reptiles would be more subject to mortality from construction than other groups, but impacts would be minor on a regional basis. Many of the affected species, especially small mammals, have high reproductive potential, are common in surrounding habitats, and therefore, would be minimally impacted. Larger mammals, birds, and some reptiles would be able to avoid the construction area; therefore, impacts to these animals should be minimal. Some species of

ground-nesting birds (e.g., horned larks, sparrows) would be precluded from nesting in the ROWs until restoration is completed; facility construction would remove habitat potentially utilized by these ground-nesting species. However, these species are common in surrounding areas and would be minimally impacted. Larger mammals such as pronghorn, bobcat, kit fox, and coyote, which may forage or travel through the habitats affected by the facility or crossed by the ROWs, would avoid the disturbance during construction, but should return to these areas following restoration and would be excluded from the facility by on-site fencing. Loss of pronghorn habitat and traffic effects on pronghorn individuals would not be significant due to the minimal amount of area affected and the scattered individuals within the Clive area.

Acreages disturbed for the life of the project within the proposed ROWs and on the facility site would be unavailable for wildlife utilization. The cleared ROWs, may temporarily provide a barrier to normal movement patterns and fragment habitat in previously undisturbed areas. However, this is not expected to be a significant impact following ROW restoration; wildlife species should re-invade the ROWs following restoration and the natural revegetation process.

No federally listed threatened or endangered wildlife species, species proposed for listing, or designated or proposed critical habitats are known to occur in any areas that would be disturbed (Benton 1989). Construction activities should not affect the special status Swainson's hawk, ferruginous hawk, or other raptor species, since nesting raptors have not been identified within 0.5 mile of the facility site (Nelson 1989). The state sensitive kit fox may be temporarily displaced due to construction activities but a significant amount of habitat would not be lost.

4.2.4.3 Operation. A spill during the transport of hazardous wastes could destroy vegetation and result in the loss of wildlife habitat. It is estimated that 90 percent of these spills would occur along the Interstate highway system, releasing hazardous substances predominantly along the highway and adjacent ROW. Impacts to vegetation,

wildlife, or wildlife habitat would occur to a localized area and are unlikely to be significant. In addition, only 20 percent of the calculated spills would involve liquid wastes which would have the higher probability of spreading and contaminating surrounding areas.

Hazardous spills from a trucking accident would be significant if a spill occurred in the proximity of surface water resources, potentially affecting aquatic plant or animal species. The level of impact to aquatic resources in terms of duration and length of stream reach affected would depend upon the toxicity of the waste spilled, size of the spill, time of year, physical characteristics of the water source, cleanup and control techniques, and susceptibility of the dominant or important aquatic organisms to the material spilled. Approximately 19 miles of I-80 lie within 0.5 mile of the Great Salt Lake, where a spill of hazardous wastes could potentially affect biological resources, such as adjacent vegetation, water birds, and foraging raptors. An estimated 0.07 spill would occur along this 19-mile stretch of I-80 for the 30-year life of the project, or 1 spill every 429 years. The low spill frequency would result in a very low probability of significant impacts to sensitive plants or animals near the Great Salt Lake.

Although there is a low probability of occurrence (1.3×10^{-4} spills per mile for any given year), a spill could enter a spring or surface water stream adjacent to the Timpie Springs Waterfowl Management Area (WMA). Such an event could result in significant impacts to a wide array of aquatic, terrestrial, and avian wildlife. Of particular significance would be any impacts to resident peregrine falcons. Hazardous substances potentially entering the aquatic ecosystem could contaminate the peregrine's primary food source. However, an estimated 0.008 spill of hazardous wastes would occur along this 2-mile area adjacent to the Timpie Springs WMA over the 30-year life of the project, or 1 spill every 3,750 years. It is unlikely that this series of events would occur due to the low spill frequency combined with the limited area that would potentially be affected. Therefore, no significant impacts to wildlife in the Timpie Springs WMA are expected. Potential spills along I-80, west of Salt Lake City, should not affect federal or state-listed raptor species occurring in the area, since rapid response and spill containment would minimize the possibility of exposure of sensitive species.

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No significant impacts to vegetation or wildlife habitat would be expected to result from spills occurring from a rail accident in most locations, because spills would be localized, and rapid emergency response and spill containment along the railroad ROW would prevent exposure to sensitive wildlife species potentially found within the area. An estimated 42 rail cars per week would arrive at the Clive site. The potential for a rail spill into the Great Salt Lake is expected to be remote (see Sections 4.2.3 and 4.2.5); however, if a spill were to occur, its impacts would be expected to be significant.

Calculated maximum concentrations for toxic contaminants from the proposed Clive facility are listed in Table 4-4 of Section 4.2.1, Air Quality. Sensitive receptor sites were established at three locations for biological resources: 1) North Skunk Ridge Well for a primary watering source for the Puddle Valley Antelope Herd; 2) Pronghorn Fawning Area; and 3) Timpie Springs WMA (see Map 4-1 in Section 4.6.1). At these receptors, concentrations of the contaminants fall within acceptable levels, and sensitive wildlife species are not expected to be directly affected. No data are available on the long-term (greater than 30 years) exposure of these contaminants on wildlife or on the potential contaminant bioaccumulation in wildlife species. However, based on the deposition calculation prepared for the air quality analysis (see Section 4.2.1), impacts are not anticipated to be significant at these low levels.

The 9.1 and 3.1 miles of upgraded and new transmission lines, respectively, proposed for the Clive Alternative would incorporate raptor-proof design to eliminate the potential for raptor electrocution. Therefore, no significant impacts to raptor species from the power lines are anticipated.

4.2.4.4 Closure. Upon closure of the facility, anticipated after 30 years of facility life, reclamation of the site will be completed. Revegetation would be slow due to the arid climate. Following restoration, wildlife species should migrate back into the disturbed area, utilizing the habitat as before.

4.2.4.5 Significant Impact Summary. The proposed Clive Alternative would not exceed any biological resource significance criteria, except in the event of a spill of toxic materials in a sensitive terrestrial or aquatic system.

4.2.5 Transportation

4.2.5.1 Significance Criteria. Significance criteria for transportation were developed by the project team based on professional judgment and experience preparing previous EISs, where transportation and traffic issues were a concern. The significance criteria and the subsequent analysis distinguish between "accidents" and "incidents" involving spills. Accidents involving spills are more serious events such as collisions or turnovers, which generally result in a larger spill in a single location. Incidents involving spills are events such as leaks from vehicles, which would generally involve less spilled material over a more extensive area. The analysis also distinguishes between spill frequencies for "hazardous wastes" and "hazardous materials." The former are the types of regulated waste materials that would be transported to the proposed incinerator. The latter are generally commodities such as petroleum products, which are often transported to market by truck or rail. Since the hazard posed by a spill is not necessarily dependent on whether a hazardous waste or hazardous material is spilled, the significance criteria consider the combined increase in spills, i.e., hazardous materials plus hazardous wastes. Impacts to transportation would be considered significant if:

- Truck or rail accidents in the States of Utah or Nevada resulting in a spill increased by more than 2 percent over existing levels.
- Trucking-related incidents in Utah increased by more than 5 percent over existing levels.
- ~~Traffic volume during construction or operation from trucks and employee vehicles on I-80 increased so that the roadway volume-to-capacity relationship results in the traffic operating Level of Service falling below a stable flow condition represented by Level of Service C.~~

Dear Client:

Welcome to the services of Envirocare of Utah, Inc.

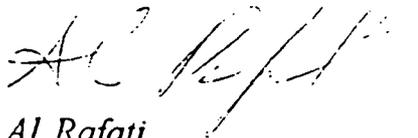
This Material Acceptance Process Manual will provide an informative resource for you as we proceed through the process of handling your material. You will find essential information in this manual concerning the acceptance process: required pre-shipment samples and analyses, necessary forms, packaging and shipping guides, an acceptance checklist, and invoicing.

Our expectation is that you will communicate this information to your company. Please distribute the information in this manual to appropriate personnel in your organization to ensure a problem-free process.

For any information or assistance you may need, contact Kurt Higgins, your Envirocare Customer Support Representative.

Thank you for your business. We look forward to serving you.

Sincerely,



*Al Rafati
Director, Business Development*

ENVIROCARE OF UTAH FACT SHEET

MAIN OFFICE

Envirocare of Utah, Inc.
46 West Broadway, Suite 240
Salt Lake City, Utah 84101

Telephone (801) 532-1330
Facsimile (801) 537-7345

DISPOSAL FACILITY

Envirocare of Utah, Inc.
Tooele County
USI-80, Exit 49
Clive, Utah 84029

KEY CONTACTS



Customer Support Representative	Kurt Higgins
Accounts Receivable	Johnny Bowne
Transportation Scheduler	Lane Barrett

CLIVE SITE WORKING HOURS

Administrative Office: 8:00 a.m. through 4:00 p.m. Monday through Friday

Shipments may arrive for acceptance 7:00 am. through noon.

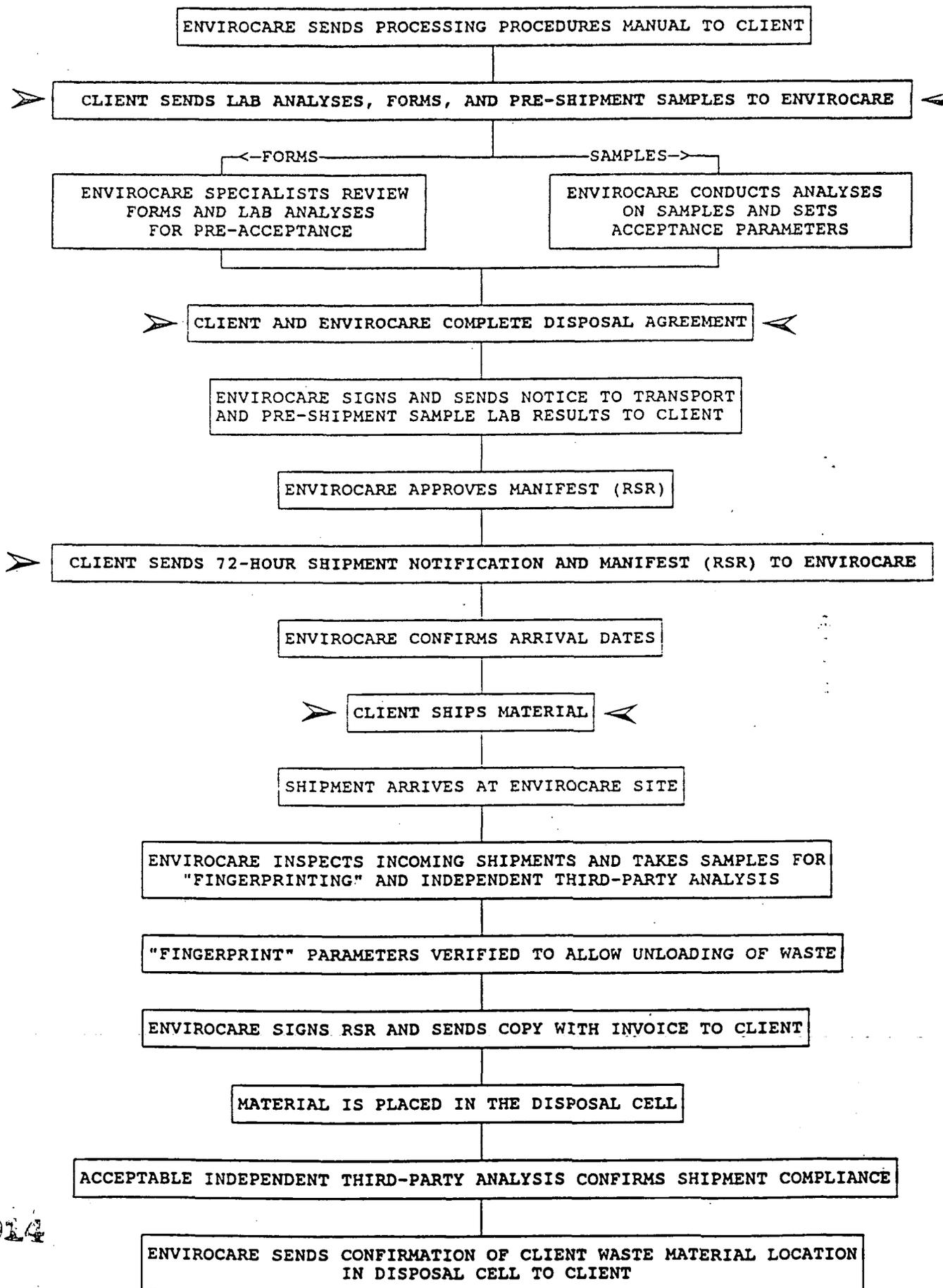
Shipments arriving after noon (even on a scheduled day) will not be guaranteed acceptance that day, but will most likely be accepted the following regular work day.

OBSERVED HOLIDAYS

January 1
February, 3rd Monday
May, last Monday
July 4
July 24
September, 1st Monday
November, last Thursday/Friday
December 25-31

New Year's Day
President's Day
Memorial Day
Independence Day
Pioneer Day
Labor Day
Thanksgiving
Christmas

ACCEPTANCE AND SHIPMENT PROCESS



CUSTOMER INFORMATION



Please provide the following information and send a copy to Envirocare, Attention Customer Support Representative.

Envirocare should contact the following persons concerning

Contract:

 (Name)

 (Address)

_____ (Telephone) _____ (Fax)

Packaging:

 (Name)

 (Address)

_____ (Telephone) _____ (Fax)

Shipping: (This person must be readily available during arrival/approval stage.)

 (Name)

 (Address)

_____ (Telephone) _____ (Fax)

Billing: (Bills will be sent to the address indicated in the contract. Copies may be sent here if different from that in the contract.)

 (Name)

 (Address, no P.O. Box)

_____ (Telephone) _____ (Fax)

CUSTOMER INFORMATION



Please provide the following information and send a copy to Envirocare, Attention Accounts/Receivable Department.

Contact Person for Invoicing:

(Name)

(Address)

(Telephone)

(Fax)

Billing Address (if different than that of Contact Person above):

(Address)

(Telephone)

(Fax)

P.O. # and/or Contract # needed on invoice:

Any special billing instructions?

Method of Shipment:

Rail

Truck

Type of Container:

Bulk

Bags

Boxes

Drums

Liner in Container:

Yes

No

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PRE-SHIPMENT



ACCEPTANCE PROCESS

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PRE-SHIPMENT ACCEPTANCE PROCESS
NORM/LARW MATERIAL

ANALYSES REQUIRED (UTAH CERTIFIED LAB) :

(See Section "SAMPLES" concerning Utah Certified Laboratories.)

- PAINT FILTER LIQUIDS TEST
- REACTIVE HYDROGEN CYANIDE/HYDROGEN SULFIDE
- SOIL PH
- TCLP (8 METALS, 32 ORGANICS)
- GAMMA SPECTROSCOPY (NATURAL & MAN-MADE ISOTOPES)
- ISOTOPIC ANALYSIS (IF NEEDED)

SAMPLES REQUIRED (SEND TO ENVIROCARE) :

(See Section "SAMPLES" for complete information.)

- 5 2-POUND DIVERSE, REPRESENTATIVE SAMPLES
- 1 50-POUND REPRESENTATIVE SAMPLE

FORMS REQUIRED :

(See Section "FORMS" for forms and instructions.)

- LOW-ACTIVITY WASTE PROFILE RECORD (EC-0200)
- PHYSICAL PROPERTIES FORM (EC-0500)
- RADIOLOGICAL EVALUATION (EC-0650)
- RADIOACTIVE WASTE SHIPMENT AND DISPOSAL RECORD (RSR) (E 100)

PRE-SHIPMENT ACCEPTANCE PROCESS
MIXED WASTE

ANALYSES REQUIRED (UTAH CERTIFIED LAB) :

(See Section "SAMPLES" concerning Utah Certified Laboratories.)

- PAINT FILTER LIQUIDS TEST
- REACTIVE HYDROGEN CYANIDE/HYDROGEN SULFIDE
- SOIL PH
- TCLP (8 METALS, 32 ORGANICS)
- TOX (TOTAL ORGANIC HALIDES)
- GAMMA SPECTROSCOPY (NATURAL & MAN-MADE ISOTOPES)
- ISOTOPIC ANALYSIS (IF NEEDED)

SAMPLES REQUIRED (SEND TO ENVIROCARE) :

(See Section "SAMPLES" for complete information.)

- 5 2-POUND DIVERSE, REPRESENTATIVE SAMPLES
- 1 50-POUND REPRESENTATIVE SAMPLE

FORMS REQUIRED:

(See Section "FORMS" for forms and instructions.)

- MIXED WASTE PROFILE RECORD (EC-0175)
- PHYSICAL PROPERTIES FORM (EC-0500)
- RADIOLOGICAL EVALUATION (EC-0650)
- LAND DISPOSAL RESTRICTIONS (LDR) NOTICE AND/OR CERTIFICATION
- RADIOACTIVE WASTE SHIPMENT AND DISPOSAL RECORD (RSR) (E 100)
- UNIFORM HAZARDOUS WASTE MANIFEST (8700-22)
- WEIGH BILL



PRE-SHIPMENT



SAMPLES

PRE-SHIPMENT SAMPLES

Send samples via United Parcel Post (UPS) to:

Envirocare of Utah, Inc.
 Attention: Sample Control
 Tooele County, USI-80, Exit 49
 Clive, Utah 84029



THE FOLLOWING IS OF EXTREME IMPORTANCE!



Please send representative samples (number and quantity found on following page) that separately represent the diversity, possible extremes, and average of the waste stream(s). These samples will be analyzed for the following 10 incoming-shipment parameters:

Solid/Soil pH
 Paint Filter Liquid Test
 or visual assurance
 Oxidizer/Reducer Test
 Cyanide Test
 Sulfide Test

Photoionizer "sniffer" Test
 Pyrophoricity
 Air Reactivity
 Water Reactivity
 Shock Sensitivity

These preliminary samples will be analyzed at the Envirocare site, and the results of these analyses will be used to establish the range of tolerances for your incoming shipments. If a shipment of the waste stream arrives and the results of the analysis of that sample is beyond the pre-shipment tolerance range, the shipment may be returned. Additional characterization may be required before the waste may be accepted.

