

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</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)

TYPE AND METHOD OF COAL MINING PROCEDURES

The room and pillar method of underground mining will be used at the Pratt No. 1 Mine. Mining will begin by reopening the 4 existing entries created under P-3768 and disposing of the material in the existing Coarse Refuse Disposal Area No.1. Any concrete, steel, etc, man made materials will be hauled to a Federal or State Approved Landfill for disposal. The reactivated mine entries faceup are located in the NE 1/4 of the SW 1/4 of Section 30, Township 16 South, Range 4 West as shown on the permit map.

After the initial reopening and mine mains re-habilitation work required by MSHA is completed mining operations will advance in a southerly direction using a seven entry mining system for advancement to the South as shown on the Operations Map. As fresh air is supplied continuously across the working faces, a combination of mining, roof bolting and timbering will be used to extract the coal safely. The main entries and cross cuts will be spaced on 60 foot centers and will be 20 feet wide. Pillars within the main entries will be 40 feet wide by 40 feet long. Panel entries of 20 foot width will be driven on 50 foot centers with cross cuts of 20 foot width also occurring on 50 foot centers creating pillars with dimensions of 30 feet by 30 feet. No pillar recovery is planned therefore these permanent pillars will be used to control subsidence. Coal removed from the mine will be processed through a dry screening system prior to being washed onsite, see Attachment III.-A.-3.(a). Major equipment to be used includes but may not be limited to continuous miners, roof bolting machines, coal scoops, coal cutting machines, loaders, radial stacker(s), rotary screen(s), wet screens, heavy media separators, cyclones, centrifuges, conveyors, pumps, fans, trucks, dozers, loaders, scrapers, compactors, and backhoes. This list may vary depending upon the needs of the operation.

See Attachment III-A-1 (7 Entry Conceptual Mine Plan Map).

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

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)

Increment No.	Acres	Date	
		From	To
4	12	Date of Issuance	60 Months
1	16	Date of Issuance	60 Months
3	40	6 months from issuance	60 Months

The sequence of mining operations will be generally as follows:

- 1) Construction of sediment control structures
- 2) Site Preparation
- 3) Development
- 4) Mining
- 5) Site Reclamation and Revegetation

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, Facilities Location Map.

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

Some of the measures are:

- A) Mining a deeper seam than is economically feasible to mine using surface mining methods.
 - B) Processing and blending coal that in its "raw" condition would not have a market.
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)

All acid-forming, toxic-forming, and combustible materials will be disposed of by placing these materials within Slurry Ponds 001 and 002 and Coarse Refuse Disposal Area No. 1. Upon the filling of Slurry Ponds 001 and 002 and Coarse Refuse Disposal Area No. 1, the fill material will be covered with a minimum of 4 feet of the best available non-toxic, non-combustible material, and non-acid forming material taken from the area permitted as borrow area as shown on the permit map. Attached are laboratory results of the chemical analysis of the cover material. Chemical analysis of the sink of coal samples taken indicate that the coarse refuse produced at the Pratt Mine has a potential to be acid forming. In an effort to neutralize the coarse refuse and to minimize the formation of acid mine drainage, lime will be added to each 24 inch horizontal lift for the first 10 vertical feet of Coarse Refuse Disposal Area No. 1 at a rate of 225 tons per acre per lift. When the Pratt Mine preparation plant becomes

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

operational, refuse from the plant will be sampled and analyzed. The liming rate required to neutralize the material will be calculated and submitted to the regulatory authority for approval prior to adjusting the rate. This additional analysis and liming rate adjustment will be done prior to having more than 10 vertical feet within the fill.

All non-coal waste and debris which may be accumulated at the site (including paper and wood shipping containers, empty oil containers, worn out machine parts, etc.) will be confined in appropriate temporary containers or storage areas and periodically transported to an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials.

See Attachment III-B-5, Laboratory Testing and Analysis of Coarse Refuse Material.

Attachment III-A-3

- 3.a) Coal will be transported directly from the mine to a holding bin via conveyor belts. The coal will then travel from the holding bin to a rotary breaker where the coal will be down sized for further washing. The over size from the breaker will exit the system as coarse refuse and will be disposed of via mobile equipment within Coarse Refuse Disposal Area No. 1. The undersize will continue through the system where it will pass through a series of wet screens, heavy media separators, cyclones, and centrifuges until the final clean coal product is reached. The Closed Circuit Washer will capture the Fines Refuse in a Filter Press where it will be separated from the flow of water and dumped on a belt to going to the Coarse Refuse Belt for blending and transport to the reactivated/modified Coarse Refuse Disposal Area No. 1. Fine refuse disposal back-up systems will consist of Slurry Ponds 001 and 002 or injection into the abandoned Bessie Mine for disposal. Slurry Ponds 001 and 002 will be used only in emergency situations. Make-up water for the system will be pumped from either a withdrawal well in the Bessie Mine workings, Basin 001, Basin 003, Slurry Ponds 001 or 002, the Pratt No.1 mine, or the unnamed tributary of Coal Creek. Construction of the preparation plant, conveyor systems, rotary breaker, holding bins, and transfer houses will begin with the removal and stockpiling of the previously placed cover material under P-3768. The foundation areas will be graded to the appropriate grades as necessary to facilitate construction operations. Upon the completion of the grading operations concrete foundations will be poured at the required locations for the facilities. The preparation plant, conveyor systems, rotary breaker, holding bins, and transfer houses components will be transported to the facility for final assembly. Sediment control will be provided at all times during construction of the facilities. Sediment control will consist of sediment basins, diversions, berms, or silt fencing. This preparation plant system will have a capacity of 250 tons per hour of mine run coal. Dependent upon the market for specific coal products, additional washing methods may be added to this facility. Any problems that may arise will be handled by the proper consulting personnel. Modifications to the preparation plant, conveyor systems, rotary breaker, holding bins, and transfer houses will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the lubrication of the various moving components and replacement of worn components when necessary. When no longer needed, the preparation plant, conveyor systems, rotary breaker, holding bins, and transfer houses will be disassembled and removed from the site. All concrete foundations will be removed and disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials. The sites will be graded to match the approximate original contour. 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.

Roads will be used to transport personnel, equipment, and supplies, and transport coal from the mine to market, and as access to all support facilities at the Pratt Mine. All primary roads shall be designed to

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

the following minimum criteria and/or prudent engineering practice for the design of haulroads, except where said primary road is a public highway. See Part III-B-6 for primary and ancillary roads detailed design plans.

Primary Roads from Sunrise Coal P-3768 Pratt Mine will be upgrade to minimize erosion, downstream sedimentation and flooding in an effort to prevent adverse effects to fish, wildlife and related environmental values. Vegetation will not be cleared for more than the width necessary for the road and associated ditch construction upgrade.

Roads will be constructed by placing and compacting lifts of suitable subgrade material to a grade suitable for the intended use of the road. The material will be placed in 12 inch lifts and compacted to ninety-five percent of the standard proctor density. Drainage pipes will be placed in embankments or cuts as necessary to assure proper drainage. Once the desired grade of subgrade material has been attained and all drainage structures installed roads will be surfaced with available gravel, rock, chert or other suitable material as approved by the state regulatory agency sufficiently durable for the anticipated volume of traffic weight and speed of vehicles to be used. The surface will be compacted until a desirable grade and surface is attained. No toxic or acid forming substances will be used in this surface material. The sections of roads along the unnamed tributary of Coal Creek and the preparation plant area will be surfaced with asphalt to minimize siltation to the unnamed tributary of Coal Creek. No sustained grade will exceed 10 percent unless deemed necessary, in which case appropriate sediment control facilities will be constructed. If grades of greater than 15 percent are required cross-over drains, ditch relief drains and road drainways will be located at a minimum of 300 foot intervals.

All roads will be constructed and maintained so as to have adequate drainage, using ditches, cross drains, and ditch relief drains. Drainage pipes will be placed in embankments or cuts as necessary to assure proper drainage and hay bale check dams and silt fences will be used at strategic locations when necessary to control sediment runoff. Natural drainage ways will not be altered unless otherwise approved by the ASMC. For stability the side slopes of the road embankments and/or cuts will be seeded with temporary and perennial type grasses and mulched to aid in preventing erosion and to enhance germination of the seed. No modifications are expected and only routine maintenance will be required to maintain the surface of roads such as periodic grading and resurfacing. Spot seeding and mulching will take place as necessary to improve coverage of vegetation on side slopes and embankments. Maintenance of erosion control facilities will include periodic removal of sediment from structures and repairs of areas damaged due to weather, etc. Unless retention of the roads is approved for post-mining land use the following procedures will apply. When no longer needed the roadbeds will be ripped, plowed and scarified. All road surfacing materials will be removed and placed within an open pit within the permit area. The natural drainage patterns will be restored by cutting slopes and shaping

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

to blend with the natural drainage of surrounding areas. If necessary cross drains, dikes and water bars will be constructed to minimize erosion. Terraces will be used as necessary to provide long term stability on cut and fill slopes and to minimize erosion. Road surfaces will then be re-vegetated according to the reclamation plan approved for this permit application, which includes planting a mixture of up to 100 pounds or more of various legumes and grasses.

Coal stockpiles, if determined necessary, will be located within the permitted and bonded area so that drainage from the area will be routed through one or more of the sediment basins that are to be constructed. In general an area will be graded to a relatively level state. Upon completion of the sub-grade, a relatively impervious pad or liner will be constructed to a minimum thickness of 12 inches. The pad or liner will be made of a clayey material possessing a maximum permeability coefficient of 1×10^{-6} centimeters per second. The material will be placed in 6 inch compacted lifts to 95 percent of the standard proctor density. A pad will be constructed of coal material over the relatively impervious pad or liner with material created by cleaning the coal in the mine. The only modification to the stockpile areas may be to enlarge them and this operation, if necessary, will be handled in the same manner as new construction. Small terraces and/or temporary diversions will be used as necessary to minimize surface runoff across the stockpile areas. These facilities will be maintained periodically along with the coal pad which will be maintained by grading and reshaping as necessary. After the stockpile area has served its useful purpose the pad material that cannot meet market specifications will be disposed of within Coarse Refuse Disposal Area No.1 and covered with a minimum of 4 feet of the best available non-toxic, non-combustible material, and non-acid forming material. The stockpile area base will be ripped or scarified as necessary. 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.

3 b) It is proposed that material produced during the re-opening of the previous 4 entries at the Pratt No. 1 Mine will be placed in Coarse refuse Disposal Area No. 1 as shown on the permit map.

All fine coal processing waste produced from the Pratt Mine preparation plant will be disposed of either in Coarse Refuse Disposal Area No. 1, through the proposed underground injection permit, currently under review by the Alabama Department of Environmental Management, or within Slurry Ponds 001 and 002.

Disposal of fine coal wastes in Coarse Refuse Disposal Area No. 1 will consist of dumping the Fines on the belt going to the Coarse Refuse Disposal Area. Disposal through underground injection will consist of drilling injection and withdrawal wells to the Bessie Underground Mine. Construction of the injection and withdrawal wells will begin with the grading of the construction sites. The foundation areas will be graded to the appropriate grades as necessary to facilitate construction

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

operations. Upon the completion of the grading operations, injection and withdrawal wells will be drilled at the required locations for the facilities. The wells will be cased as shown in Attachment III.-A.-6. Sediment control will be provided at all times during construction of the facilities. Sediment control will consist of sediment basins or silt fencing. Fine coal wastes will be pumped to the injection wells for disposal within the abandoned Bessie Mine. Water will be withdrawn from the withdrawal wells at a rate equal to or greater than the rate of injection of fine coal wastes. The withdrawal water will be used as make up water for the preparation plant and as dust suppressant and fire control for underground operations. Modifications to the injection and withdrawal facilities will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the clean out of wells, replacement of casing, and the replacement of worn pumps and pumplines when necessary. These injection and withdrawal wells will ly in the watershed of sediment basins. When no longer needed, the injection and withdrawal wells will be sealed by filling the wells with concrete. The affected surface area will be graded, fertilized, seeded with a seed mixture approved in the reclamation plan, and mulched to ensure a permanent diverse vegetative cover. See Attachment III-A-6 for typical illustration of methods to be used to seal and/or manage wells.

"Drisco" type polythene pipe will be used to pump fine coal wastes to the injection sites and slurry ponds and withdrawal water from the withdrawal wells to the preparation plant and Pratt No. 1 Mine. Preparation for the pipeline corridor will consist of the clearing and grubbing of the areas. Silt fencing will be used to control runoff from the construction areas which are not within the drainage area of approved sediment basins. Upon the installation of the pipelines, all disturbed areas will be fertilized, seeded with a seed mixture approved in the reclamation plan, and mulched to ensure a permanent diverse vegetative cover. Use and maintenance of the pipelines will consist of replacement of damaged or malfunctioning sections of pipeline, repair of leaks as they develop, and the addition of pipeline when needed. Upon the termination of pumping operations, the pipelines will be flushed to ensure that no fine coal wastes or sediment deposits are present in the pipelines and dismantled and removed from the site. All disturbed areas will be fertilized, seeded with a seed mixture approved in the reclamation plan, and mulched to ensure a permanent diverse vegetative cover.

Detailed design plans for the underground injection of fine coal processing waste facilities and Slurry Pond 001 will be submitted to the regulatory authority for approval prior to commencing disposal of the fine coal processing waste. Upon the approval from the regulatory authority, all facilities will be constructed and certified. Slurry Pond 002 Detailed Design Plans were approved under P-3768 and constructed with construction certification submitted previously.

Slurry Ponds 001 and 002 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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

Slurry Ponds 001 and 002 will be used only in emergency situations. 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. The embankments will be constructed of the best available soil material based on soil strength parameters. The dam core wall will bear on unyielding, relatively impermeable consolidated rock and the balance of the dam structure on the prepared compacted natural soil material present at the site. The dam will be built in horizontal lifts beginning at the lowest point of the foundation with each lift being thoroughly compacted. The drainage structure will be installed as outlined on the detailed design plans and will be stabilized with respect to erosion using riprap, concrete paving, energy dissipaters, and vegetation or otherwise. After construction of the impoundment, the dam and all areas disturbed by construction will be limed, fertilized, and seeded with an appropriate mixture of grasses and legumes approved in the reclamation plan, then mulched.

Routine maintenance of Slurry Ponds 001 and 002 will consist of spot seeding, fertilization and mulching to insure that a good vegetative cover is maintained on the dam and areas around the impoundment, repair and stabilization of any rills and gullies which may develop, and repairs to discharge structures and erosion protection structures as required. Slurry Ponds 001 and 002 will be inspected two (2) times a month by the operator's personnel and annually by a registered professional engineer and any required maintenance will be completed at the earliest possible time by the operator.

Slurry Pond 001 is a proposed impoundment and Pond 002 is existing under P-3768, no modification plans are required. If during the term of the permit Slurry Ponds 001 and 002 require modifications, modification plans will be submitted to the Regulatory Authority for approval prior to any modifications. Upon modifying the slurry impoundment, the slurry impoundment will be certified to the Regulatory Authority.

When the accumulated solids contained within Slurry Ponds 001 and 002 reaches the solids storage volume specified within the detailed design plans, Slurry Ponds 001 and 002 will be reclaimed in the following manner. Slurry Ponds 001 and 002 will be de-watered in an environmentally safe manner (such as siphoning, pumping, etc.). A diversion will be constructed around Slurry Ponds 001 and 002 to route upstream drainage around the reclaimed pond area. Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of 5 percent and 1 percent, respectively. All breaker and washer rejected rock fill shall be spread in one (1) foot maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the impoundment surface. Upon the completion of the above mentioned working

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

surface, the graded impoundment surface will be covered with a minimum of four (4) feet of the best available non-acid and non-toxic 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. 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.

A freshwater pumping station will be constructed as a part of this facility. The pumping station will consist of a portable metal building enclosing the water pump. A suction line will extend from the pumping station to the unnamed tributary of Coal Creek. Construction of the pumping station will begin with the clearing and grubbing of the construction sites. The foundation areas will be graded to the appropriate grades as necessary to facilitate construction operations. Upon the completion of the grading operations concrete foundations will be poured at the required locations for the facilities. The pumping station components will be transported to the facility for final assembly. Sediment control will be provided at all times during construction of the facilities. Sediment control will consist of sediment basins or silt fencing. Modifications to the pumping station will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the lubrication of the various moving components and replacement of worn components when necessary. When no longer needed, the pumping station will be disassembled and removed from the site. All concrete foundations will be removed and disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials. The sites will be graded to match the approximate original contour. 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.

Coarse Refuse Disposal Area No. 1 which was initially permitted under P-3768 will be reactivated/ modified under this permit and will be used to store coarse & fine 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 & fine refuse produced at this facility. The existing waste bank was positioned on unyielding, relatively impermeable consolidated rock and the balance of the waste bank structure on the prepared compacted natural soil material present at the site. Underdrains were constructed under the waste bank, under P-3768, to intercept seepage and ensure stability. The waste bank will be built in 24 inch horizontal lifts being thoroughly compacted to 90% of the standard proctor as outlined in the ASTM. The attached chemical

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

analysis of the sink of coal samples taken indicate that the coarse refuse has a potential to be acid forming. In an effort to neutralize the coarse refuse and to minimize the formation of acid mine drainage, lime will be added to each 24 inch horizontal lift for the first 10 vertical feet of Coarse Refuse Disposal Area No. 1 at a rate of 225 tons per acre per lift. When the Pratt No. 1 Mine preparation plant becomes operational, refuse from the plant will be sampled and analyzed. The liming rate required to neutralize the material will be calculated and submitted to the regulatory authority for approval prior to adjusting the rate. This additional analysis and liming rate adjustment will be done prior to having more than 10 vertical feet within the fill. The waste bank will be constructed to conform to the slopes and configuration as specified within the reactivation/modification detailed design plans. Slope benches, diversions, and down drains will be rough graded as soon as possible as the fill is being raised and will be finish graded including the addition of cover material and vegetation upon the completion of outslope grading and rough grading of the subsequent slope bench. Temporary diversion around the work area will be constructed as needed. Grading operations will be conducted to allow runoff and prevent ponding on the work area. As the outslope within the area of any down drain is completed and prior to allowing drainage from respective slope benches to enter any down drain, the down drain will be constructed and lined from the lowest section of the down drain to immediately above any slope bench discharge point. This is done to prevent erosion of the fill as a result of discharges form the exit point of any slope bench. Construction of the bank will continue in this fashion until the maximum height and configuration of the waste bank are reached or until the waste bank is abandoned and reclaimed. All surface drainage will be routed around the area through diversion ditches. The diversion ditches will be designed to pass a peak flow from a 100 yr. - 6 hr. precipitation event.

Routine maintenance of Coarse Refuse Disposal Area No. 1 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 underdrains, placement and compaction of refuse material, and revegetation 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. Inspection reports will be retained at the facility office.

Coarse Refuse Disposal Area No. 1 is an existing fill area that construction began under P-3768. See attachment III-B.-2.(a) reactivation/modification detailed design plans. If during the term of the permit the waste bank require modifications, modification plans will be submitted to the Regulatory Authority for approval prior to any modifications. Upon modifying the waste bank, the waste bank will be certified to the Regulatory Authority.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

Upon completion of the filling of Coarse Refuse Disposal Area No. 1, it will be reclaimed by the following procedure: 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 4 feet of non-toxic, non-acid forming, and non-combustible material taken from the area permitted as borrow area as shown on the permit map. Attached are laboratory results of the chemical analysis of the cover 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. 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.

