CHAPTER 1

Studying and Evaluating the Built Environment

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Introduction

This essay examines the process of studying and assessing the built environment from the perspective of a practicing architectural historian with nearly 30 years of experience in cultural resource management (CRM). The scope of this topic is daunting, so limiting the discussion clearly is in order. This chapter is not intended as a treatise on architectural history, nor is it intended to document the historic preservation movement, to review heritage legislation, or to restate guidance on the application of program-specific criteria and standards. Volumes exist on these topics.

Rather, this discussion encourages thoughtful and responsible professional practice in CRM. Its content reflects an acknowledged US bias in the field of cultural resource management, together with a firm belief in the importance of history and of the ability of the historic built environment to influence the quality of contemporary life. While a conscious effort has been made to limit the jargon and terms of art, much of what we do in the CRM field is framed by a specialized language and concepts rooted in historic preservation laws and regulations. The approaches reviewed briefly herein are intended to help bridge the chasms between theory, regulation, and real property in order to uncover the meaning and significance of the built environment.

Professional practice in CRM too often is devoted to juggling multiple projects within demanding time frames so that little opportunity is provided to reflect on the underlying objectives and accomplishments of the

field. By sheer volume, CRM has advanced immeasurably the study of the built environment. Identification and evaluation are the foundations of the field, the fulcrums for decision making, and a basis for any national heritage conservation effort.

History is important to society. Thus, aspects of history that a society finds valuable inevitably are reflected in its built environment. This simple premise underlies much practice in contemporary cultural resource management. It provides a theoretical foundation for the field and also explains many of its challenges. For example, definitions of importance and society frequently are subject to debate. What is important and to whom? Understanding of "important history" is dynamic and influenced by scholarship, public policy, current events, and even our own ethnocentrism. Understanding of "society" (the group that values aspects of history) changes with context, and may range from the international community to local neighborhoods to private property owners.

At its best, cultural resource management is an art that applies a methodological discipline to the collection and analysis of archival and field data that are adequate to the objectives of an investigation. While CRM projects make a meaningful contribution to our knowledge of the past, rarely are such projects the final definitive work on a property. Rather, the practical realities, project objectives, and regulatory standards frequently determine the limits of an investigation. While these practical considerations may frame an overall scope of work, they should not influence the adequacy or quality of the work. Such considerations do require that investigations be transparent in their objectives and clear in their parameters so that end users are informed fully both of the level of work and of its limitations.

Built resource management is a subdiscipline within CRM that integrates a broad range of fields, including, but not limited to, cultural, engineering, military, and political history, genealogy, architectural history, geography, anthropology, planning, historic preservation, information management, and public policy, to address the built environment. Cultural resource management is serious business demanding the highest professional ethics, consistent dedication to high-quality work, and occasionally a thick skin.

Documenting and evaluating the relative importance of properties can influence very real decisions on planning and real property management. Indeed, the results of CRM investigations frequently have direct and lasting impacts on what society holds historically important and what is considered worthy to memorialize and/or retain for the future. Agreement may not be reached with the results of all investigations. Approaching the built environment systematically through an integrated program of defensible research designs, clear methodologies, and proper historic context development, field investigations, data analysis, and reporting helps assure that objectives and process are clear and results well reasoned and fully justified.

What is the "Built Environment"?

First, let's explore the scope of the subject. The built environment can be defined as all space purposefully shaped and manipulated by human activity. The built environment is the result of conscious design decisions that can be both functional and esthetic. The class of resources encompasses buildings, structures, objects, and sites that individually and collectively, as districts, reflect human history.

Buildings are constructions designed to shelter human activity; they are as diverse and complex as their associated society. Generally categorized by use (residential, industrial, religious, civic, educational, etc.) and by building type (dwellings, factories, churches, city halls, schools, etc.), buildings are culturally bound resources that reflect use, events, architectural fashion, design theory, technology, economics, status, politics, power, reverence, order, and aspiration. By nature, building architecture has multiple audiences comprising both active users and passive viewers. Through the design principles of scale, mass, proportion, materials, ornamentation, and plan, building design elicits a spectrum of conscious intellectual and unconscious emotional responses that range from simple recognition of functional types to personal likes or dislikes.

