

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
Permit Number: P- 3233 / Revision R-21

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 original permit and subsequent revision applications.

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)

The timing increments are as follows:

<u>INCREMENT NO.</u>	<u>ACRES</u>	<u>DATES</u>	
		<u>FROM</u>	<u>TO</u>
1	786	Issuance of R-20	Life of permit
2	72	Issuance of R-20	Life of permit

\*Month depends on date permit is issued.

The sequence of mining operations will be generally as follows:

- 1) Construction of Sediment Control Structures
- 2) Site Preparation
- 3) Construction
- 4) Site Reclamation
- 5) Revegetation

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ATTACHMENT III-A-1  
TYPE AND METHOD OF COAL MINING PROCEDURES

There will be no mining at this site as this site is a coal preparation plant. Preparation will consist of (a) timber removal (b) topsoil removal (c) coal processing (d) regrading and revegetation. Once the site has been regraded soil samples will be analyzed (where required) and proper nutrients will be added before revegetation. Any problem that may arise will be handled by proper consulting personnel utilizing various support equipment and support personnel.

Revision R-21 proposes to modify the Coarse Coal Refuse Disposal Area. The modification consists of expanding the Refuse Disposal Area, within the current Permit Boundary, to the East. The Coarse Refuse Disposal Area expansion will follow the Specifications shown in Attachment III-A-3-(b) COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS and the Detailed Design Plans. Generally it will consist of clearing and grubbing of the expansion area followed by topsoil removal and stockpiling. After this foundation preparation is completed the placement of the refuse material will begin in lifts not to exceed 2 feet in thickness followed by compaction to a minimum of 90% of the Standard Proctor Density and outer slopes constructed on a 2.5 horizontal to 1 vertical slope. As the refuse reaches a height of 50 feet slope bench and down drains will be constructed as shown in the detailed design plans. This process will repeat itself until the refuse reaches a maximum height of the 730 elevation. A 2 feet thick layer of cover material will be placed on the finish graded Coarse Refuse followed by the immediate re-vegetation placement of seed, fertilizer, lime and mulch as detailed in the reclamation plan. The Detailed Design Plans for the Coarse Refuse Disposal Area Expansion East are included in this revision. This expansion East will necessitate the covering of an existing diversion ditch leading to Basin 03AE. The drainage control plan has been modified to re-direct runoff currently entering Basin 003AE through an existing diversion ditch to Basin 018 via Diversion Ditch F-F'. Detailed Design Plans are included in this revision for Basin 018E Modification and Diversion Ditch F-F'.

See Attachment III-B-2(d) Detailed Design Plans of Coarse Refuse Disposal Area Expansion to the East.

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3. Attach a narrative explaining the construction modification, use, maintenance, and removal of the following facilities: (780.11)
  - (a) Coal removal, handling, storage, cleaning and transportation structures and facilities;
  - (b) Spoil, coal processing waste and non-coal waste removal, handling, storage, transportation and disposal structures and facilities;
  - (c) Mine facilities; and
  - (d) Water pollution control facilities.

See Attachment III-A.-3

4. Describe the means to be used to maximize the use and conservation of coal reserves in the permit area. (780.18, 816.59)

Some of the measures are:

- A) Mining utilizing the Longwall Method for maximum recovery.
- B) Washing and blending coal that in its "raw" condition would not be marketable.

5. Describe measures to be taken to ensure that all debris, acid-forming and toxic-forming materials and materials constituting a fire hazard are disposed of in accordance with 816.89 and 816.103; include contingency plans to prevent sustained combustion of such material. (780.18)

Should acid or toxic forming material be encountered, the material will either be covered with a minimum of four (4) feet of non-toxic and noncombustible material or treated to neutralize toxicity, prevent water pollution, prevent sustained combustion, and minimize adverse effects on plant growth and land uses. Additionally, no acid or toxic forming material will be buried or stored in the proximity of a drainage course. All acid or toxic forming material will be selectively hauled or conveyed, and compacted in the coarse refuse disposal area.

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Attachment III-A-3

3. (b)

Revision R-21 consists of the modification to the Coarse Refuse Disposal Area by expansion to the East. The maximum elevation will remain at 730 elevation over the entire Coarse Refuse footprint, except for the pool area of Slurry Impoundment No. 3 until the decision is made to stop pumping slurry into Slurry Impoundment No. 3 and reclaim by covering and filling with Coarse Refuse up to the 730 elevation.

Slurry Impoundment No. 3 will be used to collect and store fine coal waste produced from the washing operations at this facility and will be inspected and maintained until reclamation of the area is complete. Impoundment construction and any subsequent modifications that may be required will be conducted under the general supervision of a qualified registered professional engineer and will be done in accordance with the approved design plans.

Coarse Refuse Disposal Area is an existing structure and the Modification will be used to store additional coarse coal waste produced from the washing operations at this facility and will be inspected and maintained until reclamation of the area is complete. Waste bank construction and any subsequent modifications that may be required will be conducted under the general supervision of a qualified registered professional engineer and will be done in accordance with the approved design plans. The waste bank will be constructed of coarse refuse produced at this facility. See Attachment III-A-3(b) for specifications.

Routine maintenance of the Coarse Refuse Disposal Area will consist of repair and stabilization of any rills and gullies which may develop and repairs to erosion protection structures as required. The waste bank will be inspected by a registered professional engineer or other qualified professional specialist under the direct supervision of the qualified professional engineer. Inspections will be made at least quarterly and during times of removal of organic material and topsoil, installation of diversion ditches, installation of internal drains, placement and compaction of refuse material, and re-vegetation of the fill. Certification inspection reports will be filed with the Regulatory Authority stating that proper construction and maintenance are occurring in accordance with approved design plans. Photos will be taken of internal drains, etc. that will be covered and unavailable for inspection upon coving by fill material. Inspection reports will be retained at the facility office.

See Attachment III-A-3(b) for specifications.

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Attachment III-A-3(b)

#### COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS

All coarse refuse will be placed in Coarse Refuse Disposal Area. (See Permit Map.) The disposal plans will be designed using current prudent engineering practices and Regulatory Authority design criteria and certified by a qualified registered professional engineer.

All surface drainage will be routed around the outslope of the waste bank by using diversion ditches. The diversion ditches will be designed to pass a peak flow from a 100 yr. - 6 hr. precipitation event.

All vegetation and any organic material will be removed prior the construction of the embankment. Any topsoil removed will be segregated and stored on-site for future reclamation needs.

All refuse material will be transported and placed in a controlled manner in the waste bank. The liming rate required to neutralize the material will be calculated and submitted to the regulatory authority for approval prior to adjusting the rate.

Slopes of the waste bank will be maintained at a minimum slope to be specified within the detailed design plans. The slopes of the waste bank will be designed to exceed a 1.5 minimum long term static safety factor.

Sufficient site and laboratory investigations will be performed on the foundation area and the fill material to be utilized in the design of the fill. If a potential hazard is revealed, the Regulatory Authority will be informed and necessary safety measures will be implemented.

The waste bank will be inspected by a registered professional engineer or other qualified professional specialist under the direct supervision of the qualified professional engineer. Inspections will be made at least quarterly and during times of removal of organic material and topsoil, installation of diversion ditches, installation of underdrains, placement and compaction of refuse material, and revegetation of the fill. Photographs of the underdrain will be taken during and after their construction but prior to their cover. Certification inspection reports will be filed with the Regulatory Authority stating that proper construction and maintenance are occurring in accordance with approved design plans. Inspection reports will be retained at the facility office.

Upon completion of operations, the waste bank area will be graded using mobile equipment to the configuration approved in the design plans. The waste bank will be covered with a minimum of two (2) feet of the best available non-toxic, non-acid forming, and non-combustible material. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. The cover material will be sampled and analyzed to determine the correct amount of soil amendments to be added to the cover material. Soil amendments, including lime and fertilizer, will be added and discd into the cover material in rates as recommended by laboratory analysis performed upon the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.

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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 and 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 and 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 Sections 780.25(a)(2 and 3) and 816.81-816.85 for each coal processing waste bank to be constructed on the increment you currently propose to mine.

See attachment III-B-2(d)

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

None proposed

3. Diversions. (780.29, 816.43, 816.44)

Are diversions of overland flow or stream channel diversions proposed?  
(XXX) Yes ( ) No

If yes, complete the following:

- (a) Is the diversion to be permanent?  
(XXX) Yes ( ) No  
(b) Describe in detail the proposed diversion and include plans, maps and cross-sections which comply with 816.43 and 816.44.

See Detailed Design Plans for Diversion Ditch F-F'.

Any soil encountered in the excavation process will be stockpiled within the Permit Boundary to be used for cover material during the reclamation of the Coarse Refuse Disposal Area.

Any rock material encountered in the excavation process will be used for compacted fill in the ditch area currently flowing to Basin 003A. It may be stockpiled temporarily prior to placement.

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

Not applicable.