Coal will be transported directly from the mine to a rotary breaker via conveyors where the coal will be down sized for further washing. The over size from the breaker will exit the system as breaker rock and will be placed on the coarse refuse conveyor at the preparation plant to transport breaker rock to Coarse Refuse Disposal Area No. 1 for disposal. Construction of the conveyor systems, rotary breaker, and holding bins will begin with the clearing and grubbing of the construction sites. The foundation areas will be graded to the appropriate grades as necessary to facilitate construction operations. Upon the completion of the grading operations concrete foundations will be poured at the required locations for the facilities. The conveyor systems, rotary breaker, and holding bins components will be transported to the facility for final assembly. Sediment control will be provided at all times during construction of the facilities. Sediment control will consist of sediment basins or silt fencing. When the coarse refuse conveyors cross the unnamed tributary of Coal Creek, they will be equipped with conveyor covers and catch pans above and below the conveyors. The covers and catch pans will control and collect any spillage from the conveyor preventing its spillage into the stream. Modifications to the conveyor systems, rotary breaker, and holding bins will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the lubrication of the various moving components, replacement of worn components when necessary, and the periodic inspection and cleanout of the conveyor catch pans. When no longer needed, the conveyor systems, rotary breaker, and holding bins will be disassembled and removed from the site. All concrete foundations will be removed and disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials. The sites will be graded to match the approximate original contour. 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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

SPECIFICATIONS FOR COAL PROCESSING WASTE IMPOUNDMENTS

Coal processing waste will not be used in the construction of dams and embankments without written approval from the regulatory authority.

All trees, shrubs, grasses, and other organic material will be cleared and grubbed from the site, and all combustibles will be removed and stockpiled before coal processing waste is placed at a dam or embankment site.

All surface drainage that may cause erosion to the embankment area or the embankment features will be directed away from the embankment. Diversions designed to divert drainage from the upstream area away from the impoundment area will be designed to carry the peak runoff from a 10 year - 24 hour precipitation event. The diversion will be maintained to prevent blockage. Adequate outlets for the discharge from these diversions will be controlled by energy dissipators, riprap channels, and other devices where necessary to reduce erosion, prevent deepening or enlargement of the stream channel, and to minimize disturbance of the hydrologic balance. Also, all diversions delivering runoff from disturbed area must pass thru an approved sediment basin.

The design freeboard between the lowest point on the embankment crest and the maximum water elevation will be at least three (3) feet as determined from a 10 year - 24 hour or a 25 year - 6 hour precipitation event (storm with the greater peak flow).

The coal processing waste dam or embankment will have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions and the seismic safety factor will be at least 1.2.

The dam or embankment foundation and abutments will be designed to be stable under all conditions of construction and operations of the impoundment. Sufficient foundation investigations and laboratory testing will be performed to determine safety factors of the dam or embankment loaded to a water level sufficiently stable to support the intended use.

Spillways and outlet works will be designed to provide adequate protection against erosion and corrosion. Inlets will be protected against blockage.

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.

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.

The combination primary and secondary decant system shall be designed to

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

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 concrete, durable rock riprap, or the spillway being constructed in consolidated non-erodible material, or a combination of any or all of the above.

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.

Dams or embankments constructed of or impounding waste materials will be designed so that at least 90 percent of the water stored during the design precipitation event will be removed within a ten day period.

The dam and all disturbed areas will be sowed with both perennial and annual grasses in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon the completion of construction.

All embankments will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the performance bond.

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.

All impoundments will be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections will be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20(1(j)) of the Alabama Surface Mining Regulations.

When the accumulated solids contained within the waste impoundment reaches the solids storage volume specified within the detailed design plans, the waste impoundment will be reclaimed in the following manner. The waste impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.). Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of 5 percent and 1 percent, respectively. All breaker and washer rejected rock fill shall be spread in one (1) foot maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the impoundment surface. Upon the completion of the above mentioned working surface, the graded impoundment surface will be covered with a minimum of four (4) feet of the best available non-acid and non-toxic forming and non-combustible

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

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. Soil amendments, including lime and fertilizer, will be added and disked 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.

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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

SPECIFICATIONS FOR COAL PROCESSING WASTE IMPOUNDMENTS

Coal processing waste will not be used in the construction of dams and embankments without written approval from the regulatory authority.

All trees, shrubs, grasses, and other organic material will be cleared and grubbed from the site, and all combustibles will be removed and stockpiled before coal processing waste is placed at a dam or embankment site.

All surface drainage that may cause erosion to the embankment area or the embankment features will be directed away from the embankment. Diversions designed to divert drainage from the upstream area away from the impoundment area will be designed to carry the peak runoff from a 10 year - 24 hour precipitation event. The diversion will be maintained to prevent blockage. Adequate outlets for the discharge from these diversions will be controlled by energy dissipators, riprap channels, and other devices where necessary to reduce erosion, prevent deepening or enlargement of the stream channel, and to minimize disturbance of the hydrologic balance. Also, all diversions delivering runoff from disturbed area must pass thru an approved sediment basin.

The design freeboard between the lowest point on the embankment crest and the maximum water elevation will be at least three (3) feet as determined from a 10 year - 24 hour or a 25 year - 6 hour precipitation event (storm with the greater peak flow).

The coal processing waste dam or embankment will have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions and the seismic safety factor will be at least 1.2.

The dam or embankment foundation and abutments will be designed to be stable under all conditions of construction and operations of the impoundment. Sufficient foundation investigations and laboratory testing will be performed to determine safety factors of the dam or embankment loaded to a water level sufficiently stable to support the intended use.

Spillways and outlet works will be designed to provide adequate protection against erosion and corrosion. Inlets will be protected against blockage.

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.

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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

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 concrete, durable rock riprap, or the spillway being constructed in consolidated non-erodible material, or a combination of any or all of the above.

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.

Dams or embankments constructed of or impounding waste materials will be designed so that at least 90 percent of the water stored during the design precipitation event will be removed within a ten day period.

The dam and all disturbed areas will be sowed with both perennial and annual grasses in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon the completion of construction.

All embankments will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the performance bond.

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.

All impoundments will be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections will be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20(1(j)) of the Alabama Surface Mining Regulations.

When the accumulated solids contained within the waste impoundment reaches the solids storage volume specified within the detailed design plans, the waste impoundment will be reclaimed in the following manner. The waste impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.). Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of 5 percent and 1 percent, respectively. All breaker and washer rejected rock fill shall be spread in one (1) foot maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the impoundment surface. Upon the completion of the above mentioned working surface, the graded impoundment surface will be covered with a minimum of four (4) feet of

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

the best available non-acid and non-toxic 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. 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.

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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS

All coarse refuse will be placed in Coarse Refuse Disposal Area No. 1. (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 or man made drainage course, springs, or wet weather seeps 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 on-site 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 horizontal 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 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 4 feet of non-toxic, non-acid forming,

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

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. 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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

c) Mine facilities at the Pratt No. 1 Mine will consist of offices, bathhouses, supply houses, equipment maintenance houses, pumping stations, washer facilities, refuse bins, conveyors, scale houses, ventilation fans, a bridge, a low water crossing, and power stations. The parking areas for the facilities will consist of an area graded to a flat slope and cover with a durable wearing surface. The wearing surface will consist of an non-erodible, non-toxic, and non-acid forming wearing surface. 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 low water crossing across the unnamed tributary of Coal Creek will be used to transport personnel, equipment, and supplies, and as general access to all facilities located to the north of the unnamed tributary of Coal Creek. The low water crossing will only be used during times when the crossing is not inundated by the tributary. The low water crossing will be constructed in accordance with the detailed design plans of Attachment III-B-6. Silt fencing will be used as sediment control during the construction, use, and reclamation of the crossing. The crossing area will be cleared of all vegetation. Vegetation will not be cleared for more than the width necessary for the crossing. The crossing will be constructed by placing and compacting lifts of suitable subgrade material to a grade suitable for the intended use of the road over drainage pipes capable of passing the normal flow of the tributary. The material will be placed in 12 inch lifts and compacted to ninety-five percent of the standard proctor density. Once the desired grade of subgrade material has been attained and all drainage structures installed the crossing will be surfaced with 4 inches of reinforced concrete to minimize siltation to the unnamed tributary of Coal Creek. The concrete will be reinforced with standard concrete reinforcement wire. Maintenance of the low water crossing will consist of the repair of the surfacing material, removal of trash and debris from the drainage structures, repair of road ditches, and repair and replacement of silt fencing when necessary. Modifications to the low water crossing will be performed as necessary to upgrade and update the facilities during the life of the mine. If during the term of the permit the low water crossing requires modifications, modification plans will be submitted to the Regulatory Authority for approval prior to any modifications. Upon modifying the low water crossing, it will be certified to the Regulatory Authority. When no longer needed the crossing will be removed. All road surfacing material will be removed and disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials. The natural drainage patterns will be restored by cutting slopes and shaping to blend with the natural drainage of surrounding areas. All disturbed areas will be revegetated according to the reclamation plan approved for this permit application, which includes planting a mixture of up to 100 pounds or more of various legumes and grasses. Construction of the mine facilities will begin with the clearing and grubbing of the construction sites. The foundation areas will be graded to the appropriate grades as necessary to facilitate construction operations. Upon the completion of the grading operations concrete foundations will be poured at the required locations for the facilities. The mine facilities components

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

will be transported to the facility for final assembly. Sediment control will be provided at all times during construction of the facilities. Sediment control will consist of sediment basins or silt fencing. Modifications to the mine facilities will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the lubrication of the various moving components and replacement of worn components when necessary. When no longer needed, the mine facilities will be disassembled and removed from the site. All concrete foundations will be removed and disposed of within an offsite disposal area which meets all Federal, State and local laws and ordinances for permanent disposal of such materials. The sites will be graded to match the approximate original contour. All parking area 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. The parking area base will be ripped or scarified as necessary. 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.

- d) Water pollution control facilities, sediment basins, berms, drainage ditches, and drainage pipes to route undisturbed drainage through the permit area shall be constructed prior to mine operation in a particular increment according to approved plans. These facilities will be used to control runoff from the mine and will be inspected and maintained until reclamation of the area is complete.

A drainage control berm will be constructed along the northern boundary of Increment No. 1 along the unnamed tributary of Coal Creek. This berm will be used to route drainage from the haul road and permit area to Basin 001 and to aid in the prevention of flooding from the unnamed tributary of Coal Creek into the permit area.

Berm 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. Silt fencing will be used as sediment control during the construction, use, and reclamation of the berm. The berm will be constructed of the best available soil material based on soil strength parameters and permeability. The berm will bear on unyielding, relatively impermeable consolidated rock and the balance of the berm structure on the prepared compacted natural soil material present at the site. The berm will be built in horizontal lifts beginning at the lowest point of the foundation with each lift being thoroughly compacted. After construction of the berm, all areas disturbed by construction will be limed, fertilized, and seeded with an appropriate mixture of grasses and legumes, then mulched.

Routine maintenance of the berm will consist of spot seeding, fertilization and mulching to insure that a good vegetative cover is maintained on the berm and repair and stabilization of any rills and gullies which may develop.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

All berms are proposed, no modification plans are required. If during the term of the permit berm require modifications, modification plans will be submitted to the Regulatory Authority for approval prior to any modifications being done.

Upon completion of mining and granting of a Phase II bond release from the regulatory authority, the berm will be will be graded to match the approximate original contour. 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.

Two drainage structures will be used to route unpermitted drainage through the permit area. Two drainage structures will be located in Increment No. 1 routing drainage from underneath the railroad through the permit area to the unnamed tributary of Coal Creek. These facilities will be used to control runoff from the mine and will be inspected and maintained until reclamation of the area is complete.

Drainage pipes and culverts will 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.

Modifications to the drainage structures will be performed as necessary to upgrade and update the facilities during the life of the mine. Maintenance will consist of the cleanout and replacement of structures when necessary. When no longer needed, the drainage structures will be removed from the site. The sites will be graded to match the approximate original contour. 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.

Sediment basin 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 dam will be constructed of the best available soil material based on soil strength parameters and permeability. The dam core wall will bear on unyielding, relatively impermeable consolidated rock and the balance of the dam structure on the prepared compacted natural soil material present at the site. The dam will be built in horizontal lifts beginning at the lowest point of the foundation with each lift being thoroughly compacted. The drainage structure will be installed as outlined on the detailed design plans and shall be stabilized with respect to erosion using riprap, concrete paving, energy dissipators, vegetation or some other acceptable means. After construction of the basin, the dam and all areas disturbed by construction will be limed, fertilized, and seeded with an appropriate mixture of grasses and legumes, then mulched. Sediment Basin 001 will be design in two phases. Basin 001 Phase I will function as a non-discharging sump. It will collect surface runoff during the actual

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

production phase of the mine. Basin 001 Phase I will be equipped with a pump discharge system which will pump the water collected within the basin to a injection well to the abandoned Bessie Mine. During Phase II, Basin 001 will be modified to include a primary and emergency spillway and will be design to maintain effluent standards for it drainage area the during reclamation phase.

Routine maintenance of the sediment basins will consist of spot seeding, fertilization and mulching to insure that a good vegetative cover is maintained on the dam and areas around the pond, repair and stabilization of any rills and gullies which may develop, repairs to discharge structures and erosion protection structures as required, and removal of entrapped sediment from the basins prior to its reaching the maximum level indicated on the approved plans. All sediment basins will be inspected quarterly by the operator's personnel and annually by a registered professional engineer and any required maintenance will be completed at the earliest possible time by the operator.

All basins are proposed, no modification plans are required. If during the term of the permit basins require modifications, modification plans will be submitted to the Regulatory Authority for approval prior to any modifications being done. Upon modifying the basin, the basin will be certified to the Regulatory Authority.

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 hr. 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 for the reclamation of the sediment basin. The diversion channel shall be designed and grassed as per enclosed information. (See permanent diversion channel for basin disposal) Upon completion of the diversion channel the embankment will be breached to the existing sediment level to prevent the impoundment of water. The breach will be graded to a minimum side slope of 2.5 to 1 and revegetated and/or riprapped to prevent erosion and ensure the stability of the exposed breach. The remaining back slope of the embankment will be graded to a minimum 3 to 1 slope. The dewatered sediment basin will be seeded with some combination of the following: Fescue, bermuda, rye grass, canary grass, and willows. After seeding the area will be mulched. Any additional sediment or embankment material not used to meet approximate original contour, if nontoxic, will be spread in thin layers within the permit area and vegetated as stated in the reclamation plan. All toxic material encountered in the basin disposal will be buried and covered with 4 feet of nontoxic and noncombustible material and vegetated a stated in the reclamation plan.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P- _____

6. Give a description, including appropriate cross-sections and maps, of measures to be used to seal or manage mine openings, bore holes, wells and other openings within the proposed permit area. (780.18, 816.13-816.15)

Mine openings created by mining on this permit will be sealed after mining is completed by constructing concrete block walls and by utilizing other available material, in accordance with the requirements of the Mine Safety and Health Administration. If the opening is a wet opening, 6 inch diameter pipes will be inserted into the opening and covered with approximately 12 inches of soil along the outside of the opening. This covering of the pipes is to prevent crushing the pipes by equipment during the sealing operations. Upon the installation of the pipes, class 3 sandstone or limestone riprap will be inserted into the opening using mobile equipment to push the stone into the opening as far as the material can be pushed. Class 2 and Class 1 riprap and soil material will follow the Class 3 riprap until the opening is sealed approximately 3 feet from the entrance of the opening. All material will be compacted using mobile equipment or handtamps. At this time a 12 inch thick reinforced concrete block wall or a reinforced concrete wall will be constructed within the opening. If a block wall is constructed, concrete will be used as a filler around the perimeter of the wall. This is done in an effort to ensure a water tight seal of the wall. Upon the completion of the wall, soil material will be used to backfill the opening to a minimum of 5 feet above the opening, and compacted using mobile equipment or handtamps. The remaining face-up highwall will be backfilled at this point. During this construction period, the 6 inch diameter pipes will be draining any accumulating water behind the seals within the openings. Upon the completion of the sealing operations, the pipes will be plugged with a device such as a gate valve. All disturbed areas will be fertilized, seeded and mulched as entailed in the reclamation plan. If the opening is a dry opening, class 3 sandstone or limestone riprap will be inserted into the opening using mobile equipment to push the stone into the opening as far as the material can be pushed. Class 2 and Class 1 riprap and soil material will follow the Class 3 riprap until the opening is sealed approximately 3 feet from the entrance of the opening. All material will be compacted using mobile equipment or handtamps. At this time a 12 inch thick reinforced concrete block wall or a reinforced concrete wall will be constructed within the opening. If a block wall is constructed, concrete will be used as a filler around the perimeter of the wall. This is done in an effort to ensure a water tight seal of the wall. Upon the completion of the wall, soil material will be used to backfill the opening to a minimum of 5 feet above the opening, and compacted using mobile equipment or handtamps. The remaining face-up highwall will be backfilled at this point. All disturbed areas will be fertilized, seeded and mulched as entailed in the reclamation plan.

Bore holes, wells, and other openings will be backfilled with cuttings from the holes and capped with clay or other impervious

Applicant: North Pratt Mining, LLC
Mine Name: Pratt No. 1 Mine
Permit Number: P-_____

material. Abandoned monitoring wells will be sealed with a concrete cap which is approximately 2'x 2'x 0.5'. Withdrawal and injection wells sealed by filling the wells with concrete. The affected surface area will be graded, fertilized, seeded with a seed mixture approved in the reclamation plan, and mulched to ensure a permanent diverse vegetative cover. See Attachment III-A-6 for typical illustration of methods to be used to seal and/or manage wells and mine openings.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P- _____

7. Give a description of steps to be taken to comply with applicable water quality laws, regulations and health and safety standards. (780.18)

Surface runoff will be routed through sediment control basins prior to being discharged from the permit area. Discharges from sediment basins will be monitored by in-house personnel or consultants, at the discretion of the permittee, as necessary to assure compliance with applicable State and Federal Laws and Regulations. Chemical treatment with aqueous sodium hydroxide solution will be used on water entering the drainage course of the existing basins if this is determined necessary to achieve compliance with State and Federal Laws. On occasion, a solution of chemically hydrated lime and water will be used in sediment basins for immediate correction of pH imbalances. With proper pH, the heavy metals will precipitate to the bottom of the basins and will not exit the discharge pipe or spillway. Alum may be used on occasion if necessary to facilitate flocculation and precipitation of suspended solids. A permit to discharge under the National Pollutant Discharge Elimination System has been applied for and discharges from the proposed basins will be monitored and results of that monitoring, both compliant and non-compliant, will be reported in accordance with the NPDES Permit and the hydrologic monitoring plan shown elsewhere in this permit application. An underground injection permit, under the Alabama Department of Environmental Management, has been applied for to allow for the disposal of fine coal wastes and stormwater runoff within the abandoned Bessie Mine. Injectant to and withdrawal from the Bessie Mine will be monitored and results of that monitoring, both compliant and non-compliant, will be reported in accordance with the NPDES Permit and the hydrologic monitoring plan shown elsewhere in this permit application. A trained and qualified health and safety staff will be contracted to assure that all health and safety standards and MSHA regulations are complied with. Certification and training of all mine personnel will be current and will be updated as necessary by attending MSHA classes taught by certified personnel. All dust, noise and other required control tests will be current and will be performed as necessary by personnel certified by the Mine Safety and Health Administration. Records of all testing required will be kept at the mine and will be available for inspection by the Regulatory Authority. All necessary permits for field absorption systems for the office and similar facilities will be obtained prior to construction of these facilities. Haul roads will be maintained with water and/or other materials to minimize fugitive dust emissions.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

8. Is surface mining to be conducted within 500 feet of an underground mine? (780.27, 816.79) () Yes (X) No

If yes, describe measures to be used to comply with Section 816.79. Attach a map showing the location and extent of known workings in accordance with 780.14(a)(13). Attach a copy of MSHA approval.

