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December 18, 2014

Mr. Tim Hornosky
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Dear Mr. Hornosky:

As required in the Consent Agreement 14-13-HW (Consent Agreement) with the South Carolina Department of Health and Environmental Control (SCDHEC) dated September 29, 2014, Duke Energy is submitting the attached Ash Removal Plan (Plan) for the W.S. Lee Steam Station.

This Plan outlines the key components for removal of ash from the Inactive Ash Basin and the Ash Fill Area (the Site), including (1) a schedule for implementation of major activities, (2) selected management alternatives for the ash, (3) characterization of the ash, (4) a stability analysis of the rim dike and any other slopes impounding the ash placement areas during ash removal activities, (5) provisions for the safe removal of the ash, and (6) management of storm water. The Plan also details what Duke Energy considers to be the permits and approvals necessary to begin or facilitate ash removal work.

We have begun implementing this Plan and are prepared to mobilize to the Site within 30 days after receipt of SCDHEC written approval of this plan and the necessary permits and approvals.

Sincerely,

A handwritten signature in blue ink, appearing to read 'John Elnitsky', with a long horizontal flourish extending to the right.

John Elnitsky
Senior Vice President

cc: Van Keisler, P.G. (SCDHEC)
Robert S McDaniel II (SCDHEC)

William States (W.S.) Lee Steam Station

Ash Removal Plan



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I. Statement of Purpose

Duke Energy Carolinas, LLC (Duke Energy or the Company) entered into Consent Agreement 14-13-HW (Consent Agreement) with the South Carolina Department of Health and Environmental Control (SCDHEC) on September 29, 2014. The Consent Agreement requires the investigation and remediation of two ash placement areas at the William States Lee (W.S. Lee) Steam Station, Tax Map Number 260-00-01-003-000. The ash placement areas include the “Inactive Ash Basin” (IAB), the “Ash Fill Area”, and areas where ash, other coal combustion residuals, or their constituents, including contaminants, (collectively Coal Combustion Residuals or CCR or ash) may have potentially migrated from these ash placement areas. These areas are collectively referred to hereinafter as the “Site”.

The Consent Agreement defines the process to assess and address any release or threat of release of CCR or other pollutants from the Site to the environment and to provide for the final disposition of the Site. This Ash Removal Plan (Plan) represents the first step in that process by outlining the key components for removal of ash from the Inactive Ash Basin and the Ash Fill Area. As required by the Consent Agreement, this Plan includes: 1) a time schedule for implementation of all major activities required by the Plan, 2) characterization of the ash, 3) provisions for the safe removal of the ash, 4) management of storm water during the project, 5) management alternatives for the ash, and 6) evaluation of the stability of the rim dike and any other slopes impounding the ash placement areas during ash removal activities. These requirements are provided for in Sections IV through IX of this Plan.

The scope of work in removing ash from the Site will be determined by Consent Agreement requirements, applicable laws, rules, permits, and approvals that control the activities to be performed under the Plan. For example, the existing W.S. Lee Storm Water Pollution Prevention Plan (SWPPP) must be modified and approved to address management of storm water during the project as defined herein. In addition, South Carolina Department of Transportation (SCDOT) encroachment permits must be obtained for work in the right-of-way of Lee Steam Plant Road, which is expected to include temporary access into the Ash Fill Area and potentially a pipe crossing for water management.

These examples illustrate actions that could potentially affect the precise scope of the work to be performed under the Plan. As a consequence, neither the submittal of this Plan nor its approval by SCDHEC should be taken as requiring actions different from other such applicable requirements. Thus, Duke Energy submits this plan to SCDHEC based on the understanding that it may be necessary to make changes in the Plan in the future to reflect any such actions. In the event that there are significant changes in

scope that impact the intent of the content outlined in the key components of the Plan, the Company will submit a revised plan with such changes to SCDHEC for approval. Notification of delays that impact schedule dates provided in this plan will be provided to SCDHEC as outlined in the Consent Agreement.

II. General Facility Description

W.S. Lee Steam Station is located at 205 Lee Steam Plant Road in Belton, South Carolina in Anderson County. The three coal fired units, which became operational in the 1950's, generated approximately 370 megawatts (MW) of electricity until early October 2014. Units 1 and 2 were introduced into service beginning in 1951 and were retired on November 6, 2014. Unit 3 came into service in 1959 and was shut down on October 4, 2014 to be converted to a gas-fired unit.

Inactive Ash Basin

Prior to 1974, ash was placed in the IAB located southeast of the power plant. The IAB is bordered to the north and east by the Saluda River, to the west by the W.S. Lee Steam Station facilities, and to the south by Lee Steam Plant Road (South Carolina Highway S-22-67). The location of the IAB is shown in Figure 1. Constructed in 1951 and later expanded, the IAB is bound on all sides by a rim dike that encompasses approximately 19 acres. The dike has a crest elevation of approximately 688 feet mean sea level (msl). The elevation of the toe of the dike varies from elevation 645 feet msl along the Saluda River to elevation 668 feet msl in other areas based on topographic survey. The IAB contains approximately 1.1 million tons of ash. The remaining impoundment volume is less than 50 acre-feet, and the height of the dike from the surface of the ash to the crest is less than 25 feet. The surface of the IAB is relatively flat, with isolated high areas, and free water is not present. The majority of the IAB, with the exception of the crest of the dike, is wooded.

Ash Fill Area

Ash was used in the past as backfill into a former soil borrow area identified as the Ash Fill Area. This area encompasses approximately 16 acres located south of and adjacent to Lee Steam Plant Road directly across from the IAB, and includes approximately 256,000 tons of ash. The Ash Fill Area is bordered to the north by Lee Steam Plant Road, to the east by the Saluda River, to the south by undeveloped wooded land, and to the west by a power line and natural gas line right-of-way. The location of the Ash Fill Area is shown in Figure 1. The surface elevation of the Ash Fill Area ranges from a high of approximately 760 feet msl at the southern boundary to a low of approximately 650 feet msl at the northeast boundary. The majority of the Ash

Fill Area is wooded, with the exception of paths cleared for recent geotechnical exploration activities.

Other Areas

At this time, the presence of ash has not been identified at the Site outside the IAB and Ash Fill Area. If other areas of ash are identified at the Site during the ash removal process or subsequent assessment, these areas will be addressed as prescribed in this Plan and the Consent Agreement.

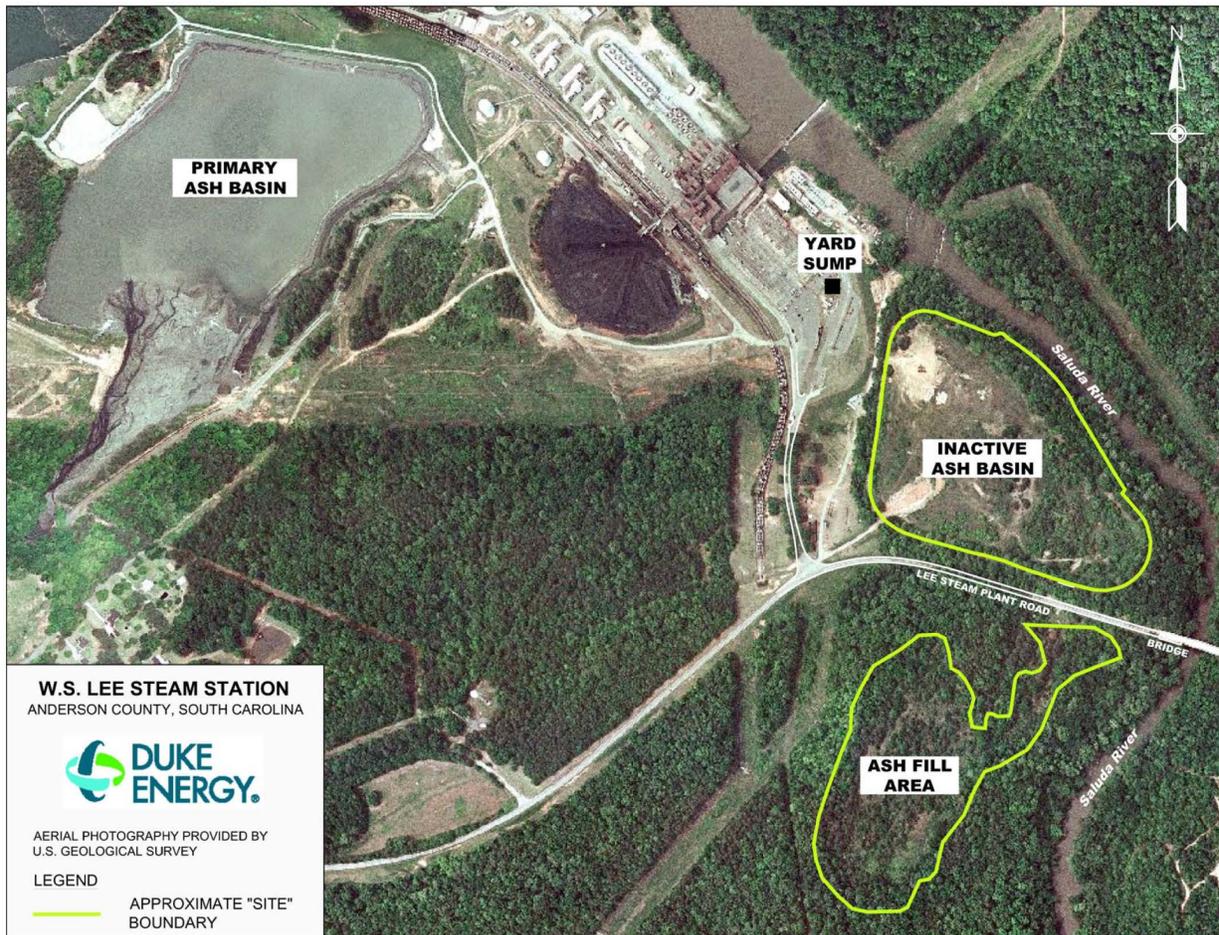


Figure 1: W.S. Lee Inactive Ash Basin and Ash Fill Area

III. Project Charter

Duke Energy has formed an internal team, the Ash Basin Strategic Action Team (ABSAT), dedicated to defining and executing a comprehensive strategy for increased oversight and closure of the Company's ash basins.

