

**NATIONAL COAL OF ALABAMA, INC.**

POPLAR SPRINGS NORTH MINE, P-3886

ALABAMA SURFACE MINING COMMISSION

SURFACE MINING PERMIT APPLICATION

**P A R T   I I I**

Prepared by:

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**PART III - OPERATION PLAN**

**A. General Operation Information**

1. Describe the type and method of coal mining procedures and major equipment to be used. (780.11)

See Attachment III-A-1

2 Track Hoe	4 Blast hole drills	1 18 yd Dragline
4 Loaders	2 Fuel and service truck	
6 Dozers	8 Rock Trucks	

2. Describe the sequence and timing of increments to be mined (as shown on permit map) over the total life of the permit. (780.11)

See [Permit Map](#) and [Cut Layout Map](#).

The timing increments are as follows:

<u>Increment No.</u>	<u>Acres</u>	<u>Dates</u>	
		<u>From</u>	<u>To</u>
6	22.0	Effective Date *	Life of Mine
7	7.0	Effective Date *	Life of Mine
1	272.0	Mining Completed	12 Months After
2	290.0	Effective Date *	12 Months After
3	475.0	Effective Date *	12 Months After
4	344.0	End of Inc. 3	12 Months After
5	379.0	End of Inc. 4	12 Months After

\* The Effective Date depends on the date of issuance of permit.

Two to three spreads of equipment will be utilized at this mine site due to production requirements. Increment No. 3 could be mined simultaneously with Increment No. 2.

The sequence of mining operations will be generally as follows:

- 1) Construction of sediment control structures
- 2) Clearing and grubbing
- 3) Topsoil removal, if required
- 4) Overburden drilling and blasting
- 5) Overburden removal
- 6) Coal Recovery
- 7) Grading
- 8) Revegetation

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Addendum to Attachment III-A-(1)**

**OPERATION PLAN**

This purpose of this addendum is to addresses changes in the cut layout and sequencing for Increments 3 & 4.

The surface mining method of area and contour mining will be used at this mine site. Preparation will consist of removing timber, topsoil removal (if required), drilling and blasting of overburden, overburden removal, coal removal, regrading, topsoil replacement (if required), and revegetation.

There are two basic mining units including the dragline fleet and the auxiliary fleet. These two fleets may work together on the same cut or independently on s eparate cuts depending on equipment availability and market demands.

**INCREMENT NO. 6 & 7**

These are incidental increments and will remain active for the life of mine.

**INCREMENT NO. 1**

Mining has been completed in Increment No. 1.

**INCREMENT NO. 2**

No Change

See the attached [Cut Layout Map](#) for the proposed pit orientation/alignment and proposed direction of mining advancement.

**INCREMENT NO. 3 -**

Mining will begin in Increment 3 with the auxiliary fleet near Basin 022 along the crop line with Cut 3-A. The cuts will be aligned northwest to southeast and will advance to the northeast. Material from Cut 3-A will be spoiled to the southwest below the crop line. Cut 3B will be spoiled to the southwest of coal and below the crop line. Mining will continue in this manner spoiling to the southwest advancing to the north east mining from crop line to crop line until cut 3-6. At Cut 3-6 the southeast end of the cuts will terminate along Cut 3-13. Cuts 3-6 thru 3-9 will terminate along cut 3-13. The southeast end of cuts 3-6 thru 3-10 will be left open for spoiling room for cut 3-13. A delay in contemporaneous grading is requested. [See Attached request.](#) Mining will continue to advance to the northeast mining up to the permit boundary at cut 3-12. There is adequate spoiling room between the crop line and Basin 022 as shown in Reclamation Cross Section C-C in Part IV.

Upon completion of cut 3-12 mining will move to cut 3-13.

Cut 3-13 will be aligned southwest to northeast and will advance to the southeast. Material from Cut 3-13 will be spoiled into the southeast end of cuts 3-6 thru 3-10. Cuts 3-14 will be spoiled into cut 3-13. Portions of cuts 3-13 and 3-14 may be used to backfill the final high wall created by cuts 3-11 and 3-12.

Cuts 3-15 thru 3-17 have been extended to the southwest into area added by R-6. The portion of cut 3-15 that is along the crop line may be mined prior to mining 3-1 thru 3-14. The northern end of cut 3-15 will be spoiled into cut 3-14. The middle portion of cut 3-15 will be spoiled to the northwest below the crop line. The southern portion of cut 3-15 and 3-16 above Basin 022 and Diversion D-22B will be hauled out and spoiled onto the designated spoil area upstream of Basin 022 and onto designated spoil areas upstream of Basins 033 and 039. The northern end of Cut 3-16 will be spoiled into cut 3-15. Cut 3-17 will be spoiled to the northwest into cut 3-16. The portions of cuts 3-15 and 3-16 that will be hauled out are designated on the [Cut Layout Map](#) and will provide adequate spoiling room for cut 3-17. See revised [Reclamation Cross Section B-B'](#).

Mining will continue along this alignment (southwest to northeast) and will advance the southeast with material being spoiled to the northwest into the previous cut through cut 3-29. Cut 3-29 will eliminate the high wall on the northwest side of Basins 035A and 034. The west side of the pool area will have to be reconstructed. The basins will be reconstructed as soon as possible after coal removal in the immediate area and recertified to ASMC. The pool area of Basin 035A will be enlarged during reconstruction.