There will be no surface mining conducted within 500 feet of an active underground mine. The proposed entry to be faced up for the Pratt No. 1 Mine is south of the workings of the old Lindbergh Mine of Brookside Pratt Mining Company on the Pratt Seam of coal. The extent of the Lindbergh Mine is shown reproduced onto the MR Pratt One permit map from mapping obtained from USX Corporation. The old works, as shown by the available mapping, were confined to an area north of the unnamed tributary of Coal Creek and are cutoff from the reserve of the MR Pratt One Mine area by the unnamed tributary of Coal Creek. The reserve area of MR Pratt One is bordered by the Franklin Mine of Franklin Coal on the West. A 200 foot barrier will be maintained in the vicinity of all old mine workings on the Pratt Seam.

The haul road and Coarse Refuse Disposal Area No. 1 serving the Pratt No. 1 Mine is underlain by the old workings of the Lindbergh Mine, Davidson Coal Company Coal Creek Mine and the Blossburg Mine.

The majority of the Pratt No. 1 Mine is underlain by the old workings of Jim Walter Resources Bessie Mine. The southern limits of the Bessie Mine are shown on the Pratt No. 1 Mine Projection Map which is a part of this application. The separation between the Pratt Seam and the Mary Lee Seam in this area is approximately 250 feet.

See Attachment III-A-8 for previous underground mine locations.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

(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.

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.(a)

(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.

See attachment III-B.-2.(a)

3. Diversions. (780.29,816.43, 816.44)

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

If yes, complete the following:

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

Applicant: North Pratt Mining, LLC
Mine Name: Pratt No. 1 Mine
Permit Number: P-_____

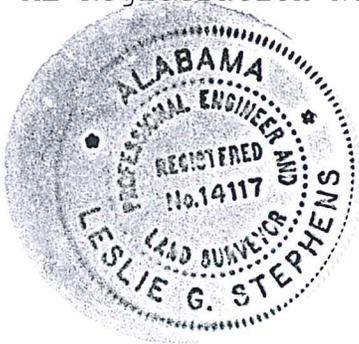
CERTIFICATION STATEMENT:

I hereby certify that Attachment III-B.-2.- (a) prepared for North Pratt Mining, LLC's Pratt No. 1 Mine, 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 and belief.

Leslie G. Stephens

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

06/12/2012
Date



Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

Attachment III-B-2(a)

GENERAL PLAN

The general plan consists of one waste bank (Coarse Refuse Disposal Area No. 1), two slurry ponds (Slurry Ponds 001P and 002E, with volume of less than 20 acre feet each) and four (4) sediment basins (Basins 001E, 004E, 003P & 005P. All basins are to be temporary. Basin and slurry removal plans 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).

Coarse Refuse Disposal Area No. 1 which is currently permitted and bonded under P-3768 will be reactivated/modified for used under P-3972. Upon written approval from the Regulatory Authority, Coarse Refuse Disposal Area No. 1 will be modified as necessary and a certification that the modification has been completed according to the detailed modification/reactivation design plans will be submitted to the Regulatory Authority upon completion of construction.

Basins 001E, 004E, and Slurry Pond 002E are currently permitted, bonded and constructed under P-3768 and will be used under P-3972 to utilize and control drainage from disturbed areas. The detailed design plans for Basin 004E and Slurry Pond 002E have been previously approved under P-3768 and will be used under P-3972 without modification. A copy of the previously approved detailed design plans for Basin 004E and Slurry Pond 002E is included P-3972.

Basin 001E was designed in two phases. Basin 001E Phase I functioned as a non-discharging sump. It collected surface runoff during the actual production phase of P-3768. Basin 001E Phase I was equipped with a pump discharge system which pumped the water collected within the basin to a injection well to the abandoned Bessie Mine. During Phase II, Basin 001E was modified to include a primary and emergency spillway and designed to maintain effluent standards for the drainage area during the during reclamation phase. However, in order for Basin 001E to function properly in P-3972 the following modifications will have to be completed: 1)raise the existing top of dam elevation 1.4 feet, 2)remove the existing rip-rap lined emergency spillway and replace with an 12 feet wide concrete open channel and 3)raise the existing emergency spillway elevation 0.6 feet. Once all modifications are completed Basin 001E will be certified to the Regulatory Authority to the approved detailed modification design plans.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

Detailed design plans for Sediment Basins 003P and 005P and Slurry Pond 001P will be submitted to the Regulatory Authority when determined to be necessary for mine operation and upon written approval by the Regulatory Authority the basins will be constructed and certified to the Regulatory Authority prior to disturbance within their respective drainage areas or the need to pump mine water from the underground workings of the Pratt No.1 Mine.

A request for an exemption of Rule 880-X-10C-.13(3). The area requested for an exemption is a parking area. The parking area will consist of approximately 0.5 acres of disturbance. The surface condition of the parking area will consist of an non-erodible, non-toxic, non-acid forming wearing surface. 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. With the above mentioned in mind, North Pratt Mining, LLC, proposes to control runoff from the parking area by placing silt fencing around the outer edge of the area as necessary. General design data and construction maintenance specifications are attached. It has been proven through experience that the use of silt fences enclosing the area, runoff from the site can be controlled. See the permit and watershed maps for the location of the exemption area.

In addition to disposal of fine coal wastes within Slurry Ponds 001 and 002, a request to inject fine coal waste and stromwater runoff within the Bessie Underground Mines is pending review by the Alabama Department of Environmental Management.

Operations at the Pratt No. 1 Mine are proposed within the 100' setback of an unnamed tributary of Coal Creek. A berm will be used as sediment control for these areas. A berm will be placed along the outer limits of all disturbance prior to disturbance within the area. See Attachment III-B-3 for detailed berm design plans.

Geologic investigations of the revision area indicte alternating sequences of shale and sandstone with minor amounts of bituminous coal and underclay. 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 Unnamed tributary of Coal Creek.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

The permit area is underlain by the abandoned Bessie Underground Mine. The underground workings are approximately 475 feet below the surface of the permit area. From the attached underground mapping the following information was obtained: a panel width of 450', a pillar size of 50' X 50', a center-center pillar width of 70', a seam thickness of 8', and an extraction ratio of 49%. Utilizing the information from "Surface Subsidence Caused by Underground Mining" provided by the Office for Informational Services and Technical Liaison of the University of Kentucky and U.K. National Coal Board's method of predicting effects of subsidence, the following information was calculated:

$$SM = \text{Maximum Subsidence} = (SF)(m)$$

$$SF = \text{Subsidence Factor, Taken from Figure 7 (See Attached)} = 0.1.$$

$$m = \text{Seam Thickness} = 8 \text{ feet.}$$

$$SM = (0.1)(8) = 0.8 \text{ feet.}$$

From Table 1 the following subsidence profile table was developed:

Subsidence Profile Table

(1) s/S	0	.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	.95	1.0
(2)	0	0.4	0.8	.16	.24	.32	.40	.48	.56	.64	.72	.76	.80
(3)	1.1 8	.70	.59	.49	.43	.39	.35	.32	.27	.23	.16	.11	0
(4)	561	333	280	233	204	185	166	152	128	109	76	52	0

- (1) Values of s/S, taken from Table 1, (See Attached).
- (2) Subsidence in feet. Obtained by multiplying row (1) by Maximum Subsidence (SM) = 0.8'.
- (3) Taken from Table 1, for a panel width to depth ratio of 450/475, or 0.96.
- (4) Horizontal location of subsidence. Obtained by multiplying row (3) by depth (475').

From Figure 9.4.10, and Table 4 the following strain profile table was developed:

Strain Profile Table

Extension Zone

Compression Zone

(1)	0	.2	.4	.6	.8	1	.8	0	.2	.4	.6	.8	1	.8	.6	.4	.2	0
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Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

(2)	0	0.2	0.4	0.6	0.8	1.0	0.8	0	0.2	0.4	0.6	0.8	1.0	0.8	0.6	0.4	0.2	0
(3)	1.18	.77	.66	.60	.55	.49	.45	.35	.33	.30	.27	.24	.18	.09	.04	0	0	0
(4)	561	366	314	285	262	233	214	166	157	143	129	114	86	43	19	0	0	0

- (1) Values of e/E , taken from Table 4, (See Attached).
- (2) Strain expressed in 10^{-3} . Obtained by multiplying row (1) by K_3 multiplier obtained from Figure 9.4.10., (See Attached) for panel width to depth ratio of $450/475 = .96$, and subsidence to depth ratio of $0.8/475 = 0.0017$, K_3 extension = $(.0017)(.58) = .001$ and K_3 compression = $(.0017)(.52) = .001$.
- (3) Taken from Table 4., for a panel width to depth ratio of $450/475$, or $.96$.
- (4) Horizontal location of strain value. Obtained by multiplying row (3) by depth (475').

From the above tables, the surface disturbance caused by subsidence ranges from the settling of the surface from **0.5 inches to a maximum of 9.6 inches**, with strain values ranging from **.0002 to .001 extension and .0002 to .001 compression**. Note that the minimum subsidence and strain values are at the maximum horizontal distance from the center of the panel, 500 feet, and the maximum subsidence and strain values are located directly over the center of the panel. Visible surface disturbance consists of **minor** surface cracking to the lowering of surface elevations across each panel. The effects to an impounding structure would range from **minor** stress cracking, through which minor seepage may occur, to the settling of surface elevations of the structure. These effects would not be severe enough to cause a massive failure of an impounding structure overlying the underground workings. In addition, Coarse Refuse Disposal Area No. 1, Slurry Pond No. 2, and Basin 004 are underlain by the abandoned workings of the Lindbergh No. 6 Mine of the Pratt Seam. The workings are 20' to 180' below the surface with a seam thickness of approximately 3'. Due to the age of the workings being in excess of 30 years old and the fact that Slurry Pond No. 2 and Basin 004 are directly underlain by a large barrier pillar, no additional effects to these structures other than those listed above would be present as a result of subsidence. In a effort to ensure stability of the impounding structures, the structures will be monitored bi-monthly by personnel from North Pratt Mining, LLC, to ensure that the impoundment is functioning properly. In the event that subsidence causes damage to the impounding structure, all damage will be repaired immediately. Repairs may consist of the increasing of the settled portion of the structure and the repair to the cracking and the sealing of any seepage cause therein.

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

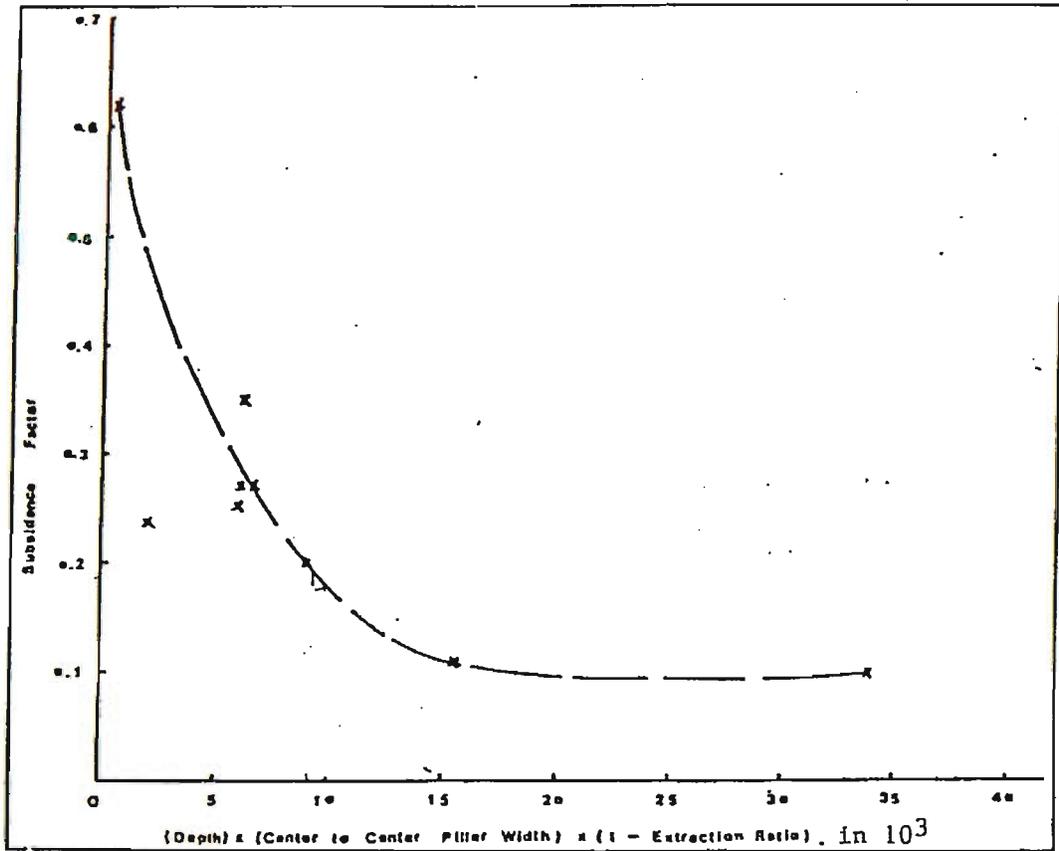
Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

See Attachment III-B-2(a), Basin 001E Detailed Modification Design Plans.

See Attachment III-B-2(a), Basin 004E, Slurry Ponds 001P & 002E Detailed Design Plans taken from P-3768.

See Attachment III-B-2(a), Coarse Refuse Disposal Area No. 1 Reactivation/Modification Detailed Design Plans.

Fig. 7 Subsidence factor vs seam depth (pillar width and extraction ratio for room-and-pillar mining without pillar extraction).



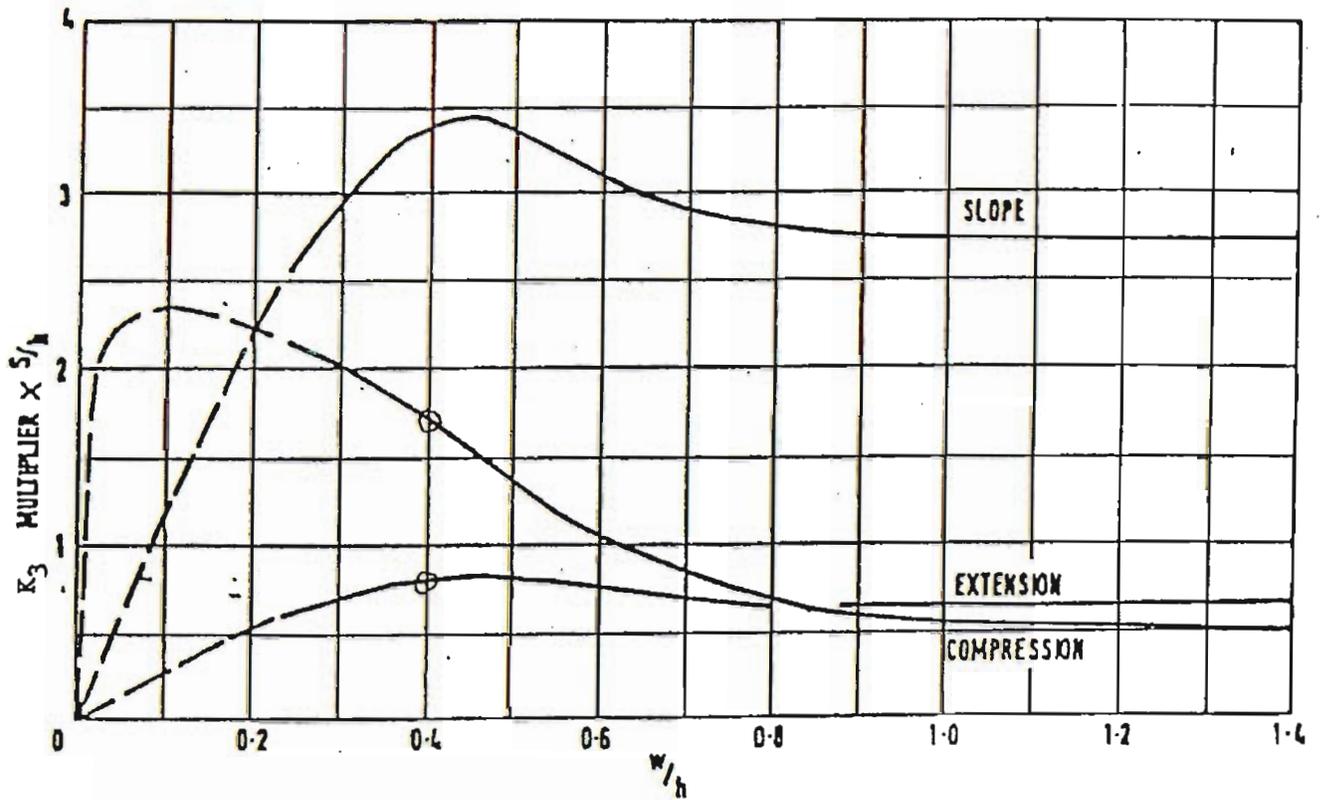


Fig. 9.4.10 Graph for predicting maximum slope and strain for various width/depth ratios of the opening (l_2). Courtesy U.K. National Coal Board.





