

## 2.0 ALTERNATIVES

### 2.1 Introduction

The NPS has developed and evaluated four alternatives for the Nuttallburg Visitor Use Area. As required by NEPA the alternatives include the continuation of current management (also referred to as the “no action” alternative) and several action alternatives. The action alternatives reflect a range of options for providing visitor experiences and opportunities at the site. The four alternatives include:

- **Alternative 1** – Continuation of Current Management with Structure Stabilization (No Action Alternative)
- **Alternative 2** – Multiple Settings on Recreational Trails (Preferred Alternative and Environmentally Preferred Alternative)
- **Alternative 3** – Integrated Interpretive Destination
- **Alternative 4** – Historic and Cultural Cross Section of the Gorge

### 2.2 Emergency Cultural Resource Management Actions Underway or Recently Completed at the Nuttallburg Visitor Use Area

The NPS is currently completing numerous emergency management actions that are providing short-term stabilization of historic buildings and structures at the Nuttallburg Mining Complex and town of Nuttallburg site. NEPA compliance required for these actions was completed prior to their implementation. Section 7 Coordination with the U.S. Fish and Wildlife Service regarding potential impacts to designated species was also completed. The short-term stabilization actions include the following:

#### **Nuttallburg Mining Complex**

Emergency and short-term stabilization activities needed to ensure the structural stability of the tipple, conveyor, headhouse, adjacent coke ovens, and foundation ruins, including:

- vegetation clearing
- drainage improvements
- concrete foundation repairs
- structural steel repairs
- replacement of roofing and siding required to shield the steel structure from the elements

#### **Town of Nuttallburg Site**

- removal of invasive plant vegetation (Kudzu and Japanese knotweed) covering much of the town ruins

#### **Nuttallburg Tipple Trail (NPS administrative road)**

- grading and gravel placement to enable four-wheel drive vehicle access for maintenance and emergencies
- reconstruction of the Short Creek Bridge

### **Keeney Creek Branch Line Trail (NPS administrative road)**

- grading and gravel placement to enable four-wheel drive vehicle access for maintenance and emergencies
- re-decking and installation of handrails on the four trestle bridges

### **Nuttallburg Mine Trail (NPS Administrative Road)**

- grading and gravel placement to enable four-wheel drive vehicle access for maintenance and emergencies

## **2.3 Alternative 1 – Continuation of Current Management with Structure Stabilization (No Action Alternative) (see Figure 2.1)**

### **■ Concept**

*Alternative 1 proposes completion of projects that are underway, including long-term stabilization of key mining complex structures and administrative road improvements to provide maintenance access to the site's historic resources. In the future additional long-term stabilization measures would be implemented, as funding becomes available, to further protect historic resources, and to enhance visitor safety. No further improvements to the Nuttallburg Visitor Use Area would occur. Maintenance would continue at current levels.*

Key future actions included in Alternative 1 include the following:

### **■ Cultural and Natural Resource Management**

- stabilize tipple (long-term stabilization)
  - ✓ repairs to the silo upper structure
  - ✓ repair delamination of the concrete retaining wall
  - ✓ repair damage to the stone retaining walls
  - ✓ securely attach and support the loading room conveyors
  - ✓ stabilize tipple and silo machinery
  - ✓ remove accumulated rust
  - ✓ repair/replace corrugated metal siding and roofing
  - ✓ remove temporary shoring
- stabilize headhouse (long-term stabilization)
  - ✓ repair delamination of the concrete retaining wall
  - ✓ repair the corroded beam at the lower stair
  - ✓ stabilize the automatic crossover dump for rail cars
  - ✓ remove accumulated rust and coal dust
  - ✓ repair/replace corrugated metal siding and roofing

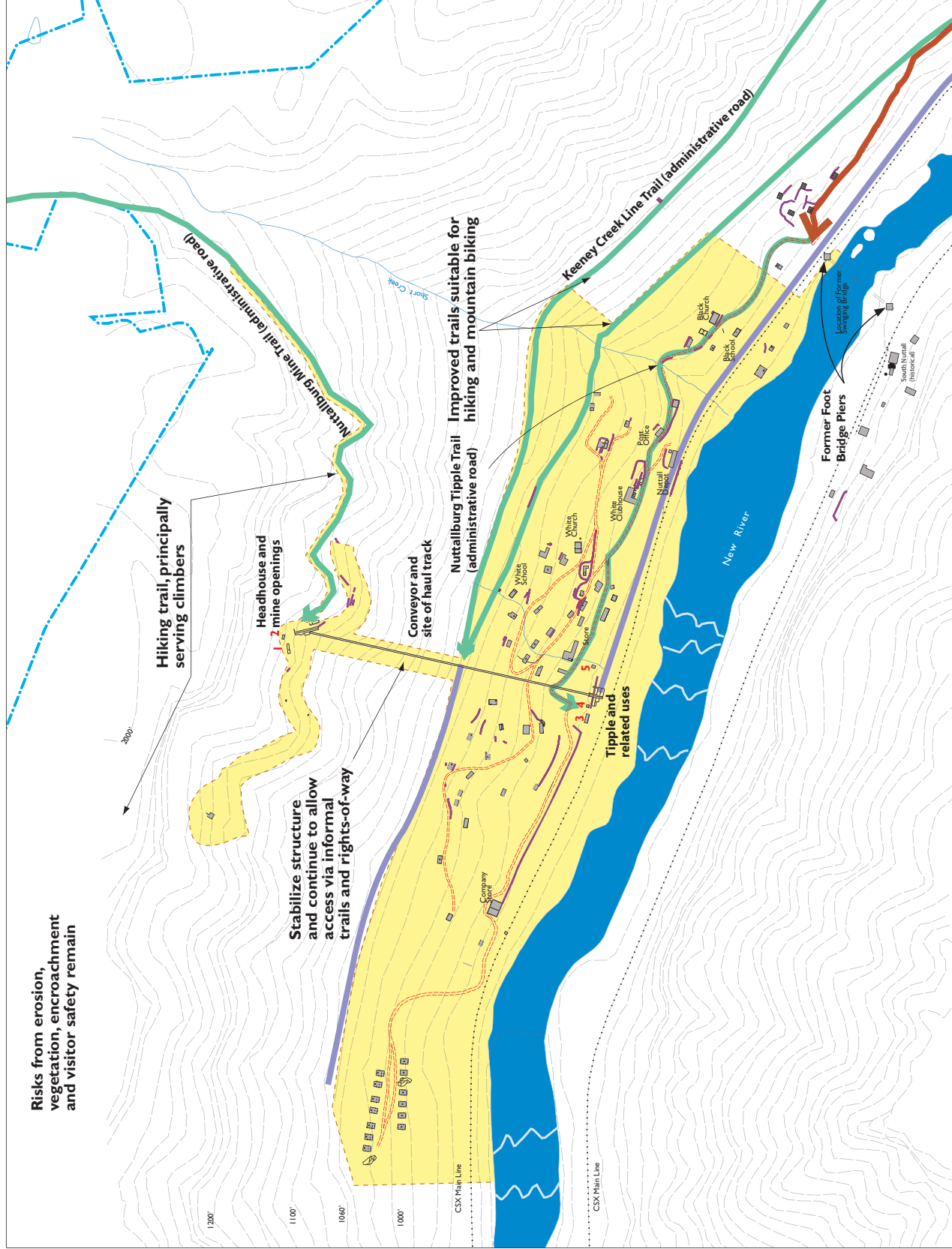


FIGURE 2.1

**Alternative 1 - Continuation of Current Management**

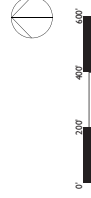
**(No Action Alternative)**

**Stabilize conveyor structure and continue to allow access via informal trails and rights-of-way**

- |                                                                       |  |
|-----------------------------------------------------------------------|--|
| New River Gorge National River Boundary                               |  |
| Mining Complex and Town Site Historic District (National Significant) |  |
| Roads                                                                 |  |
| Keeney Creek Road/ Route 852                                          |  |
| Existing NPS Trail/Administrative Road                                |  |
| Active Rail Line (CSX Main Line)                                      |  |
| Historic Railroad Right-of-Way                                        |  |
| Retaining Wall                                                        |  |
| Road Traces of Naturalburg                                            |  |
| Foundation Ruins / Various Buildings                                  |  |
| 1. Shobern House                                                      |  |
| 2. Shobern House                                                      |  |
| 3. Sand House                                                         |  |
| 4. Relief Bin                                                         |  |
| 5. Well House                                                         |  |
| Buildings                                                             |  |

**Note:** Some parking occurs at the Switchback and Keeney Creek Road intersection, near the former Black Church, but none of this parking is improved. This alternative introduces no improved or additional parking.

**Nuttallburg Visitor Use Area  
Implementation Plan**  
New River Gorge National River



- ✓ stabilize conveyor (long-term stabilization)
  - ✓ repair corroded, bent or missing diagonal steel angle bracing at the bases of the framing bents
  - ✓ repair column bases to establish proper bearing connections where columns are corroded or sheared off
  - ✓ repair roofing where heavily corroded or damaged
  - ✓ replace siding where needed
  - ✓ remove button cable along the length of the conveyor and install button cable ends
  - ✓ remove accumulated rust and coal dust
  - ✓ remove temporary shoring
  - monitor major structural elements to identify other potential risks of collapse that would jeopardize integrity
  - implement minor management actions to protect foundations and other remains and artifacts at the town site and within the mining complex area adjacent to the tipple, conveyor, and headhouse
  - monitor vegetation that risks danger to the major structural elements of the mining complex and periodically prune or remove as required to guard against further encroachment damage
  - periodically remove non-native invasive vegetation that is damaging resources
- **Visitor Use and Visitor Experience Improvements**
- provide no additional visitor facilities
  - provide no additional interpretive signage
  - limit information about Nuttallburg to that already in park overview literature
  - include safety and informational signage on the Nuttallburg Tipple Trail, Nuttallburg Mine Trail, and the Keeney Creek Branch Line Trail
- **Park Facilities and Operations Improvements**
- maintain trails (administrative roads) as required for maintenance and emergency access
  - maintain existing on-site staff or ranger activities

### 2.4 Management Actions Common to the Three Action Alternatives (Alternatives 2, 3, 4)

The three action alternatives (Alternatives 2, 3, 4) reflect differing approaches to the scale and location of improvements based on the balance among historical and cultural resource preservation, natural resource conservation, site interpretation, and recreational use of the site.