Mining will then proceed to cut 3-30. Material from the north half of cut 3-30 will be spoiled into the previous cut. There is limited spoil room on the south half of cut 3-30. Some of the material from the southern portion of cut 3-30 lying east of Basins 035A and 035 will be hauled to the north of Basin 035A and spoiled in the area designated as Spoil Area. Some material from this portion of cut 3-30 will be spoiled below the crop but the drainage to basin 035 will not be blocked. Cuts will continue in a southwest / northeast alignment advancing to the southeast until cut 3-35. The south end of cuts 3-31 thru 3-35 will be left open for spoil room for cut 3-36. A delay in contemporaneous grading is requested. [See Attached request.](#)

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Cut 3-36 will be aligned basically west to east and will advance to the south. Material from cut 3-36 will be spoiled to the north into cuts 3-31 thru 3-35. Mining will continue in this fashion mining from the crop line to the permit boundary. The alignment will gradually change from a west to west alignment to a southwest to northeast alignment at cut 3-44. Material from each cut will be spoiled into the previous cut. The northern end of cuts 3-44 thru 3-46 will be used to back fill the high wall of cuts 3-40 thru 3-43. At cut 3-48 the pit alignment will change again.

The south end of cuts 3-44 thru 3-48 will be left open for spoil room for cut 3-49. A delay in contemporaneous grading is requested. [See Attached request.](#)

Material from cut 3-49 will be spoiled to the northwest into previously mined cuts 3-44 thru 3-48. The alignment will be southwest to northeast and will advance to the southeast. The cuts will begin in the hollow near the west line of the NW/NE of Section 7. This alignment will continue through cut 3-53. The southwest end of cuts 3-50 thru 3-53 will be left open for spoil room for cut 3-54. A delay in contemporaneous grading is requested. [See Attached request.](#)

Cut 3-54 will be aligned northwest to southeast and will advance to the west. Material from cut 3-54 will be spoiled into the southwest end of cuts 3-50 thru 3-53. Mining will continue in this alignment thru cut 3-66 when the mining will reach the crop line on the northeast side of Basin 037.

Cuts 3-67 thru 3-77 may be mined independently of other cuts. Due to the short cut length of cuts 3-36 thru 3-66 a second working face will be needed to allow overburden removal to continue while coal is being removed from the short cuts.

Cut 3-67 will be taken along the crop line south of Basin 037. Cut 3-67 will be aligned southwest to northeast and will advance to the southeast. Material from Cut 3-67 will be spoiled below the crop line to the northwest. Cut 3-68 will be spoiled to the northwest into cut 3-68. Mining will continue along this alignment thru cut 3-77 mining from the crop line east of hollow drainage to Basin 038 and ending at the east line of the SW /NW of Section 7. The south end of cuts 3-63 thru 3-65 and the northeast end cuts 3-72 thru 3-74 to be left open for spoiling room for cuts 3-71, 4-71 thru 4-75. Cuts 4-71 thru 4-77 are in Inc. 4 and are on property where the surface rights are currently not controlled by National Coal in the SE/NW of Section 7. Cuts 4-71 thru 4-74 will only be mined if the property is obtained. A delay in contemporaneous grading is requested. [See Attached request.](#)

Mining will then proceed to cut 3-78 on the west side of the hollow draining to Basin 038 along the crop line. Cut 3-78 will be aligned northwest to southeast and will advance to the southwest. Material from cut 3-78 will be spoiled below crop into the designated spoil area. Cut 3-79 will be spoiled into cut 3-78 and mining will continue along this alignment until mining is completed in Increment 3 at cut 3-81.

Great care will be taken when spoil material is placed in the areas designated as Spoil Area to ensure that the drainage is allowed to flow unobstructed, positive drainage is maintained and no unapproved impoundments are formed. The hollow profile and cross sections for Basin 035A have been revised to reflect the new location of Basin 035A. See [Revised Profile and Cross Sections Basin 035A](#). Only the Black Creek seam will be mined in Inc. 3.

#### **INCREMENT NO. 4**

There are two changes to the mining in Inc. 4 from the previously approved plan.

The first change is for the SW/NW of Section 7 which will now be bonded and mined under Inc. 3 (Cuts 3-78 thru Cuts 3-81).

The second change is for the north half of SE/NW of Section 7. Cuts 4-71 thru 4-77 are in the SE/NW of Section 7 where the surface rights are currently not controlled by National Coal. Cuts 4-71 thru 4-74 will only be mined if the property is obtained. Cuts 4-71 thru 4-77 will be mined independently of the rest of Increment 4. Cut 4-71 will be aligned southwest to northeast and will advance to the south east. Material from Cut 4-71 will be spoiled to the northwest onto the south end of cuts 3-65 thru 3-63. Cut 4-72 will be spoiled into cut 4-71. The mining will continue in this manner until mining is completed at cut 4-77. Cut 4-71 thru 4-77 may be mined in conjunction with cuts 3-71 thru 3-77 if the property is obtained and bonded prior to mining cut 3-71. A delay in grading has been requested for the south end of cuts 3-63 thru 3-65 and the northeast end of cuts 3-72 thru 3-74 if there is a delay in obtaining the property.

The remainder of Increment 4 will be mined according to the previously approved plan which is included below:

*Mining in Increment No. 4 will begin cut 4-1 along the coal crop line. Material from cut 4-1 will be spoiled off coal to the north and northwest in the area designated as Spoil Area. Upon completion of cut 4-1, mining will continue into cut 4-2. Material from the cut 4-2 will be spoiled to the west and northwest into the previous cut 4-1 and into the area designated as Spoil Area. Upon completion of cut 4-2, mining will continue into cut 4-3. Material from cut 4-3 will spoiled to the west and northwest into previous cut 4-2 and into the area designated as Spoil Area. Upon completion of cut 4-3, mining will continue into cut 4-4. Mining will continue, ascending in numerical order, until mining is completed in Increment No. 4 at cut 4-21. Great care will be taken when spoil material is placed in the areas designated as Spoil Area to ensure that the drainage is allowed to flow unobstructed, positive drainage is maintained and no unapproved impoundments are formed.*

*Only the Black Creek coal seam will be mined in Increment No. 4.*

See the attached [Cut Layout Map](#) for the proposed pit orientation/alignment, proposed direction of mining advancement and the location of the highwall involved in the request for a delay in contemporaneous reclamation.