Buildings frequently are categorized broadly into vernacular, e.g., "ordinary" or "local" architecture, and high-style (frequently "architect-designed") architecture. It should be noted that the precise definition of "vernacular" architecture is an ongoing subject of discussion. While general categories can be useful in describing buildings at the extreme ends of the design spectrum, the dividing line between vernacular and high-style often is blurred, particularly in resources of recent vintage. Advances in construction technology and the availability of mass-produced building materials have limited the number of design decisions required by more contemporary builders, contributing to the standardization of "ordinary" building design. Buildings also may be subject to requirements beyond the control of builders, owners, or architects. Master planning, building codes, and architectural standards linked to land zoning or financing are among the factors that may exert an influence on basic building configuration and materials.

Buildings typically are described in terms of their architectural style. Architectural styles serve systematically to link buildings with defined characteristics to a body of theoretical and historical knowledge. Style serves to anchor a building temporally and esthetically. However, stylistic classification is not a hard science and buildings often combine several stylistic influences. As in the case of most typologies, systems of stylistic classification often are refined to reflect national, regional, or local variations. Occasionally such systems also include more prevalent "vernacular" types. Knowledge of the stylistic sequence developed for an area is as critical as knowledge of its overall development history.

Structures generally are categorized as designed functional constructions that are not intended for shelter. Structures frequently are the stuff of engineering and technology; they can be either movable or permanent. Bridges, roads, dams, boats, earthworks, and aircraft fall into this category. While design can be integrated masterfully with function, structures also can exhibit architectural style through such elements as ornamentation. Still, the fundamental quality of a structure is its functional nature. Due to their use, such resources often are improved or modified over time in response to current technologies. Integrity of use is a key factor in analyzing the historical importance of such resources.

Objects, in contrast, are generally smaller in scale and may be artistic or functional items that are associated with specific places and settings. This category includes such resources as statuary, sculpture, monuments, and boundary markers. Objects tend to be anchored temporally and the result of a single phase of construction or fabrication.

These broad categories notwithstanding, the components of the built environment are interrelated and frequently overlap. Individual buildings, structures, and objects can be part of larger landscapes, which even may be part of overarching landscapes. Landscapes themselves are recognized as a resource type with regard to the built environment under the category of sites.

Sites include high-style and vernacular landscapes, battlefields, and natural features with cultural associations. High-style landscapes are often the work of formally trained landscape architects; they may contain resources such as structures and objects in addition to a designed natural environment, which may include such elements as intentional open space, hardscapes, and specific plant materials. In contrast, vernacular landscapes can be among the most complex resources to define. Rural vernacular landscapes, for example, can be extensive geographically and contain a wide variety of resource types. As in the case of all built resources, though, rural landscapes are unified temporally by a definable period or periods of development and by themes or historical events. Human activity in rural vernacular landscapes is reflected holistically in historically associated buildings, structures, objects, and land-use patterns. While buildings, structures, and objects can be documented readily, historic land use can be ephemeral; tangible evidence of conscious landscape decisions may be difficult to uncover. Change is a constant and modifications in land-use patterns are to be expected; however, sites must retain sufficient evidence to make their historical use recognizable.

The definition of the built environment has expanded over the years with recognition of the complexity of historical land-use patterns, economic systems, and technologies. In CRM, the envelope for macro investigations of landscapes has been pushed further by consideration of viewsheds and viewscapes in the analysis of visual effects caused by modern land-use and development projects.

Who is Interested in the Built Environment?

