

Applicant: <u>Black Warrior Minerals, Inc.</u> Mine Name: <u>Manchester East Mine</u> Permit Number: <u>P-3922 Revision R-2</u>

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

Major equipment to be used includes but may not be limited to:

- Backhoes
- Off Road Haulers
- Loaders
- Drills
- Service Trucks
- Dozers
- Track Backhoes
- Bulk Anfo 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)

The timing increments are as follows:

<u>Increment No.</u>	<u>Acres</u>	<u>From</u>	<u>Estimate Life</u>
1	34	Reclamation Phase	
2	119	Currently Being Mined	
3	100	Currently Being Mined	
4	143	End of Increment #3	12 Months
5	119	End of Increment #4	12 Months
6	36	Issuance of Permit	60 Months

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) Re-Grading
- 8) Revegetation

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ATTACHMENT III-A-1

ADDENDUM TO THE TYPE AND METHOD OF COAL MINING PROCEDURES

The area method of surface mining will be used. Preparation will consist of (a) timber removal (b) topsoil removal (if required) (c) drilling and blasting of overburden (d) overburden removal (e) coal removal (f) regrading and revegetation. Once the site has been regraded and topsoiled (if required) 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.

Increments No. 2 and No. 3 will be mined simultaneously. Mining in Increment No. 2 is finishing with cut no. 1. Mining within Increment No. 3, cuts no. 1 thru cut no. 7, will be a continuation of mining operations from Increment No. 2 in the SW 1/4 of the SW 1/4 of section 5 and the SE 1/4 of the SE 1/4 of section 6. Pits will generally align in a northeast to southwest direction with advancement to the south. Spoil material from the first pits will be spoiled within the previously mined areas and subsequent pits. An area at the east end of the pits will be left open and a highwall will be left open to start mining in Increment No. 4. A letter asking for a delay in contemporaneous reclamation was submitted and approved with the original permit application. Mining will continue in this manner until the limits of the increment are reached.

Mining within Increment No.4 will commence along the west side of Increment No. 4 with the highwall left open from Increments No. 2 and No. 3 in the NE 1/4 of the NW 1/4 of section 5. Pits will generally align in a north to south direction with advancement to the east. Spoil material from the first pits will be spoiled within the previously mined areas, and subsequent pits. Mining will continue in this manner until the limits of the increment are reached.

Mining within Increment No. 5 will commence along the west side in the NW 1/4 of the NE 1/4 of section 5. Material from the northern portion of cut no. 5 and cut no. 6 will be back stacked in the southern portion of cut no 4. Pits will generally align in a north to south direction with advancement to the east. Spoil material from the first pits will be spoiled within the previously mined areas and subsequent pits. Mining will continue in this manner until the limits of the increment are reached.

This modification revises the Operations Plan. Basin 045 will be constructed and certified to the Regulatory Authority allowing Basin 010 to be removed. Removal plans will be submitted for review and approval prior to removing Basin 010. Prior to beginning disturbance in the drainage area of Basin 045 it will be

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constructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 009 it will be constructed and certified to the Regulatory Authority. Basin 009 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basin 045 to maintain control of the runoff. Starting with cut no. 10 in Increment # 4 the runoff will be pumped to Basin 045. After cut no. 2 in Increment # 5 is completed , Basin 009 will be reconstructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 040 it will be constructed and certified to the Regulatory Authority. Basin 040 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basins 036 and 037 to maintain control of the runoff. Starting with cut no. 11 in Increment # 4 the runoff will be pumped to Basin 045. After cut no. 3 in Increment # 5 is completed , Basin 040 will be reconstructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 038 it will be constructed and certified to the Regulatory Authority. Basin 038 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basins 036 and 037 to maintain control of the runoff. Starting with cut no. 11 in Increment # 4 the runoff will be pumped to Basin 045. After cut no. 5 in Increment # 5 is completed , Basin 038 will be reconstructed and certified to the Regulatory Authority.

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Prior to beginning disturbance in the drainage area of Basin 039 it will be constructed and certified to the Regulatory Authority. Basin 039 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basins 036 and 037 to maintain control of the runoff. Starting with cut no. 11 in Increment # 4 the runoff will be pumped to Basin 045. After cut no. 4 in Increment # 5 is completed , Basin 039 will be reconstructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 041 it will be constructed and certified to the Regulatory Authority. Basin 041 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basin 045 to maintain control of the runoff. Starting with cut no. 5 in Increment # 5 the runoff will be pumped to Basin 045. After cut no. 8 in Increment # 5 is completed , Basin 041 will be reconstructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 042 it will be constructed and certified to the Regulatory Authority. Basin 042 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basin 045 to maintain control of the runoff. Starting with cut no. 5 in Increment # 5 the runoff will be pumped to Basin 045. After cut no. 8 in Increment # 5 is completed , Basin 042 will be reconstructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 044 it will be constructed and certified to the Regulatory Authority.

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Basin 044 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basin 041 and Basin 042 to maintain control of the runoff. Starting with cut no. 14 in Increment # 5 the runoff will be pumped to Basin 041 and Basin 042. After cut no. 18 in Increment # 5 is completed, Basin 044 will be reconstructed and certified to the Regulatory Authority.

Prior to beginning disturbance in the drainage area of Basin 045 it will be constructed and certified to the Regulatory Authority. Basin 045 will be mined through and reconstructed in spoil. The embankment and discharge structures will not be disturbed, but only the interior of the basin. The area of the interior of the basin which comes into contact with the spoil material will be lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the normal pool elevation to minimize infiltration and to provide a stable pool level. The material will be placed in horizontal lifts not to exceed 6 inches and compacted to 95% of the standard proctor. During the mining through process runoff will be pumped to Basin 009, Basin 041, Basin 042 and Basin 044 to maintain control of the runoff. Starting with cut no. 13 in Increment # 5 the runoff will be pumped to Basin 009, Basin 041, Basin 042 and Basin 044 after it is reconstructed. After cut no. 22 in Increment # 5 is completed, Basin 045 will be reconstructed and certified to the Regulatory Authority.

