Chapter 9:

District-wide Design and Management Guidelines

INTRODUCTION

As noted earlier, Chickasaw National Recreation Area has a strong tradition of park maintenance and land stewardship. However, as the Platt District has been acknowledged as a cultural landscape, an awareness of needing to manage and maintain the district as both a cultural resource and as a well-utilized public recreation area has developed. The purpose of this chapter is to provide a consistent set of management practices that will allow the district to be efficiently maintained over time while preserving historic character and features.

The guidelines presented in this chapter address district-wide issues; issues specific to component landscapes are addressed as projects in the following chapter. The guidelines within this chapter are meant to capture and formalize existing cultural landscape management practices, as well as outline new and recommended management practices. Many district-specific maintenance and management practices have been implemented in the district since the 1940s, and these are recorded here to provide continuity with future management. New management concerns have also arisen, often in response to changes in the park or the surrounding community, and new strategies are needed to prevent loss of historic character. These issues, identified in meetings or communications with park staff, are also addressed here in the district-wide guidelines.

The guidelines include brief texts describing techniques, issues, and schedules plus "typical" design sections or plans, if appropriate. The district-wide guidelines are intended to cover issues that are common to all landscapes, such as the consistent appearance of small-scale features such as garbage cans or footbridges or the care, repair, and preservation of historic masonry. Implementation of some guidelines may be simple and begin immediately. Others may be more difficult, require staff training or alteration of existing features and will need to be phased in slowly.

In contrast to this chapter, which addresses broad management issues, Chapter 11 addresses individual projects. However, there are cross references between chapters and the two chapters are intended to be considered together, along with Chapter 10, which addresses vegetation management.

SMALL-SCALE FEATURES

A number of small-scale features are utilized throughout the district. To provide a consistent appearance, these features should be the same in each area, and should be designed to be in keeping with the district's historic character. The following are recommendations for altering, replacing, or adding features. It is clear that such replacements will not be implemented immediately; rather the guidelines are provided so that elements may be updated over time, as they reach the end of their useful life span. In this way, a unified district appearance in site furnishings might be achieved slowly and incrementally as a part of regular replacements.

Most of these site furnishings are non-historic features, installed after the period of significance, or are infrastructure. Thus, the design of these features, as based on the Secretary of the Interior's Standards, should be compatible with the historic setting, yet clearly distinguishable as new or non-historic construction.

Figure 9-1. Existing hydrant type with stone drainage area at base in Cold Springs Campground.

Figure 9-2. Existing hydrant in Walnut Grove.

Hydrants

A variety of hydrant styles (Figures 9-1 and 9-2) currently exist in the district. With the exception of the hydrants at the base of the rectangular stone trash and wood enclosures at Cold Springs Campground, most hydrants do not appear to be historic, and instead date to recent times. The current designs are functional, but wood supports are beginning to rot, and grey water drainage is often a problem at the base of heavily used hydrants.

New hydrants of the same design should be installed throughout the district, as existing hydrants are replaced due to failure or upgraded. The new hydrant design should be functional and inconspicuous and clearly distinguishable as new construction.

A suggested hydrant design, already being used in other parts of CNRA, is shown in Figure 9-3. This hydrant has a concrete base and a French drain, and is constructed with an ADA accessible self-closing faucet. The concrete base should be stained or darkened to make the hydrants visually unobtrusive. Hydrants which receive limited use (e.g., those not located in campgrounds or high use picnic areas) or in areas with positive drainage might eliminate or reduce the French drain portion of the design.

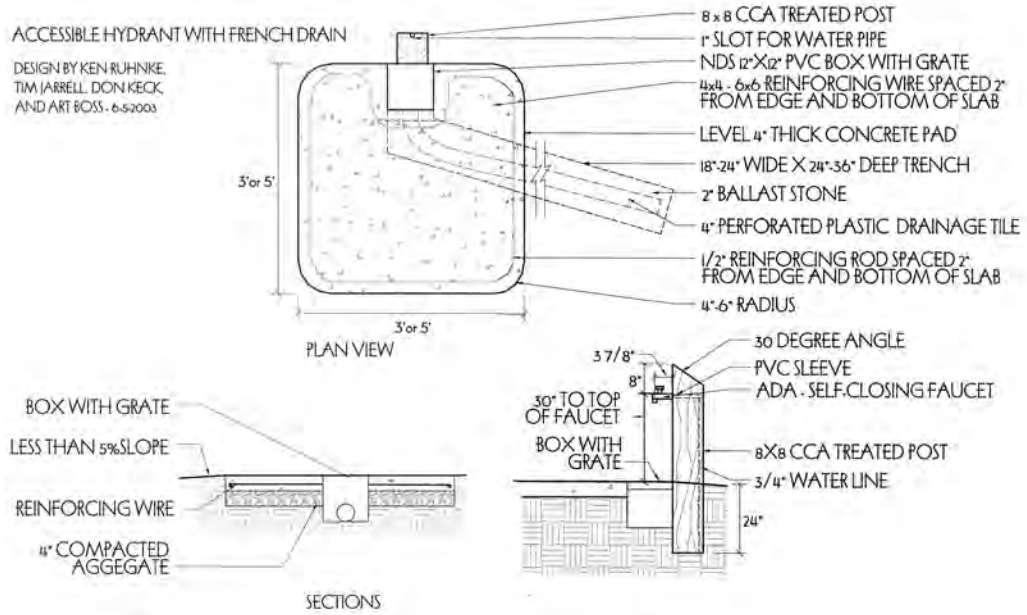

Figure 9-3. Suggested hydrant design, already in use in other areas of CNRA.

Picnic Tables

During the period of significance, picnic tables were generally of wood frame construction (see Figure 4-84). Some areas also had stone or concrete picnic tables (see Figures 4-90 and 5-65). The picnic table currently used throughout the park is a two-inch pipe frame with wood tops and seats that are stained with a brown (color "Spicewood") solid-body stain by Sherwin Williams (Figure 9-4). This picnic table is functional and appropriate and its use should be continued.

As picnic tables are replaced, however, it is suggested that at least twenty-five percent of tables have ends extended twenty-seven inches, to accommodate wheelchair access. An eight-foot long table with such an extended end (Figure 9-5) is currently used in the district because they are accessible, yet still easily moved. Although an accessible picnic area is recommended (see below) for each major picnic area, locating a number of accessible picnic tables throughout the park at undesignated sites may also help increase access.

Current locations of picnic tables are noted in Chapter 6 and recorded in the feature tables in Chapter 7. Tables should remain in all these locations. Picnic tables are currently movable, allowing visitors to reconfigure tables, to accommodate large groups and access shady areas. In some locations, this reduces wear on turf surfaces though in other locations it exacerbates it. Although moveable tables increase the potential for certain types of vandalism, fixing picnic tables in designated locations is not recommended, in part due to park tradition and current visitor expectations.