- **Common Resource Protection Objectives of the Action Alternatives**
- protect and enhance the remaining elements of the Nuttallburg Mining Complex, related significant rail rights-of-way, and remains of the town of Nuttallburg
  - design improvements to the site and structure the visitor experience to avoid adverse impacts to designated species

- periodically remove invasive vegetation from the town site and from colliery structures

■ **Common Visitor Use and Visitor Experience Objectives of the Action Alternatives**

- enable visitors to understand and appreciate how the geology of the New River Gorge formed upper level coal seams that are accessible only with great difficulty
- enable visitors to understand and appreciate the ingenuity and innovation that was required to mine coal from the New River Coal Field and transport it to market
- enable visitors to understand and appreciate how the Nuttallburg Mine played a role in the vertical integration of industry pioneered by Henry Ford in the 1920s
- enable visitors to understand the harsh conditions that prevailed for miners and the mining community of Nuttallburg and to appreciate the cultural heritage of residents of similar communities throughout New River Gorge
- expand recreation users' appreciation of the cultural heritage of the gorge and its industry
- take advantage of the historic rail grades and historic road traces site to connect to and enhance the overall trail system at New River Gorge National River
- provide a variety of ways for visitors to safely experience the site's resources, recognizing differing physical and athletic capacities of visitors, as well as varying attention spans and length of stay in this part of the park
- prohibit motorized vehicles from intruding upon or damaging sensitive resources

■ **Common Park Operations and Park Facilities Objectives of the Action Alternatives**

- provide, to the degree feasible within site and resource constraints, support facilities commensurate with intended and projected levels of use – including parking, restrooms, and visitor contact facilities
- achieve desired conditions for natural and man-made resources of the site that are feasible to be maintained by NPS

**2.5 Alternative 2 – Multiple Settings on Recreational Trails (Preferred Alternative) (see Figure 2.2)**

■ **Concept**

*Alternative 2 proposes visitor support improvements to the trail system serving Nuttallburg accompanied by interpretation of key stabilized elements of the mine, which would become a visitor destination for these trails and may be further rehabilitated in the future. Trees would be cleared along the conveyor length.*

Alternative 2 treats the key elements of the mining complex as destinations along recreational trails that connect to the lower, upper, and middle levels of the site. This approach focuses rehabilitation on the dominant structures on the site - the tippie, headhouse, conveyor, and other key contributing resources, including the bank of coke ovens, selected associated mine structures at the top and bottom of the gorge, and the historic rail line corridors in the site. The overall sense of the resource would be that of an industrial complex and related settlement that has been largely taken over by nature, but whose key elements remain visible, encouraging visitors to undertake independent discovery of various ruins and remains in the area.

The three existing trails would provide access to the upper, middle, and lower levels of the Mining Complex. The trail from the upper level would terminate at the headhouse and mine bench level. At the middle level, the trail would lead to the conveyor mid-point support structure and would connect to traces of the town road system. The trail at the lowest level would lead to the tipple, coke ovens, and remains of the town. No vertical connection would be provided along the steep slope between the headhouse and the middle level. As a result the headhouse and tipple areas would include overview interpretation of the overall Nuttallburg Mining Complex to enable visitors to appreciate its significance and scale.

A trailhead would be provided for each trail, including parking, a vault toilet (except at the Switchback parking area), and directional signage (Figures 2.3, 2.4, 2.5, and 2.6). The vault toilet would be a small concrete structure with two toilet stalls built over a sealed container buried in the ground; waste collected in the underground vault would be completely contained until removed by pumping.

Although overview interpretation would be provided at the headhouse and tipple areas, the interpretive focus in this alternative would be at the lower level. Some of the former road traces in the company town of Nuttallburg would be stabilized and maintained to enable visitors to understand the scale and scope of the former mining settlement, while focusing the primary interpretive emphasis on the tipple, rail loading area, coke oven bank, mining support structures, and remains of key community buildings in this area. All foundation remains would be protected from further deterioration by removal of intrusive vegetation and diversion of drainage, while for a small number of buildings of community-wide significance (e.g. the company store, white and black churches and schools, clubhouses, and support facilities in the tipple area), masonry foundation remains would be rehabilitated and former building outlines would be delineated with landscape treatment to highlight the extent and importance of these former buildings.

In this alternative, one or two coke ovens immediately adjacent to the tipple would be rehabilitated in order to allow visitors to appreciate the operation of these early ovens and the relationship of the coking operation to coal unloading and transport. Rehabilitation of these coke ovens would help visitors understand the evolution of the site and would encourage interest in understanding the site. A trail connection would be provided below the bank of coke ovens between the tipple and the company store.

In the area of the town, as well as at the tipple, headhouse, and mid-level of the conveyor, a limited number of wayside exhibits would be installed to help visitors understand the scope of the Mining Complex, the inter-relationship of its parts, and the social implications of town on workers and their families. Appropriate informational and safety signage would be provided at the trailheads as well as within the complex.

Vegetation would be managed, as required to stop further deterioration of foundation remains, to eliminate invasive species, to keep the major road traces in the former town accessible to visitors, and to eliminate growth threatening the structure of the conveyor, tipple, and headhouse structures.

In addition to the actions included in Alternative 1, key future actions in Alternative 2 include the following:

- **Cultural and Natural Resource Management (in addition to actions included in Alternative 1)**
  - rehabilitate foundation masonry for a limited number of structures associated with community life in the former town of Nuttallburg
  - rehabilitate one or two representative coke ovens adjacent to the tipple
  - rehabilitate and maintain traces of major town roads as stabilized trails to enable self-guided visitor circulation among interpreted town remains

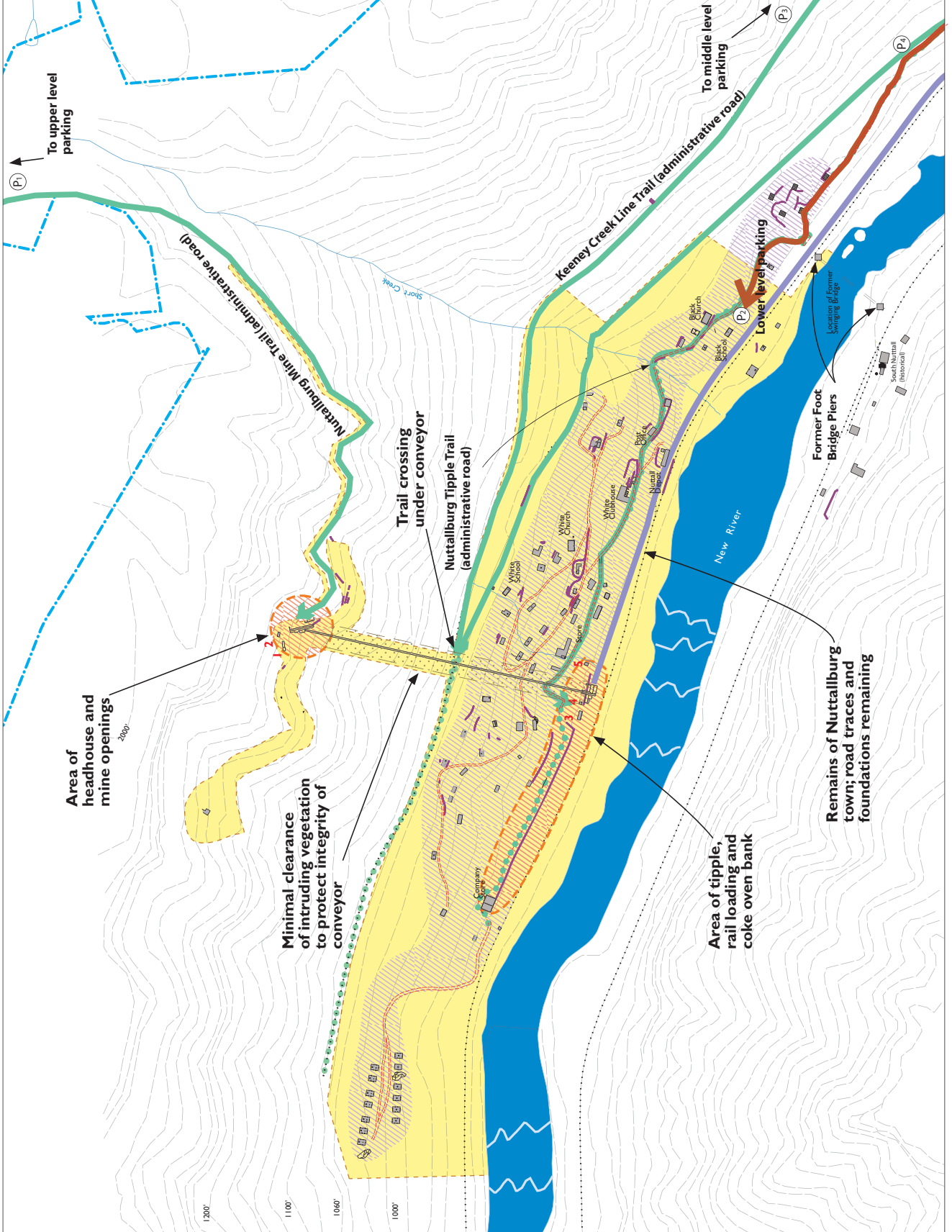


FIGURE 2.2

## Alternative 2 - Multiple Settings on Recreational Trails

(Preferred Alternative)

Rehabilitate nationally significant elements of the mine as destinations for trail system

- New River Gorge National River Boundary
- Mining Complex and Town Site Historic District (Nationally Significant)
- Roads
- Keeney Creek Road/ Route 85/2
- Existing NPS Trail/Administrative Road
- New Trails
- Active Rail Line (CSX Main Line)
- Historic Railroad Right-of-Way
- Retaining Wall
- Road Traces of Nuttallburg
- Area where trees will be thinned
- Primary settings for interpretation
- Secondary settings for interpretation
- Foundation Ruins / Various Buildings
  - 1. Hoist House
  - 2. Hoist House
  - 3. Sand House
  - 4. Hoist House
  - 5. Well House
- Rapids
- Upper Level Parking
- Lower Level Parking
- Middle Level Parking
- Switchback Level Parking

Nuttallburg Visitor Use Area Implementation Plan  
New River Gorge National River



FIGURE 2.3

**Alternatives 2, 3 and 4  
Upper Parking Area  
Concept Plans - (P1)**

Nuttallburg Visitor Use Area  
Implementation Plan  
New River Gorge National River