As outlined in the Consent Agreement, the Company has assembled and submitted to SCDHEC this Ash Removal Plan. The Consent Agreement states implementation of this Plan must begin within 15 days of receipt of SCDHEC's written approval of the Ash Removal Plan. The Company began implementation of the Ash Removal Plan by entering a contract and issuing a purchase order agreement with a contractor for the initiation of excavation, transportation, and disposal of the ash from the Site. The contractor will mobilize to the Site within 30 days of the receipt of the approved Ash Removal Plan and all applicable permits. The schedule for implementation of major activities in this Plan is presented in Section IV.

The project will ultimately provide for the final disposition of the Site. Development of this Plan represents the first step in that process and will be followed by ash removal, assessment, remediation (if required), and Site closure activities. The objective of this Plan is to present an evaluation of the ash and Site conditions and, based on that evaluation, define the general requirements for the safe removal of ash from the Site.

The Ash Removal Plan will generally involve the following activities:

- Issue a purchase order and a notice to proceed to the selected contractor for ash excavation, transportation, and disposal
- Obtain permits and approvals required to initiate ash removal activities
- Complete project work plans described in Section VIII, "Provisions for the Safe Removal of the Ash"
- Mobilize contractor
- Remove ash from the IAB and the Ash Fill Area:
 - Install initial erosion and sedimentation control measures
 - Install truck wash system
 - Clear vegetation within the work area
 - Install contact water collection basin and pipeline to yard sump for management of storm water and dewatering
 - Construct cut-off and diversion ditches in and around the Ash Fill Area, as needed, to control storm water run-on and run-off; modify as needed throughout the work
 - Excavate and transport ash from the IAB and the Ash Fill Area to the R&B Landfill in Homer, Georgia
 - Install and maintain additional erosion control measures as needed throughout the work

- Sequentially lower the IAB dike and deepen the sump in conjunction with ash removal to limit potential impoundment within the dike to less than 50 acre-feet
- Excavate and stockpile suitable soils removed from the IAB dike for future use in final Site grading
- Stabilize disturbed areas as ash removal is completed

IV. Schedule for Implementation of Major Activities

The following table presents the schedule for implementation of major activities comprising this Ash Removal Plan. Additional activities required for compliance with the Consent Agreement are also listed, although the dates are dependent upon the outcome of preceding activities and regulatory review periods and cannot be determined at this time. Therefore, as required by the Consent Agreement, implementation schedule updates will be included in the monthly reports and with submittal of subsequent plans (Assessment Plan, Closure Plan, and the Remedial Plan, if required).

| Major Activity | No Later Than Date |
|---|--|
| Submit Monthly Progress Report to SCDHEC* | October 30, 2014, then monthly thereafter |
| Submit Ash Removal Plan to SCDHEC* | December 29, 2014 |
| Submit Health and Safety Plan to SCDHEC* | December 29, 2014 |
| Issue Purchase Order to the selected contractor to implement the Ash Removal Plan* | Ash Removal Plan approval date + 15 days |
| Submit permitting applications and regulatory approval requests required to initiate ash removal activities | Ash Removal Plan approval date + 45 days |
| Initiate contractor mobilization | Receipt of permits & approvals + 30 days |
| Initiate excavation, transportation, and off-site disposal of ash from the Site | Receipt of permits & approvals + 90 days |
| Submit Ash Removal Report to SCDHEC* | Upon completion of the work approved in the Ash Removal Plan |
| Submit Assessment Plan to SCDHEC* | Ash Removal Report approval date + 30 days |
| Submit Assessment Report to SCDHEC* | Upon completion of the work in the approved Assessment Plan |
| Submit Remedial Plan to SCDHEC, if required based on Assessment results* | Assessment Report approval date + 60 days |
| Submit Closure Plan to SCDHEC* | Assessment Report approval date + 60 days |
| Begin Implementation of the Closure Plan and, if required, Remedial Plan* | Closure and Remedial Plan approval date + 45 days |
| Submit Final Report to SCDHEC* | Upon completion of the terms of the Consent Agreement |

*Requirement of the Consent Agreement

Removal of ash from the Site is anticipated to require approximately three years from contractor mobilization. The duration of this work may change based upon several factors that are encountered during excavation, including but not limited to weather, final ash quantities, traffic route considerations, and other activities outside of the Site. Progress of the ash removal will be included in the Monthly Progress Reports.

V. Selected Management Alternative for the Ash

The Company solicited opportunities for beneficial reuse and proposals for the excavation and off-site disposal of ash from the Site. Based on the outcome of this process, the Company selected Waste Management National Services (WMNS) as the contractor for removal, transport, and off-site disposal of ash from the Site.

WMNS has a strong commitment and successful history with the utility industry and has already installed dedicated monofills for the disposal of CCR at several of their landfill disposal sites. In addition, WMNS has been transporting and disposing of ash at many of their landfills for over 10 years and understands the characteristics of ash as it relates to the landfill system.

The Plan includes the excavation and removal of approximately 1.1 million tons of ash from the IAB and an estimated 256,000 tons of ash from the Ash Fill Area.

Ash removed from the Site will be transported by WMNS to the R&B Landfill in Homer, Georgia which is a properly permitted facility in compliance with 40 CFR Part 258, Subtitle D of the Resource Conservation and Recovery Act (RCRA). The R&B Landfill will continue to be properly managed and maintained to provide environmental compliance with applicable permits, rules, and regulations.

Contingent Plan: Ash Disposition Site

In the event of any issues with accepting ash at the R&B Landfill, a suitable alternative site has been identified by WMNS. Waste Management has an extensive network of landfills; specifically 271 active solid waste landfill disposal sites, which account for nearly 40% of the total United States disposal capacity. As such, Waste Management can provide an alternative facility in the unlikely event that one is needed. The Richland Landfill in Elgin, South Carolina has been identified as the contingent ash disposition site for this project.

Transportation of the Ash

Ash will be transported from the Site via trucks to the off-site disposal facility. Transportation will be conducted by approved transporters. Drivers and trucks will meet Department of Transportation (DOT) and other applicable federal, state, and local regulations. Drivers will follow DOT trucking regulations, including DOT bridge laws, and comply with WMNS's Transportation Plan, which details on and off-site traffic control requirements, truck inspections and maintenance requirements, operator requirements, and on-road safety rules. The possible truck route is shown in Figure 2. This route will be adjusted, as practical, with consideration of community impacts.

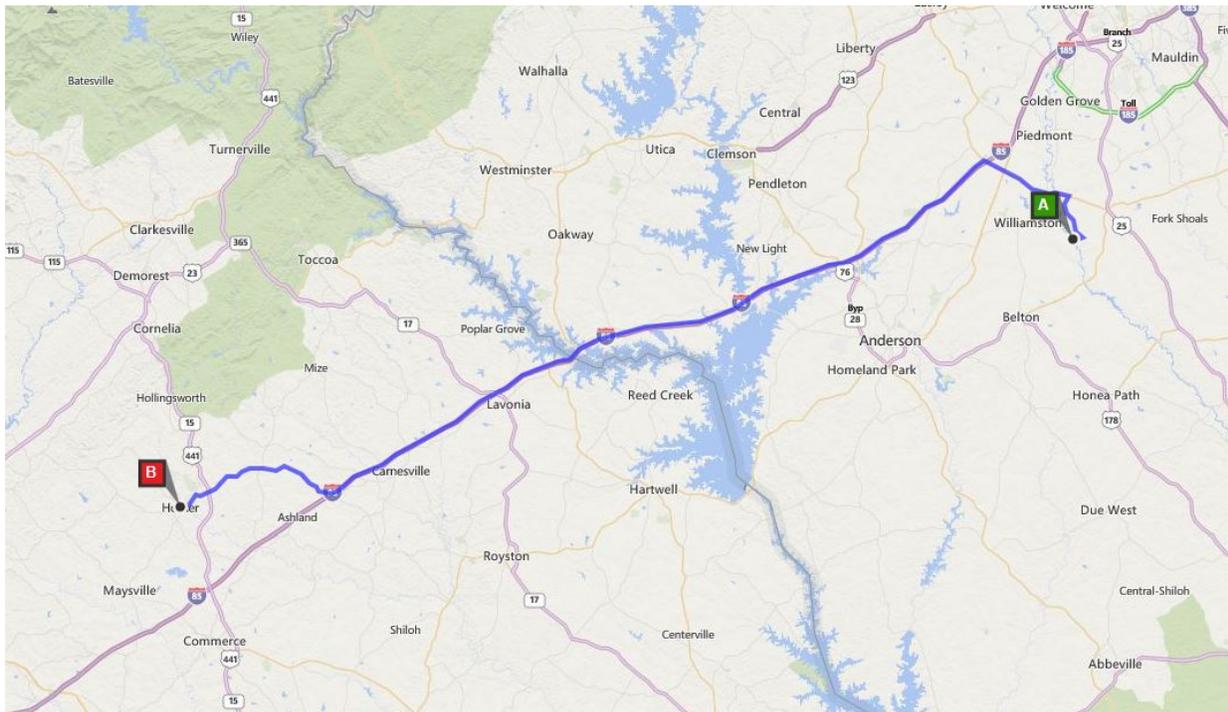


Figure 2: Possible Truck Route to R&B Landfill in Homer, Georgia

For excavation and hauling, the work schedule will typically include five 11-hour work days. This typical schedule may be modified to meet project schedule requirements.

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Contingent Plan: Transportation of the Ash

In the event that the contingent ash disposition site is utilized, ash will be transported from the Site via trucks to the off-site disposal facility by approved transporters, following the regulations and requirements described previously. The possible truck route is shown in Figure 3. This route will be adjusted, as practical, with consideration of community impacts.