#### **INCREMENT NO. 5**

No change from previously approved plan.

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2. Ponds, impoundments, banks, dams and embankments. (780.25)

- (a) Submit a general plan which complies with Section 780.25 (a)(1) for each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam or embankment to be located within the proposed permit area.

[See Attachment III-B-2-A](#)

- (b) Submit detailed design plans, which comply with Sections 780.25(a)(2)(3) and 816.46, for each sedimentation pond to be constructed on the increment you currently propose to mine. If the sediment pond is to remain as a permanent water impoundment, design plans shall also comply with Section 816.49.

[See Attachment III-B-2-A](#)

- (c) Submit detailed design plans which comply with Sections 780.25(a) (2&3) and 816.49, for each temporary or permanent water impoundment to be constructed on the increment you currently propose to mine.

[See Attachment III-B-2-A](#)

- (d) Submit detailed design plans, which comply with Section 780.25(a) (2&3) and 816.81-816.85, for coal mine waste bank to be constructed on the increment you currently propose to mine.

None Proposed

- (e) Submit detailed plans which comply with Sections 780.25 (a)(2&3) and 816.91-816.93 for each coal mine waste dam and embankment to be constructed on the increment which you currently propose to mine.

None Proposed

**GENERAL ENGINEERING PLAN CERTIFICATION STATEMENT**

I, Sanford M. Hendon, a registered professional engineer, hereby certify that the information, cross-sections, data, maps, etc., contained in this general plan in Attachment III-B-2-A is true and correct to the best of my knowledge and belief.

**McGehee Engineering Corp.**

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Sanford M. Hendon  
Alabama Reg. No. 18208

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Date

## **ADDENDUM TO THE GENERAL PLAN**

This addendum to the general plan consists of adding 55 mining acres to Increment 3, adding Basin 039 and adding diversion D-22B. Basin 034 will be an upstream structure to Basin 035. This will affect the disturbed areas to Basin 022, 033P, 034P, 035AP, 035P, 036AP, 036P, 037P, 038P and 039P.

### **Basin 039 – to be added**

Basin 039 is needed to be added because there was drainage from the previously mined area that could not be routed to other basins by diversions. Basin 039 is an approved ADEM outfall that was relocated. Since the basin was needed additional spoiling area has been added to the permit.

### **Diversion 022B to be added**

Diversion D-22B is being added to divert additional mine area to Basin 022. This additional mine area was included as disturbed in the approved design plans for Basin 022.

## **SEDIMENT BASIN CONSTRUCTION TIMETABLE**

Upon written approval from the Regulatory Authority, all sediment basins will be constructed and certified to the Regulatory Authority prior to any disturbance in its drainage areas.

Basin 035 will be constructed prior to constructing Basin 035A and Basin 034. Basin 035A and Basin 034 will discharge into Basin 035.

Basin 034 & 035A– These basins will be constructed on an existing pit bench from previous mining. The embankments will tie into the existing high wall initially. The existing high wall northwest of the pool areas will be eliminated during the mining of cut 3-29. A portion of the initial embankments will be disturbed during the mining of cut 3-29. The spillway systems will remain undisturbed. The embankments and final pool areas will be reconstructed as soon as possible after coal removal to the minimum volumes and surface areas in the design plans. A re-construction certification will be submitted promptly to ASMC after construction is completed. During the mining of cut 3-29 any disturbed drainage will be captured in the open pit and pumped to Basin 035. The re-construction certification of Basins 034 and 035A should occur within 30 days after coal removal from the pool areas but in no case no later than prior to mining cut 3-31.

All sediment basins remain temporary water impoundments. Removal plans and additional data qualifying the basins for removal will be submitted and approved by the Regulatory Authority prior to a Phase II bond release.

See [Watershed Map](#) and [NDPES Map](#) for basin locations. See attached [ADEM approval](#) of outfall relocations.

Geologic investigations of the area indicate alternating sequences of sandstone and shale with sandstone streaks and minor amounts of bituminous coal and underclay. The coal to be mined by National Coal of Alabama, Inc. will be the Black Creek Coal Seam.

All surface drainage from the proposed mining area drains into Indian Creek, Black Creek and Little Blackwater Creek.

All diversions are to be temporary and will be graded and revegetated. (See Diversion Ditch Design and Construction Specifications).

**GENERAL DESIGN DATA**

<b>SEDIMENT BASIN</b>	<b>LOCATION</b>	<b>DRAINAGE AREA ACRES</b>
022P	NW/SW & SW/NW, Section 6, T12S, R8W	141
033P	SW/SW, Sec. 6, T12S, R8W	53
034P	SW/SW & SE/SW, Section 6, T12S, R8W NW/NW & NE/NW, Section 7, T12S, R8W	22
035AP	SE/SW of Section 6, T12S, R8W	127
035P	SE/SW of Section 6, T12S, R8W	42 / 191
039P	NW/NW of Section 7, T12S, R8W SW/SW of Section 6, T12S, R8W	12
036AP	NE/NW & NW/NE of Section 7 T12S, R8W	109
036P	NE/NW of Section 7, T12S, R8W	33 / 142
037P	NW/NW of Section 7, T12S, R8W	54
038P	NW/NW of Section 7, T12S, R8W	64

All sediment basins are located in Winston County, Alabama and are found on the Poplar Springs and Nauvoo Quadrangles.