An area has been designated for temporary placement of the material excavated from Basin 045. The material placed into this area will be placed on the same slope as the existing ground. The final height of this material will be 4 feet maximum above the existing elevations. The outside boundary of the placement area will be graded on a 4 to 1 slope. The material will be seeded and mulched after placement. If increment No. 5 is not mined then this material will be removed and either used to regrade Basin 045 and /or placed in the final highwall.

The ancillary roads, drainage course and temporary placement area for Basin 045 excavated material to be added by R-2 are to be considered mine area and will be mined through as mining progresses within Increments No. 4 and No. 5.

See Attachment III-A-1, Operations Map for cut sequence.

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B. Engineering Plans

All cross-sections, maps and plans related to operations, reclamation and structures must comply with Section 780.10. Plans, appropriate calculations and conclusions shall be presented in a clear and logical sequence and shall take into account all applicable factors necessary to evaluate the proposed plan or design.

1. Existing Structures. (780.12, 786.21)

- (a) Describe each existing structure to be used, its location, current condition, approximate dates of construction and evidence (including relevant monitoring data) showing whether or not the structure meets the performance standards of Subchapter K or Subchapter B, whichever is more stringent and demonstrate whether or not the use of existing structures will pose a significant harm to the environment or public health or safety.

None.

- (b) If an existing structure requires modification or reconstruction to meet the performance standards, attach a compliance plan which includes design specifications, construction schedule, monitoring procedures, and evidence that the risk of harm to the environment or public health or safety is not significant during modification or reconstruction.

None.

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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.

None proposed.

- (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

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CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B.-2.A prepared for Black Warrior Minerals, Inc.'s Manchester East Mine, are 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 are true and correct to the best of my knowledge and belief.

W. P. Griffin, Jr.
W. P. Griffin, Jr., P.
AL Registration #14243



8-26-4
Date

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ADDENDUM TO THE GENERAL PLAN

The general plan is modified as follows. Basins 036 and 037 have been constructed and certified to the regulatory authority. Basin 008A has been modified and certified to the regulatory authority. Plans for Basin 045 are attached. Basin 045 will be constructed and certified to the Regulatory Authority allowing Basin 010 to be removed. Removal plans will be submitted for review and approval prior to removing Basin 010. Prior to beginning disturbance in the drainage area of Basin 045 it will be constructed and certified to the Regulatory Authority.

The general plan now consists of constructing eight(8) proposed basins, Basins 009, 038, 039, 040, 041, 042, 044, and 045 for the life of the mine. Detailed design plans for the basins will be submitted to the regulatory authority and upon written approval from them the basins will be constructed and certified to the Regulatory Authority prior to disturbance in their drainage areas.

Basins 009, 037, 038, 039, 040, 041, 042, 044, and 045 will be mined through and reconstructed. Only the pool areas will be mined through with the upstream toe and embankment areas left undisturbed.

Basins 008A, 009, 036, 037, 038, 039, 040, 041, 042, 044 and 045 are to remain as permanent water impoundments, fish and wildlife habitat. Data to qualify the basins as permanent water impoundments will be submitted to the regulatory authority prior to Phase II Bond Release. (See attached data and watershed map for basin location and preliminary hydrologic information).

Geologic investigations of the area indicate layers of sandstone, siltstone, shale and minor amounts of bituminous coal and underclay. The coal to be mined by Black Warrior Minerals, Inc., will be confined to the Lick Creek and Jefferson seams. 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 Spring Creek and Blackwater Creek.

All diversions are to be permanent (See diversion ditch criteria).

No existing or proposed underground mines are known to exist within 500' of the permit boundary.

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

See Attachment III-B-2(a), Basin 045 Detailed Design Plans.

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Attachment III-B-2-A

Basin No.	Location	Drainage Area (Acres)
045	NE 1/4 of SE 1/4, Section 5	230.0

Basin 045 is located in Section 5, Township 13 South, Range 7 West; all within Walker County, Alabama, as found on the Manchester USGS Quadrangle.

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Attachment III-B-2-A

Pond Construction Criteria

The embankment for sediment basins (temporary and permanent) shall be designed and built using the following as minimum criteria:

1. The top of the dam shall be no less than 12 feet wide.
2. See design sheet for maximum and minimum embankment slopes.
3. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static safety factor of 1.3 for the normal pool with steady seepage saturation conditions.
4. The dam shall be constructed with a cutoff trench based upon prudent engineering practices for the site. The cutoff shall be located on the dam centerline and be of sufficient depth to extend into a relatively impervious material from which the core of the dam shall also be constructed.
5. The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.
6. The entire embankment and cutoff trench shall be compacted to 95 percent density, based on standard proctor as outlined in ASTM.
7. The material placed in the embankment shall be free of sod, roots, stones over 6 inches in diameter, and other objectionable materials. The fill material shall be placed and spread over the entire fill area, starting at the lowest point of the foundation, in layers not to exceed 12 inches in thickness. Construction of the fill shall be undertaken only at such times that the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 5.
8. The pool area of the basin will be cleared of timber and large undergrowth.
9. The primary decant system when consisting of a pipe shall be installed according to Class C pipe installation for embankment bedding.
10. The primary decant system shall be equipped with a device, or constructed, such as to insure that subsurface withdrawal is accomplished to prevent discharge of floating solids. If a channel is used as the primary decant a skimmer shall be installed to prevent floating solids from discharging.