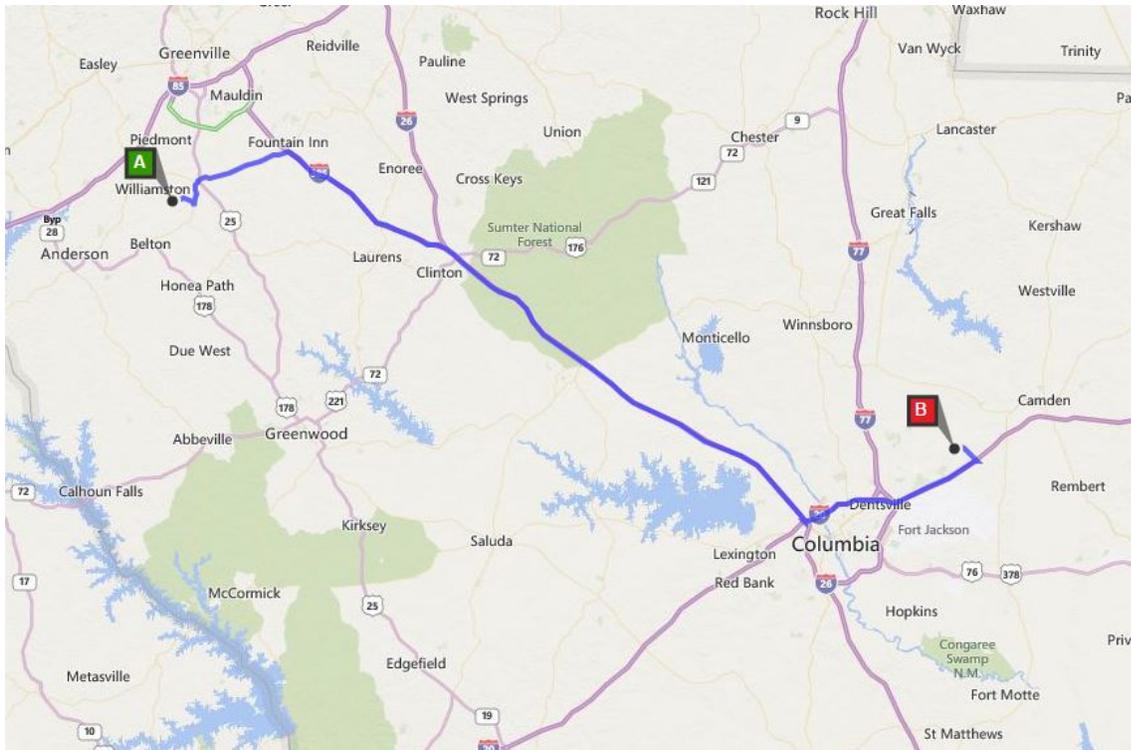


Figure 3: Possible Truck Route to Richland Landfill in Elgin, South Carolina

VI. Characterization of the Ash

Ash was placed in the IAB from approximately 1951 until the mid-1970s. Ash was placed in the Ash Fill Area within this same timeframe. The IAB and Ash Fill Area material is generally a mixture of wet-sluciced fly ash and bottom ash.

S&ME, Inc. (S&ME) performed subsurface explorations in both areas and reviewed previous geotechnical data for the purpose of characterizing the following:

- Horizontal and vertical limits of ash
- Geotechnical properties of the ash (IAB only)
- Chemical properties of the ash

Inactive Ash Basin

S&ME utilized historic data for the ash in the IAB to support the stability analysis of the IAB dike summarized in Section VII. The table below summarizes the findings of previous testing.

| Testing Performed | Findings |
|---|--|
| Soil test borings (STB), cone penetrometer tests (CPT), and flat blade dilatometer tests (DMT), all performed in the IAB ash material | 1 to 1.5 feet soil cover underlain by ash ranging in thickness from 23 to 42 feet |
| Vane shear tests | Ultimate shear strengths ranging from 682 to 2,885 psf; residual shear strengths ranging from 620 to 2,140 psf |
| Classification tests | Natural moisture content from 18.6 to 38.2%; grain size distribution of gravel (%) 0 to 22.4, sand (%) 20.7 to 64.3, and fines (%) 24.0 to 79.3; soil classifications of ML and SM, or sandy silt and silty sand |
| Shear wave velocity, Electric Seismic Piezocone Penetration Test (SCPT) | Shear wave velocity ranging from 960 to 1,036 feet per second |
| Shear wave velocity, Multi-channel Array Surface Wave (MASW) | Shear wave velocity ranging from 856 to 990 feet per second |

The following table presents the results of Consolidated Undrained Compression Tests and Direct Shear Tests in summary form.

| Test | Parameter | | Range of Values Obtained |
|--------------|----------------|-----------------|--------------------------|
| CU Triaxial | Cohesion | Total (psf) | 0 – 2,100 |
| | | Effective (psf) | 0 – 400 |
| | Friction Angle | Total (°) | 9 – 44 |
| | | Effective (°) | 26 – 35 |
| Direct Shear | Cohesion | Peak (psf) | 0 – 530 |
| | | Residual (psf) | 0 – 340 |
| | Friction Angle | Peak (°) | 26 – 36 |
| | | Residual (°) | 24 – 35 |

S&ME conducted an exploration of the IAB in the fall of 2014, which included direct push borings, soil test borings, cone penetrometer soundings, and Dilatometer Modulus Tests to define the vertical extent and properties of ash in the IAB which were generally consistent with the findings of previous testing. Prior to shipment of the contents of the direct push soil (ash) sleeves and the split spoon samples to the disposal facility, a representative composite sample of ash was collected from the waste drums. This sample was analyzed at a certified laboratory for waste characterization and

acceptance of the material. S&ME performed a toxicity characteristic leaching procedure (TCLP) metals test on this sample, which included analysis for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. This testing detected barium at a concentration of 2.2 mg/L in the IAB composite sample, well below the concentration limit of 100 mg/L for characterization as hazardous waste. No other metals were detected in the TCLP test.

The IAB dike was built in multiple stages. The initial basin, constructed in 1951, was located adjacent to the Saluda River with an area of approximately 8 acres and a maximum top of dike elevation of 660 feet msl. Between completion of this initial basin and the mid 1960's, the basin was expanded to its current 19 acre footprint with a perimeter dike at a maximum top elevation of 688 feet msl. This "phased" construction sequence has resulted in a perimeter dike with a multi-layered cross section along the Saluda River side that includes both soil and ash in one area where the original dike extends outside the expanded dike. The vertical and horizontal extent of ash in the IAB, based on the studies performed, is reflected in the Ash Removal Concept Plans included in Appendix A.

Samples of ash from the IAB have been and will be collected and analyzed at a certified laboratory to support the material acceptance requirements of the disposal facility.

Ash Fill Area

S&ME also conducted exploration activities in the Ash Fill Area in the fall of 2014. S&ME's exploration included a geophysical survey, eighty-two direct push borings, and test pits to define the horizontal and vertical extent of ash in the Ash Fill Area. This delineation was used as the basis of the Ash Removal Concept Plan for the Ash Fill Area included in Appendix A of this plan. Prior to shipment of the contents of the direct push soil sleeves to the disposal facility, a representative sample of ash was collected from waste drums. This sample was analyzed at a certified laboratory for waste characterization and acceptance of the material. S&ME performed a TCLP metals test on this sample, which included analysis for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Barium was measured in the Ash Fill Area composite sample at a level of 1.8 mg/L, well below the concentration limit of 100 mg/L for characterization as hazardous waste. No other metals were detected in the TCLP test.

VII. Stability Analysis

Inactive Ash Basin

To provide data for evaluation of the stability of the IAB dike, S&ME executed a field and laboratory data collection program to establish the as-built dike cross section at representative locations and the engineering properties of the soil and comingled soil/ash layers. The locations of these representative cross sections are shown in Figure 4 and the cross sections are presented in Figures 5 through 11. S&ME then evaluated the stability of both existing conditions and those anticipated during ash removal.

