



Drawing and Map Numbers

Reference Manual 10B

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OVERVIEW

INTRODUCTION

The National Park Service (NPS) assigns a drawing number to every drawing, map, and plan created as part of a legislative proposal, contract solicitation, displayed or published for public comment, used to justify compliance decisions, and/or construct or rehabilitate permanent facilities (including but not limited to buildings, campgrounds, walls, roads, trails or utilities). Cartographic products produced during educational, visitor use, cultural or natural resource studies and included in draft review or final reports reference in DO 6: Interpretation and Education, DO 17: Tourism, DO 78: Social Science, DO 28: Cultural Resources or DO 77: Natural Resources, and associated reference materials also require drawing numbers. Materials prepared by other agencies, contractors, or concessioners for NPS use also need to have unique drawing numbers and sheet numbers.

Drawings, maps, and plans prepared by the NPS for its own use or for use by other agencies need a unique drawing number for legal identification and tracking of each set and each sheet in a drawing set. These drawing numbers reflect the development, use, management, maintenance, or preservation of an existing or proposed area of the national park system. The NPS drawing number minimizes the possibility of misplacement or confusion of materials and permits efficient search and retrieval of information.

PURPOSE AND CONTEXT

Because of the importance of drawing numbers in identification, search, and retrieval, responsible parties must assign drawing numbers to drawings prepared for public distribution and to drawings that document the temporal condition of NPS natural and cultural resources in order to make informed resource management decisions. This system for assigning drawing numbers to drawings, maps, and plans establishes a positive means of identifying materials and also facilitates the filing and retrieval of these items from centralized digital retrieval systems, e.g. ANCS+ and eTIC <http://etic.nps.gov>.

Drawing numbers should be given in all memoranda whenever drawings are transmitted. The drawing numbers are a positive means of identification, and they minimize potential difficulties if drawings become detached from the transmittal memoranda.

Drawings, maps, and plans specifically covered by this director's order may include but are not limited to the following:

Air Quality Studies	Legislative Maps
Amendment Drawings	Mining and Minerals Studies
Archeological Identification Studies	Modification Drawings
Archeological Inventories	Museum Exhibit Drawings
Archeological Evaluation Studies	National Historic Landmark Investigations
As-Constructed Drawings	National Natural Landmark Investigations
Boundary Maps	National Scenic Trail Studies
Bridge Studies	National Register Studies
Cemeteries	Natural Resource Studies
Circulation Systems (roads, parkways, & trails)	New Area Studies
Concession Plans	Operation & Maintenance Guides
Condition Assessments	Profiles / Plans
Construction Drawings (including those of historic structures)	Radio System Drawings
Cultural Landscape Studies	Radio System Studies
Cultural Resource Overviews & Assessments	Reconstruction Plans
Cultural Resource Preservation Guides	Regional Plans
Cultural Resource Studies	Resource Aerial Photography
Development Advisory Board (DAB) Submissions	Resource Base Information
Development Concept Plans	Resource Management & Assessment
Earthwork Designs and Studies	Resource Stewardship Plans
Environmental Statements & Assessments (design level)	Restoration Plans
Ethnographic Studies	Road Studies
Existing Condition Studies	Shop Drawings
Fire Management Studies	Site Plans
Furnishings and Equipment Drawings	Space Assignment Drawings
General Management Plans	Special Resource Studies
HABS/HAER/HAL Drawings	Statements for Management
Historic Designed Landscapes	Status Reports
Historic Drawings	Suitability / Feasibility Studies
Historic Furnishing Plans	Topographic Drawings
Historic Resource Studies	Trail Studies
Historic Site Drawings	Transportation Studies
Historic Structure Reports	Utility Type Studies
Historic Venacular Landscapes	Video Communication Studies
Interpretive Plans	Visitor Use Studies
Inventory & Monitoring Reports	Water Resources Studies
Land Acquisition Maps / Studies	Wild and Scenic River Studies
Land Protection Plans	Wilderness Studies
Land Status Maps/Plats	

The Technical Information Center (TIC) has established a Number Generator Web Site at <http://numbers.nps.gov> for use by-parks, system support offices, and other organizational units of the national park system. The Number Generator should be used for all drawings that are subject to DO 10B. TIC is responsible for maintaining and supporting the Number Generator. TIC is part of the NPS, Denver Service Center (DSC) the primary NPS office responsible for providing technical and professional services in support of the NPS Planning, Design, and Construction Program. The National Park Service has designated the DSC Technical Information Center as the central repository for all planning, design, and construction products. The scope of the TIC repository also includes drawings, maps, plans, and related technical reports produced during educational, visitor use, and natural and cultural resource studies that result in draft review or final reports as referenced in DO6: Interpretation and Education, DO 17: Tourism, DO 78: Social Science, DO 28: Cultural Resources, or DO 77: Natural Resources and associated reference materials. Copies of these information products should be filed with the Technical Information Center.

TIC Contact Information:

Technical Information Center
National Park Service, DSC
P.O. Box 25287, Denver, CO 80225-0287 (USPS)
12795 W. Alameda Pkwy., Lakewood, CO 80228 (FedEx or UPS)

Voice: 303-969-2130

Fax: 303-969-2557

<http://etic.nps.gov>

DEFINITIONS

Terms used in the handbook are defined in context. Additional definitions are referenced on the DSC Workflows Website at:

<http://www.nps.gov/dsc/workflows/definitions.htm>

CHAPTER 1: DRAWING SETS

INTRODUCTION

Drawing sets graphically represent project objectives for park planning, design, and construction purposes. Additionally, cartographic products are produced for multiple purposes including but not limited to educational, visitor use, and for cultural and natural resource projects. A drawing set typically consists of graphic plans for park development, reconstruction, historic preservation, boundary or land rights, protection of resources, and/or details to facilitate the execution of various park project objectives. A drawing set is the complete set of drawings, which can be a single sheet or many sheets.

NPS DRAWINGS

Each unit of NPS with a need to generate drawings, maps, and plans is responsible for ensuring that these documents are uniquely numbered.

The base drawing number is the original drawing number assigned to a project drawing set when it is published, e.g. finalized and ready for construction, released for public comment, distributed for public consumption. In Chapter 2, "Assigning Base Drawing Numbers," general guidelines for numbering drawings are detailed.

NPS drawings, maps, and plans include any items prepared for NPS use by: (1) NPS employees, (2) other federal agencies, (3) NPS volunteers, and (4) contractors. Every contract issued by a park, region, or central office should require the use of drawing numbers on the products requested. *It is important for the National Park Service to obtain unlimited reuse and redistribution rights for these graphic resources within any contract.* Volunteer agreements should also contain similar language as necessary. "The Records Management Handbook" that accompanies Director's Order 19, Appendix E, contains contract language for use in A/E contracts to ensure that NPS retains ownership of the drawings, maps, and plans prepared by contractors.

Architect-Engineer (A/E) project drawings that are produced under contract for the use of the Park Service are assigned drawing numbers. A/E firms typically provide services to NPS such as architecture, engineering, landscape architecture, construction inspection and supervision, surveying, estimating, and other technical services related to design and construction.

CONCESSIONER DRAWINGS

Concessioner drawings are utilized for the construction or rehabilitation of concessioner leased building. These drawings may be produced by (1) NPS employees, (2) concessioner employees, or (3) contractors. Concessioners typically

maintain the buildings they lease, and therefore they manage the storage and retrieval of these drawings. To maintain these drawings over time, the National Park Service must maintain a duplicate copy of these plans in the Technical Information Center and, if applicable, in the park's museum collection.

The instructions outlined in Chapter 3 for NPS-generated drawings also apply to concessioner drawings.

DRAWINGS PREPARED BY OTHER AGENCIES

Because all offices may receive drawings prepared by other agencies the drawings that meet DO 10B criteria must be assigned a number for NPS tracking purposes. In cases where another agency wants to assign its own number, that number should be used in addition to, not instead of, the official NPS drawing number.