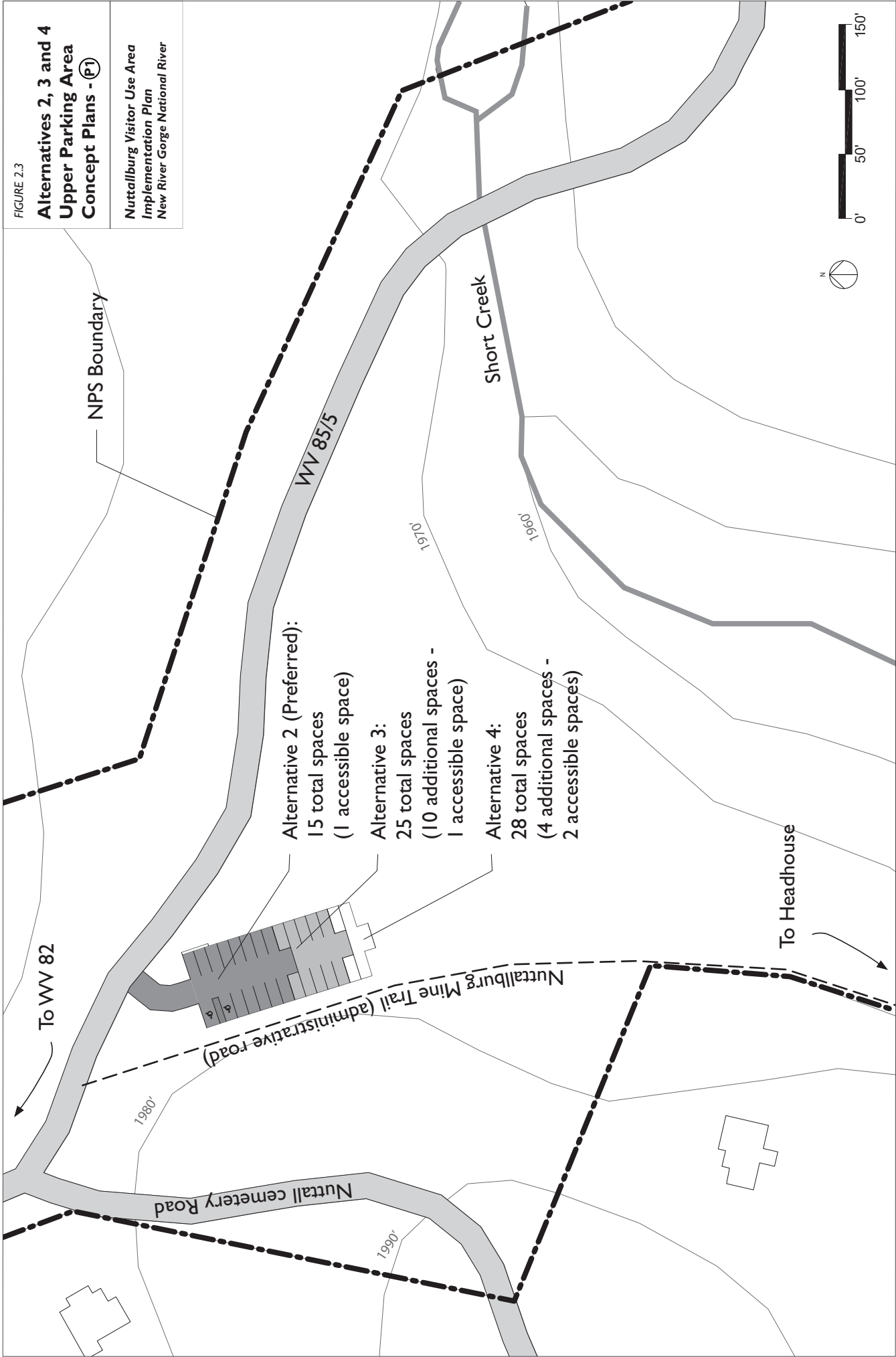




FIGURE 2.4

**Alternatives 2, 3 and 4  
Middle Parking Area  
Concept Plans - (P3)**

**Nuttallburg Visitor Use Area  
Implementation Plan  
New River Gorge National River**

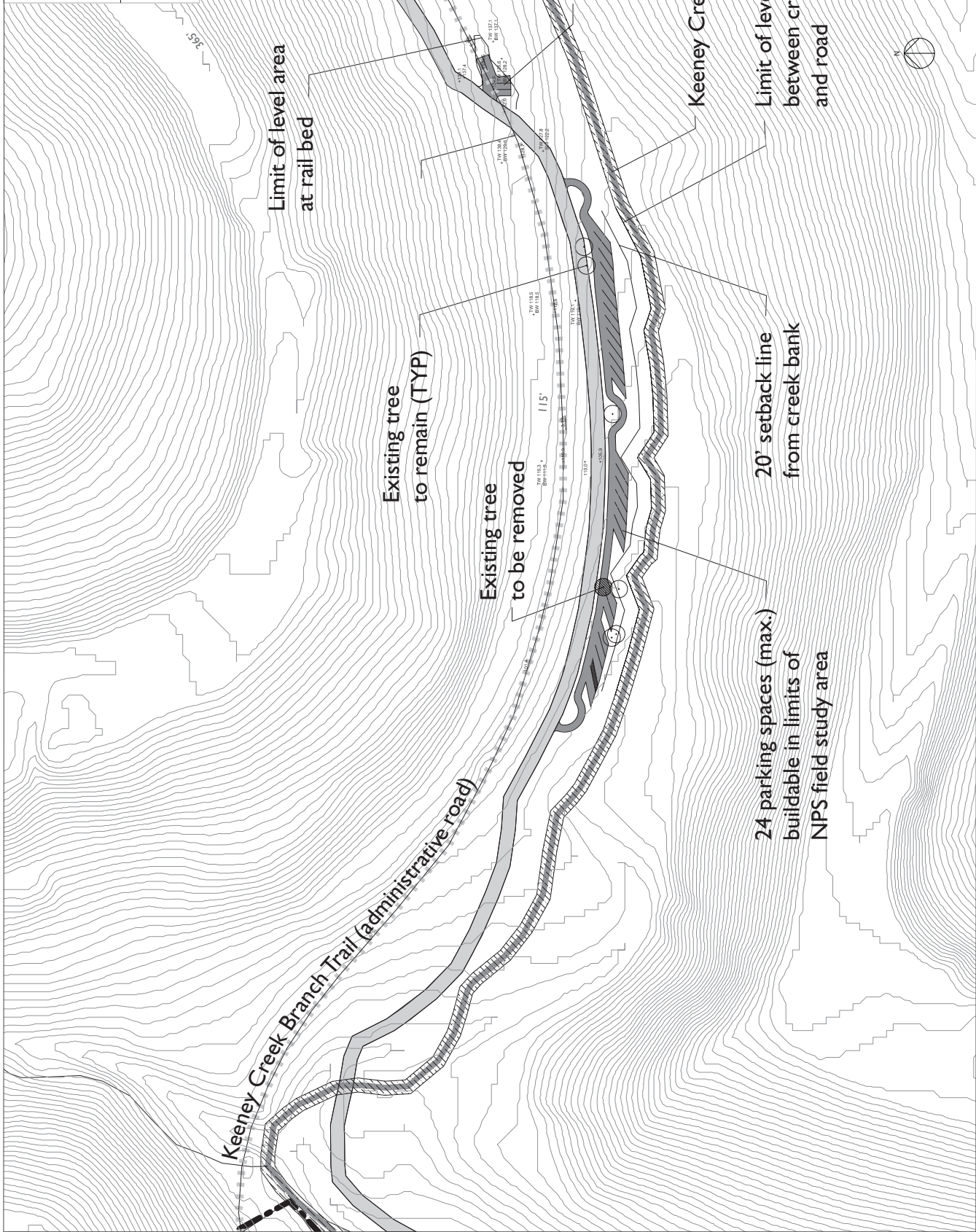
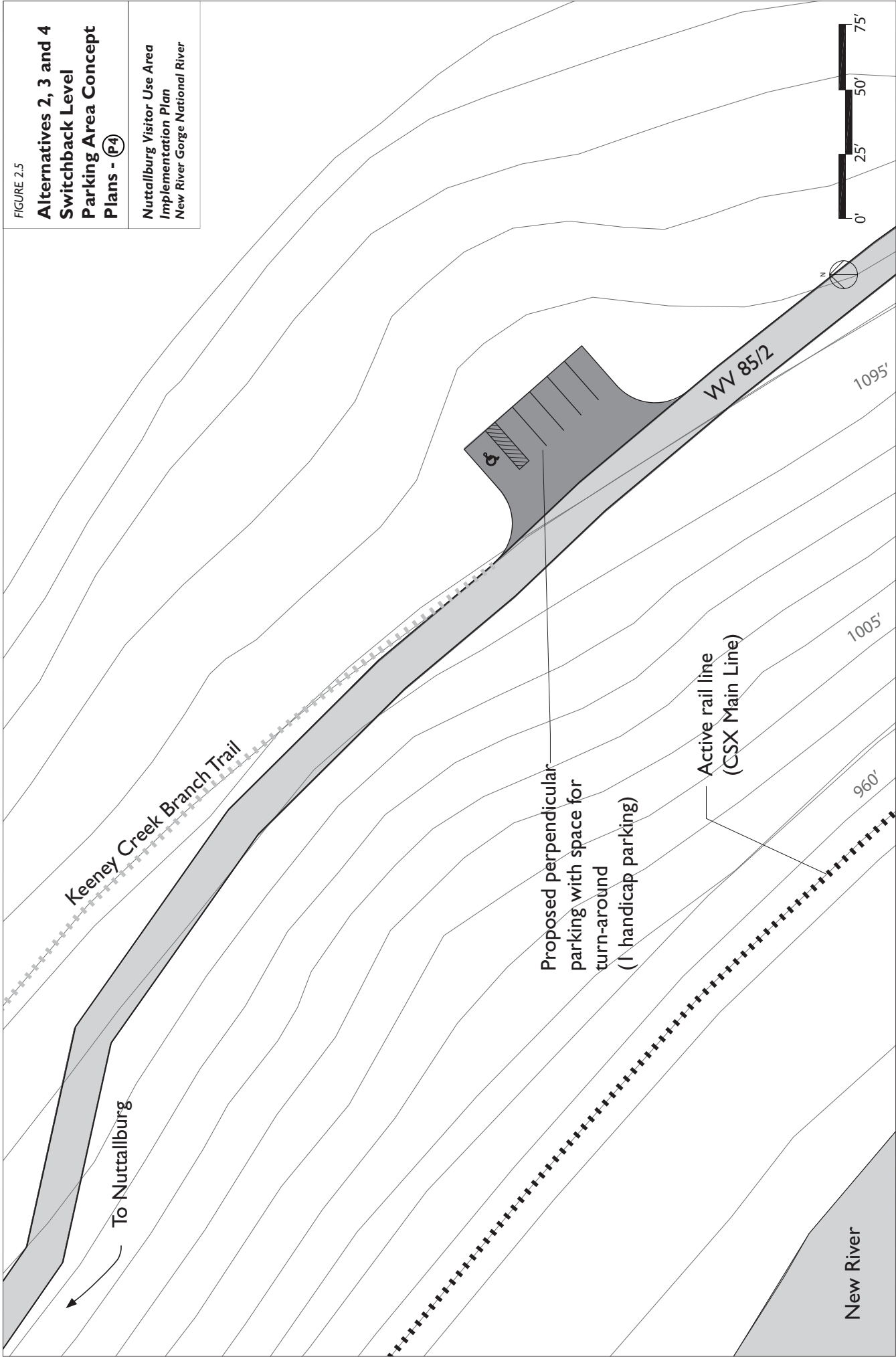
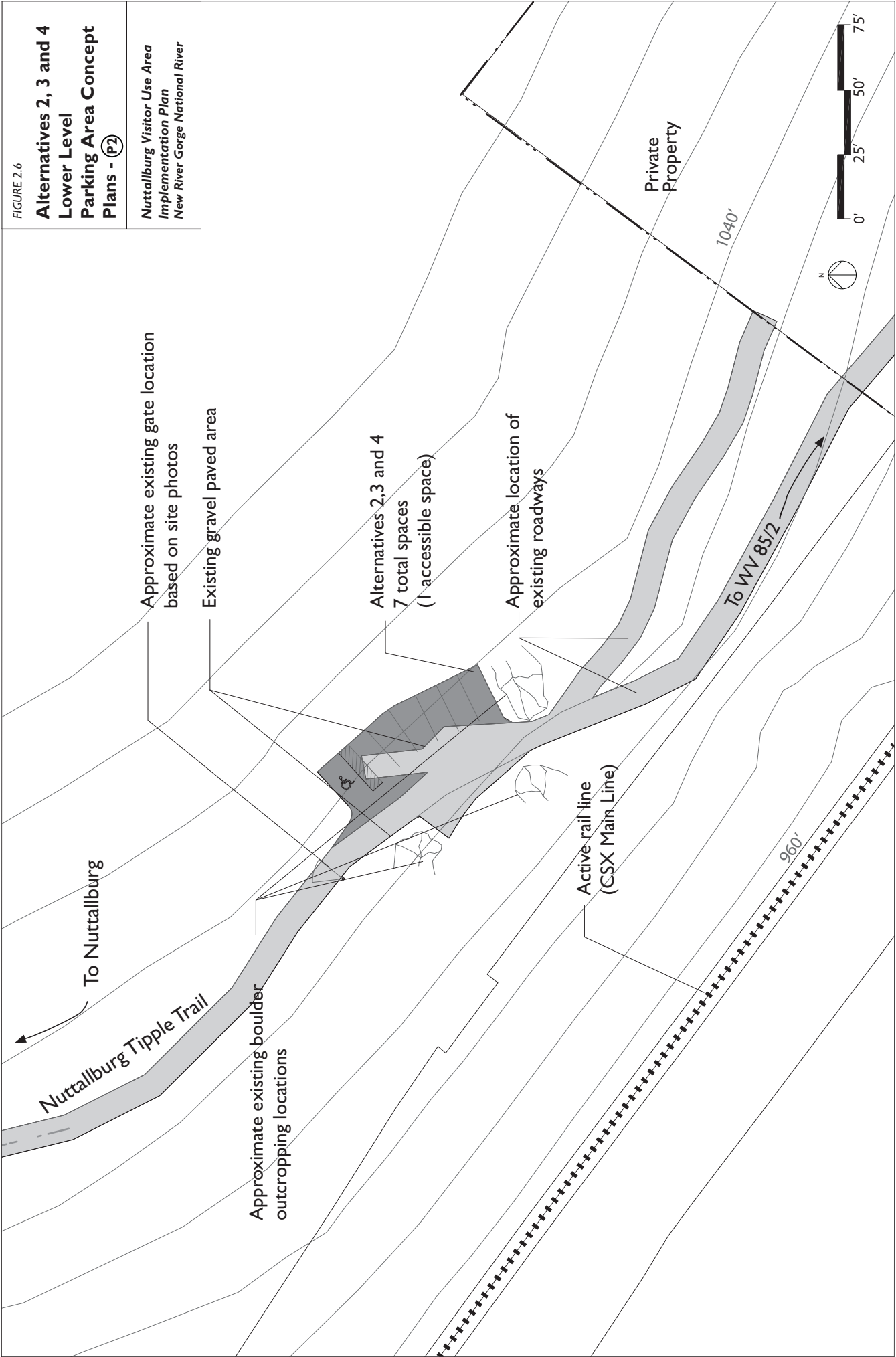