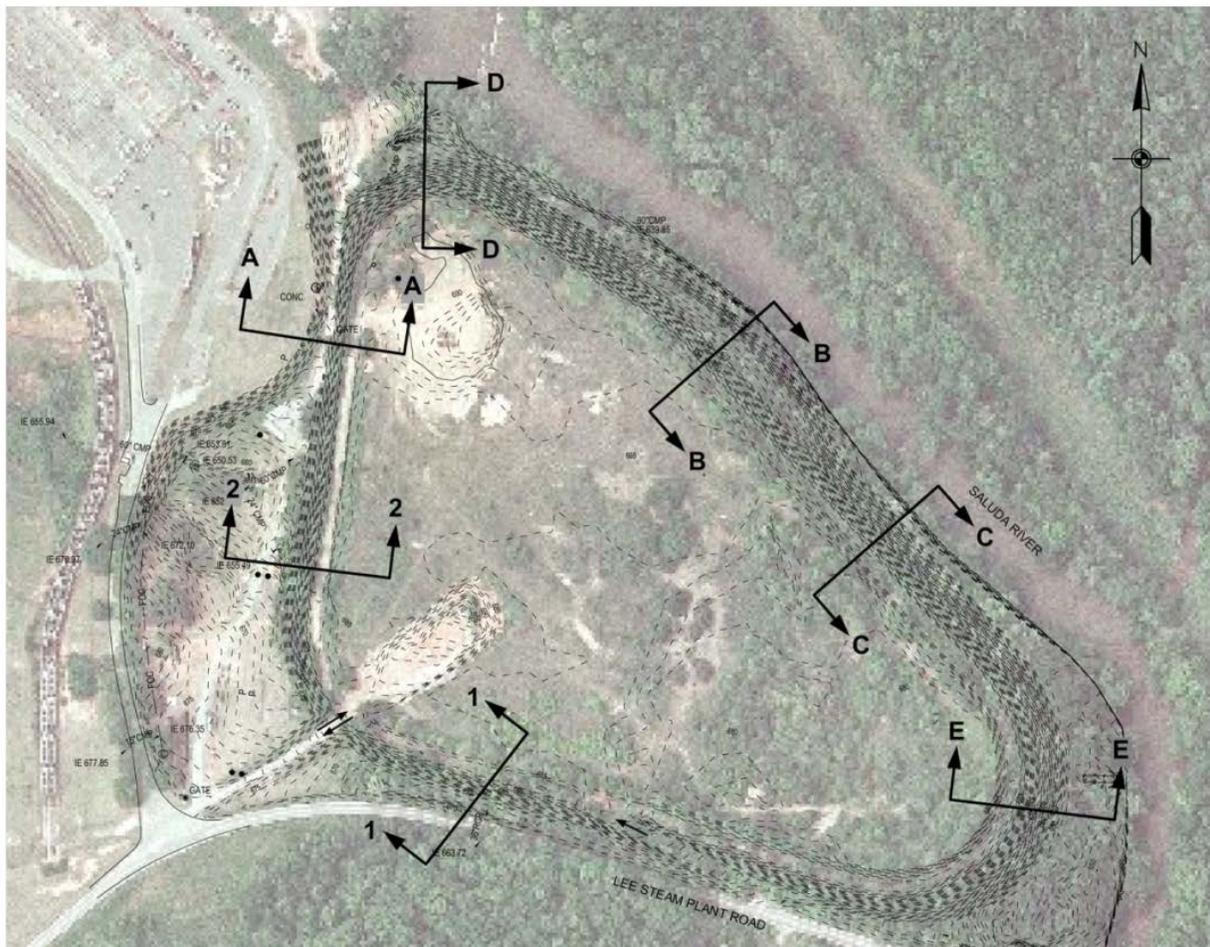


Figure 4: Representative IAB Cross Section Locations

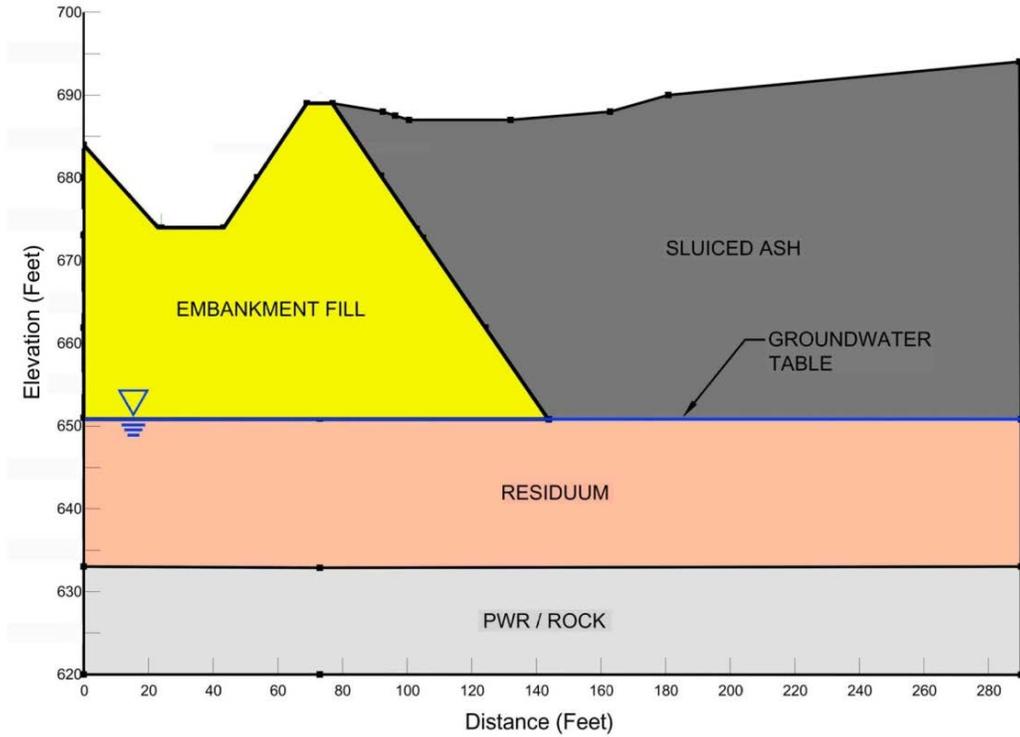


Figure 5: IAB Existing Cross Section A-A

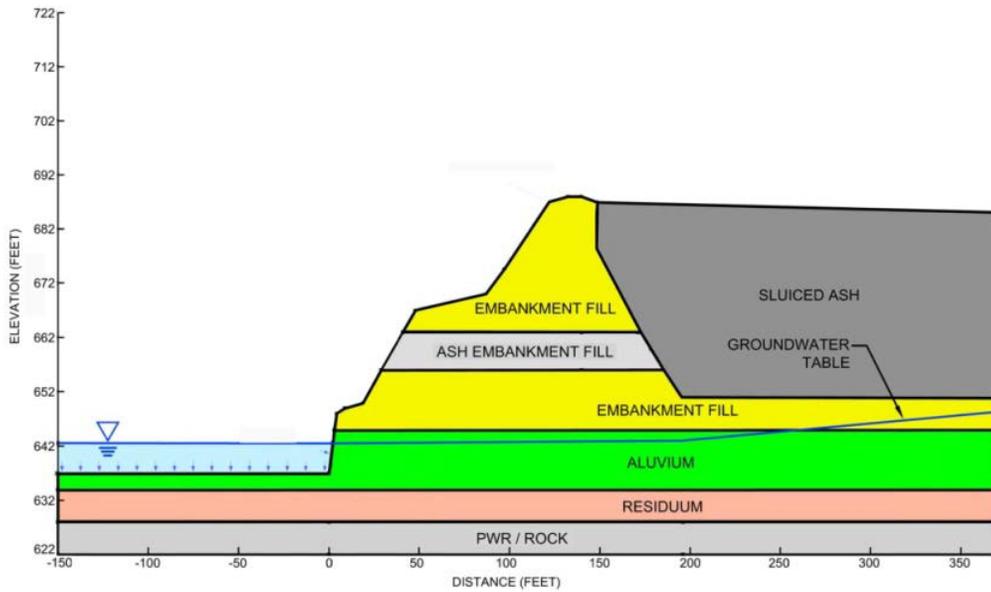


Figure 6: IAB Existing Cross Section B-B

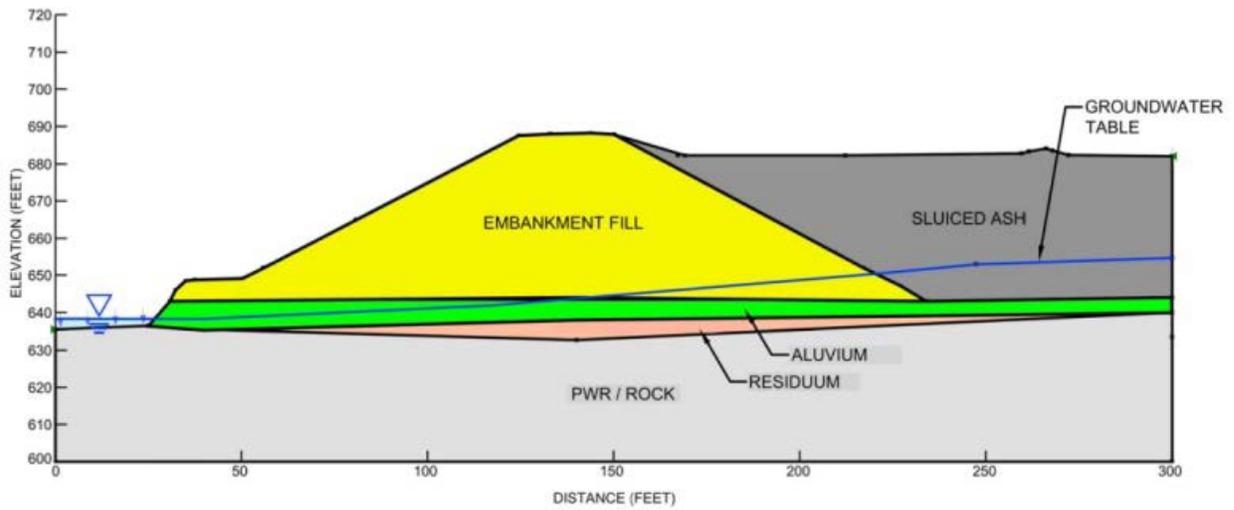


Figure 7: IAB Existing Cross Section C-C

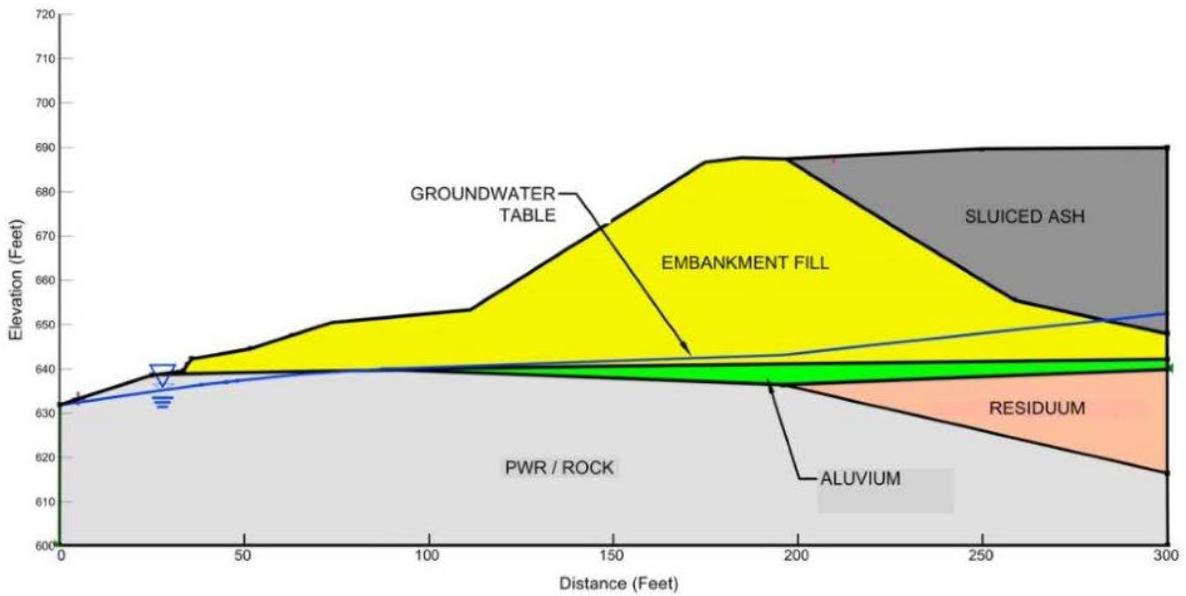


Figure 8: IAB Existing Cross Section D-D

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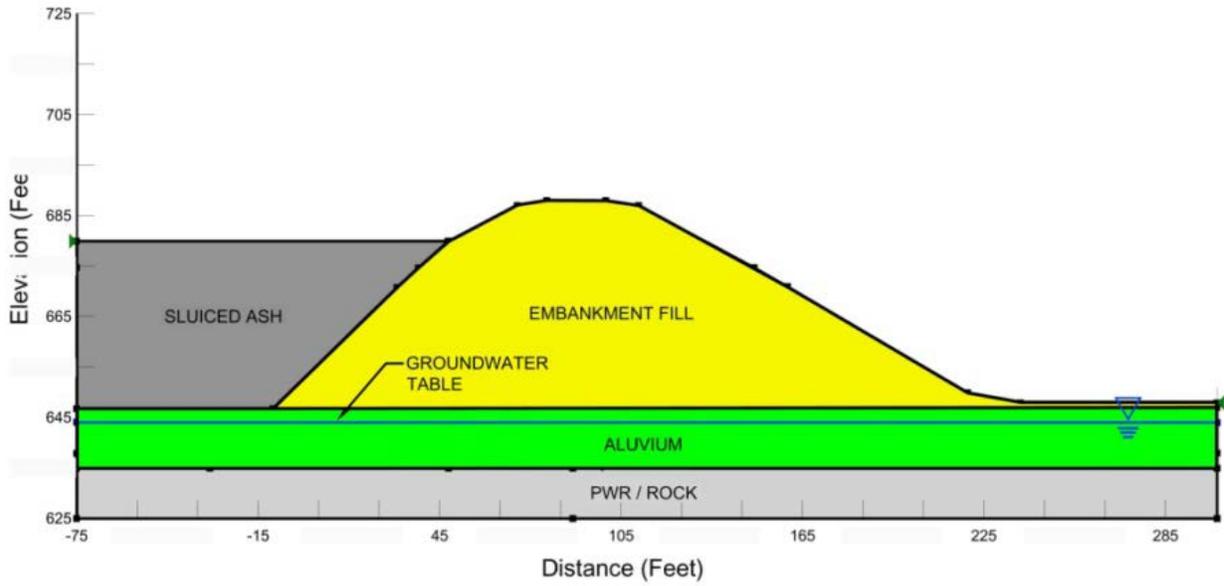


Figure 9: IAB Existing Cross Section E-E

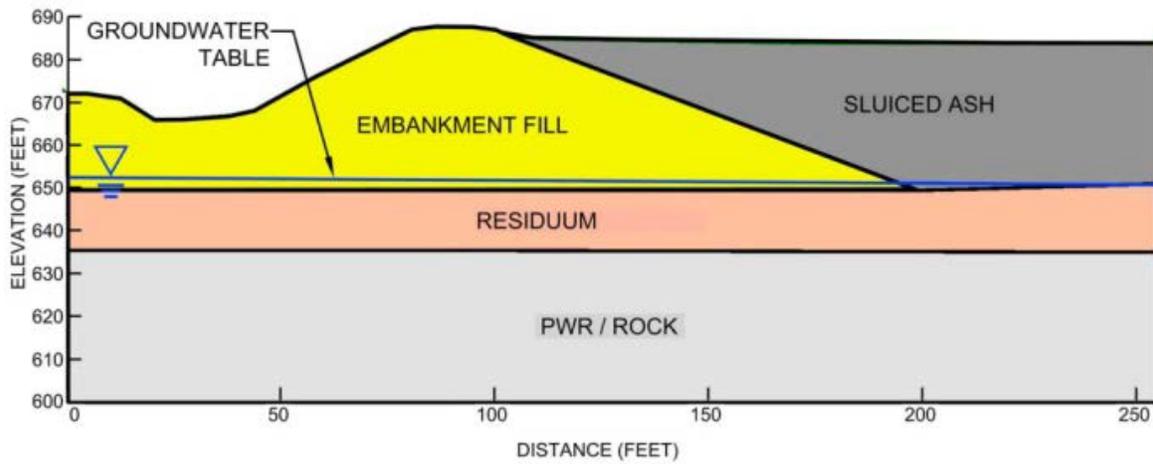


Figure 10: IAB Existing Cross Section 1-1

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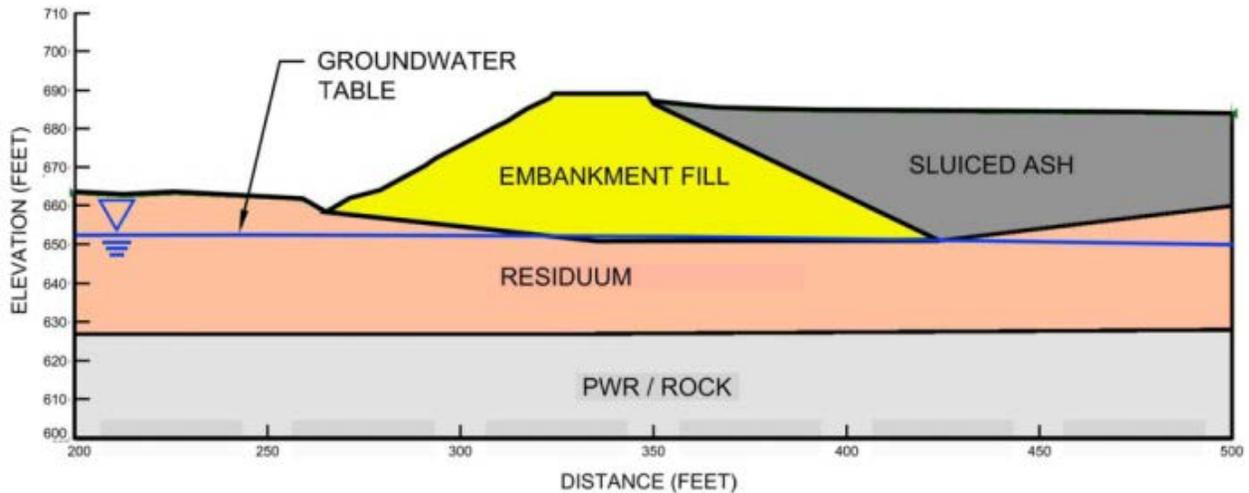


Figure 11: IAB Existing Cross Section 2-2

Stability of Existing Conditions

S&ME evaluated the stability of the IAB dike and the liquefaction potential of embankment/foundation materials beneath the existing dike. Stability was evaluated for both steady-state and seismic loading conditions. The factors of safety for the critical failure surface were compared to the United States Army Corp of Engineers (USACE) published minimum factors of safety (Slope Stability Manual, 2003) consistent with current engineering state of practice. The results of global stability analyses show that the existing dike meets or exceeds the recommended minimum factors of safety for steady state seepage (1.5) and seismic (1.0) loading conditions for the locations evaluated.