While society as a whole claims a vested interest in the built environment, built resource surveys and assessments most often are completed to support planning and management decisions in three general areas. These are: regulatory compliance, governmental planning, and resource stewardship. Parties interested in the results of CRM investigations range from preservation advocates and public interest groups, to governmental agencies charged with regulatory and property oversight, to indigenous groups and others with cultural links to historic places, to private property owners, independent scholars, and academics.

Work supporting regulatory compliance generally comprises the largest percentage of projects executed by cultural resource managers. National, regional, and local historic preservation legislation frequently requires consideration of historic properties in the project planning process. Simply stated, the identification of historic properties is a prerequisite to their meaningful consideration.

In practice, distinct differences exist in the treatment requirements for historic properties, depending on the regulatory context. For example, historic properties identified under Section 106 of the US National Historic Preservation Act of 1966, as amended, (16 USC 470) are subject to a *process* of consideration under which adverse effects to historic properties may be avoided, limited, or mitigated through negotiated agreements. Historic properties identified through compliance with local requirements in the United States may be designated for perpetual preservation in accordance with local historic preservation ordinances. In the United States, historic preservation has been established as a national policy in the public interest. This policy has led to occasional friction between preservation advocates and private property owners or property management agencies. Such arguments rarely center on the historicity of a property, but on the real or perceived limitations inherent to historical designation upon future property use. While the issue of private property rights versus public historic preservation interests has been adjudicated numerous times over the years in favor of the prevailing policy, this tension is unlikely to subside and has the potential to alter CRM on all levels of practice.

National, state or provincial, and local governmental agencies frequently undertake identification and evaluation projects proactively, to support such efforts as master planning, historic district designation, management of endangered resource types, or in anticipation of future public improvements. Such projects also may involve some level of regulatory oversight as well as adherence to internal policies and regulations. The scope of these planning-level projects can be broad or their intent limited to the collection of general exterior survey data, limited photography, and mapping within targeted geographic areas along with sufficient archival research to develop overview histories and to identify general periods of development.

Survey and evaluation projects completed to support resource stewardship generally are tied directly to management decisions. Such investigations can

support such efforts as restoration and rehabilitation projects or inform the development of architectural design guidelines. Such investigations generally are among the most intensive and exacting. Work may include painstaking analysis of a property to develop construction chronologies, extensive photography, measured drawings, and in-depth site-specific research.

Professionals working in cultural resource management are not advocates for the positions held by agencies, preservation groups, project sponsors, or property owners regarding the significance of cultural property. Cultural resource managers are not "guns for hire." Rather, professional loyalties should be to the resource base and to the integrity of the work. Anything less undermines the credibility of a project and practitioner, bringing the veracity of a professional's work as a whole into question.

Know the Ground Rules for Cultural Resource Management

Cultural resource management is a field spawned by local, national, and international concern for the recognition and appropriate treatment of cultural heritage. The field operates within a morass of international cultural heritage conventions, government policies, laws, ordinances, regulations, procedures, standards, and technical guidelines designed to support the identification, evaluation, and treatment of properties of historical and cultural importance. Knowing why a study is being undertaken is central to its scope, content, and ultimate usefulness. Working knowledge of the relevant review and regulatory context also is critical to the success of any identification and evaluation effort, since it informs all levels of investigation.

Since legislation and procedures often are program-specific, it is advisable to review the applicable enabling laws, regulations, criteria, and standards at the beginning of investigation. Recent reports and project files can provide insights into agency process and priorities. Cultural resource management is a dynamic field in which advances in the understanding of the past and its significance often are reflected first at the project level in advance of formal program guidance. The unpublished "gray literature" associated with CRM projects is an underutilized barometer for emerging preservation issues.

National, state/provincial, and local heritage programs differ slightly in standards, criteria, and requirements. Survey documentation requirements vary by jurisdiction, as do criteria for importance. For example, all US states maintain an inventory of historic properties, but not all states record the same data in the same formats. Survey forms, data sets, graphic and photographic specifications, and reporting requirements are unique to each state program. The content, processing, and appropriate formats for final submissions are factors to be considered when planning an investigation. Many agencies maintain electronic historic property inventories. Such inventories employ

a variety of computer programs and a range of program releases, so seamless data transfer to electronic archives can be time consuming.