Detail design plans for Basins [034P](#), [035P](#), [035AP](#), Basins [039P](#), and Diversion [D-22B](#) are attached. Design plans for Basin 033 have already been submitted. Design plans for the remaining sediment basins will be submitted, approved, constructed and certified prior to any disturbance within their respective drainage areas.

## SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

Sediment basins (temporary or permanent) will be designed and constructed using the following as minimum specifications:

### **1. EMBANKMENT REQUIREMENTS**

- A) The minimum width of the top of the embankment will under no circumstance be less than twelve (12) feet.
- B) The embankment will have a minimum front and back slope no steeper than the slopes listed on the detailed design sheet.
- C) The foundation area of the embankment will be cleared and grubbed of all organic matter with no surface slope steeper than 1 horizontal to 1 vertical. The entire wet area, as measured from the upstream toe of the embankment to the normal pool level, will be cleared of trees and large brush.
- D) A core will be constructed in a cutoff trench along the centerline of the embankment. The cutoff trench will be of suitable depth and width to attain relatively impervious material.
- E) The embankment construction material will be free of sod, roots, stumps, rocks, etc., which exceed six (6") inches in diameter. The embankment material will be placed in layers of twelve (12") inches or less and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.
- F) The embankment, foundation and abutments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.5 and a minimum seismic safety factor of 1.2, at normal pool level with steady seepage saturation conditions.
- G) The actual constructed height of the embankment will be a minimum of five (5%) percent higher than the design height to allow for settling over the life of the embankment.
- H) The design embankment height for both temporary and permanent impoundments will be a minimum of one (1) foot above the maximum water level anticipated from a 10 Year - 24 Hour or a 25 Year - 6 Hour precipitation event (whichever is greater).
- I) For embankments constructed as point source discharges, the embankment will be constructed and abutments keyed into undisturbed, virgin, ground if at all possible. In the event that this can not be achieved, additional design and construction specifications will be submitted in the Detailed Basin Design Plans.
- J) The embankment and all areas disturbed in the construction of the embankment will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure restabilization. Hay dams, silt fences, rock check dams, etc. will be installed, where deemed necessary, as additional erosion prevention methods.

## SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

### **2. DISCHARGE STRUCTURE REQUIREMENTS**

- A) The primary spillway will be designed to adequately carry the anticipated peak runoff from a 10 Year - 24 Hour precipitation event. The combination primary and secondary (emergency) spillway system will be designed to safely carry the anticipated peak runoff from a 25 Year - 6 Hour precipitation event. When sediment basins are proposed in the drainage course of a public water supply, the spillway system will be designed and constructed to adequately carry the runoff from a 50 Year - 24 Hour precipitation event.
- B) Channel linings, for secondary (emergency) spillways will be a trapezoidal open channel constructed in consolidated, nonerodible material and planted with a mixture of both annual and perennial grasses being predominantly fescue and bermuda. In the event that the spillway can not be constructed in consolidated, nonerodible material the spillway will be lined with riprap, concrete, asphalt or durable rock (See Detailed Design Plans for Spillway Lining).
- C) When consisting of pipe, the primary spillway will be installed according to Class "C" pipe installation for embankment bedding.
- D) Sediment basins with a single spillway system, such as a skimmer board, will be a trapezoidal open channel constructed in consolidated, nonerodible material and lined with riprap, concrete, asphalt or durable rock (See Detailed Design Plans for Spillway Lining).
- E) The primary spillway will be designed and constructed with device to eliminate floating solids from leaving the impoundment. This device will consist of a turned down elbow when using pipe or a skimmer system when using an open channel spillway.
- F) When necessary, to prevent erosion of the embankment or discharge area, a splash pad of riprap, durable rock, sacrete, etc. will be installed at the discharge end of the primary spillway.
- G) The combined spillway systems, for sediment basins constructed in series, will be designed to adequately accommodate the entire drainage area.

### **3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS**

- A) Inspections will be conducted regularly during construction of the sediment basin by a qualified registered professional engineer or other qualified person under the direction of a professional engineer. Upon completion of construction, the sediment basin will be certified, by a qualified registered professional engineer, to the Regulatory Authority as having been constructed in accordance with the approved detailed design plans.
- B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., until the removal of the structure or until a Phase III Bond Release is granted.

**3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS**

- C) Sediment basins will be examined quarterly for structural weakness, instability, erosion, slope failure, or other hazardous conditions.
- D) If during the above described periodic inspections, it is determined that there exists signs of structural weakness, instability, erosion, slope failure, improper functioning, or other hazardous conditions, these will be repaired immediately.
- E) Standard anticipated maintenance will include repairing rills and gullies, repairing slope failures, re-seeding areas of failed or scarce vegetation, cleaning out or removing debris obstructing pipes and/or spillways to allow proper functioning, etc. Standard maintenance discovered during the above described periodic inspections will be performed immediately. Hazardous conditions observed during inspections will be reported immediately to the Regulatory Authority for further consultation or instructions.
- F) Retained sediment will be removed from each sediment basin when the accumulated sediment reaches the maximum allowable sediment volume as set forth in the detailed design plans.
- G) Formal inspections will be made annually, by a qualified registered professional engineer or other qualified person under the direction of a professional engineer, including any reports or modifications, in accordance with 880-X-10C-.20[1(j)] of the Alabama Surface Mining Regulations.

