BLACK WARRIOR MINERALS, INC.

MINE NO. 1, P-3950

ALABAMA SURFACE MINING COMMISSION

SURFACE MINING PERMIT APPLICATION

P A R T I I I

Prepared by:

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PART III - OPERATION PLAN

A. General Operation Information

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

   See Attachment III-A-1

2 Track Hoe	4 Blast hole drills
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	78.0	Mining Completed	
2	33.0	Mining Completed	
3	70.0	Effective Date*	12 Months After
4	0.0	N/A	N/A
5	0.0	an/	N/A
6	27.0	Effective Date*	Life of Mine

   * 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

BLACK WARRIOR MINERALS, INC.
MINE NO. 1, P-3950, R-7
Addendum to ATTACHMENT III-A-1

OPERATION PLAN

Revision R-7 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 the Operation Plan delineates what area of P-3950 will be accepting spoil generated from Mine No. 2 and proposes to modify the final reclaimed grade (top elevation) for the designated spoil area.

Revision R-6 addressed the permitted area of P-3950 receiving spoil from Black Warrior Minerals Mine No. 2 P-3987 and showed a designated spoil area (Spoil Area 1) on the Operations Map. Mine No. 2 (P-3987) permit was issued on 3-31-16.

Also under Revision R-4, Supplemental Cross Sections were submitted that addressed the proposed final grade of the designated spoil areas proposed in R-4.

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 Increment 3 and three acres of Increment 6.

The attached Permit and Operation Plan Maps show the permit boundary of Black Warrior Minerals, Inc., Mine No. 2, P-3987 and the high wall location as of 9-1-2016.

INCREMENT NO. 1

Mining has been completed in Increment 1. Grading and backfilling have been completed.

INCREMENT NO. 2

Mining has been completed in Increment 2. Grading and backfilling have been completed.

INCREMENT NO. 6 –

Increment No. 6 includes primary roads, sediment basins, powder bin area and current routes of travel. NOTE: approximately 3 acres of Inc. 6 are routes of travel within Designated Spoil Area 1 and will be spoiled in.

INCREMENT NO. 3 – DESIGNATED SPOIL AREA

Increment No. 3 is currently bonded and will be mined as follows:

HW-1 – Mining on HW-1 (East- West alignment) has advanced to the north out of Inc. 3 into P-3987.

HW-2 – Mining on HW-2 has advanced to the east beyond Inc. 3 into P-3987.

Spoil generated from P-3987 HW-1 and HW-2 is proposed to be placed onto Increment 3. Spoil material will be hauled to the west end of the designated spoil area. 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 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 the designated spoil area will gradually increase from the 560 elevation up to the 580 elevation to match the current spoil area of P-3987.

See Attached Supplement Cross Sections.

Supplemental cross-sections EW-1 & EW-2 were submitted in Revision R-4. These two sections have been revised to reflect the revised grades and top elevation. Reclamation cross-section B-B has also been revised. One additional cross-section SN-2 has been added.

INCREMENT NO. 4

Increment 4 is being deleted as doubled bonded under P-3987.

INCREMENT NO. 5

Increment 5 is being deleted and is bonded under P-3987.

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;

No change

(b) Spoil, coal mine waste and non-coal mine waste removal, handling, storage, transportation and disposal structures and facilities;

No change

(c) Mine facilities; and

No change

(d) Water pollution control facilities.

See **III-B-2-A**

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

No change

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 contingency plans to prevent sustained combustion of such material. (780.18).

No change

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)

   No change

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

   No change

8. Is surface mining to be conducted within 500 feet of an underground mine? (780.27, 816.79)
   ( ) Yes (XX) 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).

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

BLACK WARRIOR MINERALS, INC.
MINE NO. 1, P-3950, R-7
ATTACHMENT III-B-2-A

GENERAL PLAN

The addendum to the general plan consists of deleting 62 acres from Inc. 3 including Basin 046, 15 acres from Inc. 6, all of Inc. 4 and all of Inc. 5. The acres being deleted will be controlled by either Basin 046 or Basin 104. Basins 046 & 104 are currently permitted and bonded under P-3987.