FIGURE 2.5

**Alternatives 2, 3 and 4  
Switchback Level  
Parking Area Concept  
Plans - (P4)**

Nuttallburg Visitor Use Area  
Implementation Plan  
New River Gorge National River





### ■ Visitor Use and Visitor Experience Improvements

- provide a trail connection below the bank of coke ovens between the tipple and the company store
- provide information and safety signage as required along trails and within the site
- install introductory waysides at each of four trailheads
- include overview interpretation of the mining complex at the headhouse and tipple
- install a limited number of wayside exhibits to help visitors understand the scope of the mining complex, focusing the interpretation effort in the town of Nuttallburg and around the tipple and surrounding elements, including the coke oven bank, the rail loading area, other associated mining structures, and representative community institutions
- outline building footprints to delineate historical context for significant site elements, for selected buildings in focus areas

### ■ Park Facilities and Operations Improvements

- provide trailhead parking (gravel surface) to accommodate the slightly increased number of visitors who would be attracted to the site because of expanded visitor experience opportunities (see Figures 2.3, 2.4, 2.5 and 2.6):
  - ✓ at Nuttallburg Mine Trail – approximately 15 spaces serving the headhouse area (Upper Parking Area)
  - ✓ at Keeney Creek Branch Line Trail intersection with Keeney Creek Road – approximately 29 spaces serving the middle level (including a connector trail between the two areas) (Middle Parking Area)
  - ✓ at rail switchback intersection with Keeney Creek Road – approximately 6 spaces serving the middle level (Switchback Level Parking Area)
  - ✓ at lowest level of Keeney Creek Road – approximately 7 spaces serving the town site and tipple (Lower Parking Area)
- install vault toilets at the upper, middle, and lower level parking facilities
- maintain trails through townsite and along coke ovens to frontcountry trail standard
- maintain Keeney Creek, Nuttallburg Mine, and Nuttallburg Tipple Trails as administrative roads for use by four-wheel drive maintenance vehicles

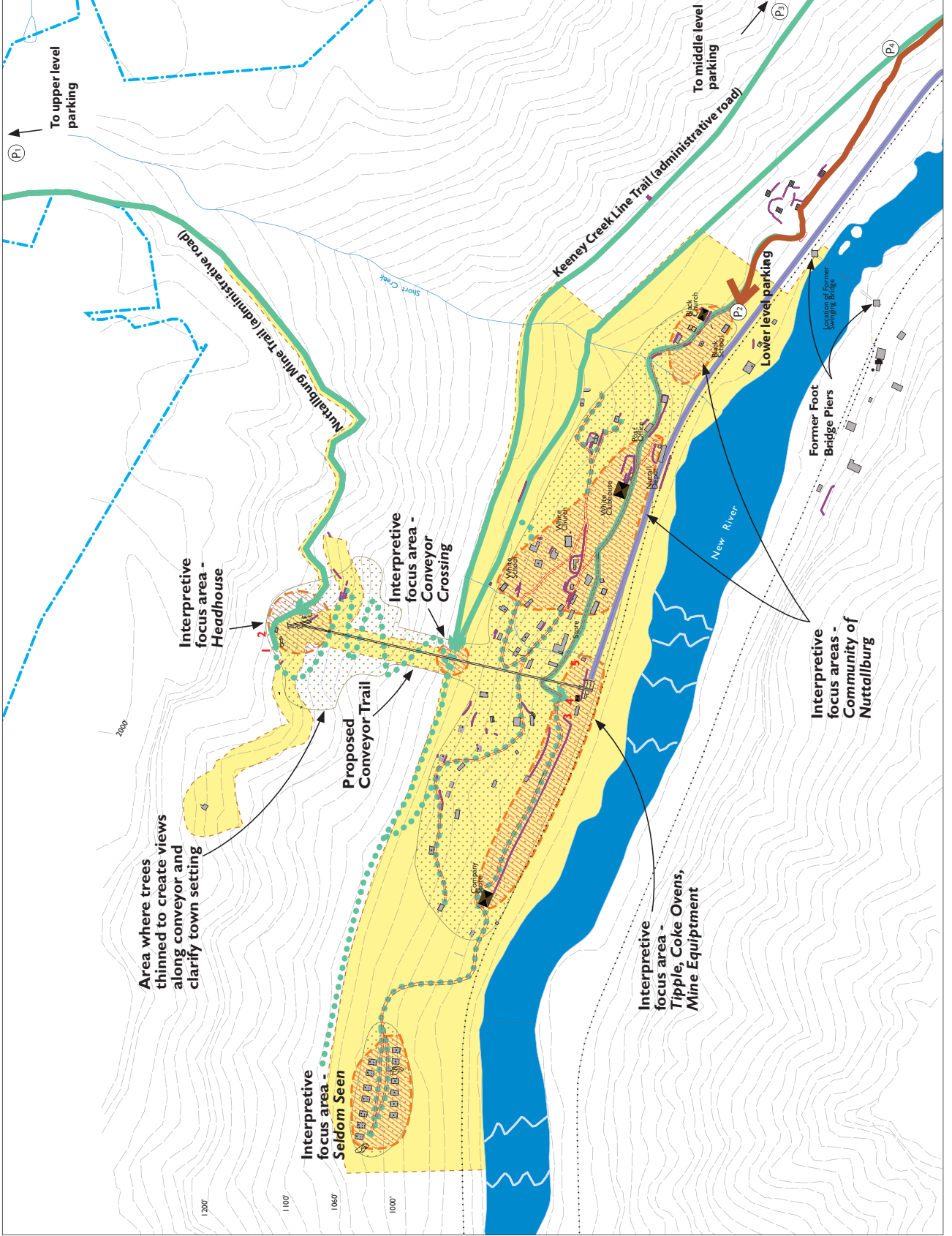
## 2.6 Alternative 3 – Integrated Interpretive Destination (see Figure 2.7)

### ■ Concept

*Alternative 3 proposes a new trail connection between the headhouse and the Nuttallburg town site. This would create a view and access corridor that would expand the interpretive potential of the site and enhance the visitor experience by connecting the mining structures from top to bottom. In addition, all major town roads would be cleared and maintained as trails, providing access within the former town of Nuttallburg and enabling expanded interpretation of the settlement. Tree thinning would occur in the headhouse area, along the conveyor length, and at the Nuttallburg and Seldom Seen sites.*

This alternative would encompass most of the physical improvements to the site described in Alternative 2, but would expand the site treatment to provide more comprehensive interpretation and visitor access, vertically connecting the site as well as interpreting more fully the town, its key





**FIGURE 2.7**

**Alternative 3 - Integrated Interpretive Destinations**

**Trail connection between headhouse and Nuttallburg town site; with expanded interpretation and visitor experience**

**New River Gorge National River Boundary**

**Mining Complex and Town Site Historic District (Nationally Significant)**

**Roads**

**Keeney Creek Road / Route 852**

**Improved Trails**

**New Trails**

**Active Rail Line (CSX Main Line)**

**Historic Railroad Right-of-Way**

**Retaining Wall**

**Road Traces of Nuttallburg**

**Interpretive focus areas**

**Area where trees will be thinned**

**Foundation Ruins / Various Buildings**

**1. Substation**

**2. Hoist House**

**3. Refectory**

**4. Refectory**

**5. Well House**

**Interpretive Structure**

**Rapids**

**Upper Level Parking**

**Lower Level Parking**

**Middle Level Parking**

**Switchback Level Parking**

**Nuttallburg Visitor Use Area Implementation Plan**

**New River Gorge National River**

structures, and more scattered elements, such as the remains in the Seldom Seen area at the westerly edge of the former town. All former road traces within the town would be cleared, allowing visitors to understand the structure of the former settlement. A new hiking trail would be provided on the steep slope between the headhouse and conveyor midpoint, enabling visitors to go from top to bottom of the mining complex. The overall sense of the site would be that of an industrial complex and company town whose elements and their relationships are visible, accessible, and comprehensible.

