

Selected Portions of the United States Army Corp of Engineers Sign Standards Manual

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This document is available as publication EP 310-1-6A and EP 310-1-6B (two volumes) and is available at no cost. Contact the USACE via its web site (see section VI.B) to request these documents. Make sure to request all updates when ordering this document, as there have been several updates to the manual.

(Note: Numbers/letters in parentheses indicate the original section in the USACE manual)

This section has been provided to instruct sign coordinators in the proper procedure for developing a project sign plan. This includes:

- inventory of existing conditions,
- analysis of sign requirements,
- preparation of sign plan, and
- implementation program to comply with the standards contained in this manual.

Illustrations showing worksheets for written documentation and examples of corresponding site plans with inventory and sign plan notation are provided for instruction and reference.

The sign plan is a written record identifying each sign by type and legend, along with a site plan showing its placement location. The preparation of a sign plan for each project is the first step in implementing the goals of the Corps sign program. This sign plan provides the framework for managing an effective sign program. It becomes the data base for decisions involving: new installations, replacements, removals, maintenance, and budget preparation. Once it has been prepared, it will also become part of the project's operational management plan (OMP).

The Project Sign Coordinator is responsible for the development of a comprehensive sign plan. This plan should include all project recreation areas, waterways, buildings, and peripheral roadway signs. Sign planning for areas such as a powerhouse or the area around the dam that are not directly under the Project/Resource Manager's jurisdiction should be coordinated by the District/Division sign coordinator to ensure that a comprehensive plan is developed for all areas within a project.

On Corps concession leased lands, Corps sign standards compliance should be made part of the lease agreement. At locations where the concession lease cannot be changed, project staff should work to enlist the support and participation of lessees or licensees in implementing a sign program that incorporates the principles and objectives outlined in this manual.

The graphic format and design standard for each type of sign must be maintained. If a sign requires a unique legend not provided in this manual, it will be prepared following the applicable grid format. Although every effort has been made to standardize sign legends where possible, individual sign conditions vary from project to project. The appropriateness of an individual sign to a setting is to be determined by the sign coordinator on a case-by-case basis, based upon an approved sign plan. The Project sign coordinator is responsible for making a specific sign plan based on each site as to: geography, hazards, and uses of each site.

The steps described on page 3.2 outline the process for developing a sign plan.

The following is an outline describing the procedures for developing a sign plan:

1) Inventory of Existing Conditions: The first step in developing a project sign plan is to inventory all existing signs. Materials used for this field work are:

a) Copies of the Sign Inventory Worksheet (see page 3.3).

b) Site plans: Because of the large scale of most projects, this process may require a number of drawings: an area map for off-project signs, individual site maps to show more detail, and floor plans of buildings that have interior signs. The drawing scale should be large enough to allow accurate location notation of existing signs.

c) Camera: Instant-print or negative print film type.

d) Tape measure.

Existing conditions and field recommendations are to be inventoried on Sign Inventory Worksheets (page 3.3) with the sign location shown on a corresponding site plan (page 3.4). On the site plan, a "T"-shaped graphic for single-face signs or an "H" for double-face signs, to indicate orientation (shown on attached illustrations) should be placed on the plan at the location of each sign.

The signs are then numbered and keyed to the Sign Inventory Worksheet. This worksheet becomes the written inventory that includes sign type, legend, size, mounting, and related field notes.

Each sign is to be photographed and filed in the same order as it appears on the worksheet, and noted on the site plan.

This inventory, site plan, and photographic record become part of the base information needed to develop a project sign implementation plan.

Corps-related signs that have been installed by the local jurisdiction should also be included in the inventory. These signs are part of a comprehensive view of the project. It is important to know where these signs are and what they say to determine the needs or the duplications in the sign plan in and around a project.

2) Evaluation: Once the project has been inventoried and the base data is complete, an analysis of the inventory can be made. Be familiar with the design guidelines in Section 2 and the various sign types shown in Sections 5-18 as you analyze sign requirements. Evaluate the following:

a) Are there signs missing?

b) Are the existing signs in good condition?

c) Are the signs in compliance with the standards outlined in this manual?

d) Are there any signs which are no longer necessary or appropriate?

e) Are all the signs in their proper locations?