Portions of Inc. 2 and Inc. 6 are being transferred to Inc. 3. Increment 3 is proposed as a designated spoil area to receive spoil from P-3987. The proposed spoil area will be within the drainage boundaries of Basins 044, 118, 119 and 103. The post mine drainage areas have changed slightly from the approved design plans.

The drainage areas were determined from contours generated from aerial photography taken on 9-2-16. The results of the new contour mapping showed that the total drainage area compared to the approved design plans decreased for Basin 041, 042, 044 and Basin 103 and increased for Basin 119 and Basin 118.

Basin ID	**Basin 041**	**Basin 042**	**Basin 044**	**Basin 117***	**Basin 118**	**Basin 119**	**Basin 103****	**Basin 104**	**Basin 106**	**Total to 119**	**Total**
Approved Design Total Drainage Area (from SecCad)	24	37	73	8	31	82	*31.5*			*113.5*	286.5
R-7 Proposed Total Drainage Area	21.3	26.3	45.8	12.0	42.2	74.5	15.0	24.3	25.1	*138.9*	286.5
Net Change	-2.7	-10.7	-27.2	4.0	11.2	-7.5	-16.5**	24.3	25.1	25.4	0.0

*Basin 117 including 12 mining acres was deleted from Mine No. 1 under R-5 as undisturbed.
** Basin 103 was designed to control a portion of the watershed of Basin 104 prior to P-3987 Mine 2 permit being issued. Basin 104 has been constructed so the drainage area to Basin 103 has decreased.

The attached watershed map shows the watershed conditions as of 9-2-2016 for Basins 044, 046, 103, 104, 106, 118 and 119.

Due to the increased drainage area of Basin 118 and 119, these basins were re-evaluated to see if they still would meet effluents and if any modifications are needed. Both still met effluent limits and maintained adequate freeboard without any modifications.

See attached **Re-Evaluation of Basins 119 & 118.**

General design data for the affected basins is included. See attached data and watershed map for the sediment basin location and current watershed conditions as of 9-2-16. Basins 118 & 119 remain permitted as permanent impoundments. Additional data qualifying all basins proposed as permanent water impoundments will be submitted and approved by the Regulatory Authority prior to a Phase II bond release. Removal plans for each proposed temporary sediment basin will be submitted and approved by the Regulatory Authority prior to a Phase II bond release.

Geologic investigations of the area indicate alternating sequences of sandstone and shale with sandstone streaks and minor amounts of bituminous coal and underclay. The coal to be mined by Black Warrior Minerals, Inc. will be the New Castle, Mary Lee, and Blue Creek coal seams.

All surface drainage from the proposed mining area drains into U.T. to Crooked Creek and Crooked Creek. All sediment basins are located in Jefferson County, Alabama and are found on the Gardendale Quadrangle.

GENERAL DESIGN DATA

SEDIMENT BASIN	LOCATION	DRAINAGE AREA ACRES
119E	NE/NW of Section 16, T15S, R3W	138.9
118E	SW/NW of Section 16, T15S, R3W	42.2
103E	SW/SE of Section 9, NW/NE of Section 16, T15S, R3W	15.0
044E	SE/NW and SW/NE of Section 16, T15S, R3W	45.8
041E	NE/SE of Section 17, T15S, R3W	21.3
042E	SW/SW and NW/SW of Section 16, T15S, R3W	26.3

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 cannot be achieved, additional design and construction specifications will be submitted in the Detailed Basin Design Plans.