Figure 9-4. Standard picnic tables currently used in the district.

Figure 9-5. Accessible picnic table with extended end, as used throughout the district.

Figure 9-6. Typical bench used in the district. This one is located at Antelope Springs.

Figure 9-7. To project a consistent image, one bench design should be used throughout the district. This simple wood bench (a style available from many vendors) is one design alternative.

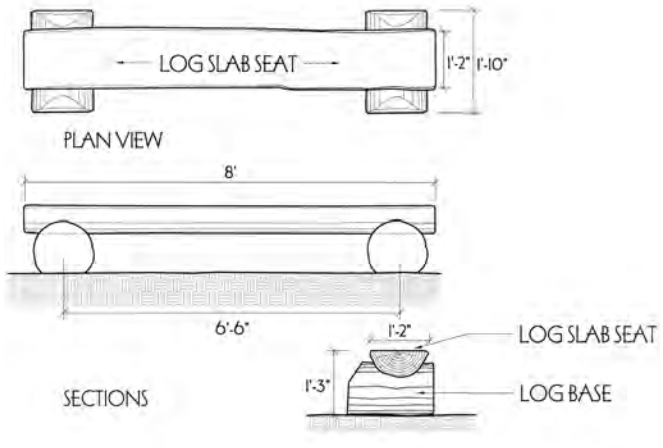

Figure 9-8. A custom-designed bench is a second alternative for the single district-wide bench design. This simple log bench might easily be constructed in house.

Benches

Benches do not seem to have been a major historic feature in the Platt District. During the CCC era, NPS designers generally tried to incorporate benches into site structures near springs. Although historic photos show wooden benches in Flower Park and at Buffalo and Antelope Springs, the design of benches—and their presence in the landscape—appears to be a hold-over from the pre-CCC era (See Figures 3-50 and 4-93). By 1940, most historic photos no longer show benches in district landscapes.

Today, a few benches exist in the park, along Veteran's Trail and Buffalo-Antelope Springs Trail (Figure 9-6). These benches are neither attractive nor in keeping with the park's historic appearance. However, they are useful in increasing the accessibility of these trails. According to ADA guidelines, accessible trails (those with slopes five percent or less) should provide seating every two hundred feet. Although fully accessible trails are not possible in much of the district due to steep slopes, providing benches along trails in some locations will increase accessibility.

If benches are added or replaced in the district, it is recommended that the bench design be consistent throughout the district. A single bench design should probably be used in all locations. The design of the bench should be clearly distinguished as new construction, through material or style, to avoid the impression that new benches are historic. Benches might be purchased from vendors or might be constructed from local

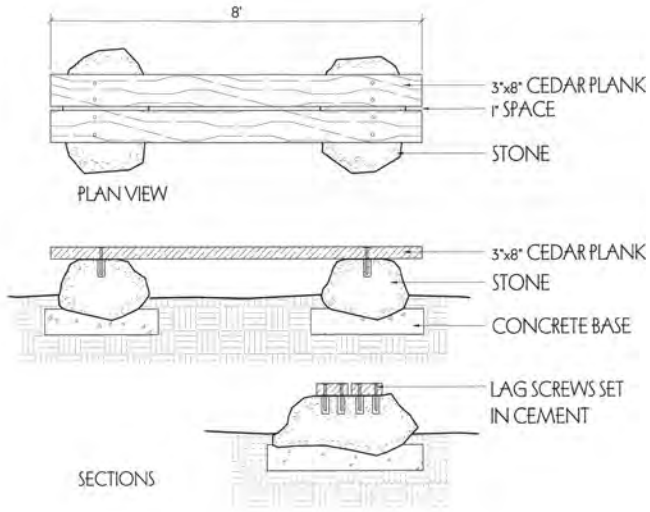

Figure 9-9. Another alternative for a custom-designed bench for the district. One bench design should be utilized throughout the district.

materials. Natural materials such as wood and stone may be preferable to plastic or metal, to be in keeping with the rustic nature of the rest of the district's structures and features. Different alternatives for the design are provided in Figures 9-7, 9-8 and 9-9; any single one of these options would work, or another design could be developed.

Vehicle Gates

Vehicle gates are located at Cold Springs, Rock Creek, and Central Campgrounds to close off portions of the campgrounds or the whole campground during the off season. These metal gates (Figure 9-10) are typically unattractive. When they deteriorate, they should be replaced with a gate more compatible with the district's historic setting. A gate (Figure 9-11) currently used at the Point Campground is a good model, and may be used singly or in pairs, depending on the width of the access route. The gates in all locations should be consistent with each other.

Charcoal Cooking Grills

The district's historic grills—stone masonry fire pits with metal grills (originally located at Cold Springs Campground, Walnut Grove, and Buffalo and Antelope Springs) and concrete grills (originally located at Rock Creek Campground)—are by-and-large no longer extant for use in the park. Replacing these historic structures is not recommended. Instead, use of the current two styles of grills—a pedestal grill and a combined metal grill and fire ring on a concrete slab (Figure 9-12)—should be utilized throughout the district. Both models of these grills currently being used in the park are ADA-compliant. To provide a consistent district appearance, upright grills should be used at all picnic areas and the circular metal grill and fire ring used at campgrounds.

Figure 9-10. Typical metal gate used in the park is unattractive and should be replaced by gate in Figure 9-11. This gate, in Flower Park, was replaced in the summer of 2003.

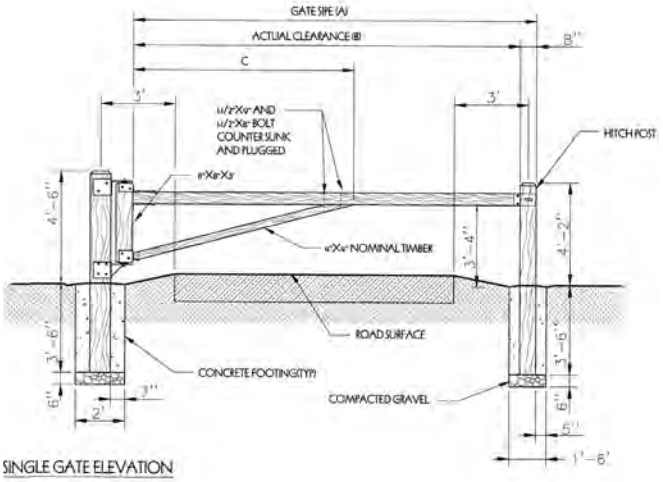

Figure 9-11. Gate design currently used at the Point Campground should become a district-wide standard (Drawing 107/41059B).

Figure 9-12. Pedestal grill (left) and fire ring grill (right) currently used in the park. The fire ring, on a concrete pad, has an ADA-accessible, adjustable grill.

Figure 9-13. Thirty-gallon lidded trash receptacles currently used in the park.

Figure 9-14. Raccoon-proof trash receptacles currently used in the park, such as in the Bromide area.