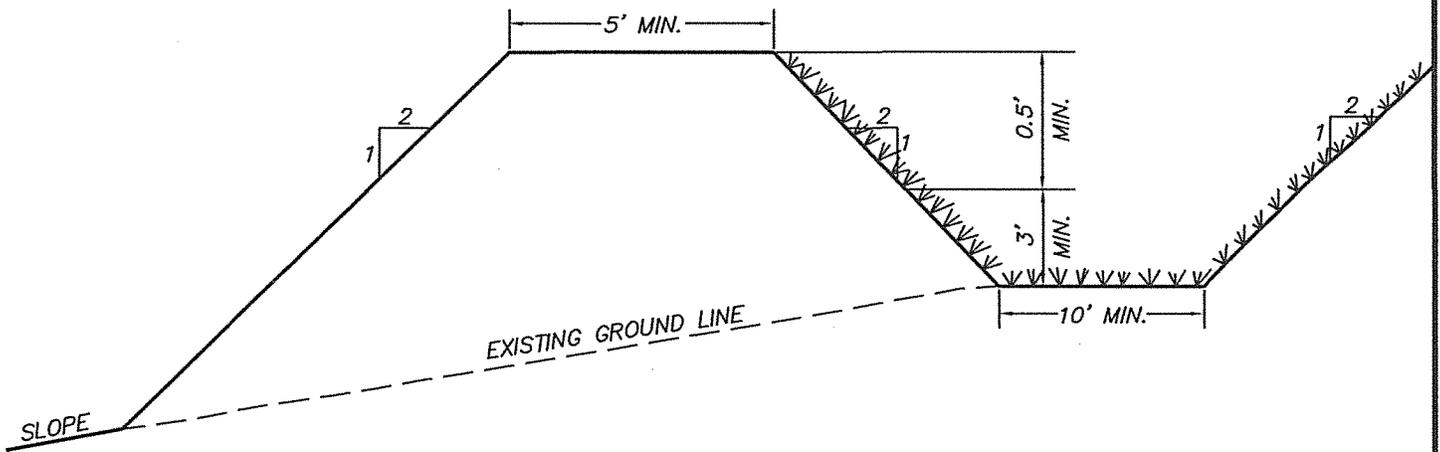
- (d) Enclose approvals of other government agencies, where required.

None required.

ATTACHMENT III-B-3  
 DIVERSION/BERM CROSS SECTION  
 Oak Grove Resources, LLC  
 Concord Prep. Plant  
 P-3233 Revision R-21

DIVERSION/BERM DETAIL

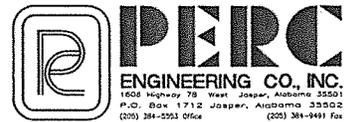
DIVERSION A-A'



TYPICAL DIVERSION/BERM CROSS SECTION

CHANNEL LINING TO CONSIST OF A MIXTURE OF BERMUDA AND FESCUE GRASSES.

Note: The berm material is to consist of a clay material. The Material will be placed in 6 inch lifts and compacted to 95% of the standard proctor density. The standard proctor density will be determined prior to the placement of the material.



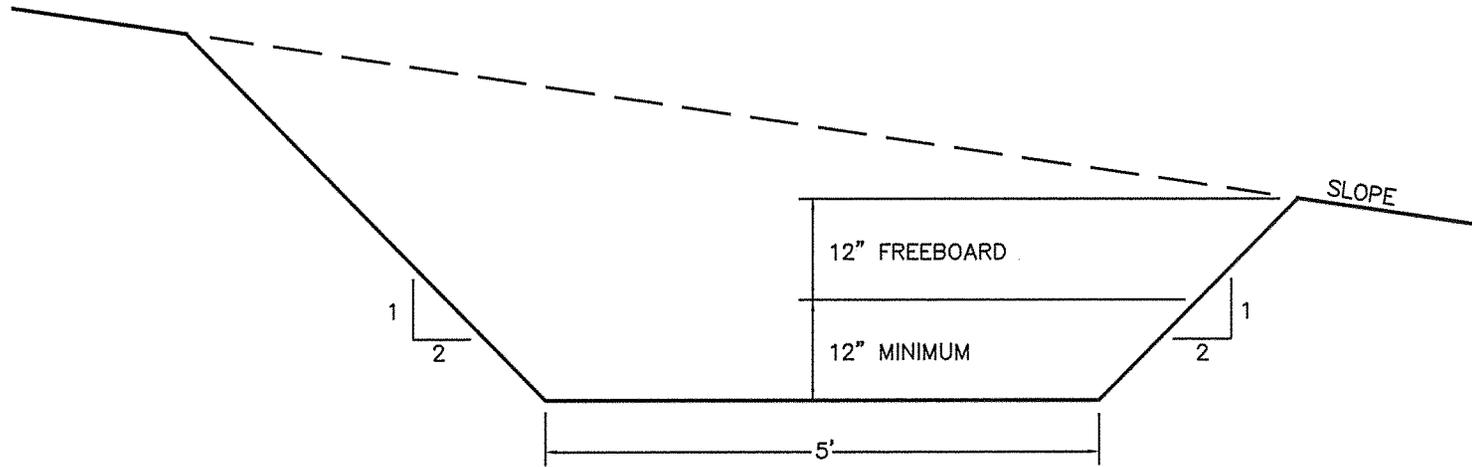
**Typical Diversion  
 Berm Detail**

DRAWN BY: J.J.H.  
 DWG. NAME: BRMTYP1

DATE: 1-23-97

APPROVED BY: S.R.I.

SCALE: NONE



# DIVERSION DITCH

TYPICAL DIVERSION CROSS-SECTION  
NO SCALE  
CHANNEL LINING TO CONSIST OF A MIXTURE OF FESCUE AND BERMUDA GRASS

ATTACHMENT III-B-3  
DIVERSION CROSS-SECTION  
Oak Grove Resources, LLC  
Concord Prep. Plant  
P-3233 Revision R-21

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Attachment III-B-2(a)

CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B-2(a) prepared for Oak Grove Resources, LLC Concord Preparation Plant, is in accordance with the Regulations of the Alabama Surface Mining Commission as adopted by Act 81-435 of December 18, 1981 and amended to date, and is true and correct to the best of my knowledge, information and belief.



Leslie G. Stephens, P.L.S. & P.E.  
AL Registration No. 14117-E

05/14/2015  
Date



Applicant: Oak Grove Resources, LLC  
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Attachment III-B-2(a)

ADDENDUM TO THE GENERAL PLAN

The addendum to the general plan consists of submitting modification plans for the Coarse Refuse Disposal Area. The modification to the Coarse Refuse Disposal Area will be the expansion to the East approaching Basin 018, 003A, 003B and 008 sediment basins.

The modification to the Coarse Refuse Disposal Plans will be the first phase of the future plan for expansion to the Refuse Disposal area East of Basins 018, 03A, 03B and 008. The drainage ditch directing drainage to the entrance of Basin 003A will be replaced by Diversion Ditch F-F' directing flow to Basin 018. Detailed Design Plans for the Diversion Ditch and the Modification of Basin 018 are included in this revision application. See Attachment III-B-2(d) Coarse Refuse Disposal Area Detailed Design Plans, Attachment III-B-2(a) Detailed Design Plans for Basin 018 Re-evaluation/Modification, Attachment III-B-3-(b) Detailed Design Plans for Diversion Ditch F-F' and See Attachment III-A-3(b) Coarse Coal Processing Waste Embankment Requirements

Drainage Control for the modification of the Coarse Refuse Disposal Site is through Sediment Ponds No. 3AE, 3BE, 008E, 018E Modified, and Collection Pond No. 3E. Due to the proposed construction of Diversion Ditch F-F' the drainage area will be increased to Basin 018E and the re-evaluation resulted in the need for modification to the Impoundment as shown in the Detailed Design Plans for Basin 018E Modification. No additional area is being added to any of the other basins therefore no re-evaluation or modifications are required. See attached watershed map for basin and diversion ditch locations and preliminary hydrologic information.

Geologic investigations indicate that Coarse Refuse Disposal Area is underlain by a shale and sandstone foundation overlain by coarse and fine coal refuse. The strata in the area is characterized by small scale normal faulting and gentle open folding.

All surface drainage from the proposed mining area flows into a Unnamed Tributary to Lick Creek and Lick Creek.

See Attachment III-B-2(a) for the Watershed Map.

See Attachment III-B-2(d) Coarse Refuse Disposal Area Detailed Design Plans

See Attachment III-B-2(a) Detailed Design Plans Basin 018  
Re-evaluation/Modification

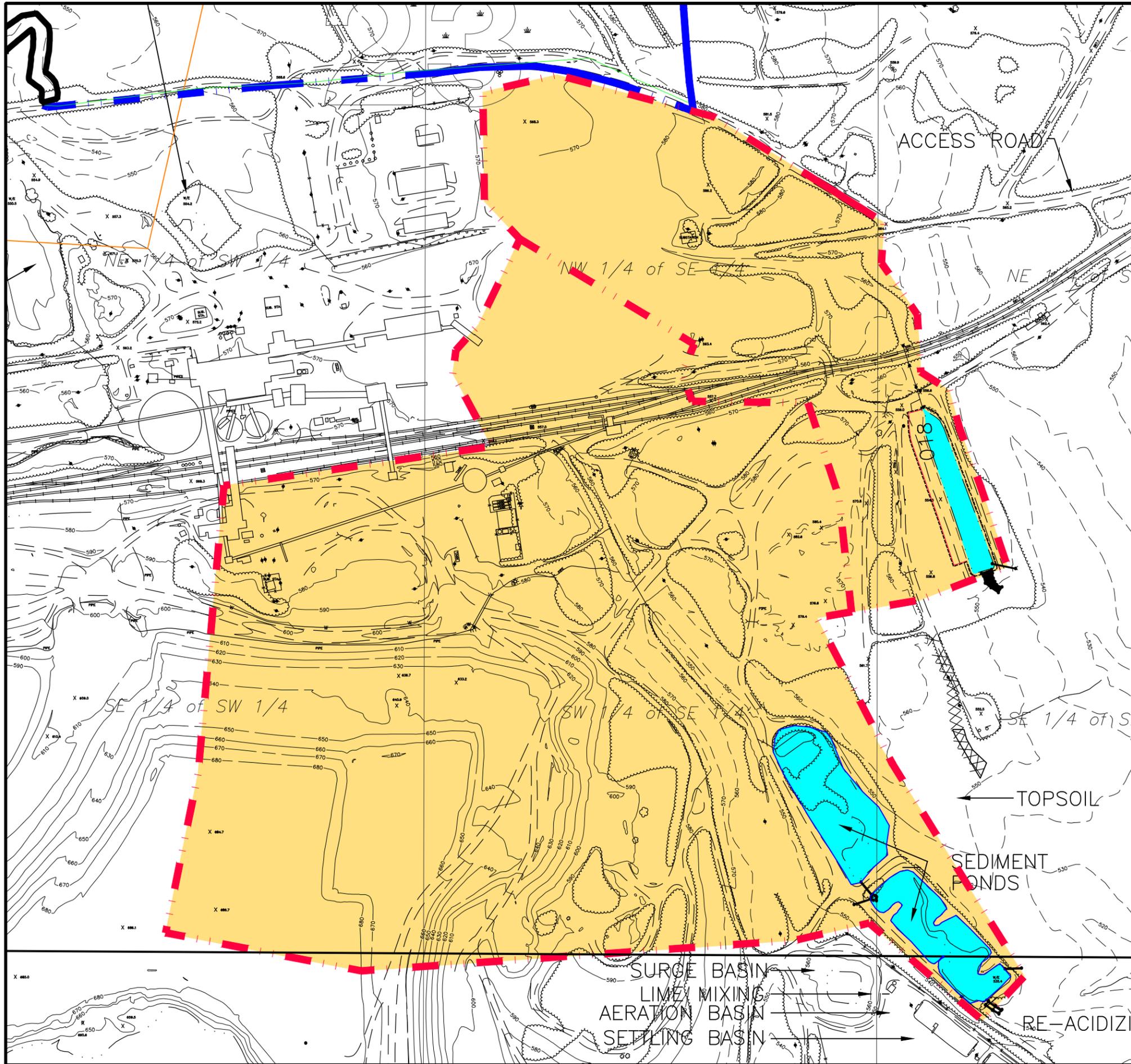
See Attachment III-B-3-(b) Detailed Design Plans for Diversion Ditch F-F'