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11. A splash pad or riprap may be required under the discharge of the primary decant system where necessary to insure that the discharge does not erode the embankment.
12. The combination primary and secondary decant system shall be designed to safely carry the expected peak flow from a 25 year - 6 hour storm. The entire emergency overflow spillway channel will be a stabilized channel and will be stabilized upon completion of construction as specified within the detailed design plans using prudent engineering measures. These measures may consist of lining the spillway with concrete or a durable rock riprap, or the spillway being constructed in consolidated non-erodible material and planted with a mixture or both annual and perennial grasses, or a combination of any or all of the above.
13. Sediment basins using a single spillway system shall be an open channel of non-erodible construction consisting of concrete, durable rock riprap or its being constructed in consolidated non-erodible material as specified in the detailed design plans.
14. The settled embankment for temporary impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff). The settled embankment for permanent impoundments shall be a minimum of 1.0 foot above the maximum water elevation for the runoff from a 25 year - 6 hour, or a 10 year - 24 hour precipitation event (whichever has the greatest runoff).
15. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.
16. The dam and all disturbed areas shall be seeded with both perennial and annual grasses, fertilized and mulched in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon completion of construction.
17. The constructed height of the dam shall be increased a minimum of 5 percent over the design height to allow for settlement over the life of the embankment.
18. Final graded slopes of the entire permanent water impoundment area shall not exceed 2.5H-1.0V to provide for adequate safety and access for proposed water users.
19. Prior to Phase II bond release, additional data concerning water quality, water quantity, depth, size, configuration, postmining land use, etc., for each proposed permanent water impoundment, shall be submitted to the Regulatory Authority for permanent water impoundment approval.

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20. All sediment basins will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the reclamation bond.
21. The embankment and spillway will be maintained by repairing any damage such as erosion, slope failure or spillway damage until removal of the structure or release of the performance bond.
22. All ponds shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections shall be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20[l(j)] of the Alabama Surface Mining Commission Regulations.
23. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
24. Upon completion of mining, successful reclamation and effluent standards being met, each sediment basin not remaining as a permanent water impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.) and reclaimed to approximate original contours by the following procedure: A permanent diversion channel (designed for a 10 year - 24 hour precipitation event) shall be cut along the outer edge of the basin to re-route drainage around the basin and back through the stabilized spillway to allow reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion for basin disposal). Upon completion of the diversion channel the back slope of the dam shall be graded to a minimum 3H to 1V slope. The dewatered sediment basin area shall be seeded with some combination of the following: Fescue, bermuda, rye grass, canary grass and willows. After seeding the area shall be mulched. Any additional sediment or embankment material not used to meet original contour, if non-toxic, shall be spread in thin layers within the permit area and vegetated as stated in the approved reclamation plan. All toxic material encountered in the basin disposal shall be buried and covered with 4 feet of non-toxic material and vegetated as stated in the approved reclamation plan.
25. A qualified registered professional engineer or other qualified professional specialist, under the direction of the professional engineer shall conduct regular inspections during construction and upon completion shall inspect each basin for certification purposes.
26. Point source discharge embankments shall be constructed and abutments keyed into desirable material if at all possible. In the event that undesirable material is encountered, addition design and construction criteria shall be submitted prior to certification

\\Perc600\pwr_emo\Steve_Mitch\Steve_Mitch\Typical\III-B-2(a)\Attachment III-B-2(a).dwg 01/04/11 12:26

FRONT AND BACK SLOPES GRASSED

12' MIN.

NORMAL POOL LEVEL VARIES

PRINCIPAL SPILLWAY

COMPACTED FILL MATERIAL

2.5 MIN.
1

2.5 MIN.
1

STRIP VEGETATION

KEY

GROUND

TOP OF DAM ELEV. VARIES

3' MIN.

SKIMMER BOARD
SPILLWAY ELEV. VARIES

1.5'

VARIES

BOTTOM OF BASIN
ELEV. VARIES



PERC
ENGINEERING CO., INC.
P.O. Box 17718, Hoover, Alabama 36033
205-964-8888 Fax 205-964-8974