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

SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

2. DISCHARGE STRUCTURE REQUIREMENTS

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

B) Channel linings, for secondary (emergency) spillways will be a trapezoidal open channel constructed in consolidated, nonerodible material and planted with a mixture of both annual and perennial grasses being predominantly fescue and bermuda. In the event that the spillway cannot 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, post mining 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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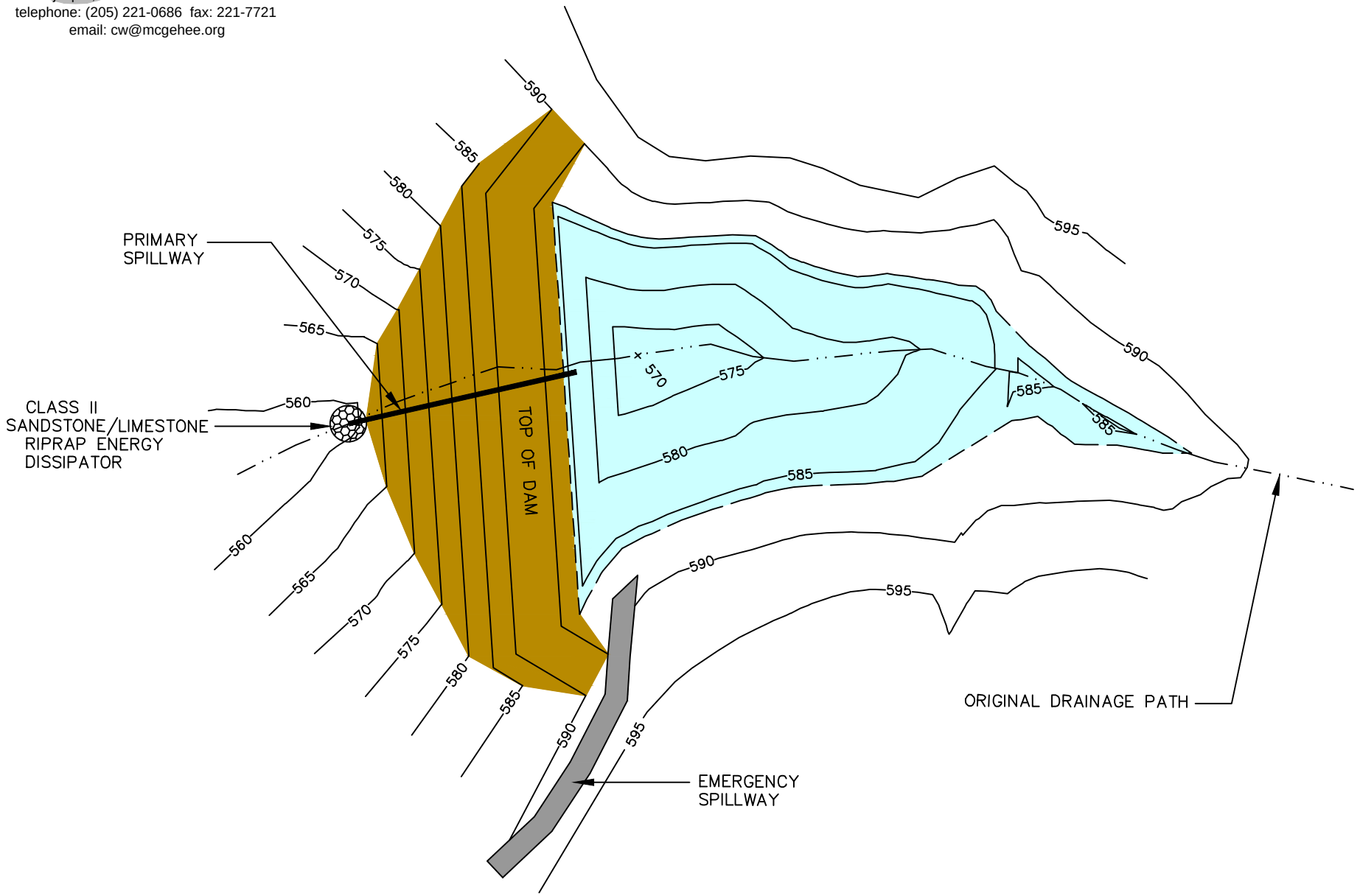
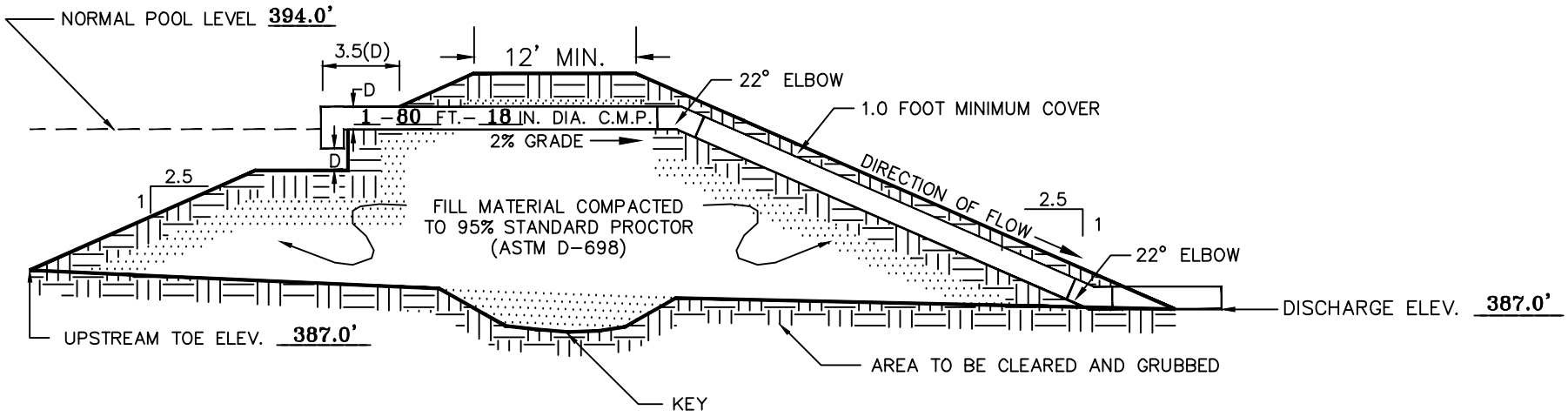
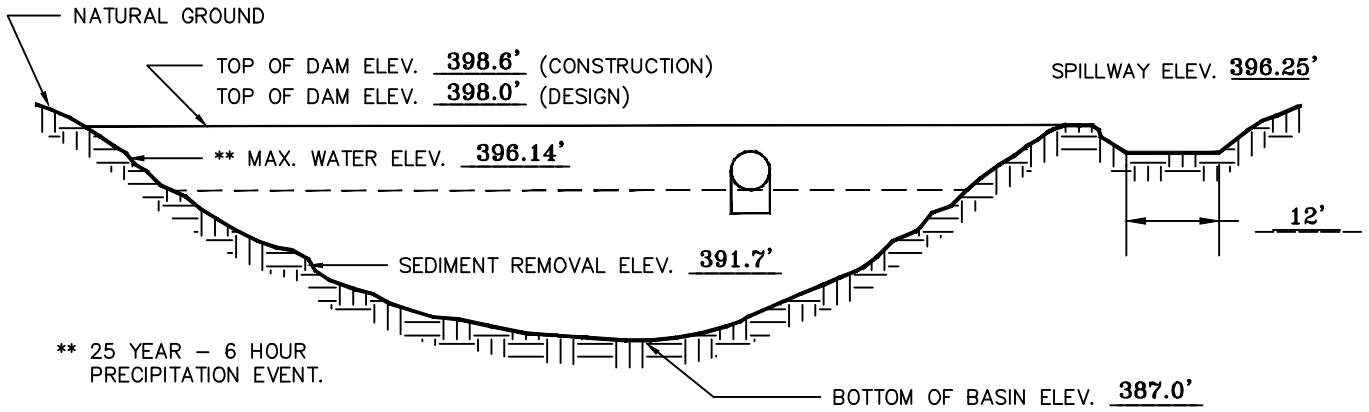
PLAN VIEW OF EMBANKMENT POND
TYPICAL DRAWING



TYPICAL EMBANKMENT CROSS-SECTION



TYPICAL IMPOUNDMENT PROFILE



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