Overview site interpretation would be provided at the headhouse, conveyor midpoint, and tipple, although the connection of these areas to one another would necessitate more specialized interpretation at each of these settings: visitors would be encouraged to spend more time at the site than for Alternative 2 and would have the opportunity to follow the length of the mine structure.

A trailhead would be provided for each trail, including parking, a vault toilet, and directional signage (Figures 2.3, 2.4, 2.5, and 2.6).

The primary interpretive experience would combine visual appreciation of the scale of the vertical conveyor system and the horizontal breadth of the town remains along the river. The headhouse, conveyor, tipple, rail loading area, coke oven bank, mining support structures, and remains of key community buildings in this area would be interpreted by waysides at trailheads and throughout the town. All foundation remains would be protected from further deterioration by removal of intrusive vegetation and diversion of drainage, while for all buildings of community-wide significance (e.g. – company store, white and black churches and schools, clubhouses, support facilities in the tipple area and the selected housing structures within the town and at Seldom Seen), masonry foundations would be rehabilitated and former building outlines would be delineated with landscape treatment to highlight the extent of these buildings.

In this alternative, a bank of ten coke ovens in the tipple area would be rehabilitated in order to allow visitors to appreciate the scale and repetitive character of these early ovens and the relationship of the coking operation to the unloading of coal and its transport. A trail connection would be provided below the bank of coke ovens between the tipple and the company store.

In addition to site wayside exhibits, several interpretive focus areas would be developed, located in sites where foundations and artifacts can convey key elements of the Nuttallburg story. These would include the tipple and coke ovens, the headhouse, the company store, and community building complexes.

Vegetation would be managed, as required to stop further deterioration of foundation remains, to eliminate invasive species, to keep the major road traces in the former town accessible to visitors, and to eliminate growth threatening the structure of the conveyor, tipple, and headhouse structures. Trees along the conveyor and within the headhouse area would be thinned, enabling visitors to see from top to bottom of the mining complex as well as across the gorge. Trees within the Nuttallburg town site and the Seldom Seen site would also be thinned, enabling visitors to better understand the historic development pattern.

In addition to the actions included in Alternative 1, key future actions in Alternative 3 include the following:

- **Cultural and Natural Resource Management (in addition to actions included in Alternative 1)**
  - rehabilitate foundation masonry for a limited number of structures associated with community life in the former town of Nuttallburg (as in Alternative 2)
  - rehabilitate and maintain all town road traces as stabilized trails to enable guided visitor circulation among thoroughly interpreted town remains

- rehabilitate a bank of up to ten coke ovens in order to allow visitors to appreciate the scale and evolution of the mining process

■ **Visitor Use and Visitor Experience Improvements**

- provide a trail connection below the bank of coke ovens between the tippie and the company store (as in Alternative 2)
- develop a new trail connection between the headhouse and the Nuttallburg town site (the Conveyor Trail)
- thin trees along the conveyor length (to provide top to bottom views) (as in Alternative 2)
- thin trees in the headhouse area (to provide views across the gorge)
- thin trees throughout the Nuttallburg town site and the Seldom Seen site (to enable visitors to better understand the historic development patterns)
- provide information and safety signage as required along trails and within the site (as in Alternative 2)
- install introductory waysides at each of four trailheads (as in Alternative 2)
- include overview interpretation at the headhouse and tippie (as in Alternative 2), at the midpoint of the conveyor, at the coke oven bank, at the rail loading area, and at other associated mining structures and town remains
- install wayside exhibits as defined in Alternative 2, plus additional exhibits focused on the mine and community social institutions to help visitors understand the scope of the mining complex and to guide them in grasping its social organization and Nuttallburg's relationship to the culture of New River communities
- outline building footprints to delineate historical context for selected buildings in focus areas (as in Alternative 2)

■ **Park Facilities and Operational Improvements**

- provide trailhead parking (gravel surface) to accommodate the moderately increased number of visitors who would be attracted to the site because of expanded visitor experience opportunities (see Figures 2.3, 2.4, 2.5 and 2.6):
  - ✓ at Nuttallburg Mine Trail – approximately 25 spaces serving the headhouse area (Upper Parking Area)
  - ✓ at Keeney Creek Branch Line Trail intersection with Keeney Creek Road – approximately 29 spaces serving the middle level (including a connector trail between the two areas) (Middle Parking Area)
  - ✓ at rail switchback intersection with Keeney Creek Road – approximately 6 spaces serving the middle level (Switchback Level Parking Area)
  - ✓ at lowest level of Keeney Creek Road – approximately 7 spaces serving the town site and tippie (Lower Level Parking Area)
- install vault toilets at the upper, middle, and lower level parking facilities (as in Alternative 2)
- maintain trails as administrative roads for use by four-wheel drive maintenance vehicles (as in Alternative 2)

### 2.7 Alternative 4 – Historic and Cultural Cross Section of the Gorge (see Figure 2.8)

#### ■ Concept

*This approach incorporates the improvements defined in Alternative 3, but expands upon this interpretive concept to create a connection between Nuttallburg and Kaymoor by providing a footbridge across the river and the CSX Main Line. The connection would not only link two important and nearby cultural resources, but would also provide a way for visitors to experience a setting that includes both sides of the gorge and their shared industrial heritage – from top to bottom – encompassing a full range of recreational, natural, historic, and cultural resources. Tree thinning would occur in the headhouse area, along the conveyor length, and at the Nuttallburg and Seldom Seen sites.*

The core feature of this concept would be the visitor experience of connecting trail through the Nuttallburg site, crossing the gorge, and continuing along the south side of the river to the Miners Trail. The new footbridge over the river and CSX Main Line could be a suspension structure that would reintroduce a connection originally provided by the “swinging bridge” that was part of the Nuttallburg. The link would provide a rim to rim experience that is lacking in the remainder of the park and would also offer opportunities to observe and take part in other major recreational activities characteristic of the gorge such as climbing, hiking, paddling, and fishing. In order to connect the bridge to Kaymoor, a trail between the bridge landing and the Kaymoor tipple area would be required.

Alternative 4 would also emphasize bench level trails on either side of the river, due to their strong association with mining operations and their potential for upper level access along the gorge.

A trailhead would be provided for each trail, including parking, a vault toilet, and directional signage (Figures 2.3, 2.4, 2.5, and 2.6).

The interpretation in this alternative would include all elements defined in Alternative 3, but would be expanded to relate the two mining complexes to one another, as well as to explain in more depth the relationship of industry to the natural phenomena of the gorge.

In addition to wayside exhibits, several interpretive focus areas would be developed, located in sites where foundations and artifacts can convey key elements of the Nuttallburg story. These would include the tipple and coke ovens, the headhouse, the company store, and community building complexes.

As in Alternative 3, vegetation would be managed, as required to stop further deterioration of foundation remains, to eliminate invasive species, to keep the major road traces in the former town accessible to visitors, and to eliminate growth threatening the structure of the conveyor, tipple, and headhouse structures. Trees along the conveyor and within the headhouse area would be thinned, enabling visitors to see from top to bottom of the mining complex as well as across the gorge. Trees within the Nuttallburg town site and the Seldom Seen site would also be thinned, enabling visitors to better understand the historic development pattern.

In addition to the actions included in Alternative 1, key future actions in Alternative 4 include the following:

- **Cultural and Natural Resource Management (in addition to actions included in Alternative 1)**
  - rehabilitate foundation masonry for key remains associated with community life in the former town of Nuttallburg (as in Alternatives 2 and 3)
  - rehabilitate and maintain all town road traces as stabilized trails to enable guided visitor circulation among thoroughly interpreted town remains (as in Alternative 3)