DRAWINGS PREPARED FOR OTHER AGENCIES

In all cases, drawings that the National Park Service prepares for areas administered by other agencies (e.g. state parks, Bureau of Land Management, US Forest Service, etc.) are also given NPS drawing numbers. The prefixes (three-digit numeric and 4-character alpha codes) for such drawings are available from the Number Generator Web Site that is administered by the Technical Information Center (see Chapter 2, page 19, "Prefix — Park Numeric and Alpha Codes"). The base drawing numbers (see Chapter 2, page 20, "Assigning Base Drawing Numbers") are assigned by the Number Generator Web Site, <http://numbers.nps.gov>.

CULTURAL AND NATURAL RESOURCE STUDIES

Cultural resource studies are defined in parts of Director's Order 28, and associated reference material. Natural resource studies are defined in Director's Order 77 and associated reference material. These studies are frequently required to ensure that an adequate information base is available for planning, design and construction efforts.

- Drawings, maps, and plans prepared with site specific sensitive information should be labeled as sensitive to ensure they are only released to authorized individuals.
- Sketches of archeological site maps and accompanying descriptive information, field notebooks and sketch maps, produced during fieldwork are specifically excluded from this directive.

Various laws prohibit the release of site specific information to the public including: *Antiquities Act of 1906; National Historic Preservation Act; Archeological and Historic Preservation Act; Archeological Resources Protection Act; Abandoned Shipwreck Act; Native American Graves Protection and Repatriation Act; 43 CFR 7, and the Endangered Species Act.*

EXHIBIT PLANS

An exhibit plan is a guide for developing exhibits that support the interpretive themes of a park unit. The final production-ready exhibit plan identifies the museum objects and graphics to be exhibited. Detailed drawings provide specific requirements on environmental and security needs for objects and exhibit cases and any special mounts needed to support objects.

GEOGRAPHIC INFORMATION SYSTEM (GIS) MAPS

Geographic information systems (GIS) are capable of capturing, storing, analyzing, and displaying geographically referenced information; that is, data identified according to location. Maps produced using GIS should be numbered and archived (see Chapter 4) when they meet any one of the following criteria:

- 1) Distributed as part of a contract solicitation.
- 2) Distributed or published as part of a formal publication, e.g. general management plans, special studies, technical reports, completion reports, etc.
- 3) Displayed or published for public comment or public viewing.
- 4) Used to justify compliance decisions.
- 5) Used to construct or rehabilitate permanent facilities (including but not limited to buildings, campgrounds, roads, trails or utilities).

GIS maps specifically excluded from this directive:

- Maps used for ad-hoc reference and not distributed as a formal project information product.
- Maps compiled from proprietary sources where NPS does not have redistribution rights.

HISTORIC PRESERVATION DRAWINGS (*MEASURED DRAWINGS — HABS/HAER/HALS*)

Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscape Survey (HALS) drawings are produced under the direction of the Heritage Documentation Programs Office. They serve as documentary record of a given structure or landscape, although they often serve another purpose, for example: as an easement document, base drawings for restoration work, catastrophic loss protection, or [interpretive drawings](#) that explain how something functioned.

Measured drawings are similar to as-built architectural drawings except that they are generally produced years after a structure is built, not immediately after construction. Measured drawings portray existing conditions and any relevant features of historic structures at the time of documentation.

Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) and Historic American Landscape Survey (HALS) drawings are specifically excluded from DO 10B. Drawing numbers for HABS/HAER or HALS can be obtained by checking the Library of Congress's American Memory Project Web Site: http://memory.loc.gov/ammem/collections/habs_haer/ or by contacting the Heritage Documentation Programs Office, 202-354-2250.

Historic preservation drawings that are not produced under the direction of the Heritage Documentation Programs Office are assigned drawing number by TIC staff or the Number Generator. The eTIC System indexes the HABS/HAER and HALS drawings accessioned into TIC with numbers assigned by the Number Generator and includes a searchable reference to the official drawing number.

LEGACY DRAWINGS

Legacy drawings are a main collection of drawings and maps that encompass a chronological or functional history of a park's past, cultural resources, natural resources, and current planning, design, and construction projects. These drawings/collections may be stored at a park, a regional facility, or at central facility (e.g. TIC) and may include historical, archival, and museum collections.

SHOP DRAWINGS

Shop drawings are submitted by the construction contractor or a subcontractor at any level/tier. They are typically required under a construction contract and are part of the official contract file. Shop drawing data are essential for servicing, maintaining, modifying, or redesigning NPS facilities. Each shop drawing needs to reference the contract number, Project Management Information System (PMIS) number, and drawing number. The proper identification of this information during the construction project is critical to facilitate communication between project participants, accomplish work, and identify needed changes.

TOPOGRAPHIC AND SITE SURVEY MAPS

Topographic maps show a site's natural characteristics and artificial elements, and may include boundary, easement, and other land ownership information. The graphic delineation details natural and man-made features of a place or region, relative to position and elevation. A site survey overlays the location of buildings, natural and cultural features, land ownership information, utilities, roads, and trails on a topographic map.

CHAPTER 2: NUMBERING DRAWING SETS AND SHEETS

DRAWING NUMBER COMPOSITION

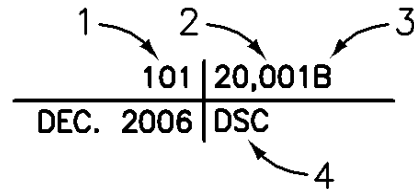
A drawing number is composed of three parts — a park prefix code, a base drawing number and, if needed, a revision letter. The park prefix code includes a numeric code assigned by the Number Generator or the TIC staff. The base drawing number reflects the consecutive order in which the item number was requested. The revision letter indicates an as-constructed drawing set. Chapter 3, pages 25-37, presents guidelines on revision letter designation.

The combination of the prefix code, the base drawing number, and revision letter form a unique drawing number used for identifying, filing, and retrieving items. These components are illustrated in Exhibit 2-1, and described on page 19, in Chapter 2, “Prefix — Park Numeric and Alpha Codes.”

EXHIBIT 2-1: DRAWING NUMBERS

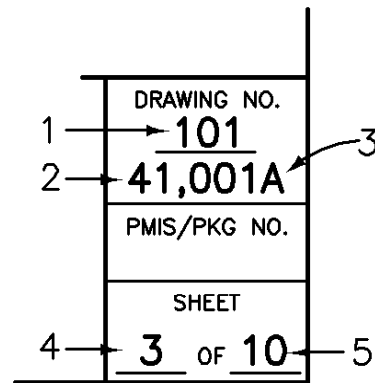
PLANNING MAPS AND PLANS

- 1—Prefix
- 2—Base Number
- 3—Revision Letter
- 4—Originating Office



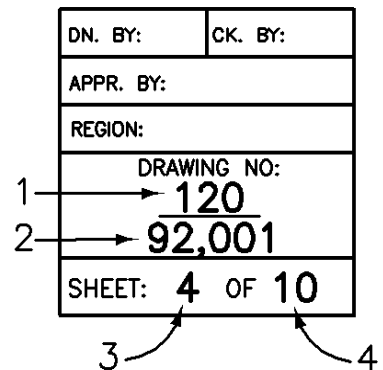
CONSTRUCTION DRAWINGS

- 1—Prefix
- 2—Base Number
- 3—Revision Letter
- 4—Sheet Number
- 5—Total Number of Sheets



LAND MAPS

- 1—Prefix
- 2—Base Number
- 3—Sheet Number
- 4—Total Number of Sheets



Please note that it is not necessary to renumber any maps or drawings that have already been previously assigned a drawing number in conformity with past reference manuals.

PREFIX —PARK NUMERIC AND ALPHA CODES

Existing Areas

Existing areas are public lands and buildings that have received federal designation and authorization and have been incorporated into the national park system. These areas have assigned identifying numeric and alpha code identifiers.

Park Numeric Prefix Code — The prefix for an existing national park system area or office is a three-character numeric code or alpha-numeric code used for identification and filing purposes. The park numeric prefix is assigned by Technical Information Center staff.