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Attachment III-B-2-A

<u>Basin No.</u>	<u>Location</u>	<u>Drainage Area (Acres)</u>
Collection Pond 003E	SW/NE of Section 26	60.0
Sediment Pond 003AE	SW/SE of Section 23	77.4
Sediment Pond 003BE	NE/NE of Section 26 and SE/SE & SW/SE of Section 23	77.4
008E Under drain seepage from Refuse	NE/NE of Section 26	10.0
018E Re-evaluated/Modify	NE/SE & SE/SE of Section 23	77.7

All basins are located within Township 18 South, Range 5 West, Jefferson County, Alabama, as found on the Concord Alabama USGS Quadrangle Map.



**LEGEND**

--700-- Surface Contour

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**LANDUSE AND CURVE NUMBER INFORMATION**

GRADED AND BARE, CURVE NUMBER, 81  
 SEDIMENT BASIN, CURVE NUMBER, 100  
 Watershed Boundary

# PERC

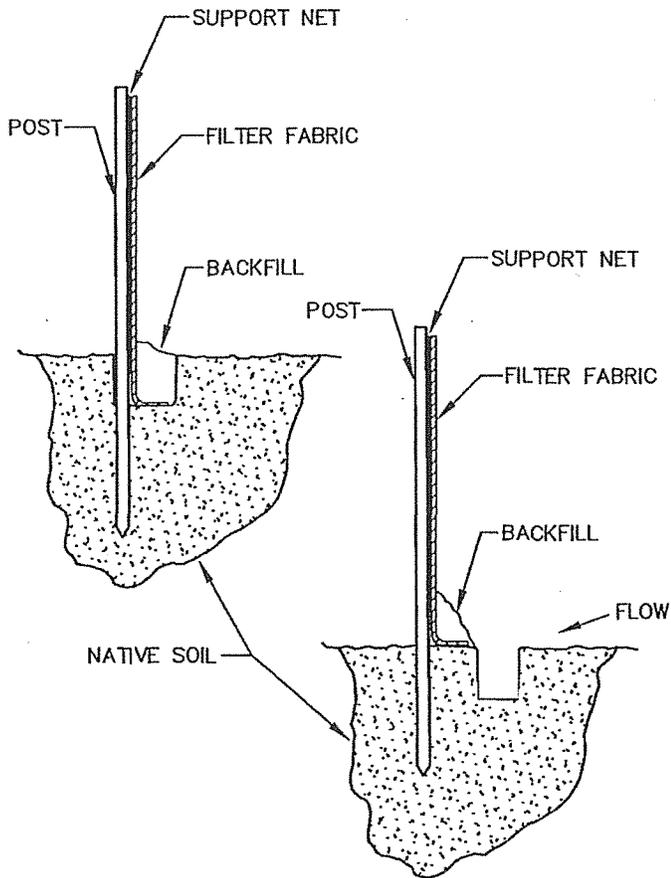
## ENGINEERING CO., INC.

1606 Hwy. 78 West Jasper, AL 35501/P.O. Box 1712-35502  
(205) 384-5553 Office (205) 295-3114 Fax

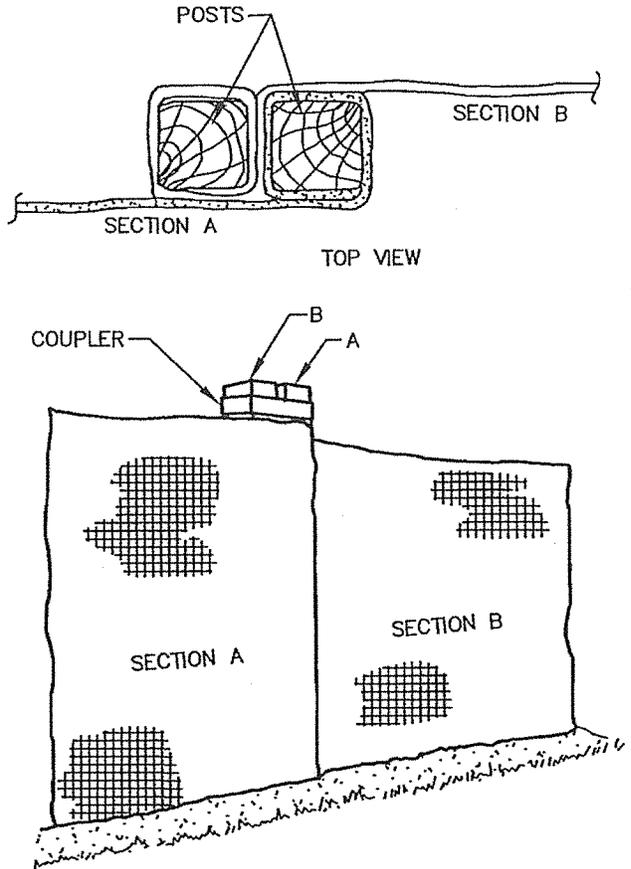
**OAK GROVE RESOURCES, LLC.**  
**CONCORD PREP PLANT / P-3233 R-21**  
**ATTACHMENT III-B-2(a)**  
**CURRENT WATERSHED MAP**

.DWG NAME: Oak Grove - Concord - Diversion Ditch - Watershed and Profile.	DATE: 05-14-2015	
DRAWN BY:	S.A.E.	SCALE: 1"=300'
APPROVED BY:	L.G.S.	JOB NUMBER: 15-03904-008

X:\Utility\Oak Grove Resources, LLC\Map\OakGroveConcord P-3233 R-21\Oak Grove - Concord - Diversion Ditch - Watershed and Profile.dwg 05/15/15 07:08



TOE-IN METHOD



JOINING SECTIONS OF SILT FENCE

### CONSTRUCTION SPECIFICATIONS

- 1.) SILT FENCING SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY FITTING THE ADJACENT FENCE SECTION.
- 2.) EACH SECTION OF FENCING SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 6".
- 3.) FENCING SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS AT A SPACING NOT TO EXCEED 6'.
- 4.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



## SILTFENCE TYPICAL

DRAWN BY: K.D.P.  
DWG. NAME: SILTFENC

DATE: 6-24-91

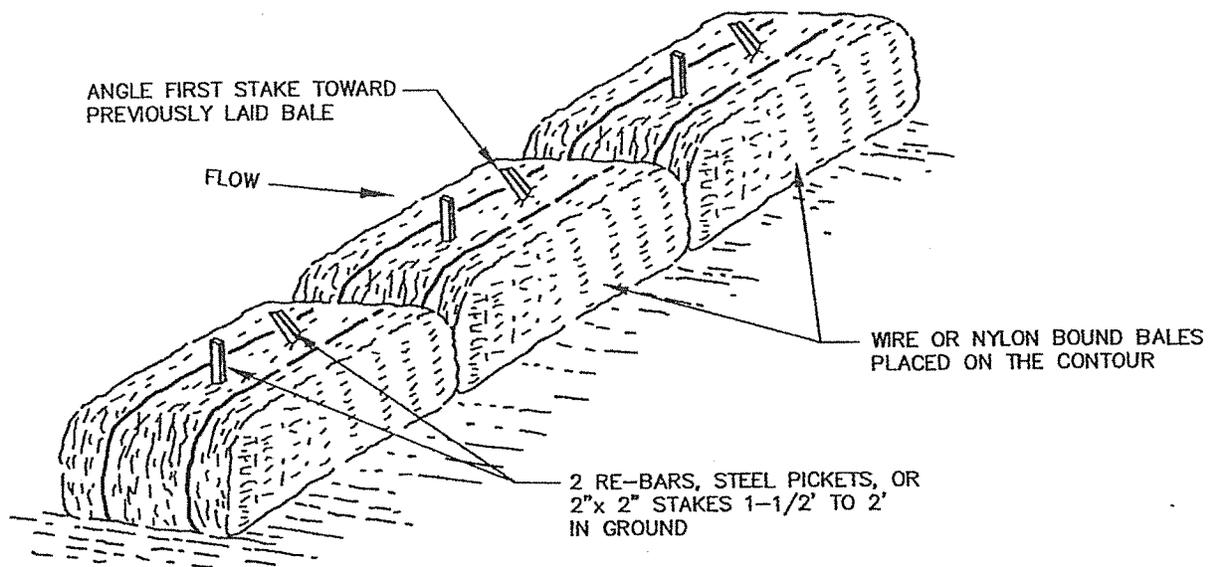
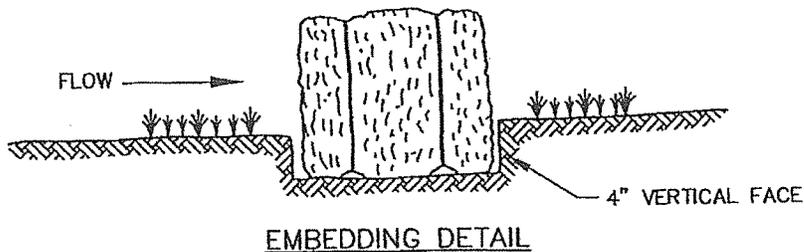
APPROVED BY: R.E.P.