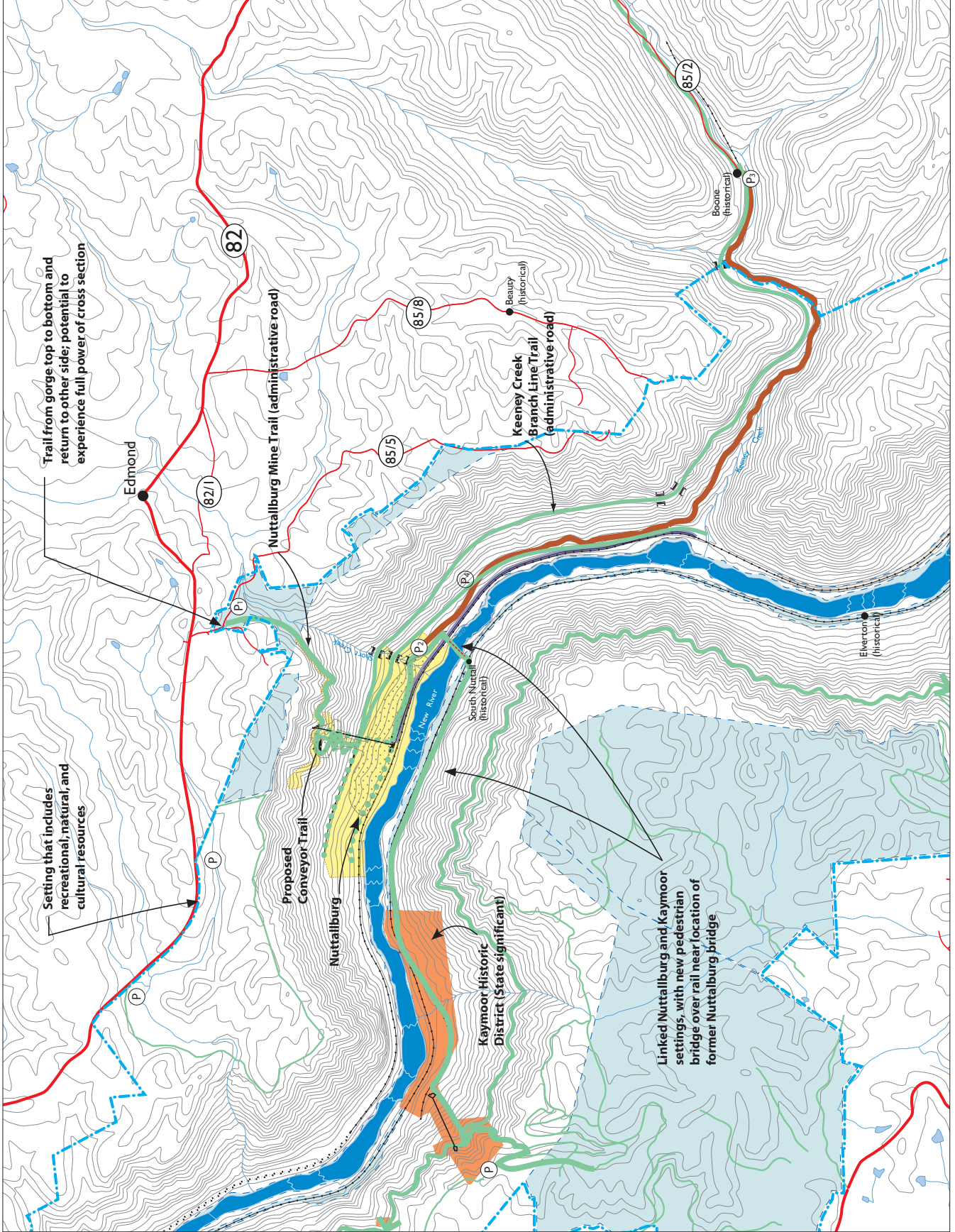


FIGURE 2.8

## Alternative 4 - Historic and Cultural Cross Section of the Gorge

Experience full height of  
gorge in an area that  
includes a wide range of  
significant resources

- New River Gorge National River
- Boundary
- Mining Complex and Town Site
- Historic District  
(nationally significant)
- Non-Federal Land
- Roads
- Keeney Creek Road/ Route  
852
- Trails
- Historic Railroad Right-of-Way
- Active Rail Line (CSX Main Line)
- Upper Level Parking
- Lower Level Parking
- Middle Level Parking
- Switchback Parking
- Area of Tree Thinning
- Rapids



Nuttallburg Visitor Use Area  
Implementation Plan  
New River Gorge National River

- rehabilitate a bank of up to ten coke ovens in order to allow visitors to appreciate the scale and evolution of the mining process (as in Alternative 3)

### ■ Visitor Use and Visitor Experience Improvements

- provide a trail connection below the bank of coke ovens between the tippie and the company store (as in Alternatives 2 and 3)
- develop a new trail connection between the headhouse and the Nuttallburg town site (the Conveyor Trail) (as in Alternative 3)
- develop a new trail connection for the lower parking facility to Kaymoor (connecting to the existing Miners Trail on river left), including construction of a footbridge near the site of the historic “swinging bridge”
- thin trees along the conveyor length (to provide top to bottom views) (as in Alternatives 2 and 3)
- thin trees in the headhouse area (to provide views across the gorge) (as in Alternative 3)
- thin trees throughout the Nuttallburg town site and the Seldom Seen site (to enable visitors to better understand the historic development patterns) (as in Alternative 3)
- provide information and safety signage as required along trails and within the site (as in Alternatives 2 and 3)
- install introductory waysides at each of four trailheads (as in Alternatives 2 and 3)
- include overview interpretation at the headhouse and tippie (as in Alternative 2), at the midpoint of the conveyor, at the coke oven bank, at the rail loading area, and at other associated mining structures and town remains (as in Alternative 3)
- provide wayside exhibits as defined in Alternative 2, plus additional exhibits focused on the mine and community social institutions to help visitors understand the scope of the mining complex and to guide them in grasping its social organization and their relationship to the culture of the New River communities (as in Alternative 3)
- outline building footprints to delineate historical context for selected buildings in focus areas (as in Alternatives 2 and 3)
- install wayside with context map on both sides of the bridge linking Nuttallburg and Kaymoor

### ■ Park Facilities and Operational Improvements

- provide trailhead parking (gravel surface) to accommodate the significantly increased number of visitors who would be attracted to the site because of expanded visitor experience opportunities (see Figures 2.3, 2.4, 2.5 and 2.6):
  - ✓ at Nuttallburg Mine Trail – approximately 28 spaces serving the headhouse area (Upper Parking Area)
  - ✓ at Keeney Creek Branch Line Trail intersection with Keeney Creek Road – approximately 29 spaces serving the middle level (including a connector trail between the two areas) (Middle Parking Area)
  - ✓ at rail switchback intersection with Keeney Creek Road – approximately 6 spaces serving the middle level (Switchback Level Parking Area)
  - ✓ at lowest level of Keeney Creek Road – approximately 7 spaces serving the town site and tippie (Lower Level Parking Area)

- install bat-friendly gates to prevent visitor access to mine portals
- other parking facilities would serve the Nuttallburg area, including two parking facilities along the Endless Wall Trail with immediate access to Route 82, and one parking facility at the western edge of Kaymoor at the upper level of the gorge
- install vault toilets at the upper, middle, and lower level parking facilities (as in Alternatives 2 and 3)
- maintain three trails as administrative roads for use by four-wheel drive maintenance vehicles (as in Alternatives 2 and 3)
- maintain Conveyor Trail and trails through the townsite as single-track trails

## **2.8 Alternatives Considered but Dismissed from Detailed Analysis**

During the planning process a number of alternatives were considered but dismissed, including:

- Alternatives that included a larger upper level parking facility at the Nuttallburg Mine Trail Trailhead were considered but eliminated. During the planning process a determination was made to limit the amount of parking at the trailhead in order to control the number of visitors to the headhouse area. This was done to decrease the potential for adverse impacts on federally-designated endangered species.
- The alternatives of rebuilding some former town buildings or outlining buildings in three dimensions were considered as part of an interpretive strategy for the site. However, this approach was determined to be out of character with the former town site.
- Restoration of the entire coke oven bank was considered but eliminated because the interpretive benefit added would not warrant the additional restoration cost. This level of restoration was also considered out of scale in relation to the level of restoration being implemented in the remainder of the site.
- A visitor contact station was considered but rejected because it implied much larger visitation than is likely or desirable at the site given natural resource constraints and the limited opportunities for visitor parking.
- Creating a trail connection to Nuttallburg from the river at Short Creek was considered but eliminated. The crossing was judged to be too hazardous. It was also considered unlikely that the CSX Corporation would grant legal access across the Main Line right-of-way.

## **2.9 Mitigation Measures of the Preferred Alternative**

Mitigation measures were analyzed as part of Alternative B (Preferred Alternative) in order to lessen or eliminate potential adverse impacts of the proposed action. There are five categories of mitigation as defined in the regulations of the Council on Environmental Quality, as follows:

- avoiding the impact by not taking certain action or parts of an action
- minimizing impacts by limiting the degree or magnitude of the action and its implementation
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- reducing or eliminating the impact over time by preservation and maintenance during the life of the action

- compensating for the impact by replacing or providing substitute resources or environments

Table 2.1 presents a summary of the mitigation measures that have been incorporated into the design of the Nuttall Mine and Nuttallburg Visitor Use Area.

### 2.10 Comparative Summaries of the No Action and Action Alternatives

#### ■ Degree to which the Alternatives Meet the Project Purpose and Fulfill the Need for the Project

**Alternative 1.** Alternative 1 (No Action) would not meet the project purpose and would not fulfill the need for the project. It would not provide a focal point within the park for the interpretation of early coal mining technology in New River Gorge. While visitors would be able to hike to the site on recently improved trails, once they reach Nuttallburg there would be no signage or media available to interpret its significant cultural resources. Long-term treatment of the headhouse, conveyor, and tipple would stabilize the structures, preventing them from collapse and thereby protect visitors from the most imminent hazards currently present on the site. Designated species would be protected from visitor impacts.

**Alternative 2.** Alternative 2 (Preferred Alternative) would meet the project purpose and fulfill the need for the project. Alternative 2 would provide a focal point within the park for the interpretation of early coal mining technology in New River Gorge, although interpretive media and programs would be limited to wayside exhibits at the headhouse, the tipple, and the town site, with a focus at the lower level. Visitors would be encouraged to visit the site. A new trail would be added providing access at the lower level to the Nuttallburg town site, the tipple area, and Seldom Seen. Parking and vault toilets would be provided. Long-term treatment of the headhouse, conveyor, and tipple would stabilize the structures, preventing them from collapse and thereby protect visitors from hazards currently present on the site. Stabilization measures and other cultural resource management actions would protect the site's most significant cultural resources over the long-term as well as resources at the Nuttallburg town site and most of the coke ovens. Designated species would be protected from visitor impacts.

**Alternative 3.** Alternative 3 would meet the project purpose and fulfill the need for the project. It would provide a strong focal point within the park for the interpretation of early coal mining technology in New River Gorge, with interpretive media and programs composed of wayside exhibits and interpretive focal areas at the headhouse, at the tipple, and at the town site. Visitors would be encouraged to visit the site. A new trail connecting the headhouse with the tipple would enable visitors to more easily experience the entire site. Parking and vault toilets would be provided. Long-term treatment of the headhouse, conveyor, and tipple would stabilize the structures, preventing them from collapse and thereby protect visitors from hazards currently present on the site. Stabilization measures and other cultural resource management actions would protect the site's most significant cultural resources over the long-term as well as resources at the Nuttallburg town site and most of the coke ovens. Designated species would be protected from visitor impacts.