Based on this evaluation, identify new signs required, replacement signs needed, and signs that can be removed, re-mounted or moved to be in compliance with these guidelines.

One goal of this evaluation is to reduce the unnecessary proliferation of signs. Too many signs in a given area dilute the impact of each individual sign. It is preferable to have fewer signs than too many.

3) Preparation of Project Sign Plan: The sign plan specifies and identifies the placement location for all signs on the project. This is a fluid record that will be revised and updated on an ongoing basis as non-complying signs are replaced, new signs are added, or when signs that are no longer needed are removed. The sign plan will be recorded using the following materials:

a) Sign Schedule Worksheet (see page 3.5)

b) Site plans

c) Photographic record of each sign filed consecutively and corresponding to the Sign Schedule Worksheet.

With a thorough knowledge of this manual including Principles and Guidelines, Design Standards, and the respective sign types shown in Sections 5-18, a sign plan will be prepared using the inventory of existing conditions and requirements evaluation described above.

The sign plan drawings will show only those signs that exist or are scheduled in the current year's implementation schedule. The Sign Schedule Worksheet will identify both the new sign that complies with this manual and the existing sign as two consecutive but separate entries on the worksheet. Once the replacement is complete, the old sign will be deleted from the schedule record and the new sign installation date entered.

4) Implementation: Next, prepare an implementation schedule to phase in new signs that conform to the guidelines established in this manual. Since the average life of most exterior signs is 7-10 years, approximately 10-15 percent of the signs at a project will need to be replaced each year. These will be identified in the Sign

Schedule Worksheet for that year. To accelerate the phasing-in of new signs, either of the following methods may be used to supplement replacement through routine maintenance:

a) Replacement by site: This involves changing all the signs in a given area. If there are 10 recreation areas at a project, schedule replacement of all of the signs in two of the areas annually. In five years, the entire project will be in full compliance to the manual without a major expenditure in any one year. This comprehensive method of implementation affords the greatest visual impact of the collective look of the sign program at each signed facility.

b) Replacement by category: This involves changing all of the signs of the same type throughout a project; for example, replacing all the signs at each of the boat ramps on a project. This would include a complete change of all signs at each boat ramp, including directional, regulatory, traffic, recreation area, and safety. Because multiples in each category may be ordered, there could be a cost savings. Also, since all signs of one type are installed at the same time, they will all be on the same maintenance schedule.

Once an implementation schedule has been developed, it should be incorporated into the sign inspection and maintenance program. In this way, the sign plan also serves as a management tool for preparing budget requests and for reviewing sign requisitions. This will also allow a coordinated replacement and maintenance schedule.

If a sign is to be located off-project on state, county or city right-of-way, the sign coordinator should contact the appropriate managing agency and request that they install the sign. If they provide the sign, it will be designed to meet their standards. If they do not, the Corps should offer to install the sign utilizing this manual for design guidance.

Shown below is a reduced version of the Sign Inventory Worksheet. This worksheet is used in the field to document existing conditions when preparing a project sign plan. This sample worksheet has been filled out to show how the initial field documentation of a site is recorded. The

instructions to the left of the worksheet describe what information is to be placed on the worksheet. A corresponding site plan is shown on page 3.4.

Full size reproduction art is provided in Appendix F, page F.143.

Instructions: Refer to the guidelines below when preparing a sign inventory.

1) Plan ID Number: Each sign is given a Plan Identification Number. Using this number, identify the sign on a corresponding plan view drawing. It is recommended that only a simple consecutive numeric be used to identify each sign on the worksheet. Plan to keep this initial phase of work as simple as possible.

2) Sign Legend: Describe the sign type and the legend that appears on the sign. If the sign has a multiple-line legend, note the legend line-for-line as it appears. If the sign is identical to a previous sign listed on this worksheet, reference the previous sign by the Plan ID Number. If the sign is a traffic sign, note if it is in compliance with the MUTCD.

3) Panel Size: Enter overall size of sign panel.

4) Legend Size: Enter the capital letter heights of primary and secondary legends.

