



Fee Deposit Tube Fabrication Drawing

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Manual fee collection, requiring fee permit envelopes, has been used at Forest Service recreation sites for many years. The success of this self-service collection system depends on the public's understanding the instructions and on a secure fee deposit vault. The vaults are often called fee tubes in the Forest Service and "Iron Rangers" in other Federal and State agencies.

The Technology and Development Program last evaluated self-service fee collection systems in 1971. Since then,

many designs have been tried, but all continue to be susceptible to vandalism. Due to their unattended locations in remote recreation sites, the fee deposit vaults are easy targets for vandals and thieves. Providing a totally "vandal-proof" vault for remote, unattended recreation sites is not practical.

Recent legislation establishing fee demonstration projects authorizes the Forest Service and other selected Federal agencies to charge higher user fees at some recreation sites, renewing

interest in self-service collection systems. In addition, fee deposit vaults are being used as temporary safes at attended fee demonstration entrance stations

The Technology and Development Center at Missoula, Montana (MTDC), was asked to develop a fabrication drawing of a durable fee deposit vault design used by the Boise National Forest (Figures 1a and 1b) in Idaho. Figure 2 is a fabrication drawing of the Boise National Forest design with recommended improvements.



Figure 1a—Fee deposit vault used by the Boise National Forest in Idaho.



Figure 1b—Rear view of fee vault.