Criteria for Evaluation define those aspects of history that society deems important in the built environment. While criteria adopted by heritage programs frequently differ in detail, the majority contain two elements critical to the evaluation of the built environment: (1) criteria for significance; and (2) measures for integrity, or authenticity. Criteria of significance define the historical associations and design qualities that are of cultural importance, while measures of integrity, or authenticity, address the factors that enable the property to convey that importance. International efforts to define such criteria and measures date back at least to the Venice Charter of 1964 (ICOMOS 1964), but the most familiar criteria in US practice are the National Register Criteria for Evaluation (36 CFR 60.4[1]).

Over the years, the US Department of the Interior, National Register Program has issued technical bulletins on an array of subjects ranging from the application of their program criteria to guidance on documenting and evaluating a variety of property types. These bulletins have application beyond the National Register Program.

While Criteria for Evaluation help objectify the values of cultural heritage deemed important by society, such criteria should be viewed with several caveats:

- Culture is dynamic and views on which elements of the built environment reflect important heritage may change and expand over time.
- Criteria may be designed to support esthetic, planning, and community values apart from historical and cultural significance.
- Codified criteria may not capture the history valued by all constituent groups.

The majority of criteria recognize these inherent limitations. Criteria generally are designed broadly to account for the dynamic understanding of significance and to accommodate a wide range of property types. Broad criteria commonly are criticized as overly general and subjective. While this criticism has some validity, the alternative of overly exacting criteria is equally unworkable within a CRM context. The solution lies with the CRM practitioner charged with establishing clear links between resource and criteria.

The legal and regulatory framework underlying cultural heritage programs is administered through a system of checks and balances incorporating technical and substantive review to assure the adequacy of investigations and the appropriate application of criteria for cultural importance. This system can be used to the advantage of the project. Government agencies possess a wealth of knowledge that may not be readily available in published sources, technical guidance, or the unpublished "gray literature" of the CRM field. Consultation with these agencies during the development of a research design can provide insights on previously successful methodologies and sources of comparative data.

Project Scoping and Research Designs

The initial scoping and planning required for survey and evaluation projects should be geared to the size and complexity of the investigation. Research designs are recommended for all projects to identify the project's purpose and objectives, legislative framework and standards, anticipated archival data needs, field methodology, graphic and photographic requirements, analyses, products and reporting requirements, and schedule.

The research design can serve as a primary organizational tool for the investigation; it also can be expanded and refined over the life of a project to incorporate additional research questions, and to track logistical issues, such as staff assignments, equipment needs, and project modifications. Such documents serve to gauge levels of effort, to encourage the logical progression of tasks, to troubleshoot potential problems, and to enhance communication within the project team.

Large-scale or complex projects may require discussion with review agencies to tailor field methodologies or research questions to particular concerns, research interests, or priorities. Innovative approaches rarely are discouraged, but deviations from established guidelines should be negotiated prior to project execution – and confirmed in writing.

Client and agency review of written research designs offers several advantages. Research designs, often submitted as part of formal proposals, can serve to clarify scopes of work that are ambiguous or ill-defined. Clients with limited exposure to CRM may have an imperfect understanding of its internal workings and occasionally seek to contract work that is ill-suited to regulatory requirements. Research designs present an opportunity to refine scopes of work to assure that products support their intended use.

Organizing the Work

Private-sector CRM is a business, with a product line of time and expertise. While projects may be awarded based on credentials, capabilities, and experience, staying in business, and being successful, requires efficient execution of work within allocated budgets and schedules. Planning and organization are keys to efficiency; working smart is essential.

Working smart in CRM frequently translates to systematic execution of project methodologies for data collection and analyses. Each phase of work progressively informs the next. Skipped steps or cut corners result in data being overlooked or interpreted inaccurately.

