BLACK WARRIOR MINERALS, INC.

MINE NO. 2, P-3987, R-2

ALABAMA SURFACE MINING COMMISSION

SURFACE MINING PERMIT APPLICATION

P A R T I I I

Prepared by:

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PART III - OPERATION PLAN

A. General Operation Information

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

   See original permit.

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

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

   See **Permit Map** and **Operation Plan Map**.

   The timing increments are as follows:

Increment No.	Acres	Dates	
		From	To
1	171.0	Effective Date *	12 Months After
2	280.0	Effective Date *	12 Months After
3	120.0	End of Inc. 2	12 Months After
4	442.0	End of Inc. 3	12 Months After
5	388.0	End of Inc. 4	12 Months After

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

   The sequence of mining operations will be generally as follows:
   1) Construction of sediment control structures
   2) Clearing and grubbing
   3) Topsoil removal, if required
   4) Overburden drilling and blasting
   5) Overburden removal
   6) Coal Recovery
   7) Grading
   8) Revegetation

OPERATION PLAN

Revision R-2 proposes to add 53 mining acres to Increment 1 that was previously bonded under P-3950. Revision R-7 of P-3950 proposes to delete Inc. 4 and Inc. 5 and 62 acres of Inc. 3 from the permit as double bonded under P-3987. All active mining and excavation will be within P-3987. However, some areas of P-3950 will be receiving spoil from the active mining and excavation to create additional spoil room in the active pit. Additional spoil is needed to allow for the proper grade of ramps into the active pit.

This addendum to Attachment III-A-1 addresses the mining of Increments 1 and 2 and addresses placing spoil into designated spoil areas of Mine No. 2 and Mine No. 1.

No active mining excavation will occur on P-3950. All active mining excavation will be contained within P-3987. However, P-3950 will be receiving spoil from P-3987. The spoil material from P-3987 will be placed into Designated Spoil area No.1 located in P-3950 (Increment 3 and three acres of Increment 6) and into Designated Spoil Area No. 2 located in Increment 1 of P-3987..

No changes are proposed for Increments 3, 4 and 5.

There are currently two active high walls at Mine No. 2. The wall that is aligned west to east and is advancing north is HW-1 and is located in Increment 1 and Increment 2. The wall that is aligned south to north and is advancing 3east is HW-2. Increment No. 1 and No. 2 will be mined simultaneously. Mining may also be conducted simultaneously on HW-1 and HW-2.

However, due to the time limit on when mining must be completed in Section 9 (Permit Condition 11-06), HW-1 will be the primary mining area and HW-2 (North-South alignment / advancing east) will be the secondary mining area. HW-2 will only be advanced as needed when mining cannot occur in HW-1. Some mining should occur each month on HW-2, but it may take several months to complete a full cut on HW-2. See attached Operations Plan Map for the location of the current high walls and designated spoil areas.

INCREMENT NO. 1

Increment No. 1 will be initially be bonded and mined as follows:

Mining will has advanced into Inc. 1 to the point as shown on the Operation Map. Cuts will be aligned from east to west and will advance to the north. Due to the delay in the issuance of the Mine No. 2 permit, the east end of Increment 1 has advanced further to the north than the west end. The west end of the high wall will be advanced as quickly as feasible to get the high wall back into a straight line, but it make take several cuts before the west end catches up with the east end. Spoil material generated from Increment 1 will be spoiled into previously mined cuts and onto designated spoil areas of Mine No. 2 (Spoil Area 2) and Mine No. 1 (Spoil Area 1).

The eastern end of all cuts will be left open to allow for the advancement of mining in Increment No. 2 and Increment No. 3. Mining will continue in this manner spoiling into the previously mined pit until mining is completed in Increment No. 1.

Black Warrior Minerals, Inc. was granted a delay in contemporaneous reclamation for the eastern end of all cuts in Increment No. 1. The delay will allow mining advance mining to the north in Increment No. 2 and Increment No. 3.

The New Castle, Mary Lee, and Blue Creek coal seams will be mined in Increment No. 1.