SCALE: NONE

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
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#### Silt Fencing Design and Construction Specifications

1. Fence height - 3' including 6" trench flap.
2. Silt fencing will be secured into place by prefabricated wood or metal posts spaced as necessary.
3. The silt fence will have an equivalent opening size of 30-50 mesh by U.S. Standard Sieve.
4. The maximum particle size passing the silt fence will be .59 millimeter.
5. The flow rate of the silt fence will be 20 gallon per minute per square foot.
6. The silt fence will have a burst strength of 210 pound per square inch.
7. The grab tensile elongation of the silt fence will be 15%.
8. The grab tensile strength of the silt fence will be 100 pounds.
9. The silt fence will be installed by initially excavating a trench approximately 6" wide by 6" deep along the contour for the entire length of the silt fence. Upon completion of the trench, the silt fence will be stretched along the trench with the prefabricated wood or metal posts being driven into the ground approximately 1.5' deep against the upper wall of the trench. The 6" trench flap will then be placed into the trench and covered with compacted fill material.
10. Inspections of the silt fence will be made bimonthly and repair or replacement will be made promptly as required.
11. Accumulated sediment will be removed from the silt fencing when necessary to ensure the proper function of the silt fencing. Accumulated sediment will be disposed of within Coarse Refuse Area No. 1.
12. Prior to the removal of the silt fence, any silt or sediment retained by the silt fence will be seeded with a mixture of both annual and perennial grasses, fertilized, and mulched to establish a permanent and diverse vegetative cover.



### CONSTRUCTION SPECIFICATIONS

- 1.) BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- 2.) EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
- 3.) BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- 4.) INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



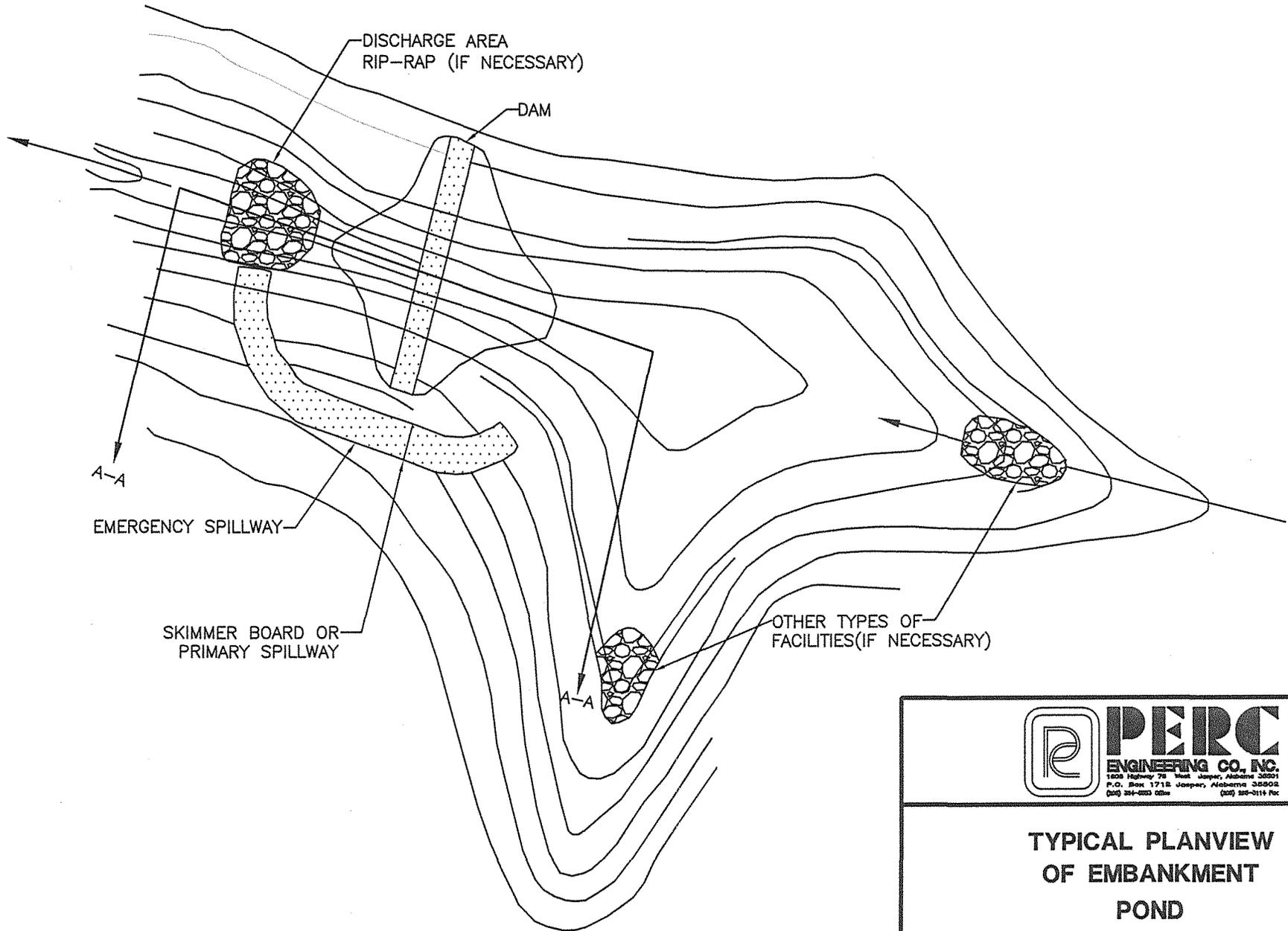
## HAY BALE BARRIER TYPICAL

DRAWN BY: K.D.P.  
DWG. NAME: HAYDAM

DATE: 6-24-91

APPROVED BY: R.E.P.