Systematic work is particularly important when projects are staffed by teams of professionals in allied fields. CRM projects often adopt an interdisciplinary approach involving historians, architectural historians, preservation planners, computer graphics and geographic information systems (GIS) specialists, editors, and report production specialists under the overall direction of a project

manager or principal investigator. The advantage of interdisciplinary teams is the ability to assemble experts in a variety of subdisciplines. The challenges are maintaining project control through organization and communication. Each team member must have clear understanding of the project objectives, methodology, internal schedule, and assignments. Collaboration among team members should be encouraged formally through regular project meetings.

Historic Contexts

Historic contexts are among the first tasks completed in an investigation; they are critical to identifying and assessing historic places of all types. In CRM parlance, the terminology "historic context" has devolved into a catch phrase for historic research. However, the concept behind the terminology is precise and sophisticated. An historic context is the deliberate organization of archival data by theme, place, time, and property type. Context development is a progressive process of refining data from the general to the specific. It involves compilation and analysis of data from a variety of primary and secondary sources.

The historic context informs field investigations and provides the framework for resource evaluation. It is the basis for linking real property with the past, providing the data for understanding the meaning of a resource.

Again, the level of archival effort required for the development of an historic context is commensurate with the objectives of the investigation. Projects intended to characterize the built environment of an area in a general way, such as those frequently completed in the private sector as part of due diligence studies, may limit research to previous investigations, historic maps, and secondary sources. Projects supporting rehabilitation of specific buildings or structures require the greater depth of detail found only in primary sources and records specific to a property.

Historic contexts evolve over the life of the project and are progressively refined as research questions specific to the resource are identified. At minimum, two stages of historic context development are desirable. Working contexts are developed prior to the initiation of field investigations, while final contexts are used in resource analysis.

Working contexts provide the baseline information necessary for informed and efficient field investigation and are the first tasks completed on a project. Working contexts generally are internal documents that include:

- overview histories organized by major period of development;
- major historical events and important personages associated with the project area;
- historic maps, including insurance maps, if available;
- summaries of previous investigations in the vicinity;
- anticipated property types likely to be found; and
- literature review of scholarship related to the area and its property types.

Working contexts contain practical data applied in refining field strategies, including logistics, supply, and staffing needs, and in anticipating avenues for additional research.

Final contexts generally are refined to respond to questions raised in field investigations. The final documents incorporate such elements as data contributed by local informants, research on unexpected property types, and directed research in public records, such as deeds, tax assessments, wills and probate inventories, local newspapers, census data, manuscripts, family papers, and specialized archival collections.

Historic contexts are more than simple narrative chronologies or the compilation of facts. They are evaluatory documents that distill the essence of importance from the historical record and current scholarship. They capture both the sweep of historical patterns and the detail of specific events. Contexts are concise, sufficiently detailed to substantiate conclusions, and thoroughly referenced through citations and bibliographies.

Fieldwork: Systematic Recording

Data on the current appearance of the built environment are compiled through systematic field surveys. This process can range in focus from single buildings to sizable cultural landscapes containing buildings, structures, objects, and districts, to selective, nationwide or regional investigations of particular property types. The data sets and level of detail collected generally are tailored to the objectives of the investigation. The data requirements for investigations undertaken to characterize an area and to identify the presence or absence of properties warranting further investigation differ from the level of detail necessary to support resource designation under such programs as the US National Register of Historic Places or to support building restoration or rehabilitation.

CRM work generally tends to involve two types of built resource survey: reconnaissance and intensive. Reconnaissance-level surveys characterize the built resources in a project area; intensive-level surveys document those resources sufficiently for formal evaluation and, where relevant, for nomination to recognized registers. In practice, neither of these approaches neatly fits the objectives of many investigations.