In addition to global stability, local stability was evaluated on sections with localized areas of relatively steep inclinations (cross sections B-B and C-C). Critical failure surface factors of safety for local stability at the locations evaluated meet or exceed the minimum factor of safety recommended for the seismic loading conditions (1.0). However, critical surface factors of safety for local stability under the steady state seepage loading condition ranged from 1.0 to 1.1, which is below the recommended minimum of 1.5, at the following three locations:

- Section B-B, lower toe area
- Section B-B, intermediate terrace
- Section C-C, toe

At these locations, the potential failure surfaces that resulted in factors of safety below 1.5 are shallow surficial sloughing surfaces. Shallow sloughing failures are not

detrimental to the overall integrity of the dike, provided they are promptly repaired. As a precautionary action, erosion control measures have been installed to help contain and prevent the release of materials should surficial sloughing occur. Further, Duke Energy has implemented an inspection program of the dike for identification of any potential new features and changes that may occur over time. This inspection program is in place so that shallow sloughing can be identified and repaired promptly. The inspection program will continue through ash removal.

A liquefaction screening was performed by S&ME at 13 locations on the IAB dike and, based on the screening results; a post-seismic stability analysis was performed for cross section D-D to evaluate the static slope stability of the embankment following a seismic event. The post-seismic global stability analysis indicates a factor of safety of 1.2 associated with the critical failure surface generated for cross section D-D, which exceeds the industry minimum of 1.0 for post seismic instability referenced by S&ME based on Hynes-Griffin and Franklin, Rationalizing the Seismic Coefficient Method, 1984.