INCREMENT NO. 2

Increment No. 2 will be bonded and mined as follows:

Mining has advanced into Increment 2 to the point shown on the Operations Plan Map. Cuts will be aligned from north to south and will advance to the east. Material will be spoiled to the west into previously mined cuts and onto the designated spoil areas. Mining will continue in this manner until mining reaches cut boundary line “A”. The northern end of the cuts along cut boundary line “B” (total length 2,030 feet) will be left open to allow mining to change direction and mine to the north. Once mining has reached cut boundary line “A” mining will then turn and begin mining on cut boundary line “B”. Cuts will be aligned from east to west and will advance to the north. Material will be spoiled to the south in to the open pit. Mining will continue in this manner until mining in completed. Cut boundary line “A” (total length 3,830 feet) will be left open north of cut boundary line “B” to allow for a separate fleet of equipment to mine to the southeast.

The separate mining fleet will begin mining on cut boundary line “A” once mining has advance far enough north to allow spoiling back into the open pit. Cuts will be aligned from north to south initially and will advance to the southeast. Material will be spoiled to the northwest into the previously mined pit. As mining advances to the southeast cuts will swing to obtain a northeast to southwest pit alignment. Mining will continue in this manner until mining is completed in Increment No. 2.

Black Warrior Minerals, Inc. was granted a delay in contemporaneous reclamation for cut boundary line "A" and "B". The delay will allow mining to turn to the north and allow a separate fleet of equipment continue mining to the southeast.

The New Castle, Mary Lee, and Blue Creek coal seams will be mined in Increment No. 2.

DESIGNATED SPOIL AREAS

Spoil generated from P-3987 HW-1 and HW-2 is proposed to be placed onto Spoil Area 1 (permitted and bonded under Increment 3 & 6 of P-3950) and Spoil Area 2 (permitted and bonded under Inc. 1 of P-3987). Spoil material will initially be hauled to the west end of Designated Spoil Area 1. The maximum out slope for the designated spoil area will be 25% or 4:1. The maximum top elevation will be approximately 560 msl. Areas to the west of the existing equipment storage yard will be filled first and will be brought up to the top elevation. As the flat area at the 560 elevation expands, the equipment storage area will be moved to the new top elevation. As the spoil area continues to expand to the east, additional flat area will be created at the 560 elevation. Eventually, all of the existing equipment storage and existing coal yard will be moved to the top level.

The spoil area will extend into P-3987 to the east into Spoil Area 2. Spoil Area 2 will advance to the east and will be blended in with the active dump area of P-3987. The current spoil dump area of P-3987 closest to the active pit is at a 580 elevation. The top elevation of Designated Spoil Area 2 will gradually increase from the 560 elevation up to the 580 elevation to match the current spoil area of P-3987.

See attached Supplemental Reclamation X-Sections.

B. <u>Engineering Plans.</u>

All cross sections, maps and plans related to operations, reclamation and structures must comply with Section 780.10. Plans, appropriate calculation 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.

Not Applicable

(b) If an existing structure requires modification or reconstruction to meet the performance standards, attach a compliance plan that 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.

Not Applicable

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

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

See Attachment III-B-2-A

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

See Attachment III-B-2-A

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

See Attachment III-B-2-A

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

None Proposed

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

None Proposed

GENERAL ENGINEERING PLAN CERTIFICATION STATEMENT

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

McGehee Engineering Corp.

Sanford M. Hendon, P.E.

Alabama Reg. No. 18208

ALABAMA REGISTERED No. 18208 PROFESSIONAL ENGINEER SANFORD M. HENDON

9-26-16

Date

GENERAL PLAN

Revision R-2 proposes to modify Sediment Basin 046 and to add 53 mining acres (previously bonded under P-3950) to Increment 1. All of the additional mining acres being added will be controlled by Basin 046 and Basin 046-A and were accounted for in the design of Basin 046 and 046-A.

Due to limited spoil room for the mining operation, spoil is proposed to be placed in the upper end of the pool area of Sediment Basin 046. Modifications to Sediment Basin 046 include adding a 4" PVC siphon tube. The siphon tube will be placed in an excavated ditch through the dam and then backfilled and compacted in accordance to the embankment requirements in this plan. The siphon will discharge in the emergency spillway. Other modifications to Sediment Basin 046 include lowering the sediment removal elevation from 388.15' to 387.43', lowering the sediment storage from 13.25 acre-feet to 11.00 acre-feet, and lowering the permanent pool capacity from 19.97 acre-feet to 18.49 acre-feet. This modification shows that Sediment Basin 046 meets effluent with the reduced volume.

No modifications are proposed for Sediment Basin 046A.

The entire pool area of this Sediment Basin 046A will be in spoil. The pool area up to the emergency spillway elevation will be lined with a minimum 1' of clay. See the attached Typical Clay Liner sheet for details. See the attached Typical Clay Liner sheet for details.