THIS ISSUE IS VERY IMPORTANT! If additional samples, analytical results, and/or written confirmation are needed to fully correct discrepancies acceptance of waste materials may be delayed.

NOTE: YOUR SHIPMENT WILL BE CONSIDERED TO BE NON-CONFORMING WASTE IF THE RESULTS ARE NOT WITHIN THE TOLERANCES ESTABLISHED USING THESE SAMPLES AND MAY BE REJECTED!

As you proceed through your clean-up process, if you discover a type of material different than that which was sent in pre-shipment samples, contact your Envirocare Customer Support Representative concerning the possible need for additional samples of the new material to establish new acceptance parameters. This will help avoid rejected shipments of new material.

PRE-SHIPMENT SAMPLES
NUMBER AND QUANTITY REQUIRED

NORM, LARW, OR MIXED WASTE

- 5 2-pound diverse, representative samples
- 1 50-pound representative sample

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PACKAGING



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PACKAGING REQUIREMENTS

Envirocare is required to inspect each shipment arriving at its Clive, Utah, disposal facility for compliance with a number of provisions in its Radioactive Materials License. Acceptance of non-compliant waste shipments can result in violations and possible civil penalties for Envirocare.

A shipment which is not in compliance upon arrival can be returned to the generator for correction. It is imperative that the following items be met:

All shipments reaching Envirocare must meet DOT packaging requirements for Low Specific Activity (LSA) shipments (49 CFR 173.425 [Included in Appendix]), whether they are "radioactive materials" (DOT defined, see following page "Placarding") or not.

BULK SHIPMENTS

1. Bulk shipments must be covered. The top must be completely enclosed with no open areas along the sides or openings in the top.
2. Bulk shipments (rail cars, trucks, trailers or other conveyances used for bulk shipments) must also be tightly sealed to prevent waste or liquids from leaking out. Shipments containing free liquids will be rejected.

CONTAINERS

1. All containers must meet the standard of a "Strong, Tight Container." (49 CFR 173.24 [Included in Appendix])
2. Containers must be properly sealed to prevent load movements from "pumping" dust-laden air out of the container.
3. Containers must be clean. They must not have any waste material, or other material which can be mistaken for waste material, on the outside surfaces.
4. Containers in a shipment must be loaded and braced securely to prevent shifting and damage during transport.
5. Although desirable, containerized rail shipments need not be enclosed or covered.
6. Specification containers (49 CFR 173.425 [Included in Appendix]) are not required for exclusive use container shipments.

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7. Do not modify containers, i.e., added vents or drain plugs.
8. Do not have unnecessary container closure, i.e., welding of clips or barrel rings.
9. Overpack containers only when necessary, i.e., potential for leaking, deteriorating, etc.

ADDITIONAL

1. Drums must be on pallets.
2. Pallets must be strong enough to withstand collapse during transit.
3. Do not stack barrels.
4. Truck or railcar beds must be free of all loose material--waste or other material.
5. Tarps must extend over the top and down the sides far enough to prevent access to the load, wind blowing through the load, or precipitation reaching the load.
6. Bottom dump rail cars are not permitted.
7. Do not use moving-van type trailers.

PLACARDING

The Department of Transportation (DOT) defines Radioactive Material as material which has a total radioactivity concentration of 2,000 pCi/g, including all radionuclides in any decay chain which are present, but not listed. For example, Radium-226 at 250 pCi/g will have sufficient daughter product activity to reach 2,000 pCi/g total. Thorium-232 at 190 pCi/g in equilibrium with its daughter products will also provide a total radioactivity of 2,000 pCi/g, as will natural uranium at 1,000 pCi/g due to the presence of the Protactinium-234m and Thorium-234 daughters of Uranium-238.

All bulk shipments or containerized shipments with at least one container meeting the DOT definition of "radioactive material" must be placarded [49 CFR 173.425 and 49 CFR 172, Subpart F. (included in Appendix)]. Individual containers of "radioactive material" must be stenciled or marked "Radioactive-LSA" and must be marked "Class A." Shipments or containers not meeting the definition of "radioactive material" must not be so marked or placarded. A shipment containing a reportable quantity (RQ) of radioactivity may be, but is not required to be, manifested as an "Environmentally hazardous substance, solid, n.o.s." and placarded Class 9, with an ID number of UN3077.

You may also want to contact the Department of Transportation to request additional information and/or documents.

UTAH CERTIFIED LABORATORIES

Contact the State of Utah Department of Health (below) to obtain a current list of Utah certified laboratories or to ask any questions concerning the current status of laboratories. The list provided may not include all certified laboratories.

State of Utah
Department of Health
Division of Laboratory Services
Bureau of Laboratory Improvement
46 North Medical Drive
Salt Lake City, Utah 84113-1105
(801) 584-8469

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SHIPPING



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SHIPPING REQUIREMENTS

Envirocare is required to inspect each shipment arriving at its Clive, Utah, disposal facility for compliance with a number of provisions in its Radioactive Materials License. Acceptance of non-compliant waste shipments can result in violations and possible civil penalties for Envirocare.

A shipment which is not in compliance upon arrival can be returned to the generator for correction. It is imperative that the following items be met:

All shipments reaching Envirocare must meet DOT packaging requirements for Low Specific Activity (LSA) shipments (49 CFR 173.425 [Included in Appendix]), whether they are "radioactive materials" (DOT defined, see following page "Placarding") or not.

Mixed Waste Shipments: The weight of incoming truck shipments must be within a specified range of the loaded weight at the point of departure. It is mandatory that a Weigh Bill accompany each truck shipment to verify this information and to avoid shipment rejection.

BULK SHIPMENTS

1. Bulk shipments must be covered. The top must be completely enclosed with no open areas along the sides or openings in the top.
2. Bulk shipments (rail cars, trucks, trailers or other conveyances used for bulk shipments) must also be tightly sealed to prevent waste or liquids from leaking out. Shipments containing free liquids will be rejected.

CONTAINERS

1. All containers must meet the standard of a "Strong, Tight Container." (49 CFR 173.24 [Included in Appendix])
2. Containers must be properly sealed to prevent load movements from "pumping" dust-laden air out of the container.
3. Containers must be clean. They must not have any waste material, or other material which can be mistaken for waste material, on the outside surfaces.
4. Containers in a shipment must be loaded and braced securely to prevent shifting and damage during transport.

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5. Although desirable, containerized rail shipments need not be enclosed or covered.
6. Specification containers (49 CFR 173.425 [Included in Appendix]) are not required for exclusive use container shipments.
7. Do not modify containers, i.e., added vents or drain plugs.
8. Do not have unnecessary container closure, i.e., welding of clips or barrel rings.
9. Overpack containers only when necessary, i.e., potential for leaking, deteriorating, etc.

ADDITIONAL

1. Drums must be on pallets.
2. Pallets must be strong enough to withstand collapse during transit.
3. Do not stack barrels.
4. Truck or railcar beds must be free of all loose material--waste or otherwise.
5. Tarps must extend over the top and down the sides far enough to prevent access to the load, wind blowing through the load, or precipitation reaching the load.
6. Bottom dump rail cars are not permitted.
7. Do not use moving-van type trailers.

PLACARDING

The Department of Transportation (DOT) defines Radioactive Material as material which has a total radioactivity concentration of 2,000 pCi/g, including all radionuclides in any decay chain which are present, but not listed. For example, Radium-226 at 250 pCi/g will have sufficient daughter product activity to reach 2,000 pCi/g total. Thorium-232 at 190 pCi/g in equilibrium with its daughter products will also provide a total radioactivity of 2,000 pCi/g, as will natural uranium at 1,000 pCi/g due to the presence of the Protactinium-234m and Thorium-234 daughters of Uranium-238.

All bulk shipments or containerized shipments with at least one container meeting the DOT definition of "radioactive material" must be placarded (49 CFR 173.425 and 49 CFR 172, Subpart F.

[Included in Appendix]). Individual containers of "radioactive material" must be stenciled or marked "Radioactive-LSA" and must be marked "Class A." Shipments or containers not meeting the definition of "radioactive material" must not be so marked or placarded. A shipment containing a reportable quantity (RQ) of radioactivity may be, but is not required to be, manifested as an "Environmentally hazardous substance, solid, n.o.s." and placarded Class 9, with an ID number of UN3077.

You may also want to contact the Department of Transportation to request additional information and/or documents.

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72-HOUR SHIPMENT NOTIFICATION

A completed copy of the "72-Hour Shipment Notification" (EC-2725) (your master copy is found in Section "FORMS") must be sent to Envirocare, "Attention: Scheduling Department," to set an arrival and acceptance date for each day's shipment. We recommend you fax this notice (fax # 801-532-0922) as soon as you know your schedule so that scheduling on our end will be able to accommodate your needs.

Please note that even though Envirocare may receive the "72-Hour Shipment Notification" form, we will not necessarily be able to accept your shipment on the day proposed. Our scheduling department will confirm with you a scheduled day for your shipment's arrival and acceptance.

Failure to comply with this shipment notification process may incur unnecessary demurrage charges as well as wages and salaries for additional personal to handle lat-scheduled arrivals.

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COPIES OF THE FOLLOWING PAGES IN THE SHIPPING SECTION MUST BE PROVIDED FOR TRUCK DRIVERS WHO MAY BE DELIVERING MATERIAL TO THE ENVIROCARE FACILITY TO PROVIDE FOR SMOOTH ACCEPTANCE OF YOUR SHIPMENT.

PLEASE REFER TO THE INFORMATION IN THESE PAGES AND RETAIN THE ORIGINALS IN THIS MANUAL.

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PAPERWORK REQUIREMENTS FOR TRUCK DRIVERS

Truck drivers delivering waste material to the Envirocare facility at Clive must have the following paperwork with them:

FOR ALL MATERIAL:

RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD (RSR)

BILL OF LADING

ADDITIONAL FOR MIXED WASTE MATERIAL:

HAZARDOUS WASTE MANIFEST

LAND DISPOSAL RESTRICTIONS (LDR) CERTIFICATION AND/OR NOTICE

WEIGH BILL

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NOTICE TO DRIVERS AND DISPATCHERS

THE FOLLOWING SITUATIONS CAUSE DELAYS AND/OR REJECTIONS AND SHOULD BE AVOIDED.

1. No 3-day Shipment Notification arrival from shipper to Envirocare
2. Incorrect or missing paperwork
3. Weather conditions (excessive rain, etc.)
4. Not arriving before noon
5. Afternoon, holiday, or weekend arrivals
6. Drums not on pallets
7. Poor packaging, faulty containers



NOTE:

1. Make sure that the Tractor Trailer Number is written on the Bill of Lading and the Manifest (RSR).
2. Even without extra delays, it may take up to 4 hours or more for the shipment to be checked in; inspected; sampled; evaluated; and, if accepted, unloaded.
3. For fastest unloading, arrive early in the morning. Our receiving personnel begin at 7:00 am. We receive until noon.
4. Shipments are generally unloaded on a first-come-first-serve basis. There are, however, particular circumstances which require us to consider various factors and change the sequence.

HELPFUL HINTS:

There are no eating facilities within 50 miles of the site. You may want to pack a lunch.

Don't forget to get your paperwork before leaving the site. The Incoming Acceptance Coordinator will have this for you when you leave.

CLIVE SITE WORKING HOURS

CLIVE SITE WORKING HOURS

Administrative Office: 8:00 a.m. through 4:30 p.m. Monday through Friday

Shipments may arrive for acceptance 7:00 am. through noon. Shipments arriving after noon (even on a scheduled day) will not be guaranteed acceptance that day, but will most likely be accepted the following regular work day.

OBSERVED HOLIDAYS

January 1	New Year's Day
February, 3rd Monday	President's Day
May, last Monday	Memorial Day
July 4	Independence Day
July 24	Pioneer Day
September, 1st Monday	Labor Day
November, last Thursday/Friday	Thanksgiving
December 25-31	Christmas

Non-problem shipments will be given priority in acceptance processing over problem shipments. Problem shipments may thus result in unexpected, cost-to-you delays. To avoid such delays, check carefully the checklists for "Acceptance Process," in "Pre-Shipment" section and the potential problem areas in the "Acceptance Checklist" section. Also, consult with your Envirocare Customer Support Representative with any questions you may have.

If you have questions concerning your arrival at the site, contact the site directly at (801) 521-9619.

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SITE REGULATIONS
TRUCK DRIVERS
SR - 3

REQUIREMENTS

1. All truck drivers shall be trained by Envirocare of Utah staff prior to working in restricted areas.
2. Access to Envirocare's restricted areas will be permitted only with an Envirocare of Utah Visitor Badge.
3. Truck drivers may leave their cab while in the restricted area to perform duties necessary to their job. They shall remain in the vicinity of the vehicle while out of the cab. Before being permitted to exit the restricted area, they will be thoroughly checked for radioactive contamination.
4. No eating, drinking, or use of tobacco will be allowed in restricted areas.
5. All vehicles shall be inspected before exiting the restricted areas.

Violations to the above listed requirements shall be determined by Envirocare safety personnel. The truck drivers shall be assessed penalties for all violations in accordance with the following schedule. If a violation is noted by a representative of Envirocare, he will communicate the problem to the violator and the company which the truck driver represents. If the problem persists, Envirocare safety personnel will prepare a written order to correct the problem. A fee of \$100.00 (One Hundred Dollars) shall be assessed each time a written notice of violation is submitted. The fee shall be added to the company's bill (which the individual represents), or Envirocare will have the amount deducted from the company's next pay request.

I _____ have read and fully understand
(Print name)

the above statement.

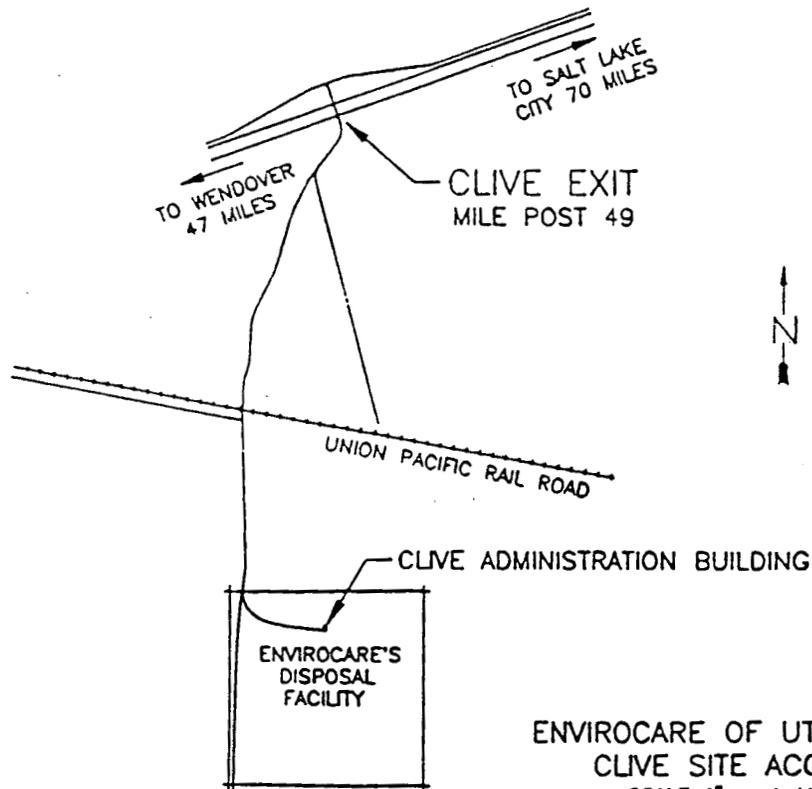
(Signature) (Date) (Carrier)

U 888

HIGHWAY ACCESS TO ENVIROCARE OF UTAH CLIVE, UTAH, DISPOSAL FACILITY

ENVIROCARE'S CLIVE FACILITY IS ACCESSIBLE BY INTERSTATE HIGHWAY I-80. THE FACILITY IS LOCATED APPROXIMATELY 70 MILES WEST OF SALT LAKE CITY, UTAH, AND 49 MILES EAST OF WENDOVER, NEVADA, ALONG I-80.

ENVIROCARE'S FACILITY IS REACHED BY TAKING EXIT 49, CLIVE, FROM EITHER THE EAST OR WEST. THE FACILITY IS APPROXIMATELY 3 MILES SOUTH OF THE HIGHWAY ALONG AN IMPROVED GRAVELED ROAD. FOLLOW ENVIROCARE'S SIGNS TO OUR ADMINISTRATION BUILDING.



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6881



ACCEPTANCE CHECKLIST



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ACCEPTANCE CHECKLIST

Shipments arriving at our Clive, Utah, facility on occasion meet with delays and/or rejections resulting from oversight or ignoring of critical regulations. Such delays or rejections can result in increased cost to you. When a shipment that is not in compliance arrives at the Clive facility, Envirocare may impose a penalty of up to \$5,000 plus expenses whether the shipment is accepted or not. This section is designed to assist you in ensuring that your shipments are accepted at our facility. The following checklist of items addresses those situations which most frequently result in costly delays or rejections:



Free liquids are not acceptable. Free liquids may result from loading of frozen waste or waste mixed with snow and ice. Free liquids may also result from loading waste which exceeds Envirocare's moisture requirements. Settling and compaction during transit can result in free liquids on top of the waste. This is not acceptable. Free liquids can result from precipitation entering through a defective top. Free liquids from any source are not acceptable.



Manifests [(RSR) (E 100)] must be completed accurately (as required by Appendix F to 10 CFR 20.1001 - 20.2401.) Instructions for completing the manifest are provided to all generators. Inaccurate waste descriptions, including type, volume, or weight, can result in rejection or delay. Inclusion of materials not covered by contract or not described on the manifest can result in the waste being determined to be non-conforming.

The following items need specific attention for any discrepancies:

Container count
Vehicle description
Container description
Appearance description
Weights

It is important that a quality control program be in place to assure that all conditions of Envirocare's license and all federal and state regulations are met in regards to the preparation of both manifest and shipments. Envirocare will assist in identifying those conditions and regulations upon request.