Stability During Ash Removal

S&ME evaluated the stability of the dike under various conditions anticipated during the ash removal process to evaluate the safe slopes of embankment fill and ash against the interior slope of the dike and limitations related to equipment and materials on the crest of the dike. Results of evaluations indicate the encroachment limitations presented in the following table will be followed during ash removal to maintain the industry standard recommended minimum factor of safety of 1.3 for construction loading. These encroachment limitations are based on existing geometry of the exterior dike and maximum slope inclinations on the interior of the dike of 2.5 Horizontal to 1 Vertical (2.5H:1V) in ash (reference Figure 12) and 2.0H:1V in embankment fill (reference Figure 13).

| Equipment Restriction Zones on Top of the Dike | | | | |
|---|--|---------------------------------------|-------------------------------|---|
| Equipment | Restricted Distance from Outside Crest | Restricted Distance from Inside Crest | | |
| | Exterior Slope | 2.0H:1V Interior Slope in Embankment | 2.5H:1V Interior Slope in Ash | 3.0H:1V Interior Slope in Ash or Embankment |
| Tracked (16 psi maximum distributed track load) | 5 ft. | 5 ft. | 5 ft. | 4 ft. |
| Haul Trucks (12 kip maximum point wheel load) | 13 ft. | 17 ft. | 19 ft. | 4 ft. |
| Stockpiles (stone, soil, etc.) – Maximum height of 5 feet | 5 ft. | 5 ft. | 5 ft. | 5 ft. |

Considering the stated limitations, it will not be possible to operate some equipment on top of the existing dike at the current crest elevation. However, as the dike is lowered, the width will increase eventually resulting in a condition where the limitations could be satisfied. Should unanticipated slope configurations or equipment loading conditions be encountered during construction, they will be evaluated at that time.

Clearing of vegetation on the outside slope of the IAB dike will be limited to cutting the trees. Stumps and root systems will remain and only be removed during excavation of the dike where needed.

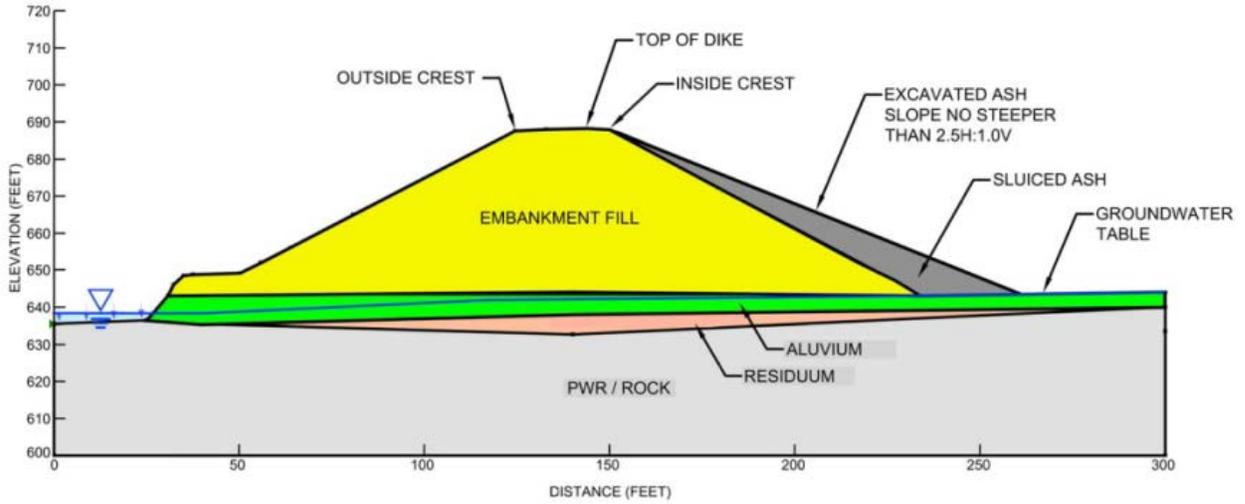


Figure 12: Ash Removal Adjacent to IAB Dike

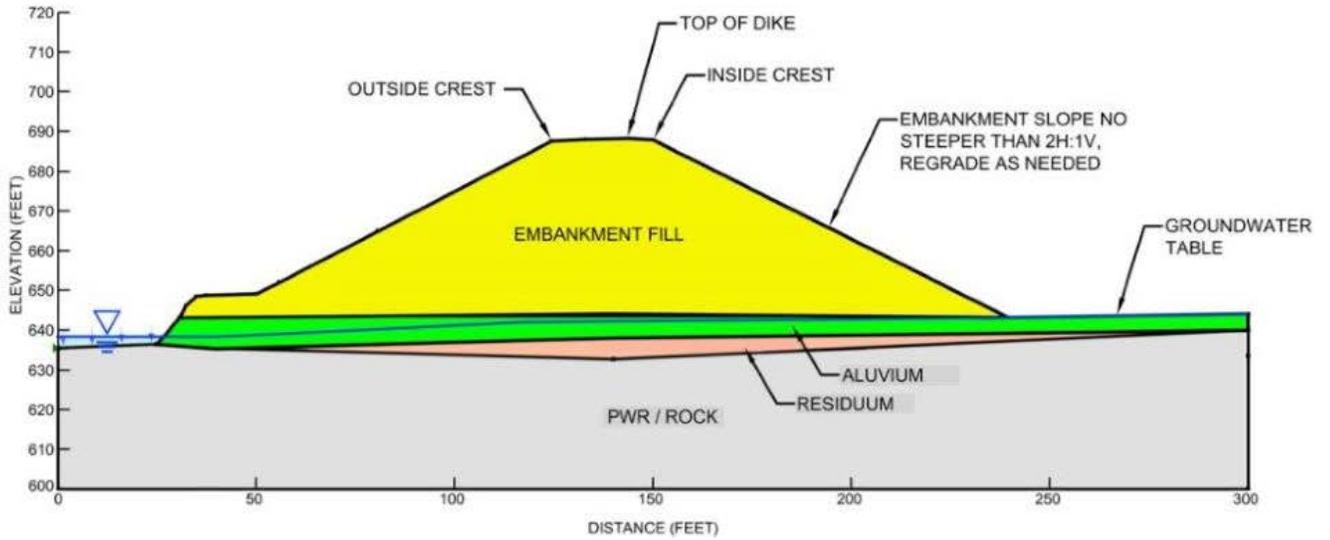


Figure 13: Complete Ash Removal Adjacent to IAB Dike

Ash Fill Area

The ground surface elevation of the Ash Fill Area ranges from a high of approximately 760 feet msl at the southern portion to a low of approximately 650 feet msl at the northeastern portion near the Saluda River. A relatively steep bank traverses a portion of the site in a north-south orientation; however, the majority of the existing slopes in the Ash Fill Area range from approximately 50H:1V to 4H:1V. Similar grades are estimated to exist at the bottom of the fill area.

No stability analyses were performed due to the existing and anticipated bottom grades of the fill at 7H:1V or less. These grades do not offer a risk for slope stability failures for the ash and cover soils known to exist in the Ash Fill Area.

VIII. Provisions for the Safe Removal of the Ash

Environmental, Health, and Safety

Duke Energy is committed to the health, safety, and welfare of employees, contractors and the public and to protecting the environment and natural resources. During all phases of the Plan, the Company and its contractors will follow the Duke Energy Safe Work Practices; the ABSAT Environmental, Health, and Safety (EHS) supplement document; Occupational Safety and Health Administration (OSHA) standards; and any additional applicable requirements. Occupational health and safety expectations include oversight and continuous improvement throughout the project.

The project will include comprehensive environmental, health and safety plans encompassing all aspects of the project work including at the Site, in transit, and at the final destination as needed. As required by the Consent Agreement, a project-specific Health and Safety Plan (HASP) has been submitted to SCDHEC concurrent with, but under separate cover from this Ash Removal Plan.

In addition to adhering to applicable environmental, health and safety rules and regulations, Duke Energy and contractors will focus on ensuring the safety of their employees, the public, and the environment throughout the project by developing and implementing the plans listed below. As discussed above, the HASP has been prepared and submitted to SCDHEC under separate cover from this Ash Removal Plan. The remaining plans listed below will be prepared and finalized before contractor mobilization.

- Contractor Work Plan: including definition of work requirements; and description of the sequence all major on-site work activities and associated processes/procedures from mobilization through demobilization.

- Health and Safety Plan (HASP): focused on identification and evaluation of potential hazards of the Site and work and development of procedures to mitigate, if not eliminate these hazards; and determination of applicable health and safety work rules and associated requirements for work practices and personal protective equipment. The plan will include Job Safety Analyses (JSAs) and Safety Assessments for each definable feature as well as procedures in the event of an on-site incident/emergency to include potential impacts from severe weather.
- Environmental Compliance Plan: is a compilation of several plans that focuses on the protection of the environment and surrounding communities during the excavation activities. These plans include the Fugitive Dust Control and Air Monitoring Plan, Dike Inspection Plan, Ash Spill Response Plan, Amendment to Existing Site SWPPP, and Spill Prevention Control and Countermeasures (SPCC) Plan.
- Transportation Plan: will detail the on and off-site traffic control requirements and procedures that will be followed during Site activities. The plan will address truck inspections and maintenance requirements, operator requirements, and on-road safety rules.
- Quality Assurance/Quality Control Plan: provides a systematic management approach and procedures for planning, implementing, controlling, and assessing work to ensure that the results produce an end product that satisfies technical, administrative, regulatory, and quality objectives for the completion of the project.
- Communications Plan: describes the project organization and lines of communication. The Communications Plan details the internal and regulatory communications and reporting requirements for the project as well as on-site communication procedures.

Sequence of Ash Removal

Ash removal will be initiated in the IAB, followed by the work in the Ash Fill Area. Depending on site conditions and the work sequence, the contractor may, at times, work in both areas simultaneously.

Sequence of Ash Removal - Inactive Ash Basin

Ash will be removed from the IAB as shown in the drawing package titled “Ash Removal Concept Plans” included in Appendix A. Construction equipment access will be limited to the areas approved by the Company and will comply with the equipment encroachment restrictions to meet minimum slope stability safety factors as detailed in Section VII, Stability Analysis.

The ash removal process will begin in the IAB with removal of ash in the northwestern corner as needed for construction of a contact water collection basin. Ash removal will then be sequenced from the contact water collection basin to the east to remove the higher elevations of ash material inside the basin and maintain positive drainage to the contact water collection basin. The contact water collection basin size, depth, and location will be adjusted in coordination with lowering of the northern dike as ash is removed to limit potential impoundment storage to less than 50 acre-feet. Other areas of the dike may also be lowered to improve access and stability. However, the majority of the dike that does not contain ash will remain in place to aid in storm water management and minimize Site changes prior to future implementation of the Closure Plan required by the Consent Agreement.