Sediment Basin 046A is designed on assumed coordinates due not knowing the final elevation of the area after the area is mined. Sediment Basin 046A will be constructed at an elevation to ensure that the discharge elevation is above the normal pool elevation of Sediment Basin 046 to allow positive drainage.

CONSTRUCTION TIMETABLE

PHASE 1 MODIFICATION

Sediment Basin 046 was constructed and certified under P-3950. Phase 1 of the original design plans for P-3987 was certified on April 19, 2016. Phase 1 of these modifications plans consists of installing the 4" PVC siphon tube. Implementation of the modifications to Basin 046 will begin within 30 days of the issuance of Revision R-2.

PHASE 2

Sediment Basin 046A will be constructed and certified to the Regulatory Authority prior to reaching the limits of the graded and bare area as shown on the Phase I Watershed Map.

Note: Once construction begins, the basin will be constructed and certified to the Regulatory Authority within 90 days unless an extension is granted by the Director.

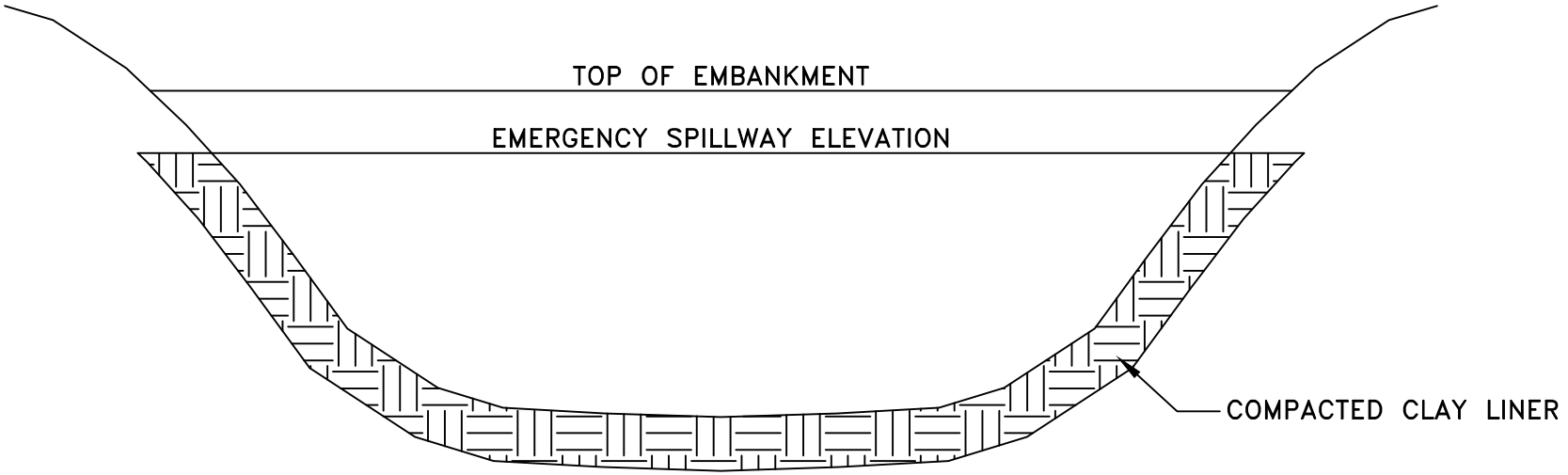
See attached Sediment Basin 046 & 046-A Detailed Modification Plans .

See Watershed Map.

GENERAL DESIGN DATA

SEDIMENT BASIN	LOCATION	DRAINAGE AREA ACRES
046	SE/NE, NE/NE of Section 16, T15S, R3W	287
046AP	NW/NW of Section 15, NE/NE of Section 16, T15S, R3W	138.5

TYPICAL IMPOUNDMENT PROFILE
CLAY LINER CROSS-SECTION



In the event that a sediment basin must be constructed in spoil material, the interior or wet area of the basin will be lined with a minimum of one (1') foot of clay material with a permeability no greater than 0.000001 cm./sec. up to the emergency spillway elevation. The clay liner material will be placed in lifts no greater than six (6") inches and compacted to ninety–five (95) percent of the standard proctor density.

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SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

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

1. EMBANKMENT REQUIREMENTS

A) The minimum width of the top of the embankment will under no circumstance be less than twelve (12) feet.

B) The embankment will have a minimum front and back slope no steeper than the slopes listed on the detailed design sheet.