TYPICAL DAM DETAIL
NO SCALE

TYPICAL DAM DETAIL

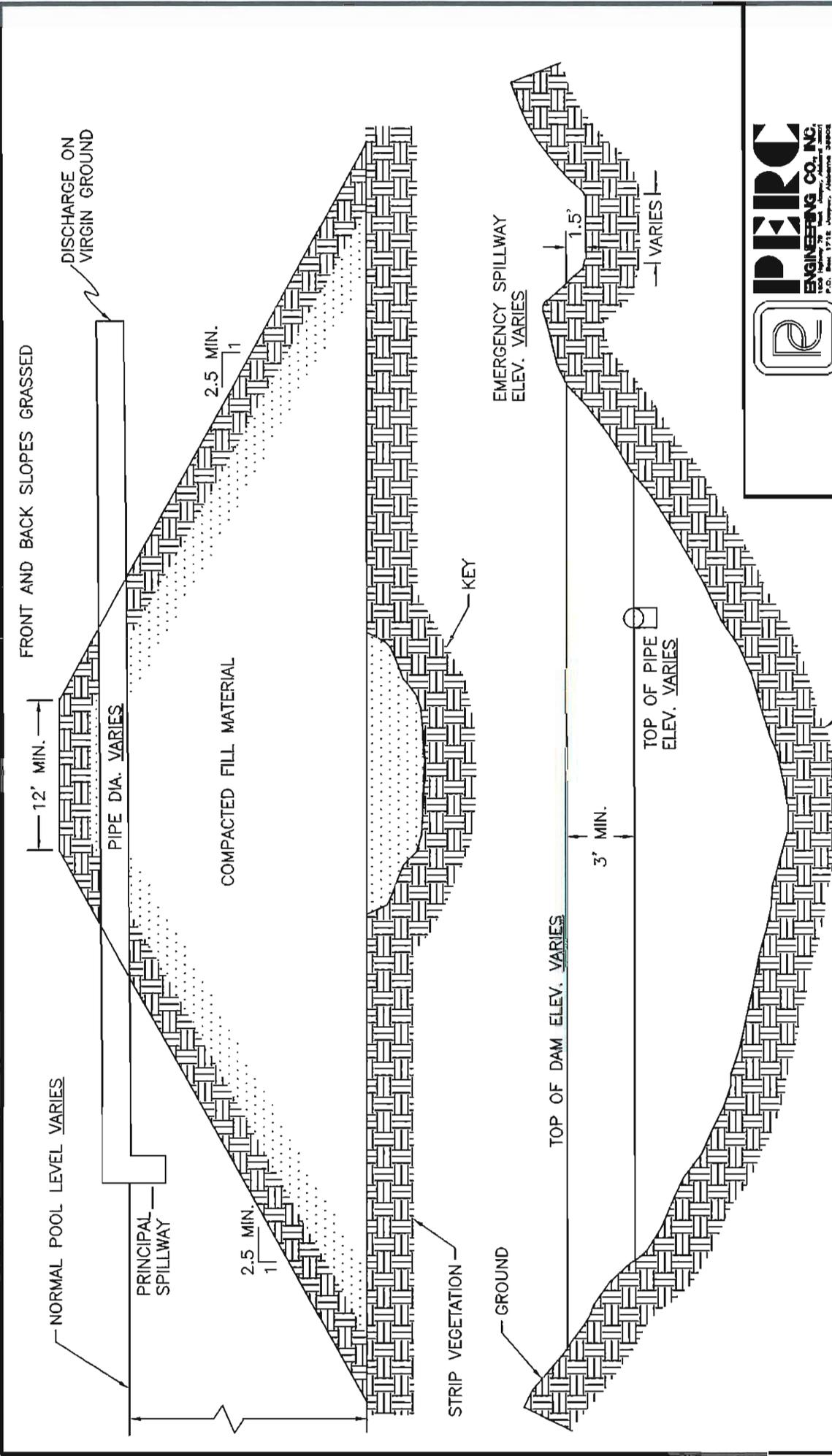
DRAWN BY: P.T.O.
DWG. NAME: TYPICALS

DATE: 8-10-05

APPROVED BY: W.K.M.