**Alternative 4.** Alternative 4 would meet the project purpose and fulfill the need for the project. It would provide a very strong focal point within the park for the interpretation of early coal mining technology in New River Gorge, with interpretive media and programs composed of wayside exhibits and interpretive focal areas at the headhouse, at the tipple, and at the town site. By connecting Nuttallburg and Kaymoor via a new trail and footbridge over the New River the interpretive experience would be expanded to include and be integrated with the interpretive experience at Kaymoor. Visitors would be encouraged to visit both Nuttallburg and Kaymoor. The existing historic trail providing

access at the lower level to the Nuttallburg town site, the tipple area, and Seldom Seen would be rehabilitated. A second new trail connecting the headhouse with the tipple would enable visitors to more easily experience the entire site. Parking and vault toilets would be provided. Long-term treatment of the headhouse, conveyor, and tipple would stabilize the structures, preventing them from collapse and thereby protect visitors from hazards currently present on the site. Stabilization measures and other cultural resource management actions would protect the site's most significant cultural resources over the long-term as well as resources at the Nuttallburg town site and most of the coke ovens. Designated species would be protected from visitor impacts.

**TABLE 2.1. Summary of Mitigation Measures Included in Alternative 2 (Preferred Alternative)**

Impact Topic	Mitigation Measure
<b>Soil Resources</b>	<ul style="list-style-type: none"> <li>fence all construction areas to confine potentially adverse activities to the minimum area required for construction all protection measures would be clearly stated in the construction specifications and works would be instructed to avoid conducting activities beyond the fenced construction zone</li> <li>use soil and erosion control measures during construction</li> <li>reseed all new trails with native grasses</li> </ul>
<b>Vegetation Resources</b>	<ul style="list-style-type: none"> <li>remove invasive plants from trail corridors, historic road traces, and the vicinity of the site's cultural resources using methods prescribed in the park's <i>Integrated Pest Management Plan</i> (NPS 2003)</li> <li>implement measures to prevent invasive plants from returning to sites where they have been removed</li> <li>restore disturbed areas that are temporarily disturbed during construction with native grasses and other native species</li> </ul>
<b>Rare, Threatened and Endangered Species and Their Habitat</b>	<ul style="list-style-type: none"> <li>restrict visitation to the Nuttallburg Visitor Use Area to day-use only</li> <li>gate and fence all mine portals within one mile of the Nuttallburg headhouse</li> <li>inspect for evidence of bat roosting all trees that are to be removed from the vicinity of the headhouse, conveyor and tipple, as well as from the rights-of-way of major historic road traces; avoid removing to the extent practicable trees that show evidence of bat roosting</li> <li>where mature trees that provide potential habitat must be removed, remove them during the hibernation period from November 15<sup>th</sup> through March 31<sup>st</sup></li> <li>install bat condos within the conveyor and the headhouse structures</li> <li>reseed all new gravel trails with native grasses</li> </ul>
<b>Historic Buildings and Structures</b>	<ul style="list-style-type: none"> <li>provide signage warning visitors about the dangers inherent in climbing on the site's historic structures and buildings</li> <li>implement measures as needed to prevent visitors from climbing on historic structures, buildings, foundations, and ruins</li> <li>design and install bat condos to avoid adverse effects to historic buildings and structures</li> </ul>
<b>Archeological Resources</b>	<ul style="list-style-type: none"> <li>conduct an archeological survey to identify and avoid archeological resources prior to implementing management actions to protect foundations and other remains and artifacts at the site conduct</li> <li>immediately implement NHPA Section 106 procedures if and when any unknown significant archeological resources are uncovered during ground-disturbing activities</li> <li>implement measures to confine visitors to designated trails within the site</li> <li>protect foundations and ruins from trampling by visitors</li> </ul>

TABLE 2.2. Comparative Summary of Alternatives

	Alternative 1 (No Action)	Alternative 2 (Preferred)	Alternative 3	Alternative 4
<b>Headhouse</b>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>
<b>Conveyor</b>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>
<b>Coal Tipple</b>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>	<ul style="list-style-type: none"> <li>complete long-term stabilization</li> <li>include overview interpretation</li> </ul>
<b>Coke Ovens</b>	<ul style="list-style-type: none"> <li>monitor for potential collapse</li> </ul>	<ul style="list-style-type: none"> <li>include overview interpretation</li> <li>rehabilitate two coke ovens adjacent to tipple</li> </ul>	<ul style="list-style-type: none"> <li>include overview interpretation</li> <li>rehabilitate ten coke ovens adjacent to tipple</li> </ul>	<ul style="list-style-type: none"> <li>include overview interpretation</li> <li>rehabilitate ten coke ovens adjacent to tipple</li> </ul>
<b>Town Remains</b>	<ul style="list-style-type: none"> <li>implement minor management actions to protect foundations and other remains</li> </ul>	<ul style="list-style-type: none"> <li>rehabilitate limited foundation masonry associated with community life</li> <li>outline building footprints for select buildings</li> <li>protect foundation remains</li> </ul>	<ul style="list-style-type: none"> <li>rehabilitate limited foundation masonry associated with community life</li> <li>outline building footprints for select buildings</li> <li>protect foundation remains</li> <li>install wayside exhibits</li> </ul>	<ul style="list-style-type: none"> <li>rehabilitate limited foundation masonry associated with community life</li> <li>outline building footprints for select buildings</li> <li>protect foundation remains</li> <li>install wayside exhibits</li> </ul>
<b>Supporting Structures</b>	<ul style="list-style-type: none"> <li>none</li> </ul>	<ul style="list-style-type: none"> <li>complete stabilization and preservation</li> </ul>	<ul style="list-style-type: none"> <li>complete stabilization and preservation</li> <li>include overview interpretation</li> </ul>	<ul style="list-style-type: none"> <li>complete stabilization and preservation</li> <li>include overview interpretation</li> </ul>
<b>Trails and Trailheads</b>	<ul style="list-style-type: none"> <li>maintain trails to headhouse, and middle bench</li> </ul>	<ul style="list-style-type: none"> <li>install introductory waysides at trailheads</li> <li>rehabilitate and maintain major historic town road traces</li> <li>provide information and safety signage</li> <li>maintain three trails for four-wheel drive maintenance vehicles</li> <li>maintain other trails as single-track hiking/biking trails</li> <li>install vault toilets at trailheads</li> </ul>	<ul style="list-style-type: none"> <li>build new trail from headhouse to tipple</li> <li>install introductory waysides at trailheads</li> <li>rehabilitate and maintain most historic town road traces as stabilized roads, including trail to Seldom Seen</li> <li>provide information and safety signage</li> <li>maintain three trails for four-wheel drive maintenance vehicles</li> <li>maintain other trails as single-track hiking/biking trails</li> <li>install vault toilets at trailheads</li> </ul>	<ul style="list-style-type: none"> <li>build new trail from headhouse to tipple</li> <li>install introductory waysides at trailheads</li> <li>rehabilitate and maintain most town historic road traces as stabilized roads, including trail to Seldom Seen</li> <li>provide information and safety signage</li> <li>maintain three trails for four-wheel drive maintenance vehicles</li> <li>maintain other trails as single-track hiking/biking trails</li> <li>install vault toilets at trailheads</li> <li>build bridge connection to Kaymoor and install wayside interpretation</li> </ul>
<b>Roads and Parking</b>	<ul style="list-style-type: none"> <li>provide no trailhead parking</li> </ul>	<ul style="list-style-type: none"> <li>provide trailhead parking to meet visitor demand</li> </ul>	<ul style="list-style-type: none"> <li>provide trailhead parking to partially meet visitor demand</li> </ul>	<ul style="list-style-type: none"> <li>provide trailhead parking to partially meet visitor demand</li> </ul>
<b>Vegetation Management</b>	<ul style="list-style-type: none"> <li>periodically remove invasive vegetation from supporting structures and the town site</li> </ul>	<ul style="list-style-type: none"> <li>periodically remove invasive vegetation from supporting structures and the town site</li> </ul>	<ul style="list-style-type: none"> <li>periodically remove invasive vegetation from supporting structures and the town site</li> <li>thin trees along conveyor</li> <li>thin trees in headhouse area</li> <li>thin trees throughout the Nuttallburg town site and at Seldom Seen</li> </ul>	<ul style="list-style-type: none"> <li>periodically remove invasive vegetation from supporting structures and the town site</li> <li>thin trees along conveyor</li> <li>thin trees in headhouse area</li> <li>thin trees throughout the Nuttallburg town site and at Seldom Seen</li> </ul>
<b>Habitat Protection</b>	<ul style="list-style-type: none"> <li>none</li> </ul>	<ul style="list-style-type: none"> <li>limit visitation to day use only</li> <li>install bat gates and fences at all mine portals within one mile of the headhouse</li> <li>install bat roosting structures in the vicinity of the conveyor and headhouse</li> <li>install bat condos within conveyor and headhouse</li> </ul>	<ul style="list-style-type: none"> <li>limit visitation to day use only</li> <li>install bat gates and fences at all mine portals within one mile of the headhouse</li> <li>install bat roosting structures in the vicinity of the conveyor and headhouse</li> <li>install bat condos within the conveyor headhouse</li> </ul>	<ul style="list-style-type: none"> <li>limit visitation to day use only</li> <li>install bat gates and fences at all mine portals within one mile of the headhouse</li> <li>install bat roosting structures in the vicinity of the conveyor and headhouse</li> <li>install bat condos within the conveyor headhouse</li> </ul>