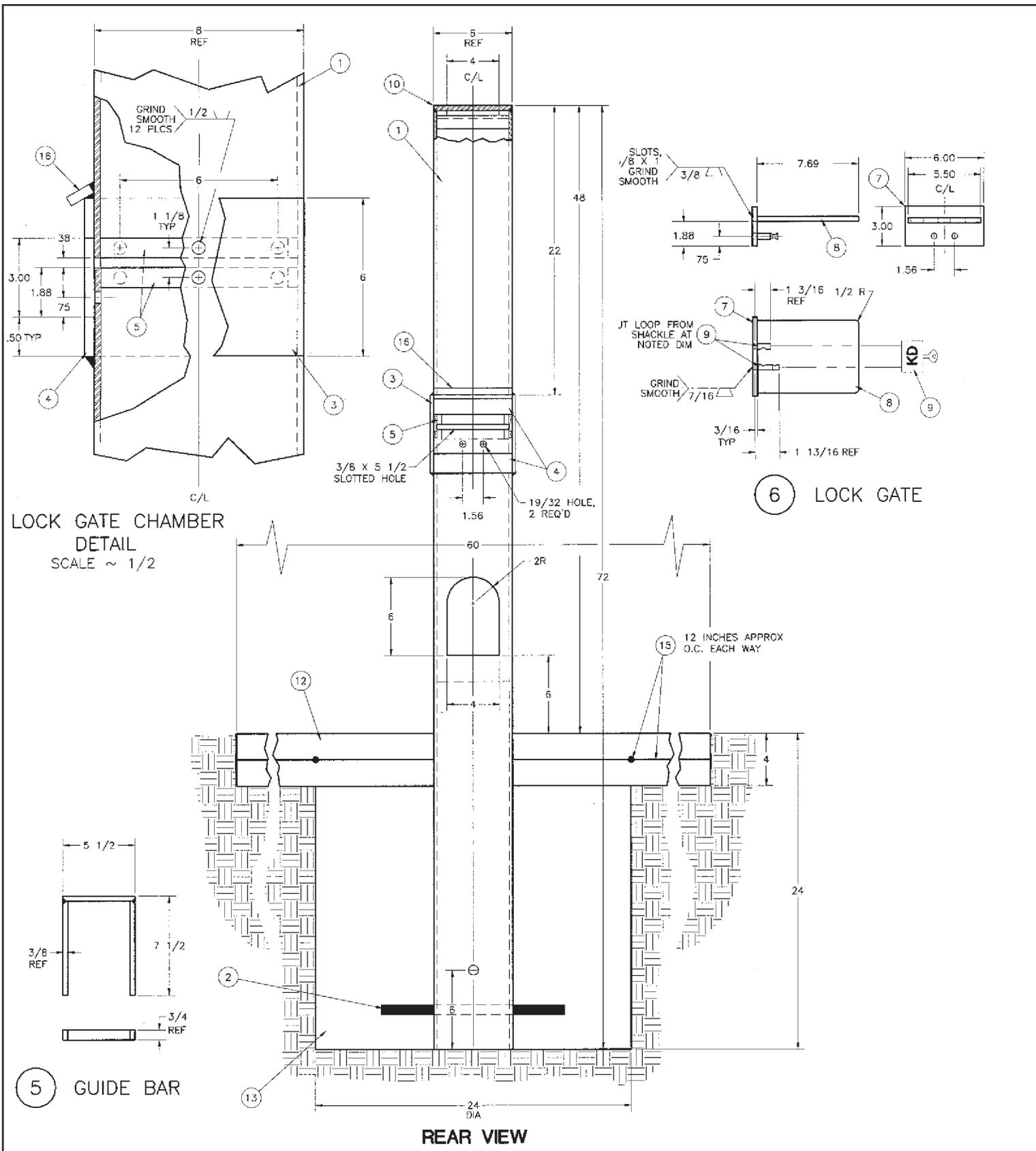


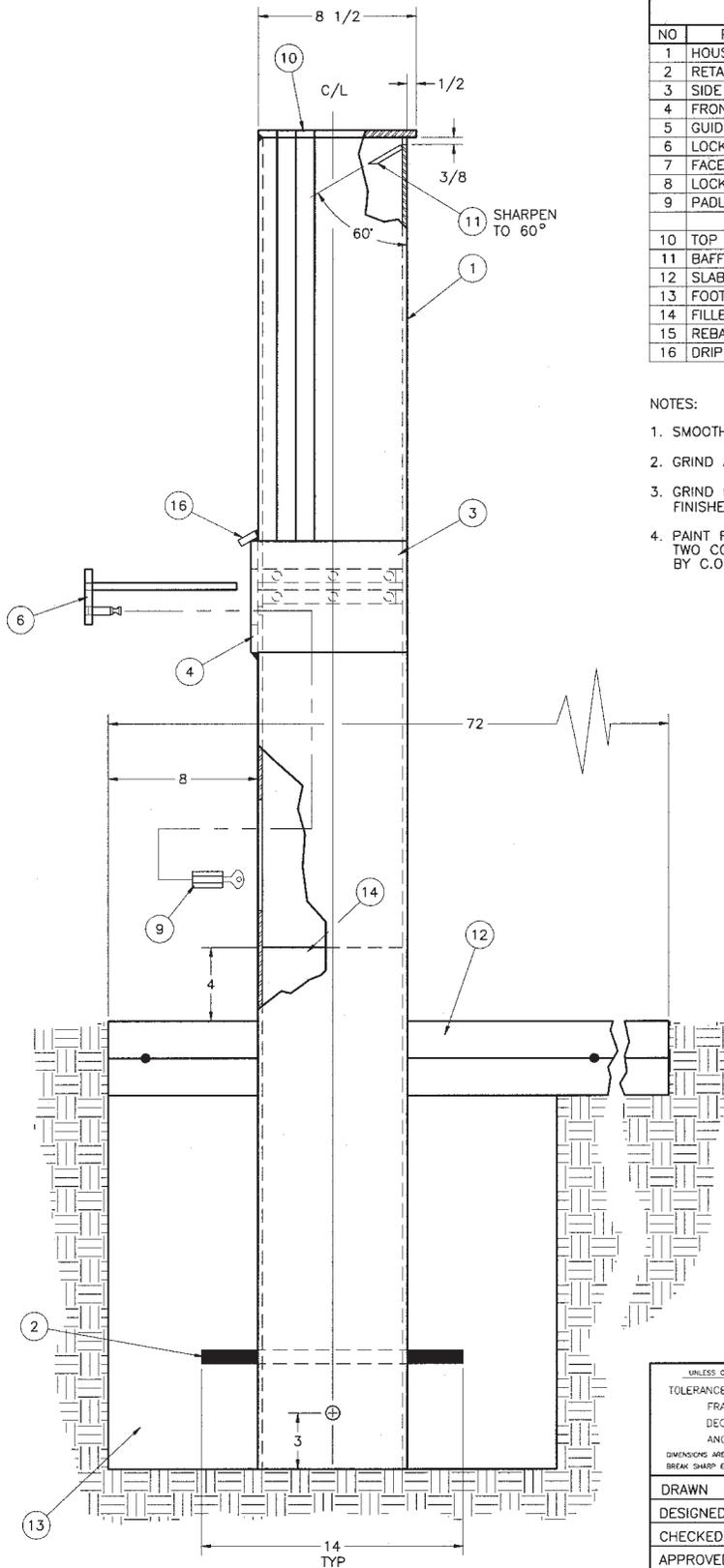
Figure 2—Fabrication drawings for the Boise National Forest fee vault.