SCALE: NONE

ATTACHMENT III-B-2-A



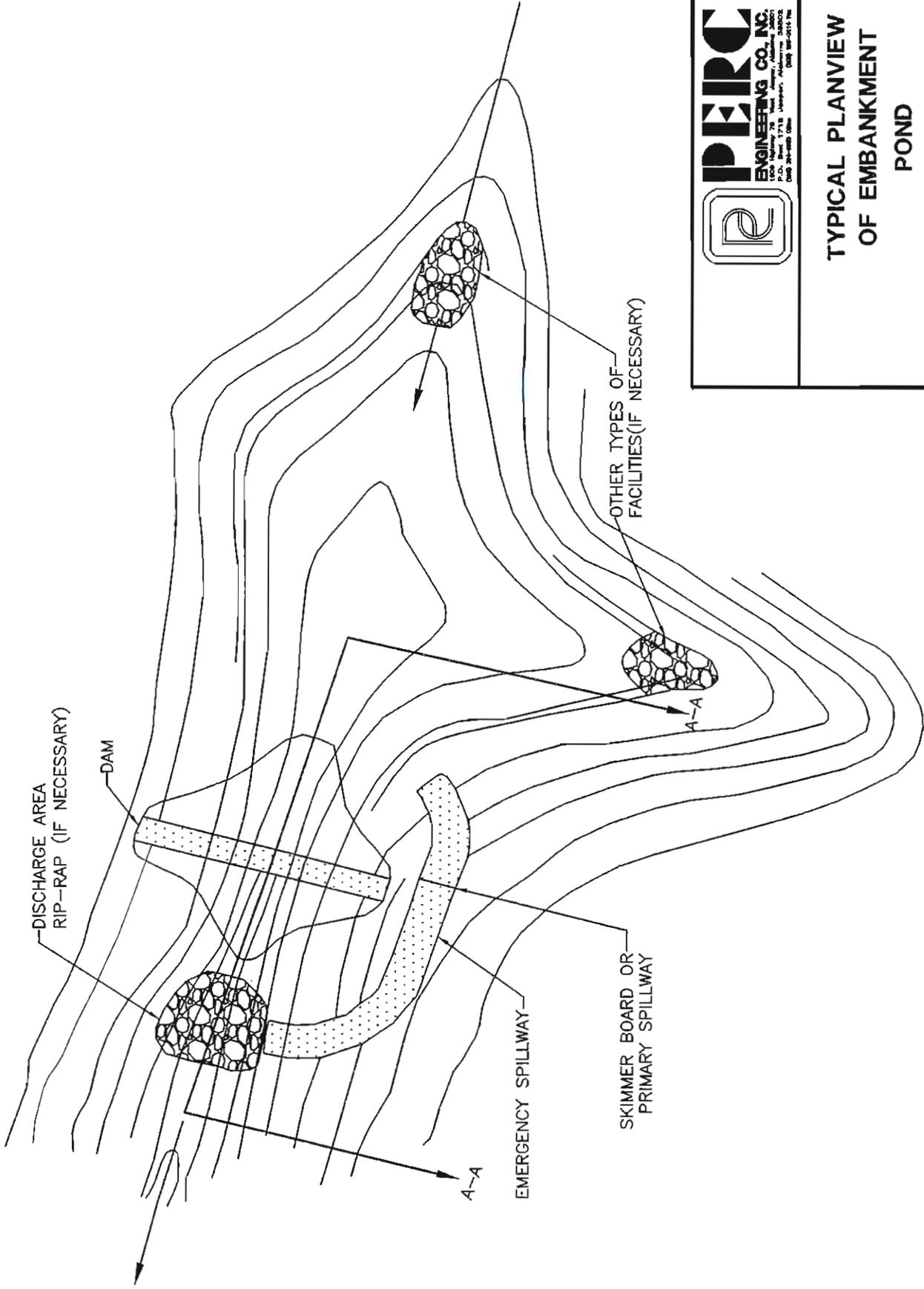
TYPICAL DAM DETAIL
NO SCALE



TYPICAL DAM DETAIL

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

ATTACHMENT III-B-2-A

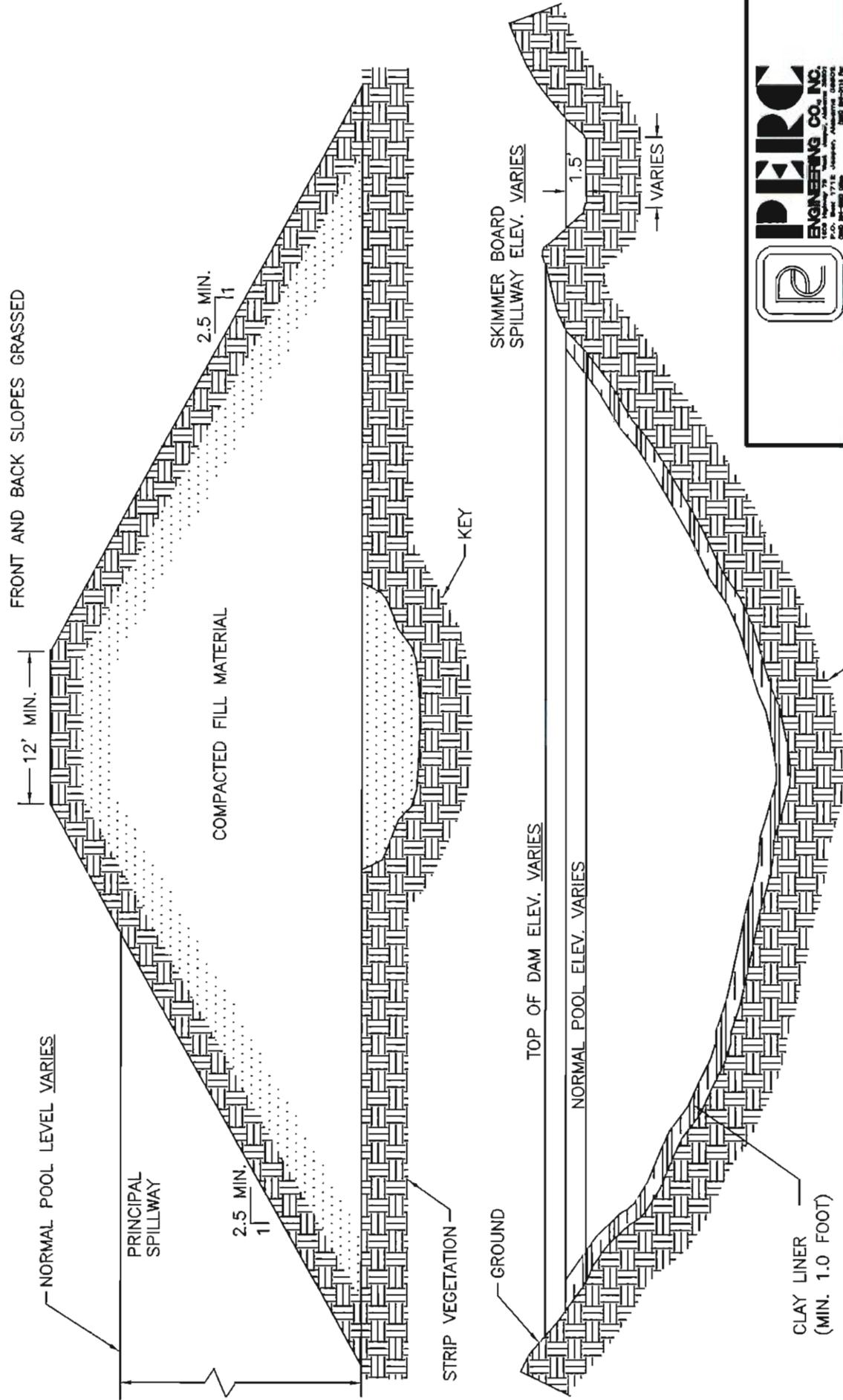


PERC
ENGINEERING CO. INC.
1500 Highway 78, West Tower, Atlanta, GA 30327
P.O. Box 1718, Marietta, Atlanta, GA 30067
404-585-8800 Fax 404-585-8802
EPC 0000000000