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ACCEPTANCE LIST (CONTINUED)

- Incoming shipment material must be within tolerance parameters. Pre-shipment samples are sent to Envirocare for analysis to establish parameters which must then be met by incoming shipment material. Any analysis of samples taken of incoming material which exceeds the pre-set tolerance parameters may be rejected.
- Paperwork must be complete, accurate, and at the right place. Check carefully the list of forms (provided for you in section "FORMS") required for the particular type of waste you are sending. Also check the list of paperwork (listed in section "SHIPMENT") a truck driver must have upon arrival at our Clive facility.
- Packaging requirements must be strictly adhered to. Review the section "PACKAGING" for a complete description.
- Envirocare must be able to reach the appropriate contact person you designated in the "Customer Information" sheet during arrival and acceptance time.
- Envirocare must receive a response in writing in a timely manner when it is requested.
- Proper labels are essential.

DEPARTMENT OF THE INTERIOR

National Park Service

Archeology and Historic Preservation;
Secretary of the Interior's Standards
and Guidelines

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: This notice sets forth the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. These standards and guidelines are not regulatory and do not set or interpret agency policy. They are intended to provide technical advice about archeological and historic preservation activities and methods.

DATE: These Standards and Guidelines are effective on September 29, 1983.

FOR FURTHER INFORMATION CONTACT: Lawrence E. Aten, Chief, Interagency Resources Division, National Park Service, United States Department of the Interior, Washington, D.C. 20240 (202-343-9500). A Directory of Technical Information listing other sources of supporting information is available from the National Park Service.

SUPPLEMENTARY INFORMATION: The Standards and Guidelines are prepared under the authority of Sections 101(f), (g), and (h), and Section 110 of the National Historic Preservation Act of 1966, as amended. State Historic Preservation Officers; Federal Preservation Officers including those of the Department of Agriculture, Department of Defense, Smithsonian Institution and General Services Administration; the Advisory Council on Historic Preservation; the National Trust for Historic Preservation; and other interested parties were consulted during the development of the Standards and Guidelines; additional consultation with these agencies will occur as the Standards and Guidelines are tested during their first year of use.

Purpose

The proposed Standards and the philosophy on which they are based result from nearly twenty years of intensive preservation activities at the Federal, State, and local levels.

The purposes of the Standards are:
To organize the information gathered about preservation activities.
To describe results to be achieved by Federal agencies, States, and others when planning for the identification, evaluation, registration and treatment of historic properties.

To integrate the diverse efforts of many entities performing historic

preservation into a systematic effort to preserve our nation's cultural heritage.

Uses of the Standards

The following groups or individuals are encouraged to use these Standards: Federal agency personnel responsible for cultural resource management pursuant to Section 110 of the National Historic Preservation Act, as amended, in areas under Federal jurisdiction. A separate series of guidelines advising Federal agencies on their specific historic preservation activities under Section 110 is in preparation.

State Historic Preservation Offices responsible under the National Historic Preservation Act, as amended, for making decisions about the preservation of historic properties in their States in accordance with appropriate regulations and the Historic Preservation Fund Grants Management Manual. The State Historic Preservation Offices serve as the focal point for preservation planning and act as a central state-wide repository of collected information.

Local governments wishing to establish a comprehensive approach to the identification, evaluation, registration and treatment of historic properties within their jurisdictions.

Other individuals and organizations needing basic technical standards and guidelines for historic preservation activities.

Organization

This material is organized in three sections: Standards; Guidelines; and recommended technical sources, cited at the end of each set of guidelines. Users of this document are expected to consult the recommended technical sources to obtain guidance in specific cases.

Review of the Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation have recently undergone extensive review and their guidelines made current after 5 years of field use. Users and other interested parties are encouraged to submit written comments on the utility of these Standards and Guidelines except for the Rehabilitation Standards mentioned above. This edition will be thoroughly reviewed by the National Park Service (including consultation with Federal and State agencies), after the end of its first full year of use and any necessary modifications will be made. Subsequent reviews are anticipated as needed. Comments should be sent to Chief, Interagency Resources Division, National Park Service, United States Department of the Interior, Washington, D.C. 20240.

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Guidelines for Preservation Planning
Standards for Identification
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Guidelines for Architectural and Engineering Documentation
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Guidelines for Archeological Documentation
Standards for Historic Preservation Projects
Professional Qualifications Standards
Preservation Terminology

Secretary of the Interior's Standards for Preservation Planning

Preservation planning is a process that organizes preservation activities (identification, evaluation, registration and treatment of historic properties) in a logical sequence. The Standards for Planning discuss the relationship among these activities while the remaining activity standards consider how each activity should be carried out. The Professional Qualifications Standards discuss the education and experience required to carry out various activities.

The Standards for Planning outline a process that determines when an area should be examined for historic properties, whether an identified property is significant, and how a significant property should be treated.

Preservation planning is based on the following principles:

—Important historic properties cannot be replaced if they are destroyed. Preservation planning provides for conservative use of these properties, preserving them in place and avoiding harm when possible and altering or destroying properties only when necessary.

—If planning for the preservation of historic properties is to have positive effects, it must begin before the identification of all significant properties has been completed. To make responsible decisions about historic properties, existing information must be used to the maximum extent and new information must be acquired as needed.

—Preservation planning includes public participation. The planning process should provide a forum for open discussion of preservation issues. Public involvement is most meaningful when it is used to assist in defining values of properties and preservation planning issues, rather than when it is limited to review of decisions already made. Early

and continuing public participation is essential to the broad acceptance of preservation planning decisions.

Preservation planning can occur at several levels or scales: in a project area; in a community; in a State as a whole; or in the scattered or contiguous landholdings of a Federal agency. Depending on the scale, the planning process will involve different segments of the public and professional communities and the resulting plans will vary in detail. For example, a State preservation plan will likely have more general recommendations than a plan for a project area or a community. The planning process described in these Standards is flexible enough to be used at all levels while providing a common structure which promotes coordination and minimizes duplication of effort. The Guidelines for Preservation Planning contain additional information about how to integrate various levels of planning.

Standard I. Preservation Planning Establishes Historic Contexts

Decisions about the identification, evaluation, registration and treatment of historic properties are most reliably made when the relationship of individual properties to other similar properties is understood. Information about historic properties representing aspects of history, architecture, archeology, engineering and culture must be collected and organized to define these relationships. This organizational framework is called a "historic context." The historic context organizes information based on a cultural theme and its geographical and chronological limits. Contexts describe the significant broad patterns of development in an area that may be represented by historic properties. The development of historic contexts is the foundation for decisions about identification, evaluation, registration and treatment of historic properties.

Standard II. Preservation Planning Uses Historic Contexts To Develop Goals and Priorities for the Identification, Evaluation, Registration and Treatment of Historic Properties

A series of preservation goals is systematically developed for each historic context to ensure that the range of properties representing the important aspects of each historic context is identified, evaluated and treated. Then priorities are set for all goals identified for each historic context. The goals with assigned priorities established for each historic context are integrated to produce a comprehensive and consistent set of goals and priorities for all historic

contexts in the geographical area of a planning effort.

The goals for each historic context may change as new information becomes available. The overall set of goals and priorities are then altered in response to the changes in the goals and priorities for the individual historic contexts.

Activities undertaken to meet the goals must be designed to deliver a usable product within a reasonable period of time. The scope of the activity must be defined so the work can be completed with available budgeted program resources.

Standard III. The Results of Preservation Planning Are Made Available for Integration Into Broader Planning Processes

Preservation of historic properties is one element of larger planning processes. Planning results, including goals and priorities, information about historic properties, and any planning documents, must be transmitted in a usable form to those responsible for other planning activities. Federally mandated historic preservation planning is most successfully integrated into project management planning at an early stage. Elsewhere, this integration is achieved by making the results of preservation planning available to other governmental planning bodies and to private interests whose activities affect historic properties.

Secretary of the Interior's Guidelines for Preservation Planning

Introduction

These Guidelines link the Standards for Preservation Planning with more specific guidance and technical information. They describe one approach to meeting the Standards for Preservation Planning. Agencies, organizations or individuals proposing to approach planning differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Managing the Planning Process
 Developing Historic Contexts
 Developing Goals for a Historic Context
 Integrating Individual Historic Contexts—
 Creating the Preservation Plan
 Coordinating with Management Frameworks
 Recommended Sources of Technical Information

Managing the Planning Process

The preservation planning process must include an explicit approach to implementation, a provision for review and revision of all elements, and a mechanism for resolving conflicts within

the overall set of preservation goals and between this set of goals and other land-use planning goals. It is recommended that the process and its products be described in public documents.

Implementing the Process

The planning process is a continuous cycle. To establish and maintain such a process, however, the process must be divided into manageable segments that can be performed within a defined period, such as a fiscal year or budget cycle. One means of achieving this is to define a period of time during which all the preliminary steps in the planning process will be completed. These preliminary steps would include setting a schedule for subsequent activities.

Review and Revision

Planning is a dynamic process. It is expected that the content of the historic contexts described in Standard I and the goals and priorities described in Standard II will be altered based on new information obtained as planning proceeds. The incorporation of this information is essential to improve the content of the plan and to keep it up-to-date and useful. New information must be reviewed regularly and systematically, and the plan revised accordingly.

Public Participation

The success of the preservation planning process depends on how well it solicits and integrates the views of various groups. The planning process is directed first toward resolving conflicts in goals for historic preservation, and second toward resolving conflicts between historic preservation goals and other land-use planning goals. Public participation is integral to this approach and includes at least the following actions:

1. Involving historians, architectural historians, archeologists, historical architects, folklorists and persons from related discipline to define, review and revise the historic contexts, goals and priorities;
2. Involving interested individuals, organizations and communities in the planning area in identifying the kinds of historic properties that may exist and suitable protective measures;
3. Involving prospective users of the preservation plan in defining issues, goals and priorities;
4. Providing for coordination with other planning efforts at local, state, regional and national levels, as appropriate; and

5. Creating mechanisms for identifying and resolving conflicts about historic preservation issues.

The development of historic contexts, for example, should be based on the professional input of all disciplines involved in preservation and not be limited to a single discipline. For prehistoric archeology, for example, data from fields such as geology, geomorphology and geography may also be needed. The individuals and organizations to be involved will depend, in part, on those present or interested in the planning area.

Documents Resulting from the Planning Process

In most cases, the planning process produces documents that explain how the process works and that discuss the historic contexts and related goals and priorities. While the process can operate in the absence of these documents, planning documents are important because they are the most effective means of communicating the process and its recommendations to others. Planning documents also record decisions about historic properties.

As various parts of the planning process are reviewed and revised to reflect current information, related documents must also be updated. Planning documents should be created in a form that can be easily revised. It is also recommended that the format, language and organization of any documents or other materials (visual aids, etc.) containing preservation planning information meet the needs of prospective users.

Developing Historic Contexts

General Approach

Available information about historic properties must be divided into manageable units before it can be useful for planning purposes. Major decisions about identifying, evaluating, registering and treating historic properties are most reliably made in the context of other related properties. A historic context is an organizational format that groups information about related historic properties, based on a theme, geographic limits and chronological period. A single historic context describes one or more aspects of the historic development of an area, considering history, architecture, archeology, engineering and culture; and identifies the significant patterns that individual historic properties represent, for example, Coal Mining in Northeastern Pennsylvania between 1860 and 1930. A set of historic contexts

is a comprehensive summary of all aspects of the history of the area.

The historic context is the cornerstone of the planning process. The goal of preservation planning is to identify, evaluate, register and treat the full range of properties representing each historic context, rather than only one or two types of properties. Identification activities are organized to ensure that research and survey activities include properties representing all aspects of the historic context. Evaluation uses the historic context as the framework within which to apply the criteria for evaluation to specific properties or property types. Decisions about treatment of properties are made with the goal of treating the range of properties in the context. The use of historic contexts in organizing major preservation activities ensures that those activities result in the preservation of the wide variety of properties that represent our history, rather than only a small, biased sample of properties.

Historic contexts, as theoretical constructs, are linked to actual historic properties through the concept of property type. Property types permit the development of plans for identification, evaluation and treatment even in the absence of complete knowledge of individual properties. Like the historic context, property types are artificial constructs which may be revised as necessary.

Historic contexts can be developed at a variety of scales appropriate for local, State and regional planning. Given the probability of historic contexts overlapping in an area, it is important to coordinate the development and use of contexts at all levels. Generally, the State Historic Preservation Office possesses the most complete body of information about historic properties and, in practice, is in the best position to perform this function.

The development of historic contexts generally results in documents that describe the prehistoric processes or patterns that define the context. Each of the contexts selected should be developed to the point of identifying important property types to be useful in later preservation decision-making. The amount of detail included in these summaries will vary depending on the level (local, state, regional, or national) at which the contexts are developed and on their intended uses. For most planning purposes, a synopsis of the written description of the historic context is sufficient.

Creating a Historic Context

Generally, historic contexts should not be constructed so broadly as to

include all property types under a single historic context or so narrowly as to contain only one property type per historic context. The following procedures should be followed in creating a historic context.

1. Identify the concept, time period and geographical limits for the historic context

Existing information, concepts, theories, models and descriptions should be used as the basis for defining historic contexts. Biases in primary and secondary sources should be identified and accounted for when existing information is used in defining historic contexts.

The identification and description of historic contexts should incorporate contributions from all disciplines involved in historic preservation. The chronological period and geographical area of each historic context should be defined after the conceptual basis is established. However, there may be exceptions, especially in defining prehistoric contexts where drainage systems or physiographic regions often are outlined first. The geographical boundaries for historic contexts should not be based upon contemporary political, project or other contemporary boundaries if those boundaries do not coincide with historical boundaries. For example, boundaries for prehistoric contexts will have little relationship to contemporary city, county or state boundaries.

2. Assemble the existing information about the historic context

a. *Collecting information:* Several kinds of information are needed to construct a preservation plan. Information about the history of the area encompassed by the historic context must be collected, including any information about historic properties that have already been identified. Existing survey or inventory entries are an important source of information about historic properties. Other sources may include literature on prehistory, history, architecture and the environment; social and environmental impact assessments; county and State land use plans; architectural and folklore studies and oral histories; ethnographic research; State historic inventories and registers; technical reports prepared for Section 106 or other assessments of historic properties; and direct consultation with individuals and organized groups.

In addition, organizations and groups that may have important roles in defining historic contexts and values

should be identified. In most cases a range of knowledgeable professionals drawn from the preservation, planning and academic communities will be available to assist in defining contexts and in identifying sources of information. In other cases, however, development of historic contexts may occur in areas whose history or prehistory has not been extensively studied. In these situations, broad general historic contexts should be initially identified using available literature and expertise, with the expectation that the contexts will be revised and subdivided in the future as primary source research and field surveys are conducted. It is also important to identify such sources of information as existing planning data, which is needed to establish goals for identification, evaluation, and treatment, and to identify factors that will affect attainment of those goals.

The same approach for obtaining information is not necessarily desirable for all historic contexts. Information should not be gathered without first considering its relative importance to the historic context, the cost and time involved, and the expertise required to obtain it. In many cases, for example, published sources may be used in writing initial definitions of historic contexts; archival research or field work may be needed for subsequent activities.

b. Assessing information: All information should be reviewed to identify bias in historic perspective, methodological approach, or area of coverage. For example, field surveys for archeological sites may have ignored historic archeological sites, or county land use plans may have emphasized only development goals.

3. Synthesize information

The information collection and analysis results in a written narrative of the historic context. This narrative provides a detailed synthesis of the data that have been collected and analyzed. The narrative covers the history of the area from the chosen perspective and identifies important patterns, events, persons or cultural values. In the process of identifying the important patterns, one should consider:

- a. Trends in area settlement and development, if relevant;
- b. Aesthetic and artistic values embodied in architecture, construction technology or craftsmanship;
- c. Research values or problems relevant to the historic context; social and physical sciences and humanities; and cultural interests of local communities; and

d. Intangible cultural values of ethnic groups and native American peoples.

4. Define property types

A property type is a grouping of individual properties based on shared physical or associative characteristics. Property types link the ideas incorporated in the theoretical historic context with actual historic properties that illustrate those ideas. Property types defined for each historic context should be directly related to the conceptual basis of the historic context. Property types defined for the historic context "Coal Mining in Northeastern Pennsylvania, 1660-1930" might include coal extraction and processing complexes; railroad and canal transportation systems; commercial districts; mine workers' housing; churches, social clubs and other community facilities reflecting the ethnic origins of workers; and residences and other properties associated with mine owners and other industrialists.

a. Identify property types: The narrative should discuss the kinds of properties expected within the geographical limits of the context and group them into those property types most useful in representing important historic trends.

Generally, property types should be defined after the historic context has been defined. Property types in common usage ("Queen Anne houses," "mill buildings," or "stratified sites") should not be adopted without first verifying their relevance to the historic contexts being used.

b. Characterize the locational patterns of property types:

Generalizations about where particular types of properties are likely to be found can serve as a guide for identification and treatment. Generalizations about the distribution of archeological properties are frequently used. The distribution of other historic properties often can be estimated based on recognizable historical, environmental or cultural factors that determined their location. Locational patterns of property types should be based upon models that have an explicit theoretical or historical basis and can be tested in the field. The model may be the product of historical research and analysis ("Prior to widespread use of steam power, mills were located on rivers and streams able to produce water power" or "plantation houses in the Mississippi Black Belt were located on sandy clay knolls"), or it may result from sampling techniques. Often the results of statistically valid sample surveys can be used to describe the locational patterns of a representative portion of properties

belonging to a particular property type. Other surveys can also provide a basis for suggesting locational patterns if a diversity of historic properties was recorded and a variety of environmental zones was inspected. It is likely that the identification of locational patterns will come from a combination of these sources. Expected or predicted locational patterns of property types should be developed with a provision made for their verification.

c. Characterize the current condition of property types: The expected condition of property types should be evaluated to assist in the development of identification, evaluation and treatment strategies, and to help define physical integrity thresholds for various property types. The following should be assessed for each property type:

(1) Inherent characteristics of a property type that either contribute to or detract from its physical preservation. For example, a property type commonly constructed of fragile materials is more likely to be deteriorated than a property type constructed of durable materials; structures whose historic function or design limits the potential for alternative uses (water towers) are less likely to be reused than structures whose design allows a wider variety of other uses (commercial buildings or warehouses).

(2) Aspects of the social and natural environment that may affect the preservation or visibility of the property type. For example, community values placed on certain types of properties (churches, historic cemeteries) may result in their maintenance while the need to reuse valuable materials may stimulate the disappearance of properties like abandoned houses and barns.

It may be most efficient to estimate of the condition of property types based on professional knowledge of existing properties and field test these estimates using a small sample of properties representative of each type.