MATERIAL LIST

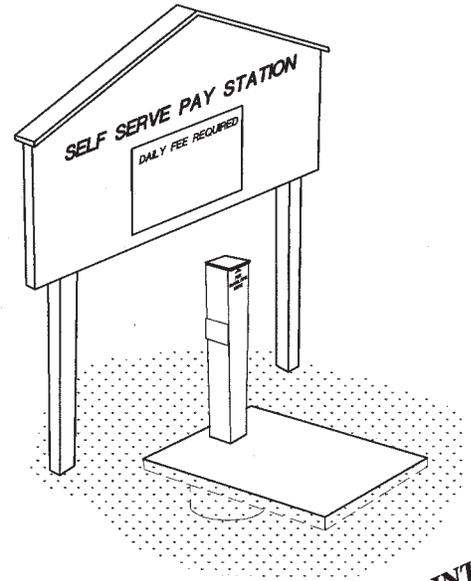
NO	PART NAME	REQD	MATERIAL-DESCRIPTION	SHEET
1	HOUSING	1	6 X 8 X .25 WALL TUBING, STEEL.	
2	RETAINING BAR	2	NO. 6 SIZE REINFORCING BAR, 3/4 DIA., STEEL.	
3	SIDE PLATE	2	1/4 PLATE, STEEL.	
4	FRONT PLATE	2	3/8 X 1 1/2 FLAT BAR, STEEL.	
5	GUIDE BAR	2	3/8 X 3/4 FLAT BAR, STEEL.	
6	LOCK GATE	1	PARTS 7 - 9.	
7	FACE PLATE	1	3/8 PLATE, STEEL.	
8	LOCK PLATE	1	3/8 PLATE, STEEL.	
9	PADLOCK	1	KEY DEVICES MOD. KD0007 ROTARY TUMBLER (VSR LOCK INC. - RENO, NEVADA).	
10	TOP CAP	1	3/8 PLATE, STEEL.	
11	BAFFLE	1	1/4 X 2 X 5 1/2 FLAT BAR, STEEL.	
12	SLAB	1	CONCRETE AGGREGATE.	
13	FOOTING	1	CONCRETE AGGREGATE.	
14	FILLER	1	CONCRETE AGGREGATE.	
15	REBAR	AR	NO. 4 SIZE REINFORCING BAR, 1/2 DIA., STEEL.	
16	DRIP HOOD	1	3/8 X 1 X 6 FLAT BAR, STEEL.	

NOTES:

1. SMOOTH AND DEBURR ALL EDGES.
2. GRIND ALL WELDS FLUSH WITH EXTERIOR SURFACE OF THE TUBE.
3. GRIND EDGES OF FACE PLATE(7) SO FINISHED SURFACE OF PLATE IS FLUSH WITH FINISHED SURFACE OF FRONT PLATE(4) WHEN LOCK GATE(6) IS LOCKED IN POSITION.
4. PAINT FEE TUBE, SIDE PLATE, AND COVER PLATE WITH ONE COAT OF PRIMER AND TWO COATS OF HIGH GLOSS EXTERIOR RUST RESISTANT PAINT. COLOR SPECIFIED BY C.O.R.



SIDE VIEW



WELDED CONSTRUCTION
SPECIFIC WELDS NOTED

THIS IS A REDUCED PRINT

UNLESS OTHERWISE SPECIFIED		3/30/98	ADDED DRIP HOOD	DWM
TOLERANCES:	DATE	REVISION		BY
FRACTIONS +/-		U. S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		
DECIMALS +/-				
ANGLES +/-				
DIMENSIONS ARE IN INCHES BREAK SHARP EDGES				
DRAWN BILL WYATT	TITLE			
DESIGNED	CAMPGROUND FEE TUBE			
CHECKED D. HERZBERG	BOISE NATIONAL FOREST			
APPROVED G. HOSHIDE				
SCALE 1/4 & NOTED	931-1			
DATE MAR - 96	SHEET 1 OF 1	MTDC- 931		

Manufacture and Procurement

The fabrication drawings provide the option of using a local fabricator to construct the fee tube, lowering unit costs. For example, the Boise National Forest uses a local Job Corps Center to fabricate its design. The cost of materials is estimated at \$40 per vault. This does not include costs for handling, delivery, and installation. Even after these additional costs are considered, this method is less costly than purchasing most commercially made vaults.

Several commercial manufacturers produce fee vaults and collection equipment. Contact Gary Hoshide, Recreation Program Leader at MTDC, for information on commercially available vaults.

Acknowledgments

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About the Authors...

Cara Grill worked in support services for MTDC before earning a journalism degree from the University of Montana in 1998.

Gary Hoshide has been MTDC's Program Leader for Recreation and Safety since 1992.

Library Card

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Includes a reproduction of the fabrication drawing for a fee deposit tube used by the Boise National Forest in Idaho. Fee deposit tubes are used for secure storage of recreation fees at recreation sites administered by the Forest Service and other State and Federal agencies. The materials for a fee tube cost about \$40.

Keywords: recreation management, vault

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