TYPICAL PLANVIEW OF EMBANKMENT POND

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

PLANVIEW OF EMBANKMENT POND



TYPICAL DAM DETAIL
NO SCALE

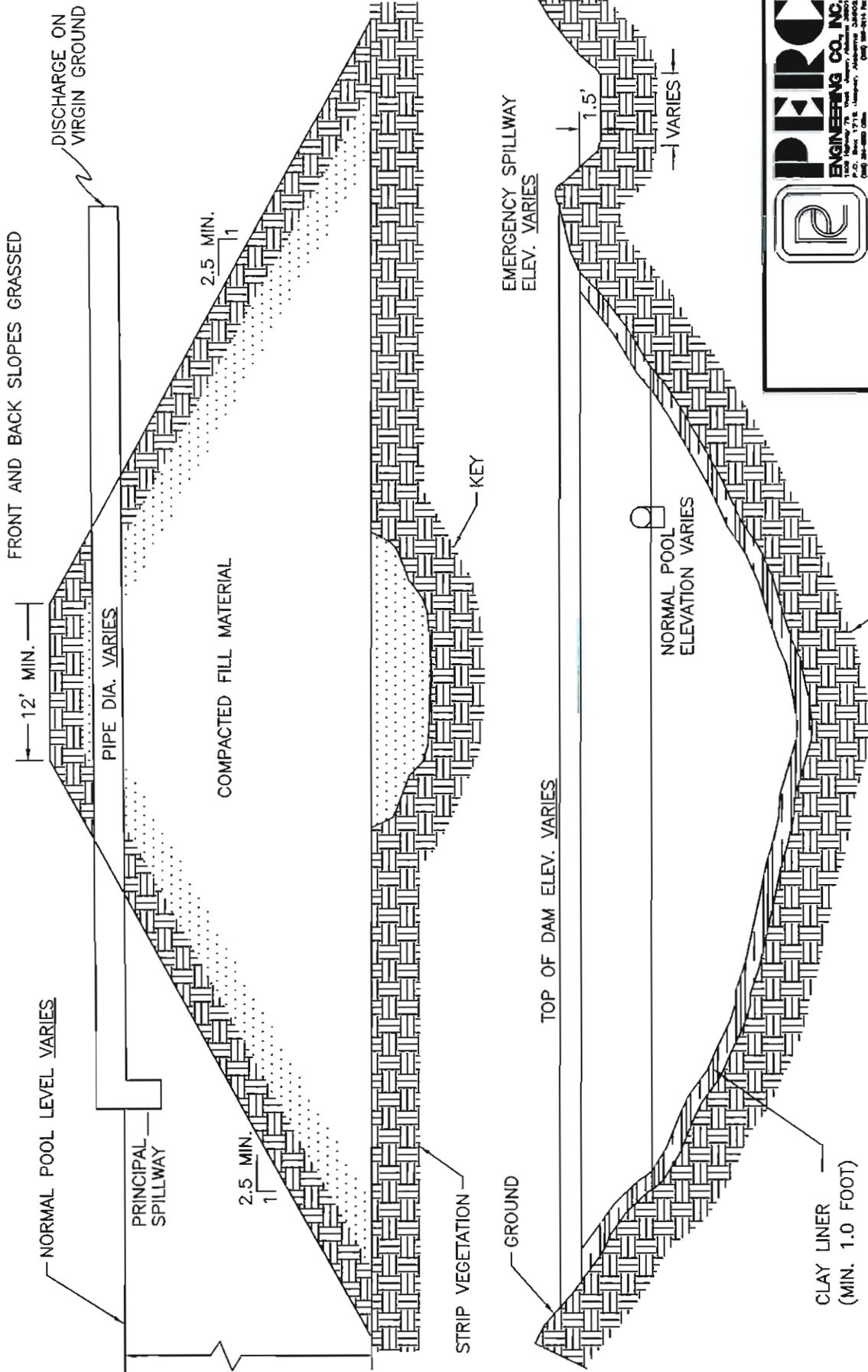
Lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the emergency spillway elevation to minimize infiltration and to provide a stable pool level with the clay placed in 6" lifts compacted to 95% of standard proctor.

ATTACHMENT III-B-2-A



TYPICAL DAM DETAIL
WITH CLAY LINER

DRAWN BY: S.D.M.	DATE: 2/24/2009
DWG. NAME: TYPICALS	
APPROVED BY: L.G.S.	SCALE: NONE



TYPICAL DAM DETAIL
NO SCALE

Lined with 1.0 feet (minimum) of clay material with a permeability no greater than 1×10^{-6} cm/sec up to the emergency spillway elevation to minimize infiltration and to provide a stable pool level with the clay placed in 6" lifts compacted to 95% of standard proctor.



TYPICAL DAM DETAIL
WITH CLAY LINER

DRAWN BY: S.D.M.
DWG. NAME: TYPICALS
APPROVED BY: L.G.S.

DATE: 2/24/2009

SCALE: NONE

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5. Transportation Facilities (780.33, 780.37)

The ancillary road used for access to Basin 045 is proposed to be added by this revision.

See Attachment III-B-5, Ancillary Road Location Map.

- (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) 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.

See Attachments III-B-5 and III-B-5(b) for specifications and detailed designs of the road at this facility in the initial permit application.

- (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 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

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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, Attachment III-B-5(b), and Specifications for the construction, maintenance, and reclamation of primary roads.