Dike material that is removed and does not contain ash will be segregated and stockpiled for reuse in future Site grading, restoration, and closure. Interim phases of ash excavation will include construction of internal access roads, use of stabilization mats, and dewatering of ash with entrapped water after removal of the upper dry ash.

Contact water collection basin size, depth, and location will be dynamic, modified during the course of the work as needed to facilitate water management while limiting potential impoundment storage to less than 50 acre-feet. Operations will be monitored to ensure that trucks and equipment do not cause excessive rutting, cracking or deformation or any dam stability issues. Damaged areas will be repaired.

The northern dike will be lowered in a sequential process concurrent with removal of ash from inside the IAB until the comingled layer of soil and ash has been fully removed, based on visual confirmation. After this point, potential impoundment storage will be limited to less than 50 acre-feet in one of the following ways:

- Continued lowering of the northern dike concurrent with removal of ash from inside the IAB as shown on the drawings included in Appendix A, or
- Filling low areas within the IAB where ash removal is complete with soil from the dike or other approved backfill material

Excavation of the ash will be performed to visual confirmation of completion. Ash Removal Concept Plans are included in Appendix A which depicts the site layout, access location, existing grades, grades following ash removal, and erosion and sediment control plans.

Sequence of Ash Removal - Ash Fill Area

Ash will be removed from the Ash Fill Area as shown in the drawing package titled “Ash Removal Concept Plans” included in Appendix A. The ash removal process will begin

with construction of a contact water collection basin located at the northern corner of the Ash Fill Area and with construction of diversion ditches to prevent run-on from adjacent areas and run-off to adjacent areas. Ash removal will be sequenced from the contact water collection basin to the south, maintaining positive drainage to the contact water collection basin. A diversion ditch will be constructed on the east side of the ash fill area to prevent run-off to downstream areas and direct contact water to the contact water collection basin. Water collected in the contact water collection basin will be conveyed to the yard sump via a pipe bored under Lee Steam Plant Road or by trucks.

As ash removal is completed in individual areas, they will be stabilized and the contact water collection basin may be relocated, as practical, to eliminate the need for conveying contact water through completed areas.

Conventional construction equipment will be used to remove dry ash; wet ash is not anticipated in the Ash Fill Area. Interim phases of ash excavation will include construction of internal access roads and relocation of the contact water collection basin, if needed, to facilitate the work.

Excavation of the ash will be performed to visual confirmation of completion. Ash Removal Concept Plans are included in Appendix A which depicts the site layout, access location, existing grades, grades following ash removal, and erosion and sediment control plans.

Non-Ash Material

If non-ash materials are discovered during ash removal activities, work in that area will be stopped, temporarily relocated to another area, and the Duke Energy environmental team will be contacted to perform the appropriate assessment(s) to determine the nature and the extent of the non-ash related impacts. Depending upon the material encountered, the area will either be delineated and segregated for profiling and proper disposal, or placed directly into roll-off containers for proper disposal. If required, Hazardous Waste Operations and Emergency Response (HAZWOPER) crews will be mobilized to the site to perform the excavation activities. The appropriate SCDHEC department will be contacted if these areas are discovered and the plan for proper removal and disposal will be discussed. Non-ash related areas will be documented on excavation drawings and information recorded will include, but not be limited to, the material encountered, the dimensions with coordinates of the excavated area, the health and safety protocols used to protect human health and the environment during the execution of these activities, a summary of the sample and confirmation analytical results, and copies of the appropriate manifests.

IX. Management of Storm Water During the Project

Storm water management during ash removal in the IAB and Ash Fill Area will commence with installation of initial erosion, sedimentation and control Best Management Practices (BMPs) as indicated on the drawings included in Appendix A. These drawings are conceptual; details of the sequencing, grading, contact water collection basins, and erosion control measures will be defined in upcoming additions to the W.S. Lee Storm Water Pollution Prevention Plan (SWPPP).

After installation of the initial BMPs, the IAB area inside the perimeter dike will be cleared and ash removal will be performed as needed to facilitate construction of a contact water collection basin. This basin will be excavated in the northwest corner of the IAB and a pump and piping system will be installed to convey collected water to the existing yard sump.

After installation of the same initial BMPs, the Ash Fill Area will be cleared and a contact water collection basin, pump, and associated piping to the existing yard sump will be installed. Construction of perimeter diversion ditches and diversion dikes or berms will take place to prevent run-on from adjacent areas and run-off from excavations to adjacent areas. Piping to convey water from the contact water collection basin to the existing yard sump will be installed underneath Lee Steam Plant Road. Alternatively, the water may be transported to the yard sump by truck.

Ash excavations in the IAB and Ash Fill Area will be phased and graded to provide positive drainage to their associated contact water collection basins. Removed ash storage areas will be located to facilitate dewatering of ash with entrapped water. Contact water that accumulates in each of the basins will be pumped to the yard sump and ultimately to the Primary Ash Basin within the current permit restrictions. Dewatering will be performed simultaneously with the ash removal in the IAB and the Ash Fill Area.

In case pumping the contact water to the Primary Ash Basin is not allowed or not achievable in the initial phase of the ash removal project, an alternate approach will be to pump and haul the contact water to an approved facility.

Contact water is anticipated to be surface water, which accumulates during rainfall events and seepage from stockpiles of ash with entrapped water. No impervious area will be added within the disturbed area of the site; therefore, the post-construction run-off volume will be less than or equal to the pre-construction runoff volume.

The existing W.S. Lee Storm Water Pollution Prevention Plan (SWPPP) will be modified to include the erosion, sedimentation and controls that will be installed, inspected, and maintained during ash removal in the IAB and Ash Fill Area.

The following BMPs are anticipated to be installed in the IAB and the Ash Fill Area in accordance with the latest version of the South Carolina SCDHEC Storm Water Management Handbook:

- Stabilized Construction Entrance
- Truck Wash
- Contact Water Collection Basin
- Silt Fence (wire backing or chain link reinforcement)
- Construction Dewatering
- Surface Roughening
- Dust Control
- Polyacrylamide (PAM)
- Internal Diversion Ditches
- Mulching
- Erosion Control Blankets
- Temporary and Permanent Seeding

Areas of the IAB dike to be removed to facilitate ash removal or access shall be stabilized with erosion control measures prior to, during, and after excavation activities as required by the additions to the W.S. Lee SWPPP.

The contact water collection basins will stay in place after ash removal until completion of assessment and, if needed, during remedial activities.

Ash storage, handling, and loading areas will be located as far as practical from storm water diversion ditches. In addition, soil or alternative cover materials will be used on stockpiles to secure the surface layer for sediment and dust control.

The contractor will install the E&SC measures indicated in final plans approved by SCDHEC. The Engineer of Record will review the installation prior to commencement of ash excavation and the control measures will be maintained throughout the project in accordance with the E&SC Plan.

X. Environmental Permitting Plan

The project will include excavation, transport, and disposal of ash from the IAB and Ash Fill Area. Through this Ash Removal Plan approval process, Duke Energy is seeking to confirm that all necessary approvals have been identified. The Ash Removal Plan is intended to authorize the excavation and movement of ash once the identified permits have been obtained. Duke Energy and representatives of their consultant team met with SCDHEC on November 18, 2014 to discuss the project and associated permit requirements and the resulting Environmental Permitting Plan is summarized herein.

The W.S. Lee Steam Station holds an approved National Pollutant Discharge Eliminations System (NPDES) Industrial Storm Water Permit (Permit No. SCR000000, Coverage No. SCR003705) and an associated Storm Water Pollution Prevention Plan (SWPPP) incorporating best management practices (BMPs). Based on the November 18, 2014 meeting, the existing SWPPP will be updated to include new sections addressing ash removal from the IAB and Ash Fill Area.

An area has been identified at W.S. Lee for parking trucks, maintenance equipment, and personal vehicles of the workers who will perform the ash removal. This area will need to be graded and surfaced with stone to support these needs. The parking area is remote from the ash removal areas and will therefore require a land disturbance permit from Anderson County and coverage under the South Carolina general NPDES permit for construction storm water.

As discussed in Section IX of this Plan, contact storm water will be managed during the ash removal process by collection in contact water collection basins and pumping to the existing yard sump which then pumps flows to the Primary Ash Basin. W.S. Lee holds an NPDES wastewater permit (Permit No. SC0002291) and the Company will submit a request to SCDHEC for approval to manage the contact water under this permit. It is understood that additional permitting will not be required as long as the water pumped from the IAB and Ash Fill Area during the ash removal process is managed, monitored, and coordinated with other activities at W.S. Lee to meet the requirements of the current NPDES wastewater permit. In case pumping the contact water to the Primary Ash Basin is not allowed or not achievable in the initial phase of the ash removal project, an alternate approach will be to pump and haul the contact water to an approved facility.

If required, based on the quantity of fuel storage for the ash removal, a Spill Prevention Control and Countermeasures (SPCC) Plan will be developed in accordance with 40 CFR Part 112 Oil Pollution Prevention to address the use and storage of fuels and oils.

The IAB dike is not a dam regulated by SCDHEC; therefore, breaching of the dike will not require Dam Safety approval.

Diesel generators and/or pumps are likely to be used to pump water from the contact water collection basins. These point sources will be assessed to determine any air permitting requirements.

Analytical testing has been performed, and no information exists to indicate that the ash should be treated as a DOT hazardous material shipped via truck. The R&B Landfill may require collection and analysis of additional samples for waste profiling purposes. Therefore, if needed, this activity will be conducted early to expedite transportation and disposal activities.

If determined to be applicable to the project, measures will be implemented to address the requirements of the United States Department of Agriculture (USDA) Imported Fire Ant Program Manual. At this time, based on the decision to dispose of the ash in a permitted landfill and the location of the landfill facility, it is not anticipated that the fire ant quarantine will apply.