TABLE 2.3. Comparative Summary of Environmental Consequences

Impact Topic	Alternative 1 (No Action)	Alternative 2 (Preferred)	Alternative 3	Alternative 4
Soil Resources	Cultural resource management actions would have a local short-term minor adverse impact on soil resources.	Cultural resource management actions would have a local short-term minor adverse impact on soil resources.	Cultural resource management actions would have a local short-term minor adverse impact on soil resources.	Cultural resource management actions would have a local short-term minor adverse impact on soil resources.
	Natural resource management actions would have a local short-term moderate adverse impact on soil resources.	Natural resource management actions would have a local short-term moderate adverse impact on soil resources.	Natural resource management actions would have a local short-term moderate adverse impact on soil resources.	Natural resource management actions would have a local short-term moderate adverse impact on soil resources.
	Routine maintenance of park administrative roads and trails would have periodic short-term negligible impacts on soil resources.	Rehabilitation of major historic road traces and new trail construction would result in a local short-term moderate adverse impact on soil resources.	Rehabilitation of most historic road traces and new trail construction would result in a local short-term minor adverse impact on soil resources.	Rehabilitation of most historic road traces and new trail construction would result in a local short-term moderate adverse impact on soil resources.
		Construction of new visitor parking facilities would result in both short-term and long-term local moderate adverse impacts on soil resources.	Construction of new visitor parking facilities would result in both short-term and long-term local moderate adverse impacts on soil resources.	Construction of new visitor parking facilities would result in both short-term and long-term local moderate adverse impacts on soil resources.
		Routine maintenance of park administrative roads and trails would have periodic short-term negligible impacts on soil resources.	Routine maintenance of park administrative roads and trails would have periodic short-term negligible impacts on soil resources.	Routine maintenance of park administrative roads and trails would have periodic short-term negligible impacts on soil resources.
Vegetation Resources	Cultural and natural resource management actions would result in a local long-term minor beneficial impact on vegetation resources.	Cultural and natural resource management actions would result in a local long-term minor beneficial impact on vegetation resources.	Cultural and natural resource management actions would result in a local long-term minor beneficial impact on vegetation resources.	Cultural and natural resource management actions would result in a local long-term minor beneficial impact on vegetation resources.
	Routine maintenance of park administrative roads and trails would have a local long-term negligible impact on vegetation resources.	Rehabilitation of major historic road traces would have a local long-term minor adverse impact on vegetation resources.	Rehabilitation of most historic road traces would have a local long-term minor adverse impact on vegetation resources.	Rehabilitation of most historic road traces would have a local long-term minor adverse impact on vegetation resources.
		Clearing for construction of new trails and parking facilities would result in a local long-term minor adverse impact on vegetation resources.	Tree thinning in the Nuttallburg town site, the Seldom Seen site, the headhouse area, and along the conveyor length to enhance interior views and top to bottom views would have a local long-term minor adverse impact on vegetation resources.	Tree thinning in the Nuttallburg town site, the Seldom Seen site, the headhouse area, and along the conveyor length to enhance interior views and top to bottom views would have a local long-term minor adverse impact on vegetation resources.
		Routine maintenance of park administrative roads and trails would have a local long-term negligible impact on vegetation resources.	Clearing for construction of new trails and parking facilities would result in a local long-term minor adverse impact on vegetation resources.	Clearing for construction of new trails and parking facilities would result in a local long-term minor adverse impact on vegetation resources.
			Routine maintenance of park administrative roads and trails would have a local long-term negligible impact on vegetation resources.	Routine maintenance of park administrative roads and trails would have a local long-term negligible impact on vegetation resources.

TABLE 2.3. Comparative Summary of Environmental Consequences

Impact Topic	Alternative 1 (No Action)	Alternative 2 (Preferred)	Alternative 3	Alternative 4
<b>Rare, Threatened, Endangered Species</b>	<p>Cultural resource and natural resource management actions would result in local short-term and long-term negligible impacts on designated species and their habitat.</p> <p>Routine maintenance of park administrative roads and trails would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Projected visitor use would result in a local long-term negligible impact on designated species and their habitat.</p>	<p>Cultural resource and natural resource management actions would result in local short-term and long-term negligible impacts on designated species and their habitat.</p> <p>Rehabilitation of major town historic road traces would result in a short-term minor adverse impact on designated species and their habitat.</p> <p>Routine maintenance of trails, administrative roads, and rehabilitated historic road traces would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Clearing for parking facilities would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Projected visitor use would result in a local long-term negligible impact on designated species and their habitat.</p>	<p>Cultural resource and natural resource management actions would result in local short-term and long-term negligible impacts on designated species and their habitat.</p> <p>Rehabilitation of major town historic road traces would result in a short-term minor adverse impact on designated species and their habitat.</p> <p>Tree thinning in the Nuttallburg town site, the Seldom Seen site, the headhouse area, and along the conveyor length to enhance interior views and top to bottom views would result in a local long-term minor adverse impact on designated species and their habitat.</p> <p>Construction of a new trail connection from the headhouse to the tippie would result in a local short-term minor adverse impact to designated species.</p> <p>Routine maintenance of trails, administrative roads, and rehabilitated historic road traces would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Clearing for parking facilities would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Projected visitor use would result in a local long-term negligible impact on designated species and their habitat.</p>	<p>Cultural resource and natural resource management actions would result in local short-term and long-term negligible impacts on designated species and their habitat.</p> <p>Rehabilitation of major town historic road traces would result in a short-term minor adverse impact on designated species and their habitat.</p> <p>Tree thinning in the Nuttallburg town site, the Seldom Seen site, the headhouse area, and along the conveyor length to enhance interior views and top to bottom views would result in a local long-term minor adverse impact on designated species and their habitat.</p> <p>Construction of a new trail connection from the headhouse to the tippie would result in a local short-term minor adverse impact to designated species.</p> <p>Routine maintenance of trails, administrative roads, and rehabilitated historic road traces would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Clearing for parking facilities would result in a local long-term negligible impact on designated species and their habitat.</p> <p>Projected visitor use would result in a local long-term negligible impact on designated species and their habitat.</p>
<b>Cultural Landscapes</b>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on cultural landscape resources.</p> <p>The Section 106 determination of effect would be no adverse effect to cultural landscapes.</p>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on cultural landscape resources.</p> <p>The Section 106 determination of effect would be no adverse effect to cultural landscapes.</p>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on cultural landscape resources.</p> <p>The Section 106 determination of effect would be no adverse effect to cultural landscapes.</p>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on cultural landscape resources.</p> <p>The Section 106 determination of effect would be no adverse effect to cultural landscapes.</p>
<b>Historic Buildings and Structures</b>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on historic buildings and structures.</p> <p>Projected visitor use would have a local long-term negligible impact on historic buildings and structures.</p> <p>The Section 106 determination of effect would be no adverse effect to historic buildings and structures.</p>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on historic buildings and structures.</p> <p>Projected visitor use would have a local long-term negligible impact on historic buildings and structures.</p> <p>Development of new visitor use facilities would have a long-term minor adverse impact on historic buildings and structures.</p>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on historic buildings and structures.</p> <p>Projected visitor use would have a local long-term minor adverse impact on historic buildings and structures.</p> <p>Development of new visitor use facilities would have a long-term minor adverse impact on historic buildings and structures.</p>	<p>Cultural and natural resource management actions would have local long-term minor beneficial impacts on historic buildings and structures.</p> <p>Projected visitor use would have a local long-term minor adverse impact on historic buildings and structures.</p> <p>Development of new visitor use facilities would have a long-term minor adverse impact on historic buildings and structures.</p>



TABLE 2.3. Comparative Summary of Environmental Consequences

Impact Topic	Alternative 1 (No Action)	Alternative 2 (Preferred)	Alternative 3	Alternative 4
<b>Historic Buildings and Structures (continued)</b>		The Section 106 determination of effect would be no adverse effect to historic buildings and structures.	The Section 106 determination of effect would be no adverse effect to historic buildings and structures.	The Section 106 determination of effect would be no adverse effect to historic buildings and structures.
<b>Archeological Resources</b>	<p>Cultural resource management actions would have local long-term negligible to moderate adverse impacts on archeological resources.</p> <p>Natural resource management actions would have a long-term minor beneficial impact on archeological resources.</p> <p>Projected visitor use would have a local long-term negligible impact on archeological resources.</p> <p>The Section 106 determination of effect would be no adverse effect to archeological resources.</p>	<p>Cultural resource management actions and development of new visitor use facilities would have local long-term negligible to moderate adverse impacts on archeological resources.</p> <p>Natural resource management actions would have a long-term minor beneficial impact on archeological resources.</p> <p>Projected visitor use would have a local long-term minor adverse impact on archeological resources.</p> <p>The Section 106 determination of effect would be no adverse effect to archeological resources.</p>	<p>Cultural resource management actions and development of new visitor use facilities would have local long-term negligible to moderate adverse impacts on archeological resources.</p> <p>Natural resource management actions in Alternative 3 would have a long-term minor beneficial impact on archeological resources.</p> <p>Projected visitor use would have a local long-term minor adverse impact on archeological resources.</p> <p>The Section 106 determination of effect would be no adverse effect to archeological resources.</p>	<p>Cultural resource management actions and development of new visitor use facilities would have local long-term negligible to moderate adverse impacts on archeological resources.</p> <p>Natural resource management actions would have a long-term minor beneficial impact on archeological resources.</p> <p>Projected visitor use would have a local long-term minor adverse impact on archeological resources.</p> <p>The Section 106 determination of effect would be no adverse effect to archeological resources.</p>
<b>Ethnographic Resources</b>	<p>Cultural and natural resource management actions would have local long-term moderate beneficial impacts on ethnographic resources.</p> <p>The Section 106 determination of effect would be no adverse effect to ethnographic resources.</p>	<p>Cultural and natural resource management actions would have local long-term moderate beneficial impacts on ethnographic resources.</p> <p>The Section 106 determination of effect would be no adverse effect to ethnographic resources.</p>	<p>Cultural and natural resource management actions would have local long-term moderate beneficial impacts on ethnographic resources.</p> <p>The Section 106 determination of effect would be no adverse effect to ethnographic resources.</p>	<p>Cultural and natural resource management actions would have local long-term moderate beneficial impacts on ethnographic resources.</p> <p>The Section 106 determination of effect would be no adverse effect to ethnographic resources.</p>
<b>Local Roads and Park Access</b>	Visitor-related traffic and parking would result in a local long-term minor adverse impact on local roads and park access.	Visitor-related traffic and parking would result in a local long-term minor beneficial impact on local roads and park access.	Visitor-related traffic and parking would result in a local long-term moderate adverse impact on local roads and park access.	Visitor-related traffic and parking would result in a local long-term moderate adverse impact on local roads and park access.
<b>Visitor Use and Visitor Experience</b>	<p>Cultural resource management and natural resource management actions would result in a local long-term negligible impact on visitor use and visitor experience.</p> <p>Management actions taken to provide interpretive media and visitor facilities would have a local long-term negligible impact on visitor use and visitor experience.</p>	<p>Cultural resource management and natural resource management actions would result in a local long-term moderate beneficial impact on visitor use and visitor experience.</p> <p>Management actions taken to provide interpretive media and visitor facilities would have a local long-term major beneficial impact on visitor use and visitor experience.</p>	<p>Cultural resource management and natural resource management actions would result in a local long-term moderate beneficial impact on visitor use and visitor experience.</p> <p>Management actions taken to provide interpretive media and visitor facilities would have a local long-term major beneficial impact on visitor use and visitor experience.</p>	<p>Cultural resource management and natural resource management actions would result in a local long-term moderate beneficial impact on visitor use and visitor experience.</p> <p>Management actions taken to provide interpretive media and visitor facilities would have a local long-term major beneficial impact on visitor use and visitor experience.</p>
<b>Park Operations</b>	Long-term operational needs for staff, maintenance, interpretation and visitor services, resource and visitor protection, and administration would result in a local long-term minor adverse impact on park operations.	Long-term operational needs for staff, maintenance, interpretation and visitor services, resource and visitor protection, and administration would result in a local long-term minor adverse impact on park operations.	Long-term operational needs for staff, maintenance, interpretation and visitor services, resource and visitor protection, and administration would result in a local long-term moderate adverse impact on park operations.	Long-term operational needs for staff, maintenance, interpretation and visitor services, resource and visitor protection, and administration would result in a local long-term moderate adverse impact on park operations.