Figure 9-15. Accessible racoon-proof trash receptacle, used elsewhere in the CNRA. The doors on this model open horizontally instead of vertically.

Trash receptacles

Little is known about the appearance of trash receptacles during the period of significance, but it is likely these were in-ground trash cans. During the 1940s and 1950s, both Cold Springs Campground and Rock Creek Campground had in-ground trash receptacles , and there are a few of these remaining in the district today, such as one near the Employee Residence (Building 2).

Today, there are two main types of trash receptacles in the district: brown, round thirty-gallon lidded cans, often mounted in pairs on low, metal pole structures (Figure 9-13), and rectangular raccoon-proof cans bolted to a concrete pad (Figure 9-14). The round cans have been in use since the 1960s or 1970s, while the raccoon-proof receptacles date to the 1990s. While neither receptacle is attractive, the raccoon-proof bins are more obtrusive, in part because they are large and their shape is somewhat atypical. However, other raccoon-proof receptacles on the market are equally unattractive.

As a result, introducing a new type of receptacle is not recommended, as it would simply add more visual clutter to the landscape. Rather it is proposed that existing models be maintained. The need to add more raccoon-proof receptacles in the district, however, seems likely. To reduce their visual impact, a number of actions are recommended. First, they should be restricted to the current size (paired thirty-gallon bag holders) and should not be increased to the larger, sixty-gallon paired fixtures. Second, they should be painted a consistent color throughout the district. Third, when mounted on a concrete pad, these pads should be colorized or stained to make them less obtrusive in the landscape. Finally, an ADA-accessible model, one with doors that open horizontally (rather than vertically) should be considered, especially in ADA-accessible picnic areas or camping areas (Figure 9-15).

Boulder Roadside Barrier

In most parts of the park, boulders delineate roads and parking areas and separate vehicles from pedestrians or natural areas. Much of this "boulder guardrail" (as it was then known) was installed in the 1930s and its use is clearly a character-defining feature of the Platt Historic District. However, original boulder locations were not documented in a detailed manner during the initial period of placement, although we do know that they were installed "along park roads." Locations included the edges of the roads and parking areas of Bromide Springs and Travertine Island and Little Niagara Falls, as well as along roads and spurs in Cold Springs Campground. Since 1940, boulders have been installed in many more areas of the park and so it can be difficult to distinguish "historic" from "non-historic" boulders. Usually, more recently placed boulders are those placed simply at grade (Figure 9-16). Historic boulders were usually embedded in the soil with about one-third of the boulder below grade (Figure 9-17), and sometimes were placed on a concrete pad.

Figure 9-16. Boulder roadside barrier. Notice that recently installed boulders are placed at grade, and not embedded in the soil.

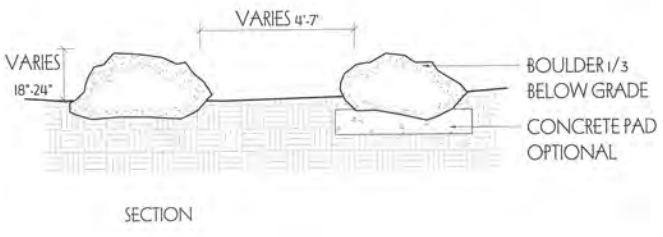

Figure 9-17. Section showing boulder roadside barrier installation. Approximately one-third of each boulder should be placed below grade.

It is recommended that existing boulder barrier be retained. Existing boulders that are embedded below grade should be retained in place. Where individual boulders within a barrier are not embedded, they should be embedded with at least one-third of their height placed below grade. A concrete pad placed below a boulder may help fix it, particularly if it is a smaller boulder.

Installing extensive lengths of new boulder barrier is not recommended, as it was clearly not the design intent that all roads in the district be lined with stones! However, there may be times or locations that demand a new vehicle barrier. In these cases, new boulders should be installed as they were historically, with at least one-third of their mass below grade. Installed boulders should be a minimum of eighteen inches and a maximum of twenty-four inches high (Figure 9-17). New boulders should be situated no less than four feet and no more than seven feet apart (edge to edge). While the seven-foot upper limit will allow mowers to move around boulders, facilitating maintenance, there is some question whether this will create enough of a barrier to deter vehicle drivers. To enhance the psychological perception of the barrier, it is suggested that the largest (tallest) stones possible be used when the seven-foot upper limit is reached (Figure 9-17).

Smaller distances between boulders are appropriate where vehicles are moving very slowly or in campgrounds where boulders define campsites. However, in areas where stones are three feet or less apart, removals may be considered, especially if stones are placed at grade rather than buried. However, widespread removal of historic boulders is not recommended. While mowing between closely-spaced boulders can be difficult, it may be more appropriate to reduce mowing intervals around the boulders while maintaining the rest of the lawn at a higher level.

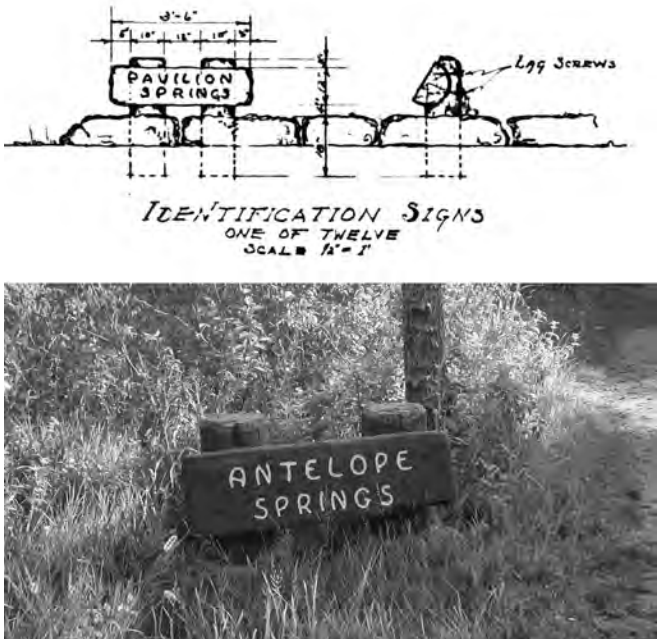

Figure 9-18. Half-log place name sign: proposed design from "Signs for General Park Area," Drawing NP-PLA-8010 (top), and extant historic sign at Antelope Springs.