C) The foundation area of the embankment will be cleared and grubbed of all organic matter with no surface slope steeper than 1 horizontal to 1 vertical. The entire wet area, as measured from the upstream toe of the embankment to the normal pool level, will be cleared of trees and large brush.

D) A core will be constructed in a cutoff trench along the centerline of the embankment. The cutoff trench will be of suitable depth and width to attain relatively impervious material.

E) The embankment construction material will be free of sod, roots, stumps, rocks, etc., which exceed six (6") inches in diameter. The embankment material will be placed in layers of twelve (12") inches or less and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.

F) The embankment, foundation and abutments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.5 and a minimum seismic safety factor of 1.2, at normal pool level with steady seepage saturation conditions.

G) The actual constructed height of the embankment will be a minimum of five (5%) percent higher than the design height to allow for settling over the life of the embankment.

H) The design embankment height for both temporary and permanent impoundments will be a minimum of one (1) foot above the maximum water level anticipated from a 10 Year - 24 Hour or a 25 Year - 6 Hour precipitation event (whichever is greater).

I) For embankments constructed as point source discharges, the embankment will be constructed and abutments keyed into undisturbed, virgin, ground if at all possible. In the event that this can not be achieved, additional design and construction specifications will be submitted in the Detailed Basin Design Plans.

J) The embankment and all areas disturbed in the construction of the embankment will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure restabilization. Hay dams, silt fences, rock check dams, etc. will be installed, where deemed necessary, as additional erosion prevention methods.

2. DISCHARGE STRUCTURE REQUIREMENTS

A) The primary spillway will be designed to adequately carry the anticipated peak runoff from a 10 Year - 24 Hour precipitation event. The combination primary and secondary (emergency) spillway system will be designed to safely carry the anticipated peak runoff from a 25 Year - 6 Hour precipitation event. When sediment basins are proposed in the drainage course of a public water supply, the spillway system will be designed and constructed to adequately carry the runoff from a 50 Year - 24 Hour precipitation event.

B) Channel linings, for secondary (emergency) spillways will be a trapezoidal open channel constructed in consolidated, nonerodible material and planted with a mixture of both annual and perennial grasses being predominantly fescue and bermuda. In the event that the spillway can not be constructed in consolidated, nonerodible material the spillway will be lined with riprap, concrete, asphalt or durable rock (See Detailed Design Plans for Spillway Lining).

C) When consisting of pipe, the primary spillway will be installed according to Class "C" pipe installation for embankment bedding.

D) Sediment basins with a single spillway system, such as a skimmer board, will be a trapezoidal open channel constructed in consolidated, nonerodible material and lined with riprap, concrete, asphalt or durable rock (See Detailed Design Plans for Spillway Lining).

E) The primary spillway will be designed and constructed with device to eliminate floating solids from leaving the impoundment. This device will consist of a turned down elbow when using pipe or a skimmer system when using an open channel spillway.

F) When necessary, to prevent erosion of the embankment or discharge area, a splash pad of riprap, durable rock, sacrete, etc. will be installed at the discharge end of the primary spillway.

G) The combined spillway systems, for sediment basins constructed in series, will be designed to adequately accommodate the entire drainage area.

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

A) Inspections will be conducted regularly during construction of the sediment basin by a qualified registered professional engineer or other qualified person under the direction of a professional engineer. Upon completion of construction, the sediment basin will be certified, by a qualified registered professional engineer, to the Regulatory Authority as having been constructed in accordance with the approved detailed design plans.

B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., until the removal of the structure or until a Phase III Bond Release is granted.

3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS

C) Sediment basins will be examined quarterly for structural weakness, instability, erosion, slope failure, or other hazardous conditions.

D) If during the above described periodic inspections, it is determined that there exists signs of structural weakness, instability, erosion, slope failure, improper functioning, or other hazardous conditions, these will be repaired immediately.

E) Standard anticipated maintenance will include repairing rills and gullies, repairing slope failures, re-seeding areas of failed or scarce vegetation, cleaning out or removing debris obstructing pipes and/or spillways to allow proper functioning, etc. Standard maintenance discovered during the above described periodic inspections will be performed immediately. Hazardous conditions observed during inspections will be reported immediately to the Regulatory Authority for further consultation or instructions.

F) Retained sediment will be removed from each sediment basin when the accumulated sediment reaches the maximum allowable sediment volume as set forth in the detailed design plans.

