

**A TRAIL DEVELOPMENT PLAN FOR THE
NEW RIVER GORGE NATIONAL RIVER**

**U.S. Department of Interior
National Park Service**



back of front cover -

this page left intentionally blank



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Mid-Atlantic Region
143 South Third Street
Philadelphia, PA 19106



D18(MAR-PD)

MAR 16 1993

Memorandum

To: Superintendent, NERI

From: Regional Director, Mid-Atlantic Region

Subject: NERI Parkwide Trail Plan

The Mid-Atlantic Region has reviewed and approves the referenced document. All revisions suggested by the region have been incorporated into the document.

If you have any questions, please contact Gene Woock, Regional Trails Coordinator, Planning & Development at (215) 597-1903.

John J. Reynolds
John J. Reynolds

RECEIVED			
MAR 27 1993			
<input checked="" type="checkbox"/> SUPT	<input checked="" type="checkbox"/> ASST SUPT		
SECTY	ADJ. DIR.		
CH RM&VP	CH I&VS		
ND	SD	ND	SD
<input checked="" type="checkbox"/> FAC MGR	<i>SA</i>	<input checked="" type="checkbox"/> RES MGMT	
<input checked="" type="checkbox"/> OSC			
LANDS	FILES <i>MPF</i>		
NEW RIVER GORGE NATIONAL RIVER			

this page left intentionally blank

TRIAL PLAN

NEW RIVER GORGE NATIONAL RIVER
West Virginia

January 25, 1993

RECOMMENDED: Joe L. Kennedy 1/26/93
SUPERINTENDENT, NEW RIVER GORGE NATIONAL RIVER DATE

APPROVED: Charles P. Chappell 3/16/93
REGIONAL DIRECTOR, MID-ATLANTIC REGION DATE

this page left intentionally blank

**A TRAIL DEVELOPMENT PLAN FOR THE
NEW RIVER GORGE NATIONAL RIVER**

FINAL 1993

Appalachian Mountain Club Trails Program

Developed by:

Peter Jensen
Project Consultant
Openspace Management

Dennis Regan
Regional Program Director
Appalachian Mountain Club

Jeffrey L. Marion
Regional Research Scientist
Cooperative Park Studies Unit
Virginia Tech, Dept. of Forestry

National Park Service
U.S. Department of Interior
New River Gorge National River
P.O. Box 246
Glen Jean, WV 25846

Sponsored by the USDI, National Park Service, Denver Service
Center
under Mid-Atlantic Region Cooperative Agreement Number CA4000-9-
8015.

this page left intentionally blank

ACKNOWLEDGEMENTS

The authors wish to extend their appreciation to the National Park Service staff at the New River National River who provided encouragement, ideas, constructive criticism, and valuable field information. Special thanks should be extended to Mike Hunter, now chief planner at the park, for his willingness to fulfill our many requests. We also wish to thank the many local trail users who provided trail routing ideas, additional contacts, and field assistance. We particularly wish to thank David Jones, and Becky Hilton for their field assistance as well as others not mentioned. Lastly, special thanks is due the Appalachian Mountain Club's field crew members - Mark Anderson, Carl Demrow, Kris Henker, Tim Loveridge, and Peter Williams for their efforts in the field.

this page left intentionally blank

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
EXECUTIVE SUMMARY	1
INTRODUCTION	3
PUBLIC INVOLVEMENT	4
ENVIRONMENT OF THE NEW RIVER	5
The New River	5
Topography	5
Geology and Soils	5
Vegetation	6
Threatened and Endangered Species	6
Scenic Resources	6
Historic/Cultural Resources	7
EXISTING CONDITIONS	8
Trails	8
User Groups	8
Land Protection	8
SAFETY CONSIDERATIONS	9
BACKCOUNTRY CAMPING	9
TRAIL DESIGN AND LAYOUT	10
Trail Design Procedures	10
Trail Design Considerations	10
Route Layout	11
TRAIL WORK LOG DEVELOPMENT	12
Work Log Structure	12
Work Log Procedures	12
COMPLIANCE WITH FEDERAL AND STATE LAWS	13

TRAIL PROPOSALS AND RECOMMENDATIONS	15
GENERAL RECOMMENDATIONS	15
UNIT SUMMARY TRAIL PROPOSALS AND RECOMMENDATIONS . . .	19
UNIT 1 - UPPER GORGE	20
UNIT 2 - GLADE CREEK	27
UNIT 3 - MIDDLE GORGE	40
UNIT 4 - LOWER GORGE	66
THROUGH-THE-PARK TRAIL	95
REFERENCES	96
APPENDIX 1	99
INFORMATION RESOURCES	99
APPENDIX 2	100
SAMPLE WORK LOG FORMAT	100
APPENDIX 3	101
GLOSSARY OF TRAIL WORK LOG TERMS	101
APPENDIX 4	103
TRAIL CLASSIFICATIONS	103
APPENDIX 5	107
RARE PLANT SPECIES	107
ADDENDUM	109

EXECUTIVE SUMMARY

The New River Gorge National River (NERI) is in its infancy as a National Park Service facility. Sixty one percent of the land within the proclamation boundary is in public ownership. A fifty-two mile section of the New River flows through the park and serves as one of the park's primary attractions. Whitewater rafting, hiking, rock climbing, mountain bicycling, and kayaking activities are expanding rapidly as the park grows in popularity.

This Trail Development Plan will provide trail design, construction, and management recommendations to the National Park Service for proposed hiking, mountain bicycling, interpretive, and accessible trails within the NERI. Proposed trail uses are not fixed but are offered as a starting point for further review and comment by park staff, interested organizations, and unaffiliated trail users. Once complete, the proposed trail system will provide visitors with a wide variety of trail experiences as well as opportunities to enjoy the region's rich natural and cultural history. The Plan should remain flexible to accommodate trail uses changes and allow for trail system expansion. As with this Plan, future plans should be based on resource capabilities and compliance.

In 1990 the National Park Service entered into a cooperative agreement with the Appalachian Mountain Club (AMC) to develop a trail plan for the NERI. The AMC's objectives were to design a trail system based on existing trails, facilities, and resource capabilities, propose new trails, evaluate trail conditions and prepare detailed construction and reconstruction worklogs, and provide recommendations for constructing, managing, and expanding the trail system. After careful consideration, the National Park Service directed the Appalachian Mountain Club to not propose trails which would cross private land.

Nine weeks of field scouting, route layout, and trail construction worklog development by an Appalachian Mountain Club field crew have resulted in the proposal of 38 trails totaling 69.20 miles (53.84 existing and 15.36 new). The trails link existing trails, offer visitor access to scenic, cultural, historic, and natural features throughout the NERI. Trails ranging from short walks to challenging mountain bicycling and multi-day hikes are proposed.

General Recommendations

Our recommendations are based on trail system needs, environmental and cultural constraints, land ownership configuration, and trail system management principles. In summary, we offer the following recommendations:

- Develop a Trail System Emphasizing Multiple Use
- Phase Development of Trails Within NERI
- Plan Trailhead Development to Manage Use
- Develop Multiple Use Trails

- Create a Trail Identification Program
- Formulate a Trail Rating System
- Create a Trail Construction Program
- Develop a Trail Maintenance Program
- Establish a Parkwide Trail Advisory Committee
- Develop Guided and Self-Guided Interpretive Facilities
- Create a Trail Information and Education Program
- Establish a Trail Condition Monitoring Program
- Recognize the Interest of Users to Explore Informal Trails

Summary Trail Proposals and Recommendations

The summary proposals and specific recommendations have been separated into four units for easier understanding, compilation, and data management. Each of the four units contains an overview and location map of the trail proposals within that unit. Unit 1 includes the Upper Gorge with 2 trails totaling 2.3 miles. Unit 2 covers Glade Creek with 4 trails totaling 13.8 miles. The Middle Gorge, Unit 3, has 10 trails totaling 10.1 miles. Unit 4, the Lower Gorge, has 11 trails totaling 27.64 miles.

The Mary Draper Ingles Trail

The Mary Draper Ingles Trail is proposed as the "through-the-park" trail. It follows various proposed trail segments as well as roads. Due to private land ownership in several areas, mostly at the southern end of the park, it is not possible to propose a permanent, continuous route through the park.

Addendum

Detailed trail proposals and worklogs are contained in this separate document. These proposals provide trail purpose, access, natural/scenic/cultural/historic features, safety, and compliance information. Technical trail construction needs are included in the worklog sections of each proposal.

INTRODUCTION

The New River Gorge National River (NERI), located in southeastern West Virginia, preserves a free-flowing 52-mile section of the New River from Hinton to Fayetteville. Established in 1978, the 62,000 acre park is known primarily for its rugged whitewater river, flowing northward through deep canyons and exposed cliff faces. The area also has a rich and colorful cultural history, particularly during the late 1800's when the area was mined extensively for coal.

The park is currently engaged in an extensive program of land acquisition and facility development. Expansion of the park's land base and facilities continues to bring new opportunities for public recreation use. The focus of this report, trail development and use, addresses an undeveloped but potentially significant new use. The park's trail resources are largely undeveloped at the present time; only 53.84 miles of trail are currently recognized by the park. However, statements in the park's General Management Plan (GMP) and Development Concept Plans (DCP) call for enhancement of day and overnight hiking opportunities through the development of a trail plan and expanded parkwide trails network.

A preliminary Trail Plan was assembled by the National Park Service (NPS) Denver Service Center in 1989 to initiate the development of a trail system. The plan highlighted four trail system components: a through trail, spur trails, trails associated with major visitor use areas, and primitive trails. Guidelines for future trail design, a trail classification system, and handicap-access trails were also identified. An annotated map accompanying the Plan shows existing trails.

The need for a more comprehensive field assessment of existing and potential new trails, in addition to specific trail segment proposals identifying routes, construction, and maintenance needs, led to the development of this trail plan. The work was conducted by the Appalachian Mountain Club (AMC) through a cooperative agreement initiated in December of 1990. The AMC is a non-profit volunteer organization committed to conserving, developing, and managing dispersed outdoor recreation opportunities for the public.

Specific objectives included the following:

- 1) Solicit and evaluate input from park managers, planners and interested user groups regarding their needs for through-trails, spur or connector trails, interpretive trails near visitor facilities, and primitive trails.
- 2) Conduct field surveys of existing trails and potential trail routes.
- 3) Evaluate current trail conditions and prepare detailed worklogs describing work and materials needed to bring existing and proposed trails up to NPS standards.
- 4) Prepare a Trail Plan presenting the results from the work above.

PUBLIC INVOLVEMENT

The Draft Parkwide Trail Plan was placed on public review from March 16, 1992 to April 14, 1992. Approximately 190 copies were mailed to officials, groups and individuals on the park's mailing list and copies were made available for examination and/or pickup at the Park Headquarters, DSC Support Office, Canyon Rim Visitor Center, Grandview Visitor Center and Hinton Visitor Center. Because of the interest regarding this project on the part of various groups comments were accepted on the draft study through May 1992. A news release outlining the project was sent to newspapers, radio, and TV stations in the immediate area of the park. A total of 27 written comments were received on mountain biking, climbing, hiking and from various organizations.

Two public meetings were held on the trail plan in October of 1990 to inform the public and interested parties about the trail study and to provide an opportunity for input from all user groups. Comments made at the meetings and through the review of the draft study indicated a wide variety of opinions although people were in general agreement that a parkwide trail plan was needed.

ENVIRONMENT OF THE NEW RIVER

The New River Gorge has a great diversity of natural, historic, and cultural features which offer visitors many recreational opportunities. Whether pursuing the past through visits and oral histories of Thurmond's mining heyday or contemplating the cascading beauty of Sandstone Falls, visitors can enjoy the New River Gorge throughout the year.

The New River

The New River, one of North America's oldest, is one of the premiere features of the NERI. Originating in northwestern North Carolina, the river flows through west central Virginia into southeast West Virginia on its 250 mile journey across the Allegheny Plateau. Within the NERI the river drops at an average rate of 10.6 feet per mile over 50 miles. The steepest drop, 20 feet per mile, occurs between Thurmond and Hawks Nest. In addition, water from nine major tributaries (see Figure 1.) is added to the river. The rapids created by this steep gradient range from Class I to V, making this section of the New River one of the most popular whitewater rivers in the East. At Gauley Bridge the river joins the Gauley River to form the Kanawha River, part of the Ohio River drainage system.

MAJOR TRIBUTARIES

Big Branch
Fall Branch
Meadow Creek
Glade Creek
Dunlop Creek
Manns Creek
Wolf Creek
Fern Creek
Marr Branch

Figure 1.

Topography

The topography within the NERI is quite pronounced, with elevations ranging from approximately 870 feet at the northern park boundary to 3280 feet on Swell Mountain. The cutting action of the New River has created a rugged river valley characterized by steep valley walls broken in places by sheer cliffs. One such cliff, located in the vicinity of Nuttallburg, is 14 miles long and highly popular among rock climbers who call it the "Endless Wall". Throughout the river valley, tributary streams, some with significant flows, have also carved steep-walled side valleys.

Geology and Soils

The New River, dating back at least 65 million years, is one of the oldest rivers in North America and exposes geological strata as old as 330 million years. The river's great age accounts for its unusual northward flow across the mountainous Appalachian Plateau; geologists have discovered that the river preceded the uplifting of the Appalachian Mountains during the Paleozoic era. During this time period the river eroded materials more quickly than they were uplifted, so the course of the river remained essentially unchanged.

Extensive deposits of coal present in the exposed rock strata of the valley walls gave rise to a booming but short-lived mining industry beginning in 1873 when the area was first accessed by railroad. Evidence of the coal mining era, including the foundations of buildings, roadbeds, mine entrances and tailings piles, can be found throughout the river valley.

The coal seams are underlaid by fine textured clay while layers of shale, siltstone, and sandstone are more common above coal seams. The abundance and workability of sandstone lead to its use for foundations, retaining walls, culverts, stairways and footings in many of the New River Gorge settlements.

The fine textured characteristics of the rock found within the New River Gorge has played a major role in soil morphology. A majority of the soils are fine textured with extremely stony conditions in many areas. Landslides have occurred on steeper slopes where soils are more prone to movement when saturated.

Hydric soils can be found scattered in small pockets along streams and on slopes seeping water. The only wetland within the NERI is located at about 2600 feet elevation in the Kates Creek drainage, a tributary of Glade Creek.

Vegetation

The topographic diversity of created by the New River has led to the development of an unusually varied flora, including species at the northern and southern extent of their ranges and disjunct populations of plants from other regions. Over 1,067 plant species have been identified in the park. The most common trees include red and white oaks, basswood, tulip poplar, sugar maple, buckeye, beech, hickory, and hemlock. Virginia and shortleaf pine are common on drier sites and recently disturbed areas, while riparian zones include elm, silver and red maple, sweet gum, sour gum, and white ash. A variety of understory trees and shrubs, including dogwood, redbud, witch hazel, magnolia, persimmon, and rhododendron add to the diversity of the vegetation.

Threatened and Endangered Species

Several federal and state listed rare, threatened, or endangered plant and animal species are known or may occur within the NERI. The Federal endangered peregrine falcon (*Falco peregrinus*) has been released through a hacking program in the park. Thirty birds have been released since 1987. However, the U.S. Fish and Wildlife Service has not designated the gorge as a critical habitat for peregrine falcons.

The Running Buffalo Clover (*Trifolium stoloniferum*) may occur within the boundaries of NERI along with the Allegheny Woodrat (*Neotoma floridana magister*), Eastern Harvest mouse (*Reithrodontomys humilus*), Long-tailed shrew (*Sorex dispar*).

The state of West Virginia does not have a legally designated list of endangered or threatened species. However, the State Department of Natural Resources does maintain a list of species of special concern under the Natural Heritage Program. A rare plant species survey was completed in 1986 by the West Virginia Natural Heritage Program. (See Appendix 5)

Scenic Resources

The New River serves as the centerpiece for spectacular views throughout the gorge. Long Point, Beauty Mountain, and Grandview are a few examples of sites providing panoramic views

from the gorge rim. A 1980 survey, utilizing computer and field techniques, indicated that approximately 90% of the land within the national river boundaries is visible from the river or major viewpoints and overlooks.

Historic/Cultural Resources

Evidence of the once booming coal mining industry, including abandoned mines, tipples, coke ovens, associated townsites and railroad facilities, can be found throughout the New River Gorge. These structures, dating back to the late 1800's and early 1900's, have deteriorated rapidly in the humid climate. Many are accessible only by foot travel and forest vegetation has reclaimed much of the surrounding areas. "Historic sites and structures within the New River Gorge have been identified through special studies and surveys conducted for the National Park Service since 1981. Complementing the data base from three archeological surveys (1981, 1987, 1990), and an NPS team began working in 1991 on the List of Classified Structures. This basic data will provide the park with information to make decisions on the protection of cultural resources along or near designated park trails."

EXISTING CONDITIONS

Recreation use of trails within the NERI is increasing despite the lack of trail system expansion. User groups are interested in participating in the current trail planning initiative. As more land is purchased, greater opportunities for recreation trails will arise.

Trails

The NERI has an inventory of existing trails as a result of site-specific development efforts by the NPS and local organizations. The Kaymoor Trail, several sections of the Mary Draper Ingles Trail, and numerous paths along sections of old rail bed, coal and logging roads have been developed at locations such as Kaymoor, Glade Creek, Sandstone Falls and Grandview. Many unofficial trails lead to popular vistas, rock climbing areas, waterfalls, campsites, and coal mine related features.

Water routes are also considered "trails". Thus, boating on the New River, Greenbrier and Bluestone complements the land trails.

User Groups

Current user groups active within the NERI use the existing trails as well as informal trails they have created. Some uses, such as using vehicles off roads, are prohibited within the bounds of NERI. However, four-wheel drive vehicles and all terrain vehicles commonly use many old dirt roads and railroad grades. The park has experienced significant increases in non-motorized trail-dependent recreation activities, particularly hiking, equestrian, rock climbing, and mountain bicycling. Discussions with local user groups and commercial enterprises (including equestrian and rafting outfitters and mountain bike shops) indicate a growing desire to have more trails available for their use.

Some groups such as the Mary Draper Ingles Chapter of the West Virginia Scenic Trails Association have been working with the NPS to expand trail use opportunities within NERI. The Ingles Chapter is interested in completing the Mary Draper Ingles Trail through the length of the park. Equestrian and mountain bicycle user groups have also approached the NPS regarding trail development opportunities.

Land Protection

As of July 1991 the authorized acreage for the New River is 62,000 acres with 38,162 acres of land having been purchased within the NERI. The NPS continues to acquire land on a willing seller basis. The majority of land to be acquired lies within the southern one quarter of the NERI. Scattered parcels of private land will directly affect development of certain proposed trails.

SAFETY CONSIDERATIONS

Trail use within the NERI must be safe yet provide challenging and enjoyable experiences to all trail users. The proposed trail system passes through historic mining areas and encounters land features such as cliffs and streams that present safety concerns.

Drift or strip mine operations have left mine openings, spoil piles, and abandoned structures on the landscape. Acid mine drainage and inadequate sewage disposal in surrounding towns contribute to water degradation in the New River tributaries. Railroad activities have created cuts through hillsides where rocks continue to fall and trestles are in need of repair.

Rock outcrops provide scenic overlooks and waterfalls create mossy glens. Both features add diversity to a trail user's experience yet also represent potential safety concerns. Other natural safety hazards include landslides, falling rocks and trees, and stream crossings. Measures should be taken, where warranted, to adequately address these safety concerns. Where noticed, safety concerns such as precarious boulders, mine openings, derelict structures, unstable slopes/soils, poor road crossings and inferior bridges, were noted in the trail work logs and described in a "Safety Considerations" section of each trail proposal. AMC recommendations for addressing these concerns were included in the "Trail Recommendations" section of each trail proposal.

BACKCOUNTRY CAMPING

Backcountry camping is not addressed in existing park plans or management documents. Currently, backcountry camping is permitted throughout the park on federally-owned land except in certain posted areas designated as cultural and/or sensitive natural resource sites such as Kaymoor, Kates Branch, Grandview, Thurmond, trailheads, etc. No formal goals, objectives, or regulations to guide and manage this use have been adopted by the park. Given the potential for significant increases in backcountry camping use which the development of a formal trails system might stimulate the park is in the process of writing a camping management plan to address all forms of camping within the park.

Backcountry visitors, particularly campers, should be encouraged to discuss their plans with park staff at visitor centers and ranger stations. There is a complex and constantly changing mix of private and public land within park boundaries and trespass transgressions present a potential threat to the safety of park visitors. Such visitor contact also presents the opportunity to inform backcountry visitors of applicable regulations and to convey information regarding trails, possible camping locations, minimum impact and visitor safety recommendations.

TRAIL DESIGN AND LAYOUT

Adherence to sound principles of trail design and layout will result in a trail system that lies lightly upon the land, is cost effective to construct, and requires minimal maintenance.

Trail Design Procedures

The Appalachian Mountain Club's field crew used a basic four-step process to design and lay out proposed trails. Information gathering, field survey activities, route design, and route layout were the essential elements of the process.

The National Park Service provided much of the basic information necessary to begin field work. Land ownership maps were useful in determining the location of private lands within the proclamation boundary. Aerial photos and topographic maps aided in identifying existing features on the landscape, possible trail alignments, and trail linkages. Information on rare and endangered species, cultural sites, and park facility and resource access points were collected and considered. Much of this information was incorporated into a set of base maps used by the field crews.

The interests and perspectives of local user groups were solicited at a public meeting early in the trail planning process. The field crew also made contacts with hiking, equestrian and mountain bicycle interests throughout the 10 week period of field work. Appendix 1 lists agencies, groups, and individuals who provided information and assistance.

A review of all existing and potential trails was completed based on user group input and available information. Trail scouting and work log lists were then developed and reviewed with the park staff. The scouting list consisted of existing trails and roads (coal and logging), potential routes, and linkages between routes. This list was revised frequently during the trail scouting process.

Trail Design Considerations

Trail design considerations used by the AMC field crew varied from trail to trail. All the existing and proposed trails were reviewed with purpose, access, use, feature diversity, and construction/ maintenance needs taken into consideration. A summary of considerations is listed in Figure 2 and is described below.

Trail purpose is the paramount consideration. Trails must have feature diversity, serve as a link to features or other trails, have educational values (ecological, historical and cultural), have aesthetic features, or present a challenge to be meaningful to users.

Trail ratings will help the user assess each trail to determine whether it meets their needs of a walking, day hiking, or backpacking trail.

Trail access helps define the level and type of use a trail might receive. Trails in remote locations will receive less use but by more experienced users. Trails near roads or facilities will be visited more often by less experienced users.

Trail funding may be provided by the Congestion Mitigation and Air Quality Improvement Program and the Federal Lands Highways Program under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Sections 1008 and 1032, respectively.

Trail implementation will consider congruency with the Statewide Plans for Transportation, for Outdoor Recreation and Trails, and with the Governor's Greenway Policy.

Use type was determined by factors such as access, trail slope, trail width, water resources, or soils. For example, wet and erosive soils should be avoided where possible. Equestrian and mountain bicycle uses are not suited for steep trails on loose soils.

Use level for trails can only be estimated as each trail is unique. Monitoring trail tread conditions over time will help determine appropriate use levels. If damage occurs maintenance efforts or temporary closure should begin.

Natural features play an important role in trail design. Topography and vegetation provide visual and physical stimulation while water, cultural features and wildlife add special appeal.

Sensitive species and habitats have an impact on trail design. Proposed new trail routes, in most cases, are designed to avoid impacting important resource areas. Sensitive species along existing trails will require special management or mitigation measures. Some species exist because of environmental disturbances.

Cultural features can be incorporated into the trail layout where interpretation objectives dictate. Special attention to trail design, construction and maintenance within cultural sites is necessary to preserve the integrity of cultural features.

Construction and maintenance is often a critical design consideration where resources may be limited. The cost of building a steep trail to a vista or waterfall may not be justified if it is the only feature on the trail. Good trail design seeks to minimize construction and maintenance needs.

Route Layout

The layout of all the proposed trail routes within the NERI incorporated scouting information and trail design considerations. Building upon acceptable existing trails, new trail routes were flagged. Where routes followed old roads and existing trails, only the intersections were flagged to indicate a diversion from the road or trail.

Route layout required the field crew to make on-site decisions regarding specific trail location. Examples of field layout decisions include which side of a tree a trail should be placed on, where a switchback should be located and how steep a grade could be sustained.

TRAIL DESIGN CONSIDERATIONS

- * Trail Purpose
- * Trail Access
- * Use Type
- * Use Level
- * Natural Features
- * Sensitive Species
- * Cultural Features
- * Historic Features
- * Construction
- * Maintenance

Figure 2.