**4. BASIN REMOVAL REQUIREMENTS**

- A) Upon completion of mining, reclamation, restabilization and effluent standards being met, each sediment basin not proposed as a permanent water impoundment will be dewatered in a controlled manner by either pumping or siphoning. Upon successful dewatering, a determination will be made as to the retained sediment level in the basin. After determining the retained sediment level, a channel will be cut into the embankment down to the retained sediment level on the side of the embankment deemed most suitable to reach natural ground without encountering prohibiting rock. The embankment material removed from this newly constructed channel will be spread and compacted over the previous impoundment (wet area) area to prevent erosion and ensure restabilization. The newly constructed channel will be of adequate width (minimum 30 feet) and sloped to a grade (approximately 1% to 3%) which will cause all surface drainage to travel across this area in sheet flow, minimizing the possibility of erosion. Also, where necessary, hay dams will be installed in strategic locations across the width of the channel to retain sediment and slow the water velocity to a favorable rate. Upon removal of the embankment section, all disturbed areas will be graded in such a manner to ensure slope stability, successful restabilization and to minimize erosion. All disturbed areas will be seeded with a mixture of annual and perennial grasses, fertilized and mulched. No slope, existing or created in the removal of the sediment basin, will be left on a grade that will slip or slough.

**5. PERMANENT WATER IMPOUNDMENT REQUIREMENTS**

- A) Prior to a request for a Phase II Bond Release, all sediment basins being left as permanent water impoundments will have supplemental data submitted to the Regulatory Authority concerning water quality, water quantity, size, depth, configuration, postmining land use, etc.
  
- B) Final grading slopes of the entire permanent water impoundment area will not exceed a slope of 2 Horizontal to 1 Vertical to provide for safety and access for future water users.

**TYPICAL DRAWINGS FOR EMBANKMENT TYPE BASINS**

**[Typical Pond Plan View](#)**

**[Typical Embankment Cross Section](#)**

**[Typical Clay Liner](#)**

**[Floating Silt Fence Drawing](#)**

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3. Diversions [780.29, 816.43, 816.44]

Are diversions of overflow or stream channel diversions proposed?

(XX) Yes ( ) No

If yes, complete the following:

(a) Is the diversion to be permanent? ( ) Yes (XX) No

(b) Describe in detail the proposed diversion and include plans, maps and cross-sections that comply with 816.43 and 816.44.

[See Attachment III-B-3](#) , [Watershed Map](#), Detail Design Plans [Diversion 022B](#),  
[Typical Diversion Ditch Cross Section](#).

(c) If diversions are temporary, enclose plans for removal including a timetable and plans for restoration of vegetation, channel characteristics, etc.

[See Attachment III-B-3](#)

(d) Enclose approvals of other governmental agencies where required.

Not Required

**DIVERSION DITCH AND DIVERSION BERM  
DESIGN AND CONSTRUCTION SPECIFICATIONS**

- 1) Temporary diversions will be designed and constructed to adequately carry the runoff from a 2 Year - 6 Hour precipitation event.
- 2) Permanent diversions will be designed and constructed to adequately carry the runoff from a 10 Year - 6 Hour precipitation event.
- 3) Permanent diversions will be designed and constructed with gently sloping banks stabilized with appropriate vegetation.
- 4) All diversions will be designed, constructed and maintained, using the best technology currently available, whereas additional contribution of suspended solids to stream-flow and to runoff outside the permit area is prevented.
- 5) Maintenance of appropriate gradient, channel lining, revegetation, roughness structures, detention basins, etc. will be used, when necessary, as sediment control measures for these diversions.
- 6) Diversions will not be constructed on existing land slides nor be located so as to increase the potential for land slides.
- 7) Temporary diversions will be removed and the affected area regraded, topsoiled (if required) and revegetated in accordance with Rules 880-X-10C-.10, 880-X-10C-.11, 880-X-10C-.52 thru 880-X-10C-.57 and 880-X-10C-.58, 880-X-10C-.60 and 880-X-10C-.62, when no longer needed.
- 8) Channel linings, for diversions with slopes of three (3%) percent or less, will consist of a mixture of both annual and perennial grasses being predominantly fescue and bermuda. Channel linings, for diversions with slopes greater than three (3%) percent, will consist of riprap or other non-erodible material or cut into non-erodible material.
- 9) Adequate freeboard will be provided for protection for transition of flows and critical areas such as swales and curves along the entire diversion length.
- 10) At discharge points, where diversions intersect with natural streams or exit velocities of the diversion are greater than that of the receiving streams, energy dissipaters will be installed when deemed necessary.

**DIVERSION DITCH AND DIVERSION BERM  
DESIGN AND CONSTRUCTION SPECIFICATIONS  
(continued)**

- 11) Topsoil removed from the diversion area (if required) will be handled in accordance with Rules 880-X-10C-.07 thru 880-X-10C-.11.
- 12) Excess material excavated in the construction of the diversion, not needed for diversion channel geometry or the regrading of the channel, will be disposed of in accordance with Rule 880-X-10C-.36.
- 13) Diversions will not be designed or constructed to divert water into underground mines without written approval from the Regulatory Authority.
- 14) The entire area in which a diversion berm is proposed will be cleared and grubbed of all organic material, scarified, and no surface slopes will be left steeper than 1V:1H.
- 15) Diversion berms will be constructed with desirable material, free of sod, stones, roots, limbs, etc. over six (6") inches in diameter. This material will be spread in layers no greater than twelve (12") inches in thickness and compacted to ninety five (95%) percent of the standard proctor density, as outlined in ASTM, until the design height is reached.
- 16) Upon completion of construction of diversion ditches or diversion berms, all disturbed areas will be seeded with a mixture of both annual and perennial grasses, fertilized, and mulched in order to minimize erosion and ensure restabilization.
- 17) All diversions (berms or ditches) will be examined quarterly for erosion, instability, structural weakness, or other hazardous conditions and maintenance performed as necessary.