TABLE-1: Relationship between w/h and d/h for various points on a subsidence profile

w/h RATIO OF PANEL	VALUES OF s/S										DISTANCES FROM PANEL CENTRE IN TERMS OF DEPTH																					
	0	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0.95	1.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95
2.6	2.00	1.51	1.39	1.29	1.24	1.19	1.16	1.12	1.08	1.03	0.95	0.87	0.41																			
2.4	1.90	1.41	1.29	1.19	1.14	1.10	1.06	1.02	0.98	0.93	0.85	0.77	0.31																			
2.2	1.80	1.31	1.19	1.09	1.04	1.00	0.96	0.92	0.88	0.83	0.75	0.67	0.23																			
2.0	1.70	1.21	1.09	0.99	0.94	0.90	0.86	0.82	0.78	0.73	0.65	0.57	0.16																			
1.8	1.60	1.11	1.00	0.90	0.84	0.80	0.76	0.72	0.68	0.63	0.55	0.47	0.10																			
1.6	1.50	1.01	0.90	0.80	0.74	0.70	0.66	0.62	0.58	0.53	0.45	0.37	0.05																			
1.4	1.40	0.91	0.80	0.70	0.64	0.60	0.56	0.52	0.48	0.43	0.35	0.27	0.01																			
1.3	1.35	0.86	0.75	0.65	0.59	0.55	0.51	0.47	0.43	0.38	0.30	0.23	0																			
1.2	1.30	0.81	0.70	0.60	0.54	0.50	0.46	0.42	0.38	0.33	0.25	0.19	0																			
1.1	1.25	0.77	0.65	0.55	0.50	0.45	0.42	0.38	0.34	0.29	0.21	0.16	0																			
1.00	1.20	0.72	0.61	0.51	0.45	0.41	0.37	0.33	0.29	0.24	0.17	0.12	0																			
0.98	1.19	0.71	0.60	0.50	0.44	0.40	0.36	0.33	0.28	0.24	0.17	0.12	0																			
0.96	1.18	0.70	0.59	0.49	0.43	0.39	0.35	0.32	0.27	0.23	0.16	0.11	0																			
0.94	1.17	0.69	0.58	0.48	0.42	0.38	0.34	0.31	0.26	0.22	0.16	0.11	0																			
0.92	1.16	0.68	0.57	0.47	0.41	0.37	0.33	0.30	0.26	0.22	0.15	0.10	0																			
0.90	1.15	0.68	0.57	0.46	0.40	0.36	0.32	0.29	0.25	0.20	0.14	0.10	0																			
0.88	1.14	0.67	0.56	0.45	0.40	0.36	0.32	0.28	0.24	0.20	0.13	0.10	0																			
0.86	1.13	0.66	0.55	0.45	0.39	0.35	0.31	0.27	0.23	0.19	0.13	0.09	0																			
0.84	1.12	0.65	0.54	0.44	0.38	0.34	0.30	0.26	0.22	0.18	0.12	0.08	0																			
0.82	1.11	0.64	0.53	0.43	0.37	0.33	0.29	0.26	0.21	0.17	0.11	0.07	0																			
0.80	1.10	0.63	0.52	0.42	0.36	0.32	0.28	0.25	0.21	0.17	0.11	0.08	0																			
0.78	1.09	0.63	0.52	0.42	0.36	0.32	0.28	0.24	0.20	0.16	0.11	0.08	0																			
0.76	1.08	0.62	0.51	0.41	0.35	0.31	0.27	0.23	0.20	0.16	0.11	0.07	0																			
0.74	1.07	0.61	0.50	0.40	0.34	0.30	0.26	0.23	0.19	0.15	0.10	0.07	0																			
0.72	1.06	0.61	0.50	0.39	0.34	0.30	0.26	0.22	0.18	0.15	0.10	0.07	0																			
0.70	1.05	0.60	0.49	0.39	0.33	0.29	0.25	0.21	0.18	0.14	0.10	0.07	0																			
0.68	1.04	0.60	0.49	0.38	0.32	0.28	0.24	0.21	0.17	0.14	0.10	0.07	0																			
0.66	1.03	0.60	0.48	0.38	0.32	0.28	0.24	0.20	0.17	0.14	0.09	0.06	0																			
0.64	1.02	0.59	0.48	0.37	0.31	0.27	0.23	0.20	0.17	0.13	0.09	0.06	0																			
0.62	1.01	0.59	0.47	0.37	0.31	0.27	0.23	0.19	0.16	0.13	0.09	0.06	0																			
0.60	1.00	0.59	0.47	0.36	0.30	0.26	0.22	0.19	0.16	0.13	0.09	0.06	0																			
0.58	0.99	0.59	0.47	0.35	0.30	0.25	0.22	0.18	0.16	0.13	0.09	0.06	0																			
0.56	0.98	0.59	0.47	0.35	0.29	0.25	0.21	0.18	0.15	0.12	0.08	0.06	0																			
0.54	0.97	0.59	0.47	0.34	0.29	0.25	0.21	0.18	0.15	0.12	0.08	0.06	0																			
0.52	0.96	0.59	0.47	0.34	0.28	0.24	0.21	0.17	0.15	0.12	0.08	0.06	0																			
0.50	0.95	0.59	0.47	0.34	0.28	0.24	0.21	0.17	0.15	0.12	0.08	0.06	0																			
0.48	0.94	0.59	0.47	0.33	0.28	0.23	0.20	0.17	0.15	0.12	0.08	0.06	0																			
0.46	0.93	0.59	0.47	0.33	0.28	0.23	0.20	0.17	0.15	0.12	0.08	0.06	0																			
0.44	0.92	0.59	0.47	0.33	0.28	0.23	0.20	0.17	0.15	0.12	0.08	0.06	0																			
0.42	0.91	0.59	0.47	0.34	0.28	0.24	0.20	0.17	0.15	0.12	0.08	0.06	0																			
0.40	0.90	0.59	0.47	0.34	0.28	0.24	0.21	0.18	0.15	0.12	0.08	0.06	0																			
0.38	0.89	0.60	0.48	0.35	0.29	0.25	0.21	0.18	0.15	0.12	0.08	0.06	0																			
0.36	0.88	0.60	0.48	0.35	0.29	0.25	0.22	0.19	0.16	0.13	0.09	0.06	0																			
0.34	0.87	0.60	0.49	0.36	0.30	0.25	0.22	0.19	0.16	0.13	0.09	0.06	0																			
0.32	0.86	0.60	0.49	0.37	0.31	0.26	0.22	0.20	0.17	0.14	0.09	0.06	0																			
0.30	0.85	0.61	0.50	0.38	0.32	0.27	0.23	0.20	0.17	0.13	0.09	0.06	0																			
0.28	0.84	0.61	0.51	0.39	0.33	0.28	0.24	0.21	0.18	0.14	0.09	0.06	0																			
0.26	0.83	0.62	0.52	0.41	0.35	0.30	0.26	0.22	0.19	0.15	0.10	0.07	0																			
0.24	0.82	0.62	0.53	0.43	0.36	0.32	0.28	0.24	0.20	0.16	0.11	0.08	0																			
0.22	0.81	0.63	0.55	0.46	0.39	0.34	0.30	0.26	0.22	0.17	0.11	0.08	0																			
0.20	0.80	0.64	0.57	0.48	0.41	0.37	0.32	0.28	0.23	0.19	0.13	0.08	0																			



TABLE 4 Relationship for various strain values in a subsidence profile

w/h RATIO OF PANEL	Extension (+E)					Distances from Panel Centre in Terms of Depth					Compression (-E)										
	0	0.20	0.40	0.60	0.80	0	0.20	0.40	0.60	0.80	0	0.20	0.40	0.60	0.80	0	0.20	0.40	0.60	0.80	0
	0	0.20	0.40	0.60	0.80	0	0.20	0.40	0.60	0.80	0	0.20	0.40	0.60	0.80	0	0.20	0.40	0.60	0.80	0
3.0	2.2	1.78	1.67	1.61	1.56	1.50	1.46	1.36	1.31	1.28	1.25	1.19	1.10	1.03	0.95	0.90	0.70				
2.6	2.0	1.58	1.47	1.41	1.36	1.30	1.26	1.16	1.14	1.08	1.05	0.99	0.90	0.83	0.77	0.70	0.50				
2.2	1.8	1.38	1.27	1.21	1.15	1.10	1.06	0.96	0.94	0.88	0.85	0.79	0.70	0.63	0.57	0.50	0.30				
2.0	1.7	1.28	1.17	1.11	1.05	1.00	0.96	0.86	0.84	0.81	0.78	0.75	0.69	0.63	0.47	0.40	0.20				
1.8	1.6	1.17	1.07	1.01	0.95	0.90	0.86	0.76	0.73	0.71	0.68	0.65	0.59	0.53	0.47	0.30	0.10				
1.6	1.5	1.08	0.97	0.91	0.85	0.80	0.76	0.66	0.63	0.61	0.58	0.49	0.40	0.33	0.27	0.20	0.03				
1.4	1.4	0.98	0.87	0.81	0.75	0.70	0.66	0.56	0.53	0.51	0.48	0.45	0.39	0.30	0.23	0.10	0				
1.35	1.35	0.93	0.82	0.76	0.70	0.65	0.61	0.51	0.49	0.46	0.43	0.40	0.34	0.25	0.18	0.05	0				
1.3	1.3	0.88	0.77	0.71	0.66	0.61	0.56	0.46	0.44	0.41	0.38	0.29	0.20	0.13	0.07	0.02	0				
1.2	1.2	0.83	0.72	0.66	0.61	0.56	0.52	0.42	0.39	0.37	0.33	0.24	0.15	0.09	0.03	0	0				
1.1	1.1	0.79	0.68	0.62	0.57	0.51	0.47	0.37	0.35	0.32	0.29	0.20	0.10	0.05	0	0	0				
1.0	1.0	0.75	0.64	0.58	0.53	0.48	0.44	0.34	0.31	0.28	0.25	0.18	0.09	0.04	0	0	0				
0.98	1.19	0.71	0.60	0.54	0.49	0.44	0.39	0.30	0.28	0.25	0.22	0.19	0.13	0.04	0	0	0				
0.96	1.18	0.70	0.59	0.53	0.48	0.43	0.38	0.29	0.27	0.25	0.21	0.18	0.12	0.03	0	0	0				
0.94	1.17	0.70	0.58	0.52	0.47	0.42	0.37	0.29	0.26	0.24	0.20	0.17	0.11	0.02	0	0	0				
0.92	1.16	0.70	0.57	0.51	0.46	0.41	0.36	0.28	0.26	0.23	0.20	0.17	0.11	0.02	0	0	0				
0.90	1.15	0.70	0.56	0.50	0.45	0.40	0.35	0.27	0.25	0.22	0.19	0.16	0.10	0.01	0	0	0				
0.88	1.14	0.70	0.55	0.49	0.44	0.39	0.34	0.26	0.24	0.21	0.18	0.15	0.09	0.01	0	0	0				
0.86	1.13	0.70	0.54	0.48	0.43	0.38	0.33	0.25	0.23	0.20	0.17	0.14	0.08	0	0	0	0				
0.84	1.12	0.70	0.53	0.47	0.42	0.37	0.32	0.24	0.22	0.20	0.16	0.13	0.07	0	0	0	0				
0.82	1.11	0.70	0.52	0.46	0.41	0.36	0.31	0.23	0.21	0.19	0.16	0.13	0.07	0	0	0	0				
0.80	1.10	0.69	0.51	0.45	0.40	0.35	0.30	0.22	0.20	0.18	0.15	0.12	0.06	0	0	0	0				
0.78	1.09	0.68	0.50	0.44	0.39	0.34	0.29	0.21	0.19	0.17	0.14	0.11	0.05	0	0	0	0				
0.76	1.08	0.67	0.49	0.43	0.38	0.33	0.28	0.20	0.18	0.16	0.13	0.10	0.04	0	0	0	0				
0.74	1.07	0.67	0.48	0.42	0.37	0.32	0.27	0.20	0.18	0.16	0.13	0.10	0.04	0	0	0	0				
0.72	1.06	0.66	0.47	0.41	0.36	0.31	0.26	0.19	0.17	0.15	0.12	0.09	0.03	0	0	0	0				
0.70	1.05	0.65	0.46	0.40	0.35	0.30	0.25	0.18	0.16	0.14	0.11	0.08	0.02	0	0	0	0				
0.68	1.04	0.64	0.45	0.39	0.34	0.29	0.24	0.17	0.15	0.13	0.10	0.07	0.01	0	0	0	0				
0.66	1.03	0.64	0.44	0.38	0.33	0.28	0.23	0.16	0.14	0.12	0.09	0.03	0	0	0	0	0				
0.64	1.02	0.63	0.43	0.37	0.32	0.27	0.22	0.15	0.13	0.11	0.08	0.02	0	0	0	0	0				
0.62	1.01	0.63	0.42	0.36	0.31	0.26	0.21	0.14	0.12	0.10	0.07	0.01	0	0	0	0	0				
0.60	1.00	0.62	0.41	0.35	0.30	0.25	0.20	0.13	0.11	0.09	0.03	0	0	0	0	0	0				
0.58	0.99	0.62	0.40	0.34	0.29	0.24	0.19	0.12	0.10	0.08	0.02	0	0	0	0	0	0				
0.56	0.98	0.61	0.39	0.33	0.28	0.23	0.18	0.11	0.09	0.03	0	0	0	0	0	0	0				
0.54	0.97	0.61	0.38	0.32	0.27	0.22	0.17	0.10	0.08	0.02	0	0	0	0	0	0	0				
0.52	0.96	0.60	0.37	0.31	0.26	0.21	0.16	0.09	0.07	0.01	0	0	0	0	0	0	0				
0.50	0.95	0.60	0.36	0.30	0.25	0.20	0.15	0.08	0.06	0.01	0	0	0	0	0	0	0				
0.48	0.94	0.60	0.35	0.29	0.24	0.19	0.14	0.07	0.05	0	0	0	0	0	0	0	0				
0.46	0.93	0.60	0.34	0.28	0.23	0.18	0.13	0.06	0.04	0	0	0	0	0	0	0	0				
0.44	0.92	0.60	0.33	0.27	0.22	0.17	0.12	0.05	0.03	0	0	0	0	0	0	0	0				
0.42	0.91	0.60	0.32	0.26	0.21	0.16	0.11	0.04	0.02	0	0	0	0	0	0	0	0				
0.40	0.90	0.61	0.31	0.25	0.20	0.15	0.10	0.03	0.01	0	0	0	0	0	0	0	0				
0.38	0.89	0.61	0.30	0.24	0.19	0.14	0.09	0.02	0	0	0	0	0	0	0	0	0				
0.36	0.88	0.62	0.29	0.23	0.18	0.13	0.08	0.01	0	0	0	0	0	0	0	0	0				
0.34	0.87	0.62	0.28	0.22	0.17	0.12	0.07	0	0	0	0	0	0	0	0	0	0				
0.32	0.86	0.63	0.27	0.21	0.16	0.11	0.06	0	0	0	0	0	0	0	0	0	0				
0.30	0.85	0.63	0.26	0.20	0.15	0.10	0.05	0	0	0	0	0	0	0	0	0	0				
0.28	0.84	0.66	0.25	0.19	0.14	0.09	0.04	0	0	0	0	0	0	0	0	0	0				
0.26	0.83	0.68	0.24	0.18	0.13	0.08	0.03	0	0	0	0	0	0	0	0	0	0				
0.24	0.82	0.70	0.23	0.17	0.12	0.07	0.02	0	0	0	0	0	0	0	0	0	0				
0.22	0.81	0.72	0.22	0.16	0.11	0.06	0.01	0	0	0	0	0	0	0	0	0	0				
0.20	0.80	0.74	0.21	0.15	0.10	0.05	0	0	0	0	0	0	0	0	0	0	0				

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

Attachment III-B-2(a)

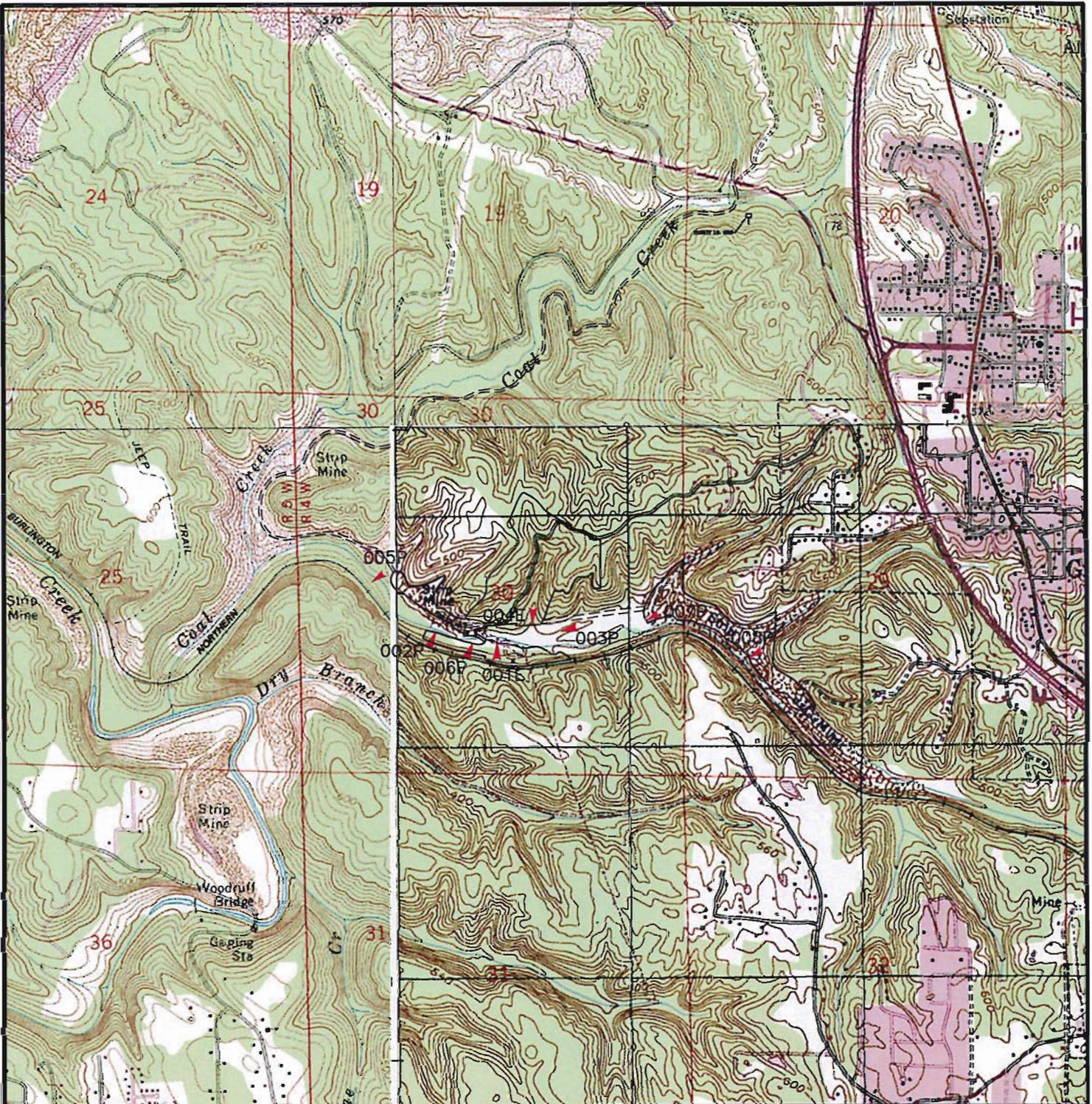
GENERAL SEDIMENT BASIN DATA

Basin No.	Location	Drainage Area
001E	NW 1/4 of SE 1/4 of Section 30	10 Acres
003P	NW 1/4 of SE 1/4 of Section 30	14 Acres
004E	NW 1/4 of SE 1/4 of Section 30	37 Acres
005P	SW 1/4 of NW 1/4 of Section 30	68 Acres
Slurry Pond 001P	NW 1/4 of SE 1/4 of Section 30	10 Acres
Slurry Pond 002E	SW 1/4 of NE 1/4 and NW 1/4 of SE 1/4 of Section 30	23 Acres

Coarse Refuse

Disposal Area No. 1 SW 1/4 of NE 1/4 of Section 30

All located within Township 16 South, Range 4 West, Jefferson County, Alabama, as shown on the Adamsville, Sylvan Springs, Dora and Brookside, Alabama United States Geological Survey Quadrangle Maps.