TRAIL WORK LOG DEVELOPMENT

Trail work logs are tools used by trail managers to plan and manage trail construction and maintenance activities. Trail logs provide detailed information on specific construction needs, maintenance tasks, and safety concerns. A work log example and a glossary of construction terminology is included in Appendices 2 and 3 respectively. Information contained in the logs can be summarized to determine trail construction or maintenance estimates for staff time, material needs, and overall costs. The work logs are also used in the field by trail construction and maintenance crews.

Work Log Structure

The trail work logs developed by the AMC contain information relevant to each specific trail. Each log contains the following information: trail name, assessment date, assessment staff, computer file name, trail length, proposed use, difficulty rating, measuring wheel conversion rate, trail/unit number, trail description, and specific comments and work needed referenced by measurements from measuring wheel. The comments and work needs make up the bulk of each work log.

Work Log Procedures

The AMC field crews used a two-stage process for assessing the condition and work needs of trails. Working in teams of two, one member was responsible for pushing a trail measurement wheel and recording comments and work needs into a portable dictaphone. The other member wrote descriptive comments in a notebook. In the office, the second step consisted of transcribing and editing the dictaphone tapes to standardize terms, phrases, and format. Descriptive comments were added where needed. A tally of the work needs was also compiled in a computer database to facilitate the summarization of trail construction and maintenance staff time, material needs, and overall costs. Each of the trail proposals contains a table summarizing this information.

COMPLIANCE WITH FEDERAL AND STATE LAWS

Any existing trail may be deleted from the trail plan if it is found to be of significant impact on the environmental, cultural or archeological resource.

Federal Water Pollution Control Act

Any trail construction in streams or on streambanks will comply with the requirements of section 404 of the Federal Water Pollution Control Act and other applicable federal, state, and local regulations. Trail improvements at stream crossings or adjacent to streams may require permits from the Army Corps of Engineers and the state Public Lands Corporation if fill placement, bridge pier placement, or stream channel contouring or similar water related activities are required for construction of trails. In addition, a sediment and erosion control plan may also be required. This plan must identify steps to protect the water quality of the New River and its tributaries.

Executive order 11988 ("Floodplain Management") and Executive Order 11990 ("Protection of Wetlands")

No jurisdictional wetlands have been found on existing trails.

Council on Environmental Quality Memorandum on Prime or Unique Farmland Soils

A memorandum dated August 11, 1980, from the Council on Environmental Quality requires federal agencies to assess the effects of their actions on soils classified by the Soil Conservation Service (SCS) as prime or unique farmlands. No such soils have been found under existing trails, so there will be no impact on prime or unique farmlands.

Endangered Species Act of 1973

Section 7 of the Endangered Species Act directs all federal agencies to use their authorities to further the purpose of the act by carrying out programs for the conservation of endangered or threatened species. Federal agencies are required to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat.

Informal consultation under section 7 of the Endangered Species Act was initiated with the U.S. Fish and Wildlife Service in March, 1992.

Section 106 of the National Historic Preservation act of 1966, as amended (16 USC 470, et. seq.)

Section 106 requires that federal agencies having direct or indirect jurisdiction over undertakings take into account the effect of those undertakings on national register properties and allow the appropriate state historic preservation officer and Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking. Toward that end, the National park Service would work with the West Virginia state historic preservation officer (SHPO) and the

advisory council to meet the requirements of the August 1990 programmatic agreement among the National Conference of State Historic Preservation Officers, the advisory council, and the National Park Service. This programmatic agreement requires the National Park Service to work closely with the SHPO and the ACHP in planning for new and existing NPS areas. Also, this agreement provides for a number of "programmatic exclusions" or actions that are not likely to have an adverse effect on cultural resources. These actions may be implemented without further review by the SHPO or the ACHP. Actions not specifically excluded in the programmatic agreement must be reviewed by the SHPO and the ACHP prior to implementation.

Internally, the National Park Service will complete a XXX form (Assessment of Effect on Cultural Resources) prior to implementation of any proposed action. This is necessary to document any project effects and outline actions proposed to mitigate any effects. All implementing actions for cultural resources would be reviewed, using the XXX form, and certified by regional office cultural resource specialists as specified in NPS-28.

Prior to any ground-disturbing action by the National Park Service, a professional archeologist would determine the need for archeological inventory or testing evaluation. An archeological inventory and evaluation of the cultural resources of the New River Gorge was completed in 1981 by Paul D. Marshall and Associates. This inventory identified numerous features of historical importance that were also given extensive consideration. For example, at Kaymoor, Southside Junction, McKendree, and other locations, proposed trails pass through and access specific features within these historic/cultural sites. These areas provide outstanding opportunities for historic and cultural interpretation.

A natural resource survey is being conducted on all trails. Trails in the vicinity of sensitive sites will be assessed on a case by case basis to ensure proper protection or mitigation. Route realignment may be necessary on some trails.

Rare and endangered species locations, identified in a report titled "A Rare Plant Survey of the New River Gorge National River: During 1985 and 1986" by the West Virginia Natural Heritage Program, were also considered in specific trail routes. Each trail proposal references the general location of sensitive species.

TRAIL PROPOSALS AND RECOMMENDATIONS

The NERI Trail Plan includes general recommendations applicable throughout the park and unit recommendations calling for specific actions within each of the four park units. Recommendations on the "through-the-park" trail are included as well. Summary trail proposals are included in each of the four units.

The recommendations are based on perceived trail system needs identified through field scouting, discussions with Park Service personnel, and comments from users and user groups. The configuration of private and public land landownership has played a key role in shaping several recommendations.

GENERAL RECOMMENDATIONS

Develop a Trail System Emphasizing Multiple Uses

Many factors were evaluated in developing trail use designations. Environmental considerations weighed most heavily - especially the composition, slope, and stability of the trail tread. Other factors included natural/scenic interest, cultural/historic sites, geography, existing trail uses, visitor satisfaction, and potential user group conflicts. Proposed trail use designations are not fixed, rather they are offered as a starting point for further review and comment by park staff, interested organizations, and unaffiliated trail users. Flexibility in these designations, within the constraints described above, should be maintained to accommodate evolving changes in the park.

Hiking, mountain bicycling, interpretation, equestrian, and wheel chair access trails are proposed for the park. We recommend the Park Service establish a trail system based on the location and proposed uses set forth in our individual trail proposals. Based on the physical and environmental capabilities of the resource, we believe all uses can be accommodated where proposed. Some proposals call for more than one use. Wheel chair access, interpretive, and walking trails, access scenic and cultural features with opportunities for future expansion if demand dictates. We are recommending several wide trails, located on old coal roads or railroad beds, be adopted for hiking and mountain bicycling use based on resource capabilities. We understand regulations governing mountain bicycle use is to be addressed in the Code of Federal Regulations.

Equestrian trail use is located in two "areas". One trail is near Brooklyn top (Brooklyn Mine Access Trail) and the other will be located in the area south of Kaymoor (pending a boundary survey). Trails will be located/evaluated on the following: equestrian trails will not be located on other user trails, will be within the park boundary, will be sited on old roads, will be located at the top of the gorge and will meet all compliance requirements (environmental, cultural, and archeological).

Phase Development of Trails Within NERI.

Trails should be built out from core facilities and user areas. We recommend high priority attention be given to construction of the "through-the-park" trail, the park's main trunk trail. Side and connector trails should follow. Proposed trails at core facilities such as Southside Junction/Thurmond, Brooklyn and Kaymoor should be given high development priority as well. The trails at core facilities provide loop opportunities generally ranging from less than an hour to most of a day.

Plan Trailhead Development to Manage Use

The proposed trail system utilizes existing or proposed parking facilities to the greatest extent possible. We recommend the Park Service design parking facilities appropriate for the specified trail use, utilize parking facilities as a tool to limit overuse of trail resources, and provide trail information and low impact use education at trailheads. Parking facility design, appearance, and information dissemination play an important role in creating a positive experience for visitors.

Develop Multiple Use Trails

In several developed and accessible areas of the NERI we recommend the creation of multiple use trails. Uses might include walking, hiking, bicycling, wheel-chair use, or interpretation. Each trail should be designated for a variety of uses. All uses would not occur on all trails. Our specific recommendations are included in the summary trail proposals that follow this section.

Create a Trail Identification Program

Each of the proposed trails in the summary trail proposals section has been named based on their location or historic use. These names may not reflect local wishes. We, therefore, recommend the creation of a trail identification system. Trail names could be derived from geographical place names, topographical features, historical uses, or historical characters.

Develop a Trail System Sign Plan

As the trail system is developed we recommend trail signs be installed at trailheads. Signs provide users with information on trail location/entrance, name, use, destination, distance and features. In addition, we recommend the Park Service develop an effective sign format which fits into the existing sign plan, create an easily maintained database of all park trail signs, and a strategy for maintaining the trail sign system.

Formulate a Trail Rating System

The trail system proposed for NERI includes trails with varying difficulties. To assist users, the Park Service has developed a trail rating system. A set of criteria has been identified for the rating system. Criteria include length of trail, total elevation change, trail surface condition, type of route (trail, road, or combination), remoteness, steepness, and stream crossings. These factors are applicable to all trails and will be used individually and in several combinations to rate a trail. Rating factors vary between trail use types.

Create a Trail Construction Program

To maintain/repair 53.84 miles of park trails, we recommend the Park Service create a multi-faceted trail construction program. Such a program should include: 1.) a Park Service trail crew, 2.) cooperative agreements with non-profit trail organizations, 3.) contracts, and 4.) trail day events to involve the general public. The Park Service trail crew should provide general trail construction and maintenance within the park. Equally important will be the development of working partnerships with volunteer user groups and individuals capable of constructing trails. To help foster partnerships, the Park Service trail crew should be capable of providing technical assistance to volunteers and groups interested in becoming trail maintainers or monitors. Complex projects, such as trestle reconstruction or high tech rock construction, may require contracts with specialists. Cooperative agreements with experienced non-profit trail maintenance and construction organizations provide valuable services at reasonable cost. Trail day events require significant organizational efforts and trained leaders but help promote volunteerism and citizen participation in recreation stewardship activities.

Develop a Trail Maintenance Program

As the 53.84 mile NERI trail system is maintained/repared, an effective trail maintenance program will be required to manage an increasing maintenance load. We recommend a multi-faceted approach similar to the one proposed in the trail construction program. In addition, we encourage the development of adopt-a-trail programs in which organizations, groups, or individuals adopt a trail or trail section. Annual trail maintenance days open to the public are effective at raising local awareness of trails and their needs. Such events are typically sponsored by private/public partnerships to share organizational responsibilities, publicity, and trained leaders.

Establish a Parkwide Trail Advisory Committee

Trail advisory committees (or trail associations, friends of parks groups) can help promote private/public partnerships, guide trail system development, encourage citizen participation in trail construction and maintenance efforts, advocate for

public trail construction and maintenance funds, and develop private funding sources. We encourage the Park Service and local trail community to develop a committee and seek individuals, groups, and organizations willing and able to strongly support the park's trail development efforts.

Develop Guided and Self-guided Interpretive Facilities

Historic/cultural interpretation is an important recreation component of the NERI. We recommend sites such as Kaymoor, McKendree Hospital site, Thurmond, and Lily-Trump Farm have structured interpretive programs. We envision park interpreters developing regular programs at these sites. Other sites along trails could be developed as self-guided facilities. Signs or brochures would allow users to interpret sites at their own pace.

Create a Trail Information and Education Program

As the park trail system develops, we recommend the creation of an information/education program to provide trail information and low impact trail use education to the public. We recommend the Park Service and user groups work together to develop informative brochures and accurate guides and maps. Information should be available at trailhead bulletin boards, disseminated through contact at information centers, by interpreters in the backcountry or during programs, or through outreach programs targeting schools, groups, and organizations.

Establish a Trail Condition Monitoring Program

A trail condition monitoring program would identify, quantify, and evaluate changes in trail tread conditions. We recommend developing a program to track hiking, mountain bicycling, and equestrian effects on trails. Relationships between type and amount of trail use, trail slope, or soil type could be evaluated to provide managers with information necessary to improve management of the trail system or to plan future expansion.

Recognize the Interest of Users to Explore Informal Trails

Throughout the NERI, old coal roads, paths, and logging trails in the vicinity of proposed trails offer opportunities for exploration and enhancing visitor satisfaction. We encourage the Park Service to recognize this user interest. We believe many of these short, informal side paths should not be a part of the formal trail network. Some trail expansion opportunities may arise and should be evaluated on a case by case basis.

UNIT SUMMARY TRAIL PROPOSALS AND RECOMMENDATIONS

Individual summary trail proposals are arranged by Park Service planning unit. The first unit covers the upper gorge from Hinton to north of Meadow Creek. The second unit encompasses the Glade Creek area. The third unit covers the middle gorge and extends from Glade Creek north to the Rush Run area. The fourth unit or lower gorge, covers the area from Rush Run to the northern end of the park. Some trail proposals are located in more than one unit. In those cases, the trail is included in the unit where most of the trail is located.

For each summary trail proposal we have identified the most appropriate use based on our detailed trail logs and assessments. The summary trail proposals provide an overview of the trail's length, use, purpose, description and access, natural and scenic features, construction needs, safety issues, and compliance needs.

A General Management Plan is presently underway for The Bluestone Scenic River. No trail plan will be written until this plan is completed. There is one existing trail "The Bluestone Turnpike Trail" which is approximately eight miles.

A General Management Plan is presently underway for the Gauley National Recreation Area. Until this plan is completed and land acquisition is started no trail plan will be written.

UNIT 1 - UPPER GORGE

SUMMARY TRAIL PROPOSALS

SANDSTONE FALLS TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.5 MILES	HIKING	2 - IUG

PURPOSE:

The Sandstone Falls Trail provides a short hike departing from the Sandstone Falls Boardwalk.

ROUTE DESCRIPTION/ACCESS:

The trail begins at the first viewing platform of the boardwalk. It follows the creek downriver one-quarter miles until it reaches the creek crossing. Without crossing the creek the trail turns east across an open field for 700 feet it then turns south, parallel to the river for one-quarter miles until it joins with the boardwalk to return to the start.

NATURAL/SCENIC FEATURES:

The trail passes through a variety of habitats along its length. The river, Sandstone Falls and the island are the prominent features along the trail.

HISTORIC/CULTURAL FEATURES:

There are no apparent historic or cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

This is an existing trail.

OTHER CONSTRUCTION NEEDS:

Routine maintenance and repair work.

SAFETY:

There are no apparent safety issues along this trail.

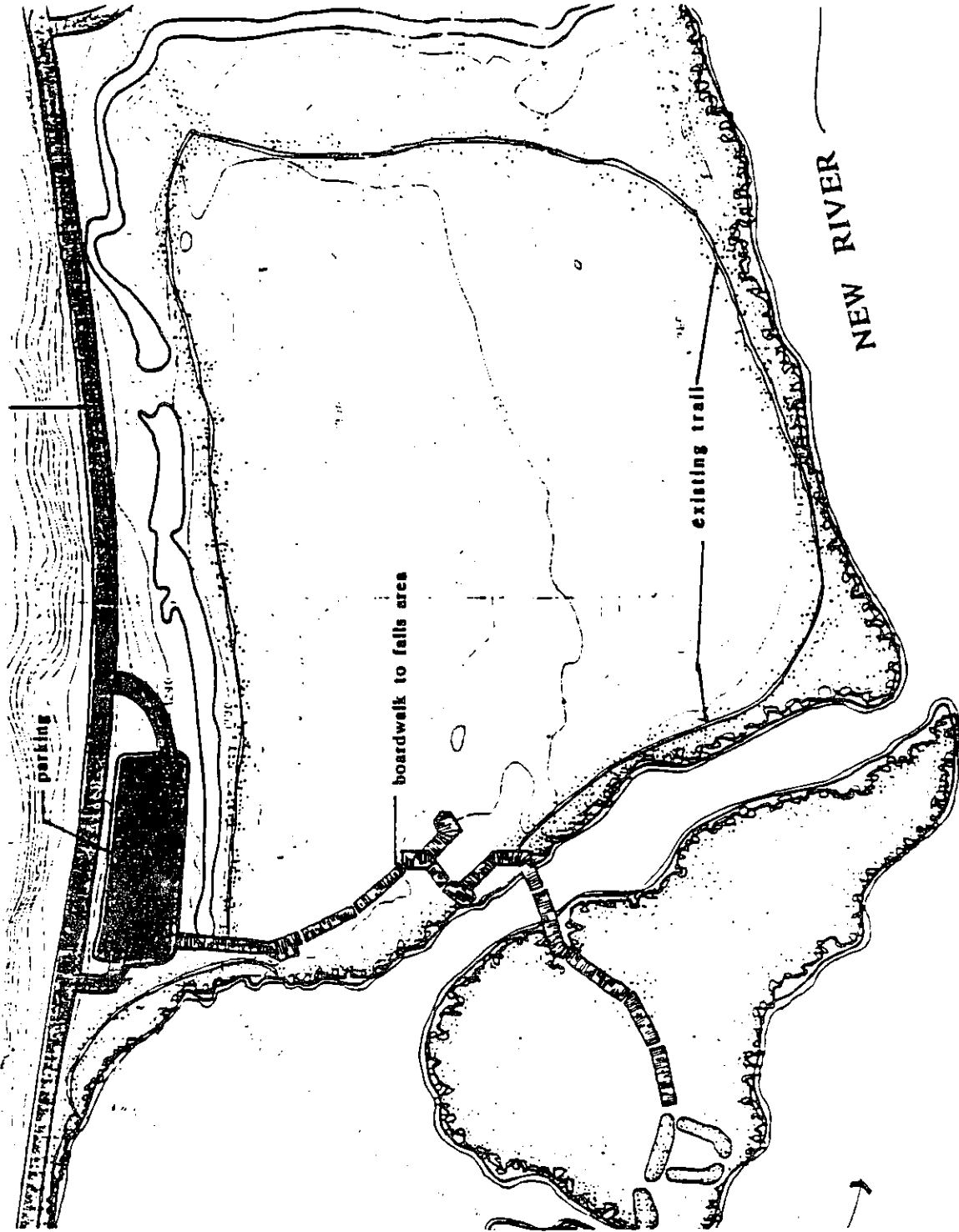
COMPLIANCE NEEDS:

Natural - There are sensitive resource sites in the area that the trail avoids.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

SANDSTONE FALLS TRAIL

TRAIL/UNIT #: 2 - 1UG

LENGTH: 0.5 MILES

BIG BRANCH TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.8 MILES	HIKING	4 - 1UG

PURPOSE:

Big Branch Trail provides access along Big Branch and the uplands to the north of Big Branch. The trail provides a loop hike for park visitors at this location.

ROUTE DESCRIPTION/ACCESS:

Access to the trail is from the Brooks Falls parking area. The trail begins on the west side on an old road cut, ascends an old woods road to the north to a point of land where it swings south into a drainage. It ascends through the drainage, crosses under high tension wires, and intersects another old road. It begins a gradual descent into the Big Branch drainage, crosses Big Branch, and follows an old road down along the west side of the stream and makes its final descent to the Brook Falls parking area.

NATURAL/SCENIC FEATURES:

The predominant natural and scenic feature along this trail is Big Branch and the steep sided valley through which it flows.

HISTORIC/CULTURAL FEATURES:

The only evident cultural feature along this trail is the old road the trail follows.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	16		138	Cribbing	3		100
Drainage Ditch	4		56	Rock Steps	3	19	
Cross Drain	1		6	Step Stones	3	8	
Channelizing	2		31	Tread Work	1		
Rock Water Bars	4		42	Brushing	1		
Sidehill	9		860	Blowdowns	12	16	

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

If the trail receives heavy use, a footbridge across Big Branch would reduce impacts on the stream banks. A gate should be installed at the lower end of the old road to restrict vehicle access.

SAFETY:

Pedestrian crossing signs on the main road at the Brooks Falls parking area must be considered.

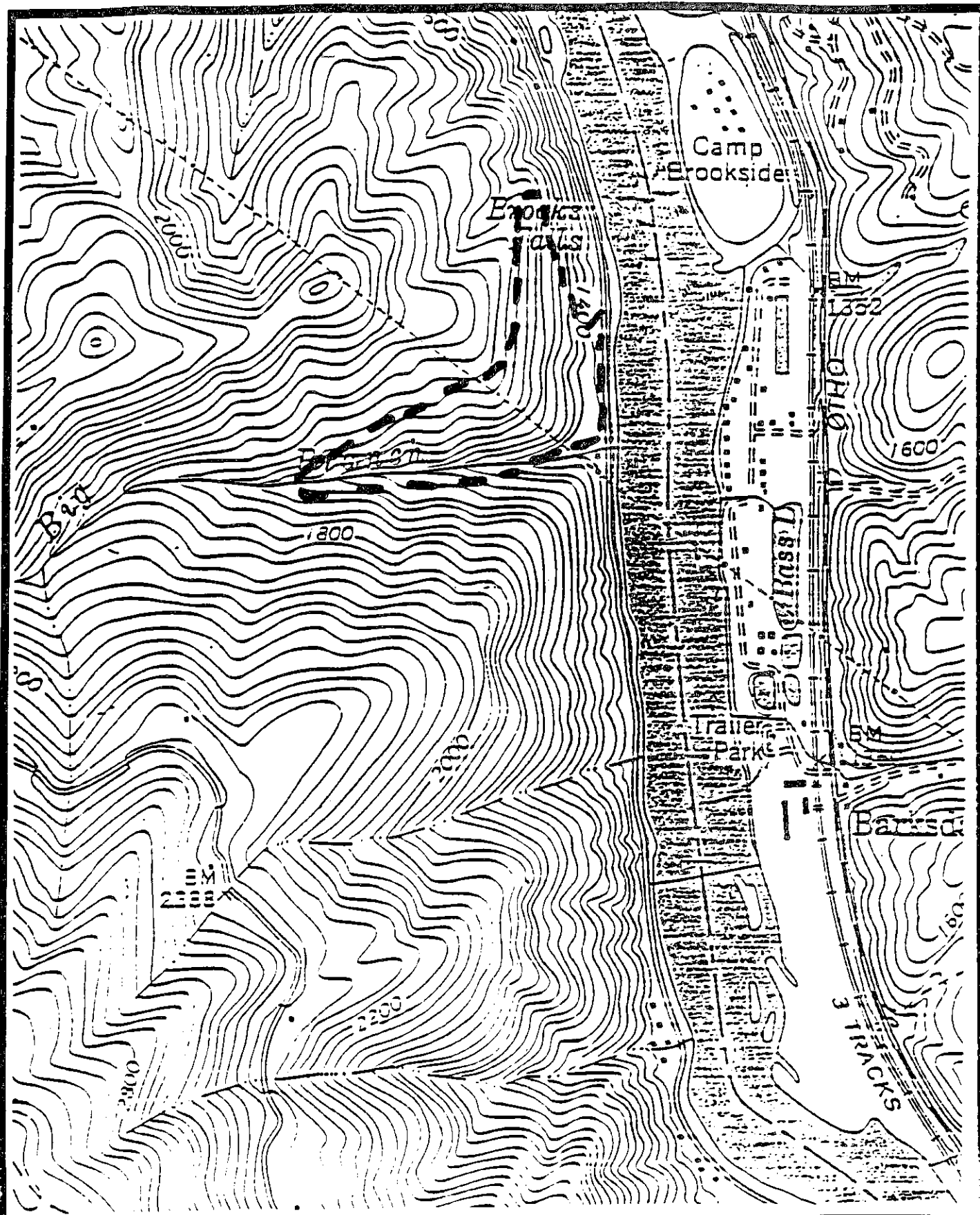
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE
VARIABLE

BIG BRANCH TRAIL

TRAIL/UNIT #: 4 - 1UG

LENGTH: 1.8 MILES

UNIT 1 - UPPER GORGE

RECOMMENDATIONS

Trump-Lilly Farm Trail Expansion Opportunities

As land acquisition progresses within the park proclamation boundaries and the Trump-Lilly Farm is developed as an interpretive facility, we recommend expanding trails onto Swell Mountain and northerly into the upper reaches of the Big Branch drainage.

Expand the "Through-the-Park" Trail

In Unit 1, the "through-the-park" trail is largely undeveloped due to extensive private land holdings and the uncertainty of the location of the proposed parkway.

UNIT 2 - GLADE CREEK

SUMMARY TRAIL PROPOSALS

GLADE CREEK TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
5.6 MILES	HIKING	1 - 2GC

PURPOSE:

The Glade Creek Trail passes through one of the most remote sections of the NERI. This trail is meant to provide users with a sense of remoteness.

ROUTE DESCRIPTION/ACCESS:

The main access point to this trail is from a parking area at the new campground. The trail begins on the westerly side of Glade Creek and ascends along an old road to the south. In several places the road has been obliterated by landslide activity. The trail crosses Glade Creek approximately half way along its length. It still follows remnants of an old road as it crosses Polls Branch and Kates Branch. Beyond Kates Branch the trail junctions with the Kates Falls Trail (02-2GC) which ascends to the east. The trail continues to ascend, passes under the I-64 overpass, and continues to the Pinch Creek crossing where it ends. Shortly before ending, the Kates Falls Trail enters on the left making it possible to loop back via that trail. At the southern end there is limited access over rough roads.