5) Post Size: Enter nominal dimensions of the existing post size.

6) Viewing Distance: Enter the distance at which the sign is to be read.

7) Mounting Height: Enter the distance from the grade to the base of the sign panel (Height Above Grade Level).

8) Photographic Record: A photographic record of each sign should be made for both the initial inventory and the maintenance of a sign plan. If an instant-print camera is used, place the Plan ID Number directly on the photograph. If the film used must be processed, note the exposure number in this column to make it easier to number and file the print once returned from processing.

9) Notes: In this space describe any information on environmental or site conditions that will be useful when developing the sign plan. This may include: unusual road edge grades, speed of approach, impaired lines of sight, topological and geologic constraints such as surface bedrock or high water table. If the existing sign is unnecessary, redundant, or should be replaced, it should be noted in this space.

10) Title Block: Because of the number of sheets that will be used for an inventory, the space at the bottom of the worksheet is provided for identification of each sheet.

Plan ID No.	Legend: Line-for-line	Panel Size	Legend Size	Notes
16		8'x5'	1"mse	Replace, move to other side of entrance
17	No Parking Anytime	2'x18"	2"	Remove: this sign is not necessary at this location
18		57"x36"	3.5"	Replace sometime in future
19		48"x40"	2"	
20		4"x4"	50"	
20	STOP	24"x24"	NA	Remount on 4"x4" post use same panel Put at 60" HAGL
21	Campsite Identification No. 1 Number Routed into Round Peeler core	8"round	60"	Replace at end of cycle 1991
22	Campsite Identification No 2	8"round	60"	
23	Campsite Identification No 3	8"round	60"	

Project Name/Location

Prep. by: Date Review by: Date Page of pages
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Sign Inventory Worksheet