How, then, are the information sets for field recording defined? First, the purpose of the investigation is reviewed and the information needed to develop the required products is identified. Standards of the review agencies, such as a cultural ministry or State Historic Preservation Office, are considered where inventory data will be submitted as a product of the investigation. Field limitations on the investigation, such as restricted property access or environmental hazards, also are factored in. Finally, the data sets that take into consideration all of the above factors are identified.

Three categories of data typically are collected in a field effort: descriptive data on the resource, photographic data, and graphic data. Descriptive data

should be sufficient to describe fully the resource and its environs within the limits established for the investigation.

Field data compiled for built resources are tailored to the design and construction characteristics of the resource type. Data sets collected to document the appearance of a building, such as a dwelling, differ from data required for the description of a structure, such as a bridge. At minimum, field recording includes administrative information, descriptive data, and field observations. Administrative information includes property name, address, ownership, category of property, and resource boundaries. Descriptive data record the current appearance, including the overall design (style, scale, mass, proportion), construction type and materials, architectural elements, such as doors, windows, chimneys, dormers, etc., ornamentation, plan, and additions. Field observations may include data related to changes and modifications over time, associated resources such as support buildings and landscape features, and overall condition.

Photographic documentation should capture the complete resource. Digital photography generally has become acceptable for most investigations; however, specialized projects, such as those undertaken to US National Park Service's Historic American Buildings Survey or Historic American Engineering Record (HABS/HAER) standards, may require large-format, archivally processed images. Agency specifications should be checked for resolution, printing, and labeling requirements. Images should be composed for their information value, and fully depicting the resource and its environs. A written index of all images should be maintained in the field, noting the date, direction, and view.

Digital photography has enhanced the ability to document the built environment enormously. It provides an easy and cost-effective method of capturing complex architectural and design elements. The ability to index, store, and retrieve digital photographic images also facilitates the development of visual libraries for comparative analysis and for future reference.

Graphic documentation includes drawings, sketch plans, sketch maps, and geographic data. The execution of measured drawings is an art form generally limited in practice to the most significant resources. Proportional sketch plans and sketch maps are used more typically to record building plans, to document the spatial relationship between components of a property, and to index photographic views to the resource. Field drawings should include title blocks recording the name and location of the property, subject and date of the drawing, geographic references, such as north arrows and major landmarks, and the name of the delineator.

Universal Transverse Mercator (UTM) grid references generally are the accepted standard for locating resources on United States Geological Survey (USGS) maps; Ordnance Survey maps are used in the United Kingdom, as are their equivalents in other countries. The scale of such maps can be problematic when working with resources in densely developed urban areas. In such cases, street maps, sketch maps, and geographic positioning systems

(GPS) should be considered to augment geographic data. Distance from the GPS point to the property should be calculated in the field to avoid later mapping distortions.

Once the data requirements of a field investigation have been determined, the recording method is considered. Field methodologies for collecting data on built resources can range from an informal checklist used to organize observations in field books, to standardized paper forms, to hand-held computers with data sets captured electronically through pull-down menus.

After considering the requirements of the investigation, field books may offer the advantage of flexibility, accommodating a level of detail not easily found in form-driven documentation. Their use often is most appropriate to the in-depth documentation of a single property. Capturing electronic data sets, including geographic data, using hand-held computers is becoming the industry standard for investigations involving multiple properties. This approach makes it possible to design data menus specific to the project, assuring standardization and completeness in documentation, consistency in architectural terminology, and accuracy in geographic and photographic data. Perhaps most exciting is the ability to link electronic data sets through geographic information systems, enabling early integration of cultural resource data layers in overall project mapping and providing the ability to manipulate cultural resource data for spatial and comparative analysis. Electronic data also can be converted easily to a variety of computer data management programs for specialized analyses.

Before starting fieldwork, it is advisable to check equipment to assure that it is complete and in operating order. Anticipating field situations and carrying the appropriate gear, i.e., pens, paper, clipboards, straight edge, cameras, maps, batteries, flashlights, tapes, knife, binoculars, cell phone and charger, rain gear, safety vests, first aid kit, etc., is highly recommended.