Park Alpha Code — The four letters of the name of the area are used to create an alpha code. For single-word names, the first four letters of the name are used (e.g., DINO for Dinosaur National Monument); for multiple-word names, the first two letters of the first two words are used (e.g., DRTO for Dry Tortugas National Park). If the alpha code conflicts with a preexisting code, the conflict is resolved by staff at the National Information Systems Center in Denver, Colorado.

Proposed Areas

Public or private lands and buildings that are awaiting federal designation and authorization to be incorporated into the national park system are called proposed areas. The numeric and alpha codes for a proposed area of the national park system are assigned by Technical Information Center staff.

Alpha/Numeric Prefix Code — When an area is proposed for addition to the national park system, a three-character alpha-numeric prefix is assigned to the area – for example PXX or TXX.

The alpha/numeric prefix code for a proposed area is converted to a three-digit numeric code when the area is authorized for inclusion in the national park system. A complete listing of the park alpha/numeric prefix codes may be downloaded from the eTIC web site (<http://etic.nps.gov>) by clicking on the help button.

BASE DRAWING NUMBERS

Current base drawing numbers have six digits, although legacy drawings may have 1- 5 digit numbers. The numbers indicate the consecutive order in which the drawing number was. The base drawing number is assigned by the Number Generator Web Site, <http://numbers.nps.gov>.

The prefix and the base drawing number (Exhibit 2-1) together form the original drawing number used for identification, filing, and retrieval purposes. Once a base drawing number is assigned to a drawing set, it remains as that number for the set regardless of the number of revisions. Any subsequent changes to the drawing set are handled by assigning revision letters to the affected sheet number (see Chapter 3).

ASSIGNING BASE DRAWING NUMBERS

Anyone with access to the NPS network can request a number for a drawing or document. Users of the Number Generator are authenticated by Active Directory. The first input screen requests users to select a park or program office from a drop down list. They are required to select Drawing or Document and input a title. The Number Generator then searches for records with similar titles at the same park and displays the results. If the title is not already present in the system, the user can then save their entry and generate a new number. The number is then displayed to the user for on drawing sets or documents.

NUMBERING SHEETS

Sheet Numbers

The proper numbering of drawing sheets is an important step in the identification and numbering process. Whenever drawing sets contain multiple sheets, consecutive numbers are assigned to identify the separate sheets. The consecutive sheet numbers should be recorded in the title blocks of the separate sheets (see Exhibit 2-2).

Sub Sheet Numbers

Sub sheet numbers are used in addition to sheet numbers for identifying discipline-specific groups of drawings within a set of drawings. Sub sheet numbers should begin with the first letter of the discipline they represent. Architectural sheets would be numbered A1, A2, etc. Civil engineering drawings would be C1, C2, etc. Sub sheet

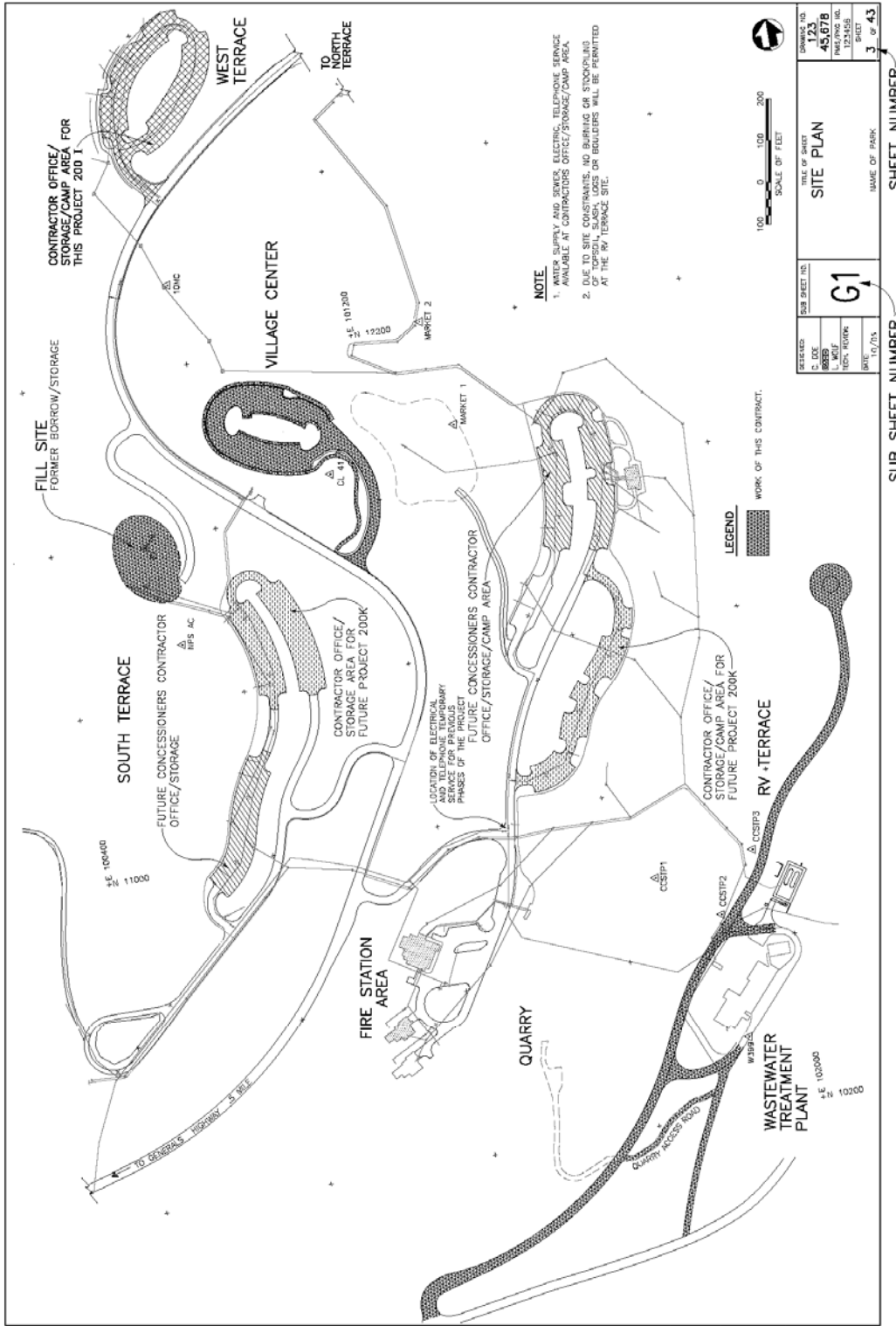
numbers should be located to the left of the sheet title, in the title block (see Exhibit 2-2).

EXHIBIT 2-2: SHEET NUMBERS / SUB SHEET NUMBERS

DESIGNED: R. SMITH	SUB SHEET NO. C2	TITLE OF SHEET DEMOLITION PLAN	DRAWING NO. 472
DATE S. JONES			41,010
TECH. REVIEW:			PMIS/PKG NO. 12345
DATE: 8/2005			SHEET 5 OF 117
Sub Sheet Number		Sheet Number	

The following page, Exhibit 2-3, shows the location of the title block on a full size drawing. The sheet number and the sub sheet numbers are shown in the title block.

EXHIBIT 2-3: SHEET NUMBER/SUB SHEET NUMBER LOCATIONS



CHAPTER 3: DESIGN PHASES, MODIFICATIONS AND NUMBERING EXCEPTIONS

INTRODUCTION

Each phase of the design and construction process represents the progression of a project. The phases leading up to final completion of the project should be documented for legal purposes. All project phases should be reviewed for compliance with project requirements, NPS directives and standards, the National Environmental Policy Act, Section 106 of the National Historic Preservation Act, and national and local codes, etc. During each phase of the contract, submittals (e.g. manufacturer’s data sheets, architectural samples, shop drawings, etc.) are received from the contractor for the purpose of approval or other action. Submittals are usually required by the contract documents. Changes to the original drawings are reflected on the as-constructed drawings as part of the final project deliverables.