NATURAL/SCENIC FEATURES:

This trail abounds with natural and scenic beauty. Glade Creek provides a major focal point for the trail. Five significant streams descend the steep valley walls and flow into Glade Creek. The remoteness of the area has left the Glade Creek drainage in a relatively pristine state.

HISTORIC/CULTURAL FEATURES:

The old road appears to be the only visible cultural feature left along Glade Creek.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	126		2822	Rock Steps	3	33	
Drainage Ditch	53		2638	Step Stones	2	11	
Cross Drain	3		60	Tread Work	2		200
Channelizing	4		95	Brushing	5		745
Wood Water Bars	18		230	Blowdowns	9	14	
Rock Water Bars	6		104	Duffing	1		100
Sidhill	12		347	Clean Drain	11		350
Cribbing	3		65				

= Number of occurrences

GLADE CREEK TRAIL

Summary Proposal (con't)

OTHER CONSTRUCTION NEEDS:

A bridge is needed across Glade Creek approximately 100 feet above the existing trail/old road crossing.

SAFETY:

The main safety issue on this trail is the crossing of Glade Creek. During moderate and high water times, the crossing is extremely difficult.

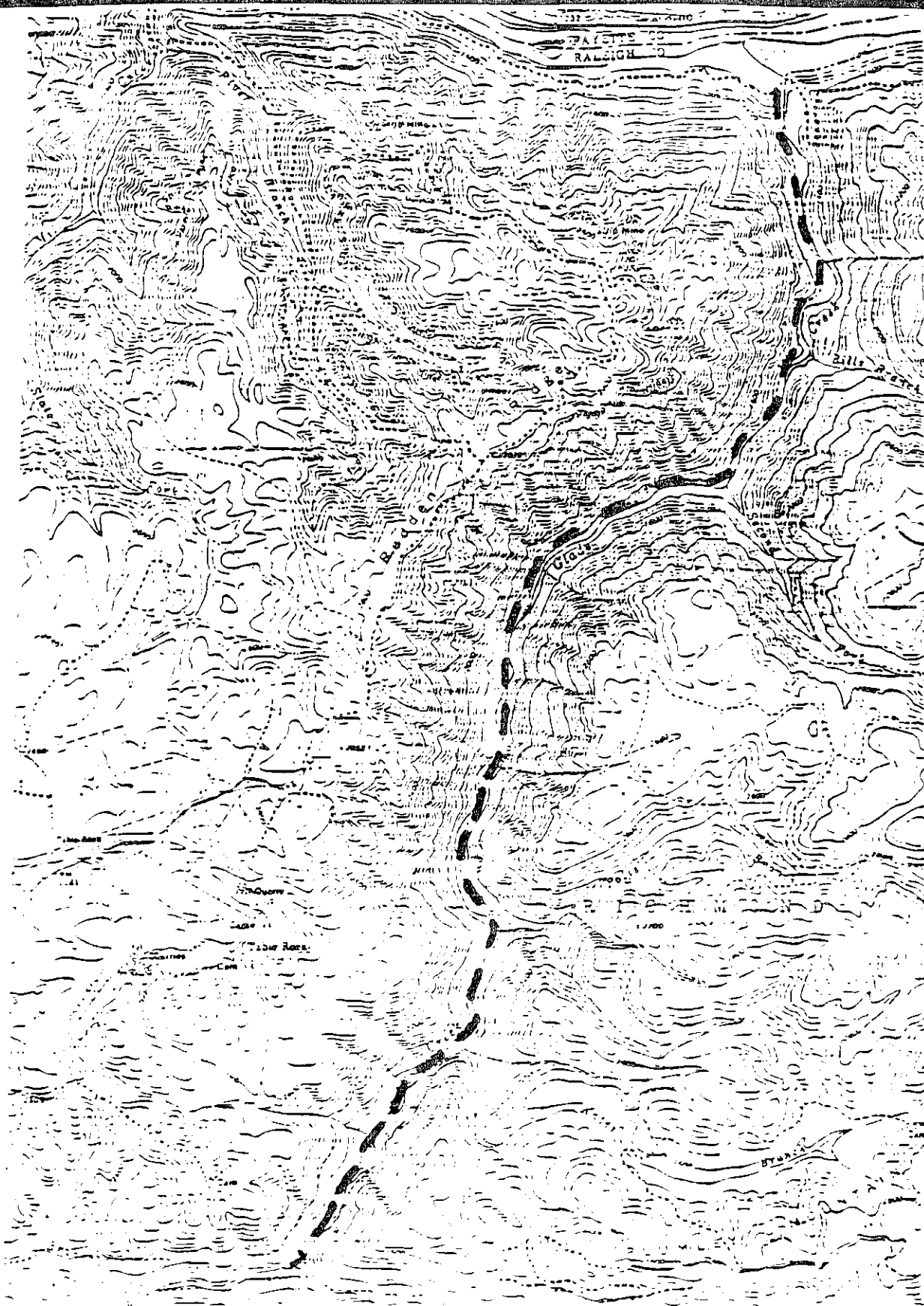
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. There is a known resource site near the end of the access road to the Glade Creek Trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

GLADE CREEK TRAIL

TRAIL/UNIT #: 1 - 2GC

LENGTH: 5.6 MILES

KATES FALLS TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.3 MILES	HIKING	2 - 2GC

PURPOSE:

The Kates Falls Trail creates a loop trail in conjunction with the Glade Creek Trail. It is likely visitors will ascend along this trail to view the falls along Kates Branch and then hike to the southern end of the Glade Creek Trail to return via that trail.

ROUTE DESCRIPTION/ACCESS:

Both ends of this trail are accessed via the Glade Creek Trail. From the northerly junction at Kates Branch, the trail ascends along the stream to the main falls. It ascends steeply along a ridge to an old coal road and continues south along the coal road, passes underneath the I-64 overpass, and junctions with the Glade Creek Trail north of Pinch Creek.

NATURAL/SCENIC FEATURES:

The main feature along this trail is Kates Branch and the falls.

HISTORIC/CULTURAL FEATURES:

The old coal road appears to be the only cultural feature along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	26		413	Rock Steps	14	140	
Drainage Ditch	2		170	Tread Work	1		40
Cross Drain	1		30	Brushing	3		1840
Channelizing	2		30	Blowdowns	5	5	
Rock Water Bars	6		39	Clean Drain	9		155
Sidehill	13		895	Duffing	1		1800
Cribbing	4		185				

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

There are no apparent safety issues along this trail.

KATES FALLS TRAIL
Summary Proposal (con't)

COMPLIANCE NEEDS:

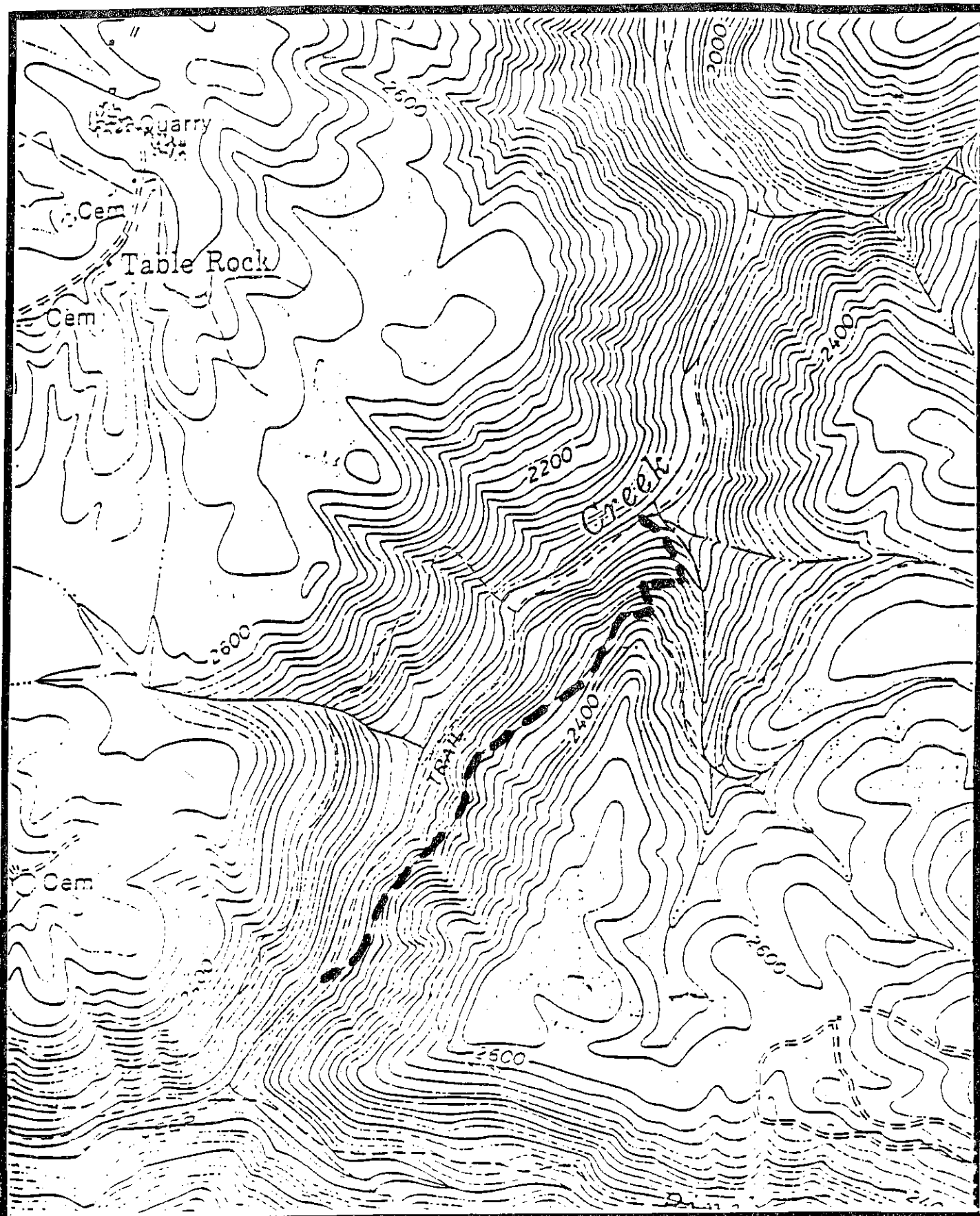
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

The impacts of I-64 overpass support maintenance should be assessed.



MAP SCALE:
VARIABLE

KATES FALLS TRAIL

TRAIL/UNIT #: 2 - 2GC

LENGTH: 1.3 MILES

POLLS PLATEAU TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
4.1 MILES	HIKING	3 - 2GC

PURPOSE:

The Polls Plateau Trail will provide access to the main plateau east of Glade Creek.

ROUTE DESCRIPTION/ACCESS:

The trail begins on the northerly side of the Kates Plateau Trail (04-2GC) loop. It follows an old road along the contour crossing several drainages before it crosses Polls Branch. It crosses another drainage before it ascends to an old farmstead. The trail follows along the edge of old agricultural fields and intersects another old road. It continues along the old road until it junctions with itself near the Polls Branch crossing.

NATURAL/SCENIC FEATURES:

The predominate features along this trail are Polls Branch and the old farmstead. The rolling terrain creates diversified vegetative habitats.

HISTORIC/CULTURAL FEATURES:

The old farmstead and road network are the only known historic/cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	66		1202	Brushing	12		685
Drainage Ditch	29		1555	Blowdowns	8	10	
Cross Drain	2		40	Debris Removal	1	1	
Channelizing	3		30	Duffing	2		280
Sidehill	2		90	Clean Drain	2		50
Tread Work	11		615	Turnpiking	3		55

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

There are no apparent safety issues along this trail.

POLLS PLATEAU TRAIL
Summary Proposal (con't)

COMPLIANCE NEEDS:

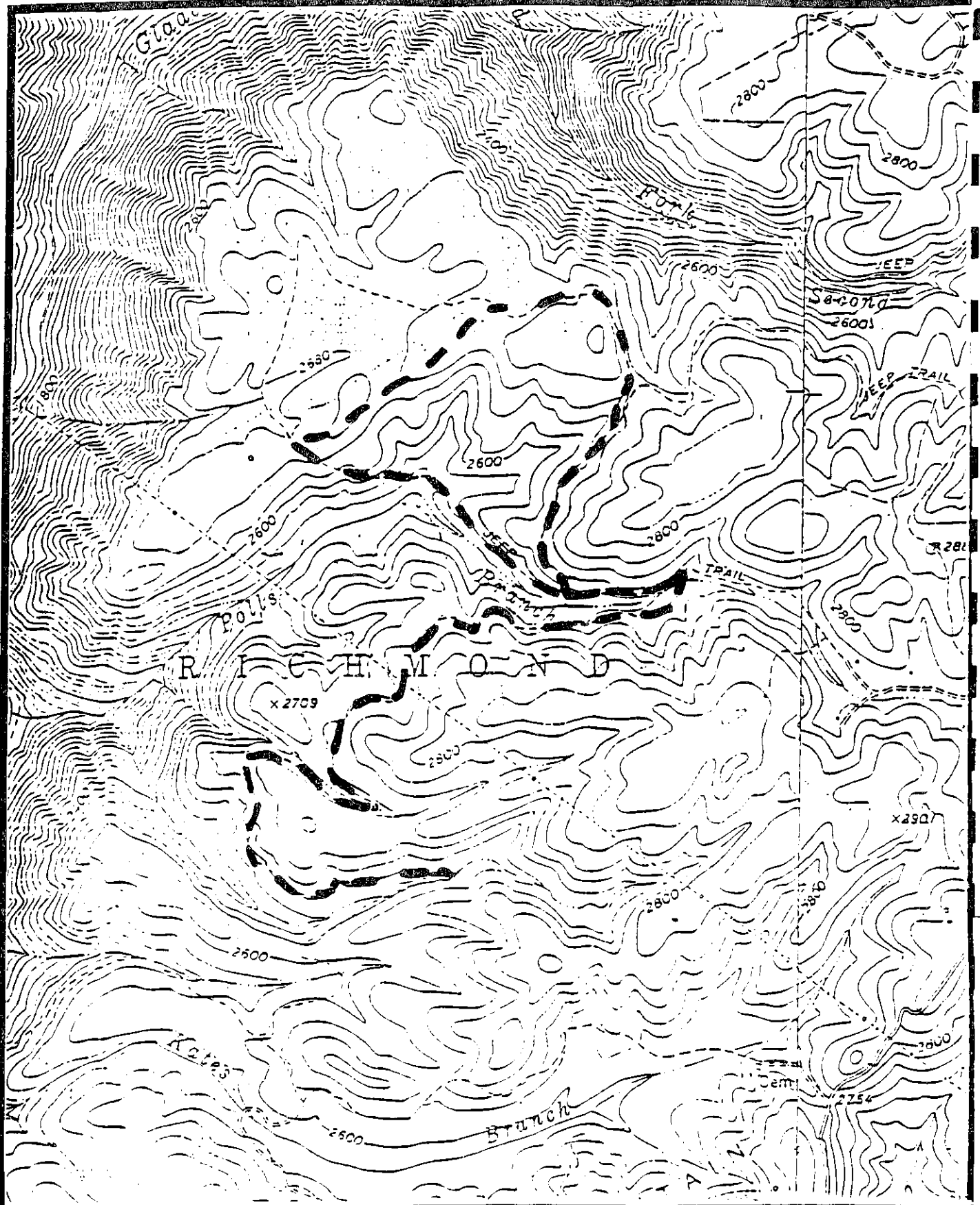
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

There are two other access roads to this trail entering from the east. Each should be gated to limit vehicular access to the trail. Gates should be placed near the park boundary.



MAP SCALE:
VARIABLE

POLLS PLATEAU TRAIL

TRAIL/UNIT #: 3 - 2GC

LENGTH: 4.1 MILES

KATES PLATEAU TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
2.8 MILES	HIKING	4 - 2GC

PURPOSE:

The Kates Plateau Trail forms a large loop and provides access to the Polls Plateau Trail (03-2GC).

ROUTE DESCRIPTION/ACCESS:

The trail access is from the Glade Creek Trail. The loop, beginning at the Polls Plateau Trail junction, follows an old road along the northerly side of a tributary of Polls Branch, crosses under a utility line corridor, crosses the stream, and passes under the utility line again. It over a small plateau and passes through an old farmstead before it descends to another old road. The trail roughly parallels Kates Branch on the northerly side before it turns north into another drainage. It follows a tributary of Polls Branch, crosses the stream, and ends at the Polls Plateau Trail junction.

NATURAL/SCENIC FEATURES:

The various streams and rolling terrain create diversity along this trail.

HISTORIC/CULTURAL FEATURES:

The roads and the old farmstead on the short loop trail are the only known historic and cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	70		968	Tread Work	3		150
Drainage Ditch	23		876	Brushing	7		290
Cross Drain	2		65	Blowdowns	9	> 8	
Channelizing	5		100	Tree Removal	1		5
Wood Water Bars	1		12	Scree Wall	1		5
Rock Water Bars	2		35				
Sidehill	3		135				

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

KATES PLATEAU TRAIL
Summary Proposal (con't)

SAFETY:

There are no apparent safety issues along this trail.

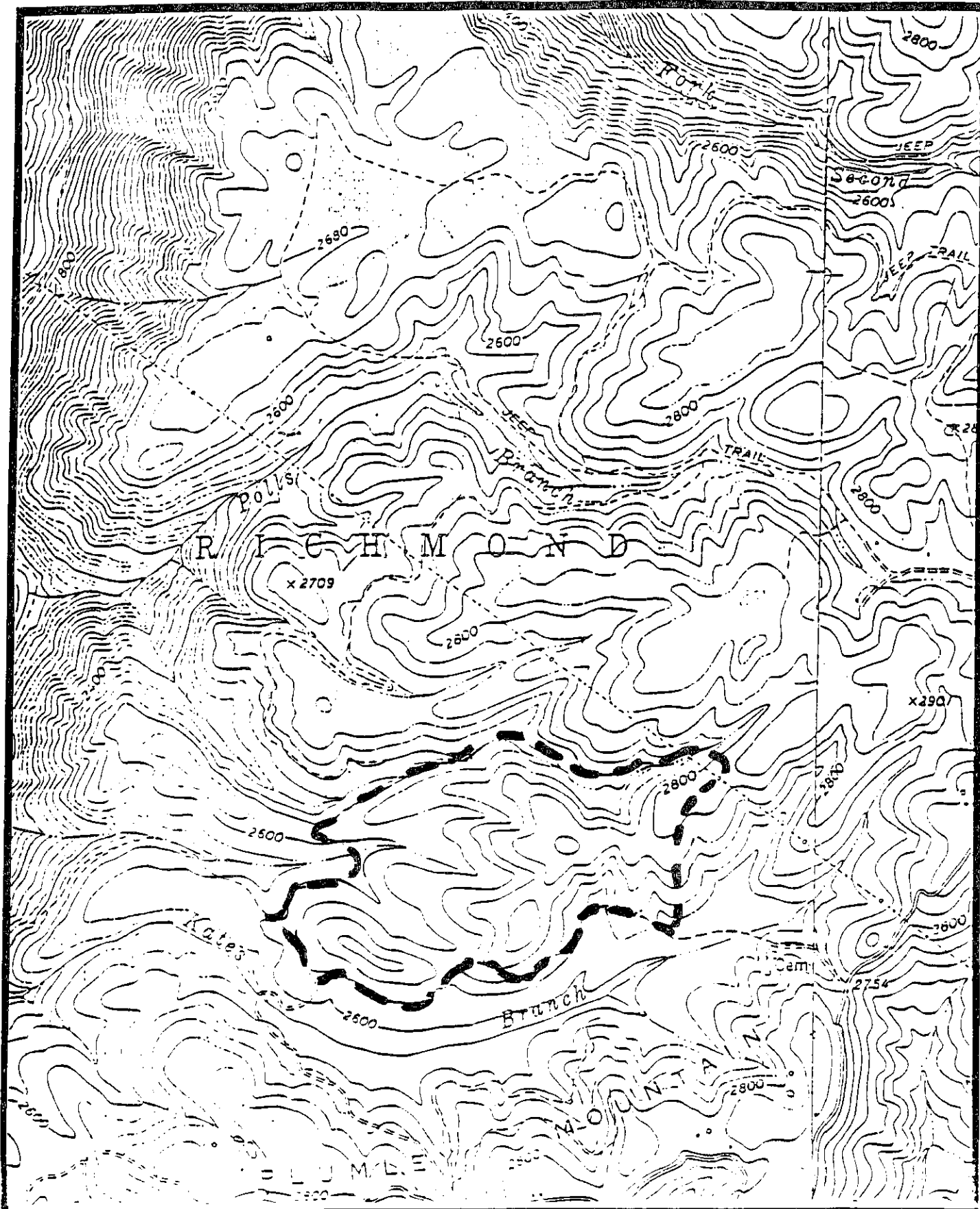
COMPLIANCE NEEDS:

Natural - The Kates Branch wetland is located along this trail. The trail does not pass through the wetland. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

KATES PLATEAU TRAIL

TRAIL/UNIT #: 4 - 2GC

LENGTH: 2.8 MILES

UNIT 3 - MIDDLE GORGE
SUMMARY TRAIL PROPOSALS

ARBUCKLE CREEK ACCESSIBLE TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.36 MILES	ACCESSIBLE	3 - 3MG

PURPOSE:

The Arbuckle Creek Accessible Trail will provide wheel chair access along Arbuckle Creek. It will also access significant remnants of coal processing facilities. The trail presents good interpretive opportunities.

ROUTE DESCRIPTION/ACCESS:

The trail will be accessed from the proposed parking lot at Southside Junction. It will follow the main trail north of the parking lot and begin ascending along an old railroad bed entering the mouth of the Arbuckle Creek drainage. It ends at a cul-de-sac overlooking Arbuckle Creek.

NATURAL/SCENIC FEATURES:

The major scenic feature along the trail is Arbuckle Creek. At the upper end, pools, rapids, and cliff walls create trail feature diversity.

HISTORIC/CULTURAL FEATURES:

Many historic/cultural features exist along this trail. The old rail grade, coal processing facilities, foundations, cut stone retaining walls are the primary features.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Blowdowns	2			Bridges	1		12

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

The length of this trail will need paving. Drainage will be needed in several locations. Consideration should be given to construction of a viewing platform at the upper end of the trail. Benches and pull-outs should be designed into this trail as well.

SAFETY:

Falling rock from a cut cliff near the beginning is an obvious safety concern. A short but steep drop exists on the eastern side of the trail near the beginning. Some form of railing or retainer should be installed.

ARBUCKLE CREEK ACCESSIBLE TRAIL

Summary Proposal (con't)

COMPLIANCE NEEDS:

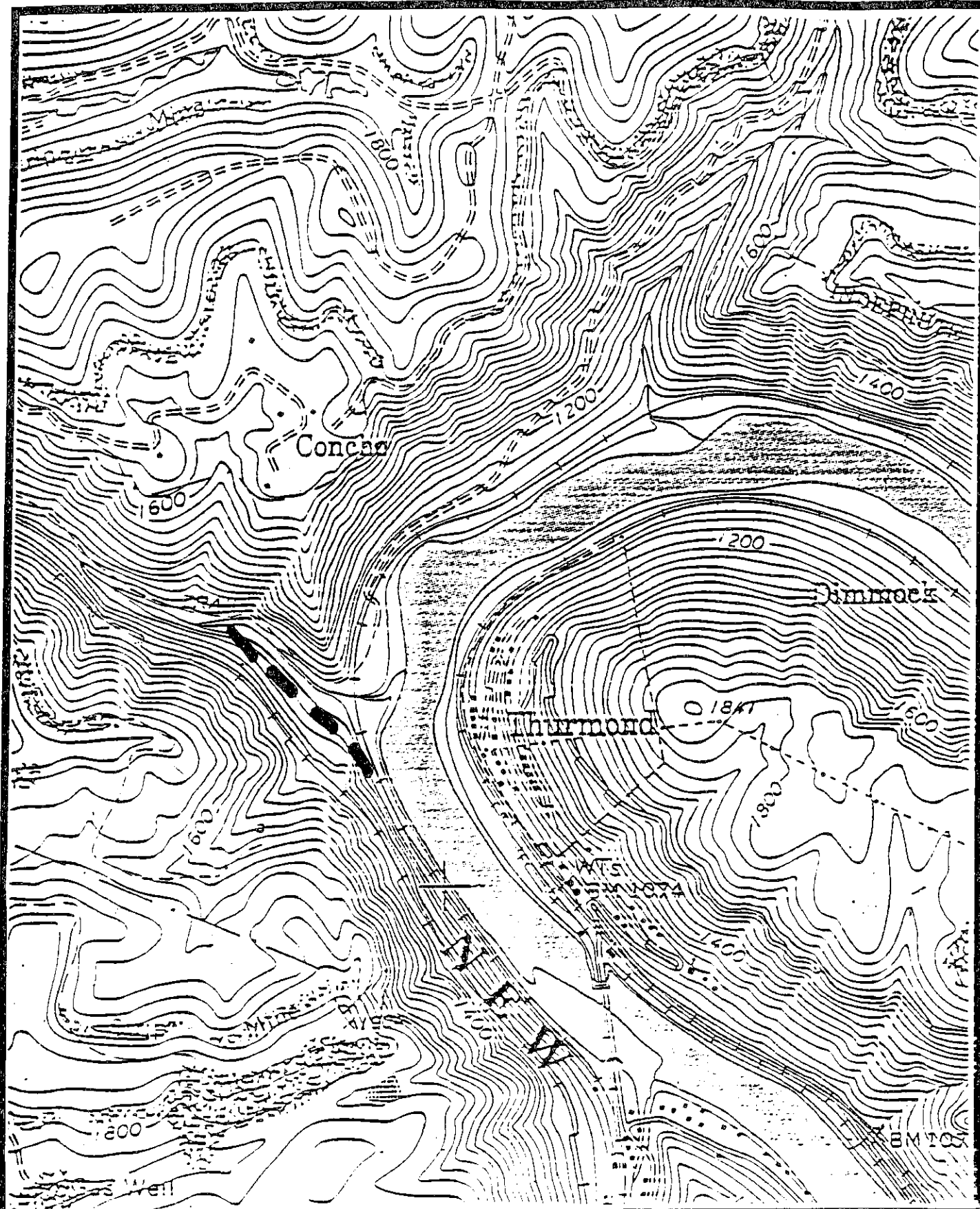
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

An overhead utility line follows the trail route on the upper half. Consideration should be given to improving visual quality of this trail by burying the utility line. The proposed improvements at Southside Junction will increase pedestrian use on this trail as well as other trails in the area. This trail will likely receive heavy use by park visitors interested in a short walk.