SCALE: NONE

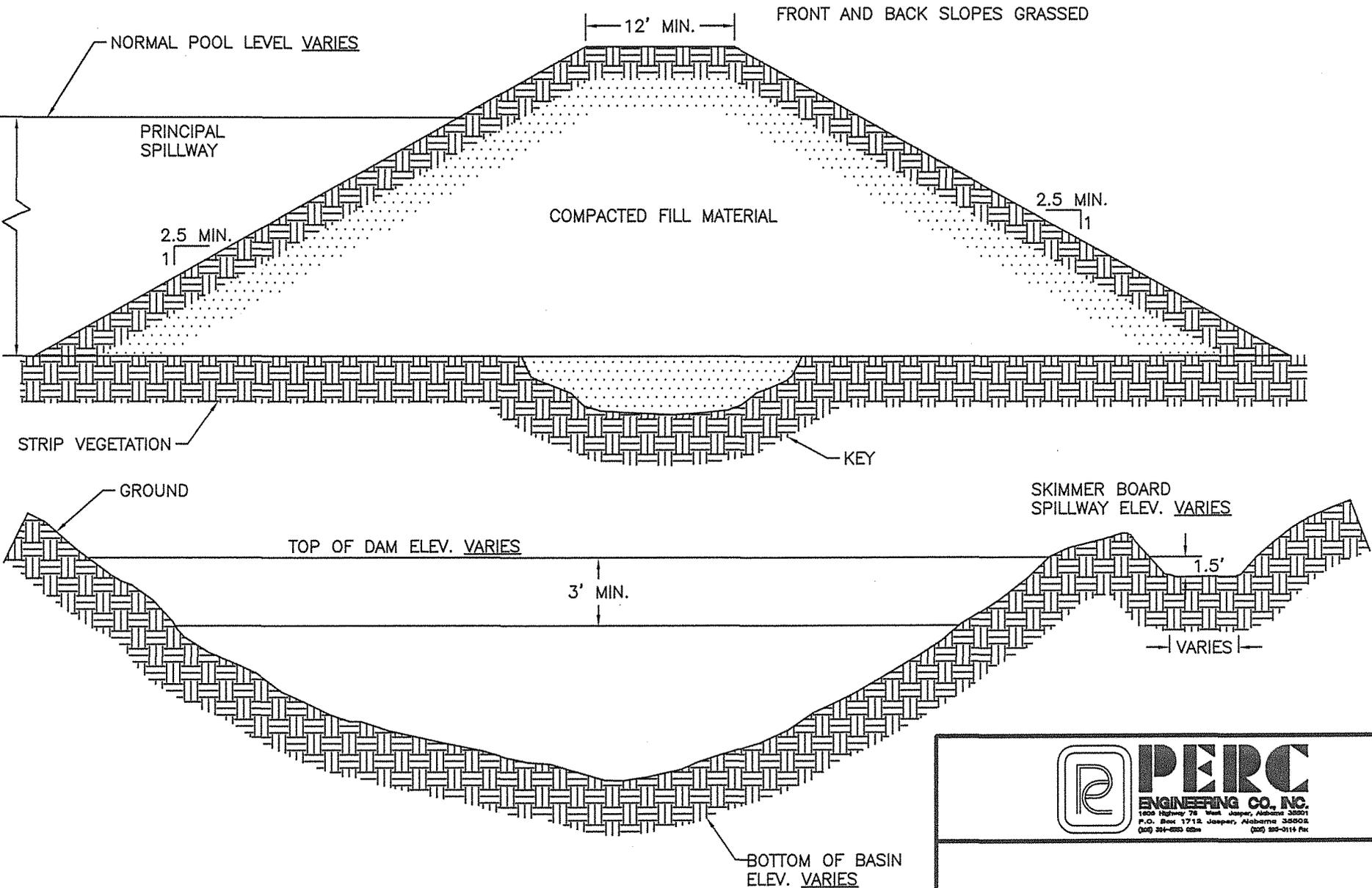


PLANVIEW OF EMBANKMENT POND



**TYPICAL PLANVIEW  
OF EMBANKMENT  
POND**

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE



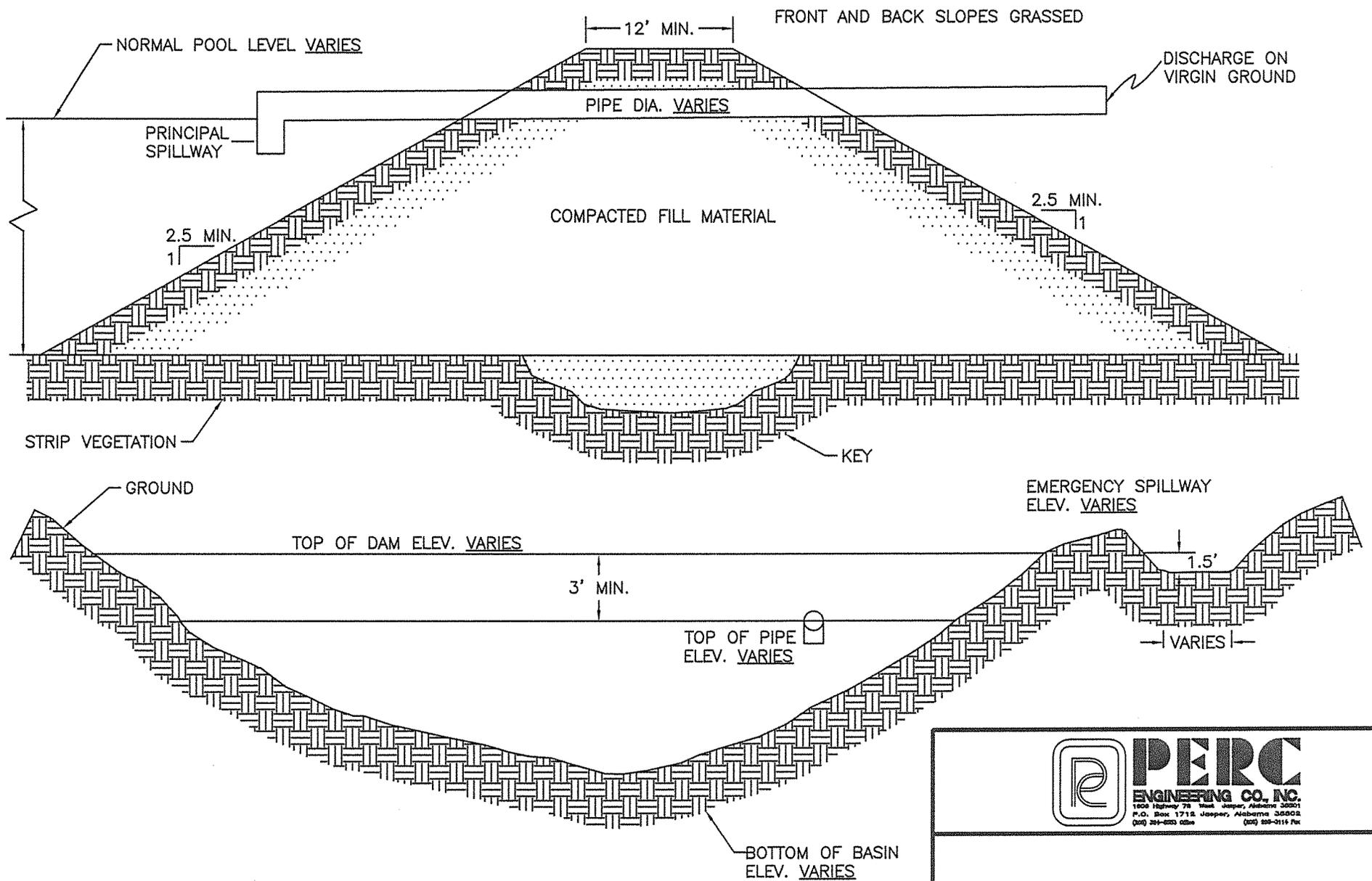
TYPICAL DAM DETAIL  
NO SCALE

ATTACHMENT III-B-2-A



TYPICAL DAM DETAIL

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE



TYPICAL DAM DETAIL  
NO SCALE

ATTACHMENT III-B-2-A



TYPICAL DAM DETAIL

DRAWN BY: P.T.O.	DATE: 8-10-05
DWG. NAME: TYPICALS	
APPROVED BY: W.K.M.	SCALE: NONE

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
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## **COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS**

All coarse refuse will be placed in the Coarse Refuse Disposal Area. (See Permit Map.) The disposal plans will be designed using current prudent engineering practices and Regulatory Authority design criteria and certified by a qualified registered professional engineer.

All surface drainage will be routed around the outslope of the waste bank by using diversion ditches. The diversion ditches will be designed to pass a peak flow from a 100 yr. - 6 hr. precipitation event.

For areas where fill is to be placed into a natural drainage course, underdrains will be installed to prevent erosion, ensure stability, and to prevent infiltration. The type of underdrain system will be specified within the detailed design plans.

All vegetation and any organic material will be removed prior the construction of the embankment. Any topsoil removed will be segregated and stored onsite for future reclamation needs.

All refuse material will be transported and placed in a controlled manner in the waste bank. The material will be spread in two feet lifts and compacted to 90% of the standard proctor as outlined in ASTM, as to ensure stability of the area, to prevent combustion of the material, minimize effects of surface and ground water quality and quantity, and not create a public hazard.

Slopes of the waste bank will be maintained at a minimum slope to be specified within the detailed design plans. The slopes of the waste bank will be designed to exceed a 1.5 minimum long term static safety factor.

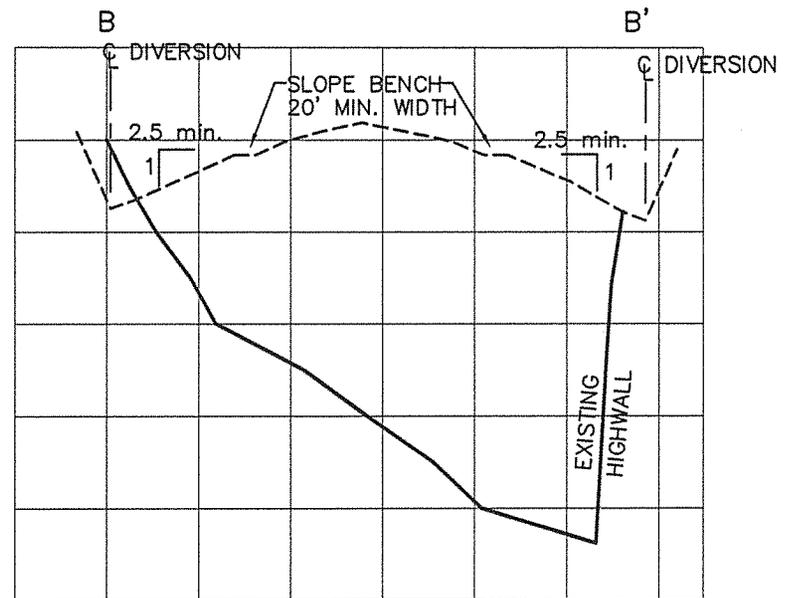
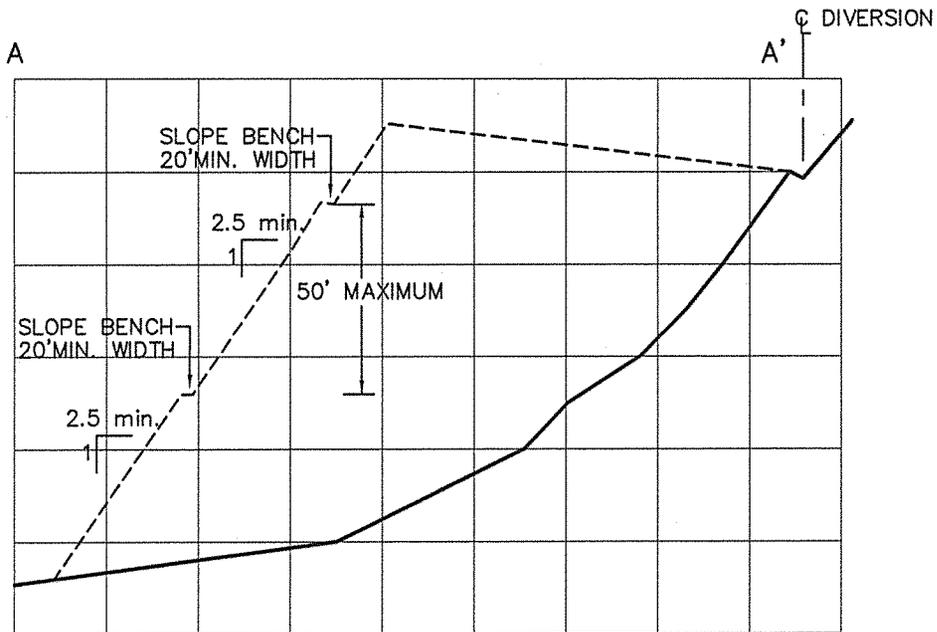
Sufficient site and laboratory investigations will be performed on the foundation area and the fill material to be utilized in the design of the fill. If a potential hazard is revealed, the Regulatory Authority will be informed and necessary safety measures will be implemented.

The waste bank will be inspected by a registered professional engineer or other qualified professional specialist under the direct supervision of the qualified professional engineer. Inspections will be made at least quarterly and during times of removal of organic material and topsoil, installation of diversion ditches, installation of underdrains, placement and compaction of refuse material, and revegetation of the fill. Photographs of the underdrain will be taken during and after their construction but prior to their cover. Certification inspection reports will be filed with the Regulatory Authority stating that proper

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construction and maintenance are occurring in accordance with approved design plans. Inspection reports will be retained at the facility office.