5. Transportation Facilities (780.33, 780.37)

See [Primary Road Map 1 of 2](#) and [Primary Road Map 2 of 2](#) Detailed Design Plans (hardcopies) for [Primary Road No. 3A, 4A, No. 6A and No. 6](#) are attached.

- (a) Describe the measures to be taken to ensure the interest of the public and landowners affected are protected if disturbance within 100 feet of the right-of-way or relocation of a public road is proposed.
  - (1) Appropriate warning signs will be posted along the road right-of-way a minimum of five (500') hundred feet from the entrance of the proposed disturbance.
  - (2) Appropriate advertisements, informing the public and affected landowners, will be run in the local newspaper prior to any disturbance within the one hundred (100') feet setback of or the relocation of any public road right-of-way.
  - (3) All safety requirements of the appropriate Federal, State, County, or Local governments, concerning public health and safety, will be followed.
  - (4) In areas where disturbance is proposed within one hundred (100') feet of the road right-of-way, earthen berms, guard rails, or barricades will be constructed as necessary to prevent accidental entrance into the mine area and to prevent safety hazards.
- (b) Describe any unique design, feature, or structure which is necessary for the road to meet the performance standards of Subchapter K using any necessary maps, plans, or cross-sections.

**[See Attachment III-B-5 Detail Design Plans for Primary Road No. 3A, 4A, 6 & 6A](#)**

- (c) Describe, in detail, the measures to be taken during construction, maintenance and use of the transportation facilities to prevent damage to fish and wildlife and their habitat; public and private property; and erosion, siltation, and pollution of water.

Silt fences, hay filter dams, dust control on roads, vegetation, diversion ditches and other prudent practices will be utilized in controlling runoff. Cut and fill slopes created by road construction shall be grassed to insure stabilization and prevent erosion.

**DESIGN, CONSTRUCTION, MAINTENANCE, AND  
RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS**

**1. LOCATION**

- A) Ancillary roads will be located on ridges or high areas or on the most stable available slopes so as to control and prevent erosion, siltation, flooding, and adverse impacts to fish and wildlife, or their habitat and related environmental values, to the extent possible.
- B) No part of any ancillary road will be located in the channel of an intermittent or perennial stream without written approval from the Regulatory Authority, in accordance with 880-X-10C-.12 thru 880-X-10C-.14 and 880-X-10C-.28.
- C) If at all possible, ancillary roads will be located upstream of sediment basins to prevent, control and minimize additional contributions of suspended solids to stream flow or runoff outside the permit area, the violation of applicable State or Federal water quality standards, seriously altering the normal flow of water in stream-beds or drainage channels, and damage to all public or private property.
- D) In instances where it is not possible to locate ancillary roads in the above manner, sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc.

**2. DESIGN REQUIREMENTS**

- A) Ancillary roads will be designed, constructed, reconstructed and maintained to have adequate drainage control structures to safely pass the peak runoff anticipated from a 10 year, 6 hour precipitation event.

**3. CONSTRUCTION REQUIREMENTS**

- A) The foundation area of the roadbed will be cleared and grubbed of all organic material and the topsoil will be removed. The disturbed area will be kept to the minimum necessary to accommodate the roadbed and/or associated drainage ditch construction.
- B) The road construction material will be suitable subgrade material, free of sod, roots, stumps, etc., and will not contain rocks which exceed twelve (12) inches in diameter. The road construction material will be placed in layers (12 inch maximum thickness) and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.
- C) The minimum top width of ancillary roads will under no circumstance be less than ten (10) feet and will be of maximum width necessary to facilitate the largest equipment using the road.

**DESIGN, CONSTRUCTION, MAINTENANCE, AND  
RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS  
(Con't.)**

- D) Roadbeds for ancillary roads will be cut into consolidated, non-erodible material or will be surfaced with sufficiently durable, non-toxic, non-acid forming material as needed for the anticipated duration and frequency of use of the road. Because of the short term duration and infrequency of use of most ancillary roads, sufficiently durable mine overburden material from the mine site will be used for surfacing material, placed and compacted on the roadbed surface a minimum depth of four (4) inches. In instances where ancillary roads are proposed for an extended duration or heavy usage is anticipated, then durable, non-toxic, non-acid forming material, such as chert, crushed limestone, redrock, and/or crushed sandstone will be placed and compacted on the roadbed surface a minimum depth of four (4) inches .
- E) Ancillary roads will be constructed with no sustained grades of ten (10%) percent, unless unavoidable. If unavoidable, sediment control facilities such as silt fences, hay dams and/or rock check dams will be installed at strategic locations to prevent erosion and insure stability. Grades greater than fifteen (15%) percent will require ditch relief drains, cross over drains and road drainways at a minimum of three hundred (300) feet apart.