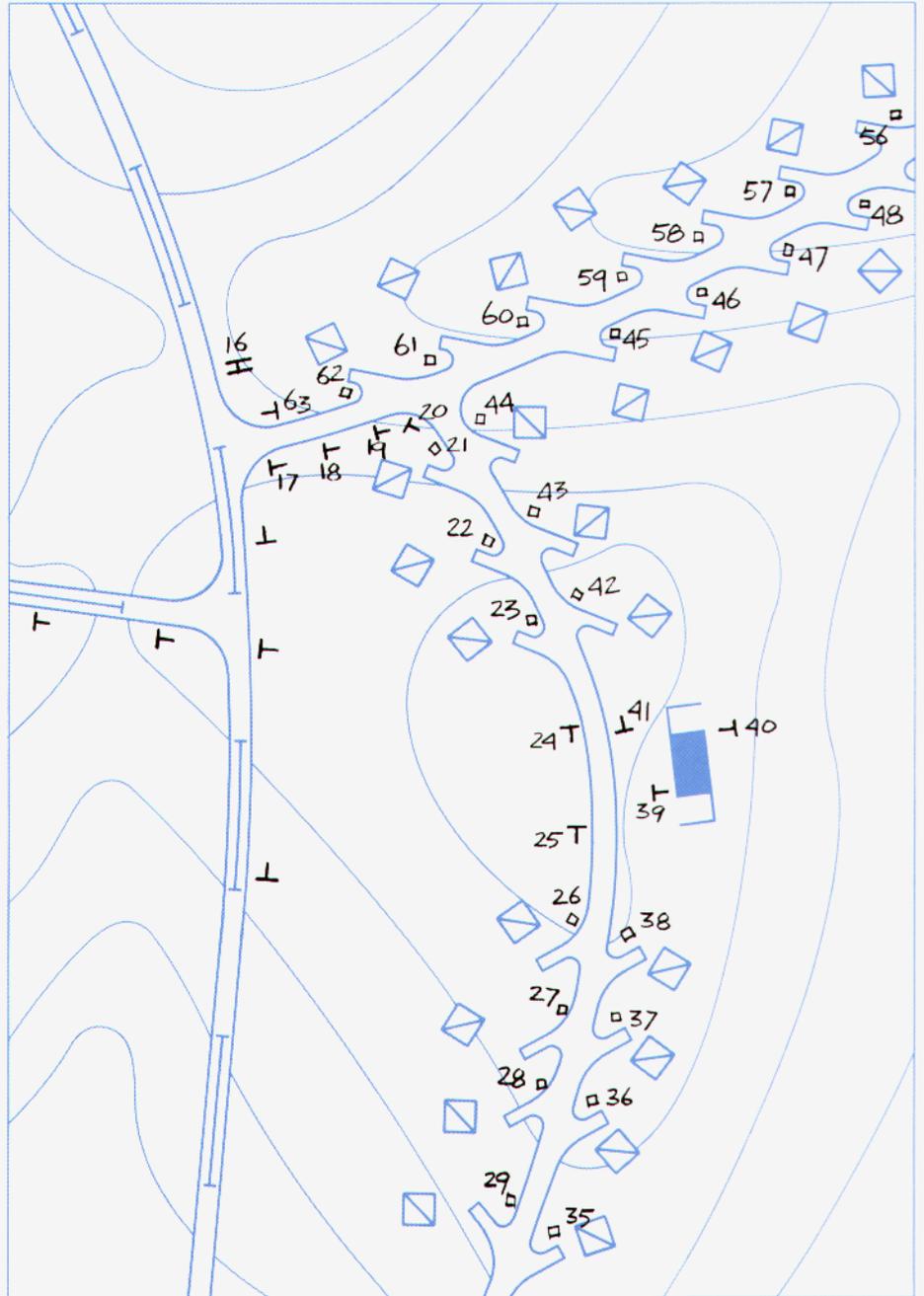


The example shown below is a portion of a standard plan used to show the design of a project including: roads, trails, buildings, and related site improvements.

The information noted on the drawing is a companion to the Sign Inventory Worksheet shown on page 3.3. Note that the "T" or "H" graphic identifies the orientation of the sign and if it is double or single

face. The number corresponds to the Plan ID Number on the Worksheet.

The scale of this drawing (400 ft. per inch) is a convenient size for general inventory and sign placement location records. Exact mounting detail drawings for sign implementation are shown on larger scale drawings (see page 3.7).



The Sign Schedule Worksheet is used to maintain the comprehensive written record that identifies signs that currently exist, all proposed additional or replacement signs, as well as general information about the sign including: type, size, material, mounting, compliance, legend, and other unique characteristics. This form is to be used in developing a sign plan. The sign

schedule for a project is to be revised and maintained to reflect existing conditions and plans as signs are removed, replaced, or changed.

Once the initial manual entry is finalized, this format may be computerized for more cost efficient maintenance of the schedule.

This schedule is similar to the Sign Order Worksheet (see Appendix A) and should be

used as reference when preparing a sign order.

The guidelines listed to the left of the example describe how each box or entry area is to be used.

Full-size reproduction art for this worksheet is provided in Appendix F, page F.144.

Instructions: Refer to the guidelines below when preparing a project sign schedule. Until all signs in a project have been replaced in compliance with this manual, both the recommended sign as well as the existing sign are to be described on the Sign Schedule Worksheet in sequential order.

1) Plan ID Number: For existing signs that are to be replaced, use the same number from the sign inventory. Signs in compliance with the manual, existing or proposed, use a one-letter code to identify the project area and a three- to five-digit consecutive number. For example: H28 for Hamilton Campground, sign number 28.

2) Sign Type: The six-digit, alpha-numeric code that describes the sign. Sign type codes are listed in the Introduction, page 1.9, and are provided with each sign display. This space will be blank for signs that are not in compliance with this manual.

3) Legend Size: Capital letter height of the primary sign legend. Referred to as "A" on the layout grid for that sign.

4) Panel Size: Overall width and height of sign panel.

5) Specification Code: Enter five-digit code described on the sign code matrix (column 5) shown on each sign display page. This space will be blank for signs that are not in compliance with this manual.

6) Special: If this sign has a unique legend, not shown in the manual, identify the appropriate layout grid and specify the proposed legend in the space provided.

7) Post Size: Nominal dimensions of sign legs. Place "WM" for wall-mounted signs.

8) Mounting Height: Height from grade to base of sign panel (Height Above Grade Level).