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

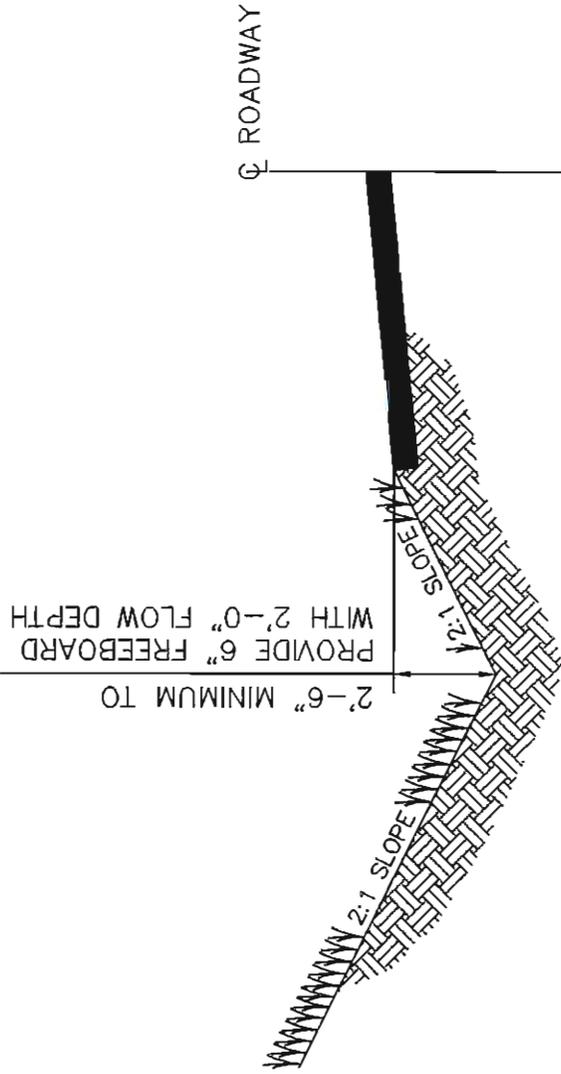
1. To the extent possible, roads will be located on ridges or on the most stable available slopes to prevent or minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values.
2. To the extent possible, roads will be 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 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.
5. Ancillary roads will have a minimum width of ten feet and a maximum width necessary to accommodate the largest equipment traveling the road.
6. 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, iron-ore 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.

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7. 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.
8. 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.
9. 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.
10. 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

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- 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.
11. The following drawings illustrate typical roadbed configurations for ancillary roads.



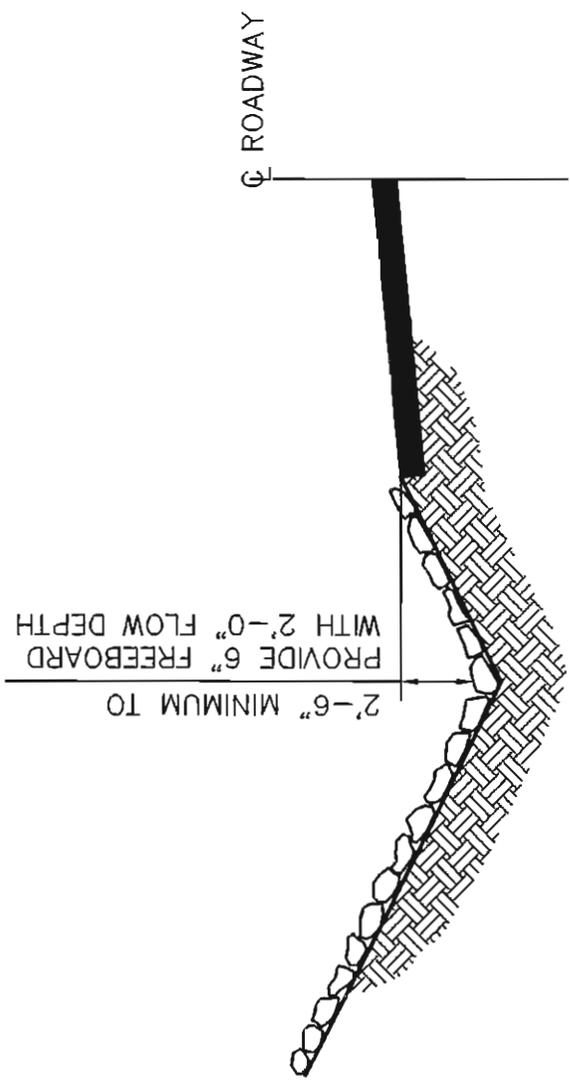
MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

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



TYPICAL ANCILLARY ROADWAY DITCH
 CROSS SECTION

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: ANCROAD	
APPROVED BY: R.E.P.	SCALE: NONE