**4. DRAINAGE AND SEDIMENT CONTROL REQUIREMENTS**

- A) Ancillary roads will be constructed, reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to bridges, culverts, drainage pipes, ditches, cross drains, and ditch relief drains designed to safely pass the peak runoff anticipated from a 10 year, 6 hour precipitation event. All drainage control structures will be designed and constructed in such a manner whereas, to allow a free and operating conditions to prevent, control, and minimize erosion at the inlets and outlets.
- B) Culverts and drainage pipes will be designed and installed to provide adequate support for the load of the largest equipment using the road. All culverts or drainage pipes with diameters of forty-eight (48) inches or less will be covered with a minimum of one (1) foot and the maximum cover will not exceed fifty-seven (57) feet of desirable compacted material. All culverts or drainage pipes with diameters greater than forty-eight (48) inches will be covered with a minimum of two (2) feet and the maximum cover will not exceed forty-one (41) feet of desirable compacted material.
- C) Culverts and drainage pipes will be designed and installed to allow adequate freeboard to prevent overtopping of the embankment.
- D) Drainage ditches, cross drains, and ditch relief drains will be constructed and maintained, as needed, to prevent uncontrolled surface drainage over the road surface and roadway embankment.
- E) Drainage ditches will be constructed with no sustained grades greater than five (5%) percent, unless unavoidable. If ditches must be constructed with grades in excess of five (5%) percent, drainage ditches will be lined with suitable liner material, such as, riprap, concrete, asphalt or durable rock, to prevent erosion and insure stabilization.

**DESIGN, CONSTRUCTION, MAINTENANCE, AND  
RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS  
(Con't.)**

- F) Sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc. in strategic locations, where necessary.
- G) Upon completion of construction of ancillary roads, the side slopes of the roadway cut and fill sections, including all borrow areas formed in the construction, areas used for disposal of excess material, ditches, etc. will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure restabilization. Grass mixtures will include, but not be limited to, fescue, bermuda, rye grass, browntop millet, clover and sericea.

**5. INSPECTION AND MAINTENANCE REQUIREMENTS**

- A) Routine inspections and maintenance (such as regrading, resurfacing, maintenance of sediment control structures, spot replanting, and dust control) will be conducted regularly during the life of each road to ensure that each road continually meets design and performance standards.
- B) Dust control will be achieved by the periodic application of water, chemical binders and/or other dust suppressants.
- C) Any road damaged by a catastrophic event, such as a flood, or earthquake, will be repaired as soon as is practicable after the damage has occurred.

**6. REMOVAL AND RECLAMATION REQUIREMENTS**

- A) All roads not to be retained under an approved postmining land use will be removed and reclaimed in accordance with the approved grading and reclamation plans as soon as practicable after it is no longer needed for mining and reclamation purposes. This removal and reclamation will include:
  - 1. Closing the road to traffic;
  - 2. Removing all bridges, culverts, drainage pipes, and other drainage control structures, unless otherwise approved as part of the postmining land use;
  - 3. Removing and/or otherwise disposing of road surfacing materials, that are not compatible with the postmining land use and revegetation requirements, onsite or removed and stored for re-use;
  - 4. Reshaping and regrading cut and fill slopes as necessary to be compatible with the postmining land use and to compliment the natural drainage pattern of the surrounding terrain;

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5. Protecting the natural drainage patterns by installing dikes or cross drains as necessary to control surface runoff and erosion;

**DESIGN, CONSTRUCTION, MAINTENANCE, AND  
RECLAMATION SPECIFICATIONS FOR ANCILLARY ROADS  
(Con't.)**

6. Scarifying or ripping the roadbed, replacing topsoil or substitute material, and revegetating the entire disturbed area in accordance with the approved reclamation plan.

**7. TYPICAL ROADBED CONFIGURATION**

- A) See [attached typical ancillary road drawing](#) for an illustration of the typical roadbed configurations.

**DESIGN, CONSTRUCTION, MAINTENANCE, AND  
RECLAMATION SPECIFICATIONS FOR PRIMARY ROADS**

**1. LOCATION**

- A) Primary roads will be located on ridges or high areas or on the most stable available slopes so as to control and prevent erosion, siltation, flooding, and adverse impacts to fish and wildlife, or their habitat and related environmental values, to the extent possible.
- B) No part of any primary road will be located in the channel of an intermittent or perennial stream without written approval from the Regulatory Authority, in accordance with 880-X-10C-.12 through 880-X-10C-.14 and 880-X-10C-.28.
- C) If at all possible, all primary roads will be located upstream of sediment basins to prevent, control and minimize additional contributions of suspended solids to stream flow or runoff outside the permit area, the violation of applicable State or Federal water quality standards, seriously altering the normal flow of water in stream-beds or drainage channels, and damage to all public or private property.
- D) In instances where it is not possible to locate primary roads in the above manner, sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc.

**2. DESIGN REQUIREMENTS**

- A) Primary roads will be designed by or under the direct supervision of a qualified registered Professional Engineer experienced in the design and construction of roads, in accordance with the ASMC rules and regulations, and current, prudent engineering practices. No Primary Road grade will be steeper than seventeen (17) percent.
- B) All primary roadway embankments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.3.
- C) All primary roads will be designed, constructed, reconstructed and maintained to have adequate drainage control structures to safely pass the peak runoff anticipated from a 10 year, 6 hour precipitation event.

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**3. CONSTRUCTION REQUIREMENTS**

- A) The foundation area of the roadbed will be cleared and grubbed of all organic material and the topsoil will be removed. The disturbed area will be kept to the minimum necessary to accommodate the roadbed and/or associated drainage ditch construction.
- B) The road construction material will be suitable subgrade material, free of sod, roots, stumps, etc., and will not contain rocks which exceed twelve (12) inches in diameter. The road construction material will be placed in layers (12 inch maximum thickness) and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.
- C) The minimum top width of primary roads will under no circumstance be less than sixteen (16) feet and will be of maximum width necessary to facilitate the largest equipment using the road.
- D) All slopes (cut and fill) will be no steeper than 2 horizontal to 1 vertical, unless specified otherwise in the detailed design.
- E) Roadbeds will be cut into consolidated, non-erodible material or will be surfaced with durable, non-toxic, non-acid forming material. In most instances, durable sandstone overburden material from the mine site will be used for surfacing material. In instances where durable sandstone overburden material from the site is not available or suitable, then durable, non-toxic, non-acid forming material, such as chert, crushed limestone, redrock, and/or crushed sandstone will be hauled in from off site, placed and compacted on the roadbed surface a minimum depth of four (4) inches.
- F) Primary roads will be constructed with grades as shown on the Detailed Primary Road Design Plans as approved by the ASMC. No Primary Road grade will be steeper than seventeen (17) percent.