EXHIBIT 3-1: SUBMITTAL PHASES

Project Phase	Submittal Phase	Versions
DESIGN	Construction Documents	Base Drawing Number
	Final construction documents	
	Amendments	
CONSTRUCTION	Construction	A
	Modifications	
	As-constructed	

PROJECT DRAWING PHASES

As part of the design and construction process, NPS design offices prepare pre-design and schematic design drawings. These drawings are later converted into working (construction) drawings and finally into as-constructed drawings. Revisions, corrections, or additional information may be included on the drawings at any stage (see Exhibit 3-1) in the preparation of design and construction drawings.

Historic Structure Report (HSR) or Cultural Landscape Report (CLR) Drawings

HSR or CLR drawings are prepared in support of Historic Structure Reports and Cultural Landscape Reports and are formatted to HSR and CLR standards. There are typically three types of HSR and CLR drawings:

1. **Historic Drawings** - Derived from original historic design documents
2. **Existing Condition Drawings** – Drawings and annotations based on field measurements, sketches, and on-site observations in support the HSR physical description narrative.
3. **Recommended Treatment Drawings** – Drawings and annotations based on existing condition drawings that illustrate and annotate recommended preservation, restoration, adaptive use, or rehabilitation treatments in support of the HSR recommended treatments narrative.

All of these drawing types may be used to develop contract drawing documents. A more complete listing and description of project phases can be found on the DSC Workflows Website:

<http://workflow.den.nps.gov/>

Design Drawings

- **Pre-design drawings (PD)** often show relationships, adjacencies, space needs, and other general project requirements.
- **Schematic Design Drawings (SD)** are typically quick, free-hand, artistic sketches using various graphic media that can range anywhere from trace and pencil to presentation board with color photo-real computer simulations. Graphics are diagrammatic, not always to scale, illustrating proposed building and site designs. Specific to NPS, schematic design is used to verify and clarify the technical and spatial assumptions made in the project program. Schematic sketches capture the essence of the design in plans, elevations, sections, and perspectives. This is a critical phase for studying and resolving important design issues.
- **Design Development Drawings (DD)** are based on the approved final schematic design of a preferred alternative. These drawings consist of formalized, formatted, scaled drawings on standard NPS border sheets. All of the required disciplines (such as architecture, electrical, and mechanical) participate and begin integrating and cross-referencing graphic information. Design development drawings are typically 40% complete construction drawings. Formerly, these drawings may have been labeled as preliminary drawings.
- **Final Construction Drawings (CD)** are complete and ready for contract procurement processes. These documents are maintained in NPS archives per legal requirements.

Construction Drawings

- **As-Constructed Drawings (ACD)** are the final set of drawings for a project. They show the final constructed project with all revisions, amendments, and modifications incorporated. These drawings are also known as as-built drawings. The as-constructed drawings are the most important set of drawings in the design and construction process because they represent a graphic record of the finished product. After construction is complete, all revisions and changes that reflect the facility as constructed must be duly noted and recorded on the appropriate drawings. The completed as-constructed drawing set is the legal record copy of the project. This set of drawings is used for maintenance and minor modification work; therefore, these drawings should be kept current after the facility is in operation. If new work is required, new drawings should be created and a new number assigned. As these records are vital to the maintenance and rehabilitation of the facility, a full-size set of Mylar prints should be produced for these drawings.

REVISION LETTER — DRAWING SETS

A revision letter of A is assigned to a final construction drawing set only for the As Constructed Drawings. Changes by amendment or modification to the details, images, or information of the construction set of documents are noted on each sheet and on the cover sheet (see Revision Letter – Drawing Sheets). When more than 50% of the drawing has been revised or modified, a new drawing number should be requested from the Number Generator. Drawings reissued for bid can use the same number as long as a note is added to the cover sheet explaining that the set has been reissued. Pre-design and schematic design drawings are now published as documents (half size drawing in a portfolio), document numbers can also be requested from the number generator for documents that go through a formal review process.

The revision letter is always capitalized. The person making the revision records the letter in the revision block on the updated cover sheet and notes the date of the revision, his or her initials, and a description of the revision listing the revised drawings (see “Revision Letter – Drawing Sheets” page 29). The preparer must notify the office that assigned the base drawing number that a drawing revision has been made.

General directives for assigning revision letters are found in Exhibit 3-1.

MODIFICATIONS

In the preparation and numbering of drawings within contract documents, special procedures are needed to ensure that all changes, corrections, and additions are adequately noted and recorded. These procedures apply to single-sheet drawing sets or to multiple-sheet drawing sets that require updating individual sheet information and to the base drawing number. Contract documents form the legal agreement between the owner and the contractor. These documents include all construction documents except bidding requirements. When a contract is awarded, for example, the solicitation number on the cover sheet transitions into a contract number for the construction and as-constructed drawing sets.

Contract Modification: Also referred to as a mod or a change order. A modification is any written change in the terms of a contract after a project is awarded.

Specific procedures shall be followed when making modifications to drawings after the contract is awarded. All changes made to a set of drawings should be identified on the cover sheet. After approval of the modification number should be noted in the revision block on the cover sheet of the construction drawing set. The date and initials of the person making the revision should be noted in the revision block, along with a description of the revision. The individual sheet or sheets that have been changed or added should be recorded on the cover sheet revision block and on the sheet index (see Exhibits 3-2 and 3-3).

The procedures below are applied when new sheets are added to a set of drawings because of a modification order:

1. Procedures for drawing sets where **less than 50%** of the drawings are altered see Section “Revision Letter — Drawing Sheets” (page 29).
2. When **more than 50%** of the drawing set is altered, then a new drawing number must be requested. See Section “Revision Letter — Drawing Sets” (page 27).

In both instances, these changes must be noted in the revision block on the cover sheet, with the description of the change given as well as the modification number (see Exhibit 3-2).

EXHIBIT 3-2: REVISION BLOCK

Mark	Sheet	REVISION	Date	Initial
▽1	1A,5A, 7A, 51-53	AMENDMENT NO.1 REVISED SHEET 1,5,7 ADDED SHEETS 51-53	4/06	MES

The revision block shows modifications to a set of construction drawings that have been issued for bid. Block information should include the following:

- an identifying mark (a triangle with a number or letter that is used to key the information in the revision block to the part of the drawing it applies)
- the sheet number(s) of the sheets with that change or addition
- a description of the revision (i.e. modification, etc.)
- date of revision
- initials of person responsible for the revision

REVISION LETTER — DRAWING SHEETS

A revision letter is added to the sheet number on the revised drawing (e.g., 1A of 2) because of a change by modification to show it as the updated version of the original sheet. Depending on the nature or extent of revisions in this process, one of the procedures described below should be used for updating the index sheet and drawing sheet(s).

Updated or Superseded Sheets

A superseded sheet is a replacement sheet that includes all currently revised information. For example, existing information on sheet 5 of 120 in a drawing set is revised by a modification order. The sheet is updated to reflect the revision, or a replacement sheet is generated that includes all current information. The revised sheet or the replacement sheet is numbered sheet 5A of 120. This information is noted in the sheet index and revision block on the cover sheet, *but the base drawing number is not changed* (see Exhibit 3-3). When the as-constructed drawings are prepared, all changes are incorporated and the sheet numbers start over. For example, sheet 5A is

renumbered sheet 5, and the entire updated set is then identified by a new revision letter to the base drawing number.

Adding Additional Sheets

An additional sheet is a completely new sheet that is added to an existing drawing set also called supplemental sheets.