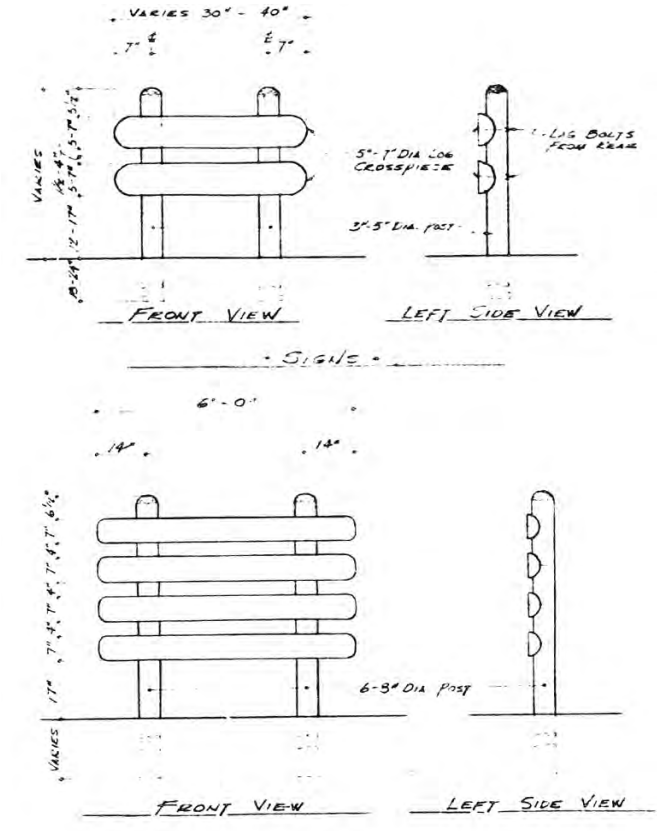

Figure 9-19. Half-log trail signs, from the 1962–1963 sign plan. File K1819 at the National Archives, Fort Worth has more documentation.

Signs

Historically, the Platt District had a unique set of designed place-name, directional, and informational or interpretive signs. These signs, in place by the early 1940s, helped define the character of the area. Today, however, a multitude of sign types exist within the district. Re-defining a set of consistent signs, based on the historic signs, would do much to help regain and unify the district's character. The following sign types are proposed:

Half-log place name sign (Figure 9-18):
This sign type, used to identify a place or location, should be based on the extant sign at Antelope Springs and similar signs at other locations (usually springs) seen in historic photographs. These signs are documented in historic photographs and are known to have existed at Pavilion Springs, the Bromide Pavilion, Black Sulphur Springs, Hillside Springs, and Antelope Springs. New half-log signs should be used to identify significant sites or structures within the district. They should not be used to identify larger landscapes such as campgrounds or large areas (such as the Buffalo Pasture).

Half-log trail sign (Figure 9-19):
Constructed of two to four small half logs on narrow double posts, these signs historically showed destinations. Current trail signs vary in style, including some using simple planks in place of the historic half logs. New mileage and destination signs should be designed to match the historic sign, and should be used to replace existing signs as they deteriorate.

District Gateways (Figure 9-20):
Stone piers located at each of the district's three main entrances originally had metal lettering. Based on historic drawings and photographs, metal letters dating to the period significance should be refabricated and replaced on the piers, to provide a strengthened sense of the area as a historic district. The recommended text for the piers is "Platt Historic District" is the suggested text. Each set of piers is addressed in Chapter 11 as a separate treatment project.

Historic Interpretive Signs (Figures 9-21 and 9-22): The two remaining historic interpretive signs should be retained and replaced in kind. The one at Travertine Island is rapidly deteriorating and the one at Bromide is an inaccurate restoration. These signs are highlighted in Chapter 11 as individual projects. The mineral water composition signs at the Bromide and Pavilion Springs pavilions are also historic interpretive signs, and these should also be retained and preserved.

Other non-historic signs exist within the district and include

- Highway road signs on rusted metal posts;
- Standard NPS directional and identity signs "brown" signs on rusted metal posts;
- New wayfinding signs as part of the Visitor Center project on wood posts;
- NPS interpretive waysides: fiberglass embedded graphic on the anodized frame; and
- Campground information bulletin boards. The hanging bulletin board on historic comfort stations should be removed, since these never existed historically.

Locations of these signs are determined by regulation (highway signs) and the CNRA sign committee. In general, these signs should be kept to a minimum, to help reduce non-historic visual clutter within the historic district.

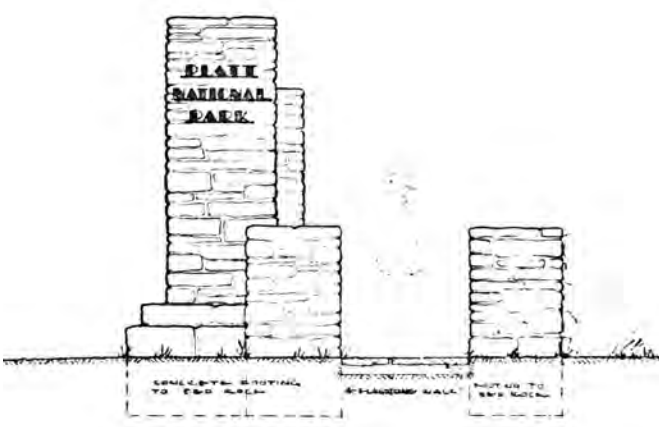

Figure 9-20. Gateway at 12th Street, with metal lettering (from "Bromide Entrance Development," Drawing NP-PLA 3031). Letters reading "Platt Historic District" should be replaced on extant piers.

Figure 9-21. Extant historic interpretive sign at Travertine Island.

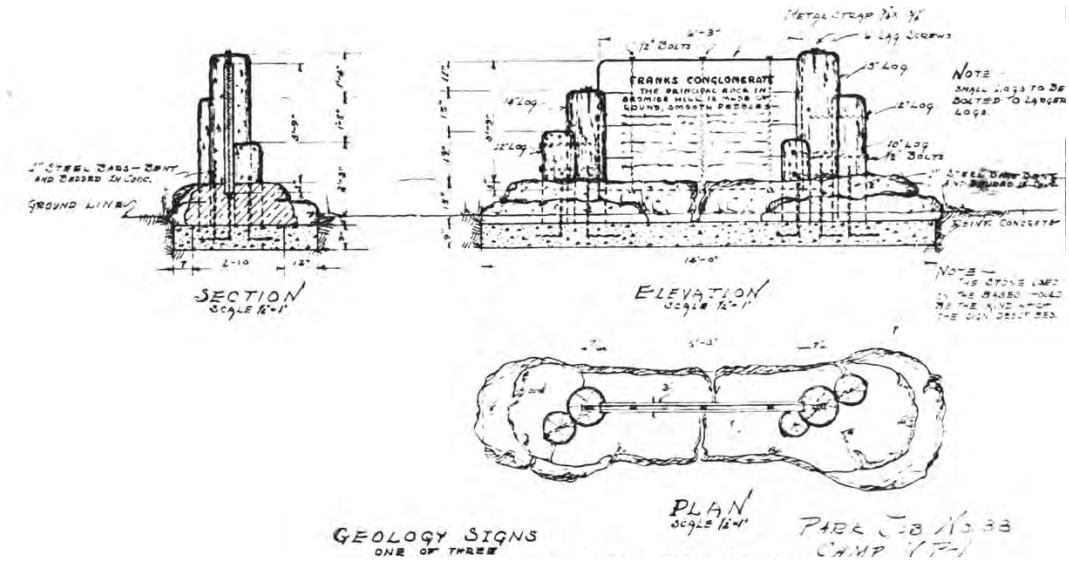

Figure 9-22. Portion of "Signs for General Park Area," Drawing NP-PLA 8010, showing proposed original construction of interpretive signs.