A safety plan should be included in field preparations. Such a plan should include the location of the nearest hospital, project contact numbers, the number for a local garage with a mechanic and tow truck, emergency contacts, and any health information that should be considered in case of emergency. First aid and cardiopulmonary resuscitation (CPR) training is highly recommended for anyone doing fieldwork.

Surveyors should carry professional credentials in the field and respect both private property and the local community. Questions from the public should be expected and anticipated. Flyers with a description of the project and contacts for additional information frequently are prepared. Occasionally, public information meetings are held in advance of fieldwork to introduce the community to the project. Property owners, building users, and area residents often can be excellent informants.

Organization and quality control contribute to a successful field effort. However, the security of all work should be quality controlled by downloading electronic data from field computers and cameras at regular intervals during the field session. Reviewing all field data daily will help assure completeness

and accuracy. Daily off-site transfer of electronic field data adds an additional level of data security and makes possible expedited post-field processing.

Reading the Built Environment with a Professional Eye

History is a continuum, and human activity leaves physical evidence. This evidence can be as small as a prehistoric lithic scatter or as substantial as an urban center. Cultural resource managers – including those working with the built environment – excavate the layers of history to develop chronologies and typologies of human activity. The tools of investigation and date ranges of resources differ between archaeology and built resource management, but the essential objectives are the same. Cultural resource managers working with the built environment collect physical evidence of conscious design decisions in the landscape, sorting data by episodes of construction, correlating construction sequences with archival research, and interpreting these data to derive meaning.

This process can be simple or complex depending on the periods of development and construction found within a study area. Built resource survey at its essence is a straightforward process of collecting sufficient data to describe and characterize the resource base fully and then correlating those data with appropriate typologies and chronologies.

This process can be so internalized that it becomes almost unconscious. For example, most architectural historians readily classify buildings by type, style, construction, and date range with minimal effort. In doing so, an inanimate object, the building, is anchored in time and linked to a database of architectural theory, design history, and construction technology. Architecture, construction, technology, and landscape history are among the fields with well-developed chronologies, typologies, and diagnostics. The ability to recognize diagnostics and to categorize the built environment expands with experience and enables practitioners to build more of these links in the field. These skills are cumulative, progressive, and require both active scholarship and fieldwork. Although important, knowledge gained through current literature is secondary to depth of knowledge gained through physical fieldwork. Built resources are tangible artifacts whose design and construction can be understood best through direct investigation.

Reading landscape effectively enables the formulation of research questions to support thorough and sophisticated evaluations. For example, date ranges can be used to target site-specific research by period; building types might suggest exploration of residential, commercial, public, religious, or industrial development patterns; architectural style can suggest associations with architects, trends in popular design, or the migration of vernacular building patterns; and the identification of mass-produced architectural elements may suggest the presence of well-developed manufacturing and distribution systems.

Putting It All Together: Data Analysis

All aspects of the built environment, whether contemporary big-box development or eighteenth-century agricultural complexes, are related to the continuum of history and reflect some aspect of our cultural identify. Criteria for Evaluation define those aspects of history considered important and valued by society. In addition, such criteria generally define the age generally required for consideration as well as conditions for considering resources of more recent vintage. Historical perspective is an issue in assessing properties of contemporary construction. The analysis of built resources in US CRM typically applies Criteria for Evaluation (or a state or local variant on the criteria) within the project historic context to associated resources. The obstacles to objectivity in public history are more pronounced without the test of time.

As noted earlier, most evaluative criteria for the historic built environment in US practice adopt, or are derived from, the National Register Criteria for Evaluation (36 CFR 60.4) and recognize four aspects of significance. These are:

- association with historical events or patterns;
- association with important persons;
- design or physical characteristics; and
- potential to provide important information about prehistory or history.

A property that meets any one of the above criteria and that has integrity (authenticity) is taken to be significant. These broad criteria are applied with reference to the historic context.