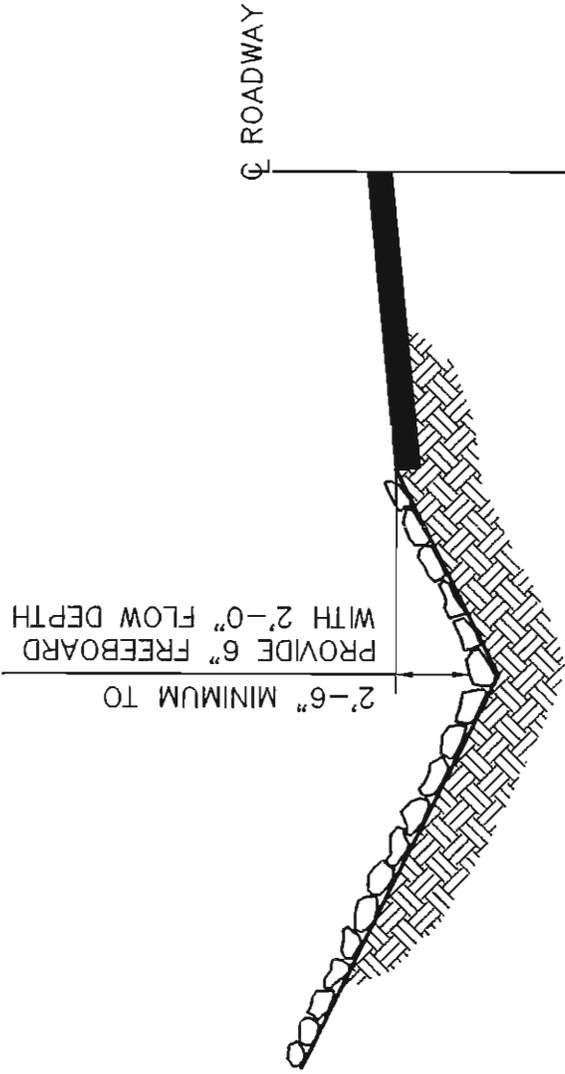
DITCH GRADIENT 5% TO 10%

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



TYPICAL ANCILLARY ROADWAY DITCH
CROSS SECTION

DRAWN BY: K.D.P.	DATE: 2-4-97
DWG. NAME: PRIMRD1	
APPROVED BY: R.E.P.	SCALE: NONE



DITCH GRADIENT 11% TO 17%

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



TYPICAL ANCILLARY ROADWAY DITCH
 CROSS SECTION

DRAWN BY: K.D.P.
 DWG. NAME: PRIMRD2

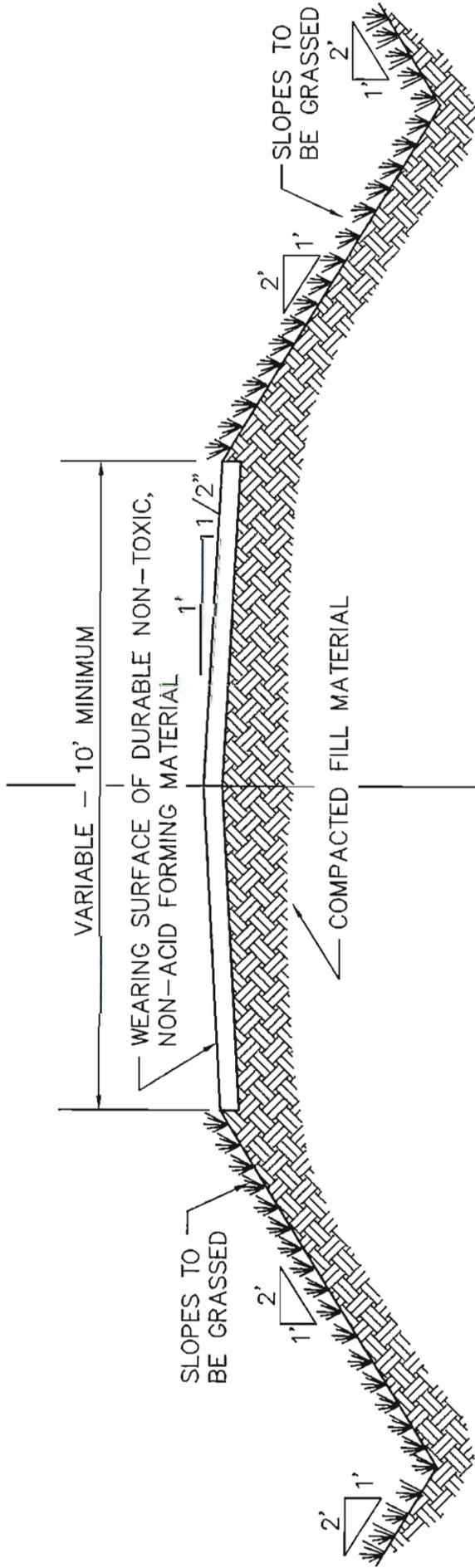
DATE: 2-4-97

APPROVED BY: R.E.P.

SCALE: NONE

TYPICAL HAUL ROAD FILL SECTION

NO SCALE



TYPICAL FILL SECTION
ANCILLARY HAUL ROAD

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

DATE: 2-3-97

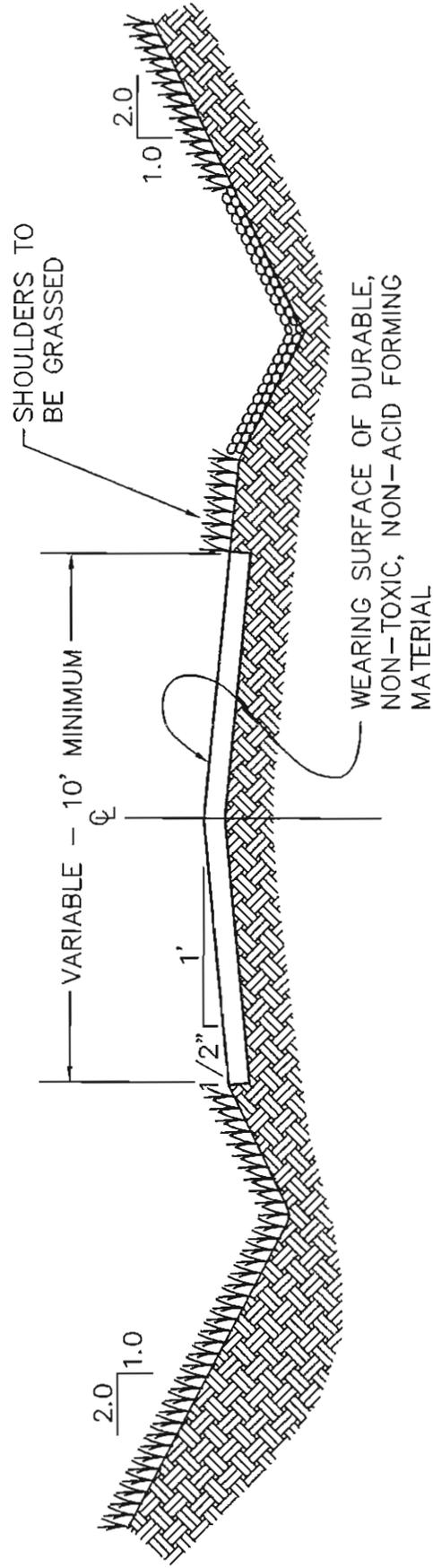
APPROVED BY: S.R.I.

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.