Figure 9-23. Historic bridge design, unknown location in park, circa 1935. Bridges were constructed of large. peeled, creosote-impregnated logs, atop stone abutments.

Figure 9-24. Existing trail bridge with pipe railing at Travertine Island. Such structures are functional, but do little to enhance the character of the district.

Figure 9-25. A potential new bridge design in a style readily available from a landscape structures vendor. A custom bridge design is another alternative.

Trail Bridges

Historically, trail bridges were constructed of massive timbers, located atop stone abutments (Figure 9-23; see also Figures 4-14 and 4-17). Today, the trail bridges are more simply constructed. A pair of steel I-beams span the historic abutments and a wood plank deck sits atop the I-beams. Hand-railings, if present, are usually pipe railings (Figure 9-24). On some trails, such as the Buffalo Pasture Trails, bridges do not have railings. Although there are quite a few bridges along the district's trail system, these purely functional, low-profile structures do little to enhance the character of either the trails or the district.

Recreating the historic bridges is not recommended, since little documentation of them has been found. However, the bridges could and should reinforce the district's historic character. As they wear out, the existing, non-historic structures should be replaced with a consistent bridge design that is clearly contemporary, but more in keeping with the original historic form and massing of the original structures and with the historic character of the district. Such a design might have wood timber railings, such as supplied by a vendor (Figure 9-25), or it might be a custom design using the historic bridges as inspiration.

MAINTENANCE GUIDELINES

Concrete Paving

Periodically, new concrete is poured in the district, to replace curbs, provide ADA access, construct pads for trash receptacles, etcetera. Concrete, while a convenient and inexpensive material, was not widely used in the park's original construction. The use of concrete should therefore be limited in the district. When it is used, a bright white color should be avoided, since it both visually highlights new construction (undesirable in a historic area) and is overly bright and reflective in the summer. During construction, new concrete should be darkened by the use of a dark sand and/or a colorant in the concrete mix. Recently poured concrete that is overly white should be darkened using an oxidizer. Another alternative is a concrete acid stain which reacts with the surface to form an integrally colored surface (www.acidstain.com). Locations where new concrete

should be stained include Walnut Grove, Black Sulphur Springs, Little Niagara Falls and Travertine Island, and Rock Creek Campground. New curbing on Highway 177 might also be stained to reduce its visual impact.

Flagstone

Flagstone terraces, including those at the 12th Street Fountain, Hillside Springs, and the Bromide Pavilion should be swept and cleared of debris once or twice per year. Weeds growing in mortared or dry laid flagstone should be pulled or sprayed with Round-Up®. It might be possible to have these areas policed for debris by park VIPs or by a local group that "adopts" a space.

Drains, Culverts and Associated Drainageways

Backed-up water can wreak havoc in the landscape. Culverts throughout the district should be cleaned on an annual basis, with approximately one to two weeks scheduled for each year. Culverts include those within individual landscapes as well as those at historic structures, such as the trench drain at Bromide Pavilion. Culverts along roads and trails should also be cleaned. Debris should also be removed from drainageways immediately up and downstream from culverts.

Masonry Repair

The Platt Historic District has a significant amount of varied historic masonry, ranging from the detailed ashlar masonry of the 12th Street Fountain to the dry laid boulders preventing erosion along Travertine Creek. Much of this masonry, particularly on smaller, out-of-the-way structures such as culverts and retaining walls, is beginning to deteriorate. Signs of deterioration include cracking and spalling stones, destabilization, deteriorating masonry joints, and efflorescence. If such deterioration is not arrested now, larger repair and replacement projects will be needed later.

Many—but not all—historic masonry projects are listed in Chapter 11; those listed are generally major problems that threaten structural stability. Closer inspection of structures will no doubt reveal additional problems.

Technical expertise or training is required for much of the repair work. While experts might be hired, it may be more efficient to develop expertise within the CNRA staff. This might be accomplished through individualized training off-site or through on-site workshops with partners such as the Historic Preservation Training Center.

Projects might be implemented by a staff person dedicated to masonry repair, or through an annually scheduled period during which a select number of prioritized projects are chosen for implementation. Either way, it is imperative that work be begun soon and be implemented on a regular basis. In addition, an annual inspection of masonry should also be implemented, to identify continuing deterioration and emergency repair needs. This might most conveniently be done during the off-season, November to February.

While each masonry project is different, some general guidelines apply. Repair should focus on replacing elements in-kind, using original stones when possible. If stones fall off a structure, they should be saved and replaced in their original locations. Non-original replacement stones should match the missing or surrounding stones in stone type, size, color, composition, and texture as closely as possible. If possible, replacement stones should come from the original quarry or source. For dry-laid rubble walls, such as those along creek banks, construction should match the original in terms of course number, stone size and batter. The work recently completed along Travertine Creek in Central Campground is exemplary.

Matching historic mortar joints is also important. When repointing, the size, color, and profile of new joints should match the old as closely as possible. In some cases, it may be necessary to match a historic mortar exactly; in these cases, it may be possible to consult historic documents for mortar specifications. In other cases, samples of extant mortar can be sent out for laboratory analysis.

Utilities

In general, utility infrastructure should be made less visible (Figure 9-26). Phone and electrical boxes should be painted brown to blend in with surroundings, provided that the utility companies will permit this. The satellite dish at the Headquarters and Administration area should also be painted brown (see Project AH4 in

Figure 9-26. Utility box at Bromide. Such infrastructure could be eliminated by placing utilities underground.

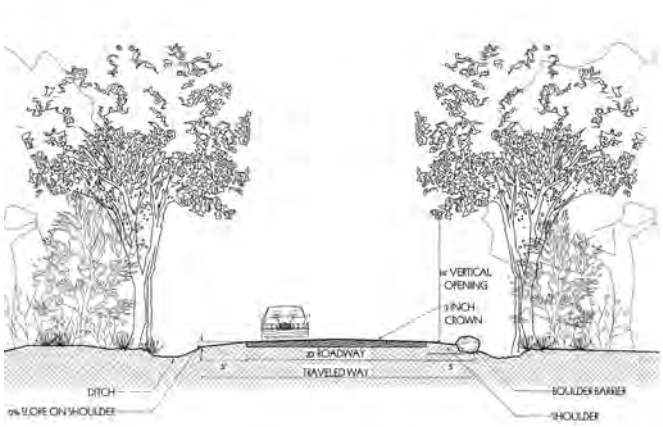

Figure 9-27. Typical road cross-section for management. Vegetation growing close to the road edge is a character-defining aspect of the road and should be preserved.