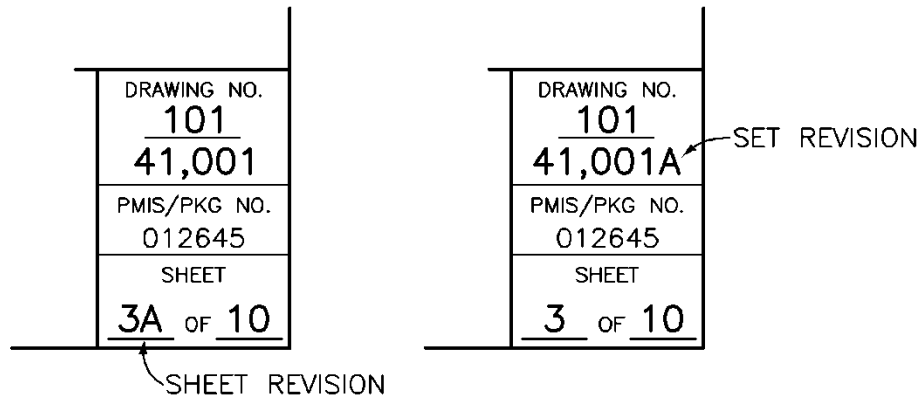
- When additional sheets are added to a drawing set, they are added to the end of the set.
- The cover sheet and, if separate, index sheet are renumbered as sheet 1A, 1B, or 1C (etc.) and sheet 2A, 2B, or 2C (etc.).
- The additional sheets are noted on the index sheet in sequential order.
- The revision box on the cover sheet is updated to indicate the sheets added and the revisions to sheets 1 and 2. For example when there are three existing architectural sheets and an additional sheet is added, the sub sheet number would be A4, etc.
- The sequential sheet number would be one number greater than the last sheet in the drawing set — for example if the original set contained 50 sheets, the added sheets would be numbered 51, 52, 53, etc. The overall sheet count stays the same unless the entire set is renumbered, e.g. 51 of 50.

When the as-constructed drawing set is prepared, all changes are incorporated into the final set, including:

- All sheet revision letters on individual sheets are removed.
- Sheet revision letters in the cover sheet index are removed.
- Sheets added during construction to the end of the set are integrated with their disciplines.

The entire set is then renumbered sequentially and the next set revision letter is assigned to the drawings.

EXHIBIT 3-3: SHEET REVISION LETTER & SET REVISION LETTER



In the examples above, any revision or modification to a set of drawings *shall be clearly noted on the cover sheet and described in the revision block*. Anyone looking at the cover sheet should be able to readily identify the correct and current information for that project.

See Exhibit 3-4 for a sample cover sheet noting a modification. The revision block addresses the sheets changed, and the title block shows a sheet revision.

EXHIBIT 3-4: REVISION BLOCK/SHEET REVISION

LEGEND

- PARK BOUNDARY
- STATE LINE
- PAVED ROAD
- UNPAVED ROAD
- RIVER
- V.C. VISITOR CENTER
- HQ. PARK HEADQUARTERS
- RANGER STATION
- PICNIC AREA
- CAMPGROUND

INDEX

SUB SHEET	TITLE OF SHEET
V/A	COVER SHEET/NETWORK SITE PLAN
1	SYMBOL SHEET
2	PARKING AREA LAYOUT
3	PARKING AREA GRADING PLAN
4	WATER LINE PLAN AND PROFILE
5	STANDARD DETAILS
6	PLAN AND DETAILS FOR ROADWAY
7	SITE PLAN BUILDING TRACKS
8	VISITOR CENTER IRRIGATION LAYOUT
9	ELEVATIONS
10	RENOVATION FLOOR PLAN
11	DETAIL SHEET
12	FOUNDATION AND FLOOR FRAMING PLAN
13	SECOND FLOOR FRAMING PLAN
14	ROOF FRAMING PLAN
15	ROOF BRACING AND DIAPHRAGM PLAN
16	MECHANICAL BEAMS DETAILS
17	MECHANICAL FLOOR PLAN
18	HVAC SECTIONS
19	WASTE AND VENT PLAN
20	ELECTRICAL SYMBOL LEGEND
21	ONE LINE DIAGRAM
22	PUMP AND LIGHTING PLAN, SCHEDULES, CONTROL WIRING DIAGRAM
23	FIRE/INTRUSION ALARM RISER DIAGRAM AND LIGHTING PROTECTION

REVISION BLOCK

NO.	DATE	BY	DESCRIPTION
1	10/11/09

REVISION SHEET

NO.	DATE	BY	DESCRIPTION
1	10/11/09

QUALITY ASSURANCE CERTIFICATION

Checked by: [Signature] Date: 11/25/09
 Drawn by: [Signature] Date: 11/25/09
 Designated by: [Signature] Date: 11/25/09
 Checked by: [Signature] Date: 11/25/09

CONSTRUCTION DRAWINGS

UNITED STATES DEPARTMENT OF THE INTERIOR
 GRAND TETON NATIONAL PARK
 ROYAL SERVICE CENTER

SHEET REVISION

PROJECT NO. 41-1001-
 DRAWING NO. 01224
 SHEET 1A OF 3

SCALE OF MILES

0 1 2 3 4 5 6

SCALE OF FEET

0 10 20 30 40 50 60 70 80 90 100

GRAND TETON NATIONAL PARK

BASED DATA, U.S.G.S. TOPOGRAPHIC MAP 1986. COVER SHEET REVISED & REDRAWN 6/93.

EXHIBIT 3-5: REVISION BLOCK/SET REVISION

LEGEND

- PARK BOUNDARY
- STATE LINE
- PAVED ROAD
- UNPAVED ROAD
- RIVER
- V.C. VISITOR CENTER
- HQ. RANGER STATION
- PICKING AREA
- CAMPGROUND

INDEX

SUB SHEET	TITLE OF SHEET
1	COVER SHEET
2	PROJECT OVERVIEW SITE PLAN
3	FOUNDATION AND FLOOR FRAMING PLAN
4	FOUNDATION AND ROOF FRAMING PLAN
5	FOUNDATION DETAILS
6	FOUNDATION DETAILS
7	FOUNDATION DETAILS
8	FOUNDATION DETAILS
9	FOUNDATION DETAILS
10	FOUNDATION DETAILS
11	FOUNDATION DETAILS
12	FOUNDATION DETAILS
13	FOUNDATION DETAILS
14	FOUNDATION DETAILS
15	FOUNDATION DETAILS
16	FOUNDATION DETAILS
17	FOUNDATION DETAILS
18	FOUNDATION DETAILS
19	FOUNDATION DETAILS
20	FOUNDATION DETAILS
21	FOUNDATION DETAILS
22	FOUNDATION DETAILS

AS CONSTRUCTED DRAWINGS
 CONTRACT NO. 1443CX16009213
 PROJECT SUPERVISOR: M.J.SMITH
 CONTRACTOR: JONES CONSTRUCTION
 1111 W. HAWAII
 SEATTLE, WASHINGTON

AS-CONSTRUCTED DRAWINGS
 UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE
 DENVER SERVICE CENTER

REVISION BLOCK

NO.	DATE	BY	REASON
1	10/28/09	DEB	REVISED SHEET 1.4.7
2	11/19/09	DEB	AS-CONSTRUCTED

QUALITY DESIGN CERTIFICATION

DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 11/25/09

SET REVISION

NO.	DATE	BY	REASON
1	11/25/09	DEB	SET REVISION

SCALE OF MILES
 0 1 2 3 4 5 6

SCALE OF KILOMETERS
 0 1 2 3 4 5 6

GRAPHIC INFORMATION

PROJECT NO. 1443CX16009213
 SHEET NO. 41007A
 DATE: 11/25/09

NOT IN CONTRACT (N.I.C.) SHEETS

Sheet(s) in a drawing set that are cut from the final bid or construction set are to be noted as “Not in Contract.” This wording should appear in large or bold print on the drawing sheet. Additionally, it should have an “X” crossing out the drawing sheet from end-to-end. It should also be noted in the index next to the sheet title as “N.I.C.” All sheet numbering remains the same.

DRAWING NUMBERS FOR SPLIT PROJECTS

A split project begins as one drawing set and is later divided when the work needs to be separated. This can be due to emergency repairs or construction that requires immediate attention. Split projects require a new drawing number for each additional project. This will help delineate between the main project and any side projects that are separated out. Each project will continue on independently and require its own set of as-constructed drawings. The originating office should be contacted before an additional drawing number is assigned to any split project. All drawings will be cross-referenced in the TIC database to keep track of the work done.