5. Identify information needs

Filling gaps in information is an important element of the preservation plan designed for each historic context. Statements of the information needed should be as specific as possible, focusing on the information needed, the historic context and property types it applies to, and why the information is needed to perform identification, evaluation, or treatment activities.

Developing Goals for a Historic Context Developing Goals

A goal is a statement of preferred preservation activities, which is

generally stated in terms of property types.

The purpose of establishing preservation goals is to set forth a "best case" version of how properties in the historic context should be identified, evaluated, registered and treated. Preservation goals should be oriented toward the greatest possible protection of properties in the historic context and should be based on the principle that properties should be preserved in place if possible, through affirmative treatments like rehabilitation, stabilization or restoration. Generally, goals will be specific to the historic context and will often be phrased in terms of property types. Some of these goals will be related to information needs previously identified for the historic context. Collectively, the goals for a historic context should be a coherent statement of program direction covering all aspects of the context.

For each goal, a statement should be prepared identifying:

1. The goal, including the context and property types to which the goal applies and the geographical area in which they are located;
2. The activities required to achieve the goal;
3. The most appropriate methods or strategies for carrying out the activities;
4. A schedule within which the activities should be completed; and
5. The amount of effort required to accomplish the goal, as well as a way to evaluate progress toward its accomplishment.

Setting priorities for goals

Once goals have been developed they need to be ranked in importance. Ranking involves examining each goal in light of a number of factors.

1. General social, economic, political and environmental conditions and trends affecting (positively and negatively) the identification, evaluation, registration and treatment of property types in the historic context.

Some property types in the historic context may be more directly threatened by deterioration, land development patterns, contemporary use patterns, or public perceptions of their value, and such property types should be given priority consideration.

2. Major cost or technical considerations affecting the identification, evaluation and treatment of property types in the historic context.

The identification or treatment of some property types may be technically possible but the cost prohibitive; or techniques may not currently be perfected (for example, the identification of submerged sites or objects, or the

evaluation of sites containing material for which dating techniques are still being developed).

3. Identification, evaluation, registration and treatment activities previously carried out for property types in the historic context.

If a number of properties representing one aspect of a historic context have been recorded or preserved, treatment of additional members of that property type may receive lower priority than treatment of a property type for which no examples have yet been recorded or preserved. This approach ensures that the focus of recording or preserving all elements of the historic context is retained, rather than limiting activities to preserving properties representing only some aspects of the context.

The result of considering the goals in light of these concerns will be a list of refined goals ranked in order of priority.

Integrating Individual Contexts— Creating the Preservation Plan

When historic contexts overlap geographically, competing goals and priorities must be integrated for effective preservation planning. The ranking of goals for each historic context must be reconciled to ensure that recommendations for one context do not contradict those for another. This important step results in an overall set of priorities for several historic contexts and a list of the activities to be performed to achieve the ranked goals. When applied to a specific geographical area, this is the preservation plan for that area.

It is expected that in many instances historic contexts will overlap geographically. Overlapping contexts are likely to occur in two combinations—those that were defined at the same scale (i.e., textile development in Smithtown 1850-1910 and Civil War in Smithtown 1855-1870) and those defined at different scales (i.e., Civil War in Smithtown and Civil War in the Shenandoah Valley). The contexts may share the same property types, although the shared property types will probably have different levels of importance, or they may group the same properties into different property types, reflecting either a different scale of analysis or a different historical perspective.

As previously noted, many of the goals that the formulated for a historic context will focus on the property types defined for that context. Thus it is critical that the integration of goals include the explicit consideration of the potential for shared property type membership by individual properties. For example, when the same property

types are used by two contexts, reconciling the goals will require weighing the level of importance assigned to each property type. The degree to which integration of historic contexts must involve reconciling property types may be limited by the coordinated development of historic contexts used at various levels.

Integration with Management Frameworks

Preservation goals and priorities are adapted to land units through integration with other planning concerns. This integration must involve the resolution of conflicts that arise when competing resources occupy the same land base. Successful resolution of these conflicts can often be achieved through judicious combination of inventory, evaluation and treatment activities. Since historic properties are irreplaceable, these activities should be heavily weighted to discourage the destruction of significant properties and to be compatible with the primary land use.

Recommended Sources of Technical Information

Resource Protection Planning Process. State and Plans Grants Division, 1980. Washington, D.C. Available from Survey and Planning Branch, Interagency Resources Division, National Park Service, Department of the Interior, Washington, D.C. 20240. Outlines a step-by-step approach to implementing the resource protection planning process.

Resource Protection Planning Process Case Studies. Available from Survey and Planning Branch, Interagency Resources Division, National Park Service, Department of the Interior, Washington, D.C. 20240. Reports prepared by State Historic Preservation Offices and other using the planning process.

Planning Theory. Andreas Faludi, 1980. Oxford: Pergamon Press. Constructs a model of planning using concepts borrowed from general systems theory.

SECRETARY OF THE INTERIOR'S STANDARDS FOR IDENTIFICATION

Identification activities are undertaken to gather information about historic properties in an area. The scope of these activities will depend on: existing knowledge about properties; goals for survey activities developed in the planning process; and current management needs.

Standard 1. Identification of Historic Properties Is Undertaken to the Degree Required To Make Decisions

Archival research and survey activities should be designed to gather the information necessary to achieve defined preservation goals. The

objectives, chosen methods and techniques, and expected results of the identification activities are specified in a research design. These activities may include archival research and other techniques to develop historic contexts, sampling an area to gain a broad understanding of the kinds of properties it contains, or examining every property in an area as a basis for property specific decisions. Where possible, use of quantitative methods is important because it can produce an estimate, whose reliability may be assessed, of the kinds of historic properties that may be present in the studied area. Identification activities should use a search procedure consistent with the management needs for information and the character of the area to be investigated. Careful selection of methods, techniques and level of detail is necessary so that the gathered information will provide a sound basis for making decisions.

Standard II. Results of Identification Activities are Integrated Into the Preservation Planning Process

Results of identification activities are reviewed for their effects on previous planning data. Archival research or field survey may refine the understanding of one or more historic contexts and may alter the need for additional survey or study of particular property types. Incorporation of the results of these activities into the planning process is necessary to ensure that the planning process is always based on the best available information.

Standard III. Identification Activities Include Explicit Procedures for Record-Keeping and Information Distribution

Information gathered in identification activities is useful in other preservation planning activities only when it is systematically gathered and recorded, and made available to those responsible for preservation planning. The results of identification activities should be reported in a format that summarizes the design and methods of the survey, provides a basis for others to review the results, and states where information on identified properties is maintained. However, sensitive information, like the location of fragile resources, must be safeguarded from general public distribution.

Secretary of the Interior's Guidelines for Identification

Introduction

These Guidelines link the Standards for Identification with more specific guidance and technical information. The

Guidelines outline one approach to meet the Standards for Identification. Agencies, organizations and individuals proposing to approach identification differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Role of Identification in the Planning Process
 Performing Identification
 Integrating Identification Results
 Reporting Identification Results
 Recommended Sources of Technical Information

Role of Identification in the Planning Process

Identification is undertaken for the purpose of locating historic properties and is composed of a number of activities which include, but are not limited to archival research, informant interviews, field survey and analysis. Combinations of these activities may be selected and appropriate levels of effort assigned to produce a flexible series of options. Generally identification activities will have multiple objectives, reflecting complex management needs. Within a comprehensive planning process, identification is normally undertaken to acquire property-specific information needed to refine a particular historic context or to develop any new historic contexts. (See the Guidelines for Preservation Planning for discussion of information gathering to establish plans and to develop historic contexts.) The results of identification activities are then integrated into the planning process so that subsequent activities are based on the most up-to-date information. Identification activities are also undertaken in the absence of a comprehensive planning process, most frequently as part of a specific land-use or development project. Even lacking a formally developed preservation planning process, the benefits of efficient, goal-directed research may be obtained by the development of localized historic contexts, suitable in scale for the project area, as part of the background research which customarily occurs before field survey efforts.

Performing Identification

Research Design

Identification activities are essentially research activities for which a statement of objectives or research design should be prepared before work is performed. Within the framework of a comprehensive planning process, the research design provides a vehicle for integrating the various activities performed during the identification

process and for linking those activities directly to the goals and the historic context(s) for which those goals were defined. The research design stipulates the logical integration of historic context(s) and field and laboratory methodology. Although these tasks may be performed individually, they will not contribute to the greatest extent possible in increasing information on the historic context unless they relate to the defined goals and to each other. Additionally, the research design provides a focus for the integration of interdisciplinary information. It ensures that the linkages between specialized activities are real, logical and address the defined research questions. Identification activities should be guided by the research design and the results discussed in those terms. (See Reporting Identification Results)

The research design should include the following:

1. *Objectives* of the identification activities. For example: to characterize the range of historic properties in a region; to identify the number of properties associated with a context; to gather information to determine which properties in an area are significant.

The statement of objectives should refer to current knowledge about the historic contexts or property types, based on background research or assessments of previous research. It should clearly define the physical extent of the area to be investigated and the amount and kinds of information to be gathered about properties in the area.

2. *Methods* to be used to obtain the information. For example: archival research or field survey. Research methods should be clearly and specifically related to research problems.

Archival research or survey methods should be carefully explained so that others using the gathered information can understand how the information was obtained and what its possible limitations or biases are.

The methods should be compatible with the past and present environmental character of the geographical area under study and the kinds of properties most likely to be present in the area.

3. *The expected results* and the reasons for those expectations.

Expectations about the kind, number, location, character and condition of historic properties are generally based on a combination of background research, proposed hypotheses, and analogy to the kinds of properties known to exist in areas of similar environment or history.

Archival Research

Archival or background research is generally undertaken prior to any field survey. Where identification is undertaken as part of a comprehensive planning process, background research may have taken place as part of the development of the historic contexts (see the Guidelines for Preservation Planning). In the absence of previously developed historic contexts, archival research should address specific issues and topics. It should not duplicate previous work. Sources should include, but not be limited to, historical maps, atlases, tax records, photographs, ethnographies, folklife documentation, oral histories and other studies, as well as standard historical reference works, as appropriate for the research problem. (See the Guidelines for Historical Documentation for additional discussion.)

Field Survey

The variety of field survey techniques available, in combination with the varying levels of effort that may be assigned, give great flexibility to implementing field surveys. It is important that the selection of field survey techniques and level of effort be responsive to the management needs and preservation goals that direct the survey effort.

Survey techniques may be loosely grouped into two categories, according to their results. First are the techniques that result in the characterization of a region's historic properties. Such techniques might include "windshield" or walk-over surveys, with perhaps a limited use of sub-surface survey. For purposes of these Guidelines, this kind of survey is termed a "reconnaissance." The second category of survey techniques is those that permit the identification and description of specific historic properties in an area; this kind of survey effort is termed "intensive." The terms "reconnaissance" and "intensive" are sometimes defined to mean particular survey techniques, generally with regard to prehistoric sites. The use of the terms here is general and is not intended to redefine the terms as they are used elsewhere.

Reconnaissance survey might be most profitably employed when gathering data to refine a developed historic context—such as checking on the presence or absence of expected property types, to define specific property types or to estimate the distribution of historic properties in an area. The results of regional characterization activities provide a general understanding of the historic

properties in a particular area and permit management decisions that consider the sensitivity of the area in terms of historic preservation concerns and the resulting implications for future land use planning. The data should allow the formulation of estimates of the necessity, type and cost of further identification work and the setting of priorities for the individual tasks involved. In most cases, areas surveyed in this way will require resurvey if more complete information is needed about specific properties.

A reconnaissance survey should document:

1. The kinds of properties looked for;
2. The boundaries of the area surveyed;
3. The method of survey, including the extent of survey coverage;
4. The kinds of historic properties present in the surveyed area;
5. Specific properties that were identified, and the categories of information collected; and
6. Places examined that did not contain historic properties.

Intensive survey is most useful when it is necessary to know precisely what historic properties exist in a given area or when information sufficient for later evaluation and treatment decisions is needed on individual historic properties. Intensive survey describes the distribution of properties in an area; determines the number, location, and condition of properties; determines the types of properties actually present within the area; permits classification of individual properties; and records the physical extent of specific properties.

An intensive survey should document:

1. The kinds of properties looked for;
2. The boundaries of the area surveyed;
3. The method of survey, including an estimate of the extent of survey coverage;
4. A record of the precise location of all properties identified; and
5. Information on the appearance, significance, integrity and boundaries of each property sufficient to permit an evaluation of its significance.

Sampling

Reconnaissance or intensive survey methods may be employed according to a sampling procedure to examine less-than-the-total project or planning area.

Sampling can be effective when several locations are being considered for an undertaking or when it is desirable to estimate the cultural resources of an area. In many cases, especially where large land areas are involved, sampling can be done in stages. In this approach, the results of

the initial large area survey are used to structure successively smaller, more detailed surveys. This "nesting" approach is an efficient technique since it enables characterization of both large and small areas with reduced effort. As with all investigative techniques, such procedures should be designed to permit an independent assessment of results.

Various types of sample surveys can be conducted, including, but not limited to: random, stratified and systematic. Selection of sample type should be guided by the problem the survey is expected to solve, the nature of the expected properties and the nature of the area to be surveyed.

Sample surveys may provide data to estimate frequencies of properties and types of properties within a specified area at various confidence levels. Selection of confidence levels should be based upon the nature of the problem the sample survey is designed to address.

Predictive modeling is an application of basic sampling techniques that projects or extrapolates the number, classes and frequencies of properties in unsurveyed areas based on those found in surveyed areas. Predictive modeling can be an effective tool during the early stages of planning an undertaking, for targeting field survey and for other management purposes. However, the accuracy of the model must be verified; predictions should be confirmed through field testing and the model redesigned and retested if necessary.

Special survey techniques

Special survey techniques may be needed in certain situations.

Remote sensing techniques may be the most effective way to gather background environmental data, plan more detailed field investigations, discover certain classes of properties, map sites, locate and confirm the presence of predicted sites, and define features within properties. Remote sensing techniques include aerial, subsurface and underwater techniques. Ordinarily the results of remote sensing should be verified through independent field inspection before making any evaluation or statement regarding frequencies or types of properties.

Integrating Identification Results

The results of identification efforts must be integrated into the planning process so that planning decisions are based on the best available information. The new information is first assessed against the objectives of the identification effort to determine whether the gathered information meets

the defined identification goals for the historic context(s); then the goals are adjusted accordingly. In addition, the historic context narrative, the definition of property types and the planning goals for evaluation and treatment are all adjusted as necessary to accommodate the new data.

Reporting Identification Results

Reporting of the results of identification activities should begin with the statement of objectives prepared before undertaking the survey. The report should respond to each of the major points documenting:

1. Objectives;
2. Area researched or surveyed;
3. Research design or statement of objectives;
4. Methods used, including the intensity of coverage. If the methods differ from those outlined in the statement of objectives, the reasons should be explained.

5. Results: how the results met the objectives; result analysis, implications and recommendations; where the compiled information is located.

A summary of the survey results should be available for examination and distribution. Identified properties should then be evaluated for possible inclusion in appropriate inventories.

Protection of information about archeological sites or other properties that may be threatened by dissemination of that information is necessary. These may include fragile archeological properties or properties such as religious sites, structures, or objects, whose cultural value would be compromised by public knowledge of the property's location.

Recommended Sources of Technical Information

The Archeological Survey: Methods and Uses. Thomas F. King. Interagency Archeological Services, U.S. Department of the Interior, 1978. Washington, D.C. Available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO stock number 024-016-00091. Written primarily for the non-archeologist, this publication presents methods and objectives for archeological surveys.

Cultural Resources Evaluation of the Northern Gulf of Mexico Continental Shelf. National Park Service, U.S. Department of the Interior, 1977.

Guidelines for Local Surveys: A Basis for Preservation Planning. Anne Derry, H. Ward Jandt, Carol Shull and Jan Thorman. National Register Division, U.S. Department of the Interior, 1972. Washington, D.C. Available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO stock number 024-016-0009-7. General guidance about

designing and carrying out community surveys.

The Process of Field Research: Final Report on the Blue Ridge Parkway Folklife Project. American Folklife Center, 1981.

Regional Sampling in Archeology. David Hurst Thomas. University of California, Archeological Survey Annual Report, 1968-9, 11:87-100.

Remote Sensing: A Handbook for Archeologists and Cultural Resource Managers. Thomas R. Lyons and Thomas Eugene Avery. Cultural Resource Management Division, National Park Service, U.S. Department of the Interior, 1977.

Remote Sensing and Non-Destructive Archeology. Thomas R. Lyons and James L. Ebert, editors. Remote Sensing Division, Southwest Cultural Resources Center, National Park Service, U.S. Department of the Interior and University of New Mexico, 1978.

Remote Sensing Experiments in Cultural Resource Studies: Non-Destructive Methods of Archeological Exploration, Survey and Analysis. Thomas R. Lyons, assembler. reports of the Chaco Center, Number One. National Park Service, U.S. Department of the Interior and University of New Mexico, 1973.

Sampling in Archeology. James W. Mueller, editor. University of Arizona Press, 1975. Tucson, Arizona.

Scholars as Contractors. William J. Mayer-Oakes and Alice W. Partnoy, editors. Cultural Resource Management Studies, U.S. Department of the Interior, 1979.

Sedimentary Studies of Prehistoric Archeological Sites. Sherwood Gagliano, Charles Pearson, Richard Weinstein, Diana Wiseman, and Christopher McClendon. Division of State Plans and Grants, National Park Service, U.S. Department of the Interior, 1982. Washington, D.C. Available from Coastal Environments Inc., 1200 Main Street, Baton Rouge, Louisiana 70802. Establishes and evaluates a method for employing sedimentological analysis in distinguishing site areas from non-site areas when identifying submerged archeological sites on the continental shelf.

State Survey Forms. Available from Interagency Resource Management Division, National Park Service, Department of the Interior, Washington, D.C. 20240. Characterizes cultural resource survey documentation methods in State Historic Preservation Offices.

Truss Bridge Types: A Guide to Dating and Identifying. Donald C. Jackson and T. Allan Comp. American Association for State and Local History, 1977. Nashville, Tennessee. Technical leaflet #95. Available from AASLH, 708 Berry Road, Nashville, Tennessee 37204. Information about performing surveys of historic bridges and identifying the types of properties encountered.