MAP SCALE:
VARIABLE

ARBUCKLE CREEK ACCESSIBLE TRAIL

TRAIL/UNIT #: 3 - 3MG

LENGTH: 0.36 MILES

ARBUCKLE CREEK TO THURMOND-MINDEN CONNECTOR

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.2 MILES	HIKING	5 - 3MG

PURPOSE:

This trail will serve as a short link between the Thurmond-Minden Trail, the Arbuckle Creek Barrier-Free Trail, and the Southside Junction to Brooklyn Trail. It is also one segment of the Mary Draper Ingles Trail.

ROUTE DESCRIPTION/ACCESS:

Beginning at the trestle bridge across Arbuckle Creek on the Southside Junction to Brooklyn Trail, the trail proceeds south a short distance and ascends to the Arbuckle Creek Barrier-Free Trail. After crossing, it ascends to an old road, follows the road for a short distance, ascends to an existing trail and follows the trail to the Thurmond-Minden Trail.

NATURAL/SCENIC FEATURES:

Along this short route large, mature hardwoods and rock outcroppings are present.

HISTORIC/CULTURAL FEATURES:

The trail passes through the remains of a coal processing facility, and connects three sections of old railroad.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Channelizing	1		8	Rock Steps	13	80	
Sidehill	10		502	Tread Work	4		57
Cribbing	2		12	Blowdowns	1		

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

There are no apparent safety issues along this trail.

ARBUCKLE CREEK TO THURMOND-MINDEN CONNECTOR

Summary Proposal (con't)

COMPLIANCE NEEDS:

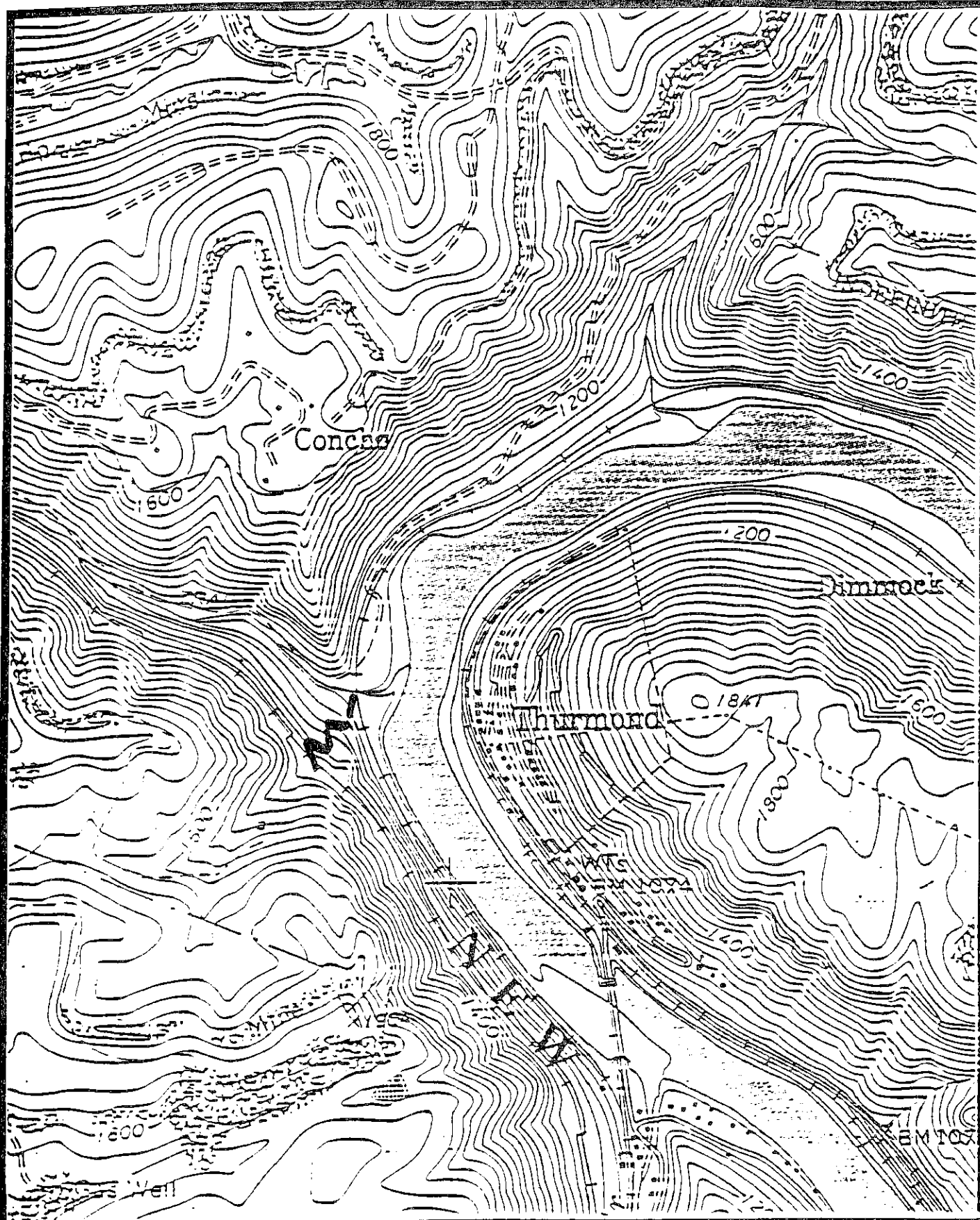
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

The location of this trail reduces the impact on the coal processing facility remains. The existing trail passes through several foundation areas as it ascends.



MAP SCALE:
VARIABLE

ARBUCKLE CREEK TO THURMOND-MINDEN CONN

TRAIL/UNIT #: 5 - 3MG

LENGTH: 0.2 MILES

THURMOND-MINDEN TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
3.2 MILES	HIKING/BIKING	6 - 3MG

PURPOSE:

The Thurmond-Minden Trail is an established trail. It serves as one segment of the Mary Draper Ingles Trail. This trail is an integral part of the network of short to moderate walking/hiking loops accessible from Southside Junction. It will also serve as a bicycle trail between Thurmond and Minden.

ROUTE DESCRIPTION/ACCESS:

The trail begins at an established trailhead parking area on the road to Thurmond. It follows an old rail grade above Southside Junction. Several vistas overlooking the New River and the Town of Thurmond are located at pull-off areas along the trail. The trail passes over a landslide section where a 60 ft. section of rock rests in the middle of the old rail grade. The trail crosses a 244 foot trestle bridge, the longest of five. Beyond the last vista of Thurmond, the trail enters the Arbuckle Creek drainage and ascends to Minden.

NATURAL/SCENIC FEATURES:

Rock outcroppings, vistas, Arbuckle Creek, and the 60 ft. tall rock are the predominant features along the trail.

HISTORIC/CULTURAL FEATURES:

The old rail grade and trestles are interesting features along the trail. There are no other known features along this section of trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	4		60	Brushing	1		50
Drainage Ditch	1		55	Clean Drain	1		25
Rock Steps	1	1					

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

The stability of the 60 ft. tall rock resting in the trail at the landslide site should be assessed. Several local trail users have indicated that the fractures in the rock appear to be growing. When the rock collapses, the majority of the impact will be on trails and other improvements below this trail. The five trestles will need to be upgraded to accommodate bicycle use. In addition, old rail ties will need to be removed at several locations.

THURMOND-MINDEN TRAIL

Summary Proposal (con't)

COMPLIANCE NEEDS:

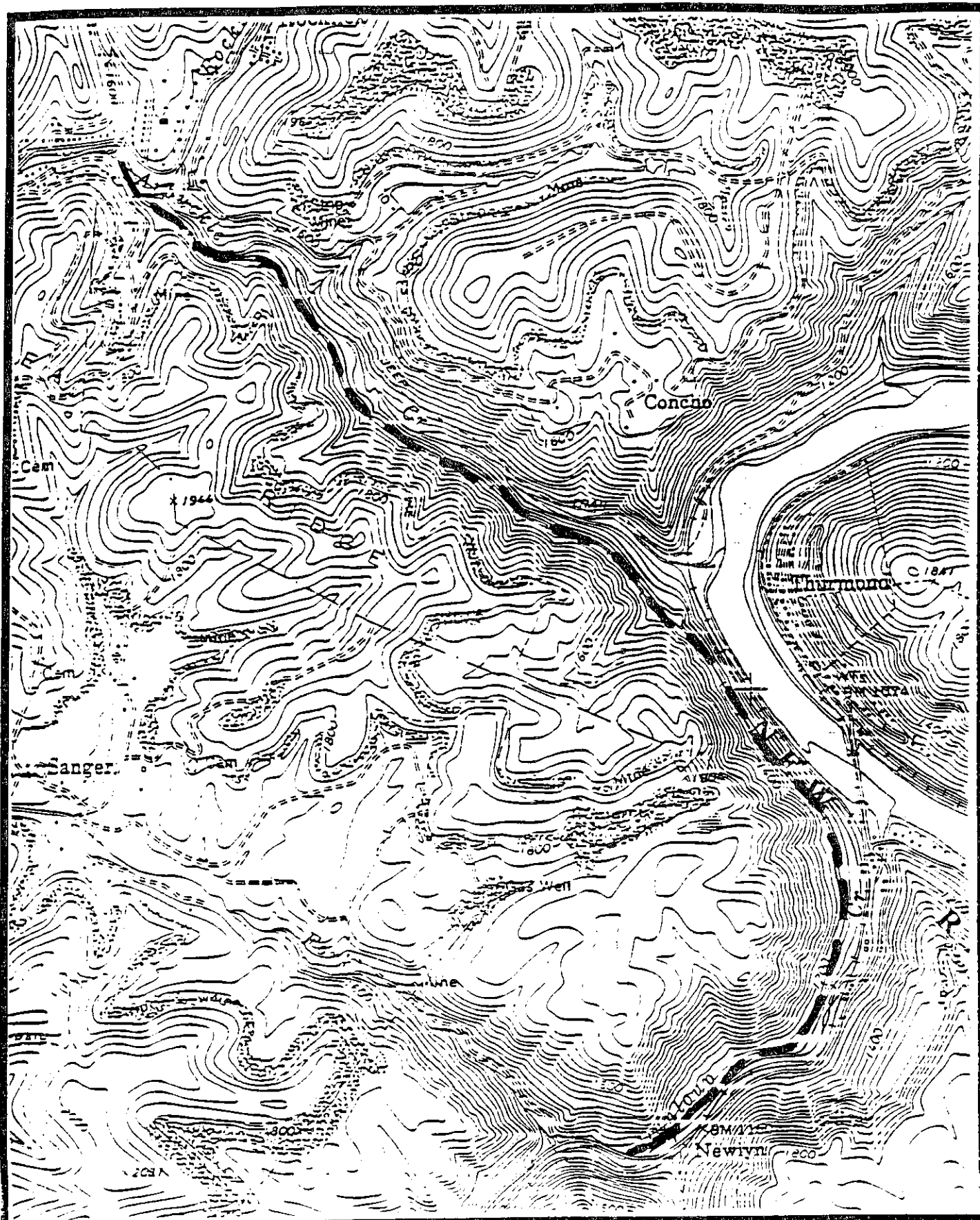
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

Consideration should be given to paving one half of the rail bed for wheel chair use in to the 60 foot rock (which serves as a barrier). The other half should remain fine gravel for bicycling. This would create 1.3 miles of accessible trail.



MAP SCALE:
VARIABLE

THURMOND-MINDEN TRAIL

TRAIL/UNIT #: 6 - 3MG

LENGTH: 3.2 MILES

SOUTHSIDE JUNCTION TO THURMOND-MINDEN CONNECTOR

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.11 MILES	HIKING	8 - 3MG

PURPOSE:

This trail will provide a link between the proposed Southside Junction parking facility and the Thurmond-Minden Trail.

ROUTE DESCRIPTION/ACCESS:

The trail begins to the right of an old concrete retaining wall and ascends. It crosses through woodlands, along several sidehill sections, before it intersects with the Thurmond-Minden Trail.

NATURAL/SCENIC FEATURES:

No unique natural or scenic features exist along this short trail.

HISTORIC/CULTURAL FEATURES:

The trail passes through the old town of Ballywick and by the old church.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Sidehill	6		106	Blowdowns	4	5	
Rock Steps	6	48		Foot Bridges	1		8

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

There are no apparent safety issues along this trail.

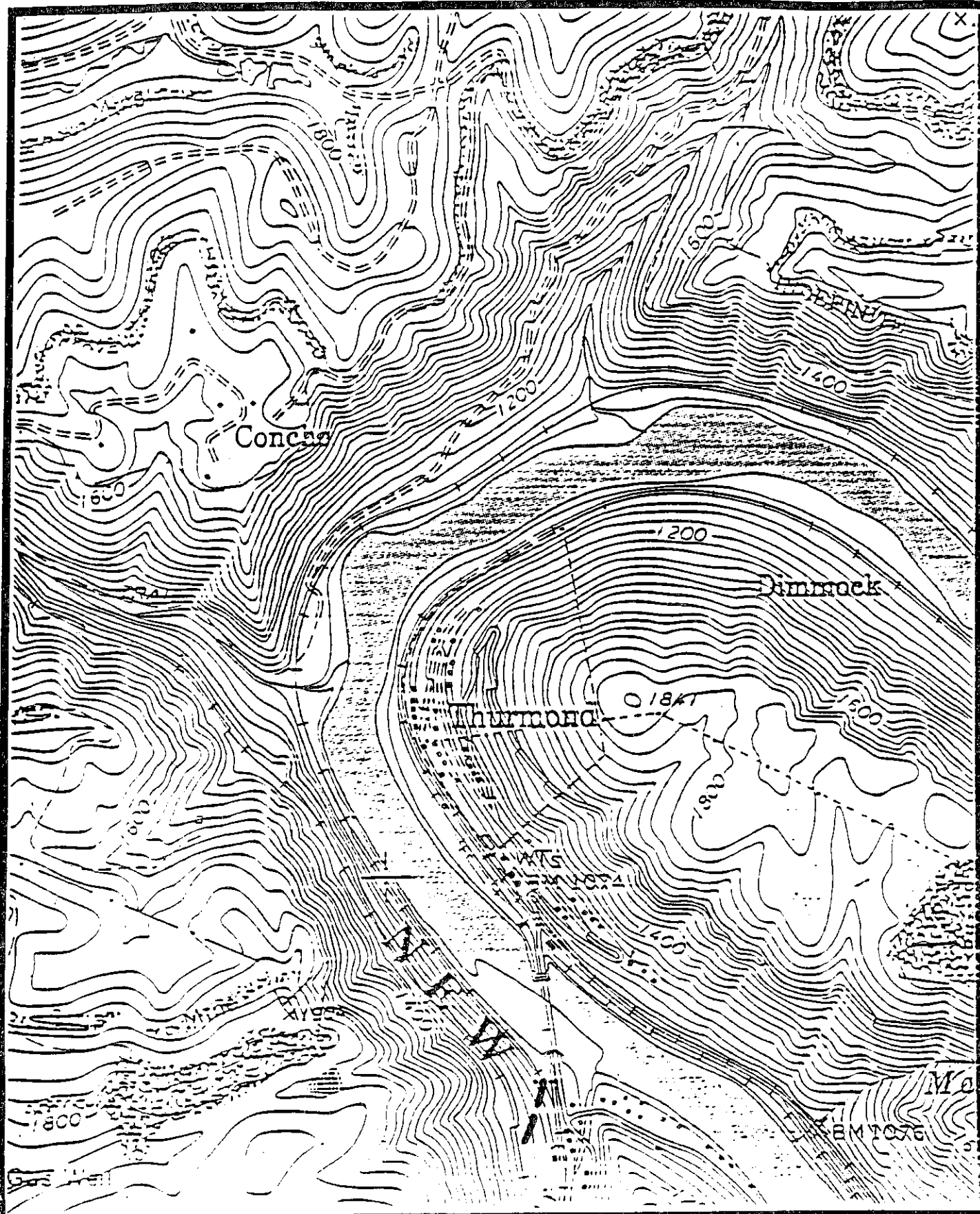
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

SOUTHSIDE JCT. TO THURMOND-MINDEN CONN.

TRAIL/UNIT #: 8 - 3MG

LENGTH: 0.11 MILES

BIG BUCK TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.7 MILES	HIKING	16 - 3MG

TRAIL PURPOSE:

The Big Buck Trail is an existing trail which will be utilized as part of the Mary Draper Ingles Trail. It is also a trail used by visitors at Grandview.

ROUTE DESCRIPTION/ACCESS:

The trail begins at picnic shelter number 2 and follows nearly level ground. The first junction is the end of the loop. On the northeast side the Turkey Spur Connector Trail (14-3MG) intersects this trail. From this point the trail continues back to the junction mentioned above.

NATURAL/SCENIC FEATURES:

There are no significant features along this trail. The trail passes through an upland forest environment.

HISTORIC/CULTURAL FEATURES:

There are no apparent historic or cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

This is an existing trail and does not need any tread work.

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

There are no apparent safety issues along this trail.

COMPLIANCE NEEDS:

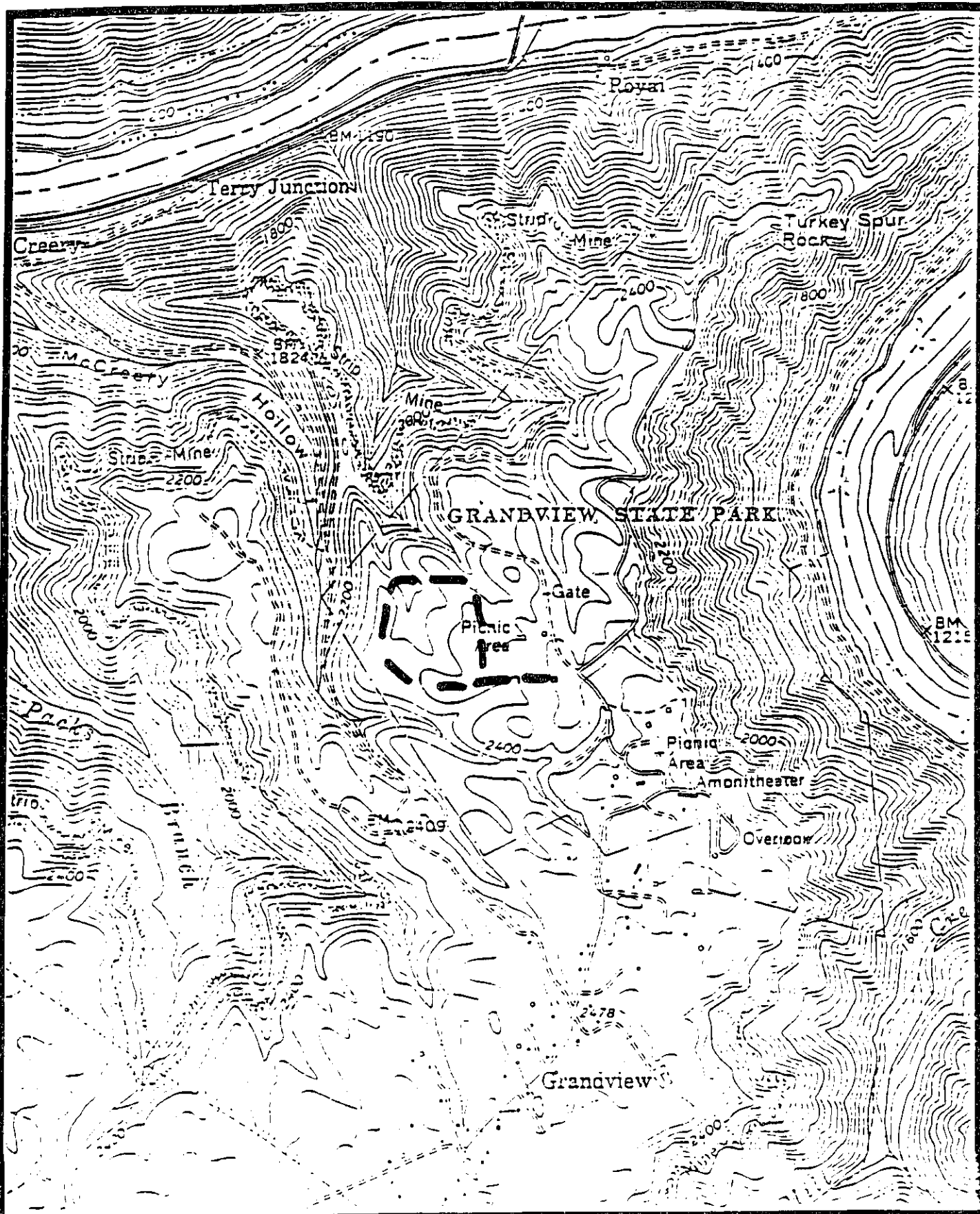
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

An old junk vehicle should be removed from along the trail.



MAP SCALE:
VARIABLE

BIG BUCK TRAIL

TRAIL/UNIT #: 16 - 3MG

LENGTH: 0.7 MILES

TURKEY SPUR TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.9 MILES	HIKING	17 - 3MG

TRAIL PURPOSE:

The Turkey Spur Trail is intended to be part of a loop trail.

ROUTE DESCRIPTION/ACCESS:

The trail descends to the northwest from the Turkey Spur parking lot, intersects an old road leading to a former strip mine road, and follows the strip mine road to the junction with the Turkey Spur Connector Trail.

NATURAL/SCENIC FEATURES:

The trail passes through several rhododendron areas as it descends from the parking lot. A view of Prince is possible at one point along the old road. The trail crosses one stream along the former strip mine road.

HISTORIC/CULTURAL FEATURES:

The old roads are the only known historic or cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	22		463	Cribbing	1		35
Drainage Ditch	2		70	Blowdowns	10	> 22	
Channelizing	1		40	Scree	1		30
Sidehill	8		740	Replace culvert	1		

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

The partial vista of Prince on the old road section of this trail, should be improved through selective removal of vegetation.

SAFETY:

There are no apparent safety issues along this trail.