DRAWING NUMBERS FOR COMBINED PROJECTS

Combined projects are drawings that were formerly given independent drawings numbers that are later combined to form one drawing set. A new drawing number will be assigned to signify the new combined drawing set. The originating office should be contacted before revising the drawing numbers of combined projects. All drawings will be cross-referenced in the TIC database to keep track of the work done.

MULTIPLE PROJECTS WITH A SINGLE PMIS NUMBER

The Project Management Information System (PMIS) is a servicewide NPS intranet application to manage information about requests for project funding. It enables parks and NPS offices to submit project proposals to be reviewed, approved, and prioritized. If a PMIS number involves more than one project, more than one set of construction drawings will be required, a new base drawing number is assigned to each set of construction drawings prepared for the construction project. In such a case, the individual set of construction drawings results in its own as-constructed drawing sets, and any modifications are identified by separate item numbers for each set as illustrated below:

Project 1 or phase 1	130/100002
Project 2 or phase 2	130/100003

MULTIPLE PMIS NUMBERS FOR A SINGLE PROJECT

A drawing set can have multiple funding sources and thus multiple PMIS numbers. All PMIS numbers should be listed on the cover sheet of the drawing set, either in the package/PMIS number box and/or under the solicitation number.

SHELVED PROJECTS

Shelved projects are put aside and not started or finished until further funding is provided or other processes are completed. Shelved projects that do not have any changes when the project is to be continued can resume where they left off. If there are major changes (half or more of the drawings are revised), a new drawing number should be requested. Smaller changes are addressed by modifications. Projects that are to be rebid should use the same drawing number and follow procedures for Reissued Drawings below. For shelved projects that are cancelled, TIC should receive a full-size mylar copy as this set will stand as the final document for the project under that specific drawing number.

REISSUED DRAWINGS


Drawings that did not make it through a successful bid and that are rebid are identified as a reissued bid package. On the cover sheet a new solicitation number replaces the old one (see Exhibit 3-6). The solicitation number tracks documents used by the government in the bidding process to request submission of an offer, quote, or information.

If no changes are made to the drawings, the words "Reissued for bid, no changes to the drawings" and the date are added to the revision block. If changes are made to the drawings, the words "Reissued for bid", the sheet numbers of the revised drawings, and the date are added to the revision block.

EXHIBIT 3-6: REISSUED DRAWINGS

**PMIS 012564
1443IB160092125**

A REVISION LETTER IS ADDED TO THE DRAWING NUMBER WHEN A SET OF DRAWINGS IS REISSUED FOR BID

	CONSTRUCTION DRAWINGS	TITLE OF PROJECT SITE IMPROVEMENTS	DRAWING NO. <u>101</u>
	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DENVER SERVICE CENTER	LOCATION WITHIN PARK LEIGH LAKE PICNIC AREA	NAME OF PARK GRAND TETON NATIONAL PARK
		REGION COUNTY STATE ROCKY MTN. TETON WYOMING	SHEET 1 of 10

CANCELLED PROJECTS

Projects that have been cancelled need to be closed out. All final draft or 100% complete construction documents or drawings should be archived. Projects terminating in the construction phase require a full-size Mylar drawing set, because it will stand as the final product. The last completed phase of the project should be turned into the Technical Information Center.

REVISING LAND STATUS MAPS

Land status maps are prepared from the best available information of record including official documentation such as; survey plats, legal descriptions, deeds, and legislation. Base maps, showing prominent physical features from USGS topographic maps and/or remotely sensed imagery as well as geographic grid information from a variety of systems like State Plane, UTM, and the Public Land Survey System (PLSS), are used to prepare land status maps.

Land status maps outline each individual parcel of land, assign the parcels unique tract numbers, and reports the current status of each tract. When revisions to land status maps are required, a change order is prepared for documentation. Change orders document changes to existing NPS units like boundary expansions, land exchanges, or the subdivision of an existing parcel. The NPS Land Resources Division generates all change orders and applies them to the land status maps.

No revision change is made to the base drawing number; however, such revisions should be noted in the revision block on each drawing, along with the date of the revision and the change order number. For example, the revision block was revised in

January 2002; however, the July 2006 revision block is also acceptable if an older sheet is being updated (see Exhibit 3-7).

EXHIBIT 3-7: REVISION BLOCK FOR LAND STATUS MAPS

7/2/06	C.O. 5230-5	PSR
11/21/05	C.O. 5230-4	PSR
12/01/03	ADD TRACT 01-121	GPY
1/27/02	ADD TRACT 01-120	DTK
DATE	REVISION	BY

CHAPTER 4: FILING AND RECORDS MANAGEMENT

INTRODUCTION

Assigning unique numbers to drawing sets and sheets provides a way to identify them throughout their life cycle. The originating office of each drawing set is responsible for requesting a drawing number from the Number Generator, maintaining the drawing set until the office no longer has an ongoing need for the drawings, and ensuring that the drawing set is archived with the park and with TIC. Each step in the life cycle of a drawing set is important and serves a purpose.

REQUESTING BASE DRAWING NUMBERS

Any NPS unit can request a drawing number from the Number Generator, <http://numbers.nps.gov>. Before generating a number, the Number Generator automatically searches for matches to drawings to numbers are not duplicated. The original drawing or a copy of the completed drawing should be forwarded to TIC for cataloging, scanning, microfilming, and on-line retrieval.

RECORD LIFE CYCLE

The originating office is responsible for maintaining the drawings while they have a continuing need for them. When the originating office has ceased to have an immediate and frequent need for a drawing set, it should be offered to the park archivist for inclusion in the archives and scanned by the Technical Information Center for inclusion in the eTIC System. The museum staff will ensure that the drawing is preserved for long-term use. If the park archivist does not want the drawing, it can be sent to the Technical Information Center for long-term storage.

BENEFITS OF ARCHIVING DRAWINGS

Drawings, maps, and plans are typically the result of projects completed for the National Park Service. These information products represent a substantial investment of time, money, and planning. Printed copies of drawings, maps, and plans are frequently large and require oversize file storage space, continuous maintenance, and occasional rehabilitation to maintain. Lessons learned from past projects whether they are design, construction, cultural or natural resource projects enrich agency knowledge and preserve these ideas for reuse throughout the national park system. Maintaining the drawings, maps, and plans with the project information files in the park archives collection preserves the complete project history for each NPS office for interpretive, legal, and research purposes.

Benefits of archiving planning, design, and construction drawing, maps, and plans:

- Accurate facility drawings enable NPS staff to maintain and rehabilitate these facilities economically and assist in preserving their historic significance.
- Good documentation eliminates the need to re-create drawings from scratch, search for buried utilities, and send out samples of paint for expensive analysis when working to restore an original structure.

Benefits of archiving natural and cultural resource management drawings, maps, and plans:

- Recording the temporal condition of natural and cultural resources provides valuable information on NPS conservation and preservation efforts.
- Using a unique number will not only help track and locate individual drawings, maps, and plans, it will also provide a unique number for use in the ANCS+ Archive Module as a way to track individual item level documents.

BENEFITS OF ETIC SYSTEM FOR DRAWINGS, MAPS, AND PLANS**Accessibility**

Drawings loaned or donated to the Technical Information Center are cataloged, scanned, and made available on-line via the eTIC web site at <http://etic.nps.gov>. TIC staff, with the assistance of staff in each park unit, are responsible for maintaining a servicewide index listing drawing information that is instantly retrievable for NPS use via the eTIC website. Sending materials to TIC will help provide greater access to this information. Keeping accessible image files of NPS drawings, maps, and plans available in the eTIC System <http://etic.nps.gov>, facilitates searching for similar projects when new studies and/or facilities are planned.

Scanned or PDF copies of 100% draft and final cultural or natural resource studies included in draft review and final reports (as referenced in DO 28 and DO 77) and design & construction drawings should be filed with the Technical Information Center. This includes each revision of a drawing set. Full size bond paper hardcopies are suggested for drawing sets to achieve the highest quality scan. Hardcopies can also be visually checked for accuracy. PDF files are preferred for drawings, maps, and plans that rely on a color coded key for meaningful interpretation.