Secretary of the Interior's Standards for Evaluation

Evaluation is the process of determining whether identified properties meet defined criteria of significance and therefore should be included in an inventory of historic properties determined to meet the

criteria. The criteria employed vary depending on the inventory's use in resource management.

Standard I. Evaluation of the Significance of Historic Properties Uses Established Criteria

The evaluation of historic properties employs criteria to determine which properties are significant. Criteria should therefore focus on historical, architectural, archeological, engineering and cultural values, rather than on treatments. A statement of the minimum information necessary to evaluate properties against the criteria should be provided to direct information gathering activities.

Because the National Register of Historic Places is a major focus of preservation activities on the Federal, State and local levels, the National Register criteria have been widely adopted not only as required for Federal purposes, but for State and local inventories as well. The National Historic Landmark criteria and other criteria used for inclusion of properties in State historic site files are other examples of criteria with different management purposes.

Standard II. Evaluation of Significance Applies the Criteria Within Historic Contexts

Properties are evaluated using a historic context that identifies the significant patterns that properties represent and defines expected property types against which individual properties may be compared. Within this comparative framework, the criteria for evaluation take on particular meaning with regard to individual properties.

Standard III. Evaluation Results in a List or Inventory of Significant Properties That Is Consulted In Assigning Registration and Treatment Priorities

The evaluation process and the subsequent development of an inventory of significant properties is an on-going activity. Evaluation of the significance of a property should be completed before registration is considered and before preservation treatments are selected. The inventory entries should contain sufficient information for subsequent activities such as registration or treatment of properties, including an evaluation statement that makes clear the significance of the property within one or more historic contexts.

Standard IV. Evaluation Results Are Made Available to the Public

Evaluation is the basis of registration and treatment decisions. Information about evaluation decisions should be organized and available for use by the general public and by those who take part in decisions about registration and treatment. Use of appropriate computer-assisted data bases should be a part of the information dissemination effort. Sensitive information, however, must be safeguarded from general public distribution.

Secretary of the Interior's Guidelines for Evaluation

Introduction

These Guidelines link the Standards for Evaluation with more specific guidance and technical information. These Guidelines describe one approach to meeting the Standards for Evaluation. Agencies, organizations, or individuals proposing to approach evaluation differently may wish to review their approach with the National Park Service.

The Guidelines are organized as follows:

The Evaluation Process
Criteria
Application of Criteria within a Historic Context
Inventory
Recommended Sources of Technical Information

The Evaluation Process

These Guidelines describe principles for evaluating the significance of one or more historic properties with regard to a given set of criteria.

Groups of related properties should be evaluated at the same time whenever possible; for example, following completion of a theme study or community survey.

Evaluation should not be undertaken using documentation that may be out of date. Prior to proceeding with evaluation the current condition of the property should be determined and previous analyses evaluated in light of any new information.

Evaluation must be performed by persons qualified by education, training and experience in the application of the criteria. Where feasible, evaluation should be performed in consultation with other individuals experienced in applying the relevant criteria in the geographical area under consideration; for example, the State Historic Preservation Officer or local landmarks commission.

Evaluation is completed with a written determination that a property is

or is not significant based on provided information. This statement should be part of the record.

Criteria: The purposes of evaluation criteria should be made clear. For example, the criteria may be used "to evaluate properties for inclusion in the county landmarks list," or "to implement the National Register of Historic Places program."

For Federal cultural resource management purposes, criteria used to develop an inventory should be coordinated with the National Register criteria for evaluation as implemented in the approved State comprehensive historic preservation plan.

Content of Criteria: Criteria should be appropriate in scale to the purpose of the evaluation. For example, criteria designed to describe national significance should not be used as the basis for creating a county or State inventory. Criteria should be categorical and not attempt to describe in detail every property likely to qualify. Criteria should outline the disciplines or broad areas of concern (history, archeology, architectural history, engineering and culture, for example) included within the scope of the inventory; explain what kinds of properties, if any, are excluded and the reasons for exclusion; and define how levels of significance are measured, if such levels are incorporated into the criteria. If the criteria are to be used in situations where the National Register criteria are also widely used, it is valuable to include a statement explaining the relationship of the criteria used to the National Register criteria, including how the scope of the inventory differs from that defined by the National Register criteria and how the inventory could be used to identify properties that meet the National Register criteria.

Information Needed to Evaluate Properties: The criteria should be accompanied by a statement defining the minimum information necessary to evaluate properties to insure that this information is collected during identification activities intended to locate specific historic properties. Generally, at least the following will be needed:

1. Adequately developed historic contexts, including identified property types. (See the Guidelines for Preservation Planning for discussion of development of historic contexts.)
2. Sufficient information about the appearance, condition and associative values of the property to be evaluated to:
 - a. Classify it as to property type;

b. Compare its features or characteristics with those expected for its property type; and

c. Define the physical extent of the property and accurately locate the property.

To facilitate distinguishing between facts and analysis, the information should be divided into categories, including identification and description of pertinent historical contexts; description of the property and its significance in the historical context; and analysis of the integrity of the property relative to that needed to represent the context.

Usually documentation need not include such items as a complete title history or biography of every owner of a property, except where that information is important in evaluating its significance. Information on proposed or potential treatments or threats, such as destruction of a property through uncontrollable natural processes, is also not needed for evaluation, unless those effects are likely to occur prior to or during the evaluation, thereby altering the significant characteristic of the property. If archeological testing or structural analysis is needed for evaluation, it should not proceed beyond the point of providing the information necessary for evaluation and should not unnecessarily affect significant features or values of the property.

When more information is needed: Evaluation cannot be conducted unless all necessary information is available. (See Information Needed to Evaluate Properties.) Any missing information or analysis should be identified (e.g. development of context or information on the property) as well as the specific activities required to obtain the information (archival research, field survey and testing, or laboratory testing). When adequate information is not available, it is important to record that fact so that evaluation will not be undertaken until the information can be obtained. In some cases needed information is not obtainable, for example, where historical records have been destroyed or analytical techniques have not been developed to date materials in archeological sites. If an evaluation must be completed in these cases, it is important to acknowledge what information was not obtainable and how that missing information may affect the reliability of the evaluation.

Application of the Criteria within a Historic Context

The first step in evaluation is considering how the criteria apply to the

particular historic context. This is done by reviewing the previously developed narrative for the historic context and determining how the criteria would apply to properties in that context, based on the important patterns, events, persons and cultural values identified. (See the discussion of the historic context narrative in the Guidelines for Preservation Planning.) This step includes identification of which criteria each property type might meet and how integrity is to be evaluated for each property type under each criterion. Specific guidelines for evaluating the eligibility of individual properties should be established. These guidelines should outline and justify the specific physical characteristics or data requirements that an individual property must possess to retain integrity for the particular property type; and define the process by which revisions or additions can be made to the evaluation framework.

Consideration of property type and integrity: After considering how the criteria apply to the particular historic context, the evaluation process for a property generally includes the following steps:

1. A property is classified as to the appropriate historic context(s) and property type(s). If no existing property type is appropriate, a new property type is defined, its values identified, and the specific characteristics or data requirements are outlined and justified as an addition to the historic context. If necessary, a new historic context is defined for which values and property types and their integrity requirements are identified and justified.

2. A comparison is made between the existing information about the property and the integrity characteristics or data required for the property type.

a. If the comparison shows that the property possesses these characteristics, then it is evaluated as significant for that historic context. The evaluation includes a determination that the property retains integrity for its type.

b. If the comparison shows that the property does not meet the minimum requirements, one of several conclusions is reached:

(1) The property is determined not significant because it does not retain the integrity defined for the property type.

(2) The property has characteristics that may make it significant but these differ from those expected for that property type in that context. In this case, the historic context or property types should be reexamined and revised if necessary, based on subsequent research and survey.

The evaluation should state how the particular property meets the integrity

requirements for its type. When a property is disqualified for loss of integrity, the evaluation statement should focus on the kinds of integrity expected for the property type, those that are absent for the disqualified property, and the impact of that absence on the property's ability to exemplify architectural, historical or research values within a particular historic context.

The integrity of the property in its current condition, rather than its likely condition after a proposed treatment, should be evaluated. Factors such as structural problems, deterioration, or abandonment should be considered in the evaluation only if they have affected the integrity of the significant features or characteristics of the property.

Inventory

An inventory is a repository of information on specific properties evaluated as significant.

Content: The inventory should include:

1. Summaries of the important historic contexts. These may be in the form of an approved plan or analyses of historic contexts important in the history of the geographical area covered by the inventory.

2. Descriptions of significant property types of these contexts, whether or not any specific properties have been identified.

3. Results of reconnaissance surveys or other identification activities, even if the level of information on specific properties identified as part of those activities is not sufficient to evaluate individual properties.

4. Information on individual properties that was used in evaluation.

Historic contexts are identified by name, with reference to documents describing those contexts, or with a narrative statement about the context(s) where such documents do not exist.

A description of the property. Part of this description may be a photographic record.

A statement that justifies the significance of the property in relation to its context(s). This statement should include an analysis of the integrity of the property.

Boundaries of the property.

A record of when a property was evaluated and included in the inventory, and by whom.

Records on demolished or altered properties and properties evaluated as not significant should be retained, along with full description of areas surveyed, for the planning information these records provide about impacts to properties and about the location and

character of non-significant properties to prevent redundant identification work at a later time.

Maintenance: Inventory entries should be maintained so that they accurately represent what is known about historic properties in the area covered by the inventory. This will include new information gained from research and survey about the historic contexts, property types, and previously evaluated properties, as well as information about newly evaluated properties. For individual properties, addition of kinds of significance, change in the boundaries, or loss of significance through demolition or alteration should be recorded.

Uses and Availability: An inventory should be managed so that the information is accessible. Its usefulness depends on the organization of information and on its ability to incorporate new information. An inventory should be structured so that entries can be retrieved by locality or by historic context.

The availability of the inventory information should be announced or a summary should be distributed. This may be in the form of a list of properties evaluated as significant or a summary of the historic contexts and the kinds of properties in the inventory. Inventories should be available to managers, planners, and the general public at local, State, regional, and Federal agency levels.

It is necessary to protect information about archeological sites or other properties whose integrity may be damaged by widespread knowledge of their location. It may also be necessary to protect information on the location of properties such as religious sites, structures, or objects whose cultural value would be compromised by public knowledge of the property's location.

Recommended Sources of Technical Information

How to Apply the National Register Criteria. Available through the National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Provides detailed technical information about interpretation of the significance and integrity criteria used by the National Register of Historic Places program.

How To Series. Available through the National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Discusses application of the National Register criteria for evaluation. Titles include:

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How To Establish Boundaries for National Register Properties.

How To Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years.

How To Improve Quality of Photos for National Register Nominations.

How To Apply for Certification of Significance Under Section 2124 of the Tax Reform Act of 1976.

How To Apply for Certification of State and Local Statutes and Historic Districts.

How To Quality Historic Properties Under the New Federal Law Affective Easements.

Importance of Small, Surface, and Disturbed Sites as Sources of Significant Archeological Data. Valerie Talmage and Olga Chesler. Intersagency Archeological Service 1977. Washington, D.C. Available from the National Technical Information Service, NTIS Publication Number FB 270939/AS. Discusses the role of small, surface, and disturbed sites as sources of significant information about a variety of prehistoric activities. These types of sites are frequently ignored in the development of regional archeological research designs.

Secretary of the Interior's Standards For Registration

Registration is the formal recognition of properties evaluated as significant. Preservation benefits provided by various registration programs range from honorific recognition to prohibition of demolition or alteration of included properties. Some registration programs provide recognition and other broad benefits while other programs authorize more specific forms of protection.

Standard I. Registration Is Conducted According To Stated Procedures

Registration of historic properties in the National Register of Historic Places must be done in accordance with the National Register regulations published in the Code of Federal Regulations, 36 CFR 60. Registration for other lists or purposes follow an established process that is understood by the public, particularly by those interests that may be affected by registration.

Standard II. Registration Information Locates, Describes and Justifies the Significance and Physical Integrity of a Historic Property

Registers are used for planning, research and treatment. They must contain adequate information for users to locate a property and understand its significance. Additional information

may be appropriate depending on the intended use of the register.

Standard III. Registration Information is Accessible to the Public

Information should be readily available to the public and to government agencies responsible for the preservation of historic properties and for other planning needs.

Secretary of the Interior's Guidelines for Registration

Introduction

These Guidelines link the Standards for Registration with more specific guidance and technical information. They describe one approach to meeting the Standards for Registration. Agencies, organizations, or individuals proposing to approach registration differently may wish to review their approach with the National Park Service.

The Guidelines are organized as follows:

Purpose of Registration Programs
Registration Procedures
Documentation on Registered Properties
Public Availability
Recommended Sources of Technical Information

Purpose of Registration Programs

Registration of historic properties is the formal recognition of properties that have been evaluated as significant according to written criteria. Registration results in an official inventory or list that serves an administrative function. A variety of benefits or forms of protection accrue to a registered property, ranging from honorific recognition to prohibition of demolition or alteration.

Some registration programs provide recognition and other broad benefits or entitlements, while other registrations of properties may, in addition, authorize more specific forms of protection. The application of the registration process should be a logical outgrowth of the same planning goals and priorities that guided the identification and evaluation activities. All registration programs should establish priorities for recognition of their authorized range of properties; provide for confidentiality of sensitive information; and establish a means of appealing the registration or non-registration of a property.

Registration Procedures

Explicit procedures are essential because they are the means by which the public can understand and participate in the registration process. Procedures for registration programs should be developed by professionals in

the field of historic preservation, in consultation with those who will use or be affected by the program. Prior to taking effect, procedures should be published or circulated for comment at the governmental level at which they will be used. (Procedures for registration of properties in the National Register of Historic Places and the National Historic Landmarks list, for example, are published in the Federal Register.)

Any registration program should include:

1. A professional staff to prepare or assess the documentation;
2. A professional review, independent of the nominating source, to provide an impartial evaluation of the documented significance;
3. Adequate notice to property owners, elected officials and the public about proposed registrations and the effects of listing, if any; and
4. A means of public participation.

Professional Review: The registration process should include an independent evaluation of the significance of the property and of the quality and thoroughness of the documentation supporting that significance. Such evaluation ensures that significance is adequately justified and that registration documentation meets the technical requirements of the registration process.

State and local preservation programs, concerned with both public and private properties, generally use a review board, panel or commission. This level of professional review has proven to be effective in assessing the significance of properties considered for registration.

Review boards and other forms of independent review should include professionals in the fields or disciplines included in the criteria; representatives of other fields or disciplines may be desirable to reflect other values or aspects of the register. Key personnel must be qualified by education, training or experience to accomplish their designated duties. (See the Professional Qualifications Standards.)

The scope of the independent review should be clearly stated in the registration procedures and should not include issues outside the scope of the applicable criteria for evaluation and other areas specified in the procedures. Generally, independent reviewers should not be involved in any primary research or analysis related to properties under consideration; this information should be gathered and organized prior to review meetings. Documentation presented to the reviewers should be made available to

the public prior to review meetings or public hearings. Registration of properties should not take place until review of documentation has been completed.

Public Notice: Adequate notice allows property owners, officials and other interested parties to comment on proposed registrations prior to action by the independent reviewers. The degree of protection and control provided by a registration program may be a factor in determining what constitutes adequate notice. For example, adequate notice of proposed inclusion in honorific registers may be less complex than that for registration that results in local controls on alteration or demolition of registered properties.

Notice to elected officials and the public is necessary to distribute information about potential registrations of concern to planning and development interests.

Adequate notice to property owners may be accomplished through means ranging from individual notification by mail to publication of a public notice, depending on the nature of the registration program and the number and character of the properties involved.

Public notices and owner notification about proposed registrations should include the dates and times of public meetings and review meetings, the kinds of comments that are appropriate, and how comments will be considered in the evaluation process. The notice should also state where information can be obtained about the registration program, the criteria used to evaluate properties for inclusion, and the significance of specific properties under consideration.

The procedures should include a means of public participation in the form of submission of written comments or a review meeting open to the public or a public hearing.

The procedures should state time periods within which reviews, notices, comments, public hearings, review meetings and appeals will occur. The time periods should be short enough to allow for efficient recognition of historic properties but also allow adequate time for public comment and participation by those affected. Time periods may vary depending on whether activities are carried out at the local, State, or national level. These time schedules should be widely circulated so that the process is widely understood.

Appeal Process: A means of appeal should be included in the registration process to allow for reconsideration of a property's inclusion. Reasons for appeal may range from existence of additional information about the property supporting or refuting its significance to

administrative or procedural error. An appeal process should specify to whom an appeal may be made and how the information that is provided will be evaluated. The appeal procedures should also state the time limit, if any, on appealing a decision and on consideration of information and issuance of a decision by the appeal authority.

Documentation on Registered Properties

Documentation requirements should be carefully weighed to provide the information *actually* needed to reach a registration decision and should be made public. It should be made certain that identification and evaluation activities obtain and record the information necessary for registration. Documentation should be prepared in a standardized format and on materials that are archivally stable and easy to store and retrieve.

Location: The precise location of a historic property must be clearly identified.

Street address, town or vicinity, and county should be provided. Properties should also be located on maps; these may be USGS maps, county planning maps, or city base maps or real estate maps. A uniform system of noting location, such as UTM grid points or longitude and latitude, should supplement mapping. It is recommended that each registration process standardize the preferred choice of maps appropriate to the scope of the process.

Description: An accurate description of a property includes a description of both the current and historical physical appearance and condition of the property and notes the relevant property type(s) for the applicable historic context(s). Discussion should include alterations, deterioration, relocation and other changes to the property since its period of significance.

Significance: A statement of significance should explain why a property meets the criteria for inclusion in the register to which it has been nominated.

This statement should contain at least 3 elements:

1. Reference to the relevant historic context(s);
2. Identification of relevant property types within the context and their characteristics; and
3. Justification that the property under consideration has the characteristics required to qualify it.

Relevant historic contexts can be identified through reference to the preservation plan or other documents where the contexts have been

previously described or can be provided by a narrative discussion of the context. (The development of contexts and their use in evaluating properties are discussed in the Guidelines for Preservation Planning and the Guidelines for Evaluation.) A significant property type and its characteristics are identified either through reference to the historic context(s) or by a narrative in the documentation that describes historic contexts. Justification of a specific property is made by systematic comparison of its characteristics to those required for the property type.