TURKEY SPUR TRAIL

Summary Proposal (con't)

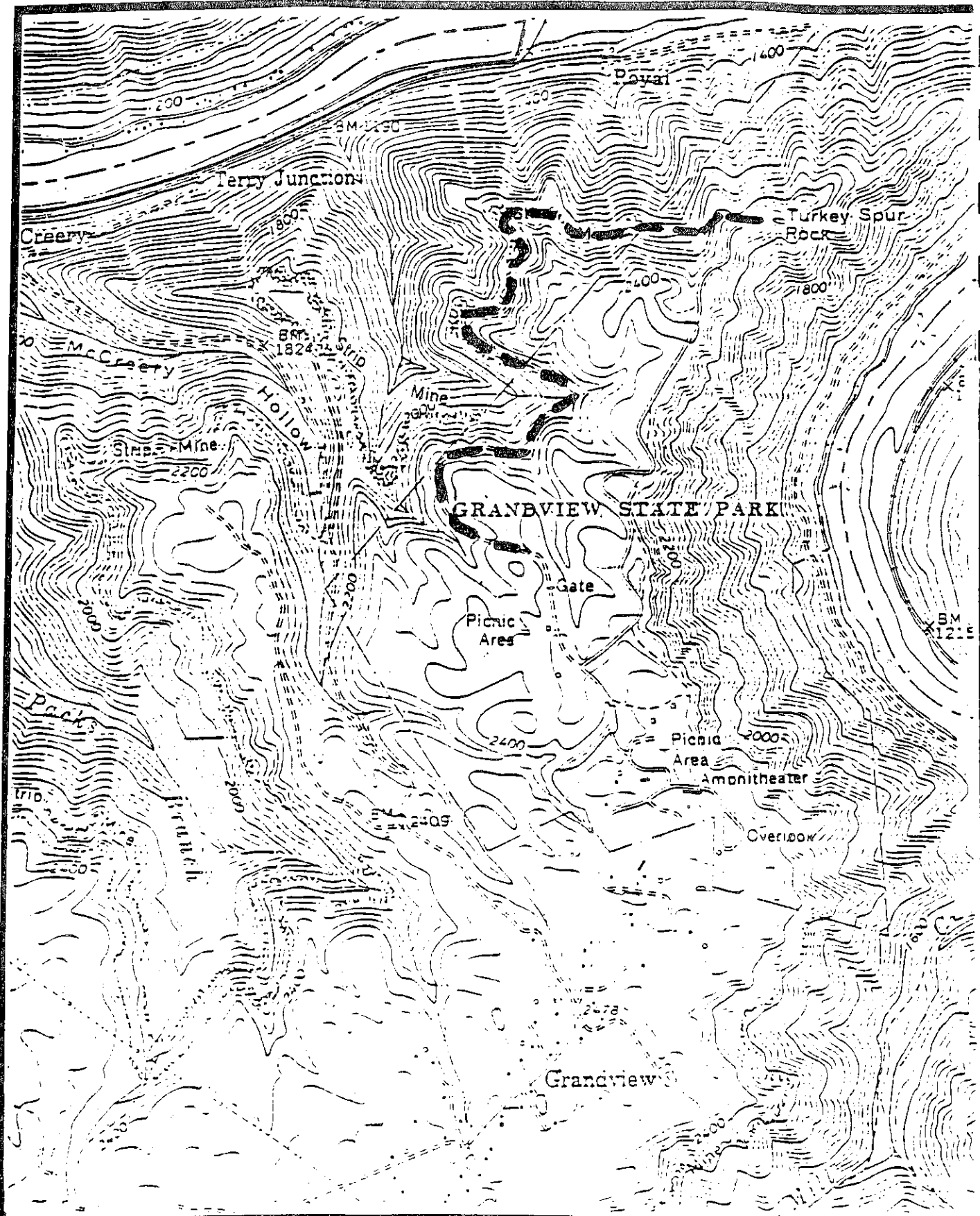
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

TURKEY SPUR TRAIL

TRAIL/UNIT #: 17 - 3MG

LENGTH: 1.9 MILES

CASTLE ROCK TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.5 MILES	HIKING	19 - 3MG

PURPOSE:

The Castle Rock Trail is an existing trail used by hikers. The trail will be one segment of the Mary Draper Ingles Trail. It is also part of a loop hiking opportunity at Grandview.

ROUTE DESCRIPTION/ACCESS:

The trail can be accessed near the main overlook or near interpretive post number 28 on the Nature Trail. At the south end, the trail gradually descends to a bench below the escarpment. It crosses through a forested area before passing below overhanging cliffs. In several places the trail accesses vistas on short side trails. At the northern end it climbs back to the top of the escarpment and ends at the junction with the Nature Trail.

NATURAL/SCENIC FEATURES:

The trail has features such as vistas, overhanging cliffs, and diverse vegetation.

HISTORIC/CULTURAL FEATURES:

There are no known historic or cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	4		19	Rock Steps	6	18	
Rock Water Bars	1		6	Brushing	4		> 75
Sidehill	3		39	Stump Removal	1	1	
Cribbing	1		25				

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

SAFETY:

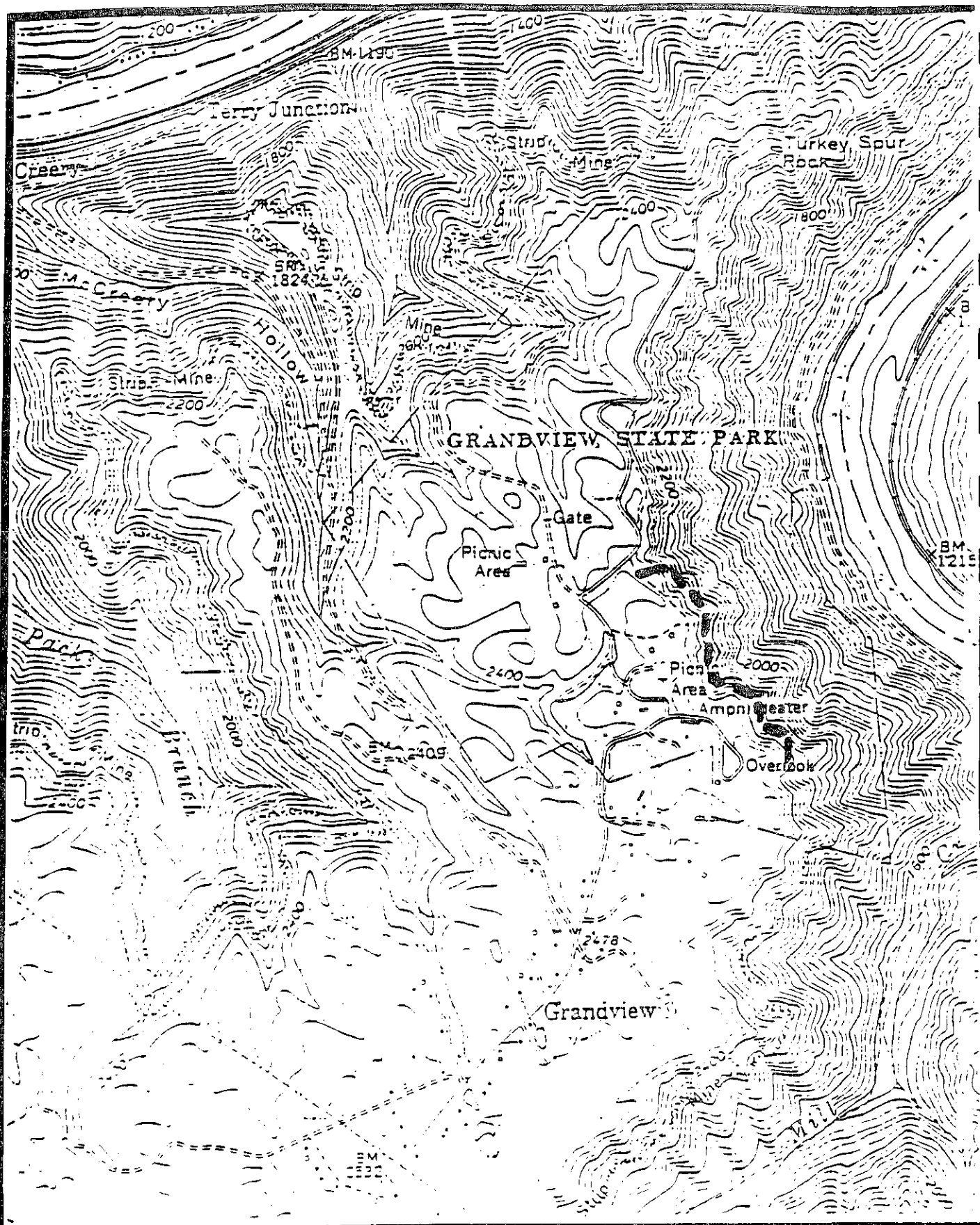
This trail passes under overhanging cliff, from which sections of rock have been known to fall.

COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.



MAP SCALE:
VARIABLE

CASTLE ROCK TRAIL

TRAIL/UNIT #: 19 - 3MG

LENGTH: 0.5 MILES

WOODLAND LOOP TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.75 MILES	HIKING	20 - 3MG

PURPOSE:

The Woodland Loop Trail provides Grandview visitors with a short woodland walk at picnic site number two. This trail ties in to the Big Buck Trail (16-3MG) at this site as well.

ROUTE DESCRIPTION/ACCESS:

Access to the trail is at picnic site number two. The trail loops around the picnic site through upland forest habitat where a variety of small wildlife can be seen.

NATURAL/SCENIC FEATURES:

The predominant natural feature along this trail is the upland forest habitat.

HISTORIC/CULTURAL FEATURES:

There do not appear to be any historic/cultural features along this trail.

CONSTRUCTION NEEDS SUMMARY:

As this is an existing trail, no detailed information on trail construction or maintenance was gathered for this trail.

OTHER CONSTRUCTION NEEDS:

None at present.

SAFETY:

There are no apparent safety issues along this trail.

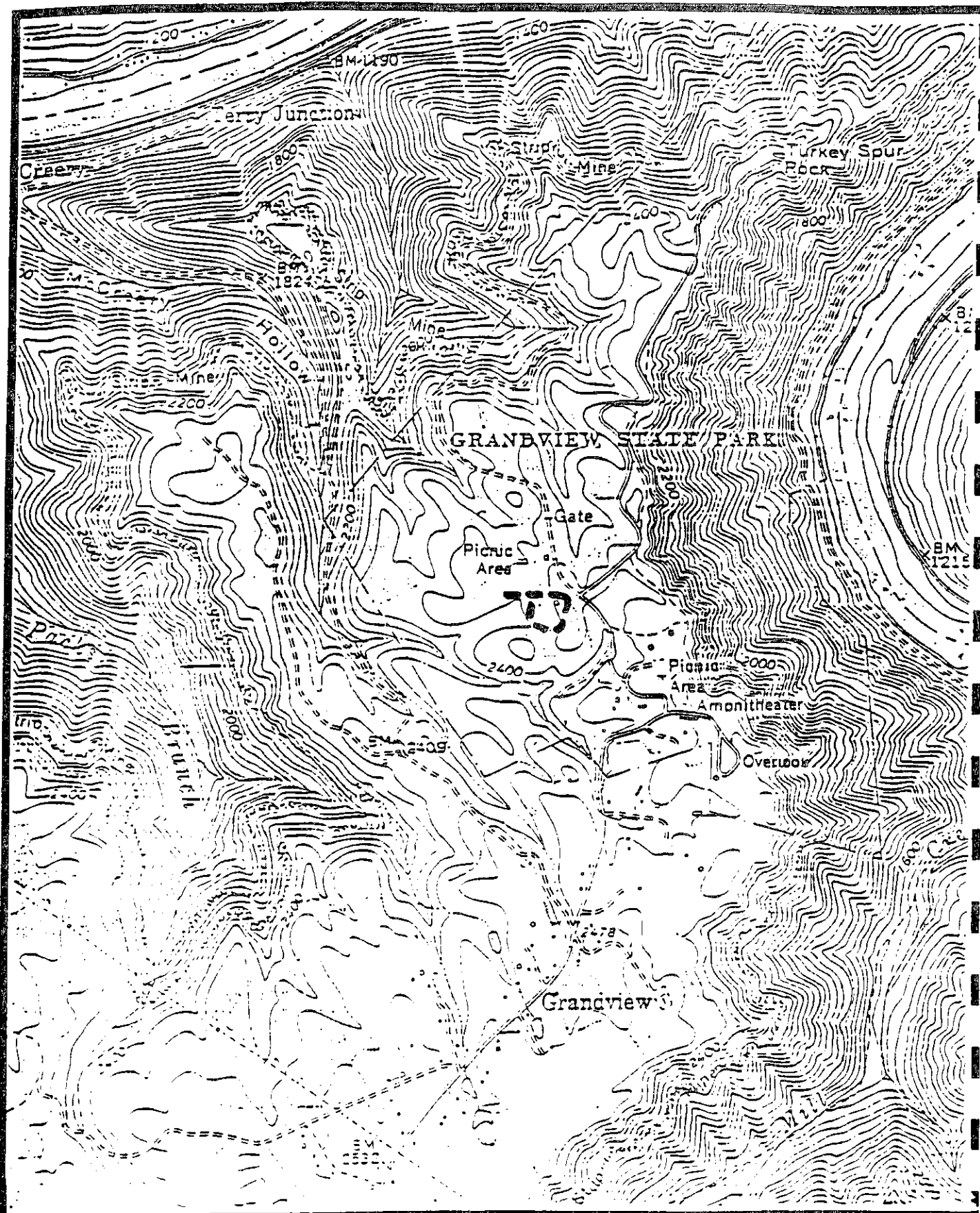
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE
VARIABLE

WOODLAND LOOP TRAIL

TRAIL/UNIT #: 20 - 3UG

LENGTH: 0.75 MILES

CANYON RIM TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL / UNIT
2.0 MILES	HIKING	21 - 3MG

PURPOSE:

The Canyon Rim Trail provides visitors to Grandview with a trail that accesses a variety of vistas along the canyon rim north of the main parking facility.

ROUTE DESCRIPTION/ACCESS:

Access to the trail is along the path to the main overlook at Grandview. The trail follows stone - paved tread and bare soil through woodlands and rhododendron thickets. Along the way, several designated vistas can be accessed via short side trails. In two locations the trail meets and follows the road to Turkey Spur. Along the northern third, an interpretive trail exists.

NATURAL/SCENIC FEATURES:

The predominant natural and scenic feature along this trail is the New River Gorge with its steep sided valley walls.

HISTORIC/CULTURAL FEATURES:

The only evident cultural features along this trail are the various facilities associated with the operation of Grandview.

CONSTRUCTION NEEDS SUMMARY:

As this is an existing trail, no detailed information on trail construction or maintenance was gathered for this trail.

OTHER CONSTRUCTION NEEDS:

None at present.

SAFETY:

The railings at the overlooks should be monitored for disrepair.

COMPLIANCE NEEDS:

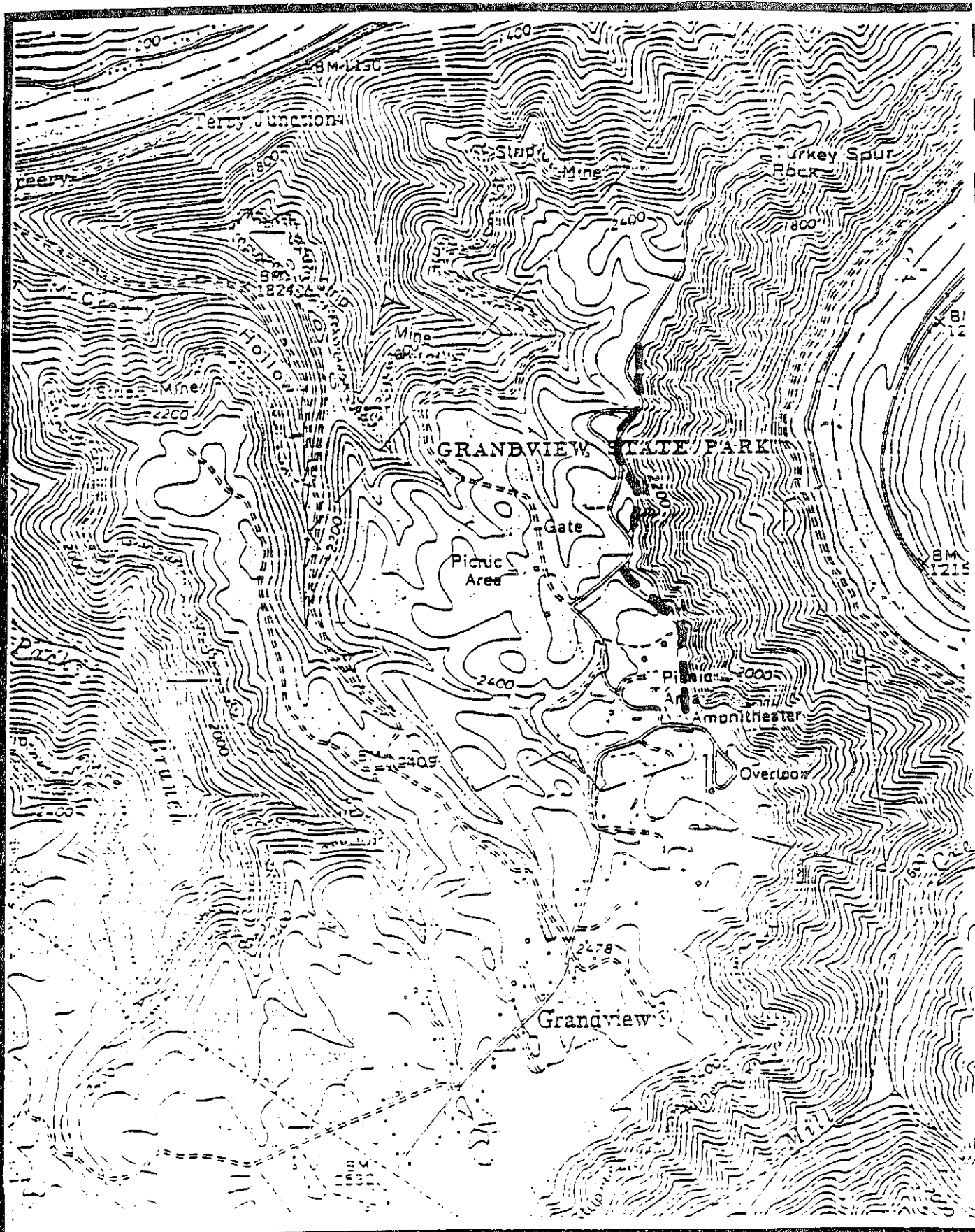
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

If the trail begins to show signs of tread wear, such as erosion or impact on vegetation along the trail, efforts should be made to inventory trail work needs.



MAP SCALE
VARIABLE

CANYON RIM TRAIL

TRAIL/UNIT #: 21 - 3UG

LENGTH: 2.0 MILES

TUNNEL TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.38 MILES	HIKING	22 - 3MG

PURPOSE:

The Tunnel Trail provides Grandview visitors with a trail that accesses small tunnels in the upper gorge wall.

ROUTE DESCRIPTION/ACCESS:

Access to the trail is along the path to the main overlook at Grandview. Near the overlook, the trail heads south along a stone - paved path. It passes by small tunnels in the gorge wall, crosses a small wooden bridge beneath the high cliffs, and emerges in the Grandview recreation area.

NATURAL/SCENIC FEATURES:

The predominant natural and scenic feature along this trail are the tunnels and the cliff in which the tunnels are located.

HISTORIC/CULTURAL FEATURES:

The only evident cultural features along this trail are the various facilities associated with the operation of Grandview.

CONSTRUCTION NEEDS SUMMARY:

As this is an existing trail, no detailed information on trail construction or maintenance was gathered for this trail.

OTHER CONSTRUCTION NEEDS:

None at present.

SAFETY:

The small wooded bridge should be monitored for weakness. The possibility of falling rock is a possibility as well.

COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE
VARIABLE

TUNNEL TRAIL

TRAIL/UNIT #: 22 - 3UG

LENGTH: 0.37 MILES

UNIT 3 - MIDDLE GORGE

RECOMMENDATIONS

Explore Development of a Multiple Use Trail at Quinnimont

The old railroad grade ascending east from Quinnimont should be evaluated for hiking/walking, bicycling, and interpretation. A trail along this old rail grade would serve as a trunk trail to short side trails as well as access a potential network of trails on Backus Mountain. The side trails would lead to interpretive features such as coke ovens, scenic overlooks, and cascading streams. The network of trails on Backus Mountain should be available to mountain bicyclist. A central trailhead above the active rail yard would serve as access to the recreation path and the Backus Mountain trails.

Expand Trail System at Southside Junction

When the current Park Service development plans for Southside Junction are complete, we encourage the creation of a trail to "flag rock" and beyond if sufficient land has been acquired to create a hiking loop.

Grandview Trails

The Bridge, Canyon Rim and Tunnel trails, existing trails at Grandview, will be addressed in detail in the Development Concept Plan for Grandview. These trails were addressed in an overview fashion in this plan because of their satisfactory condition.

UNIT 4 - LOWER GORGE
SUMMARY TRAIL PROPOSALS

NEW RIVER BRIDGE TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.6 MILES	HIKING	1 - 4LG

PURPOSE:

The New River Bridge Trail is intended to serve as a section of the Mary Draper Ingles Trail.

ROUTE DESCRIPTION/ACCESS:

The trail begins on County Route 82 at a parking area. It ascends the existing trail along an old gas well access road, enters woodlands, crosses a utility line and begins to descend. The trail switch backs as it descends onto a small bench at the base of a wall of cliffs. The trail continues along the base of the cliffs, passes under the Route 19 bridge, descends, crossing above several old landslides along reclaimed mine roads, and ends at County Route 82 at the beginning of the Kaymoor Trail.

NATURAL/SCENIC FEATURES:

The trail features diversity of terrain - from upland/plateau to steeply sloping gorge walls, vistas of the New River and Route 19 bridge, and exposed rock ledges.

HISTORIC/CULTURAL FEATURES:

A gas well, a closed mine, the Route 19 bridge, and the old roads are the features on this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	6		115	Rock Steps	11	121	
Drainage Ditch	4		430	Tread Work	6	3	65
Sidehill	15		1367	Brushing	2		140
Cribbing	9		456	Blowdowns	2		

= Number of occurrences

SAFETY:

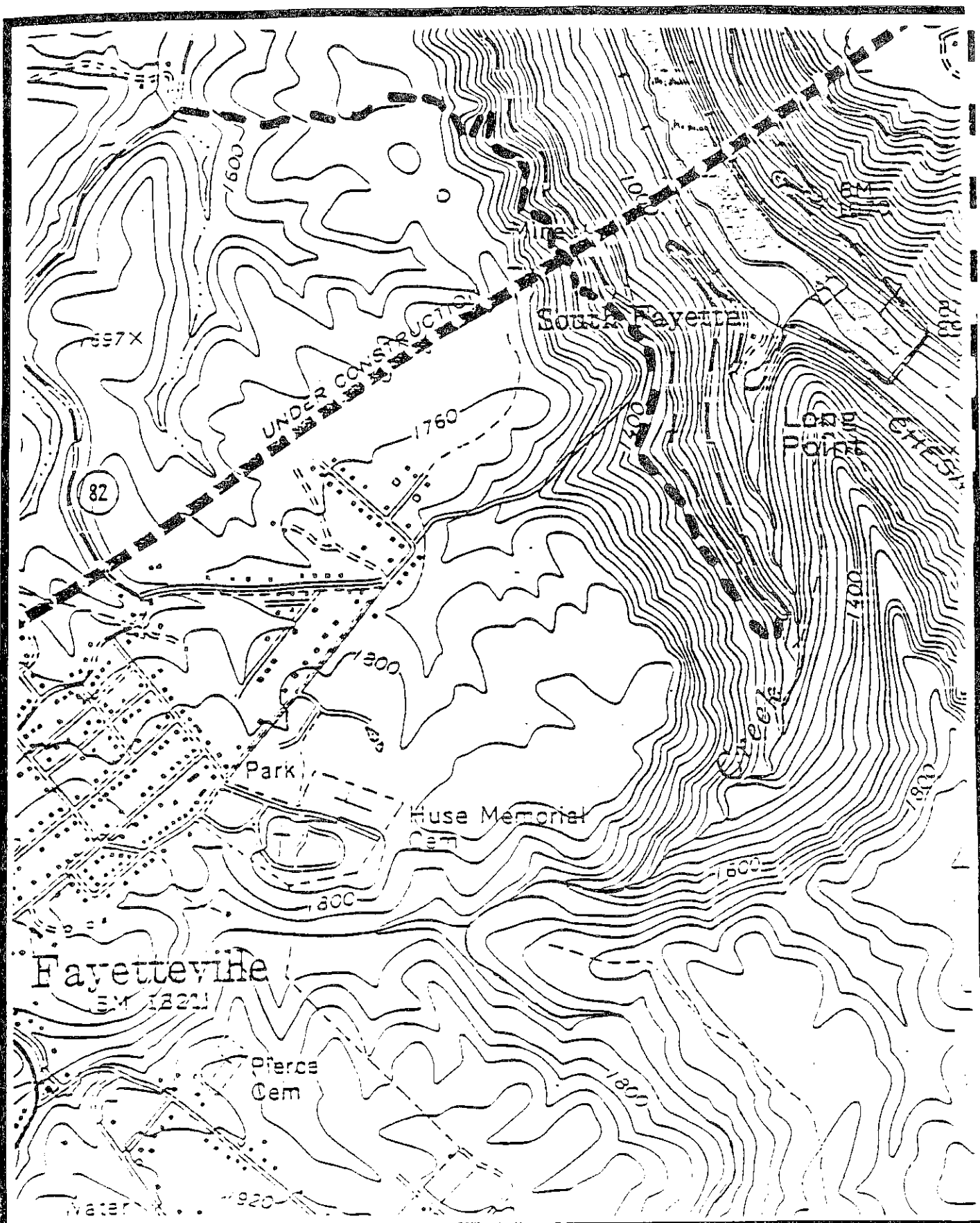
The stability of the old landslide areas should be monitored.