Sending drawings, maps, and plans to TIC will help provide greater access to this information. The ability to provide copies of this information helps park archives to protect the original documents while continuing to provide access to the information.

Preservation

TIC staff will ensure that the digital images of drawings are microfilmed for long-term preservation. For long-term archiving purposes, TIC produces a duplicate record copy on 35mm roll microfilm after scanning the original drawings. Official NPS records are managed according to *Director's Order #19: Records Management and the Records Management Handbook* and National Archives and Records Administration standards.

Electronic Files

TIC does accept electronic files of design and construction drawings as a secondary media. Electronic files are subject to corruption and un-readability due to periodic changes of software versions and products. Additionally electronic files need to be visually checked for accuracy before they are submitted for distribution through eTIC or archived.

At this time, AutoCAD files are not housed in an intelligent, retrievable system that can produce drawings, maps, and plans on demand. Drawing files in AutoCAD, MicroStation or similar drafting software products should be saved on a CD-ROM or DVD. Copies can also be deposited with the Technical Information Center. Alternative formats should be negotiated with TIC staff before transmission. The park prefixes and the base drawing numbers are assigned for electronic files in the same manner as for hard-copy drawings.

Electronic files need to be transmitted to the Technical Information Center labeled with the following information:

- Park four-letter alpha code and Drawing Number (e.g. SEKI 41,019)
- PMIS Number (e.g. PMIS 045555)
- Deliverable Milestone (e.g. Final Construction Document, As-Constructed Drawing, etc.)
- Project Title
- Location within Park (if applicable)
- Date submitted (e.g. December 14, 2004)
- Name of A/E Prime Contractor
- Number of CD ROM/Total number of CD ROMs (e.g. 1/1, 2/3)
- Level of security

Only uncompressed files should be sent to TIC staff for long-term storage and maintenance. Additional information about acceptable formats and media for electronic files can be downloaded from the internal DSC Workflows Web Site: <http://workflow2.den.nps.gov/>. This information is located under the Design tab and linked to the Submittal Formats button.

Drawings that conform with NPS drafting standards outlined in DO 10A and associated reference manuals can be scanned for inclusion in the TIC collection at 300 dpi resolution. If the drawing has colored text or the line density is greater than specified in the reference manual for 10A then 400 dpi is recommended. If these resolutions do not produce accurate print copies of the drawings then higher resolutions may be needed. Contact TIC for further information.

GIS data sets are considered to be data sets and not formally published maps that are archived or numbered by TIC. GIS data sets can be stored and accessed on the GIS Data Store web site at <http://science.nature.nps.gov/nrdata/>. Contact a regional GIS coordinator for additional information.

Security Controls

The eTIC System currently contains security controls to narrow access to drawings, maps, and plans. Controls are based on the user's security group category and the security categorization of the drawing set. Drawings are categorized according to the highest level of security for the entire set. For example, if a drawing set contains plans for the museum building including its burglar alarm, then the entire set is classified as sensitive. User groups are divided into various access categories including: Public; NPS Employee /Contractor, or Volunteer; Archaeology/Anthropology; and Special Groups. Additional information about the security levels of documents and user groups defined within the eTIC System can be found in "About TIC" information page on the website: <http://etic.nps.gov/content/abouttic.pdf>

**APPENDIX A:
SUMMARY OF COMMENTS
FROM INTERNAL REVIEW**

DIRECTOR'S ORDER

Comment: Clarify the definition of maps and drawings that should be numbered under this Director's Order, e.g., (1) to what extent are GIS maps numbered according to this draft; (2) what drawings other than planning, design and construction drawings are included under this Director's Order; (3) shouldn't, interpretation, visitor use studies, cultural, and natural resources drawings be specifically mentioned in the Order; and (4) the document should address how to deal with preserving maps derived from "external" sources of information.

Response: The definition of what maps are to be numbered according to the Director's Order was clarified (see below for new language). Also specific examples of maps, drawings and plans are listed in the Reference Manual.

Because of the importance of drawing numbers in identification, search, and retrieval, responsible parties must assign numbers to drawings prepared to document the use, maintenance, preservation, management, or development of an existing or proposed area of the national park system. [Section 3.A, 1st sentence]

All documents submitted to TIC for long-term preservation and management pursuant to Director's Order #19 will be numbered in accordance with this Director's Order. [Section 3.B, 2nd sentence]

Additional instructions/guidance for proper assignment of drawing numbers to various types of products is found in RM-10B. Chapter 1 thereof provides additional examples of drawings subject to this Director's Order. [Section 3.F]

Additionally, some maps produced by GIS Systems were specifically excluded from the Director's Order as follows:

- Drawings, maps, and plans used for ad hoc reference and not distributed as formal project information products;
- Drawings, maps, and plans compiled from proprietary sources where the NPS does not have redistribution rights; [Section 1]

Comment: Does this mean archaeological site sketch maps will be located both in archaeological site file folders (current practice) and also in TIC? If also in TIC, will they have the same level of security and controlled access since they are part of the sensitive data set for archaeological sites? We have over 3,800 archaeological sites in our park, so adding another number in addition to the

present site number to all maps as well as making copies for TIC storage would be a major endeavor. The ASMIS system already exists for tracking site number information.

Response: Again, archaeological site sketch maps were specifically excluded from this Director's Order:

- Sketches of archeological sites and accompanying descriptive information, notebooks, and site records, produced during field work; [Section 1]

Comment: HABS/HAER and HALS drawings should be specifically excluded from this Director's Order since they have their own numbering system which was established in cooperation with the Library of Congress.

Response: A special exclusion for HABS/HAER and HALS drawings was also added to the Director's Order:

- Drawings, maps, and plans prepared as part of the Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or the Historic American Landscapes Survey (HALS), and numbered by the Heritage Documentations Program in cooperation with the Library of Congress. [Section 1]

Comment: Using the TIC unique number will not only help track and locate the drawing, map or document, but it will also provide a unique number for use in the ANCS+ Archive Module as a way to track individual item level documents.

Response: This benefit was added to the first paragraph of Section 1:

This unique identifying number minimizes the possibility of misplacement or confusion of materials and permits efficient search and retrieval of information necessary for work at each park and in centralized digital retrieval systems, e.g. ANCS+ and eTIC

Comment: I would rather see TIC in charge of an online logbook for assigning numbers for all units. In my opinion these regional and park level log books should be eliminated to stop the potential of duplication of numbers that actually seems to happen all too often.

Response: The Number Generator Web Site was established to answer this concern. It can be found at the following URL: <http://numbers.nps.gov> .

Comment: We typically use PMIS package numbers on all projects and it would be an important item to include in document record keeping. Also most design drawings are processed in electronic files so you may want to consider direction on electronic file names. PMIS and electronic files are mentioned in Reference Manual 10B, but since they are currently primary design items you may want to reference them in the Director's Order as well.

Response: All references to package numbers have been replaced with references to PMIS numbers in the document. PMIS numbers are not mentioned in this Director's Order because it focuses primarily on assigning drawing numbers and what drawings and maps should have drawing numbers. A reference to the DSC CAD Standards was added to the Director's Order (see below). These standards give guidance on the assignment of file names. Additional guidance was added to Chapter 4 of the Reference Manual on labeling electronic files.

For information concerning the production of AutoCAD drawings – consult DSC's CAD Standards at <http://cadd.den.nps.gov/>. [Section 5]

REFERENCE MANUAL

Comment: Clarify that the Director's Order covers contractors working for concessioners.

Response: This was clarified in the Reference Manual under Chapter 2, Concessioner Drawings. "These drawings may be produced by (1) NPS employees, (2) concessioner employees, or (3) contractors."

Comment: When are full-size mylar drawings important?