By this stage of the investigation, the raw data for analysis have been assembled. The appropriate standards and evaluative criteria have been identified. The working historic context has informed field investigations. Questions raised in the examination of the built environment have been used to refine the final historic context. A number of decisions generally are confronted in correlating these seemingly disparate data sets. Such decisions include how the data will be organized for analysis, and what tools will be used in that analysis.

The organizational building blocks of the historic context – theme, place, time, and property type – generally offer an expedient framework for organizing historical and field data. The scale of the investigation will suggest the appropriate data management tools.

Surveys generating a large volume of archival and field data may best be managed through a geographic information system facilitating organization by location, including the identification of spatial patterns related to the components of the historic context. Databases can be developed to organize and manipulate information by resource attributes related to date, theme, location, and property type. Two- and three-dimensional graphics serve to organize data related to construction sequences.

Each resource identified in the field should be subjected to two levels of analysis, regardless of the tools employed. The first level scrutinizes the resource for its relationship to the context, and thus the criteria. The objectives are to define clearly the historical and cultural associations and to assess the relative importance of the real property to important events, patterns, personages, and design qualities documented through the context.

The second stage of analysis assesses the integrity of a resource, or its ability to convey physically that importance to a viewer in its current condition. Resource integrity is among the most esoteric of the concepts applied in CRM. Integrity, or authenticity, is measured with reference to a list of qualities (location, design, setting, materials, workmanship, feeling, and association) that often appear ambiguous and subjective to those outside the field. In practice, resources either retain integrity or sufficient evidence of their appearance dating from their period of importance or they are so altered that a physical link between the resource and its period of importance has been lost. An additional layer of complexity is introduced in assessing the integrity of collections of resources, as in the case of districts. Properties within districts may lack the integrity for conveying individual significance, but may possess sufficient integrity to contribute to the collection as a group.

Products

The results of identification and evaluation projects generally are presented in technical reports that become part of the "gray literature" that characterizes CRM. These reports frequently are reviewed by agencies under historic preservation compliance regulations to contribute to agency management decisions on the resources. These reports also contribute to knowledge of the resource base and often include insightful and innovative scholarship.

Gray literature is unpublished and limited in distribution. Furthermore, the products of an investigation may be "work for hire," and thus proprietary and legally owned under contract by the sponsors of a project. In such cases, research, field notes, and reports cannot be used or released without written authorization from the client. While built resource investigations rarely contain sensitive or government classified data, work undertaken for governmental entities may contain graphic or photographic information subject to security clearance, especially with heightened sensitivity to national security.

Report formats and particulars on content may differ with the objectives of the investigation; however, the standards for clear, concise, and well-organized presentation apply to all products. At minimum, reports should include:

- abstract;
- purpose and objectives;
- methodology;
- historic context;

- results of field investigations;
- analysis of properties;
- conclusion and recommendations; and
- references.

The presentation of data should be considered thoughtfully. While the technical report should be comprehensive in scope, categories of relevant data, such as survey forms, may be included more effectively in an appendix or accompanying volume. Graphics should be selected for their information value and their ability to support the text. Among the great challenges in built resource reporting is enabling the reader to envision both the resource and the qualities of that resource that support its assessment. Photographs, schematics, graphs, and maps contribute substantially to this understanding.

All reports should be edited for clarity, technical adequacy, and substantive sufficiency. Errors or omissions occur; however, stringent quality control at the reporting phase of an investigation limits such problems and is well advised.

Summary and Conclusion

The preceding discussion of the process of executing defensible CRM investigations for the study and evaluation of built resources is appropriate to all levels of investigation, and it accommodates a range of technologies. The approach is systematic and divided into phases to encourage full consideration and reconsideration of project data. This approach provides a framework for responsible investigation and supports well-reasoned and defensible evaluations.

Note

1   That is, Title 36, Part 60.4 of the US Code of Federal Regulations.