Figure 9-28. Tunnel-like character of the perimeter road between Bromide Hill and Highway 177, above, and elsewhere along the road is another character-defining feature that should be retained.

Chapter 11). And although utility poles were part of the historic setting and are seen in historic photographs, utility lines should be undergrounded as desired or possible, to reduce the effects of storm damage and conflicts with trees.

PERIMETER ROAD

Cross-Section Guideline

Encompassing the entire district, the perimeter road presents a specific historic character to visitors. This character must be maintained. The 2001-2002 FHwA Perimeter Road project implemented some changes, but most were minimal and included new surfacing, new curbs to manage drainage in some locations, and new alignments in a few locations. In a few areas, the road was slightly widened to better accommodate RV traffic. Following this work, additional changes to the road prism are not recommended.

The rest of the road corridor, including shoulders and roadside vegetation, should be managed to maintain an historic appearance, as shown in Figure 9-27, a typical road cross section. Shoulders should be native grass, mowed and maintained at five feet wide. Existing drainage swales or ditches paralleling roadsides should be approximately two feet deep, smoothly graded in the landscape and planted with native vegetation.

Vegetation should be allowed to grow close to the road edge, with a vertical clearance of fourteen feet as existed historically. In some places, such as near Cold Spring Campground, trees grow within a few feet of the roadway. While planting trees in such locations is not recommended today, these trees are historic and should be retained.

The tunnel-like quality of trees arching over the road on the south side of the perimeter road near Bromide Hill, along Rock Creek near Walnut Grove, and at other locations, should also be maintained (Figure 9-28). However, to reduce fire hazard in these areas, red cedar located in the understory along these stretches should be eliminated. Overhead road canopies may be thinned, but a quality of dappled shade on the road surface should be maintained.

Shoulder Maintenance

Visitor parking along the roadside is causing shoulder erosion problems in high visitor use areas, such as along the perimeter road at Panther Falls, at Cold Springs Campground, Bear Falls, and Garfield Falls, and at Walnut Grove. Paving the parking pull-offs (and slightly widening the asphalt between Sycamore Crossing and Bear Falls) as part of the 2001-2002 FHwA perimeter road project has helped better define parking areas. Additional shoulder paving, however, is not recommended. Rather, grassy road shoulders that are sometimes parked on should be constructed with stabilized soil (a 50-50 mix of gravel and soil), compacted, and reseeded with a roadside grass mixture during the off season. The stabilized soil should reduce compaction and allow a better growth of grass.

The stabilized soil mixture may also be used in other areas where shoulder retention is a problem. In addition, shoulder failure sometimes occurs at perimeter road culverts. These areas should be shored up with boulders placed below grade, in line with existing culverts, and the shoulder filled with stabilized soil and reseeded. Culvert headwall locations should also be marked with reflectors, to aid visitors in staying on the pavement in these areas, particularly at night. Placing additional boulder barrier along roads to restrict parking is not recommended.

Parking Areas

Parking pulls offs along the perimeter road have always been a part of the district landscape. As noted in Chapter 3, in the 1930s, 230 parking spaces defined by wood, and later, boulder guard rail, were designed along the road. At the end of the period of significance, pull-offs (as opposed to designed parking lots) were located in the following configuration: One at the Bromide Hill town site overlook; one at Walnut Grove; one at Lincoln Bridge; one at Central Campground; two at Bear Falls; one at the Limestone Creek Bridge and picnic area; and one at Antelope Springs. Today, there are a few more, including two along the perimeter road in Bromide Springs; seven at Walnut Grove; one at Lincoln Bridge; one at Central Campground; three between Cold Springs Crossing and Garfield Falls; two at Bear Falls; and one east of Limestone Creek Bridge at the picnic area and one about 500 feet west of Limestone Creek. These areas are mostly paved and lined with boulder barrier. These areas should be maintained as is. Tree and understory vegetation around the parking areas should be maintained to provide shade and to reduce the visual impact of parking within the historic district (Figures 9-29 and 9-30).

Figure 9-29. Parking area at Walnut Grove.

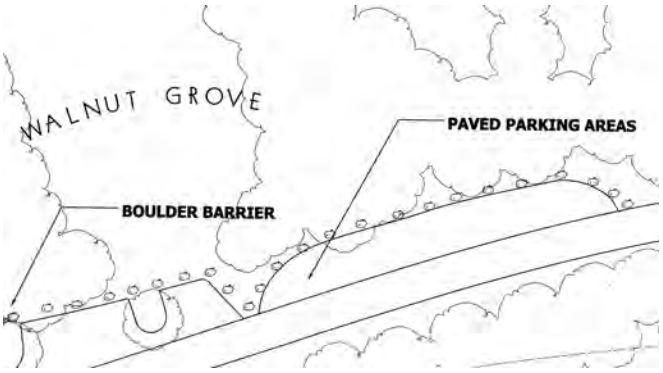

Figure 9-30. Parking area at Walnut Grove – plan view.

TRAILS

Trail Surfaces

Trail surfaces are currently composed of decomposed granite. Trial and error has revealed that 5/8”-minus crusher run granite seems to have enough fines to compact well and remain firm. However, throughout the district, migration of trail surfaces, particularly on steep slopes and after heavy rain, continues to be a problem. An applied surface treatment to help bind the surfaces together could be a potential solution. Treatments which can be sprayed on to bind surfaces include rosin- and

Figure 9-31. Drainage crossing at Flower Park, 2002. These will be redone as part of the trail reconstruction project in 2003 and 2004.

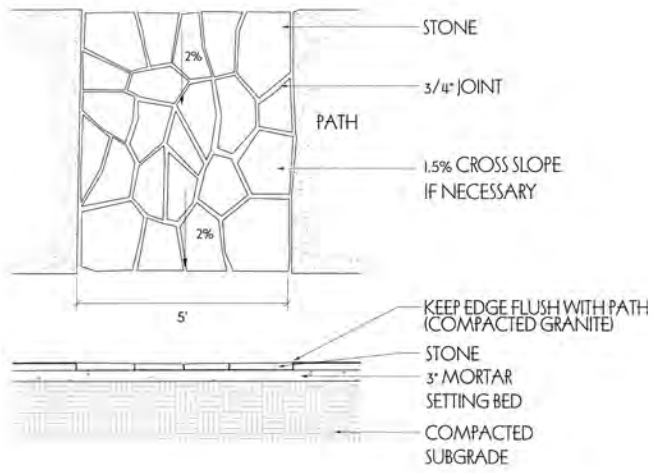

Figure 9-32. Proposed detail for new drainage crossings.

pitch-based surface treatments such as Resinpave® and RoadOyl® and Soil Sement®. There is evidence this type of binder was used in the 1960s (see Chapter 5), and that these binders were more effective at reducing dust than binding the surface.