Boundaries: The delineation and justification of boundaries for a registered property are important for future treatment activities. It is especially critical when legal restraints or restrictions may result from the registration of properties. Thus, boundaries should correspond as closely as possible to the actual extent and configuration of the property and should be carefully selected to encompass, but not exceed, the extent of the significant resource(s). The selection of boundaries should reflect the significant aspects of the property.

Arbitrary boundaries should not be chosen for ease of description since this can result in the inclusion of unrelated land or in exclusion of a portion of the historic property. Present property lines should not be chosen as property boundaries without careful analysis of whether they are appropriate to the historic property. A single uniform boundary description and acreage should not be applied to a group or class of properties (antebellum plantations, for example) without examination of the actual extent of each property. The selected boundaries should be justified as appropriate to the historic property.

Boundaries should be clearly and precisely described, using a verbal boundary description, legal description, accurate sketch map, or lines drawn on base maps, or a combination of these where needed to specify the limits of the property being registered. When used, maps should show the location of buildings, structures, sites or objects within the boundary.

Updating Information on Registered Properties: A change in the condition of the significant features of a property may require a change in the official registration record. Alteration of a significant architectural feature, for example, could mean that a property is no longer significant for its architectural design.

Additional significance of registered properties may be identified through development of new historic contexts.

Research may reveal that a property is significant in other historic contexts or is significant at a higher level. For example, a property previously recognized as of local significance could be found to be of national significance.

A change in location or condition of a registered property may mean that the property is no longer significant for the reasons for which it was registered and the property should be deleted from the registered list.

Public Availability

Lists of registered properties should be readily available for public use, and information on registered properties should be distributed on a regular basis. Lists of properties registered nationally are distributed through publication in the *Federal Register* and to Congressional Offices and State Historic Preservation Offices. Comprehensive information should be stored and maintained for public use at designated national, State and local authorities open to the public on a regular basis.

Information should be retrievable by the property name, and location, historic context or property type. The specific location of properties that may be threatened by dissemination of that information must be withheld. These may include fragile archeological properties or properties such as religious sites, structures, or objects whose cultural value would be compromised by public knowledge of the property location.

Recommended Sources of Technical Information

How to Complete National Register Forms. National Register Division, National Park Service, U.S. Department of the Interior, 1977. Washington, D.C. Available through the Superintendent of Documents, US Government Printing Office, Washington, D.C. 20402. GPO Stock Number 024-005-00668-4. This publication is the standard reference on the documentation requirements of the National Register of Historic Places program.

How To Series. Available through the National Register Branch, Interagency Resources Division, National Park Service, Department of the Interior 20240. These information sheets contain supplementary information about interpreting the National Register criteria for evaluation and documentation requirements of the National Register registration program. Title include:
How To Establish Boundaries for National Register Properties.
How To Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years.
How To Improve the Quality of Photographs for National Register Nominations.

How To Apply for Certification of Significance Under Section 2124 of the Tax Reform Act of 1976.

How To Apply for Certification of State and Local Statutes and Historic Districts.

How To Qualify Historic Properties Under the New Federal Law Affecting Easements.

Note on Documentation and Treatment of Historic Properties

Documentation and treatment of historic properties includes a variety of techniques to preserve or protect properties, or to document their historic values and information. While documentation activities may be applied to any potentially historic property, generally only those properties that first have been evaluated as significant against specified criteria (such as those of the National Register) are treated. Some commonly applied treatments are preservation in place, rehabilitation, restoration and stabilization; there are other types of treatments also. Documentation and treatment may be applied to the same property; for example, archeological, historical, and architectural documentation may be prepared before a structure is stabilized or before foundations or chimneys or other lost features are reconstructed.

Alternatives for treatment will usually be available, and care should be applied in choosing among them. Preservation in place is generally preferable to moving a property. Over time, the preferred treatment for a property may change; for example, an archeological site intended for preservation in place may begin to erode so that a combination of archeological documentation and stabilization may be required. If a decision is made that a particular property will not be preserved in place, the need for documentation must then be considered.

The three sets of documentation standards (i.e., the Standards for Historical Documentation, Standards for Architectural and Engineering Documentation, and Standards for Archeological Documentation) as well as the Standards for Historic Preservation Projects (Acquisition, Preservation, Stabilization, Protection, Rehabilitation, Restoration, and Reconstruction) describe the techniques of several disciplines to treat historic properties, and to document or preserve information about their historical values. The integration of planning for documentation and treatment with their execution is accomplished in a statement of objectives, or research design. Because both the goals and appropriate methodologies are likely to be interdisciplinary in nature, the relationship among these various

activities should be specified in the research design to ensure that the resulting documentation produces a comprehensive record of historic properties in an efficient manner.

Secretary of the Interior's Standards for Historical Documentation

Historical documentation provides important information related to the significance of a property for use by historians, researchers, preservationists, architects, and historical archeologists. Research is used early in planning to gather information needed to identify and evaluate properties. (These activities are discussed in the Standards and Guidelines for Preservation Planning and the Standards and Guidelines for Identification.) Historical documentation is also a treatment that can be applied in several ways to properties previously evaluated as significant; it may be used in conjunction with other treatment activities (as the basis for rehabilitation plans or interpretive programs, for example) or as a final treatment to preserve information in cases of threatened property destruction. These Standards concern the use of research and documentation as a treatment.

Standard I. Historical Documentation Follows a Research Design That Responds to Needs Identified in the Planning Process

Historical documentation is undertaken to make a detailed record of the significance of a property for research and interpretive purposes and for conservation of information in cases of threatened property destruction. Documentation must have defined objectives so that proposed work may be assessed to determine whether the resulting documentation will meet needs identified in the planning process. The research design or statement of objectives is a formal statement of how the needs identified in the plan are to be addressed in a specific documentation project. This is the framework that guides the selection of methods and evaluation of results, and specifies the relationship of the historical documentation efforts to other proposed treatment activities.

Standards II. Historical Documentation Employs an Appropriate Methodology to Obtain the Information Required by The Research Design

Methods and techniques of historical research should be chosen to obtain needed information in the most efficient way. Techniques should be carefully selected and the sources should be

recorded so that other researchers can verify or locate information discovered during the research.

Standard III. The Results of Historical Documentation Are Assessed Against the Research Design and Integrated Into the Planning Process

Documentation is one product of research; information gathered about the usefulness of the research design itself is another. The research results are assessed against the research design to determine how well they meet the objectives of the research. The results are integrated into the body of current knowledge and reviewed for their implications for the planning process. The research design is reviewed to determine how future research designs might be modified based on the activity conducted.

Standard IV. The Results of Historical Documentation Are Reported and Made Available to the Public

Research results must be accessible to prospective users. Results should be communicated to the professional community and the public in reports summarizing the documentation activity and identifying the repository of additional detailed information. The goal of disseminating information must be balanced, however, with the need to protect sensitive information whose disclosure might result in damage to properties.

Secretary of the Interior's Guidelines for Historical Documentation

Introduction

These Guidelines link the Standards for Historical Documentation with more specific guidance and technical information. They describe one approach to meeting the Standards for Historical Documentation. Agencies, organizations or individuals proposing to approach historical documentation differently may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Historical Documentation Objectives
Research Design
Methods
Integrating Results
Reporting Results
Recommended Sources of Technical Information

Documentation Objectives

Documentation is a detailed record, in the form of a report or other written document, of the historical context(s) and significance of a property. Historical research to create

documentation uses archival materials, oral history techniques, ethnohistories, prior research contained in secondary sources and other sources to make a detailed record of previously identified values or to investigate particular questions about the established significance of a property or properties. It is an investigative technique that may be employed to document associative, architectural, cultural or informational values of properties. It may be used as a component of structural recording or archeological investigation, to enable interpretation or to mitigate the anticipated loss of a property through conservation of information about its historical, architectural or archeological significance. Documentation generally results in both greater factual knowledge about the specific property and its values, and in better understanding of the property in its historical context. In addition to increasing factual knowledge about a property and its significance in one historical context, documentation may also serve to link the property to or define its importance in other known or yet-to-be defined historic contexts.

Documentation should incorporate, rather than duplicate, the findings of previous research. Research may be undertaken to identify how a particular property fits into the work of an architect or builder; to analyze the historical relationship among several properties; or to document in greater detail the historical contexts of properties. The kinds of questions investigated will generally depend on what is already known or understood and what information is needed. For example, documentation of a bridge whose technological significance is well understood, but whose role in local transportation history is not, would summarize the information on the former topic and focus research on the associative values of the property. The questions that research seeks to answer through deed, map or archival search, oral history and other techniques may also relate to issues addressed in structural documentation or archeological investigation; for example, the reasons for and history of modification of a building to be the subject of architectural or engineering documentation.

Research Design

Historical documentation is guided by a statement of objectives, research design or task directive prepared before research is performed. The research design is a useful statement of how proposed work will enhance existing archival data and permits comparison of

the proposed work with the results. The purpose of the research design is to define the proposed scope of the documentation work and to define a set of expectations based on the information available prior to the research. Generally, the research design also ensures that research methods are commensurate with the type, quality and source of expected information.

The research design for a property should identify:

1. Evaluated significance of the property(ies) to be investigated;
2. Historical, architectural, archeological or cultural issues relevant to the evaluated significance of the property;
3. Previous research on those issues and how the proposed work is related to existing knowledge;
4. The amount and kinds of information required to produce reliable historical analyses;
5. Methods to be used to obtain the information;
6. Types of sources to be investigated; types of personnel required;
7. Expected results or findings based on available knowledge about the property and its context; and
8. Relationship of the proposed historical documentation to other proposed treatment activities; for example, recommendations on the use of documentation in interpretive programs or other aspects of treatment such as anticipated architectural, engineering or archeological documentation).

Research Methods

Research methods should be chosen based on the information needs, be capable of replication and be recorded so that another researcher could follow the same research procedure. Sources should be recorded so that other researchers can locate or verify the information discovered during the search.

Use of Sources: The variety of available written and graphic materials and the number of individuals that can serve as sources, including but not limited to personal records, deed and title books, newspapers, plats, maps, atlases, photographs, vital records, censuses, historical narratives, interviews of individuals and secondary source materials, should be considered in developing the research design. Part of the development of the research design is deciding what kinds of source materials are most likely to contain needed information and at what point in the research process that information will be most valuable. For example,

often secondary sources are most valuable for gathering background information, while primary sources are more useful to gather or confirm specific facts. The documentation goals may not require exhaustive investigation of sources, such as deed records or building permits. Research may be kept cost-effective by making careful decisions about when to use particular sources, thereby limiting the use of time-consuming techniques to when absolutely necessary. Decisions about when to gather information may also affect the quality of information that can be gathered. When dealing with large project areas where loss of many properties is anticipated, it is important to gather information from local archival sources and oral histories before project activities destroy or disperse family or community records and residents.

Analysis of the accuracy and biases of source materials is critical in analyzing the information gathered from these sources. Maps, historical atlases and insurance maps should be assessed like written records for errors, biases and omissions: for example, some map sources may omit structures of a temporary nature or may not fully depict ethnic or minority areas. Likewise, building plans and architectural renderings may not reflect a structure as it was actually built.

Analysis: Analysis should not only focus on the issues defined in the research design, but should also explore major new issues identified during the course of research or analysis. The documentation gathered may raise important issues not previously considered, and further investigation may be important, particularly when contradictory information has been gathered. It is important to examine the implications of these new issues to ensure that they are investigated in a balanced way.

Questions that should be considered in analyzing the information include:

1. Has enough information been gathered to answer the questions that were posed?
2. Do the answers contradict one another? If so, it may be necessary to search for more evidence. If no additional evidence is available, judgements must be based on the available sources, weighing their biases. Conflicts of source materials should be noted.

In general, the more the researcher knows about the general historical period and setting, and limitations of the source materials under investigation, the better the individual is prepared to

evaluate the information found in the documentary sources investigated. Peer review or consultation with other knowledgeable individuals about the information and the tentative conclusions can be an important part of the analysis.

Integrating Results

The results of documentation must be integrated into the planning process so that planning decisions are based on the best available information. The new information is first assessed against the research design to determine whether the gathered information meets the defined objectives of the research. Then the relevant historic contexts, property types, and treatment goals for those contexts are all adjusted, as necessary, based on the historical documentation results.

Reporting Results

Reports should contain:

1. Summaries of the purpose of the documentation, the research design and methods and techniques of investigation.
2. Sources of facts or analyses so that other researchers can locate the information in its original context. Notation of any conflicts in source materials and how the individual performing the documentation interpreted these conflicts.
3. Sources consulted, including those expected to contain useful information and those that contained no information about the property(s).
4. Assessment of the accuracy, biases and historical perspective of all sources. This information and that identified in No. 3 may be provided in an annotated bibliography.
5. Discussion of major analyses and results, including conclusions regarding all major research issues identified in the research design, as well as important issues raised in the course of research. The analysis should be summarized in terms of its impact on interpreting the property's significance and expanding or altering the knowledge about the property and its context.
6. Researchers' interpretation of historical events or trends. These interpretations should be clearly identified.

Primary results should be preserved and made accessible in some manner, although they need not necessarily be contained in the report. At a minimum, the report should reference the location of notes and analyses.

Results of historical documentation should be made available for use in

preservation planning and by the general public. Report formats may vary, depending on the audience and the anticipated uses of the documentation, but professionally accepted rules of report writing should be followed. If reports are of a technical nature, the format of the major scientific journal of the pertinent discipline may be the most appropriate format. Peer review of draft reports is one means of ensuring that state-of-the-art technical reports are produced.

Recommended Sources of Technical Information

Folklife and Fieldwork: A Layman's Introduction to Field Techniques. Peter Bartis. American Folklife Center. Washington, D.C., 1979.

Ordinary People and Everyday Life: Perspectives on the New Social History. James B. Gardnee and George Rollie Adams, editors. American Association for State and Local History. Nashville, Tennessee, 1983.

The Process of Field Research. Carl Fleischhauer and Charles K. Wolfe. American Folklife Center. Washington, D.C., 1981.

Researching Heritage Buildings. Margaret Carter. Ministry of the Environment, Ottawa, Canada, 1983.

Secretary of the Interior's Standards for Architectural and Engineering Documentation

These standards concern the development of documentation for historic buildings, sites, structures and objects. This documentation, which usually consists of measured drawings, photographs and written data, provides important information on a property's significance for use by scholars, researchers, preservationists, architects, engineers and others interested in preserving and understanding historic properties. Documentation permits accurate repair or reconstruction of parts of a property, records existing conditions for easements, or may preserve information about a property that is to be demolished.

These Standards are intended for use in developing documentation to be included in the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER) Collections in the Library of Congress. HABS/HAER, in the National Park Service, have defined specific requirements for meeting these Standards for their collections. The HABS/HAER requirements include information important to development of documentation for other purposes such as State or local archives

Standard I. Documentation Shall Adequately Explicate and Illustrate What is Significant or Valuable About the Historic Building, Site, Structure or Object Being Documented.

The historic significance of the building, site, structure or object identified in the evaluation process should be conveyed by the drawings, photographs and other materials that comprise documentation. The historical, architectural, engineering or cultural values of the property together with the purpose of the documentation activity determine the level and methods of documentation. Documentation prepared for submission to the Library of Congress must meet the HABS/HAER Guidelines.

Standard II. Documentation Shall be Prepared Accurately From Reliable Sources With Limitations Clearly Stated to Permit Independent Verification of the Information.

The purpose of documentation is to preserve an accurate record of historic properties that can be used in research and other preservation activities. To serve these purposes, the documentation must include information that permits assessment of its reliability.

Standard III. Documentation Shall be Prepared on Materials That are Readily Reproducible, Durable and in Standard Sizes.

The size and quality of documentation materials are important factors in the preservation of information for future use. Selection of materials should be based on the length of time expected for storage, the anticipated frequency of use and a size convenient for storage.

Standard IV. Documentation Shall be Clearly and Concisely Produced.

In order for documentation to be useful for future research, written materials must be legible and understandable, and graphic materials must contain scale information and location references.

Secretary of the Interior's Guidelines for Architectural and Engineering Documentation

Introduction

These Guidelines link the Standards for Architectural and Engineering Documentation with more specific guidance and technical information. They describe one approach to meeting the Standards for Architectural Engineering Documentation. Agencies, organizations or individuals proposing to approach documentation differently

may wish to review their approaches with the National Park Service.

The Guidelines are organized as follows:

Definitions
Goal of Documentation
The HABS/HAER Collections
Standard I: Content
Standard II: Quality
Standard III: Materials
Standard IV: Presentation
Architectural and Engineering Documentation Prepared for Other Purposes
Recommended Sources of Technical Information

Definitions

These definitions are used in conjunction with these Guidelines:

Architectural Data Form—a one page HABS form intended to provide identifying information for accompanying HABS documentation.

Documentation—measured drawings, photographs, histories, inventory cards or other media that depict historic buildings, sites, structures or objects.

Field Photography—photography, other than large-format photography, intended for the purpose of producing documentation, usually 35mm.

Field Records—notes of measurements taken, field photographs and other recorded information intended for the purpose of producing documentation.

Inventory Card—a one page form which includes written data, a sketched site plan and a 35mm contact print dry-mounted on the form. The negative, with a separate contact sheet and index should be included with the inventory card.

Large Format Photographs—photographs taken of historic buildings, sites, structures or objects where the negative is a 4 X 5", 5 X 7" or 8 X 10" size and where the photograph is taken with appropriate means to correct perspective distortion.

Measured Drawings—drawings produced on HABS or HAER formats depicting existing conditions or other relevant features of historic buildings, sites, structures or objects. Measured drawings are usually produced in ink on archivally stable material, such as mylar.

Photocopy—A photograph, with large-format negative, of a photograph or drawing.

Select Existing Drawings—drawings of historic buildings, sites, structures or objects, whether original construction or later alteration drawings that portray or depict the historic value or significance.

Sketch Plan—a floor plan, generally not to exact scale although often drawn from measurements, where the features

are shown in proper relation and proportion to one another.

Goal of Documentation

The Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) are the national historical architectural and engineering documentation programs of the National Park Service that promote documentation incorporated into the HABS/HAER collections in the Library of Congress. The goal of the collections is to provide architects, engineers, scholars, and interested members of the public with comprehensive documentation of buildings, sites, structures and objects significant in American history and the growth and development of the built environment.