Response: Added some additional information to the description of "As-Constructed" drawings in Chapter 3. "As these records are vital to the maintenance and rehabilitation of the facility, a full-size set of mylar prints should be produced for these drawings." Additionally under the heading "Shelved Projects" the following sentence was added: "For shelved projects that are cancelled, TIC should receive a full-size mylar copy as this set will stand as the final document for the project under that specific drawing number."

Comment: The document is somewhat elusive on assignment of base numbers for drawings. Specifically, the figure on Page 21 of RM-10B suggests WASO numbers are inactive. In these cases, how would NRPC (as a WASO office) designate its' drawings?

Response: Distinctions between different NPS offices have been eliminated. Now, all numbers are generated using the Number Generator Web Site sequentially for all NPS units and offices, beginning with the number 100,001.

Comment: The solicitation number and PMIS numbers should not be modified with an "R" when a project is reissued for bid. This change implies that these numbers have actually been modified with an R when they haven't.

Response: Yes, we agree. For record purposes, drawing sets that are reissued for bid should be labeled with the words "Reissued for Bid" documented in the revision block. The Reference Manual was changed to reflect this revised procedure.

Comment: Chapter entitled "Standard Operating Procedures" seems to be rambling and should be broken down, maybe subparagraph titles or bullets. Maybe SOP is the wrong title since the following sections are SOP in nature.

Response: Chapter title was changed to "Filing and Records Management" and was rewritten with subparagraph titles.

Comment: Consider adding appropriate line(s) to the title block of each drawing sheet to identify the specific FMSS Asset Location Number of the drawing.

Response: This Director's Order only addresses Drawing and Map Numbers. The addition of the FMSS Asset Location Number to the title block of each drawing sheet is something that is outside the scope of 10B. This question should be addressed by the people revising 10A "Drafting Standards". I have referred the question to them for consideration.

Comment: There are lingering questions about the role of TIC (eTIC), versus NPFocus, and NPS Data Store as forums for the discovery and delivery of maps and drawings. As a result there is a lack of clarity related to required citations, documentation, and storage of drawing components, i.e., in the case of electronic maps those layers that go into the actual product. Drawings and maps specifically

related to a piece of geography and reflective of natural resource conditions need to innately be discoverable spatially and thematically. Will eTIC cross reference maps or citations stored in other repositories?

Response: NPS Data Store is a repository for GIS Data Sets, TIC is not (see clarification of what is a drawing for additional definitions). NPFocus has a broad scope. Originally the repository was set up to handle large color scanned photographs and digital files. TIC contributes metadata records to NPFocus periodically so there is no need to duplicate collections with NPFocus. TIC has explored options for referencing other NPS Systems, so far no formal agreements have been reached.

Comment: The Director's Order suggests that we require contractors, partners, and cooperators to adhere to this policy. How do we ensure NPS has unlimited reuse and redistribution rights for any graphic products created through a contract? Template contract verbiage in the RM may be useful.

Response: Added the following language to the Reference Manual:

Every contract issued by a park, region, or central office should require the use of drawing numbers on the products requested. It is important for the National Park Service to obtain unlimited reuse and redistribution rights for these graphic resources within any contract. Volunteer agreements should also contain similar language as necessary. "The Records Management Handbook" that accompanies Director's Order #19, Appendix E, contains contract language for use in A/E contracts to ensure that NPS retains ownership of the drawings, maps, and plans prepared by contractors.

Comment: Stylization of GIS generated maps tends to be project-specific. Is there guidance or a requirement on placement and format of drawing numbers for maps similar to examples provided in Exhibit 3-1?

Response: Currently no guidance exists on placement or formatting of drawing and map numbers on GIS generated maps that are not project specific.

Comment: Expand the section on Electronic Drawings and GIS Maps, currently it only discusses GIS maps. Should electronically generated maps be delivered in the original "source" format so it can be reconstructed or should maps simply be delivered in an export format that can more likely be displayed/printed again at a later date?

Response: GIS data sets are considered to be data sets and not formally published maps that are archived by TIC. The section on Electronic Drawings was expanded and moved to Chapter 4, "Electronic Files," the section begins with the following 2 paragraphs:

TIC does accept electronic files of design and construction drawings as a secondary media. Electronic files are subject to corruption and un-readability due to periodic changes of software versions and products. Additionally electronic files need to be visually checked for accuracy before they are submitted for distribution through eTIC or archived.

At this time, AutoCAD files are not housed in an intelligent, retrievable system that can produce drawings, maps, and plans on demand. Drawing files in AutoCAD, MicroStation or similar drafting software products should be saved on a CD-ROM or DVD. Copies can also be deposited with the Technical Information Center. Alternative formats should be negotiated with TIC staff before transmission. The park prefixes and the base drawing numbers are assigned for electronic files in the same manner as for hard-copy drawings.

Comment: Sending TIC drawings, maps, documents, and electronic data sets will help provide greater access to this information. Procedures need to be in place to insure security of sensitive information and protect the data, maps and drawing related to this information (i.e. archeological sites). Please add "level of security" or something like that to the list of information that must accompany an electronic file sent to TIC. Having TIC being able to provide copies of this information would help the museum program protect the original documents yet provide users with access to the information.

Response: A requirement was added to Chapter 4, Electronic Files, to include a sensitivity rating on the label or the CD or DVD. Additionally a paragraph was added to Chapter 4 on "Security Controls."

The eTIC System currently contains security controls to narrow access to drawings, maps, and plans. Controls are based on the user's security group category and the security categorization of the drawing set. Drawings are categorized according to the highest level of security for the entire set. For example, if a drawing set contains plans for the museum building including its burglar alarm, then the entire set is classified as sensitive. User groups are divided into various access categories including: Public; NPS Employee /Contractor, or Volunteer; Archaeology/Anthropology; and Special Groups. Additional information about the security levels of documents and user groups

defined within the eTIC System can be found in "About TIC" information page on the website: <http://etic.nps.gov/content/abouttic.pdf>

Comment: It would appear that a considerable number of the GIS "maps" generated are required, by definition on page 11, to have map numbers and be archived. I anticipate this could be a considerable administrative/paperwork exercise.

Response: The requirement for numbering maps and drawings has been in existence since the late 1920's/early 1930's. The definitions on page 11 were implemented to narrow the requirements for numbering drawings and maps to formally published items. Every office engaged in the public release and publication of reports, drawings, maps should already be contacting TIC for document and drawing numbers. The requirement for map numbers it not meant to be burdensome. It is required for record keeping purposes, so that these same maps will have a legal identification for future reference and retrieval.

Comment: I think the revised directive doesn't get at the heart of how parks should be managing their maps, drawings, etc. It fails to inform and support Parks in managing their maps and drawings - for example, it doesn't say a word about electronic maps or drawings.

Response: The main focus of this Director's Order and Reference Manual is on "Drawing and Map Numbers". Chapter 4 was expanded to provide more guidance on managing drawings and maps and a section was added here on Electronic Files. Additional guidance is available by consulting Director's Order #19 and the Records Management Handbook, and by consulting with the Technical Information Center.

Comment: In the accessibility section under Benefits of eTIC: Please add some guidance on "scanned" documents, e.g., what resolution and formats do you accept/require.

Response: Additional information was added to Chapter 4 under the subheading "Electronic Files" to address this question.

Drawings that conform with NPS drafting standards outlined in Director's Order #10A and associated reference manuals can be scanned for inclusion in the TIC collection at 300 dpi resolution. If the drawing has colored text or the line density is greater than specified in Reference Manual 10A then 400 dpi is recommended. If these resolutions do not produce accurate print copies of

the drawings then higher resolutions may be needed. Contact TIC for further information.

Comment: How do we assure long-term protection of these specialized records and provide NPS units with a business model for assuring longevity and future dissemination?

Response: The Denver Service Center has posted procedures on their workflows websites to ensure that maps and drawings are conform to established standards and are preserved far into the future. These websites are cited in the Reference Manual. The Technical Information Center is also committed to preserving NPS information products far into the future. The preservation recommendations are referenced in Chapter 4 of the Reference Manual under the headings “Benefits of Archiving Drawings” and “Benefits of eTIC System for Drawings, Maps, and Plans.”

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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