#### **4. DRAINAGE AND SEDIMENT CONTROL REQUIREMENTS**

- A) Primary roads will be constructed, reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to bridges, culverts, drainage pipes, ditches, cross drains, and ditch relief drains designed to safely pass the peak runoff anticipated from a 10 year, 6 hour precipitation event. All drainage control structures will be designed and constructed in such a manner whereas, to allow a free and operating conditions to prevent, control, and minimize erosion at the inlets and outlets.
  
- B) Culverts and drainage pipes will be designed and installed to provide adequate support for the load of the largest equipment using the road. For design purposes, "H-20" (live load + impact) was used. All culverts or drainage pipes with diameters of forty-eight (48) inches or less will be covered with a minimum of one (1) foot and the maximum cover will not exceed fifty-seven (57) feet of desirable compacted material. All culverts or drainage pipes with diameters greater than forty-eight (48) inches will be covered with a minimum of two (2) feet and the maximum cover will not exceed forty-one (41) feet of desirable compacted material. See Detailed Primary Road Design Plans for actual depth of material proposed above each culvert or drainage pipe.
  
- C) Culverts and drainage pipes will be designed and installed to allow adequate freeboard to prevent overtopping of the embankment.
  
- D) Drainage ditches, cross drains, and ditch relief drains will be constructed and maintained to prevent uncontrolled surface drainage over the road surface and roadway embankment.
  
- E) Drainage ditches will be constructed with no sustained grades greater than five (5%) percent, unless unavoidable. If ditches must be constructed with grades in excess of five (5%) percent, drainage ditches will be lined as shown on the Primary Road Detailed Design Plans.
  
- F) Sediment control will be achieved by the use of silt fences, rock check dams, hay bale berms, etc. in strategic locations, to prevent excessive siltation to the receiving streams.
  
- G) Upon completion of construction of all roads, the side slopes of the roadway cut and fill sections, including all borrow areas formed in the construction, areas used for disposal of excess material, ditches, etc. will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure

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restabilization. Grass mixtures will include, but not be limited to, fescue, bermuda, rye grass, browntop millet, clover and sericea.

**5. INSPECTION AND MAINTENANCE REQUIREMENTS**

- A) Routine inspections and maintenance (such as regrading, resurfacing, maintenance of sediment control structures, spot replanting, and dust control) will be conducted regularly during the life of each road to assure that each road continually meets design and performance standards.
- B) Dust control will be achieved by the periodic application of water, chemical binders and/or other dust suppressants.
- C) Any road damaged by a catastrophic event, such as a flood, or earthquake, will be repaired as soon as it is practicable after the damage has occurred.

**6. CERTIFICATION REQUIREMENTS**

- A) Primary roads will be designed by or under the direct supervision of a qualified registered Professional Engineer experienced in the design and construction of roads, in accordance with the ASMC rules and regulations, and current, prudent engineering practices. Each design will be certified by a registered Professional Engineer as being designed in accordance with the Regulations of the Alabama Surface Mining Commission, Chapter 880-X-10.
- B) Upon the completion of the construction of each section of the primary road, as set forth in the detailed design plans, the construction will be certified by a registered Professional Engineer, to the Alabama Surface Mining Commission, as being constructed in accordance with the approved detailed design plans.
- C) In the event that a primary road is mined through in the mining process and must be reconstructed, the newly constructed primary road will be reconstructed to the minimum design criteria within the detailed design plans and the construction will be certified by a registered Professional Engineer, to the Alabama Surface Mining Commission, as being constructed in accordance with the approved detailed design plans.

## 7. REMOVAL AND RECLAMATION REQUIREMENTS

- A) All primary roads which are not mined through and remain after the completion of mining may be left as permanent roads for landowner access, if there is no opposition by said landowner.
- B) All primary roads which are not mined through and remain after the completion of mining which are not to be retained as permanent for landowner access will be removed and reclaimed in accordance with the approved grading and reclamation plans as soon as practicable after it is no longer needed for mining and reclamation purposes. This removal and reclamation will include:
  - 1. Closing the road to traffic;
  - 2. Removing all bridges, culverts, drainage pipes, and other drainage control structures, unless otherwise approved as part of the post mining land use;
  - 3. Removing and/or otherwise disposing of road surfacing materials, that are not compatible with the post mining land use and revegetation requirements, onsite or removed and stored for re-use;
  - 4. Reshaping and regrading cut and fill slopes as necessary to be compatible with the post mining land use and to compliment the natural drainage pattern of the surrounding terrain;
  - 5. Protecting the natural drainage patterns by installing dikes or cross drains as necessary to control surface runoff and erosion;
  - 6. Scarifying or ripping the roadbed, replacing topsoil or substitute material, and revegetating the entire disturbed area in accordance with the approved reclamation plan.

## 8. TYPICAL ROADBED CONFIGURATION

- A) See attached [typical primary road drawing](#) for an illustration of the typical roadbed configurations.