Township 16 South

BASE MAP TAKEN FROM THE ADAMSVILLE, BROOKSIDE,
DORA & SYLVAN SPRINGS U.S.G.S. QUADRANGLE.

001E

OUTFALLS

PERMIT AREA



DATE SUBMITTED: JUNE 5, 2012
 PERMIT NUMBER: ALOO
 ISSUANCE DATE: PENDING
 EFFECTIVE DATE: PENDING
 EXPIRATION DATE:



North Pratt Mining, LLC
Pratt No. 1 Mine
 Sections 29 and 30, Township 16 South, Range 4 West
 Jefferson County, Alabama

DRAWN BY: J.H.F.	DATE: 5-14-12
DWG. NAME: NPMMPNPDESASMO	
APPROVED BY: L.G.S.	SCALE: 1" = 2000'

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P- _____

Pond Construction Criteria

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

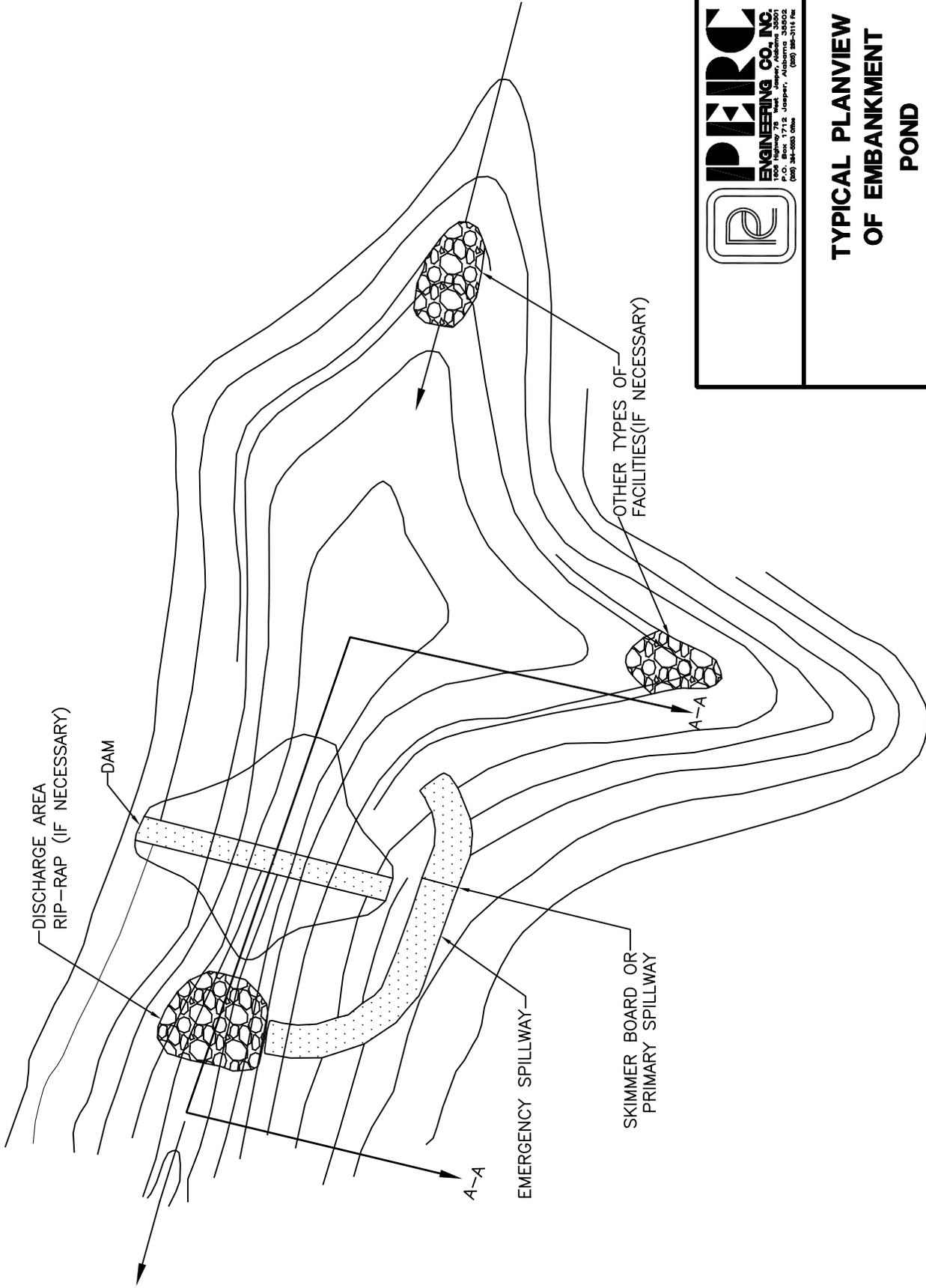
1. The top of the dam shall be no less than 12 feet wide.
2. See design sheet for maximum and minimum embankment slopes.
3. The foundation and abutments for the impounding structure shall be designed to be stable under all conditions of construction and operation of the impoundments, with a minimum static safety factor of 1.5 for the normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.20.
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 primary decant system when consisting of a pipe shall be installed according to Class C pipe installation for embankment bedding.
9. 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.
10. 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.
11. 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.

12. 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.
13. 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).
14. If basins are built in series, then the combined decant system for each shall be designed to accommodate the entire contributing drainage area.
15. 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.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P- _____

21. 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.
22. Sediment will be removed from each pond when the accumulated sediment reaches the sediment storage volume as shown on the detailed design sheet.
23. 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.
24. 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.
25. 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, additional design and construction criteria shall be submitted prior to certification. Describe in detail the proposed diversion and include plans, maps and cross-sections which comply with 816.43 and 816.44.

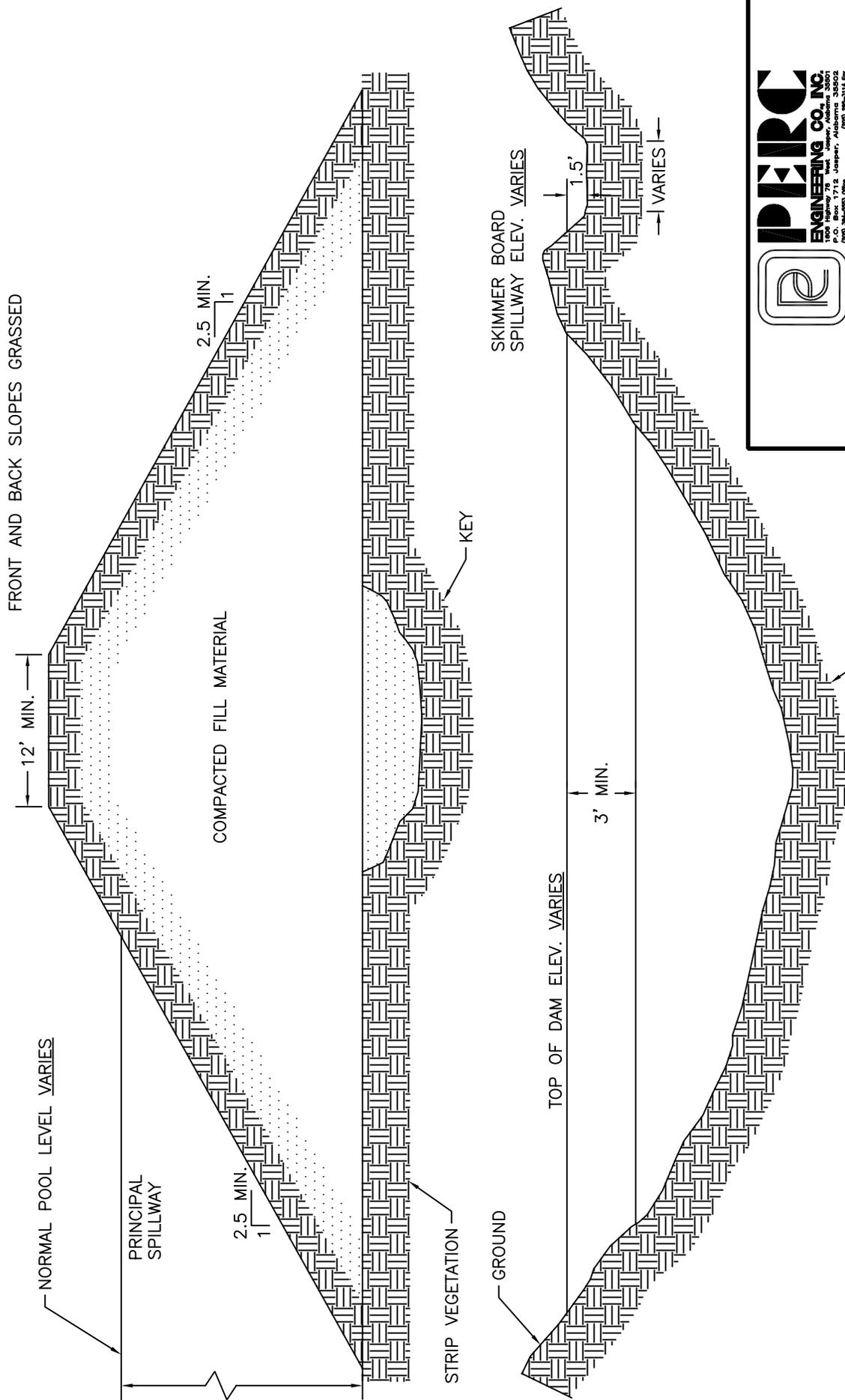


**TYPICAL PLANVIEW
 OF EMBANKMENT
 POND**

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

PLANVIEW OF EMBANKMENT POND

\\Perc600\perc_eng\Steve Miles\Steve_Doccs\Typicals\III-B-2(a)\Attachment_III-B-2(a).dwg 07/01/09 14:59



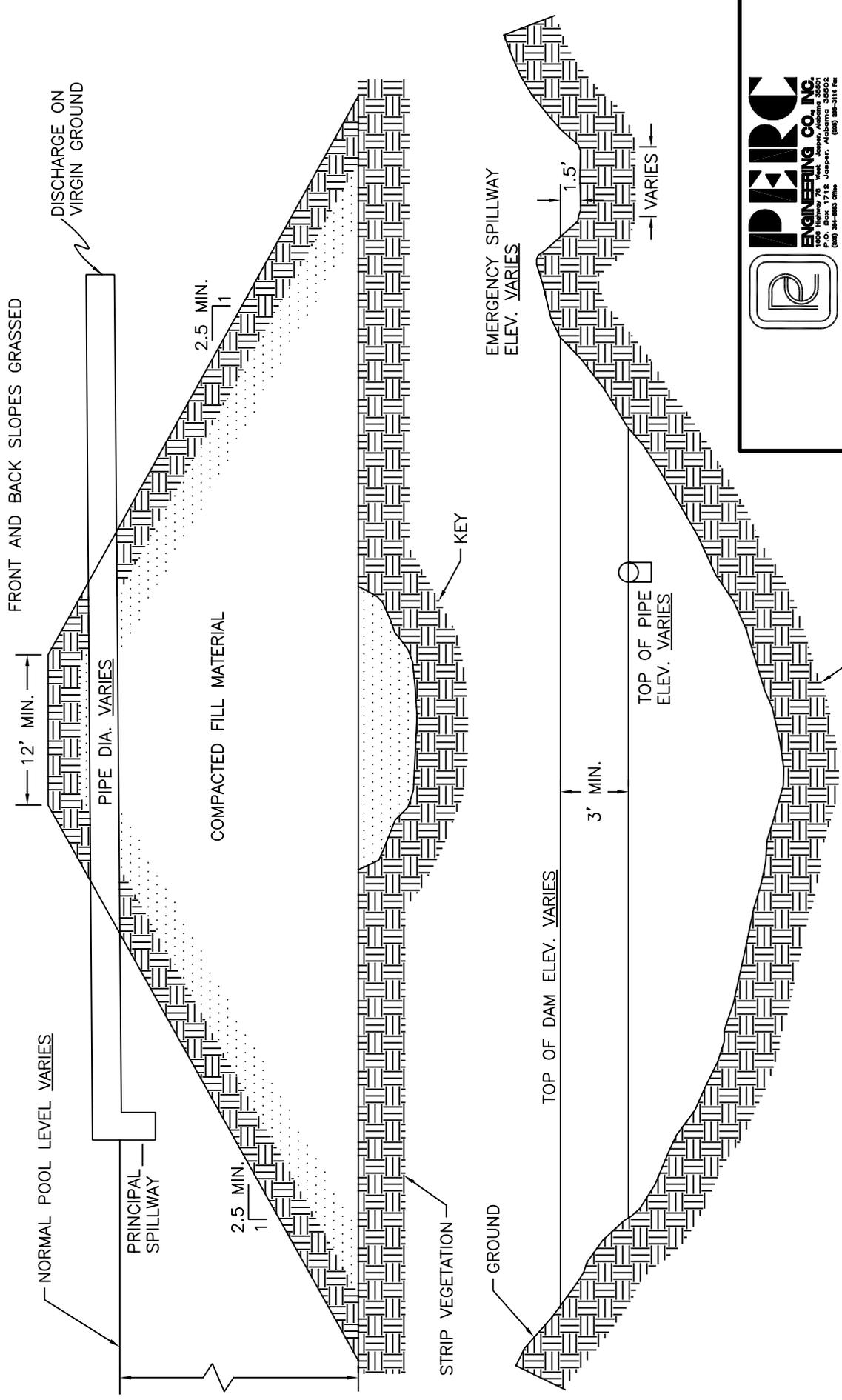
TYPICAL DAM DETAIL
NO SCALE



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



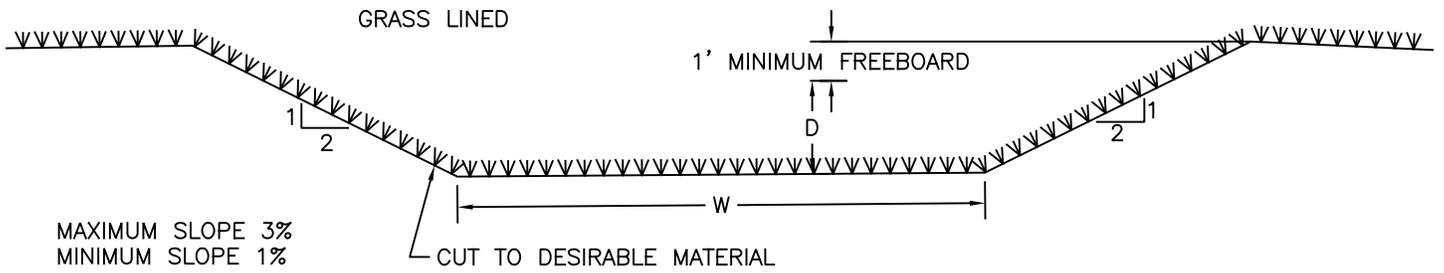
TYPICAL DAM DETAIL
NO SCALE



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



$$Q = \frac{1.49}{N} A R^{2/3} S^{1/2}$$

$N(\text{LOOSE STONE OR GRASS LINED}) = 0.035$
 $A = \text{AREA}$
 $R = \text{AREA/WETTED PERIMETER}$
 $S = \text{SLOPE}$

* GRASS LINING: FESCUE, BERMUDA, RYE GRASS

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 8.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	0.5
15-50	1.0
50-100	1.5
100-180	2.0
180-270	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 10.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-15	0.5
15-60	1.0
60-120	1.5
120-210	2.0
210-320	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 12.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-20	0.5
20-70	1.0
70-150	1.5
150-250	2.0
250-383	2.5

DIVERSION CHANNEL DEPTH (D) FOR WIDTH (W) 15.0 FT.	
PEAK FLOW Q (CFS)	DEPTH D (FT)
0-25	0.5
25-90	1.0
90-180	1.5
180-300	2.0
300-450	2.5



TYPICAL PERMANENT DIVERSION FOR BASIN DISPOSAL

DRAWN BY: S.D.M.
DWG. NAME: TYPICALS

DATE: 1/4/2011

APPROVED BY: L.G.S.

SCALE: NONE

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

COARSE COAL PROCESSING WASTE EMBANKMENT REQUIREMENTS

All coarse refuse produced by the screening operation at the Pratt No. 1 Mine 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 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

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

mobile equipment to the configuration approved in the design plans. The waste bank will be covered with 4 feet of 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. 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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

SPECIFICATIONS FOR COAL PROCESSING WASTE IMPOUNDMENTS

The embankment for coal processing waste will be designed and constructed using the following as minimum criteria:

1. Coal processing waste will not be used in the construction of dams and embankments without written approval from the regulatory authority.
2. All trees, shrubs, grasses, and other organic material will be cleared and grubbed from the site, and all combustibles will be removed and stockpiled before coal processing waste is placed at a dam or embankment site.
3. All surface drainage that may cause erosion to the embankment area or the embankment features will be directed away from the embankment. Diversions designed to divert drainage from the upstream area away from the impoundment area will be designed to carry the peak runoff from a 10 year - 24 hour precipitation event. The diversion will be maintained to prevent blockage. Adequate outlets for the discharge from these diversions will be controlled by energy dissipators, riprap channels, and other devices where necessary to reduce erosion, prevent deepening or enlargement of the stream channel, and to minimize disturbance of the hydrologic balance. Also, all diversions delivering runoff from disturbed area must pass thru an approved sediment basin.
4. The design freeboard between the lowest point on the embankment crest and the maximum water elevation will be at least three (3) feet as determined from a 10 year - 24 hour or a 25 year - 6 hour precipitation event (storm with the greater peak flow).
5. The coal processing waste dam or embankment will have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions and the seismic safety factor will be at least 1.2.
6. The dam or embankment foundation and abutments will be designed to be stable under all conditions of construction and operations of the impoundment. Sufficient foundation investigations and laboratory testing will be performed to determine safety factors of the dam or embankment loaded to a water level sufficiently stable to support the intended use.
7. Spillways and outlet works will be designed to provide adequate protection against erosion and corrosion. Inlets will be protected against blockage.
8. 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.
9. A splash pad or riprap may be required under the discharge of the primary decant system where necessary to insure that the discharge does

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

not erode the embankment.