Upon completion of operations, the waste bank area will be graded using mobile equipment to the configuration approved in the design plans. The waste bank will be covered with 2 feet of non-toxic, non-acid forming, and non-combustible material as approved through revision application R-14. All disturbed areas will be vegetated with an appropriate combination of grasses and legumes as stated in the reclamation plan, fertilized, and mulched to ensure a permanent diverse vegetative cover. Soil amendments, including lime and fertilizer, will be added and disced into the cover material in rates as recommended by laboratory analysis performed upon the cover material. These soil amendments will ensure a diverse effective vegetative growth upon the material.



————— EXISTING GRADE  
 - - - - - PROPOSED FINISHED GRADE



CROSS SECTIONS A-A'- B-B'  
 OF  
 TYPICAL WASTE EMBANKMENT

DRAWN BY: M.W.K.	DATE: 1-31-97
DWG. NAME: EPONDxab	
APPROVED BY: S.R.I.	SCALE: NONE

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
Permit Number: P- 3233 / Revision R-21

5. Transportation Facilities (780.33, 780.37)

- (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.

Haul Road No.1 shown in the Detailed Design Plans for Slurry Impoundment No. 3 Modification is a travel way within the Permitted and Bonded Increment No. 1 of P-3233

- 1) Safety berms will be constructed adjacent to roadways to be disturbed to contain traffic.
  - 2) Proper signs, informing the traveling public of the disturbance, will be posted along the road right-of-ways 500 feet from the beginning of the disturbance.
  - 3) All safety requirements of the appropriate public health and safety, will be followed.
- (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.
- (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.

Roads will be constructed with the required ditching for proper drainage. Roads will be maintained with a dozer and motor grader patrol as required. Water will be used to reduce erosion and dust emissions. Roads will be located on ridge tops where possible or on the most stable slopes to minimize erosion. Vegetation will not be cleared except as necessary for roadway and ditch construction. After construction of the roads is complete, vegetation will be established on cut and fill slopes that exist along the all roads. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
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property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality. Roads not required for fire and sediment basin access will be reclaimed. See Attachment III-B-5 and Specifications for the construction, maintenance, and reclamation of Primary and Ancillary roads.

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**SPECIFICATIONS FOR THE CONSTRUCTION, MAINTENANCE  
AND RECLAMATION OF ANCILLARY ROADS**

1. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
2. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality.
3. Prior to construction, the roadway will be cleared, grubbed and will have the topsoil removed. The clearing limits will be kept to the minimum necessary to accommodate the roadbed and associated ditch construction.
4. Roads will be constructed of suitable subgrade material compacted to ninety-five percent of the standard proctor density and will have a minimum width of ten feet and a maximum width necessary to accommodate the largest equipment traveling the road.
5. Roadbeds will be cut to consolidated non-erodible material or will be surfaced with durable non-toxic, non-acid forming substances. It is anticipated that durable sandstone overburden on site will be utilized as surfacing material. If there should not be adequate sandstone on site, then a durable sandstone material, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, ironore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority will be hauled in from off site and placed on the roadbed to a depth of two inches.
6. No sustained grades will exceed ten percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades in excess of fifteen percent are required, cross drains, ditch relief drains and road drainways will be located at a minimum distance of three-hundred feet.

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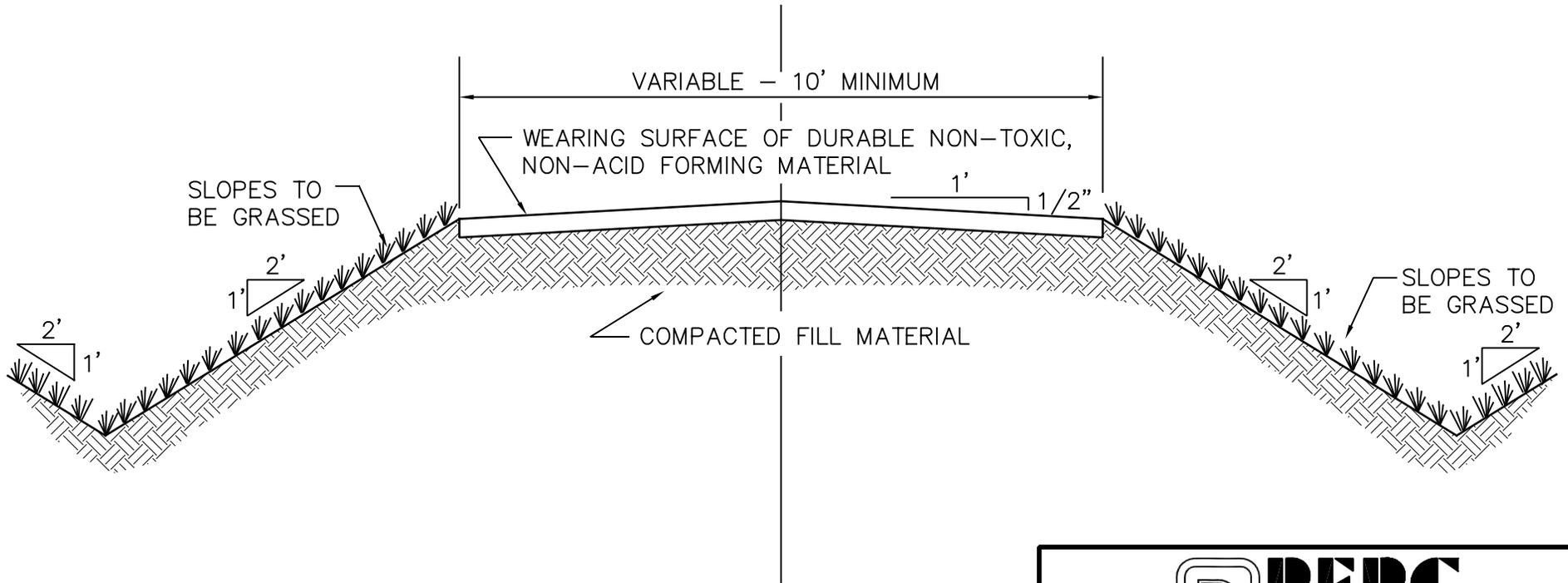
7. Roads will be constructed so as to have adequate drainage utilizing ditches, cross drains and ditch relief drains. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular species to be planted will vary with the planting season at the time of seed application.
8. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.
9. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
  - a. The road will be closed to traffic.
  - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
  - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.

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- d. Roadway cut and fill slopes shall be regraded and reshaped to be compatible with the post mine land use and to compliment the natural drainage pattern of the surrounding terrain.
  - e. The natural drainage patterns shall be protected from surface runoff and erosion utilizing the installation of dikes and/or cross drains as necessary.
  - f. The roadbed shall be ripped or scarified as necessary, the topsoil or substitute or approved growing medium shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.
10. The following drawings illustrate typical roadbed configurations for ancillary roads.

# TYPICAL HAUL ROAD FILL SECTION

NO SCALE



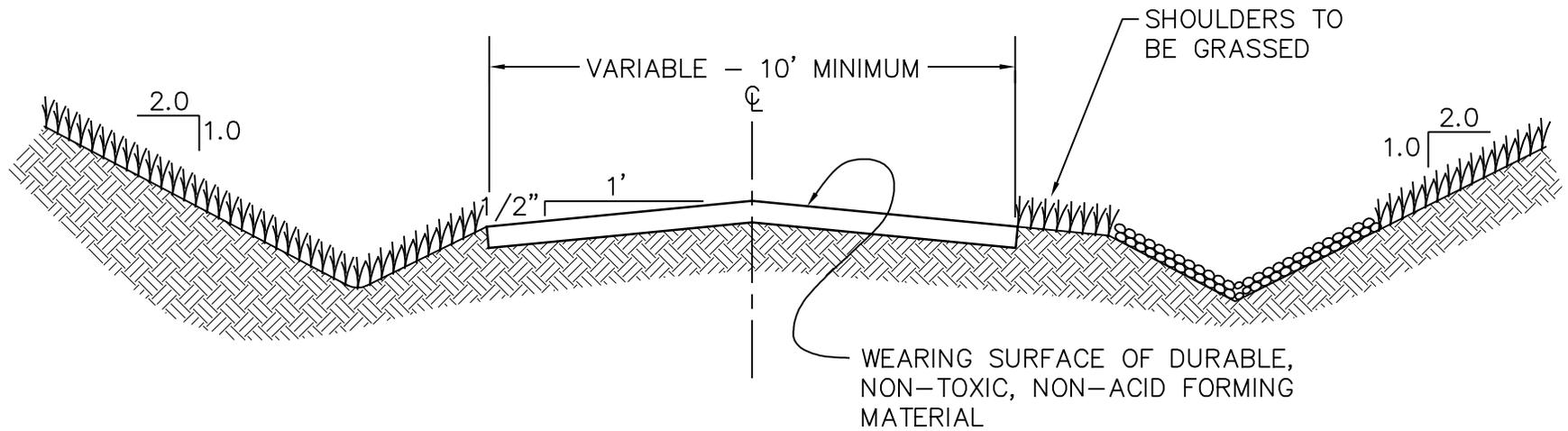
## TYPICAL FILL SECTION ANCILLARY HAUL ROAD

DRAWN BY: S.W.L.	DATE: 12-10-2006
DWG. NAME: TYPHAULA	
APPROVED BY: L.G.S.	SCALE: NONE

ATTACHMENT III - B - 5.

# TYPICAL HAUL ROAD CUT SECTION

NO SCALE



## TYPICAL CUT SECTION ANCILLARY HAUL ROAD

DRAWN BY: K.D.P.  
DWG. NAME: TYPHAULB

DATE: 2-3-97

APPROVED BY: S.R.I.

SCALE: NONE

ATTACHMENT III - B. - 5.

Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
Permit Number: P- 3233 / Revision R-21

**SPECIFICATIONS FOR THE CONSTRUCTION, MAINTENANCE  
AND RECLAMATION OF PRIMARY ROADS**

1. Primary roads shall be designed by or under the direction of a registered professional engineer in accordance with the Alabama Surface Mining Commission rules and regulations and prudent engineering practice.
2. Each roadway embankment will be designed and constructed so as to have a minimum static safety factor of 1.3.
3. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
4. To the extent possible, roads will be located above the sediment basins to be constructed for the mining operation in an effort to control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area and to comply with State and Federal water quality standards applicable to receiving waters and avoid the alteration of the normal flow of water in streambeds or drainage channels while preventing or controlling damage to public or private property. Where it is not possible or is impractical to locate roads in this manner, sediment control devices such as silt fencing, hay bale check dams and rock filter check dams will be used as necessary to maintain water quality. No fording of intermittent or perennial streams will be conducted unless specifically approved by the Alabama Surface Mining Commission as temporary routes to be used during road construction.
5. Prior to construction, the roadway will be cleared, grubbed and will have the topsoil removed. The clearing limits will be kept to the minimum necessary to accommodate the roadbed and associated ditch construction.
6. Roads will be constructed of suitable compacted subgrade material. The material will be free of sod, roots, stones over 12 inches in diameter, and other objectionable materials. The material will be placed and spread over the entire fill area, starting at the lowest point in layers not to exceed 12 inches in thickness. The material will be compacted to 95 percent of the density, based on standard proctor as outlined in ASTM.
- (g) Primary roads will have a minimum width of eighteen feet and a maximum width necessary to accommodate the largest equipment traveling the road.

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- (h) Roadbeds will be cut to consolidated non-erodible material or will be surfaced with durable non-toxic, non-acid forming substances. The wearing surface will consist of durable sandstone, chert, crushed limestone, crushed concrete, crushed asphalt, red rock, ironore refuse, gravel, or other durable non-toxic, non-acid forming material approved by the Regulatory Authority. The wearing surface will be placed on the roadbed to a depth of four inches.
9. No sustained grades will exceed ten percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades in excess of fifteen percent are required, cross drains, ditch relief drains and road drainways will be located at a minimum distance of three-hundred feet.
10. Roads will be constructed so as to have adequate drainage utilizing ditches, culverts, cross drains and ditch relief drains designed to safely pass the peak runoff from a ten year, six hour precipitation event. Drainage pipes and culverts shall be installed as designed and will be maintained in a free and operating condition to prevent and control erosion at inlets and outlets. Culverts have been designed to support the load of the heaviest equipment to travel the road and are based on the Handbook of Steel Drainage and Highway Construction Products by the American Iron and Steel Institute and the equipment specifications. Drainage ditches will be constructed and maintained in accordance with the approved design to prevent uncontrolled drainage over the road surface and embankment. Roads will not be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission. Additionally, no relocation and/or alteration of an intermittent or perennial stream will be done unless specifically approved by the Alabama Surface Mining Commission. In the event that it becomes evident that any drainage structures including culverts, bridges and/or low water crossings will be required in order to cross an intermittent or perennial stream, the structure will be designed and constructed in accordance with Alabama Surface Mining Commission requirements and prudent engineering practice and the approval of the design(s) will be acquired prior to the commencement of construction. Hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Immediately upon completion of construction, the side slopes of the road embankments and/or cuts will be fertilized, seeded with annual and perennial grasses and mulch will be added to aid in the prevention of erosion and to enhance seed germination. The seed mix will consist of, but is not limited to, some combination of the following species: Bermuda grass, fescue, lespedeza, rye grass, brown top millet, clover and vetch. The particular

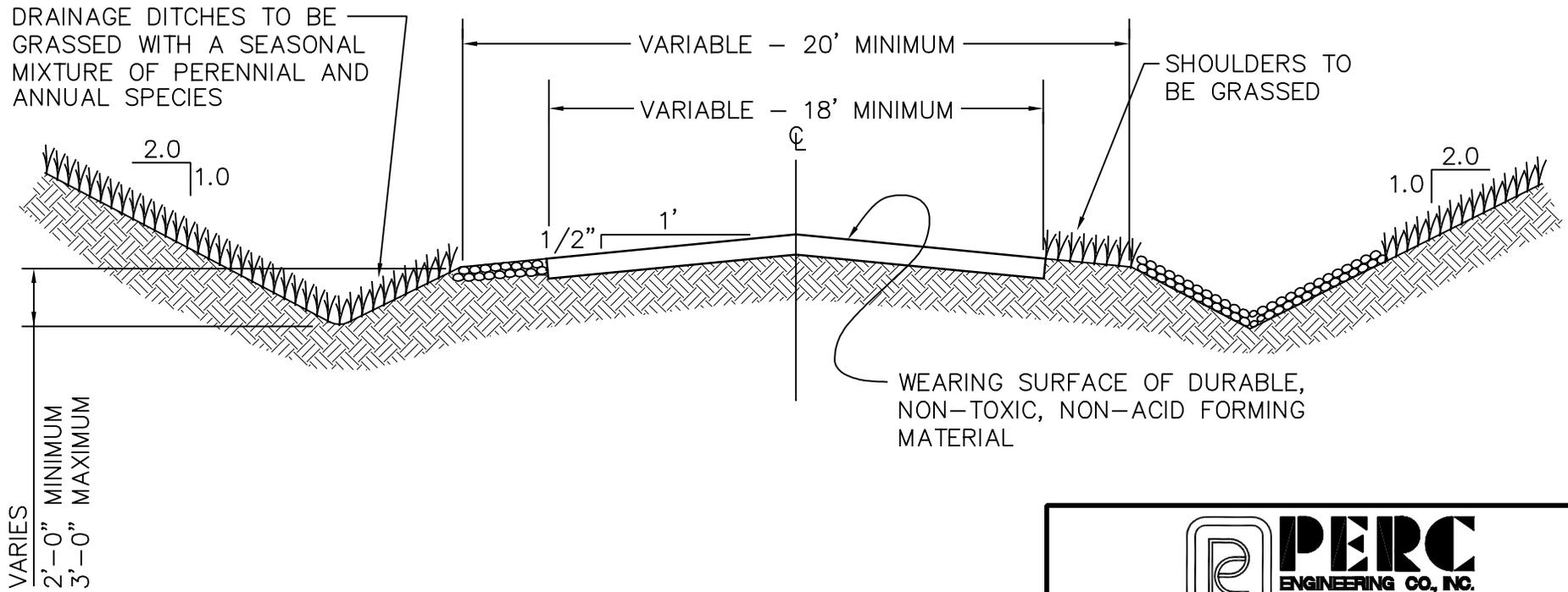
Applicant: Oak Grove Resources, LLC  
Mine Name: Concord Preparation Plant  
Permit Number: P- 3233 / Revision R-21

species to be planted will vary with the planting season at the time of seed application. Upon completion of construction of each phase of the roadway the construction will be certified to the Alabama Surface Mining Commission as having been done in accordance with the approved plans for the roadway and associated facilities.

11. Routine maintenance will be required to assure that the road continually meets performance standards and will consist of periodic grading, resurfacing, dust suppression and maintenance of sediment control facilities. Dust suppression will consist of the application of water, chemical binders and/or other dust suppressants. No oil will be utilized in this process. Spot seeding, fertilizing and mulching will be performed as necessary to improve vegetative cover on roadway slopes. A road damaged by a catastrophic event shall be repaired as soon as practicable after the damage has occurred.
12. Roads not to be retained as part of the post mine land use shall be reclaimed in accordance with the approved reclamation plan for this permit as soon as practicable after they are no longer needed as part of the mining and reclamation operation, using the following procedures:
  - a. The road will be closed to traffic.
  - b. All bridges, culverts and other drainage structures not approved as part of the post mine land use will be removed.
  - c. All road surfacing materials that are not compatible with the post mine land use or revegetation requirements will be properly disposed of on-site or removed from the site for re-use.
  - d. Roadway cut and fill slopes shall be regraded and reshaped to be compatible with the post mine land use and to compliment the natural drainage pattern of the surrounding terrain.
  - e. The natural drainage patterns shall be protected from surface runoff and erosion utilizing the installation of dikes and/or cross drains as necessary.
  - f. The roadbed shall be ripped or scarified as necessary, the topsoil or substitute or approved growing medium shall be replaced and revegetated in accordance with the approved reclamation plan for this permit.
13. The drawings and data contained in the specific design plans illustrate typical roadbed configurations for primary roads as well as site specific design of drainage structures, stability analysis and ditch sections.