An alternative surface treatment would be to use one of the polymer or plant-based stabilizers currently on the market. These so-called "organic" or "natural" products, are non-toxic to the environment and are blended with crushed granite and water and rolled or compacted to create a hard surface. Their advantages include ease of construction, low cost, and a color and texture that blends into the surrounding environment. A potential disadvantage of these products is their relative newness and an associated lack of contractor knowledge of their installation.

Construction with these stabilizers usually involves placement of three inches of crushed granite and stabilizer mix on a prepared sub-grade, thorough watering of the applied mixture, and rolling with a two- to four- ton drum roller to ninety-five percent compaction. However, a stabilized surface may also be created by tilling existing trails to a depth of three to four inches, thoroughly blending the stabilizer into the tilled material, and then watering and rolling. Testing of granite aggregate to ensure a proper ratio of aggregate to stabilizer is recommended. These are relatively new products, and their recorded life span so far is up to twelve to fifteen years in dry climates, with some patching or rewatering and compaction required. Suppliers of a plant-based product include Stabilizer Solutions, Inc. (205 S. 28th St., Phoenix, AZ 85034/ 1-800-336-2468/ www.stabilizersolutions.com). This manufacturer has done work for other NPS units. Polypavement is a similar product, but is polymer-based (P.O. Box 36339, Los Angeles, California 90036/ (323) 954-2240/ www.polypavement.com). Both of these manufacturers recommend sending soil or aggregate samples to determine whether or not the proposed soil substrate and gradient is appropriate for their product and to determine best application methods.

Hardened Drainage Crossings

Concentrated drainage flows cause continual erosion in localized areas along most paths paved with compacted decomposed granite or gravel. Over time, many of these have been "hardened" using asphalt or flagstone (Figure 9-31) to prevent tripping hazards and eliminate continual surface repair. This is an appropriate treatment. However, the construction of these drainageways should be made more consistent throughout the district. We recommend that all such areas carrying cross drainage should be paved with flagstone. If flagstone is dry laid, joints should be as tight as possible, ¼" to ¾". Where appropriate, flagstone may also be set in mortar with mortar joints (Figure 9-32). The flagstone surfaces should be kept as smooth as possible and the pavement ends should meet the existing trail at grade. An overall smooth and even transition with the trail is necessary, since pavement changes are a major part of reduced trail accessibility. Flagstone areas should be large enough to fully carry drainage, to prevent undermining at pavement edges and to help maintain smooth transitions.

ADA ACCESSIBILITY

Much of the Platt District is not fully accessible, and improving this access is important. The district should provide a range of experiences that are fully accessible, from camping to picnicking. Accessible water experiences are particularly important, given that water is the basis for the park's existence. Yet access goals must be balanced with historic preservation goals, to ensure that access alterations are sensitively made and do not lower the district's historic integrity or significance. In general, it is recommended that park management provide the highest feasible level of access with the lowest level of impact on the integrity of the Platt District historic resources.

In June 1997 the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas was established to create new design guidelines for accessible trails, campsites and picnic areas. The work on final design regulations is in progress; and the recommendations below are designed to meet the intent of the new regulations. Recommendations for improving access to specific areas are provided in Chapter 11 and in general, these are areas where changes to historic fabric will be minimal. District-wide accessibility concerns are addressed below. Visitors should also be informed of the degree of accessibility of various areas: for example, the steepness of trails or potential barriers along trails. This information could be provided at the visitor center and nature center and at trail heads. Where access alterations may significantly impact or irrevocably destroy a character-defining feature, it may be necessary to provide partial or limited access and provide an alternative way of experiencing that feature—for example, through videos.

ADA Trail Access

Under the new proposed guidelines, accessible trails must meet the flowing technical provisions:

- Clear tread width: 36-inch minimum.
- Tread Obstacles: 2-inch high maximum.
- Cross slope: 5% maximum.
- Running slope meets one or more of the following:
  - 5% or less for any distance.
  - up to 8.33% for 200 feet maximum; resting intervals (with room for benches and wheelchairs) no more than 200 feet apart.

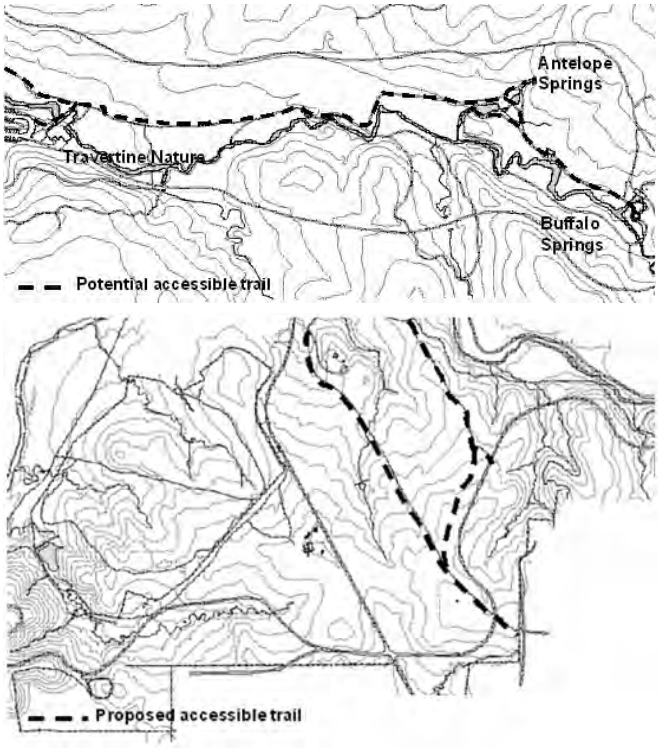

Figure 9-33. Proposed accessible trail segments of Buffalo Antelope Springs Trail (top) and Veteran's Trail (bottom).

  - up to 10% for 30 feet maximum; resting intervals 30 feet.
  - up to 12.55% for 10 feet maximum; resting intervals 10 feet.
- No more than 30% of the trail length may exceed a running slope of 8.33%.
- Passing Space: provided at least every 1000 feet where trail width is less than 60 inches.
- Signs: shall be provided indicating the length of the accessible trail segment.

Altogether, the Platt District has close to ten miles of trails, and many of these miles are inaccessible by the above standards, due to very stairways, steep slopes or unbridged water crossings. In general, overall access should be improved by providing smooth surfaces, ramps, hand railings, resting areas as possible and appropriate, but the entire trail system cannot be made fully accessible. However, full access could be provided on certain trails. These trails, which include Flower Park (where trails are currently being rehabilitated); the Buffalo Antelope Springs trail; and portions of Veteran's Trail might also be made accessible, with some grading to eliminate localized areas with slopes over 5% (Figure 9-33).

Figure 9-34. A typical, fully accessible picnic area requires hardened access and surface.

Figure 9-35. An accessible campsite must have accessible amenities and be located on an accessible route.