10. 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 concrete, durable rock riprap, or the spillway being constructed in consolidated non-erodible material, or a combination of any or all of the above.
11. 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.
12. Dams or embankments constructed of or impounding waste materials will be designed so that at least 90 percent of the water stored during the design precipitation event will be removed within a ten day period.
13. The dam and all disturbed areas will be sowed with both perennial and annual grasses in order to insure erosion is minimized. Hay bales or riprap may be placed at the toe of the dam immediately upon the completion of construction.
14. All embankments will be inspected for stability, erosion, etc. two (2) times a month until removal of the structure or release of the performance bond.
15. 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.
16. All impoundments will be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary. Formal inspections will be made on an annual basis, including any reports or modifications, in accordance with 880-X-10C-.20(1(j)) of the Alabama Surface Mining Regulations.
17. Within six months of the accumulated solids contained within the waste impoundment reaching the maximum storage volume specified within the detailed design plans, the waste impoundment will be reclaimed in the following manner. The waste impoundment will be dewatered in an environmentally safe manner (such as siphoning, pumping, etc.). Using existing non-toxic, non-flammable breaker and washer rejected rock materials, construct a working surface on the impoundment which will permit equipment travel for the placement of vegetative cover material and to provide for positive drainage. All rock fill slopes on the impoundment shall have a maximum and minimum grade of 5 percent and 1 percent, respectively. All breaker and washer rejected rock fill shall be spread in one (1) foot maximum layers with a minimum compaction of 90 percent of its maximum dry density as determined by the standard proctor compaction test. The thickness of the rock material will be no more than is necessary to support equipment which will be working upon the

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

impoundment surface. Upon the completion of the above mentioned working surface, the graded impoundment surface will be covered with a minimum of four (4) feet of the best available non-acid and non-toxic 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. Soil amendments, including lime and fertilizer, will be added to 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.

18. 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.



PERC
ENGINEERING CO., INC.

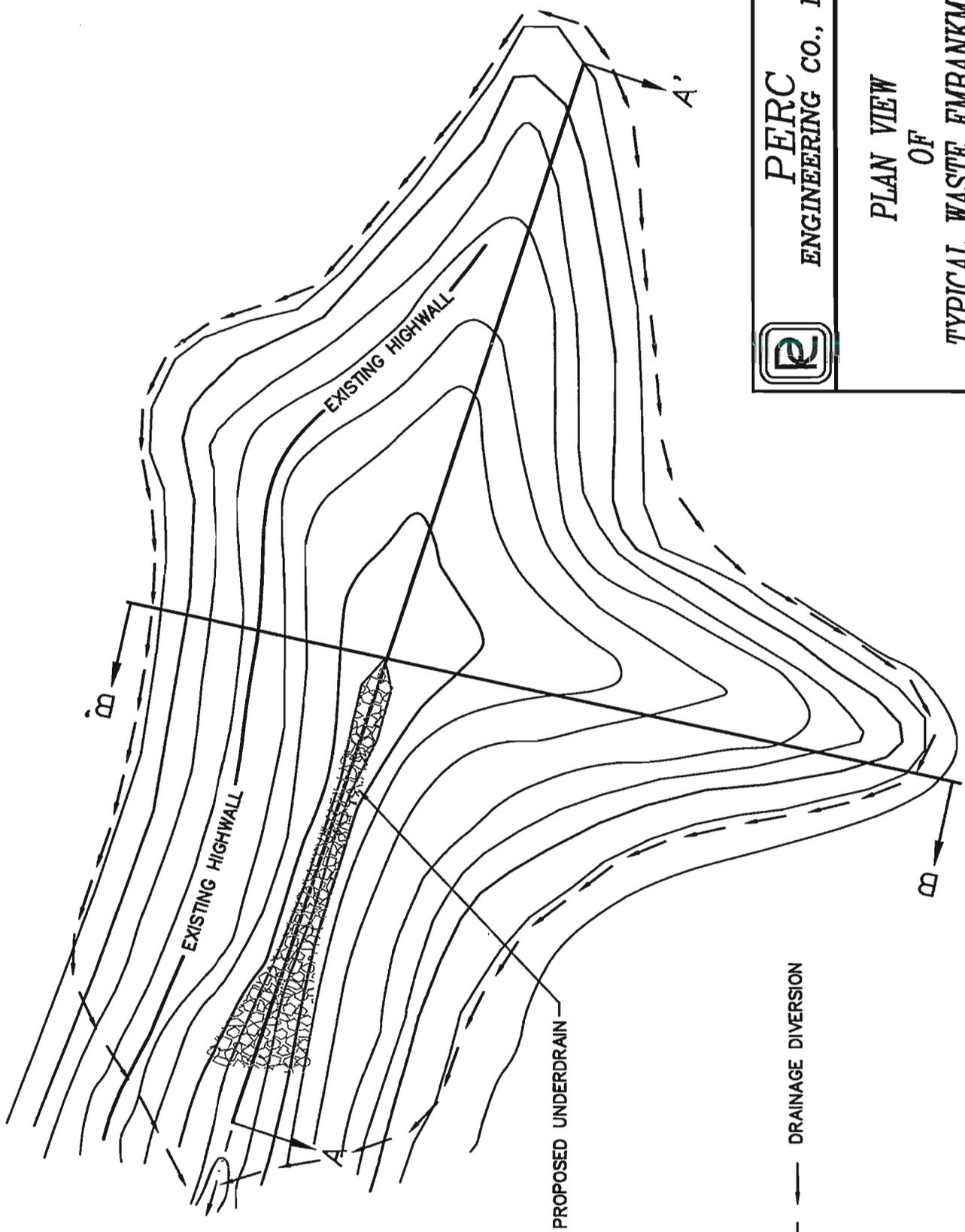
PLAN VIEW
OF
TYPICAL WASTE EMBANKMENT

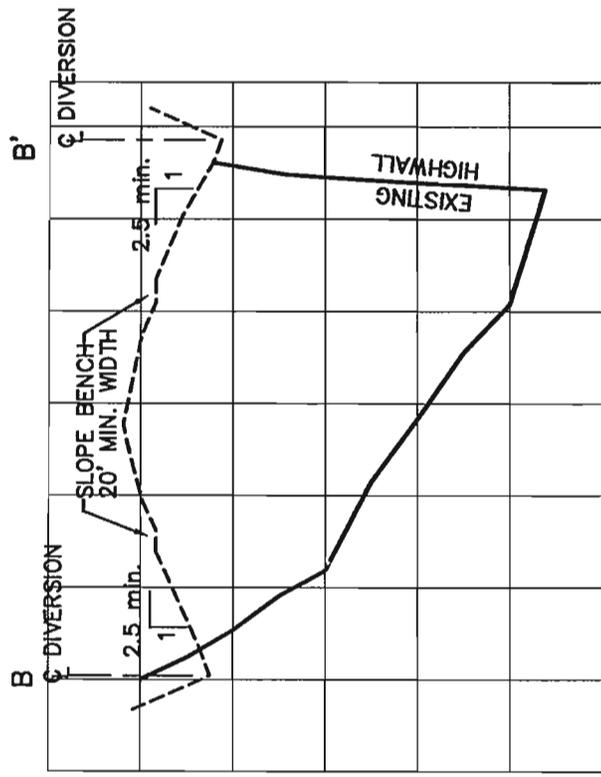
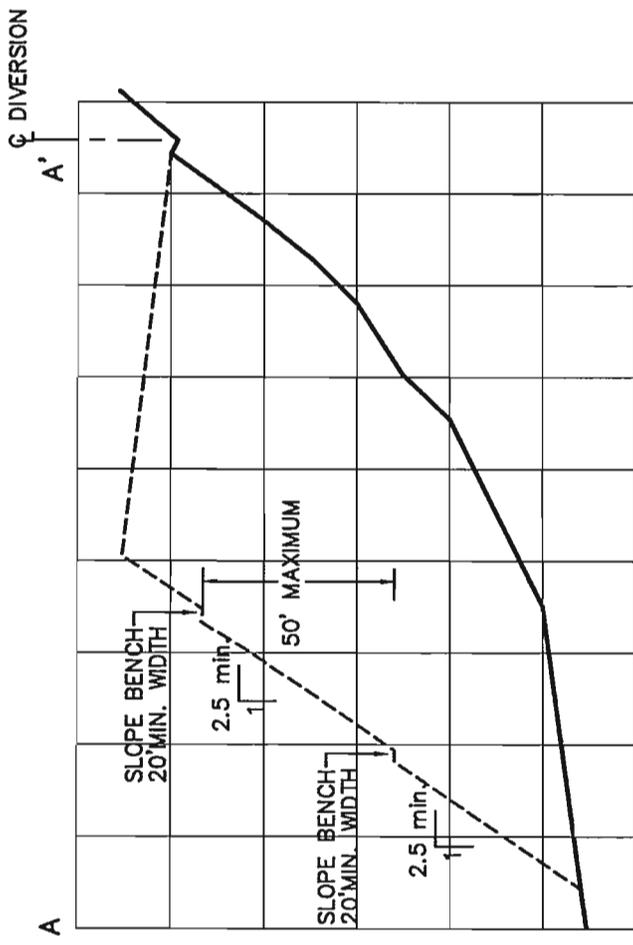
DRAWN BY: K.D.P.
DWG. NAME: EPOND

DATE: 1-31-97

APPROVED BY:

SCALE: NONE





EXISTING
HIGHWALL



PERC
ENGINEERING CO., INC.

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

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

DRAWN BY: M.W.K.
DWG. NAME: EPODXAB
APPROVED BY: S.R.J.

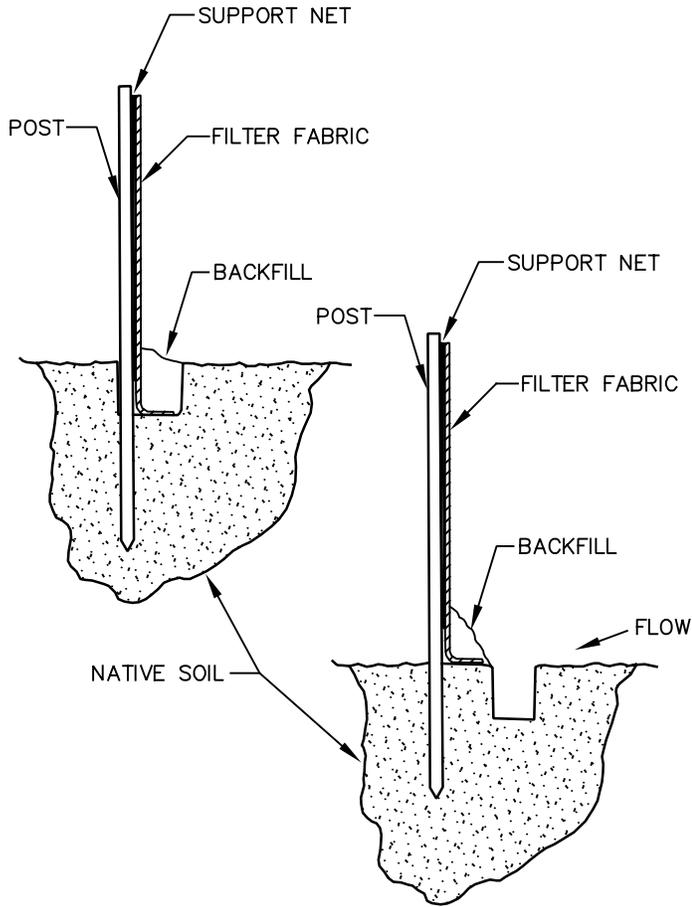
DATE: 1-31-97

SCALE: NONE

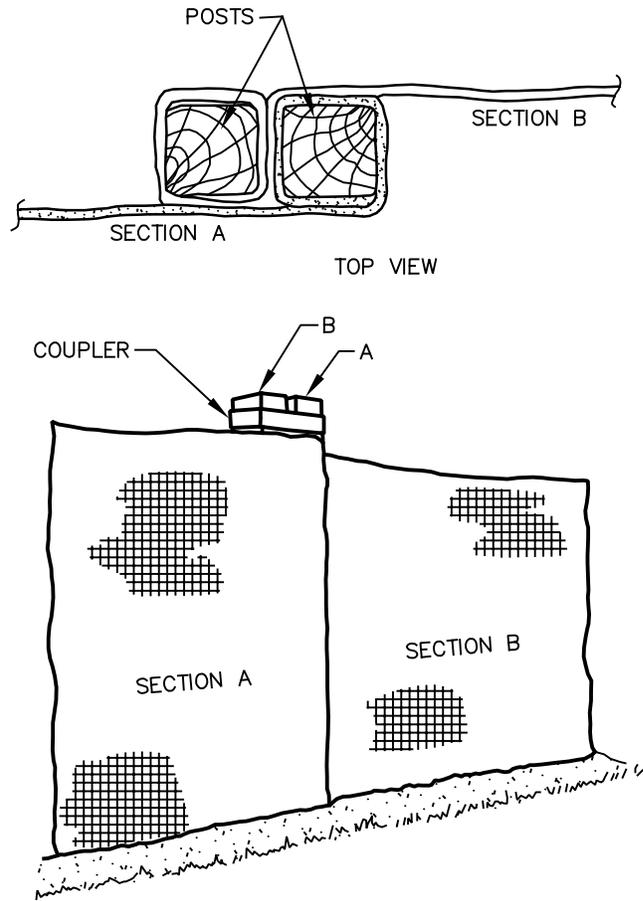
Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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 bi-monthly 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.



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.



PERC
ENGINEERING CO., INC.
 1606 Highway 78 West Jasper, Alabama 35501
 P.O. Box 1712 Jasper, Alabama 35502
 (205) 384-5553 Office (205) 295-3114 Fax

SILTFENCE TYPICAL

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

DATE: 6-24-91

APPROVED BY: R.E.P.

SCALE: NONE

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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

Temporary diversions required for the Pratt No. 1 Mine are shown on the permit map and a typical section of proposed diversions is included in this application and described in the design and construction guidelines for diversions as prepared for North Pratt Mining, LLC

Should the need for diversions other than those shown become evident, they will be constructed under the same Guidelines within the area permitted and bonded.

After all mining and reclamation activities are complete the diversions will be reclaimed and revegetated.

See Attachment III-B-3, referenced Guidelines.

See Attachment III-B-3, Berm A-A' detailed design plans taken from P-3768.

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

- (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 government agencies, where required. None required.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P- _____

Attachment III-B-3

SPECIFICATIONS FOR DIVERSION CHANNELS
AND DIVERSION BERMS

1. Temporary diversions shall be constructed to pass safely the peak runoff from a 2-year, 6-hour precipitation event.
2. To protect fills and property and to avoid danger to public health and safety, permanent diversions shall be constructed to pass safely the peak runoff from a 10-year, 6-hour precipitation event. Permanent diversions shall be constructed with gently sloping banks that are stabilized by vegetation.
3. Diversions shall be designed, constructed, and maintained in a manner which prevents additional contributions of suspended solids to stream flow and to runoff outside the permit area, to the extent possible, using the best technology currently available. Appropriate sediment control measures for these diversions may include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins.
4. No diversion shall be located so as to increase the potential for land slides and no diversion shall be constructed on existing land slides.
5. When no longer needed, each temporary diversion shall be removed and the affected land regraded, topsoiled, and revegetated in accordance with Rules 880-X-10C-.10, 880-X-10C-.11, 880-X-10C-.52 - 880-X-10C-.58, 880-X-10C-.60, and 880-X-10C-.62.
6. Channel linings, when slopes are between 1-3 percent shall consist of both perennial and annual grasses and when slopes are greater than 3 percent, shall consist of riprap or be cut into non-erodible material.
7. Freeboard shall provide protection for transition of flows and for critical areas such as swales and curves along the entire channel length.
8. Energy dissipators shall be installed, when necessary, at discharge points where natural streams and exit velocity of the diversion ditch flow is greater than that of the receiving stream.
9. Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with Rule 880-X-10C-.36.
10. Topsoil removed from the diversion excavations shall be handled in accordance with Rule 880-X-10C-.07 through 880-X-10C-.11.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

11. Diversions shall not be constructed or operated to divert water into underground mines.
12. The embankment or berm foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h and the entire foundation surface scarified.
13. The entire embankment or berm shall be compacted to 95% density, based on standard proctor as outlined in ASTM.
14. The material placed in the berm 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 as the moisture content of the fill material will permit satisfactory compaction in accordance with paragraph 13.
15. The berm and all disturbed areas shall be seeded with both perennial and annual grasses in order to insure that erosion is minimized. Hay bales or riprap may be placed at the toe of the berm immediately upon completion of construction.
16. All Berms shall be examined quarterly for structural weakness, instability, erosion, or other hazardous conditions and maintenance performed as necessary.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

4. Surface disposal of excess spoil and underground development waste.
(784.19, 784.35, 817.71)

Is excess spoil proposed to be stored in surface fills?

() Yes. (XX) No.

If yes, complete the following:

- (a) Show on a map the location of all proposed fills and provide cross-sections of the proposed site and design plans of the disposal site. See the attached Permit Map.
- (b) Include the results of the geotechnical investigation showing:
- (1) A description of physical characteristics of bedrock and geologic conditions in the disposal area;
 - (2) A determination of possible adverse affects from subsidence due to past, present or future underground mining.
 - (3) Location of springs, seeps or other ground water observed or anticipated in the disposal area;
 - (4) A technical description of the rock to be used in construction of rock chimney sores or rock drainage blankets, if applicable;
 - (5) Results of stability analyses including strength parameters, pore pressures and long term seepage conditions;
 - (6) Engineering design assumptions, calculations, and any alternatives considered.
- (c) Describe the construction, operation, maintenance and removal (if applicable) of the structure.
- (d) Include a surface water drainage and control plan for the fill.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

(e) Are rock-toe buttresses or keyway cuts to be used?

() Yes (XX) No

If yes, describe or show:

(1) The number, location and depth of test borings or test pits used in describing subsurface conditions; and

Not Applicable.

(2) Engineering specifications used in the design.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

5. Underground disposal of coal processing waste, excess spoil and underground development waste.

Is coal processing waste, excess spoil and/or underground development waste proposed to be disposed of in underground fills?

() Yes (XX) No

If yes, complete the following:

- (a) Show on a map the location of the proposed fill(s) including a flow diagram showing the source of the material.
- (b) Describe in detail the design, operation and maintenance of the proposed fill.
- (c) Describe the quality of the material to be stored and identify any potentially acid-forming and toxic-forming materials.
- (d) Describe the area to be backfilled, percent of the mine void to be filled, and method of constructing retaining walls, if required.
- (e) Describe the influence of the backfilling operation on active underground mine operations.
- (f) Describe the surface area to be supported by the backfill and any anticipated surface effects following backfilling.
- (g) Describe the source of the hydrologic transport mediums and the method of dewatering the backfill, if applicable. If water is to be released to the surface, describe treatment plans.
- (h) Describe the anticipated effect of the backfill on the hydrologic regime.
- (i) Describe each permanent monitoring well, if required, to be located in the backfilled area, the stratum underlying the mined coal, and gradient from the backfilled area.
- (j) Attach a copy of MSHA approval of the proposed fill.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

6. Transportation Facilities. (780.33, 784.37)

Primary Roads 1P and 2P are existing primary roads currently permitted and bonded under P-3768. Primary Roads 1p and 2P will be certified to the Regulatory Authority as per the detailed design plans in P-3972 once all maintenance is performed to achieve the minimum design standards.

The existing bridge located at station 142+28 of Primary Road 1P will be removed and replaced by a stream crossing consisting of an earthen embankment with 10'x8' box culverts. The design of the stream crossing is located within the detailed design plans of Primary Road 1P. A Nationwide 14 Permit has been applied for with the U.S. Corps of Engineers for the stream crossing. Also, the "Low Water Crossing" permitted by P-3768 will be removed upon issuance of P-3972.

See Attachment III-B-6, Primary Road Location Map.

See Attachment III-B-6, Primary Road Detailed Design Plans.