COMPLIANCE NEEDS:

Natural - A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.



MAP SCALE:
VARIABLE

NEW RIVER BRIDGE TRAIL

TRAIL/UNIT #: 1 - 4LG

LENGTH: 1.6 MILES

FAYETTEVILLE TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
2.49 MILES	HIKING	3 - 4LG

PURPOSE:

The Fayetteville Trail creates access to Long Point and Kaymoor.

ROUTE DESCRIPTION/ACCESS:

The trail ascends the old bridge construction access road. It leaves the road, crosses a stream, follows the remnants of an old road, and intersects an existing path, turns south and parallels the gorge rim. It descends into the Wolf Creek drainage, crosses House Brook and Wolf Creek before it ascends to an old road. The trail follows sections of old roads as it crosses a plateau area toward the gorge rim. It ends at the gorge rim where it intersects the Long Point Trail (6-4LG) north of Butcher Branch.

NATURAL/SCENIC FEATURES:

Upland woodlands, a vista of the Wolf Creek drainage, House Brook and Wolf Creek crossings, and a diversity of vegetation are the features on this trail.

HISTORIC/CULTURAL FEATURES:

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	47		622	Brushing	39		> 565
Drainage Ditch	2		36	Blowdowns	11	18	
Wood Water Bars	1		7	Bog Bridges	6		55
Sidehill	11		866	Duffing	16		
Rock Steps	2	10		Relocation	1		45
Tread Work	5		90				

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

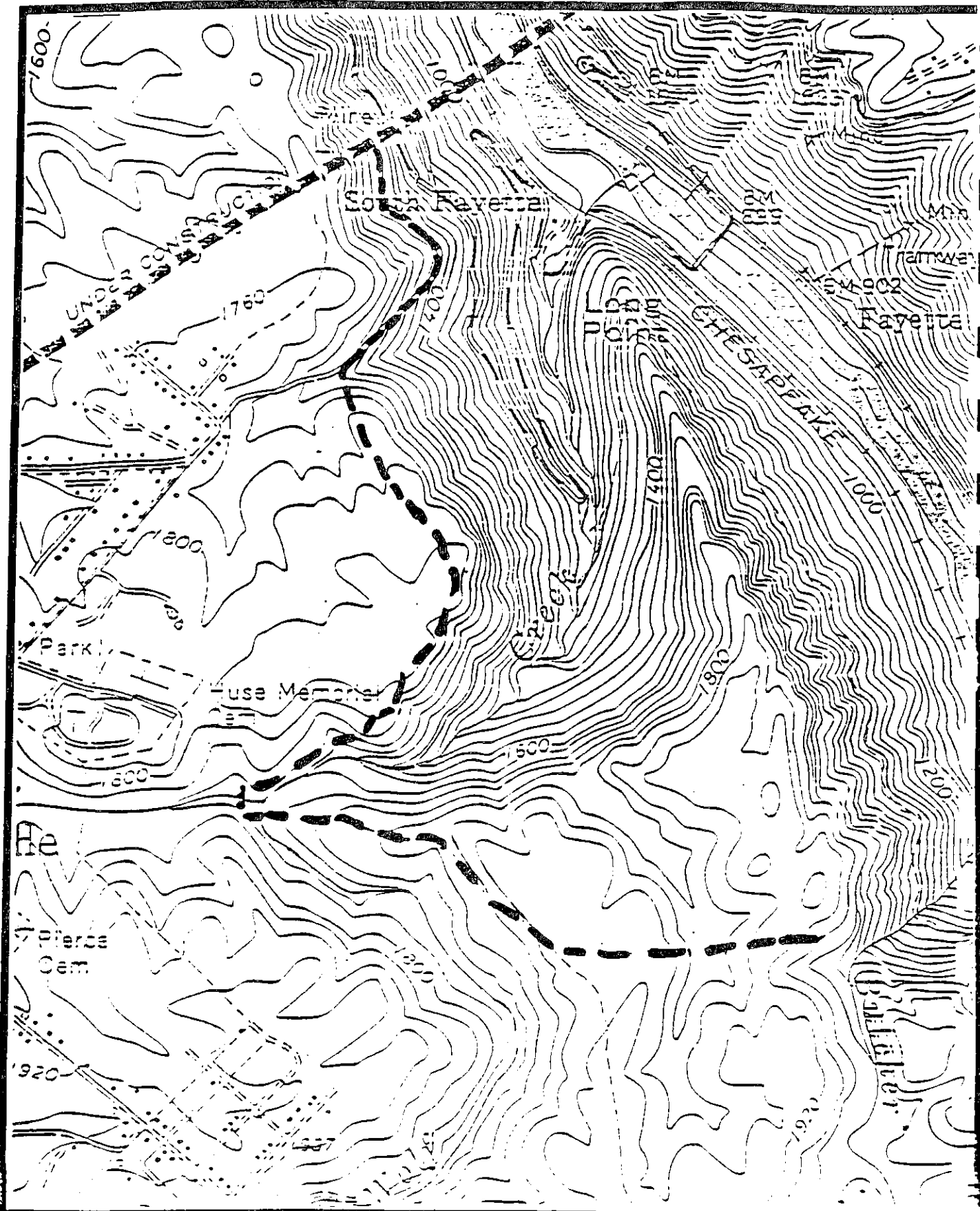
A pedestrian bridge should be built across Wolf Creek to reduce hiker impact on the water resource.

COMPLIANCE NEEDS:

Natural - A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.



MAP SCALE:
VARIABLE

FAYETTEVILLE TRAIL

TRAIL/UNIT #: 3 - 4LG

LENGTH: 2.49 MILES

KAYMOOR TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL / UNIT
1.8 MILES	HIKING	4 - 4LG

PURPOSE:

The Kaymoor Trail provides access to the Kaymoor Mine complex from the north. This trail is one segment of the Mary Draper Ingles Trail as well.

ROUTE DESCRIPTION/ACCESS:

The trail begins at a small parking lot on County Route 82, crosses a footbridge over Wolf Creek, and ascends along an old coal road. It turns south as it crosses the nose of Long Point and follows the old coal road to the Kaymoor Mine complex.

NATURAL/SCENIC FEATURES:

The Wolf Creek crossing, views of the Route 19 bridge through the trees below Long Point, a view of falls on Fern Creek (east of the New River), and the views of the New River gorge at Kaymoor highlight the many features along this trail.

HISTORIC/CULTURAL FEATURES:

The old coal road, the Berwind Fan House, and the Kaymoor Mine complex are features along the trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	23		278	Rock Water Bars	3		37
Drainage Ditch	11		720	Wood Steps	1	6	
Cross Drain	4		58	Step Stones	2	4	
Wood Water Bars	3		42	Tread Work	2		

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

The footbridge across Wolf Creek should be replaced.

SAFETY:

The integrity of the Wolf Creek footbridge and structures associated with coal mining present safety issues along this trail.

KAYMOOR TRAIL

Summary Proposal (con't)

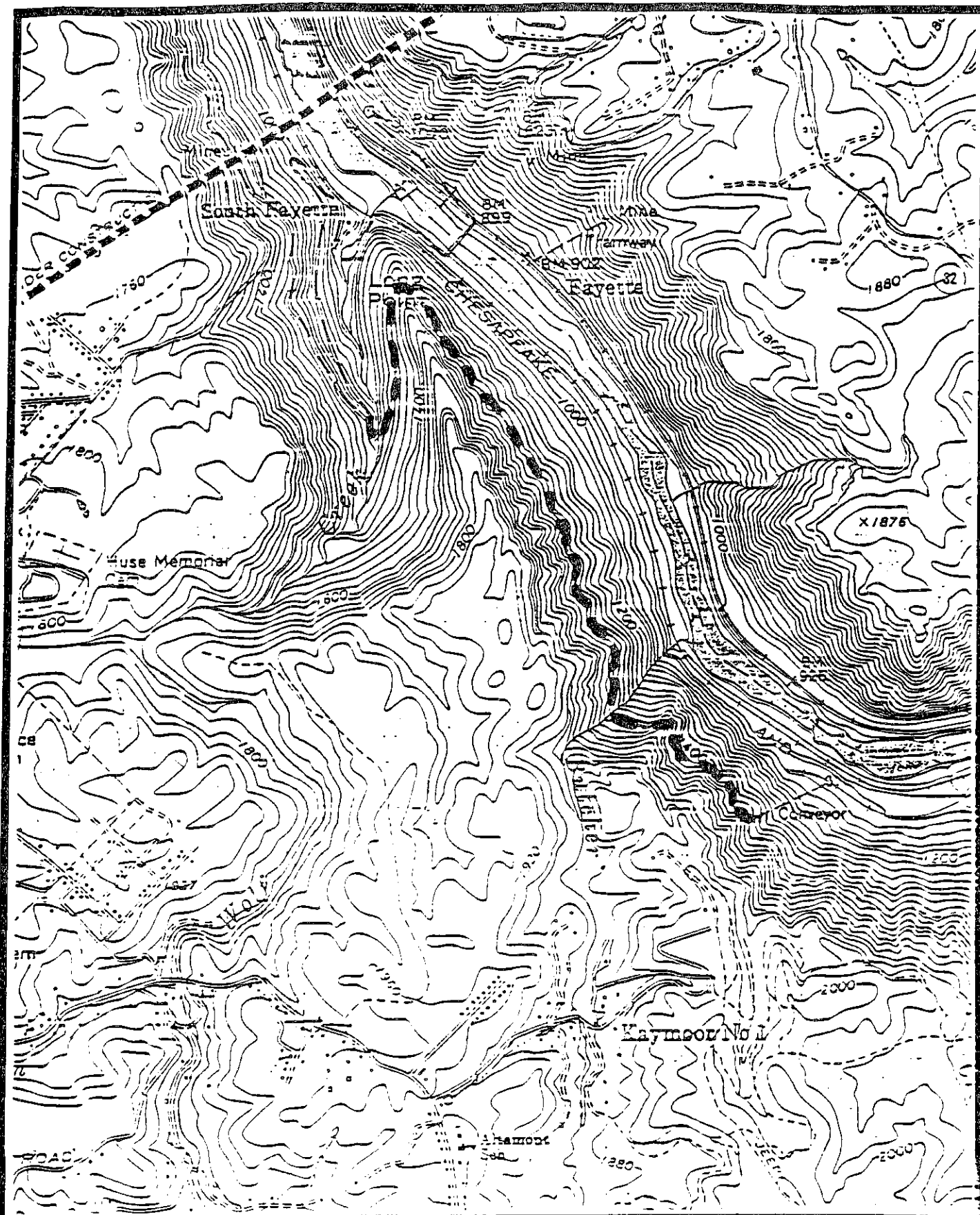
COMPLIANCE NEEDS:

Natural - Above the trail in the vicinity of Long Point is a sensitive resource area. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

KAYMOOR TRAIL

TRAIL/UNIT #: 4 - JLG

LENGTH: 1.8 MILES

LAING LOOP TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
0.7 MILES	INTERPRETATION	5 - 4LG

TRAIL PURPOSE:

The Laing Loop Trail will provide trail-side interpretive opportunities at the Lange House.

ROUTE DESCRIPTION/ACCESS:

The trail leaves from the back of the Lange House, crosses a field, passes by a cemetery, crosses a second field, and enters woodlands. The trail continues towards the gorge rim, turns north and descends to a stream. At the stream, the trail turns uphill and continues to a junction with the trail at the field.

NATURAL/SCENIC FEATURES:

The habitat diversity along the route is the most significant feature.

HISTORIC/CULTURAL FEATURES:

The cemetery is the only known feature along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	7		140	Drainage Ditch	1		20

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

A section of this trail will need to be relocated to remove it from private land and separate it from horse trails on the private land.

SAFETY:

There are no apparent safety issues along this trail.

COMPLIANCE NEEDS:

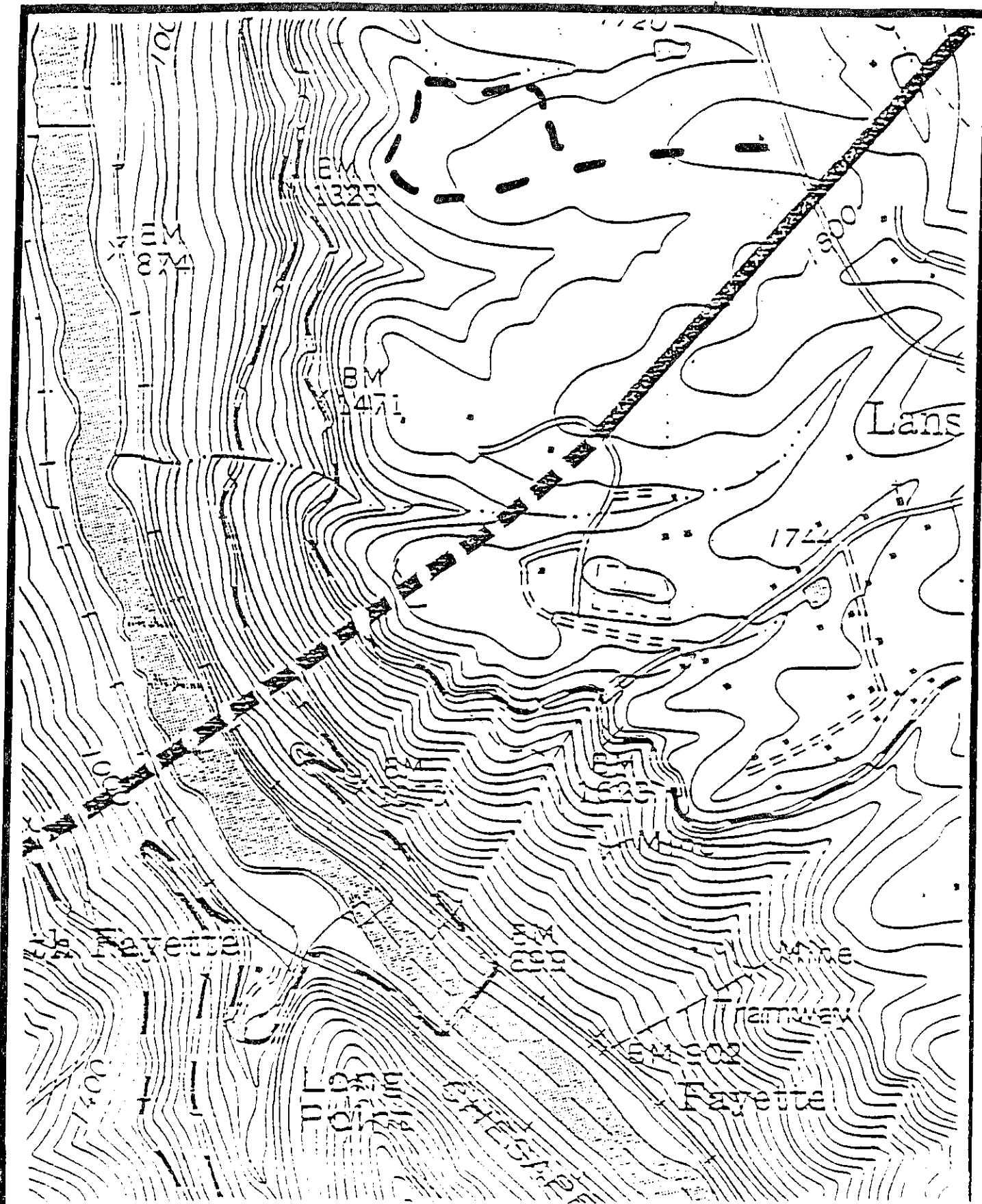
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

The park boundary along the trail should be marked to control potentially damaging activity on the interpretive trail.



LAING LOOP TRAIL

**MAP SCALE:
VARIABLE**

TRAIL/UNIT #: 5 - 4LG

LENGTH: 0.7 MILES

LONG POINT TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.4 MILES	HIKING	6 - 4LG

PURPOSE:

The Long Point Trail creates access to Long Point from the top of Kaymoor. It also allows for loop trail opportunities from Kaymoor in conjunction with the, the Kaymoor Trail (4-4LG), and the Kaymoor Miner's Trail (8-4LG).

ROUTE DESCRIPTION/ACCESS:

The access is from the top of Kaymoor. The trail heads north from the road, through short section of woodland to an old road. It follows the edge of an open area as it begins to descend toward Butcher Branch. The trail crosses Butcher Branch, intersects the Butcher Branch Trail and the Fayetteville Trail as it continues along the gorge rim towards Long Point. It follows and parallels several old roads before it begins descending to Long Point.

NATURAL/SCENIC FEATURES:

The open area near the south end and the mixture of woodlands along the trail provides vegetative diversity. Butcher Branch, with its cascading stream, and panoramic views at Long Point create excellent viewing opportunities along this trail.

HISTORIC/CULTURAL FEATURES:

Remnants of the Kaymoor Hoist house are at the southern end of this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	26		188	Brushing	22		2720
Drainage Ditch	8		145	Blowdowns	18	44	
Wood Water Bars	2		30	Debris Removal	2	>2	
Sidehill	16		974	Relocation	4		2015
Rock Steps	3	9		Duffing	7		>770
Tread Work	6		1200				

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

SAFETY:

There are no apparent safety issues along this trail.

COMPLIANCE NEEDS:

Natural - The area at Long Point is a sensitive resource site. A categorical exclusion must be prepared before maintenance/repair begins.

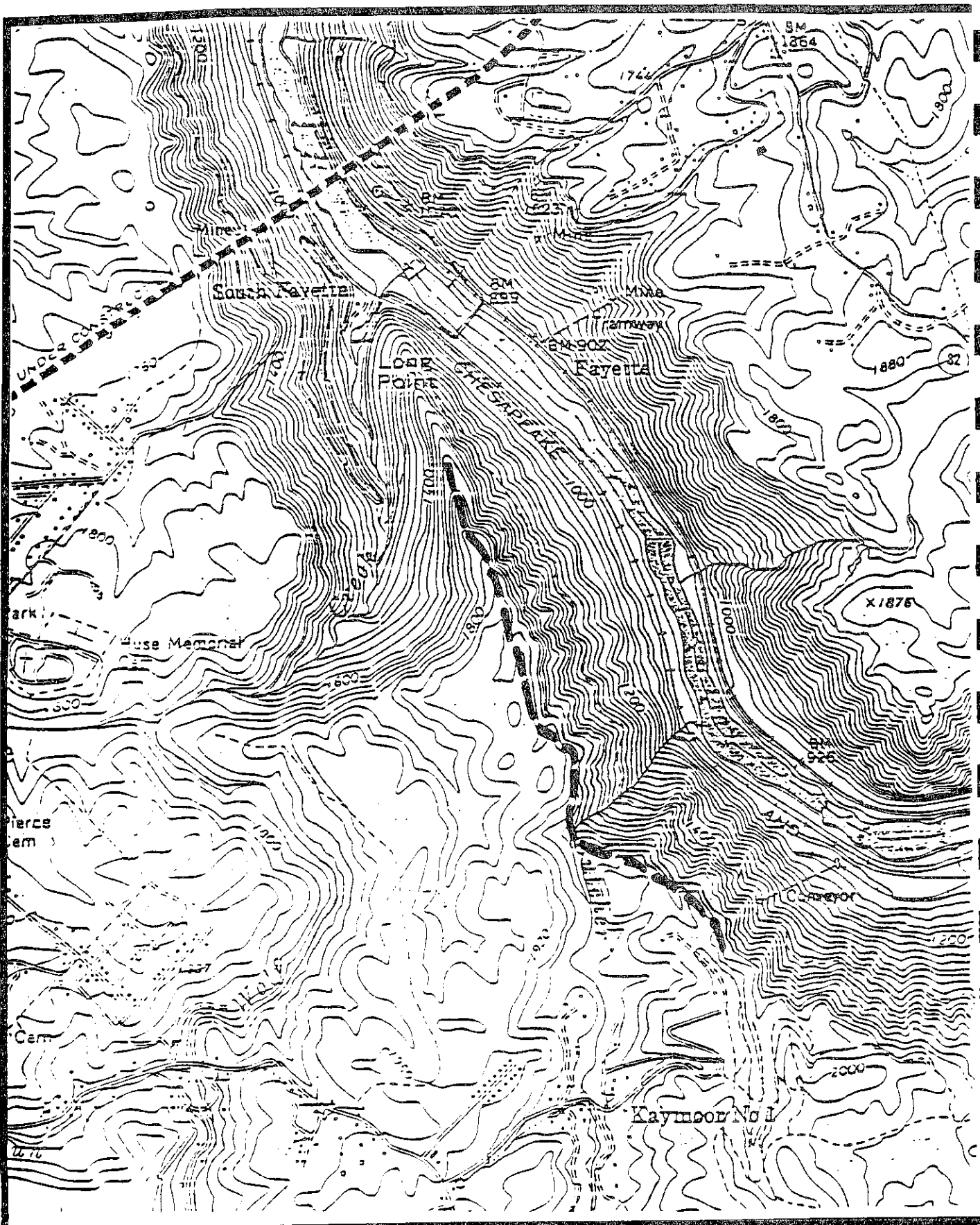
LONG POINT TRAIL

Summary Proposal (con't)

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

LONG POINT TRAIL

TRAIL/UNIT #: 6 - JLG

LENGTH: 1.4 MILES

KAYMOOR MINER'S TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.0 MILES	HIKING	8 - 4LG

PURPOSE:

The Kaymoor Miner's Trail will allow park visitors to hike from the top of Kaymoor to the bottom, stopping at the Kaymoor Mine complex if they wish.

ROUTE DESCRIPTION/ACCESS:

Beginning at the Head House site, the trail descends to an old road currently used as a trail. The trail follows the old, switch backing road down. It passes a stream at one switch back corner and descends to mine level. It enters the mine complex just north of the Powder House. The second section of this trail descends near the Powder House through a series of boulder fields and steep sloped woodlands. It emerges south of the coal processing facility on the old railroad grade near the coke ovens.

NATURAL/SCENIC FEATURES:

Near the top the trail passes through a grove of mature beech, hemlock and oak. The stream along the trail cascades down the hillside. A view across and up the gorge is possible from the Kaymoor Mine complex. The trail passes through boulder fields on the lower section.

HISTORIC/CULTURAL FEATURES:

Many features exist along this trail. The Head House remains at the top, the Kaymoor Mine complex at the middle, and the coal processing facility at the bottom.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	23		228	Step Stones	1	2	
Drainage Ditch	2		70	Tread Work	2		15
Cross Drain	1		5	Brushing	3		> 15
Channelizing	1		30	Blowdowns	3	> 3	
Wood Water Bar	22		181	Debris Removal	2	> 20	
Rock Water Bar	9		117	Tree Removal	2		10
Sidehill	14		740	Scree	1		
Cribbing	19		720	Wood Ladder	1	8	
Rock Steps	29	210					

= Number of occurrences

KAYNOOR MINER'S TRAIL

Summary Proposal (con't)

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

Current mine related safety issues are being addressed.