9) Color: Identify background and lettering color. Refer to color codes listed on page 1.10. Example: BR/WH for Corps Brown sign with white legend.

10) Installation Date: Enter only for signs in compliance with this manual.

11) Manufacturers Code: Enter unique identification number as listed in Appendix A.

12) Replace FY: For signs that do not comply, enter anticipated fiscal year for replacement.

13) Compliance: Check this space if sign complies with this manual.

14) Page Number: Identify page of manual in which this sign is shown.

15) Legend: List sign legend line-for-line as it appears on the sign. Use upper and lower case type, initial capitals as they are placed on the sign. Note arrow direction for directional signs. Line-for-line entry is not necessary for legends of standard signs identified by number under No. 2, Sign Type. For sign types in compliance with the manual this space will be left blank.

16) Notes: This space is provided to describe replacement or installation

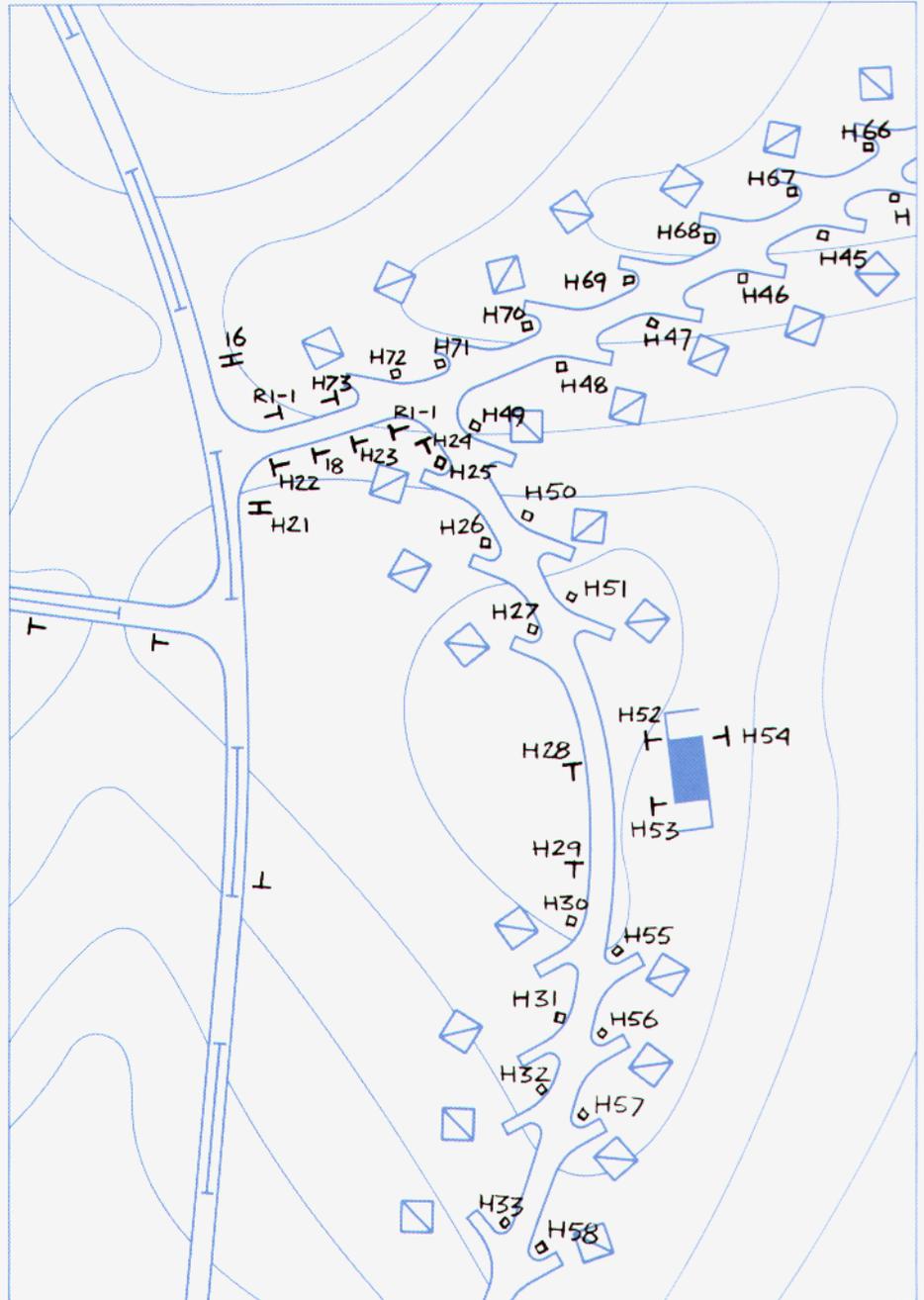
17) Title Block: Information used to file and reference project sign schedules.