The HABS/HAER Collections: HABS/HAER documentation usually consists of measured drawings, photographs and written data that provide a detailed record which reflects a property's significance. Measured drawings and properly executed photographs act as a form of insurance against fires and natural disasters by permitting the repair and, if necessary, reconstruction of historic structures damaged by such disasters. Documentation is used to provide the basis for enforcing preservation easement. In addition, documentation is often the last means of preservation of a property; when a property is to be demolished, its documentation provides future researchers access to valuable information that otherwise would be lost.

HABS/HAER documentation is developed in a number of ways. First and most usually, the National Park Service employs summer teams of student architects, engineers, historians and architectural historians to develop HABS/HAER documentation under the supervision of National Park Service professionals. Second, the National Park Service produces HABS/HAER documentation, in conjunction with restoration or other preservation treatment, of historic buildings managed by the National Park Service. Third, Federal agencies, pursuant to Section 110(b) of the National Historic Preservation Act, as amended, record those historic properties to be demolished or substantially altered as a result of agency action or assisted action (referred to as mitigation projects). Fourth, individuals and organizations prepare documentation to HABS/HAER standards and donate that documentation to the HABS/HAER collections. For each of these programs,

different Documentation Levels will be set.

The Standards describe the fundamental principles of HABS/HAER documentation. They are supplemented by other material describing more specific guidelines, such as line weights for drawings, preferred techniques for architectural photography, and formats for written data. This technical information is found in the HABS/HAER Procedures Manual.

These Guidelines include important information about developing documentation for State or local archives. The State Historic Preservation Officer or the State library should be consulted regarding archival requirements if the documentation will become part of their collections. In establishing archives, the important questions of durability and reproducibility should be considered in relation to the purposes of the collection.

Documentation prepared for the purpose of inclusion in the HABS/HAER collections must meet the requirements below. The HABS/HAER office of the National Park Service retains the right to refuse to accept documentation for inclusion in the HABS/HAER collections when that documentation does not meet HABS/HAER requirements, as specified below.

Standard I: Content

1. *Requirement:* Documentation shall adequately explicate and illustrate what is significant or valuable about the historic building, site, structure or object being documented.

2. *Criteria:* Documentation shall meet one of the following documentation levels to be considered adequate for inclusion in the HABS/HAER collections.

a. Documentation Level I:

(1) Drawings: a full set of measured drawings depicting existing or historic conditions.

(2) Photographs: photographs with large-format negatives of exterior and interior views; photocopies with large format negatives of select existing drawings or historic views where available.

(3) Written data: history and description.

b. Documentation Level II:

(1) Drawings: select existing drawings, where available, should be photographed with large-format negatives or photographically reproduced on mylar.

(2) Photographs: photographs with large-format negatives of exterior and interior views, or historic views, where available.

(3) Written data: history and description.

c. Documentation Level III:

(1) Drawings: sketch plan.

(2) Photographs: photographs with large-format negatives of exterior and interior views.

(3) Written data: architectural data form.

d. Documentation Level IV: HABS/HAER inventory card.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

4. *Commentary:* The HABS/HAER office retains the right to refuse to accept any documentation on buildings, site, structures or objects lacking historical significance. Generally, buildings, sites, structures or objects must be listed in, or eligible for listing in the National Register of Historic Places to be considered for inclusion in the HABS/HAER collections.

The kind and amount of documentation should be appropriate to the nature and significance of the buildings, site, structure or object being documented. For example, Documentation Level I would be inappropriate for a building that is a minor element of a historic district, notable only for streetscape context and scale. A full set of measured drawings for such a minor building would be expensive and would add little, if any, information to the HABS/HAER collections. Large format photography (Documentation Level III) would usually be adequate to record the significance of this type of building.

Similarly, the aspect of the property that is being documented should reflect the nature and significance of the building, site, structure or object being documented. For example, measured drawings of Dankmar Adler and Louis Sullivan's Auditorium Building in Chicago should indicate not only facades, floor plans and sections, but also the innovative structural and mechanical systems that were incorporated in that building. Large format photography of Gunston Hall in Fairfax County, Virginia, to take another example, should clearly show William Buckland's hand-carved moldings in the Palladian Room, as well as other views.

HABS/HAER documentation is usually in the form of measured drawings, photographs, and written data. While the criteria in this section have addressed only these media, documentation need not be limited to them. Other media, such as films of industrial processes, can and have been used to document historic buildings, sites, structures or objects. If other media are to be used, the HABS/HAER

office should be contacted before recording.

The actual selection of the appropriate documentation level will vary, as discussed above. For mitigation documentation projects, this level will be selected by the National Park Service Regional Office and communicated to the agency responsible for completing the documentation. Generally, Level I documentation is required for nationally significant buildings and structures, defined as National Historic Landmarks and the primary historic units of the National Park Service.

On occasion, factors other than significance will dictate the selection of another level of documentation. For example, if a rehabilitation of a property is planned, the owner may wish to have a full set of as-built drawings, even though the significance may indicate Level II documentation.

HABS Level I measured drawings usually depict existing conditions through the use of a site plan, floor plans, elevations, sections and construction details. HAER Level I measured drawings will frequently depict original conditions where adequate historical material exists, so as to illustrate manufacturing or engineering processes.

Level II documentation differs from Level I by substituting copies of existing drawings, either original or alteration drawings, for recently executed measured drawings. If this is done, the drawings must meet HABS/HAER requirements outlined below. While existing drawings are rarely as suitable as as-built drawings, they are adequate in many cases for documentation purposes. Only when the desirability of having as-built drawings is clear are Level I measured drawings required in addition to existing drawings. If existing drawings are housed in an accessible collection and cared for archivally, their reproduction for HABS/HAER may not be necessary. In other cases, Level I measured drawings are required in the absence of existing drawings.

Level III documentation requires a sketch plan if it helps to explain the structure. The architectural data form should supplement the photographs by explaining what is not readily visible.

Level IV documentation consists of completed HABS/HAER inventory cards. This level of documentation, unlike the other three levels, is rarely considered adequate documentation for the HABS/HAER collections but is undertaken to identify historic resources in a given area prior to additional, more comprehensive documentation.

Standard II: Quality

1. *Requirement:* HABS and HAER documentation shall be prepared accurately from reliable sources with limitations clearly stated to permit independent verification of information.

2. *Criteria:* For all levels of documentation, the following quality standards shall be met:

a. *Measured drawings:* Measured drawings shall be produced from recorded, accurate measurements. Portions of the building that were not accessible for measurement should not be drawn on the measured drawings, but clearly labeled as not accessible or drawn from available construction drawings and other sources and so identified. No part of the measured drawings shall be produced from hypothesis or non-measurement related activities. Documentation Level I measured drawings shall be accompanied by a set of field notebooks in which the measurements were first recorded. Other drawings, prepared for Documentation Levels II and III, shall include a statement describing where the original drawings are located.

b. *Large format photographs:* Large format photographs shall clearly depict the appearance of the property and areas of significance of the recorded building, site, structure or object. Each view shall be perspective-corrected and fully captioned.

c. *Written history:* Written history and description for Documentation Levels I and II shall be based on primary sources to the greatest extent possible. For Levels III and IV, secondary sources may provide adequate information; if not, primary research will be necessary. A frank assessment of the reliability and limitations of sources shall be included. Within the written history, statements shall be footnoted as to their sources, where appropriate. The written data shall include a methodology section specifying name of researcher, date of research, sources searched, and limitations of the project.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

4. *Commentary:* The reliability of the HABS/HAER collections depends on documentation of high quality. Quality is not something that can be easily prescribed or quantified, but it derives from a process in which thoroughness and accuracy play a large part. The principle of independent verification HABS/HAER documentation is critical to the HABS/HAER collections.

Standard III: Materials

1. *Requirement:* HABS and HAER documentation shall be prepared on

materials that are readily reproducible for ease of access; durable for long storage; and in standard sizes for ease of handling.

2. *Criteria:* For all levels of documentation, the following material standards shall be met:

a. *Measured Drawings:* Readily Reproducible: Ink on translucent material.

Durable: Ink on archivally stable materials.

Standard Sizes: Two sizes: 19 x 24" or 24 x 36".

b. *Large Format Photographs:* Readily Reproducible: Prints shall accompany all negatives.

Durable: Photography must be archivally processed and stored. Negatives are required on safety film only. Resin-coated paper is not accepted. Color photography is not acceptable.

Standard Sizes: Three sizes: 4 x 5", 5 x 7", 8 x 10".

c. *Written History and Description:* Readily Reproducible: Clean copy for xeroxing.

Durable: Archival bond required. Standard Sizes: 8 1/2 x 11".

d. *Field Records:* Readily Reproducible: Field notebooks may be xeroxed. Photo identification sheet will accompany 35 mm negatives and contact sheets.

Durable: No requirement. Standard Sizes: Only requirement is that they can be made to fit into a 9 1/2 x 12" archival folding file.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

4. *Commentary:* All HABS/HAER records are intended for reproduction; some 20,000 HABS/HAER records are reproduced each year by the Library of Congress. Although field records are not intended for quality reproduction, it is intended that they be used to supplement the formal documentation. The basic durability performance standard for HABS/HAER records is 500 years. Ink on mylar is believed to meet this standard, while color photography, for example, does not. Field records do not meet this archival standard, but are maintained in the HABS/HAER collections as a courtesy to the collection user.

Standard IV: Presentation

1. *Requirement:* HABS and HAER documentation shall be clearly and concisely produced.

2. *Criteria:* For levels of documentation as indicated below, the following standards for presentation will be used:

a. *Measured Drawings:* Level I measured drawings will be lettered

mechanically (i.e., Leroy or similar) or in a handprinted equivalent style. Adequate dimensions shall be included on all sheets. Level III sketch plans should be neat and orderly.

b. *Large format photographs:* Level I photographs shall include duplicate photographs that include a scale. Level II and III photographs shall include, at a minimum, at least one photograph with a scale, usually of the principal facade.

c. *Written history and description:* Data shall be typewritten on bond, following accepted rules of grammar.

3. *Test:* Inspection of the documentation by HABS/HAER staff.

Architectural and Engineering Documentation Prepared for Other Purposes

Where a preservation planning process is in use, architectural and engineering documentation, like other treatment activities, are undertaken to achieve the goals identified by the preservation planning process. Documentation is deliberately selected as a treatment for properties evaluated as significant, and the development of the documentation program for a property follows from the planning objectives. Documentation efforts focus on the significant characteristics of the property, as defined in the previously completed evaluation. The selection of a level of documentation and the documentation techniques (measured drawings, photography, etc.) is based on the significance of the property and the management needs for which the documentation is being performed. For example, the kind and level of documentation required to record a historic property for easement purposes may be less detailed than that required as mitigation prior to destruction of the property. In the former case, essential documentation might be limited to the portions of the property controlled by the easement, for example, exterior facades; while in the latter case, significant interior architectural features and non-visible structural details would also be documented.

The principles and content of the HABS/HAER criteria may be used for guidance in creating documentation requirements for other archives. Levels of documentation and the durability and sizes of documentation may vary depending on the intended use and the repository. Accuracy of documentation should be controlled by assessing the reliability of all sources and making that assessment available in the archival record; by describing the limitations of the information available from research and physical examination of the

property; and by retaining the primary data (field measurements and notebooks) from which the archival record was produced. Usefulness of the documentation products depends on preparing the documentation on durable materials that are able to withstand handling and reproduction, and in sizes that can be stored and reproduced without damage.

Recommended Sources of Technical Information

Recording Historic Buildings. Harley J. McKee. Government Printing Office, 1970. Washington, D.C. Available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO number 024-005-0235-9.

HABS/HAER Procedures Manual. Historic American Buildings Survey/Historic American Engineering Record. National Park Service, 1980. Washington, D.C.

Photogrammetric Recording of Cultural Resources. Perry E. Borchers. Technical Preservation Services, U.S. Department of the Interior, 1977. Washington, D.C.

Rectified Photography and Photo Drawings for Historic Preservation. J. Henry Chambers. Technical Preservation Services, U.S. Department of the Interior, 1975. Washington, D.C.

Secretary of the Interior's Standards for Archeological Documentation

Archeological documentation is a series of actions applied to properties of archeological interest. Documentation of such properties may occur at any or all levels of planning, identification, evaluation or treatment. The nature and level of documentation is dictated by each specific set of circumstances. Archeological documentation consists of activities such as archival research, observation and recording of above-ground remains, and observation (directly, through excavation, or indirectly, through remote sensing) of below-ground remains. Archeological documentation is employed for the purpose of gathering information on individual historic properties or groups of properties. It is guided by a framework of objectives and methods derived from the planning process, and makes use of previous planning decisions, such as those on evaluation of significance. Archeological documentation may be undertaken as an aid to various treatment activities, including research, interpretation, reconstruction, stabilization and data recovery when mitigating archeological losses resulting from construction. Care should be taken to assure that documentation efforts do not duplicate previous efforts.

Standard I. Archeological Documentation Activities Follow an Explicit Statement of Objectives and Methods That Responds to Needs Identified in the Planning Process

Archeological research and documentation may be undertaken to fulfill a number of needs, such as overviews and background studies for planning, interpretation or data recovery to mitigate adverse effects. The planning needs are articulated in a statement of objectives to be accomplished by the archeological documentation activities. The statement of objectives guides the selection of methods and techniques of study and provides a comparative framework for evaluating and deciding the relative efficiency of alternatives. Satisfactory documentation involves the use of archeological and historical sources, as well as those of other disciplines. The statement of objectives usually takes the form of a formal and explicit research design which has evolved from the interrelation of planning needs, current knowledge, resource value and logistics.

Standard II. The Methods and Techniques of Archeological Documentation are Selected To Obtain the Information Required by the Statement of Objectives

The methods and techniques chosen for archeological documentation should be the most effective, least destructive, most efficient and economical means of obtaining the needed information. Methods and techniques should be selected so that the results may be verified if necessary. Non-destructive techniques should be used whenever appropriate. The focus on stated objectives should be maintained throughout the process of study and documentation.

Standard III. The Results of Archeological Documentation are Assessed Against the Statement of Objectives and Integrated into the Planning Process

One product of archeological documentation is the recovered data; another is the information gathered about the usefulness of the statement of objectives itself. The recovered data are assessed against the objectives to determine how they meet the specified planning needs. Information related to archeological site types, distribution and density should be integrated in planning at the level of identification and evaluation. Information and data concerning intra-site structure may be needed for developing mitigation strategies and are appropriately

integrated at this level of planning. The results of the data analyses are integrated into the body of current knowledge. The utility of the method of approach and the particular techniques which were used in the investigation (i.e. the research design) should be assessed so that the objectives of future documentation efforts may be modified accordingly.

Standard IV. The Results of Archeological Documentation are Reported and Made Available to the Public

Results must be accessible to a broad range of users including appropriate agencies, the professional community and the general public. Results should be communicated in reports that summarize the objectives, methods, techniques and results of the documentation activity, and identify the repository of the materials and information so that additional detailed information can be obtained, if necessary. The public may also benefit from the knowledge obtained from archeological documentation through pamphlets, brochures, leaflets, displays and exhibits, or by slide, film or multi-media productions. The goal of disseminating information must be balanced, however, with the need to protect sensitive information whose disclosure might result in damage to properties. Curation arrangements sufficient to preserve artifacts, specimens and records generated by the investigation must be provided for to assure the availability of these materials for future use.

Secretary of the Interior's Guidelines for Archeological Documentation

Introduction

These Guidelines link the Standards for Archeological Documentation with more specific guidance and technical information. They describe one approach to meeting the Standards for Documentation. Agencies, organizations or individuals proposing to approach archeological documentation differently may wish to review their approach with the National Park Service.

The Guidelines are organized as follows:

- Archeological Documentation Objectives
- Documentation Plan
- Methods
- Reporting Results
- Curation
- Recommended Sources of Technical Information

1. Collection of base-line data;

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2. Problem-oriented research directed toward particular data gaps recognized in the historic context(s);

3. Preservation or illustration of significance which has been identified for treatment by the planning process; or

4. Testing of new investigative or conservation techniques, such as the effect of different actions such as forms of site burial (aqueous or non-aqueous).

Many properties having archeological components have associative values as well as research values. Examples include Native American sacred areas and historic sites such as battlefields. Archeological documentation may preserve information or data that are linked to the identified values that a particular property possesses. Depending on the property type and the range of values represented by the property, it may be necessary to recover information that relates to an aspect of the property's significance other than the specified research questions. It is possible that conflicts may arise between the optimal realizations of research goals and other issues such as the recognition/protection of other types of associative values. The research design for the archeological documentation should provide for methods and procedures to resolve such conflicts, and for the close coordination of the archeological research with the appropriate ethnographic, social or technological research.

Archeological Documentation Objectives

The term "archeological documentation" is used here to refer specifically to any operation that is performed using archeological techniques as a means to obtain and record evidence about past human activity that is of importance to documenting history and prehistory in the United States. Historic and prehistoric properties may be important for the data they contain, or because of their association with important persons, events, or processes, or because they represent architectural or artistic values, or for other reasons. Archeological documentation may be an appropriate option for application not only to archeological properties, but to above-ground structures as well, and may be used in collaboration with a wide range of other treatment activities.

If a property contains artifacts, features, and other materials that can be studied using archeological techniques, then archeological documentation may be selected to achieve particular goals of the planning process—such as to address a specified information need, or to illustrate significant associative

values. Within the overall goals and priorities established by the planning process, particular methods of investigation are chosen that best suit the types of study to be performed.

Relationship of archeological documentation to other types of documentation or other treatments: Archeological documentation is appropriate for achieving any of various goals, including:

Documentation Plan

Research Design: Archeological documentation can be carried out only after defining explicit goals and a methodology for reaching them. The goals of the documentation effort directly reflect the goals of the preservation plan and the specific needs identified for the relevant historic contexts. In the case of problem oriented archeological research, the plan usually takes the form of a formal research design, and includes, in addition to the items below, explicit statements of the problem to be addressed and the methods or tests to be applied. The purpose of the statement of objectives is to explain the rationale behind the documentation effort: to define the scope of the investigation; to identify the methods, techniques, and procedures to be used; to provide a schedule for the activities; and to permit comparison of the proposed research with the results. The research design for an archeological documentation effort follows the same guidelines as those for identification (see the Guidelines for Identification) but has a more property-specific orientation.