# TYPICAL PRIMARY HAUL ROAD CUT SECTION

NO SCALE

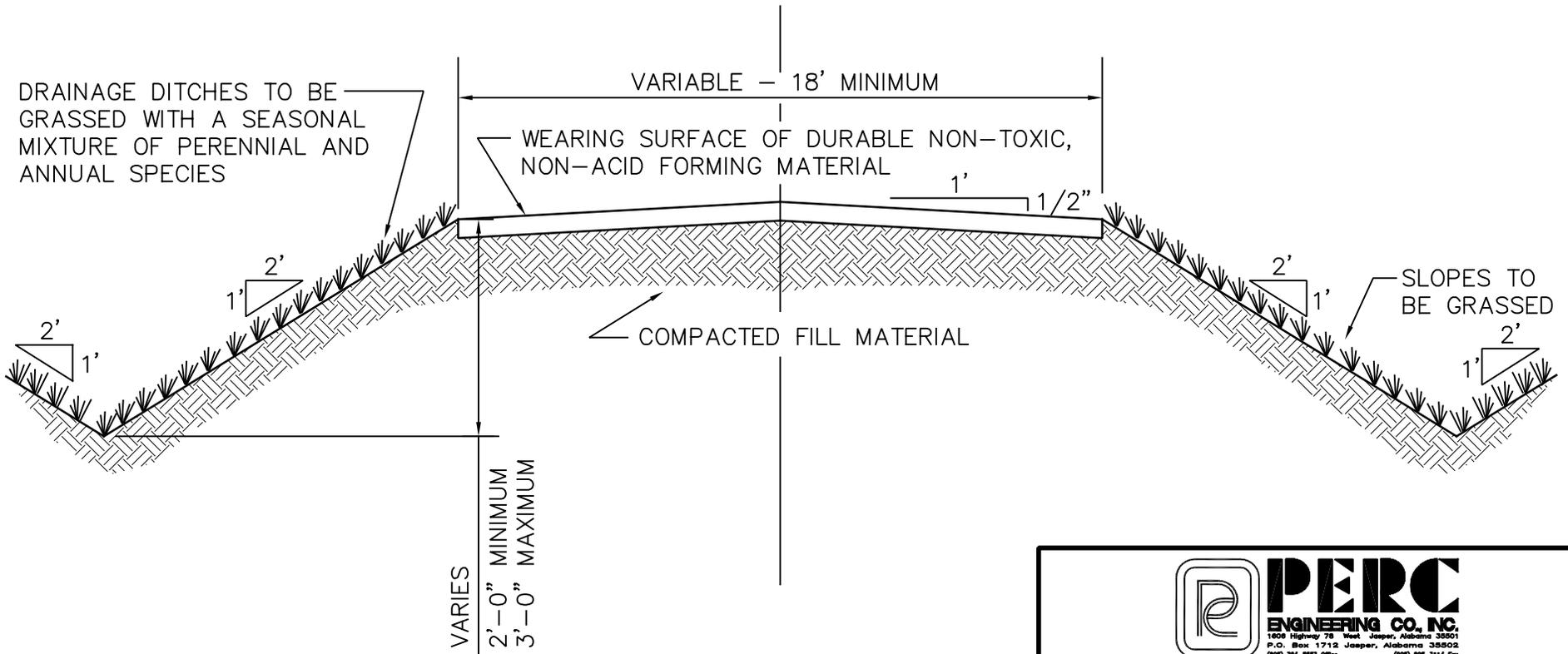


## TYPICAL CUT SECTION PRIMARY HAUL ROAD

DRAWN BY: S.W.L.	DATE: 12-10-2006
DWG. NAME: TYPHAULC	
APPROVED BY: L.G.S.	SCALE: NONE

# TYPICAL PRIMARY HAUL ROAD FILL SECTION

NO SCALE



## TYPICAL FILL SECTION PRIMARY HAUL ROAD

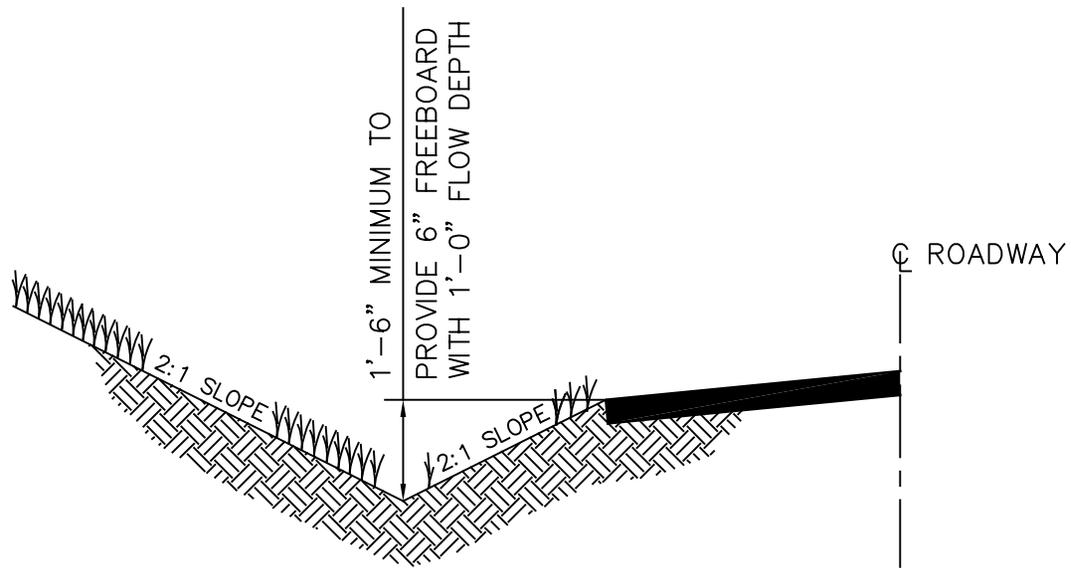
DRAWN BY: S.W.L.  
DWG. NAME: TYPHAULF

DATE: 12-10-2006

APPROVED BY: L.G.S.

SCALE: NONE

ATTACHMENT III - B. - 5.



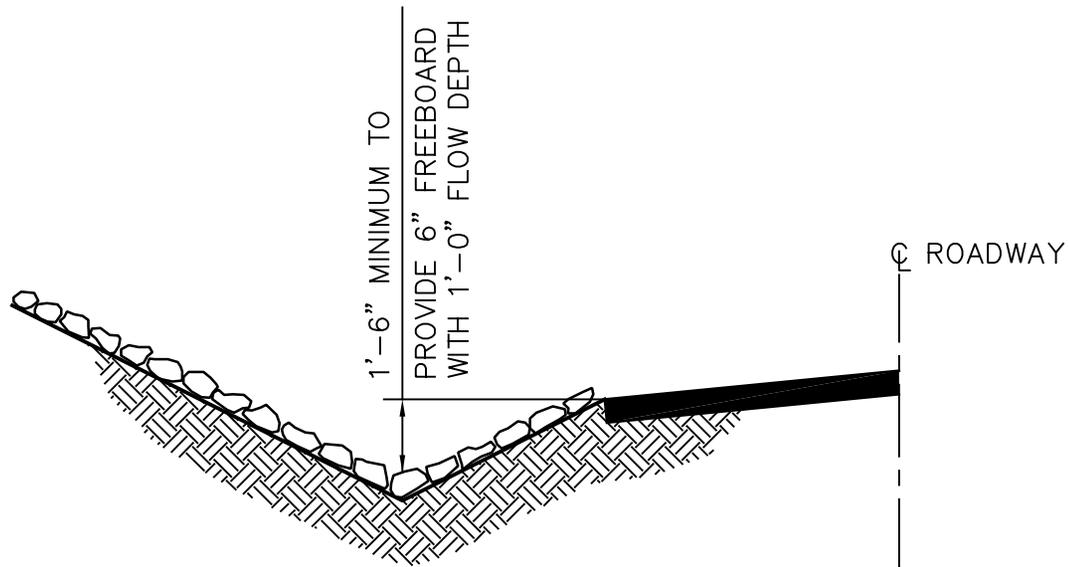
MINIMUM DITCH GRADIENT = 1%  
 MAXIMUM DITCH GRADIENT = 5%

DITCH CHANNEL TO BE VEGETATED WITH  
 A MIXTURE OF BERMUDA GRASS, FESCUE,  
 AND LESPEDEZA TO CONFORM TO CLASS  
 "D" RETARDANT CLASS.



## TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.E.P.	DATE: 1-30-08
DWG. NAME: PRIMRD3	
APPROVED BY: W.P.G.	SCALE: NONE



DITCH GRADIENT 5% TO 10%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE  
NON-TOXIC, NON-ACID FORMING SANDSTONE OR  
LIMESTONE RIPRAP. THE RIPRAP WILL BE "CLASS 1"  
RIPRAP AND HAVE A MINIMUM THICKNESS OF 12".



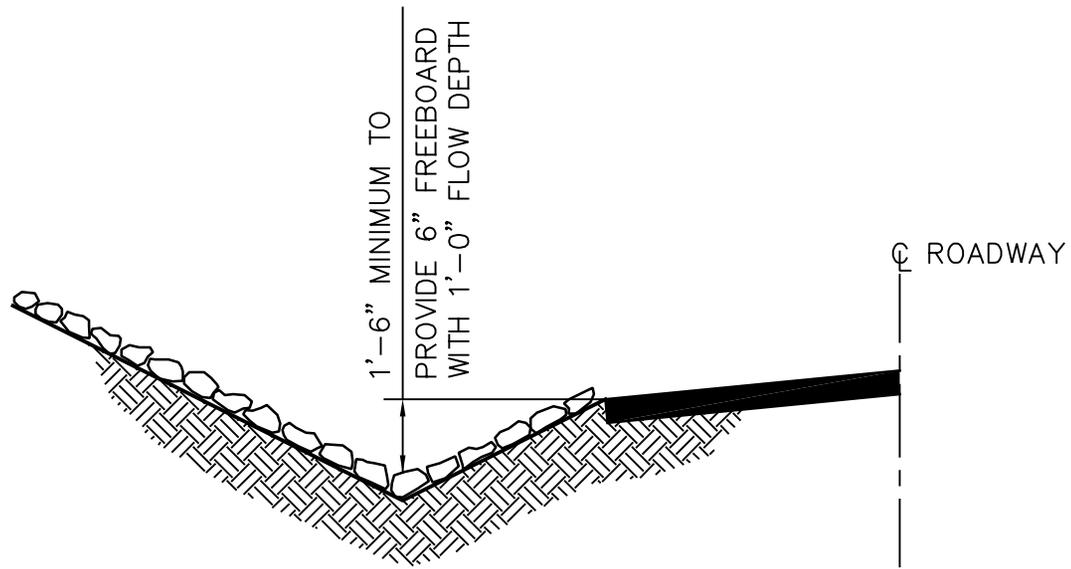
## TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.E.P.  
DWG. NAME: PRIMRD4

DATE: 1-30-08

APPROVED BY: W.P.G.

SCALE: NONE



DITCH GRADIENT 11% TO 17%

DITCH CHANNEL TO BE LINED WITH NON-ERODIBLE NON-TOXIC, NON-ACID FORMING SANDSTONE OR LIMESTONE RIPRAP. THE RIPRAP WILL BE "CLASS 2" RIPRAP AND HAVE A MINIMUM THICKNESS OF 16".



## TYPICAL PRIMARY ROADWAY DITCH CROSS SECTION

DRAWN BY: K.E.P.  
DWG. NAME: PRIMRD5

DATE: 1-30-08

APPROVED BY: W.P.G.

SCALE: NONE