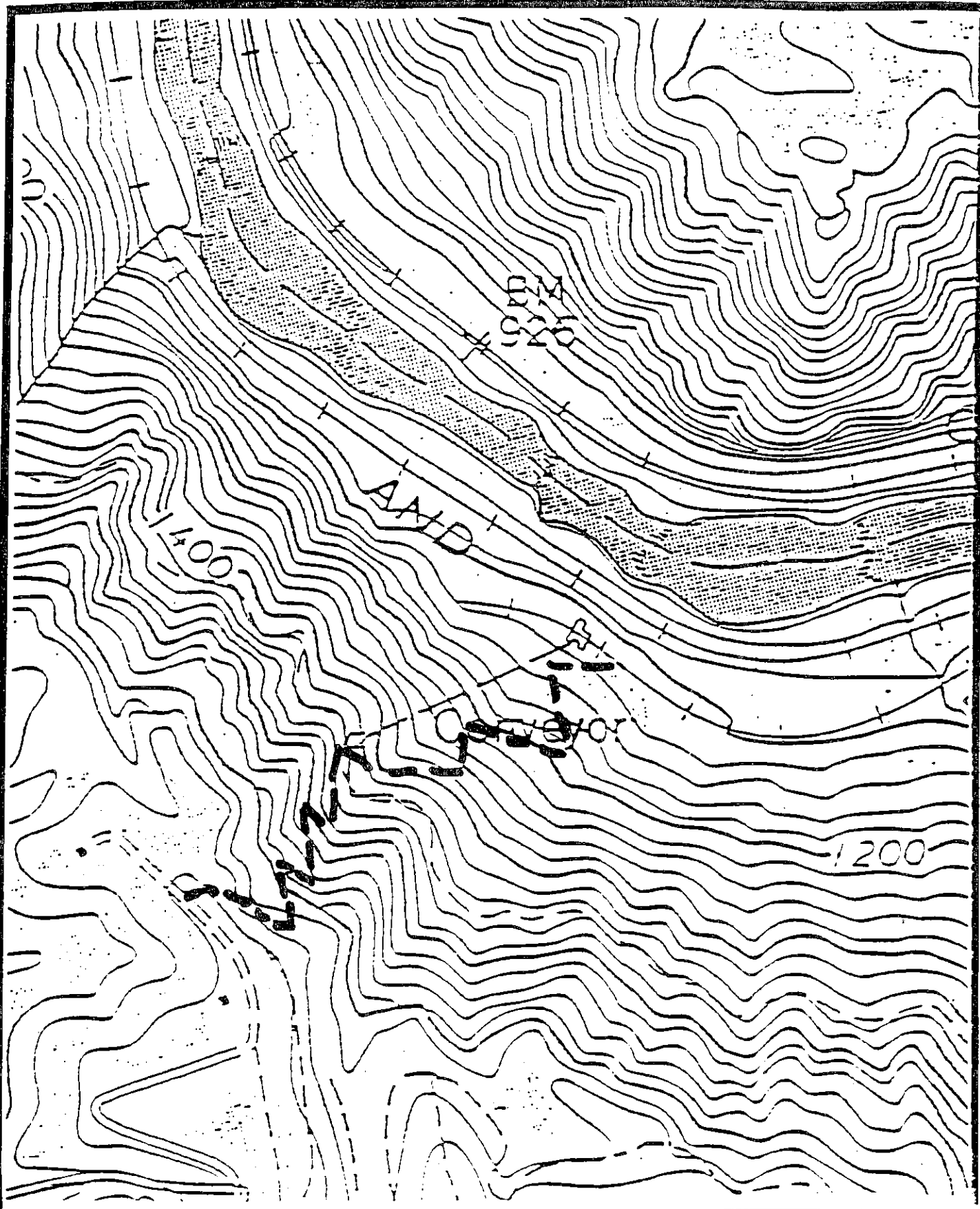
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

KAYMOOR MINER'S TRAIL

TRAIL/UNIT #: 8 - 4LG

LENGTH: 1.0 MILES

CUNARD TO KAYMOOR TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
5.0 MILES	HIKING/BIKING	11 - 4LG

PURPOSE:

The Cunard to Kaymoor Trail will provide access to the Kaymoor Mine complex from the south. This trail will also be one section of the Mary Draper Ingles Trail.

ROUTE DESCRIPTION/ACCESS:

The trail begins up the road from the existing parking area at the top of the road to Cunard Landing. The trail crosses Coal Run and follows an old mine road north. It crosses through a drainage, passes by the old Elverton Mine, crosses another drainage with utility lines overhead, and continues to the Kaymoor access road where this trail ends.

NATURAL/SCENIC FEATURES:

Coal Run and several other streams are the water related features along this trail. Vistas are scattered along the length of this trail.

HISTORIC/CULTURAL FEATURES:

The mine roads and old mines represent the historic/cultural features on this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	23		526	Blowdowns	9	> 13	
Cross Drain	4		65	Debris Removal	2	2	
Wood Water Bars	2		32	Bridges	1		24
Tread Work	3		45	Clean Drain	4		50
Brushing	3		905	Relocations	1		150

= Number of occurrences

SAFETY:

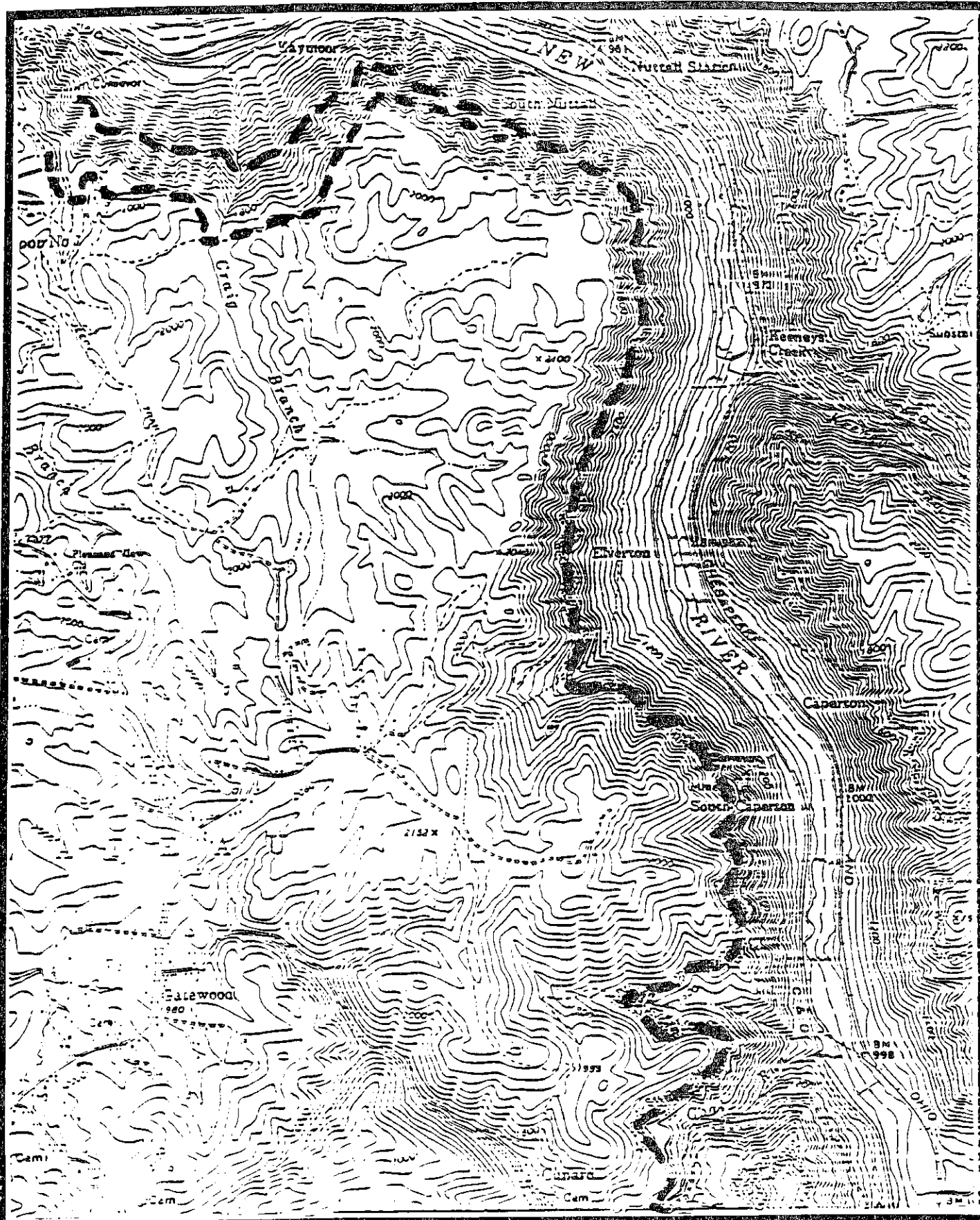
At the northern end of this trail, just south of the Kaymoor access road, are old mine openings which pose a safety hazard.

COMPLIANCE NEEDS:

Natural - A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.



MAP SCALE:
VARIABLE

CUNARD TO KAYMOOR TRAIL

TRAIL/UNIT #: 11 - 4LG

LENGTH: 5.0 MILES

BROOKLYN MINE ACCESS TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
2.01 MILES	EQUESTRIAN	17 - 4LG

PURPOSE:

The Brooklyn Mine Access Trail is designed to provide access to the Brooklyn Mine site, the Brooklyn Miner's Trail (18-4LG). This trail will be one section of the Mary Draper Ingles Trail.

ROUTE DESCRIPTION/ACCESS:

The trail begins at the parking area at the top of the Cunard Access Road. It ascends along a section of old strip mine road, turns to the south and enters the New River gorge. It follows this road until it enters the Brooklyn Mine complex. It intersects the Brooklyn Miner's Trail in front of the mine.

NATURAL/SCENIC FEATURES:

There are several vistas, where vegetation has been cleared in the past, of the New River gorge along the trail. Rock outcrops are scattered along the trail as well.

HISTORIC/CULTURAL FEATURES:

The strip mine road and the Brooklyn Mine complex are the only features along the trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	24		535	Blowdowns	6		
Cross Drain	1		15	Tree Removal	3	> 40	160
Tread Work	2		120	Relocation	3		> 220
Brushing	1		160				

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

The trail construction needed on this trail may be done most efficiently with heavy equipment. The tread should then be seeded and allowed to establish itself.

SAFETY:

The structures at the Brooklyn Mine complex pose a potential danger to visitors who try to gain access. The existing fence that has been installed will discourage most people. Maintenance of the fence will be important until the structures deteriorate completely.

BROOKLYN MINE ACCESS TRAIL

Summary Proposal (con't)

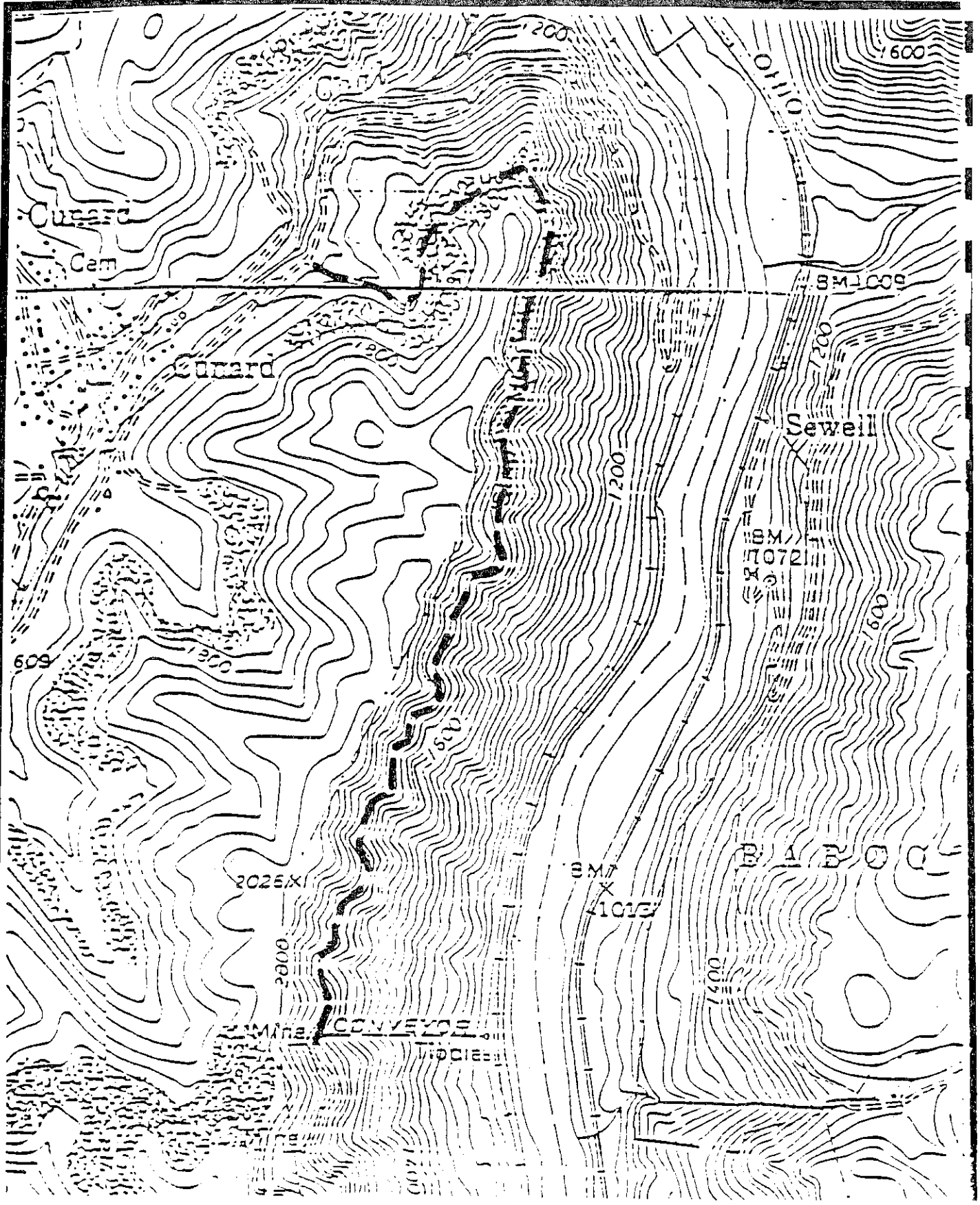
COMPLIANCE NEEDS:

Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:



MAP SCALE:
VARIABLE

BROOKLYN MINE ACCESS TRAIL

TRAIL/UNIT #: 17 - 4LG

LENGTH: 2.01 MILES

BROOKLYN MINER'S TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
1.2 MILES	HIKING	18 - 4LG

PURPOSE:

The Brooklyn Miner's Trail provides one of the few opportunities within the NERI to hike from the bottom of the gorge to mine level. The trail will create two hiking loops utilizing the Brooklyn-Red Ash Trail (24-4LG). This trail will be one section of the Mary Draper Ingles Trail.

ROUTE DESCRIPTION/ACCESS:

The trail begins at the Brooklyn Conveyor/Tipple complex and ascends along an old coal road. It continues past a large coal/shale tailings pile where it follows another old switch backing coal road. The trail leaves the old road, continues along a new section of trail, and intersects another old road before it reaches the main mine level road. The trail ends at the Brooklyn Mine where it meets the end of the Brooklyn Mine Access Trail (17-4LG).

NATURAL/SCENIC FEATURES:

At the coal/shale tailings pile views up and down the New River are present. The trail passes through a steep woodland landscape as it ascends. At the upper end several ledges can be seen from the trail. A clearing caused by past mining activities has created a view across the river valley at the Brooklyn Mine site.

HISTORIC/CULTURAL FEATURES:

The Brooklyn Conveyor/Tipple, related structural remains, a coal haul road, a coal/shale tailings pile, the old coal roads, and the Brooklyn Mine complex are features along this trail.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	17		232	Sidehill	5		124
Drainage Ditch	5		165	Cribbing	10		500
Cross Drain	2		45	Rock Steps	12	84	
Channelizing	4		120	Step Stones	2	7	
Rock Water Bar	1		6	Blowdowns	1	1	

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

None.

SAFETY:

The structures associated with coal processing at the bottom of the trail and with coal mining at the top of the trail are potential safety hazards.

BROOKLYN MINER'S TRAIL
Summary Proposal (con't)

COMPLIANCE NEEDS:

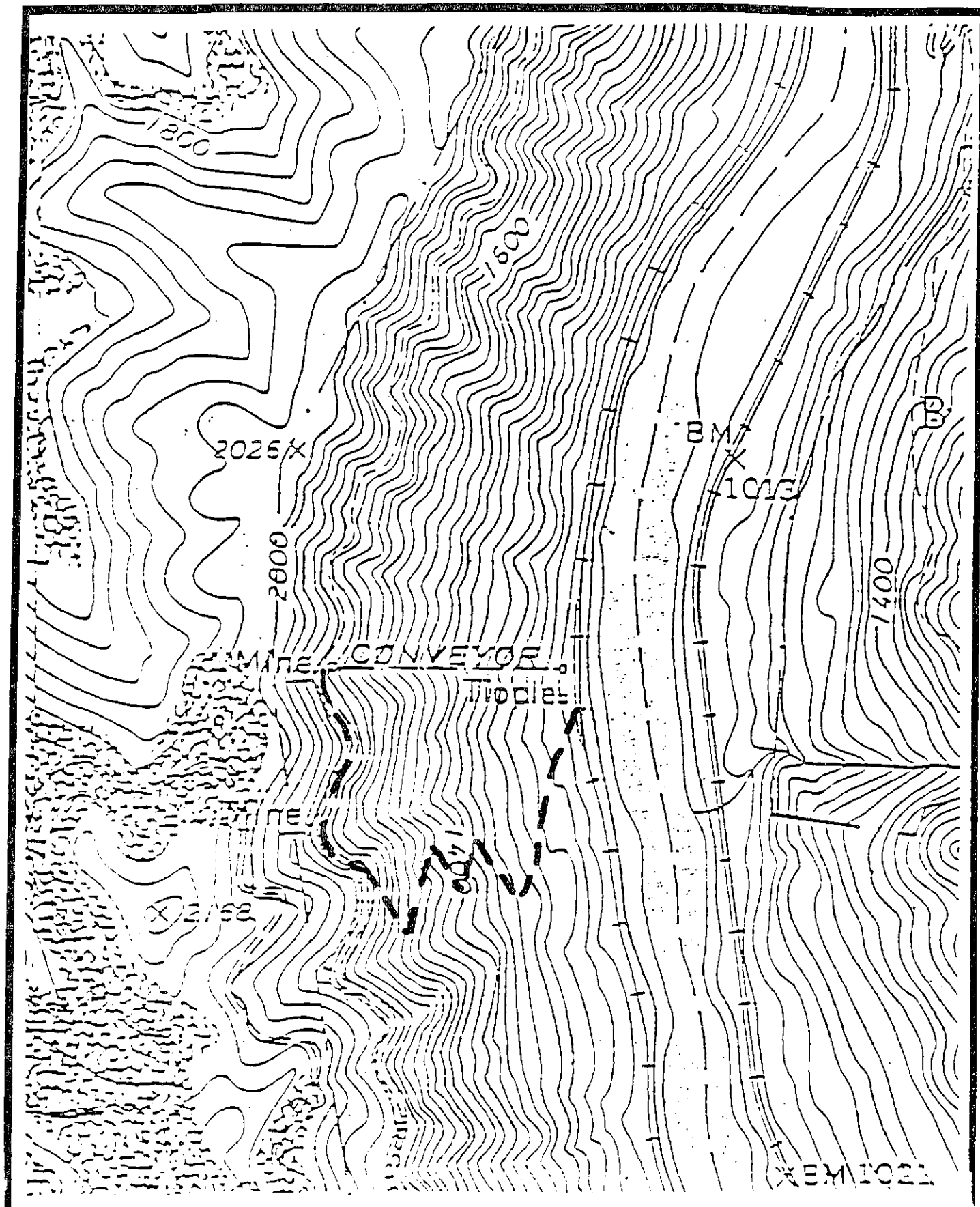
Natural - There are no known rare, threatened, or endangered species along this section of trail. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

At the bottom of this trail consideration should be given to blocking vehicular access to the old road which ascends to the top of the coal/shale tailings pile. This site appears to be a frequent location for parties.



MAP SCALE:
VARIABLE

BROOKLYN MINER'S TRAIL

TRAIL/UNIT #: 18 - 4LG

LENGTH: 1.2 MILES

SOUTHSIDE JUNCTION TO BROOKLYN

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
6.04 MILES	HIKING/BIKING	20 - 4LG

PURPOSE:

The Southside Junction to Brooklyn Trail will connect the node of trails at Southside-Thurmond area with the trails in the Brooklyn area. It will also serve as a trunk trail connecting various side trails to form loop opportunities. This trail will be one section of the Mary Draper Ingles Trail.

ROUTE DESCRIPTION/ACCESS:

The trail begins at the north end of the proposed parking facility. The first section of this trail will be paved to the junction with the Arbuckle Creek Accessible Trail. Beyond, it will be gravel surfaced. Next it intersects the connector trail (part of the Mary Draper Ingles Trail) to the Thurmond-Minden Trail. After crossing Arbuckle Creek, the trail continues along the old rail grade, intersects the Red Ash Mine Trail, continues through several former town sites, junctions with the Red Ash Trail. After turning north at the river bend, the trail continues on to Brooklyn and ends at the junction with the Brooklyn Miner's Trail.

NATURAL/SCENIC FEATURES:

The primary natural feature along this trail is the New River. The trail also crosses Arbuckle Creek and Rush Run. Several areas of the rail grade have been covered by landslides. Cliffs and rock outcroppings are common above the trail.

HISTORIC/CULTURAL FEATURES:

Many features exist along this trail including the remains of activities at Southside Junction, Erskin, Rush Run, Red Ash, and Brooklyn. The old rail bed is another significant feature.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	58		879	Tread Work	6		
Drainage Ditch	5		290	Brushing	1		150
Cross Drain	4		50	Blowdowns	5		
Sidehill	1		60	Debris Removal	2		
Cribbing	1		10	Culvert Repair	3		
Step Stones	1	6		Bridge Decking	2		119

= Number of occurrences

OTHER CONSTRUCTION NEEDS:

SOUTHSIDE JUNCTION TO BROOKLYN

Summary Proposal (con't)

There are two bridges on this trail needing replacement. At Southside Junction, the trail tread should be paved to accommodate wheel chairs.

SAFETY:

In several areas the rail grade was cut through rock. There is evidence of rock falling onto the trail. These sites are small but should be monitored for instability. At the various settlement areas old water wells may pose a danger.

COMPLIANCE NEEDS:

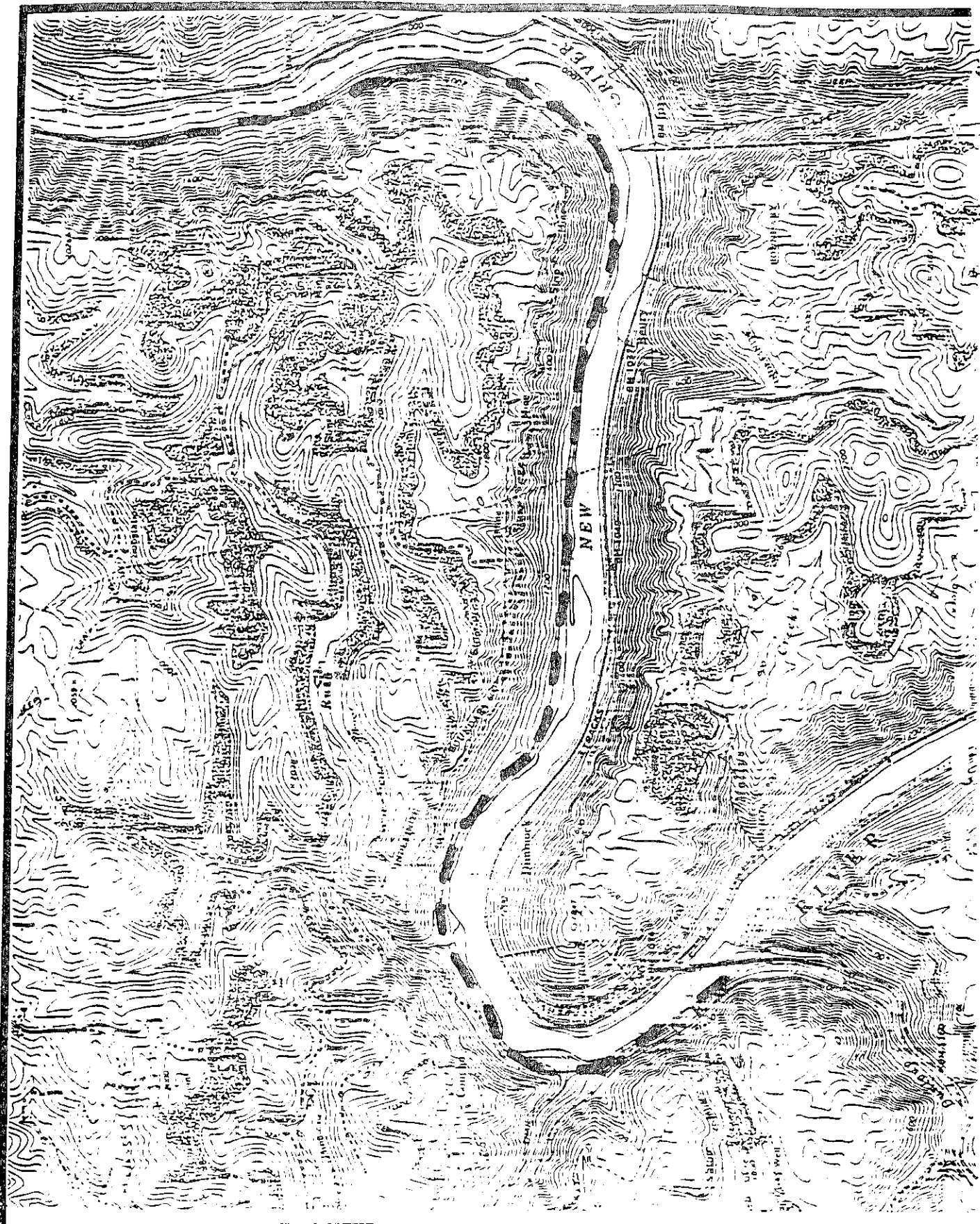
Natural - Two sensitive resource sites exist along this trail. Both sites are located along the river. A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.