- (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.

No disturbance is planned within 100 feet of a public road right-of-way except where the haul road connects to the Flat Top Road.

- (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-6(b) for specifications of the roads at this facility.

- (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

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

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. Roads not required for fire and sediment basin access will be reclaimed. See Attachment III-B-6, Attachment III-B-6(b), and Specifications for the construction, maintenance, and reclamation of primary roads.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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 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.
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

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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.
 - 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

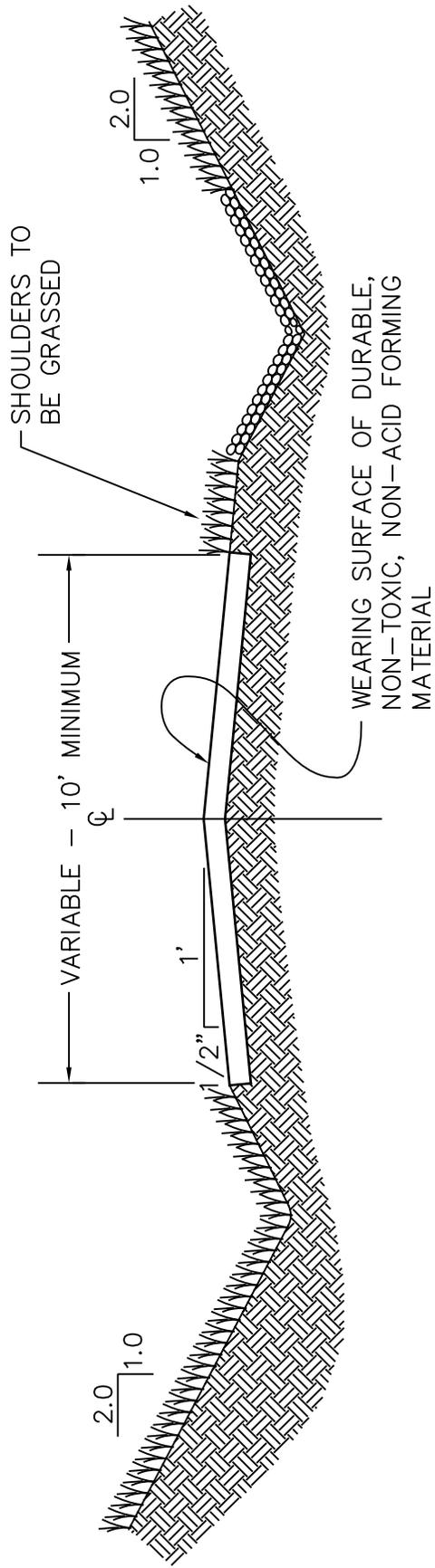
Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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 CUT SECTION

NO SCALE



TYPICAL CUT SECTION
ANCILLARY HAUL ROAD

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

DATE: 2-3-97

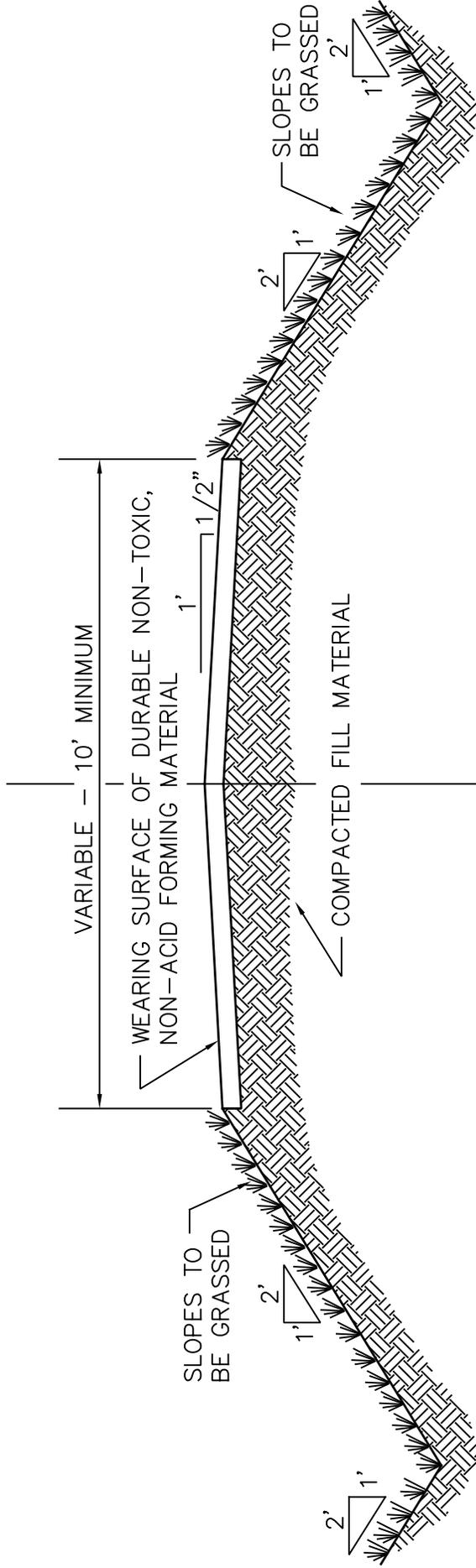
APPROVED BY: S.R.I.

SCALE: NONE

ATTACHMENT III. - B. - 5.

TYPICAL HAUL ROAD FILL SECTION

NO SCALE



PERC
ENGINEERING CO. INC.
1808 Highway 78 West Jasper, Arkansas 72071
P.O. Box 974 Jasper, Arkansas 72072
(501) 782-3333 FAX (501) 782-3311

TYPICAL FILL SECTION
ANCILLARY HAUL ROAD

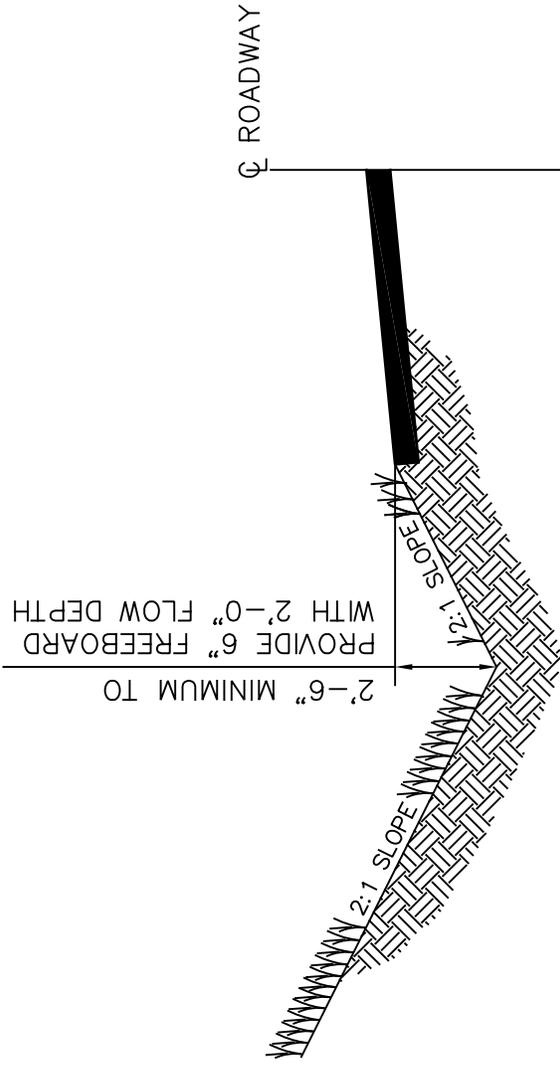
DRAWN BY: K.D.P.
DWG. NAME: TYPHAULA

DATE: 2-3-97

APPROVED BY: S.R.I.

SCALE: NONE

ATTACHMENT III. - B. - 5.



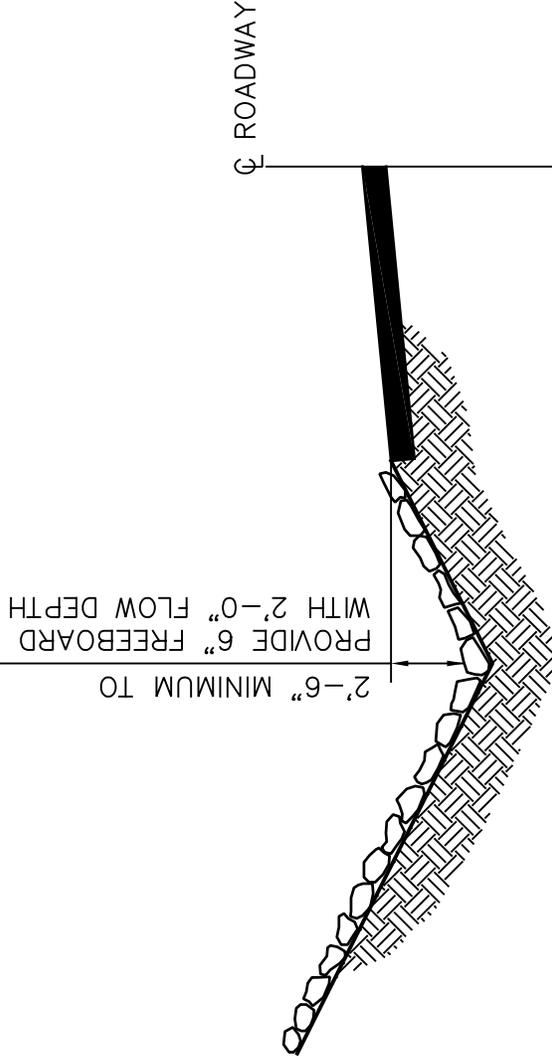
MINIMUM DITCH GRADIENT = 1%
 MAXIMUM DITCH GRADIENT = 5%

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: ANCIROAD	
APPROVED BY: R.E.P.	SCALE: NONE



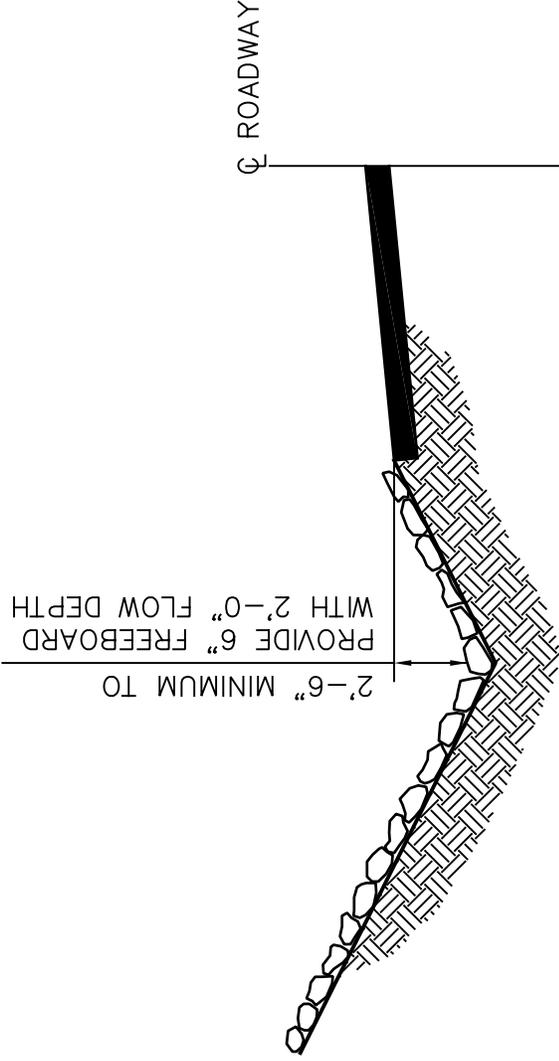
DITCH GRADIENT 5% TO 10%

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.	DATE: 2-4-97
DWG. NAME: PRIMRD2	APPROVED BY: R.E.P.
SCALE: NONE	

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

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 and will have a minimum width of ten feet and a maximum width necessary to accommodate the largest equipment traveling the road.
7. 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.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P- _____

8. 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.

9. 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 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.

10. 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

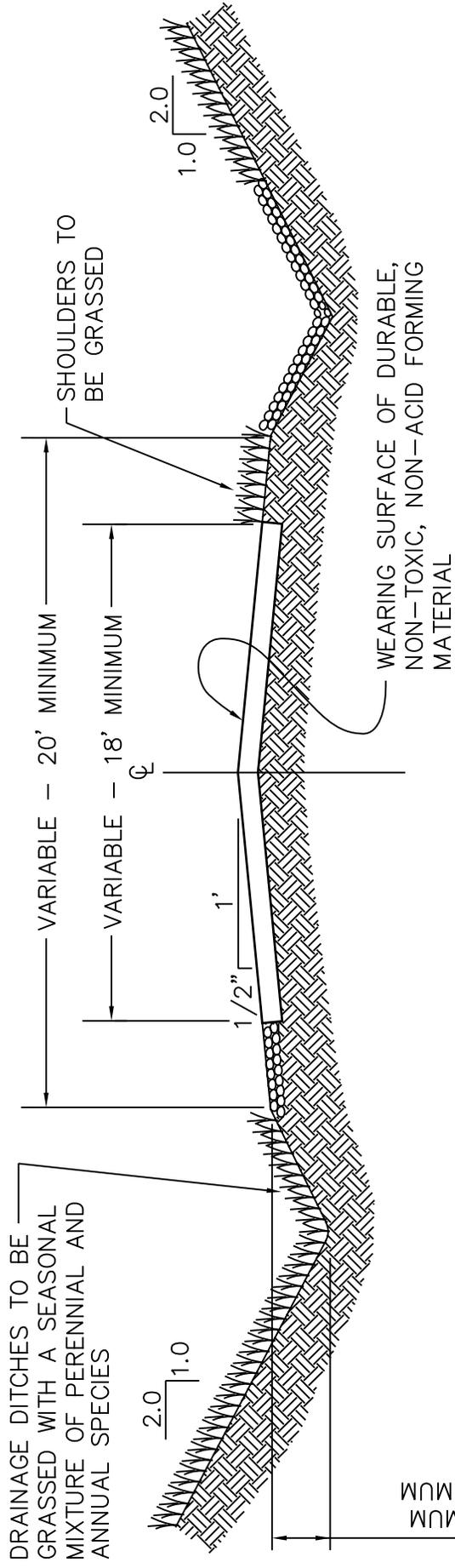
Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

catastrophic event shall be repaired as soon as practicable after the damage has occurred.

11. 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.
12. 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 HAUL ROAD CUT SECTION

NO SCALE



TYPICAL CUT SECTION
PRIMARY HAUL ROAD

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

DATE: 2-3-97

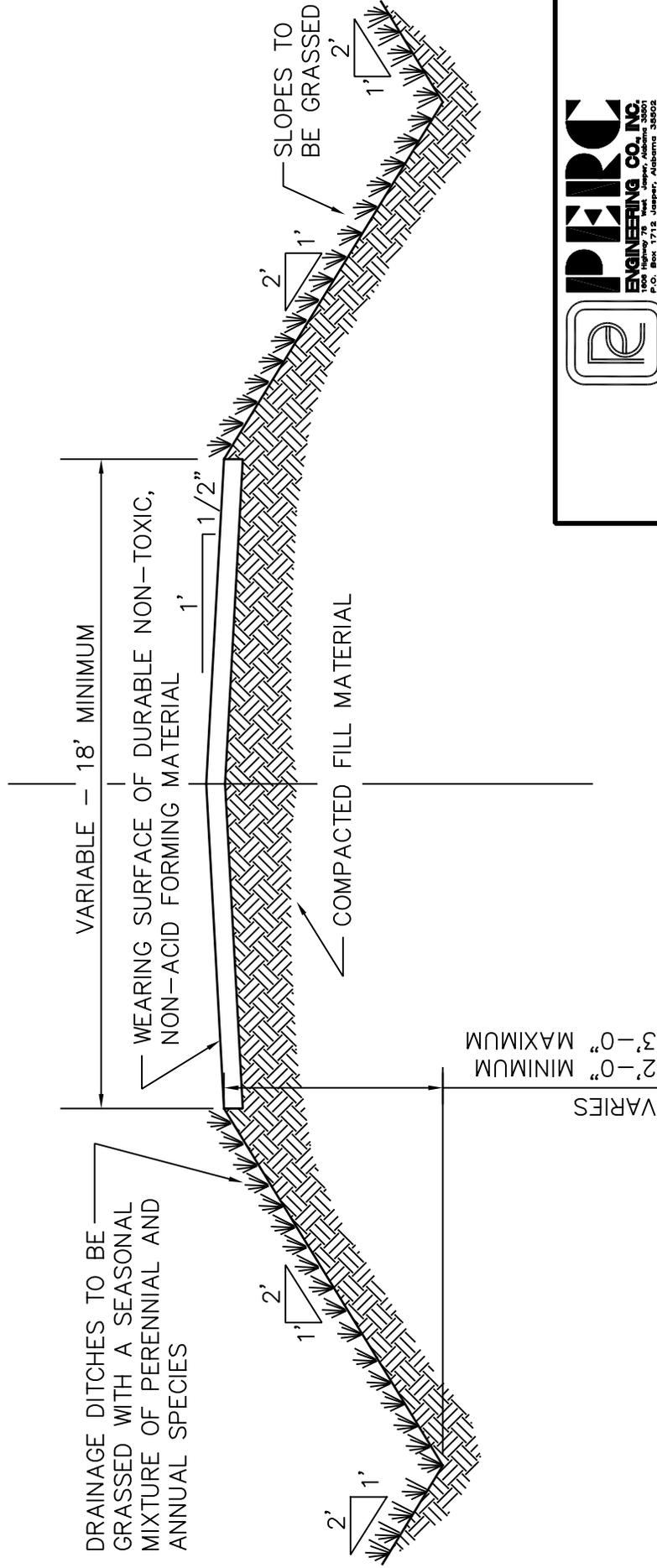
APPROVED BY: S.R.I.

SCALE: NONE

ATTACHMENT III. - B. - 5.

TYPICAL HAUL ROAD FILL SECTION

NO SCALE



TYPICAL FILL SECTION
PRIMARY HAUL ROAD

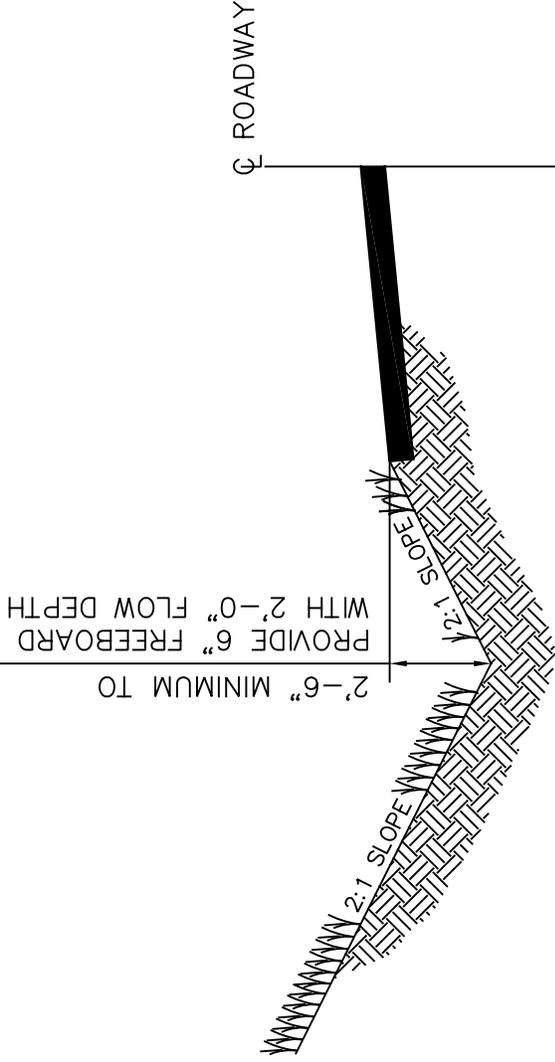
DRAWN BY: K.D.P.
DWG. NAME: TYPHAULF

DATE: 2-3-97

APPROVED BY: S.R.I.