G) Formal inspections will be made annually, by a qualified registered professional engineer or other qualified person under the direction of a professional engineer, including any reports or modifications, in accordance with 880-X-10C-.20[1(j)] of the Alabama Surface Mining Regulations.

4. BASIN REMOVAL REQUIREMENTS

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

5. PERMANENT WATER IMPOUNDMENT REQUIREMENTS

A) Prior to a request for a Phase II Bond Release, all sediment basins being left as permanent water impoundments will have supplemental data submitted to the Regulatory Authority concerning water quality, water quantity, size, depth, configuration, postmining land use, etc.

B) Final grading slopes of the entire permanent water impoundment area will not exceed a slope of 2 Horizontal to 1 Vertical to provide for safety and access for future water users.

TYPICAL DRAWINGS FOR EMBANKMENT TYPE BASINS

Typical Pond Plan View

Typical Embankment Cross Section

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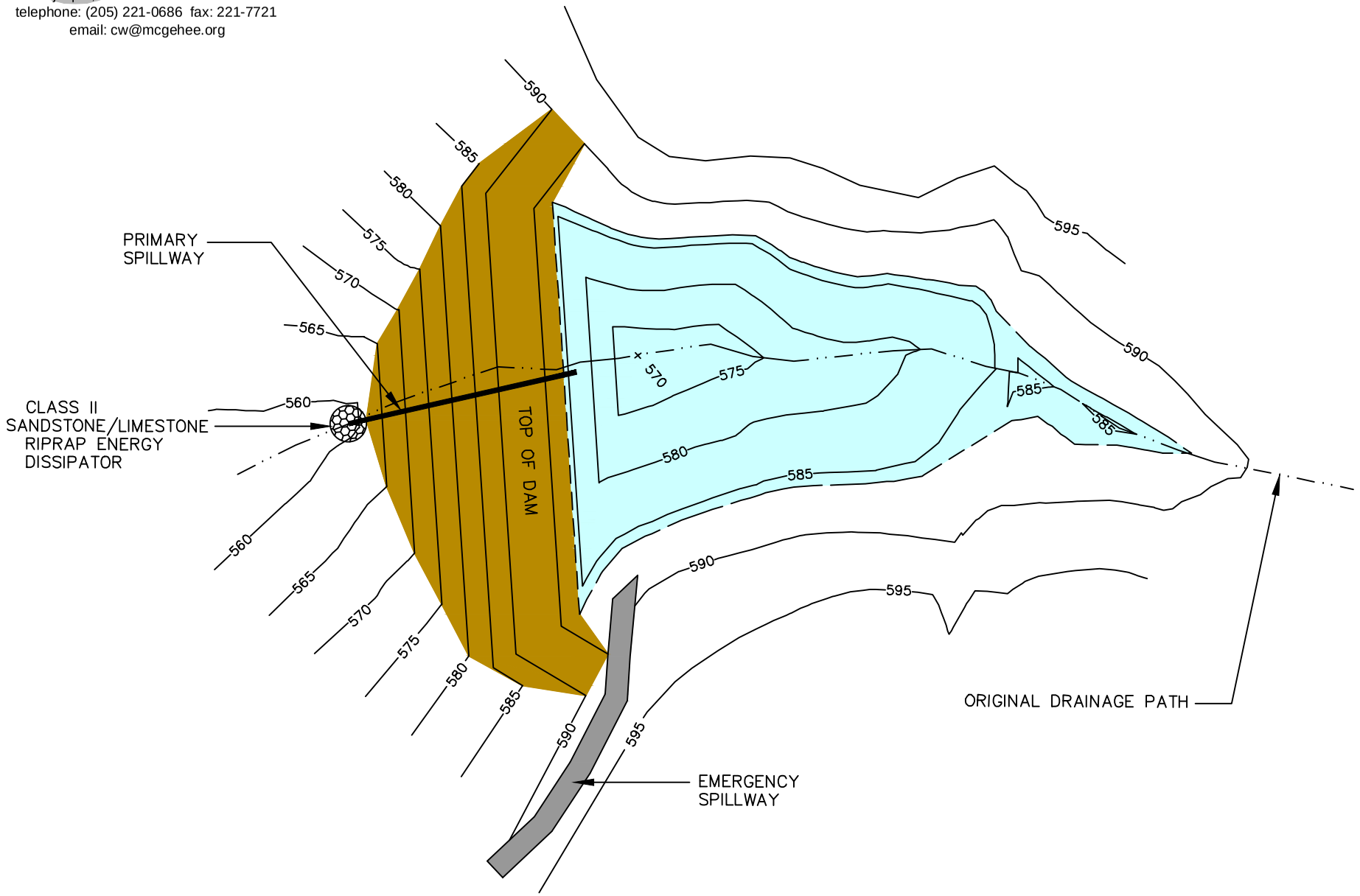
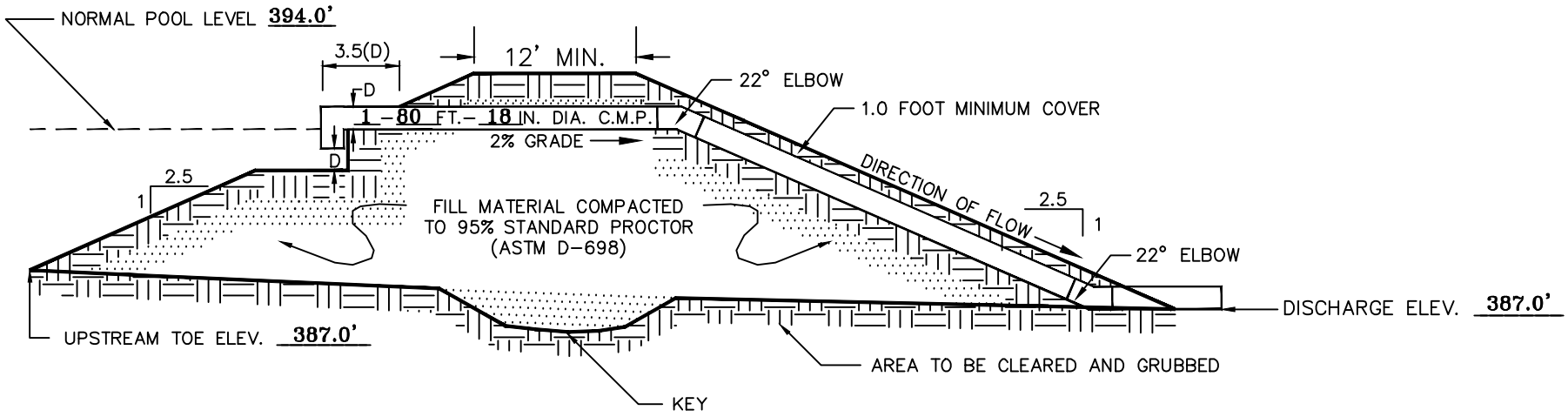
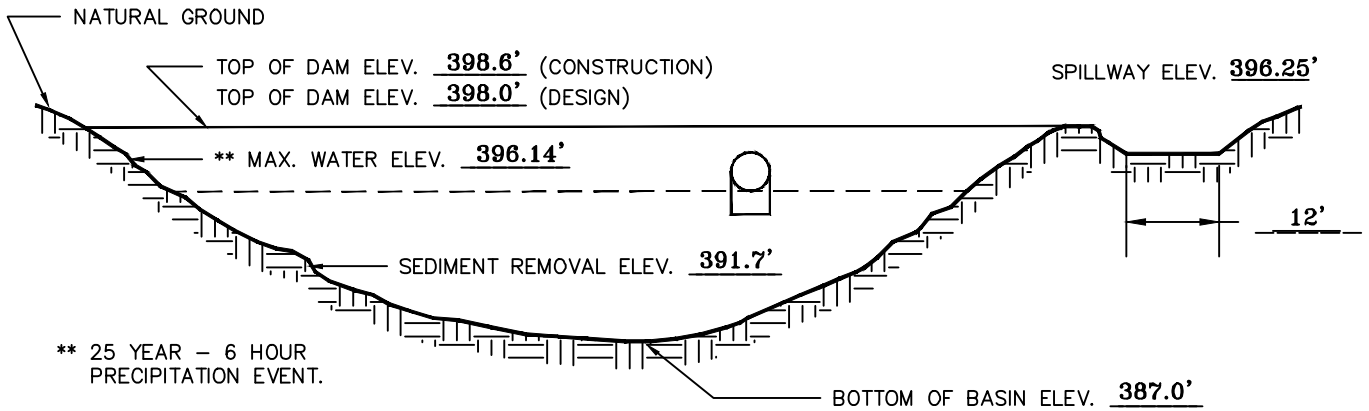
PLAN VIEW OF EMBANKMENT POND
TYPICAL DRAWING



TYPICAL EMBANKMENT CROSS-SECTION



TYPICAL IMPOUNDMENT PROFILE



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