Plan ID No.	Sign Type	Legend Size	Panel Size	Specification Code	Special, Not Std.			
16	STANID	MISC.	84"x57"	-	-			
	Post Size	HAGL	Color	Installation Date	Mgr.	Replace FY	Compliance	Manual Page
	8"x8"	48"	-	June 1969	Unkn.	No	No	-
	Legend: Line-for-line				Notes			
	LAKE QUACHITA ROCKY BEND CAMPGROUND U.S. ARMY CORPS OF ENGINEERS LITTLE ROCK DISTRICT				Remove May 1988 after new STANID, No. H28 is installed			
H21	STANID	6"	96"x33"	RRW-1	-			
	Post Size	HAGL	Color	Installation Date	Mgr.	Replace FY	Compliance	Manual Page
	6"x6"	36"	BR/WH		SW-87	1988	Yes	5.5
	Legend: Line-for-line				Notes			
	Signature Rocky Bend Campground Lake Quachita				Install May 1988 See drawing No. 2 for placement location			
H22	ENT-02	1.5"	39.25"x27.75"	HDO-3	-			
	Post Size	HAGL	Color	Installation Date	Mgr.	Replace FY	Compliance	Manual Page
	4"x4"	36"	BR/WH	May 1987	SG-86		Yes	7.5
	Legend: Line-for-line				Notes			
	Campsite: \$6.00				Fees revised 1988 season as noted			
18	PRJDIR	3.5"	57"x36"	-	-			
	Post Size	HAGL	Color	Installation Date	Mgr.	Replace FY	Compliance	Manual Page
	4"x4"	54"	BR/WH	June 1969	Unkn.	1989	No	6.11
	Legend: Line-for-line				Notes			
	* CAMPSITES 29-54 CAMPSITES → 1-28				Replace 1989 season. Use 4" legend size. Same message, per 6.11			
H23	ENT-03	1.5"	36.625"x23.875"	HDO-3	-			
	Post Size	HAGL	Color	Installation Date	Mgr.	Replace FY	Compliance	Manual Page
	4"x4"	36"	BR/WH	May 1986	SG-86		Yes	7.6
	Legend: Line-for-line				Notes			
 Project Name/Location Rocky Bend Campground								
Prep. by		Date	Review by:	Date	Page of	pages		
PR		2-15-87	PH	2-18-87	5	11		

Sign Schedule Worksheet

The section of the site plan shown below is identical to the plan on page 3.4. This illustration shows how a completed sign plan is noted on the drawing. Noted are both non-complying signs that currently exist but are scheduled for replacement and signs that are in compliance with this manual. Five signs, numbers 16, H21, H22,

18, and H23, are identified on the companion Sign Schedule Worksheet, page 3.5. The placement drawing shown on page 3.7 shows the mounting and placement location in greater detail for installation.



A detailed series of actual placement location drawings for individual signs or groups of signs in an area should be prepared for proper location of signs for installation. The scale of the example shown is 1"=100'. The scale will vary depending on the detail of the information that needs to be shown. The base drawings for this purpose may be prepared as needed or use existing

grading or paving plans. The key items to be specified are the distance of sign post from edge of pavement (or roadway center line), the measured distance from the intersection, condition, or item being signed, and the distance between signs where more than one sign is placed in a progression in a specific area.

Prior to actual sign mounting, the Pro-

ject sign coordinator will identify the placement location for each new sign. This location will be identified in the field with a stake to verify the sign plan prior to actual installation.

The example shown below is a typical sign placement detail implementation drawing.