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.



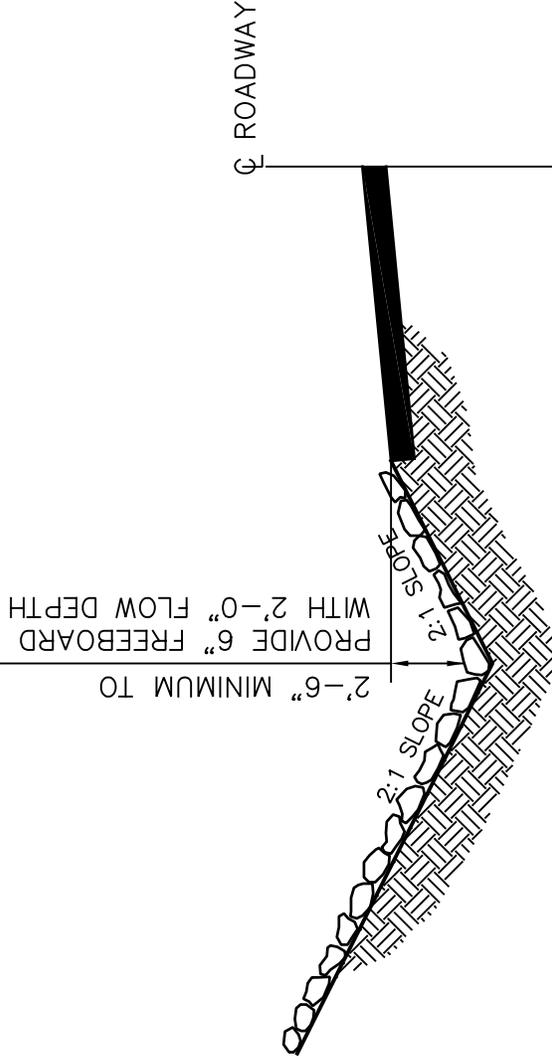
TYPICAL PRIMARY ROADWAY DITCH
 CROSS SECTION

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

DATE: 2-4-97

APPROVED BY: R.E.P.

SCALE: NONE



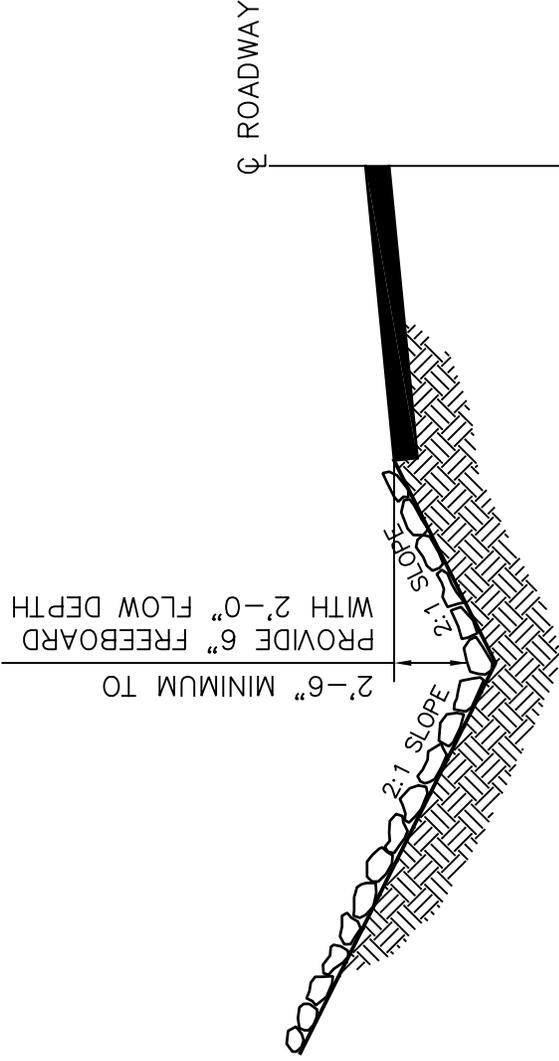
DITCH GRADIENT 5% TO 10%

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 PRIMARY ROADWAY DITCH
CROSS SECTION

DRAWN BY: S.D.M.	DATE: 11/8/2011
DWG. NAME: PRIMRD1	
APPROVED BY: L.G.S.	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 PRIMARY ROADWAY DITCH
CROSS SECTION

DRAWN BY: S.D.M. DWG. NAME: PRIMRD2	DATE: 11/8/2011
APPROVED BY: L.G.S.	SCALE: NONE

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

D. Surface and Groundwater Drainage Control Plan. (779.13)

The permit application shall contain a plan describing how the applicant intends to control surface and groundwater drainage into, through and from the proposed permit area in accordance with Part 316 with the required plans complying with Section 730.10(b).

All runoff from the disturbed area will pass through approved sediment control facilities to be designed and constructed in accordance with Part III of this permit application. The following controlled procedures will also be used to control sedimentation.

1) Vegetation 2) Diversions in some areas to route water to sediment ponds. 3) Pumping from pits to ponds to increase detention time. 4) On site sediment control to prevent sediment from entering ponds. Ground water drainage from underground mine will be pumped to approved sediment control facilities. Ground water quality as shown from Part II presents no water quality problem in this mine area.

E. Surface Water Treatment Plan. (779.13)

When the PHC determination indicates the need for the treatment of surface water leaving the proposed permitted area, the applicant shall submit a plan for such treatment will be accomplished to meet the applicable State and Federal effluent limitation standards.

In the event quality problems should arise, the following procedures may include, but will not be limited to the following, if needed.

- 1) Lime or caustic soda to raise a low pH.
- 2) Potassium permanganate to decrease manganese levels if the pH is too high.
- 3) Alum to decrease total suspended solid concentrations.

F. Plans For Recording and Reporting Data (779.13)

Describe how surface and groundwater quantity and quality data will be collected, recorded, and reported to the Regulatory Authority according to Section 816.52.

Surface water samples shall be taken by the 'grab method. Flowrate measurement of surface water samples shall be according to ASTM D3858 "Standard Practice for Open Channel Flow Measurement of Water by Velocity - Area Method" or other equally valid approved methods. Groundwater samples shall be taken according to Standard Methods 105 "Collection and Preservation of Samples" and 906A "Collection" or other equally valid approved methods. pH of all samples will be measured in the field. The sample will be stored in ice and all other parameters will be analyzed within 24 hours. Sampling will be recorded and reported to the Regulatory Authority as outlined in Part III-D & E of this application.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: P-_____

G. Permanent Entry Seals and Down Slope Barriers. (783.13)

Describe, in detail, with appropriate maps, plans, and cross sections permanent entry seals and down slope barriers used to ensure hydraulic stability after mining has ceased. 783.13(g)(3) See Attachment III-G

H. Subsidence Control Plan (784.20)

1. Include a survey which shows what structures or renewable resource lands exist within the proposed permit and adjacent area and whether subsidence, if it occurred, could cause material damage or diminution of reasonably foreseeable use of such structures or renewable resource lands. If it is determined that no material damage will occur to surface structures or renewable resource lands from subsidence, the application shall include supporting evidence of such a finding.

See the Permit Map and Attachment III-H-1, Subsidence Control Map.

2. If the study shows the structures or renewable resource lands could be adversely effected by subsidence, the applicant shall address the following:

Within the survey area, does the applicant intend to implement planned subsidence? () Yes (X) No

If yes, provide information requested under "Planned Subsidence", Subsection (a).

If no, provide information requested under "Unplanned Subsidence", Subsection (b).

(a) Planned Subsidence.

- (1) Using maps, plans, or cross-sections, as needed, locate the area(s) where planned subsidence is occurring or is intended to occur. Clearly show on a map and correlate the information and the relationship to critical surface features, renewable, resources lands and structures called for in Parts (i-v) below:
 - (i) Provide a detailed mine plan map. Describe the method of mining used to implement planned subsidence, such as longwall, room and pillar - high extraction (pillar removal), or other methods.
 - (ii) Locate extraction panels, give geometric sizes, dimensions and orientation, and include details of length, width and height of panels. Give percent of coal left as support in ratio to percent of coal removed within the extraction panel. Include similar information concerning any secondary recovery that is planned.
 - (iii) Provide details locating all permanent coal block and barrier pillars outside the actual extraction panels. Give geometric shapes, dimensions and orientation of these blocks and barrier pillars.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

- (iv) Give anticipated date (month/year) in which mining will be conducted in each area and/or panel within the planned subsidence area(s).
 - (v) Show areas that will be affected by subsidence. Provide details on the horizontal extent and vertical drop of the surface as it relates to the effectiveness of the proposed Subsidence Control Plan. Supply information detailing expected subsidence profiles.
- (2) Provide a detailed description of measures to be taken to prevent planned subsidence from causing material damage or lessening the value or reasonable foreseeable use of the surface. Locate and describe in detail how, when, and where measures, if any, are to be applied. Include the following information:
- (i) Locate areas in which coal removal is not planned, including its relationship to overlying area(s) to be protected by leaving coal in place.
 - (ii) Describe measures to be taken on the surface to prevent material damage to diminution of the value or reasonable foreseeable use of the surface, including, but not limited to:
 - (A) Reinforcement of sensitive structures or features.
 - (B) Installation of footers or other techniques designed to reduce damage caused by movement.
 - (C) Change of location of pipelines, utility lines or other features.
 - (D) Relocation of moveable improvements to sites outside the angle of draw.
 - (E) Monitoring, to determine the commencement and degree of subsidence so that appropriate measures can be taken to prevent or reduce damage.
 - (F) Describe any other prevention measures taken.
- (3) Provide a detailed description of measures that are to be taken to mitigate the effects of any material damage or diminution of value or reasonable foreseeable use of lands which may be caused by planned subsidence. Describe how these measures are to be promptly applied in accordance with 817.124. Measures include, but are not limited to, one or more of the following:
- (i) Restoration or rehabilitation of damaged structures including surface and underground agricultural drainage systems, features and lands after subsidence to a condition capable of supporting and suitable for foreseeable use, including restoration of approximate land surface contours

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

to premining conditions in order to assure proper surface drainage.

- (ii) Replacement of structures, including surface and underground agricultural drainage systems destroyed or damaged by subsidence.
 - (iii) Purchase of structures prior to mining or purchase of damaged structures after subsidence at pre-subsidence value.
 - (iv) Purchase of non-cancellable insurance policies as described in 817.124(c), payable to surface owners in full amount of the possible material damage or other comparable measures.
 - (v) Describe other mitigation measures that are to be taken.
- (4) Provide a detailed description of measures to be taken to determine the degree of material damage or diminution of value or foreseeable use of the surface, including, but not limited to, such measures as:
- (i) Conducting pre-subsidence surveys and inventories of all structures and surface features which might be materially damaged by subsidence.
 - (ii) Monitoring to measure deformations near specified structures or features or otherwise appropriate locations.
- (b) Unplanned Subsidence. See Attachment III.-H and Permit Map.
- (1) Using maps, plans, and cross sections, as needed, locate the areas where coal extraction is to take place and where subsidence, if incurred, cannot be considered planned subsidence. Clearly show on a map the relationship of parts (i-v) below to critical surface features, renewable resource lands, and structures.
 - (i) Provide a detailed mine plan map. Describe the methods of mining used, such as room and pillar, checker board, blind room or other methods.
 - (ii) Locate extraction panels, give geometric sizes, dimensions and orientation, and include details of length, width and height of panels. Give percent of coal left as support in ratio to percent of coal removed within the extraction panel. Provide information on crosscut and room dimensions, and both driven on what centers. Include similar information concerning any secondary recovery that is planned.
 - (iii) Provide details locating all permanent coal blocks and barrier pillars outside the actual extraction panels. Give geometric shapes, dimensions, and orientation of these blocks and barrier pillars.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

ATTACHMENT III.-H.-2.-b.
Subsidence Control Plan

The North Pratt Mining, LLC - Pratt No. 1 Mine surface facilities are located in parts of Sections 19, 20, and 30, Township 16 South, Range 4 West, Jefferson County, Alabama which are shown on the Adamsville, Sylvan Springs, Dora and Brookside, Alabama United States Geological Survey Quadrangle Maps. The mine site will consist of approximately 68 acres of proposed surface disturbance, of which approximately 38 acres has been previously disturbed by surface mining. The coal recovery area will consist of approximately 990 acres for the proposed five year mine plan. See Subsidence Control map in Attachment III.-H.-1 Subsidence Control Map, along with Part I. C. 1 of the application for a list of surface owners over the proposed underground mine area as well as the proposed mine workings for the reserve area with the first five years mining defined by yearly increments. The power substation shown in the NE 1/4 of the SE 1/4 of Section 31, Township 16 South, Range 4 West previously served other mine facilities in the area and it and the power transmission line running northwesterly from the substation are no longer active. All of the Pratt Coal Seam mining rights within the mine area are owned by RGGGS Corporation. A detailed mine plan is shown on the Permit Map and Attachment III.-H.1 Subsidence Control Map. It is anticipated that continuous miners and continuous haulage will be used for room and pillar mining.

The mine faceup area is located in the NE 1/4 of the SW 1/4 of Section 30, Township 16 South, Range 4 West. Four previous entries were driven in a southeasterly direction by previous mining operation and will be utilized by this operation. The initial (main) entries were 18 feet wide and spaced on 70 foot centers in the vicinity of the Burlington Northern Santa Fe Railroad and were continued to a point that provided clearance of the railroad from subsidence, assuming a 30 degree angle of draw, before any cross cuts were made. Mining under the railroad produced a recovery of less than 24%. At the point where clearance from the Railroad was obtained, the main entries were widened to 20 feet and cross cuts 20 feet wide were taken on 70 foot centers. An additional main entry was added to make a total of five entries. This spacing was used in all the main headings and produced pillars of 50 feet wide and 50 feet long and coal recovery of approximately 48%. Panels with five entries wide and cross cuts spaced on 60 foot centers was used in previous mining operations. This spacing will produce

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

pillars of 40 feet wide and 40 feet long and coal recovery of approximately 55%. New mining operations will use a seven entry system spaced on 60 foot centers and cross cuts spaced on 60 foot centers in the main entries and will produce pillars of 40 feet wide and 40 feet long and coal recovery of approximately 55%, see the drawings following this sheet for typical seven entry mine layout using 60 foot spacings and 50 foot spacings, Attachment III-H-2(b). Panel entries driven off the main entries will be spaced on 50 foot centers with cross cuts spaced on 50 foot centers that will produce pillars of 30 feet wide and 30 feet long and, taking into account the barrier pillars that must be left, will result in a coal recovery of approximately 50%. No secondary pillar recovery is planned for this operation.

The premine landuse of the area comprising the coal recovery area is predominately unmanaged forest with no current use. According to the Soil Survey of Jefferson County, Alabama, there are no prime farmland soils within the coal recovery area.

If unplanned subsidence should occur and cause damage to any surface feature, North Pratt Mining, LLC will to the extent required by law restore, rehabilitate, or remove and replace each damaged structure or feature to the condition that would exist if no subsidence had occurred promptly after the damage has occurred and subsidence is complete, or they will purchase the damaged structure or feature for its fair market, presubsidence value. Should any sections of railroad over the subsidence zone be adversely affected by subsidence, mitigation measures will be agreed upon between the operator and the owner of the affected feature. If unplanned subsidence should occur and cause adverse impacts to water supplies adjacent to the mine, those supplies will be replaced or restored in accordance with regulatory requirements.

See Attachment III-H-2(b), Typical 7 Entry Mine Layouts, 50' Centers.

See Attachment III-H-2(b), Typical 7 Entry Mine Layouts, 60' Centers.

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

- (iv) Give anticipated date (month/year) in which mining will be conducted in each area and/or panel.
 - (v) Characterize variations in claystone layers immediately below the extracted coal seam(s). Include data on varying claystone thickness throughout the area covered by the subsidence control plan. Provide assurances that measures have been adopted concerning the maximization of mine stability as it relates to claystone flood conditions.
- (2) Provide a detailed description of measures to be taken to prevent unplanned subsidence from causing material damage or lessening the value or reasonable foreseeable use of the surface. Describe how these measures are to be applied. Include the following information.
- (i) Locate area(s) in which coal removal is not planned, including its relationship to overlying area(s) to be protected by leaving coal in place.
 - (ii) Locate area(s) to be backfilled or backstowed.
 - (iii) Describe measures to be taken on the surface to prevent material damage or diminution of the value or reasonable foreseeable use of the surface including, but not limited to:
 - (A) Reinforcement of sensitive structures or features;
 - (B) Installation of footers or other techniques designed to reduce damage caused by movement;
 - (C) Change of location of pipelines, utility lines or other features;
 - (D) Relocation of moveable improvements to sites outside the potential angle-of-draw;
 - (E) Monitoring to determine the commencement and degree of subsidence so that appropriate measures can be taken to prevent or reduce damage; and
 - (F) Describe any other prevention measures to be taken.
- (3) Provide a detailed description of measures that are to be taken to mitigate the effect of any material damage or diminution of value or foreseeable use of lands which may occur as a result of unplanned subsidence. Describe how these measures are to be promptly applied in accordance with 817.124. Measures include, but are not limited to, one or more of the following:

Applicant: <u>North Pratt Mining, LLC</u>
Mine Name: <u>Pratt No. 1 Mine</u>
Permit Number: <u>P-3972</u>

- (i) Restoration or rehabilitation of damaged structures (including surface and underground agricultural drainage systems), features and lands after subsidence to a condition capable of supporting and suitable for foreseeable use including restoration of approximate land surface contours to premining conditions in order to assure proper surface drainage.
 - (ii) Replacement of structures, including surface and underground agricultural drainage systems destroyed or damaged by subsidence.
 - (iii) Purchase of structures prior to mining or purchase of damaged structures at pre-subsidence value.
 - (iv) Purchase of non-cancellable insurance policies, as described in 817.124(c), payable to the surface owner in the full amount of the possible material damage or other comparable measures.
 - (v) Describe other mitigation measures to be taken.
- (4) Provide a detailed description of measures to be taken to determine the degree of material damage or diminution of value or foreseeable use of the surface, including, but not limited to such measures as:
- (i) Conducting of pre-subsidence surveys of all structures and surface features which might be materially damaged by subsidence.
 - (ii) Monitoring to measure deformation near specified structures or features or other appropriate locations.