OTHER CONSIDERATIONS:

The most efficient technique for building this trail may be using heavy equipment. The trail at the northern end is in extreme need of drainage. Grading would also create the best surface for biking.



MAP SCALE:
VARIABLE

SOUTHSIDE JUNCTION TO BROOKLYN

TRAIL/UNIT #: 20 - 4LG

LENGTH: 6.04 MILES

BROOKLYN-RED ASH TRAIL

SUMMARY TRAIL PROPOSAL

LENGTH	TRAIL USE	TRAIL/UNIT
4.4 MILES	EQUESTRIAN	24 - 4LG

TRAIL PURPOSE:

The Brooklyn-Red Ash Trail connects to the Brooklyn Miner's Access Trail (18-4LG).

ROUTE DESCRIPTION/ACCESS:

The trail begins roughly half way along the Brooklyn Miner's Trail and ascends in a southerly direction along an old road. The trail crosses two drainages before it intersect a newer coal road which leads to an old coal road. The road makes a loop at the end and returns to the trail.

NATURAL/SCENIC FEATURES:

The trail crosses two cascading streams and, along the old road section, passes through a pleasant woodland setting.

HISTORIC/CULTURAL FEATURES:

The old coal roads, the mines, and associated structures.

CONSTRUCTION NEEDS SUMMARY:

ITEM	#	UNITS	FEET	ITEM	#	UNITS	FEET
Drainage Dip	14		241	Rock Steps	1	15	
Drainage Ditch	10		192	Tread Work	2		
Cross Drain	4		40	Brushing	2		> 20
Rock Water Bar	1		20	Blowdowns	2	2	
Sidehill	6		> 115	Debris Removal	2		
Cribbing	4		80	Stone Paving	1		25

= Number of occurrences

SAFETY:

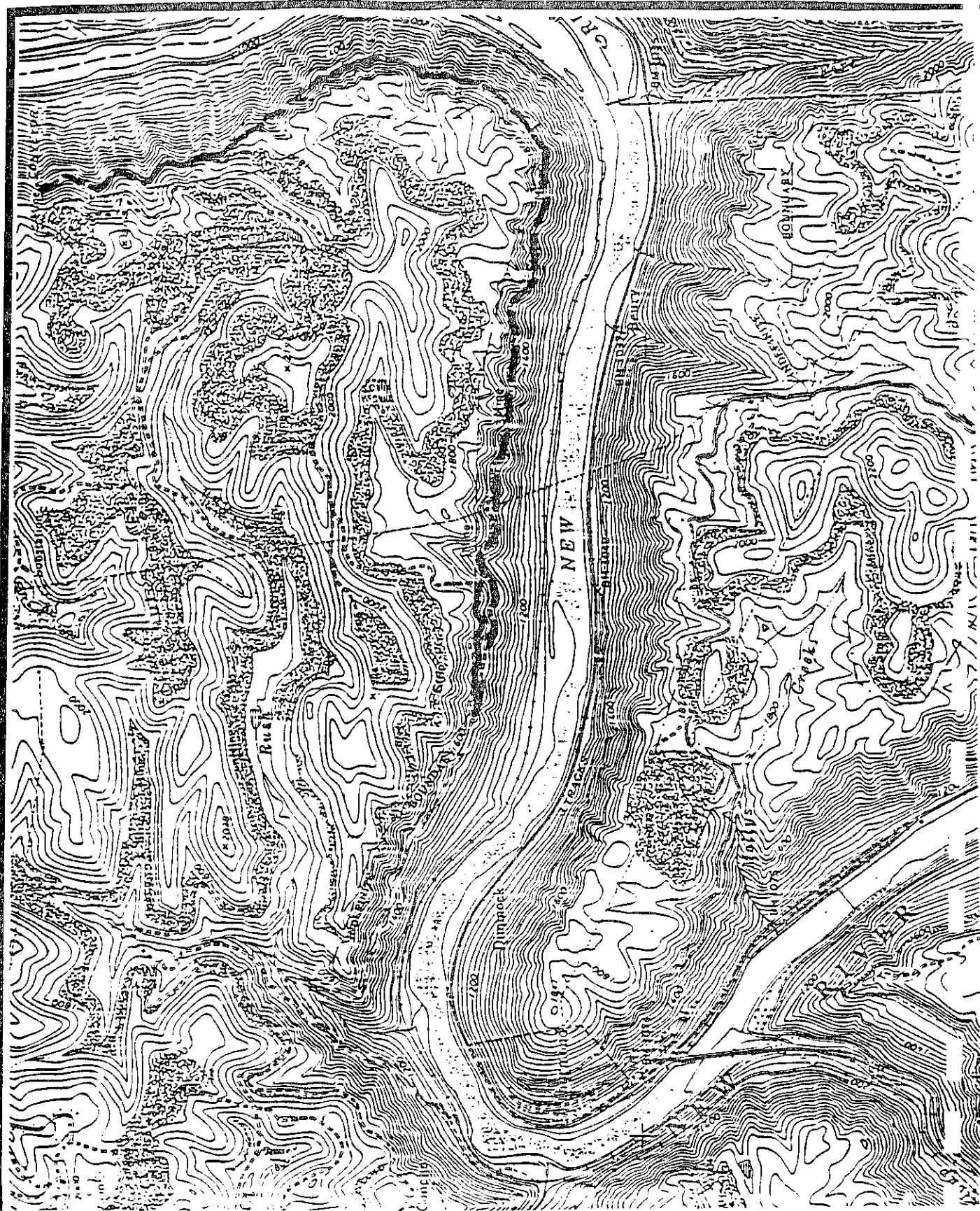
At one of the mine sites is a building with a roof which appears to be weakened and may collapse in the near future. The gate on one of the mines should be monitored for soundness.

COMPLIANCE NEEDS:

Natural - A categorical exclusion must be prepared before maintenance/repair begins.

Cultural - Section 106 compliance must be met.

Archeological - As no ground disturbing activities are planned, no further archeological work needs to be done.



MAP SCALE:
VARIABLE

BROOKLYN-RED ASH TRAIL

TRAIL/UNIT #: 24 - 4LG

LENGTH: 4.4 MILES

THROUGH-THE-PARK TRAIL

RECOMMENDATIONS

The through-the-park trail, also known as the Mary Draper Ingles Trail, creates a trunk trail from which other trails emanate. It will be the common tread that links different areas of the park. Unit 1, the upper gorge, requires the most work to establish a permanent route for this trail. A large percentage of the land is privately held. Table 1 lists the trails, all located on the westerly side of the New River and listed north to south, which represents our suggestion for routing the Mary Draper Ingles Trail.

Table 1 - Mary Draper Ingles Trail - Segments

1-4LG	Fayetteville Bridge Trail		
4-4LG	Kaymoor Trail		
11-4LG	Cunard to Kaymoor Trail		
17-4LG	Brooklyn Mine Access Trail	16-3MG	Big Buck Trail
18-4LG	Brooklyn Miner's Trail	19-3MG	Castle Rock Trail
20-4LG	SS Jct. to Brooklyn Trail		
5-3MG	Arbuckle Creek to T-M Connector		
6-3MG	Thurmond - Minden Trail		

REFERENCES

- American Hiking Society. Bibliography of Trail Construction, Maintenance, & Management. American Hiking Society, Washington, DC., 1984.
- Cohen, Stan. King Coal. A Pictorial Heritage of Western Virginia Coal Mining. Pictorial Histories Publishing Company, Charleston, West Virginia, 1984
- Cole, David N. Campsite Conditions in the Bob Marshall Wilderness, Montana. USDA, Forest Service, Intermountain Forest and Range Experiment Station, Research Paper INT-312, 1983, 18 pp.
- Cox, William E. Life on the New River. A Pictorial History of the New River Gorge. Eastern National Park & Monument Association, 1987.
- Magary, Frank A. (U.S. Forest Service, Lake Tahoe Basin Management Unit) and Members of the Tahoe Rim Trail Trails Committee. 1985. The Tahoe Rim Trail. A Guide to Construction. Edition of March 1985.
- Non-motorized Trails. An Introduction to Planning and Development. Pennsylvania Trails Program, Division of Outdoor Recreation, Bureau of State Parks, Harrisburg, PA, 1980.
- Proudman, Robert D. and Rajala, Reuben. AMC Field Guide to Trail Building and Maintenance. 2nd Edition. Appalachian Mountain Club, 1981.
- Sullivan, Ken. Thurmond. A New River Community. Eastern National Park & Monument Association, 1989.
- A Trail Manual. East Bay Regional Park District, Oakland, CA., 1976.
- U.S. Dept. of Agriculture.
- Trails Manual. Parks Canada. Engineering and Architecture Branch, Ottawa, Canada. 1978.
- Trails South. A Guide Dealing with Forest Trails in the Southern Region. U.S. Forest Service, Southern Region. date unknown.
- Trail Transportation System Procedure Guide for Planning, Construction, Maintenance and Records. U.S. Forest Service, Region 5. Shasta-Trinity National Forest, Redding, California. 1981. Rev. 1982.

U.S. Dept. of the Interior, National Park Service.

NPS Trails Management Handbook. U.S. Printing Office., 1983.

Land Protection Plan, July 1984, New River Gorge, National River, West Virginia.
U.S. Printing Office, 1984.

Environmental Assessment, Development Concept Study, Canyon Rim/Fayette Station, New River Gorge, National River, West Virginia. U.S. Printing Office, 1987.

Summary of Public Responses, Draft Development Concept Study/Environmental Assessment, Canyon Rim/Burnwood, New River Gorge, National River. U.S. Printing Office, 1988.

"Access 3: Access to Outdoor Recreation; Trails." Design, Summer 1989, pp. 6-11.
U.S. Printing Office, 1989.

Development Concept Plan, Environmental Assessment, Cunard, New River Gorge, National River, West Virginia. U.S. Printing Office. 1989.

Development Concept Plan, Environmental Assessment, Draft 1989, Glade Creek, New River Gorge, National River, West Virginia. U.S. Printing Office, 1989.

Sandstone Falls, Development Concept Plan, Interpretive Concepts, & Environmental Assessment. U.S. Printing Office, 1989.

Development Concept Plan, Interpretive Prospectus, Environmental Assessment, Thurmond, New River Gorge, National River, West Virginia. U.S. Printing Office, 1989.

Study of Development Concept Alternatives, Environmental Assessment, Draft, September 1990, Kaymoor, New River Gorge, National River, West Virginia. U.S. Printing Office. 1990.

Development Concept Plan, Interpretive Prospectus, Cunard, New River Gorge, National River, West Virginia. U.S. Printing Office, 1990.

Development Concept Plan, Interpretive Prospectus, Glade Creek, New River Gorge, National River, West Virginia. U.S. Printing Office, 1990.

Environmental Assessment, Proposed Boardwalk and Trail Construction, Sandstone Falls, New River Gorge, National River, West Virginia. U.S. Printing Office. 1991.

The Construction and Maintenance of Trails. Virginia Division of Parks and Recreation,
Richmond, VA, 1977.

Vogel, Charles. Trails Manual. Charles Vogel, San Mateo, CA, 1968.

APPENDIX 1

INFORMATION RESOURCES AGENCIES, GROUPS AND INDIVIDUALS

The following is a list of agencies, groups and individuals who provided the Appalachian Mountain Club with potential trail location information, resource management data, land ownership patterns, organization philosophies, agency regulations, etc. The list also includes park personnel who provided review comments on the draft trail plan.

National Park Service

Mr. Joe Kennedy, Superintendent
Mr. Henry Law, Assistant Superintendent
Mr. Steve Hastings, Chief, Maintenance
Mr. Warren Snyder, Chief, Interpretation
Mr. Mike Hunter, Chief, NRSO
Ms. Lorrie Sprague, Management Assistant
Mr. Chris Thompson, Maintenance Mgmt.
Assistant
Mr. Bill Blake, Chief Ranger
Ms. Liz Watts, Supervisory Park Ranger
Mr. Don Kodak, Supervisory Park Ranger
Mr. Ken Stephens, Natural Resource Specialist
Mr. Rick Brown, North District Ranger

Mr. John Reed, Land Acquisition
Ms. Meg Weesner, Resource Management*
Mr. Roy Wriston, Maintenance Foreman
Mr. Hunter Boggs, South District Maintenance
Mr. Leon Clifford, Planner
Mr. Greg Phillips, Interpreter*
Mr. Scott Hall, Rivers and Trails Assistance
Mr. Don Wilson, Lands Office - Mapping
Ms. Sara Coosy, Interpreter*
Dr. Pat Esmond, NRSO
Mr. Tom DeCesar, Trails Construction
Mr. Duncan Hollar, South District Ranger

* No longer at NERI

State of West Virginia

Mr. Edward Boyd, Superintendent, Babcock State Park

West Virginia Scenic Trails Association (WVSTA)

Mr. Bob Tabor
Mr. Doug Wood

Mr. David Jones

Mary Ingles Chapter of WVSTA

Ms. Hillary Jones
Ms. Liz Watson

Ms. Becky Hilton

West Virginia Mountain Bike Association

Mr. Matt Marcus

Mr. Jon Leyton

Guides/Outfitters

Mr. Randy Frayley
Mr. Steve Campbell
Mr. Mark Ashley

Ms. Amanda Ashley
Mr. Howard Campbell
Mr. Jim Alexander

Non-Affiliated

Mr. Joe Meyers

APPENDIX 2

SAMPLE WORK LOG FORMAT

NEW RIVER GORGE NATIONAL RIVER TRAIL PLAN

TRAIL WORK LOG

Proposed Trail: BIG BRANCH TRAIL

Length:	0.6 MILES	Date Logged:	APRIL 5, 1991
Proposed Use:	HIKING	Aspect:	UPHILL
Rating:	N/A	Weather:	CLOUDY
File Name:	04-1UG.LOG	Logged By:	PETER JENSEN & KRIS HENKER
Wheel Conversion:	1 = 5 FEET		

Trail/Unit #: 4 - 1UG

Overview:

This hiking trail creates a scenic loop trail in conjunction with the Lilly Trump Trail. It follows a new section of trail to an old road ascending along Big Branch. Sidehill and cribbing are the major needs along the first half of the trail. Drainage is the predominant need on the old road section.

WHEEL READING

COMMENTS

WORK NEEDED

0000

This log begins on the west side of the road across from Brooks Falls parking lot. This is also the start of the Lilly Trump Trail (03-1UG).

0028

Junction - Lilly Trump Trail flagline turns R. Big Branch Trail flagline continues L.

Install 60 ft. of sidehill.

NOTE: The next 1030 ft. of trail will require new construction. Brushing and some duffing will be required.

0040

End sidehill. Trail intersects old road and crosses.

0043

Install 5 rock steps.

APPENDIX 3

GLOSSARY OF TRAIL WORK LOG TERMS

The following terms have been used in the NERI work logs. Many of these terms can be found in AMC's Trail Building and Maintenance, 2nd Edition, by Robert D. Proudman and Reuben Rajala. If further information about a term can be found in Trail Building and Maintenance the specific page(s) are listed at the end of each definition.

Blowdown - A tree of any size that obstructs passage of trail user. Tree usually down due to wind, lightning, ice, snowfall, etc.

Bog Bridge - A tread-hardening structure used in areas of constant wetness. These bridges typically have 2 base logs and 2 or more stringers to accommodate a tread. They are generally 8 to 12 feet long and no more than a few feet off the ground.

Brushing - The process of clearing (cutting, clipping, mowing) annual and or shrubby growth on either side of a trail. Brushing width varies with type of trail use.

Channelize - A technique used where small streams cross trails. Material is brought in to build up a berm on either side. This will reduce the chance of the stream overflowing its banks and running down a trail.

Cribbing - Rock or wood cribs are typically used to stabilize the upper and lower slopes of trails crossing steep slopes. They can also be used to rebuild a severely eroded gully where relocation is not an option.

Cross Drain - A drainage structure used to divert water, usually flowing, across a flat or nearly flat trail section. The drain structure is typically perpendicular to the trail and has gradually sloping sidewalls. The width will vary with volume of water. This type of structure is not used to drain vernal or temporary pools (important amphibian habitat).

Drainage Dip - Drainage dips are used to break up the flow of water on slight to moderately sloped trails. Similar to a water bar (see below), these structures are berms of soil and stone built at an angle to water flowing down a trail.

Drainage Ditch - Slope walled ditch installed to collect and drain water. Typically, these structures are installed on the inside edge of sidehill trails and in conjunction with drainage dips or water bars. The cross sectional area of drainage ditches should increase as the length of a ditch increases.

Duffing - A term used for the process of removing leaf litter, roots, and loose stones during new trail construction.

Fanned Drainage Ditch - These ditches are used to drain puddles on trails. Typically the outer berm is removed to allow water to drain. The size of the ditch is a function of the puddle length.

Scree Rock - Stones ranging in size from cobbles to small boulders. This term may be used to describe loose rock on a trail. Typically scree rock is placed on either side of rock steps to channel user traffic. It is usually placed strategically and should appear unpleasant and/or unstable to walk on.

Sidehill - A descriptive term for creating a trail tread across a slope. This method of building a trail entails the cutting and filling of soil material to create an outward sloping tread.

Treadwork - This term describes general work done on the trail tread. The work may be removal of rocks, roots, leveling of uneven tread, etc. Duffing (see above) is also included in this category.

Water Bar - A water bar diverts water off of a trail. Rocks or wood can be used to construct bars. Water bars can be viewed as reinforced drainage dips (see above) but their method of construction is somewhat different.

APPENDIX 4

TRAIL CLASSIFICATIONS

(New River Gorge Trail Construction Guidelines)

Level One - HANDICAP ACCESSIBLE TRAILS

User Group and Associated Development

These trails are designed for accessibility by people with special needs, although the range of users will be diverse.

Structures should be more substantial to accommodate large groups of people.

Grades

The optimum situation would be to have all grades below 3 percent. Eight percent is acceptable on short distances of 30 feet. Handrails on both sides of trail need to be provided on slopes exceeding 5 percent. If grades exceed 5 percent for distances over 40 feet, landings need to be provided. These landings must have minimum dimensions of 60 inches by 60 inches. Ramps should be used in place of steps.

Trail Width and Surface

Trails need to be hard surfaced for wheelchair traffic. Suitable surfacing is asphalt, crushed stone, soil cement, or concrete.

The tread width should be a minimum of 6 feet. This width dimension is needed for two-way wheelchair traffic.

Trail Clearing

Vegetation is to be cleared to a height of 8 feet above the trail surface. Clearing width should only be as much as needed to provide unobstructed movement on the trail. Additional tree clearing to provide vistas should be utilized.

Trails

Arbuckle Creek Accessible Trail

Level 2 - HIGH USE TRAILS

User Group and Associated Development

This trail is to be designed for the less experienced hiker, although, there will be a diversity of users. More development on and along these trails is necessary to accommodate and inform the less experienced hikers. Benches are appropriate along these trails. Interpretation is encouraged. These trails are usually near a developed area and readily accessible to the public.

Grades

The optimum situation would be to have all high use trails at grades of 0 to 3 percent with a 10 percent maximum grade on short distances of 30 feet. Where grades exceed 10 percent, steps need to be provided.

Trail Width and Surface

Trail surfaces need to be hardened to accommodate the less experienced hiker and to protect the resource from anticipated high use.

Suitable surfaces are asphalt, crushed stone, soil cement, or concrete.

Trail width should be a minimum of 3 feet.

Trails

Thurmond-Minden Trail

Kaymoor Trail

Tunnel Trail

Level 3 - MEDIUM USE TRAILS

User Group and Associated Development

Since these trails are suited for a broader range of users, more use of structures is applicable such as simple bridges, steps, water bars, etc.

Trail Width and Surface

Trail width should be as narrow as possible depending on terrain conditions. A width of 18" to 36" is preferred.

Existing soil and organic matter should be the tread course with additional material added only as necessary to wet areas along the trail.

Grades

Grades should be easily hikeable, with maximum grade of 8 percent.

Trail Clearing

Vegetation is to be cleared to a height of 8 feet above the trail surface. Clearing width should only be as much as needed to provide unobstructed movement on the trail. Tree clearing to provide views should be utilized.

Trails

New River Bridge Trail	Cunard to Kaymoor Trail
Long Point Trail	Southside Junction to Brooklyn Trail
Glade Creek Trail	Southside Junction to T-M Connector
Turkey Spur Trail	Arbuckle Creek to T-M Connector
Castle Rock Trail	Kaymoor Miners Trail
Sandstone Falls Trail	Big Buck Trail
Woodland Loop Trail	Canyon Rim Trail

Level 4 - LOW USE TRAILS

User Group and Associated Development

Use of these trails is intended for the experienced hiker. Development along these trails should be kept to a minimum. Structures should only be used where absolutely essential. Fording streams or providing stepping stones would be preferable to bridges. The use of water bars, steps, etc. may be necessary to provide a usable trail.

Trail Width and Surface

The trail width should be as narrow as possible, depending on the condition of the terrain. Its width should allow passage on one hiker (18"-36" maximum).

Existing soil and organic matter should be used for tread surface with additional soil used only where necessary to fill wet spots along tread. Existing roads, railroad beds, and trails may only need brushing of debris on surface. If these existing beds are too wide, allow native vegetation to grow or revegetate a portion of the bed to create a narrower trail tread. Revegetation also allows for the screening of undesirable views.

Grades

A desirable range of grades would be 0 to 10 percent with a maximum sustained grades of 15 percent. A 20 percent grade would be acceptable for short distances up to 100 feet. More maintenance would be required on higher grades.

Trail Clearing

Vegetation should be cleared to a height of 8 feet above the trail surface. Clearing width should be only as much as needed to provide unobstructed movement along the trail. On scenic trails, tree clearing to provide views should be utilized.

Trails

Big Branch Trail
Kate's Falls Trail
Brooklyn Miner's Trail
Fayetteville Trail
Laing Loop Trail

Kate's Plateau Trail
Polls Plateau Trail
Brooklyn-Red Ash Trail
Brooklyn Mine Access Trail

APPENDIX 5

RARE PLANT SPECIES

Steel's meadow rue (Thalictrum steeleanum).
Mountain bittercress (Cardamine flagellifera).
Grass pink orchid (Calopogon pulchellus).
Sedge (Carex styloflexa).
Rose pogonia (Pogonia ophioglossoides).
Three-awn grass (Aristida purpurascens)
Slender dayflower (Commelina erecta)
Hairy tickseed (Coreopsis pubescens)
Spikerush (Eleocharis compressa)
Milk pea (Galactia volubilis)
McDowell's sunflower (Helianthus dowellianus)
Halberd-leaved mallow (Hibiscus militaris)
Two-flowered melic grass (Melica mutica)
Loomis' mountain mint (Pycnanthemum loomisii)
Torrey's mountain mint (Pycnanthemum torrei)
Globular beakrush (Rhynchospora globularis)
Toothcup (Rotala ramosior)
Virginia mallow (Sida hermaphrodita)
Hedge nettle (Stachys hispida)

Federally listed species found are:

Running buffalo clover (Trifolium stoloniferum)
Shale onion (Allium oxyphilum)
Butternut (Juglans cinerea)
Smoke Hole Bergamot (Monarda fistulosa brevis)
Alleghany Plum (Prunus alleghaniensis)
Rock Skullcap (Scutellaria saxatilis)
Virginia Spiraea (Virginia spiraea)

An partial list of rare or listed animal species for NERI includes:

Long-tailed shrew (Sorex dispar)
Pygmy shrew (Sorex hovi)
Star-nosed mole (Condylura cristata parva)
Small-footed myotis (Myotis leibii)
Northern Long-eared Bat (Myotis septentrionalis)
Indiana Bat (Myotis sodalis)
New England Cottontail (Sylvilagus transitionalis)
Rock vole (Microtus chrotorrhinus)
Golden mouse (Ochrotomys nuttalli)
Eastern harvest mouse (Reithrodontomys humulis)
Meadow jumping mouse (Zapus hudsonius)

Least weasel (Mustela nivalis)
Eastern Spotted Skunk (Spilogale putorius)
Bald eagle (Haliaeetus leucocophalus)
Peregrine Falcon (Falco peregrinus)
Swainson's warbler (Limnothlypis swainsonii)
Allegheny woodrat (Neotoma floridana magister)
Green salamander (Aneides aenus)
Blackbelly salamander (Desmognathus quadramaculatus)

**ADDENDUM
(SEPARATE DOCUMENT)**

TRAIL PROPOSALS/WORK LOGS

A separate document containing summary worklog information, trail worklogs, and maps has been completed. The National Park Service will use this information for construction of the designated trails. The worklogs are available for review at the New River Gorge National River headquarters in Glen Jean, WV.

this page left intentionally blank

inside of back cover

Back cover