The research design should draw upon the preservation plan to identify:

1. Evaluated significance of the property(ies) to be studied;
2. Research problems or other issues relevant to the significance of the property;
3. Prior research on the topic and property type; and how the proposed documentation objectives are related to previous research and existing knowledge;
4. The amount and kinds of information (data) required to address the documentation objectives and to make reliable statements, including at what point information is redundant and documentation efforts have reached a point of diminishing returns;
5. Methods to be used to find the information; and
6. Relationship of the proposed archeological investigation to anticipated historical or structural documentation, or other treatments.

The primary focus of archeological documentation is on the data classes

that are required to address the specified documentation objectives. This may mean that other data classes are deliberately neglected. If so, the reasons for such a decision should be carefully justified in terms of the preservation plan.

Archeological investigations seldom are able to collect and record all possible data. It is essential to determine the point at which further data recovery and documentation fail to improve the usefulness of the archeological information being recovered. One purpose of the research design is to estimate those limits in advance and to suggest at what point information becomes duplicative. Investigation strategies should be selected based on these general principles, considering the following factors:

1. Specific data needs;
2. Time and funds available to secure the data; and
3. Relative cost efficiency of various strategies.

Responsiveness to the concerns of local groups (e.g., Native American groups with ties to specific properties) that was built into survey and evaluation phases of the preservation plan, should be maintained in archeological investigation, since such activity usually involves site disturbance. The research design, in addition to providing for appropriate ethnographic research and consultation, should consider concerns voiced in previous phases. In the absence of previous efforts to coordinate with local or other interested groups, the research design should anticipate the need to initiate appropriate contracts and provide a mechanism for responding to sensitive issues, such as the possible uncovering of human remains or discovery of sacred areas.

The research design facilitates an orderly, goal directed and economical project. However, the research design must be flexible enough to allow for examination of unanticipated but important research opportunities that arise during the investigation.

Documentation Methods

Background Review: Archeological documentation usually is preceded by, or integrated with historical research (i.e. that intensive background information gathering including identification of previous archeological work and inspection of museum collections; gathering relevant data on geology, botany, urban geography and other related disciplines; archival research; informant interviews, or recording of oral tradition, etc.).

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Depending on the goals of the archeological documentation, the background historical and archeological research may exceed the level of research accomplished for development of the relevant historic contexts or for identification and evaluation, and focuses on the unique aspects of the property to be treated. This assists in directing the investigation and locates a broader base of information than that contained in the property itself for response to the documentation goals. This activity is particularly important for historic archeological properties where information sources other than the property itself may be critical to preserving the significant aspects of the property. (See the Secretary of the Interior's Standards and Guidelines for Historical Documentation for discussion of associated research activities.)

Field Studies: The implementation of the research design in the field must be flexible enough to accommodate the discovery of new or unexpected data classes or properties, or changing field conditions. A phased approach may be appropriated when dealing with large complex properties or groups of properties, allowing for changes in emphasis or field strategy, or termination of the program, based on analysis of recovered data at the end of each phase. Such an approach permits the confirmation of assumptions concerning property extent, content or organization which had been made based on data gathered from identification and evaluation efforts, or the adjustment of those expectations and resulting changes in procedure. In some cases a phased approach may be necessary to gather sufficient data to calculate the necessary sample size for a statistically valid sample. A phased documentation program may often be most cost-effective, in allowing for early termination of work if the desired objectives cannot be achieved.

Explicit descriptive statements of and justification for field study techniques are important to provide a means of evaluating results. In some cases, especially those employing a sampling strategy in earlier phases (such as identification or evaluation), it is possible to estimate parameters of certain classes of data in a fairly rigorous statistical manner. It is thus desirable to maintain some consistency in choice of sampling designs throughout multiple phases of work at the same property. Consistency with previously employed areal sampling frameworks also improves potential replication in terms of later locating sampled and unsampled areas. It often is desirable to

estimate the nature and frequency of data parameters based on existing information or analogy to other similar cases. These estimates may then be tested in field studies.

An important consideration in choosing methods to be used in the field studies should be assuring full, clear, and accurate descriptions of all field operations and observations, including excavation and recording techniques and stratigraphic or inter-site relationships.

To the extent feasible, chosen methodologies and techniques should take into account the possibility that future researchers will need to use the recovered data to address problems not recognized at the time the data were recovered. The field operation may recover data that may not be fully analyzed; this data, as well as the data analyzed, should be recorded and preserved in a way to facilitate future research.

A variety of methodologies may be used. Choices must be explained, including a measure of cost-effectiveness relative to other potential choices. Actual results can then be measured against expectations, and the information applied later in similar cases.

Destructive methods should not be applied to portions or elements of the property if nondestructive methods are practical. If portions or elements of the property being documented are to be preserved in place, the archeological investigation should employ methods that will leave the property as undisturbed as possible. However, in cases where the property will be destroyed by, for example, construction following the investigation, it may be most practical to gather the needed data in the most direct manner, even though that may involve use of destructive techniques.

Logistics in the field, including the deployment of personnel and materials and the execution of sampling strategies, should consider site significant, anticipated location of most important data, cost effectiveness, potential time limitations and possible adverse environmental conditions.

The choice of methods for recording data gathered in the field should be based on the research design. Based on that statement, it is known in advance of field work what kinds of information are needed for analysis; record-keeping techniques should focus on these data. Field records should be maintained in a manner that permits independent interpretation in so far as possible.

Record-keeping should be standardized in format and level of detail.

Archeological documentation should be conducted under the supervision of qualified professionals in the disciplines appropriate to the data that are to be recovered. When the general public is directly involved in archeological documentation activities, provision should be made for training and supervision by qualified professionals. (See the Professional Qualifications Standards.)

Analysis: Archeological documentation is not completed with field work; analysis of the collected information is an integral part of the documentation activity, and should be planned for in the research design. Analytical techniques should be selected that are relevant to the objectives of the investigation. Forms of analysis that may be appropriate, depending on the type of data recovered and the objectives of the investigation, include but are not limited to: studying artifact types and distribution; radiometric and other means of age determination; studies of soil stratigraphy; studies of organic matter such as human remains, pollen, animal bones, shells and seeds; study of the composition of soils and study of the natural environment in which the property appears.

Reporting Results

Report Contents: Archeological documentation concludes with written report(s) including minimally the following topics:

1. Description of the study area;
2. Relevant historical documentation/background research;
3. The research design;
4. The field studies as actually implemented, including any deviation from the research design and the reason for the changes;
5. All field observations;
6. Analyses and results, illustrated as appropriate with tables, charts, and graphs;
7. Evaluation of the investigation in terms of the goals and objectives of the investigation, including discussion of how well the needs dictated by the planning process were served;
8. Recommendations for updating the relevant historic contexts and planning goals and priorities, and generation of new or revised information needs;
9. Reference to related on-going or proposed treatment activities, such as structural documentation, stabilization, etc.; and

10. Information on the location of original data in the form of field notes, photographs, and other materials.

Some individual property information, such as specific locational data, may be highly sensitive to disclosure, because of the threat of vandalism. If the objectives of the documentation effort are such that a report containing confidential information such as specific site locations or information on religious practices is necessary, it may be appropriate to prepare a separate report for public distribution. The additional report should summarize that information that is not under restricted access in a format most useful to the expected groups of potential users. Peer review of draft reports is recommended to ensure that state-of-the-art technical reports are produced.

Availability: Results must be made available to the full range of potential users. This can be accomplished through a variety of means including publication of results in monographs and professional journals and distribution of the report to libraries or technical clearinghouses such as the National Technical Information Service in Springfield, Virginia.

Curation

Archeological specimens and records are part of the documentary record of an archeological site. They must be curated for future use in research, interpretation, preservation, and resource management activities. Curation of important archeological specimens and records should be provided for in the development of any archeological program or project.

Archeological specimens and records that should be curated are those that embody the information important to history and prehistory. They include artifacts and their associated documents, photographs, maps, and field notes; materials of an environmental nature such as bones, shells, soil and sediment samples, wood, seeds, pollen, and their associated records; and the products and associated records of laboratory procedures such as thin sections, and sediment fractions that result from the analysis of archeological data.

Satisfactory curation occurs when:

1. Curation facilities have adequate space, facilities, and professional personnel;
2. Archeological specimens are maintained so that their information values are not lost through deterioration, and records are maintained to a professional archival standard;
3. Curated collections are accessible to qualified researchers within a

reasonable time of having been requested; and

4. Collections are available for interpretive purposes, subject to reasonable security precautions.

Recommended Sources of Technical Information

Archeomagnetism: A Handbook for the Archeologist. Jeffrey L. Eighmy, U.S. Department of the Interior, Washington, D.C., 1982.

The Curation and Management of Archeological Collections: A Pilot Study. Cultural Resource Management Series, U.S. Department of the Interior, September 1983.

Human Bones and Archeology. Douglas H. Ubelaker, Interagency Archeological Services, Heritage Conservation and Recreation Service, U.S. Department of the Interior, Washington, D.C., 1950. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Manual for Museums. Ralph H. Lewis, National Park Service, U.S. Department of the Interior, 1976.

Treatment of Archeological Properties: A Handbook. Advisory Council on Historic Preservation, Washington D.C., 1980.

Secretary of the Interior's Standards for Historic Preservation Projects

General Standards for Historic Preservation Projects

The following general standards apply to all treatments undertaken on historic properties listed in the National Register.

1. Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose.

2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations which have no historical basis and which seek to create an earlier appearance shall be discouraged.

4. Changes which have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.

5. Distinctive architectural features or examples of skilled craftsmanship which characterize a building, structure, or site shall be treated with sensitivity.

6. Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

8. Every reasonable effort shall be made to protect and preserve archeological resources effected by, or adjacent to, any acquisition, stabilization, preservation, rehabilitation, restoration, or reconstruction project.

Specific Standards for Historic Preservation Projects

The following specific standards for each treatment are to be used in conjunction with the eight general standards and, in each case, begin with number 9. For example, in evaluating acquisition projects, include the eight general standards plus the four specific standards listed under standards for Acquisition. The specific standards differ from those published for use in Historic Preservation Fund grant-in-aid projects (36 CFR Part 68) in that they discuss more fully the treatment of archeological properties.

Standards for Acquisition

9. Careful consideration shall be given to the type and extent of property rights which are required to assure the preservation of the historic resource. The preservation objectives shall determine the exact property rights to be acquired.

10. Properties shall be acquired in fee simple when absolute ownership is required to insure their preservation.

11. The purchase of less-than-fee-simple interests, such as open space or facade easements, shall undertaken when a limited interest achieves the preservation objective.

12. Every reasonable effort shall be made to acquire sufficient property with the historic resource to protect its historical, archeological, architectural or cultural significance.

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Standard for Protection

9. Before applying protective measures which are generally of a temporary nature and imply future historic preservation work, an analysis of the actual or anticipated threats to the property shall be made.

10. Protection shall safeguard the physical condition or environment of a property or archeological site from further deterioration or damage caused by weather or other natural, animal, or human intrusions.

11. If any historic material or architectural features are removed, they shall be properly recorded and, if possible, stored for future study or reuse.

Standards for Stabilization

9. Stabilization shall reestablish the structural stability of a property through the reinforcement of loadbearing members or by arresting deterioration leading to structural failure.

Stabilization shall also reestablish weather resistant conditions for a property.

10. Stabilization shall be accomplished in such a manner that it detracts as little as possible from the property's appearance and significance. When reinforcement is required to reestablish structural stability, such work shall be concealed wherever possible so as not to intrude upon or detract from the aesthetic and historical or archeological quality of the property, except where concealment would result in the alteration or destruction of historically or archeologically significant material or spaces. Accurate documentation of stabilization procedures shall be kept and made available for future needs.

11. Stabilization work that will result in ground disturbance shall be preceded by sufficient archeological investigation to determine whether significant subsurface features or artifacts will be affected. Recovery, curation and documentation of archeological features and specimens shall be undertaken in accordance with appropriate professional methods and techniques.

Standards for Preservation

9. Preservation shall maintain the existing form, integrity, and materials of a building, structure, or site. Archeological sites shall be preserved undisturbed whenever feasible and practical. Substantial reconstruction or restoration of lost features generally are not included in a preservation undertaking.

10. Preservation shall include techniques of arresting or retarding the

deterioration of a property through a program of ongoing maintenance.

11. Use of destructive techniques, such as archeological excavation, shall be limited to providing sufficient information for research, interpretation and management needs.

Standards for Rehabilitation

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historic, architectural, or cultural material and such design is compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.

10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

Standards for Restoration

9. Every reasonable effort shall be made to use a property for its originally intended purpose or to provide a compatible use that will require minimum alteration to the property and its environment.

10. Reinforcement required for structural stability or the installation of protective or code required mechanical systems shall be concealed wherever possible so as not to intrude or detract from the property's aesthetic and historical qualities, except where concealment would result in the alteration or destruction of historically significant materials or spaces.

11. Restoration work such as the demolition of non-contributing additions that will result in ground or structural disturbance shall be preceded by sufficient archeological investigation to determine whether significant subsurface or structural features or artifacts will be affected. Recovery, curation and documentation of archeological features and specimens shall be undertaken in accordance with appropriate professional methods and techniques.

Standards for Reconstruction

9. Reconstruction of a part or all of a property shall be undertaken only when such work is essential to reproduce a significant missing feature in a historic district or scene, and when a contemporary design solution is not acceptable. Reconstruction of archeological sites generally is not appropriate.

10. Reconstruction of all or a part of a historic property shall be appropriate when the reconstruction is essential for

understanding and interpreting the value of a historic district, or when no other building, structure, object, or landscape feature with the same associative value has survived and sufficient historical or archeological documentation exists to insure an accurate reproduction of the original.

11. The reproduction of missing elements accomplished with new materials shall duplicate the composition, design, color, texture, and other visual qualities of the missing element. Reconstruction of missing architectural or archeological features shall be based upon accurate duplication of original features substantiated by physical or documentary evidence rather than upon conjectural designs or the availability of different architectural features from other buildings.

12. Reconstruction of a building or structure on an original site shall be preceded by a thorough archeological investigation to locate and identify all subsurface features and artifacts. Recovery, curation and documentation of archeological features and specimens shall be undertaken in accordance with professional methods and techniques.

13. Reconstruction shall include measures to preserve any remaining original fabric, including foundations, subsurface, and ancillary elements. The reconstruction of missing elements and features shall be done in such a manner that the essential form and integrity of the original surviving features are unimpaired.

Secretary of the Interior Guidelines for Historic Preservation Projects

The guidelines for the Secretary of the Interior's Standards for Historic Preservation Projects, not included here because of their length, may be obtained separately from the National Park Service.

Professional Qualifications Standards

The following requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic properties involved. In the following definitions, a year of full-time professional experience need not consist of a continuous year of fulltime work but

may be made up of discontinuous periods of full-time or part-time work adding up to the equivalent of a year of full-time experience.

History

The minimum professional qualifications in history are a graduate degree in history or closely related field; or a bachelor's degree in history or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historic organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

Archeology

The minimum professional qualifications in archeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the prehistoric period. A professional in historic archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the historic period.

Architectural History

The minimum professional qualifications in architectural history are a graduate degree in architectural history, art history, historic preservation, or closely related field, with coursework in American architectural history; or a bachelor's degree in architectural history, art history, historic preservation or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical

organization or agency, museum, or other professional institution; or

2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

Architecture

The minimum professional qualifications in architecture are a professional degree in architecture plus at least two years of full-time experience in architecture; or a State license to practice architecture.

Historic Architecture

The minimum professional qualifications historic in architecture are a professional degree in architecture or a State license to practice architecture, plus one of the following:

1. At least one year of graduate study in architectural preservation, American architectural history, preservation planning, or closely related field; or
2. At least one year of full-time professional experience on historic preservation projects.

Such graduate study or experience shall include detailed investigations of historic structures, preparation of historic structures research reports, and preparation of plans and specifications for preservation projects.

Preservation Terminology

Acquisition—the act or process of acquiring fee title or interest other than fee title of real property (including acquisition of development rights or remainder interest).

Comprehensive Historic Preservation Planning—the organization into a logical sequence of preservation information pertaining to identification, evaluation, registration and treatment of historic properties, and setting priorities for accomplishing preservation activities.

Historic Context—a unit created for planning purposes that groups information about historic properties based on a shared theme, specific time period and geographical area.

Historic Property—a district, site, building, structure or object significant in American history, architecture, engineering, archeology or culture at the national, State, or local level.

Integrity—the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period.

Intensive Survey—a systematic, detailed examination of an area designed to gather information about historic properties sufficient to evaluate them against predetermined criteria of

significance within specific historic contexts.

Inventory—a list of historic properties determined to meet specified criteria of significance.

National Register Criteria—the established criteria for evaluating the eligibility of properties for inclusion in the National Register of Historic Places.

Preservation (treatment)—the act or process of applying measures to sustain the existing form, integrity and material of a building or structure, and the existing form and vegetative cover of a site. It may include initial stabilization work, where necessary, as well as ongoing maintenance of the historic building materials.

Property Type—a grouping of individual properties based on a set of shared physical or associative characteristics.

Protection (treatment)—the act or process of applying measures designed to affect the physical condition of a property by defending or guarding it from deterioration, loss or attack, or to cover or shield the property from danger or injury. In the case of buildings and structures, such treatment is generally of a temporary nature and anticipates future historic preservation treatment; in the case of archeological sites, the protective measure may be temporary or permanent.

Reconnaissance Survey—an examination of all or part of an area accomplished in sufficient detail to make generalizations about the types and distributions of historic properties that may be present.

Reconstruction (treatment)—the act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or any part thereof, as it appeared at a specific period of time.

Rehabilitation (treatment)—the act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural and cultural values.

Research design—a statement of proposed identification, documentation, investigation, or other treatment of a historic property that identifies the project's goals, methods and techniques, expected results, and the relationship of the expected results to other proposed activities or treatments.

Restoration—the act or process of accurately recovering the form and details of a property and its setting as it appeared at a particular period of time

by means of the removal of later work or by the replacement of missing earlier work.

Sample Survey—survey of a representative sample of lands within a given area in order to generate or test predictions about the types and distributions of historic properties in the entire area.

Stabilization (treatment)—the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Statement of objectives—see Research design.

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Russell E. Dickenson,
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