ADA Accessible Picnic Areas

The numerous picnic areas located through the park are furnished with picnic tables, grills, water sources and trash containers. The moveable nature of these elements makes the picnic areas partially accessible, since visitors can move features to suit their needs. None of them, however, are specifically designated to fully accommodate people with special needs, since accessible picnic areas must be located close to an accessible rest room, on a hardened, accessible surface with an accessible walk to the area (Figures 9-34 and 9-35). To meet accessibility guidelines, at least two fully accessible picnic areas are recommended at Walnut Grove and Black Sulphur Springs. Others might be provided at Bromide Springs and Flower Park, though they may be more intrusive in the historic setting in these two areas. Accessible picnic areas could be located in close proximity to an accessible route, parking lot and a modern comfort station. Decomposed granite trails, hardened with a stabilizer, could provide the required clear, firm and stable surfacing, which cannot exceed a 5% slope in any direction. These areas could be supplied with appropriate picnic tables, trash containers, grills or fire rings and with an accessible water source.

ADA Camping Areas

The proposed access guidelines for camping facilities require that about three percent of the total number of campsites in a campground should be accessible, with an accessible parking space, tent space, water source and site furniture . Each campsite must also have an accessible path to sanitary facilities.

The three campgrounds in the Platt District have accessible comfort stations but do not have designated accessible sites. It is recommended that seven accessible individual campsites be provided at Rock Creek Campground and four individual accessible campsites be built at Cold Springs. As described in Chapter 11, these are located in close proximity to the comfort stations, and, like the picnic areas described above, will require hardened trail surfacing to and from the comfort stations. This could be done using decomposed granite, with a stabilizer, to create a hard surface that is less visually intrusive than white concrete.

One accessible group site could also be located at Central Campground, although access to the comfort station will be difficult to achieve, given the steep slope in front of it. Therefore this is not recommended in Chapter 11.

All accessible campsites should include an accessible vehicle parking space, tent pad and living camping spaces with picnic tables, grills, fire rings, lantern hangers and other camping utilities.

Spring and Water Access

All existing pavilions and structures should be accessible to the highest feasible level. In situations where complying with accessibility guidelines “would cause substantial harm to cultural, historic or significant natural features” alternative methods of achieving opportunity of equal experience can be used. As described in Chapter 11 projects, full or limited access can be provided at the

Bromide Pavilion and the Black Sulphur Springs Pavilion; at Vendome and at Pavilion Springs and at Buffalo and Antelope Springs. Access at Hillside Spring; however, will be difficult to achieve without substantial changes, given its steep surroundings; a video or alternative experience of this spring should be provided at the Visitor Center.

Access to Rock and Travertine Creek to experience the streams, dams, waterfalls and wading ponds will also be difficult to achieve because of their steep banks. As an alternative, the Vendome Stream in Flower Park is recommended to provide accessible contact with water because of its close proximity to an accessible parking lot, small elevation changes, and accessible path network. However, even the stream at Flower Park will not be fully accessible, since it is not recommended to construct new hardened pathways to the stream banks.

CREEKS, DAMS, AND POOLS

Swings

Trees should be cut back around all swimming pool edges to discourage the construction of swings. Lower branches (below fifteen to twenty feet) should be removed from trees. Trees that lean or arch over swimming areas should also be removed.

Dam Maintenance

The dams and swimming holes along Travertine Creek should ideally be cleaned out annually or after heavy flooding to flush silt and remove twig debris. This will help water flow and improve the depth of the pools for swimming. It appears that traditionally, this work was done by hand, and the constructed dams have culverts that may be opened to flush silt and debris. The use of heavy equipment for this work is not recommended, unless the edges of the pools can be protected from collapse and compaction.

Pool and Stream Edges

Soil compaction and erosion caused by foot traffic are issues at most high-use stream and pool edges in the district, including Flower Park, Little Niagara Falls, Panther Falls, etc. There is probably little that can be done to change this, short of restricting access. However, the issue can be managed to some degree by replacing sand at “beach” areas such as Little Niagara and Panther Falls. Where stones have shifted, these should be replaced and stabilized soil (a mix of gravel and soil) should be used to backfill around them. Stabilized soil may also aid in maintaining grassier banks along Vendome Stream in Flower Park. When this area’s banks are eventually repaired, stabilized soil should be used where bank edges are to be reseeded.

Bank Erosion and Undercutting

Bank erosion and undercutting is occurring in locations along both Travertine and Rock Creeks. Such conditions are exacerbated by high water and flooding, as evidenced by bank scouring in more wooded areas of the district. Foot traffic is another problem eroding banks in high use areas, such as Little Niagara Falls or Panther Falls. In Flower Park, mud bathers can also contribute to bank subsidence when they reach under stones to collect sulfurous mud.

Where conditions are severe, stone revetment walls may be constructed. These dry-laid walls are in keeping with the historic means of preventing erosion, and there are excellent historic examples of such construction along the upper portions of Travertine Creek in the Environmental Study Area. More recent examples of revetment walls include those constructed along Travertine Creek in Central Campground (Figure 9-36). These walls, only a few years old, appear almost indistinguishable from historic stone work.

In general, new stone revetment walls should be constructed of large boulders, graduated in size from base to top, and with a 2:12 batter or a batter matching walls in adjacent areas. Vegetation such as Virginia creeper or catbriar may be placed in pockets of soil between stones to encourage revegetation of the walls to effect a natural appearance.

Alternatively, more modern bioengineering or stream bank stabilization techniques might be used where heavy armoring is not desired or along stretches where stony outcroppings are not indigenous. Bioengineering techniques may be less labor intensive and more cost effective, particularly if plant material could be

Figure 9-36. Recently constructed wall at Central Campground is an excellent example of new construction matching historic construction.

harvested in the park. These techniques are similar to the "brushing" technique used in constructing the Buffalo Pasture Dam and the Flower Park revetment wall. Bioengineering uses plant scions or bundles of fascines of fast-growing woody vegetation to create a vegetated slope resistant to water erosion. A good resource for such techniques is the manual *Stream Corridor Restoration: Principles, Processes, and Practices*, produced by the Federal Interagency Stream Restoration Working Group in 1998.

INTERPRETATION

Interpretation within the district should include cultural resource information as well as natural resource information. While the interpretation of natural resources, including the area's wildlife, vegetation, and geology has been emphasized since the early 1960s, cultural history interpreted in the district has also included the story of the park's origins and its early Native American use.

As we enter the twenty-first century, and gain distance from the history of the Great Depression, the story of the CCC and the creation of the park becomes more interesting to visitors interested in history. One way to address the park's 20th century resources is to create a self-guiding map and tour highlighting cultural resources, similar to those often used for nature study, for the entire district. This could be made available to visitors at the new Visitor Center and the Nature Center, and would be a relatively inexpensive way to gauge interest in the subject, without adding new interpretive features in the historic landscape.