Groundwater wells or piezometers within the excavation areas will be properly abandoned and dispositioned with SCDHEC. The wells and piezometers may be kept in service initially for use in obtaining groundwater level measurements but will be abandoned in advance of surrounding ash excavation to prevent damage.

Jurisdictional wetlands and streams at the W.S. Lee Steam Station have been delineated by S&ME and the ash removal process is not anticipated to impact these delineated areas. However, if potential impacts are identified as detailed design plans are completed, jurisdictional determinations will be managed through the US Army Corps of Engineers and an application package for coverage under a Section 404 general permit will be submitted. Based on S&ME's delineation of jurisdictional areas, Section 404 individual permitting will not be required for this project.

Lee Steam Plant Road is a state route, SR-S-4-178. As such, South Carolina Department of Transportation (SCDOT) encroachment permits must be obtained for work in the right-of-way of Lee Steam Plant Road, which is expected to include temporary access into the Ash Fill Area and potentially a pipe crossing for water management. Work will be initiated in the IAB and later move to the Ash Fill Area. The encroachment permits will be obtained prior to initiating work in the Ash Fill Area.

No additional site-specific or local requirements have been identified.

Permit Matrix

| Media | Permit/Approval | Milestone/Target Date for Submittal | Reasoning |
|-------------|--|--|--|
| Waste (ash) | Ash Removal Plan | December 29, 2014 | Required by Consent Agreement 14-13-HW for removal of ash from the IAB and Ash Fill Area. |
| Water | Coverage under existing NPDES Industrial Storm Water Permit | Ash Removal Plan approval date + 45 days | The facility holds an industrial storm water permit and an approved SWPPP. The existing SWPPP will be modified to address ash removal from the IAB and Ash Fill Area, including BMPs. |
| | Coverage under existing NPDES Wastewater Permit | Ash Removal Plan approval date + 45 days | The facility holds an NPDES Industrial Wastewater Permit. A request will be submitted to SCDHEC to pump contact water from the contact water collection basins to the existing yard sump, and ultimately the Primary Ash Basin, under this permit. |
| | Land Disturbance and Construction Storm Water NPDES Permit | Ash Removal Plan approval date + 45 days | A parking area will be constructed at W.S. Lee remote from the ash removal areas. A Land Disturbance Permit, including Construction Storm Water General NPDES Permit coverage, will be required for this area. |
| Air | Air Permit | Ash Removal Plan approval date + 45 days, if required | Assess potential point sources paying particular attention to temporary sources such as diesel generators and/or pumps which may be used for pumping water out of the contact water collection basins |
| Roadways | New Driveway Permit and Water Conveyance Across State Route (SCDOT Encroachment Permits) | No less than 60 days prior to initiating work in the Ash Fill Area | A new driveway will be required to access the Ash Fill Area. In addition, a pipe may be installed under the road to convey water from the Ash Fill Area contact water collection basin to the W.S. Lee Steam Station yard sump. |

Appendix A: Ash Removal Concept Plans

AMEC, December 18, 2014



ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA

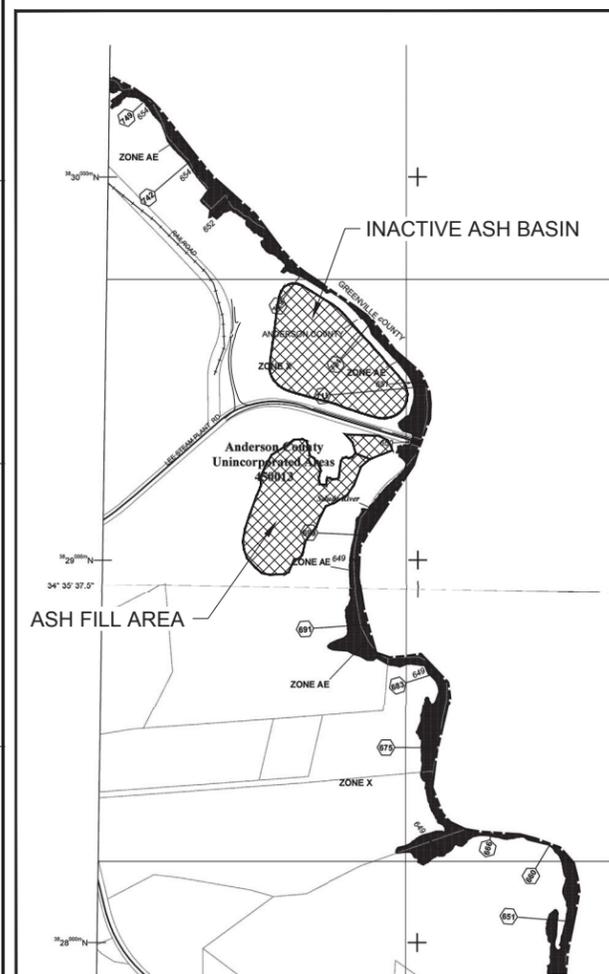
AT

W.S. LEE STEAM STATION

ANDERSON COUNTY, SOUTH CAROLINA

DECEMBER 18, 2014

| SHEET INDEX | |
|-------------|---|
| SHEETS | SHEET TITLE |
| G-000 | COVER SHEET |
| C-000 | SURVEY |
| C-101 | OVERALL EXISTING CONDITIONS PLAN |
| C-102 | INACTIVE ASH BASIN ASH REMOVAL CONCEPT PLAN INITIAL |
| C-103 | INACTIVE ASH BASIN ASH REMOVAL CONCEPT PLAN FINAL |
| C-104 | ASH FILL AREA ASH REMOVAL CONCEPT PLAN INITIAL |
| C-105 | ASH FILL AREA ASH REMOVAL CONCEPT PLAN FINAL |
| C-106 | INACTIVE ASH BASIN INITIAL E&SC PLAN |
| C-107 | INACTIVE ASH BASIN CONSTRUCTION E&SC PLAN |
| C-108 | INACTIVE ASH BASIN STABILIZATION E&SC PLAN |
| C-109 | ASH FILL AREA INITIAL E&SC PLAN |
| C-110 | ASH FILL AREA CONSTRUCTION E&SC PLAN |
| C-111 | ASH FILL AREA STABILIZATION E&SC PLAN |
| C-112 | EROSION & SEDIMENTATION CONTROL NOTES |
| C-113 | EROSION & SEDIMENTATION CONTROL DETAILS 1 OF 3 |
| C-114 | EROSION & SEDIMENTATION CONTROL DETAILS 2 OF 3 |
| C-115 | EROSION & SEDIMENTATION CONTROL DETAILS 3 OF 3 |



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood) area shown on the base flood is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of substantial fan flooding, velocities also determined.
ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
ZONE AV Areas to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
OTHER AREAS Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are understood, but possible.
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL
SEPTEMBER 29, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6626.

MAP SCALE 1" = 500'

PANEL 0281E

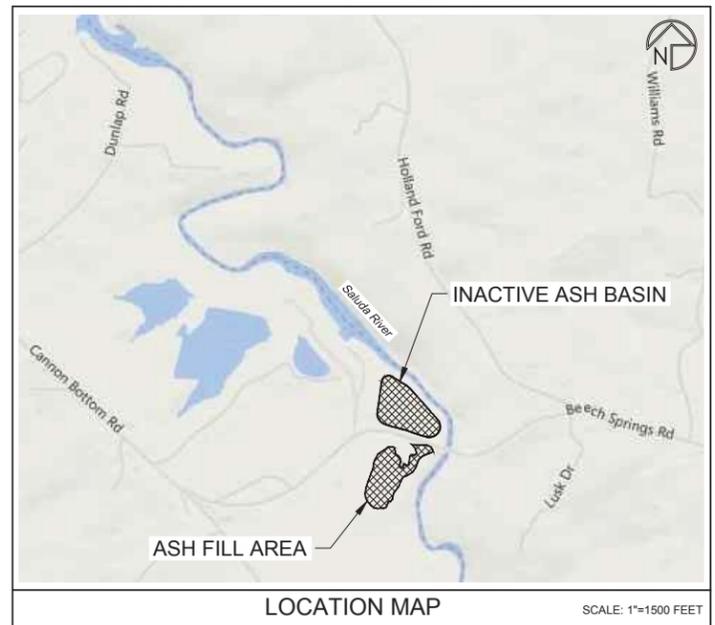
FIRM FLOOD INSURANCE RATE MAP
ANDERSON COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

PANEL 281 OF 600
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
ANDERSON COUNTY 450713 0281 E

MAP NUMBER 45007C0281E
EFFECTIVE DATE SEPTEMBER 29, 2011

Federal Emergency Management Agency



PANEL 0283E

FIRM FLOOD INSURANCE RATE MAP
ANDERSON COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

PANEL 283 OF 600
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
ANDERSON COUNTY 450713 0283 E

MAP NUMBER 45007C0283E
EFFECTIVE DATE SEPTEMBER 29, 2011

Federal Emergency Management Agency

CONTACT INFO:
OWNER: DUKE ENERGY CAROLINAS, INC.
ADDRESS: 205 LEE STEAM PLANT ROAD
BELTON, SC 29627

ENGINEERING FIRM: AMEC ENVIRONMENT AND INFRASTRUCTURE, INC.
ADDRESS: 1075 BIG SHANTY ROAD, SUITE 100
KENNESAW, GA 30144

amec
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD NW, SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3555
FAX: (770) 421-3485

TITLE
ASH REMOVAL CONCEPT PLANS
INACTIVE ASH BASIN AND ASH FILL AREA
W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
COVER SHEET

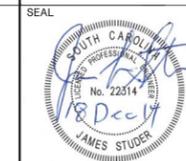
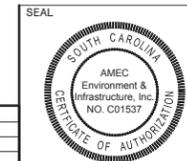
FOR
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DATE: DECEMBER 18, 2014

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DFTR: CB
CHKD: SJ
ENGR: JS
APPD: KD

FILENAME:
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DRAWING NO.: G-000
REVISION: A

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
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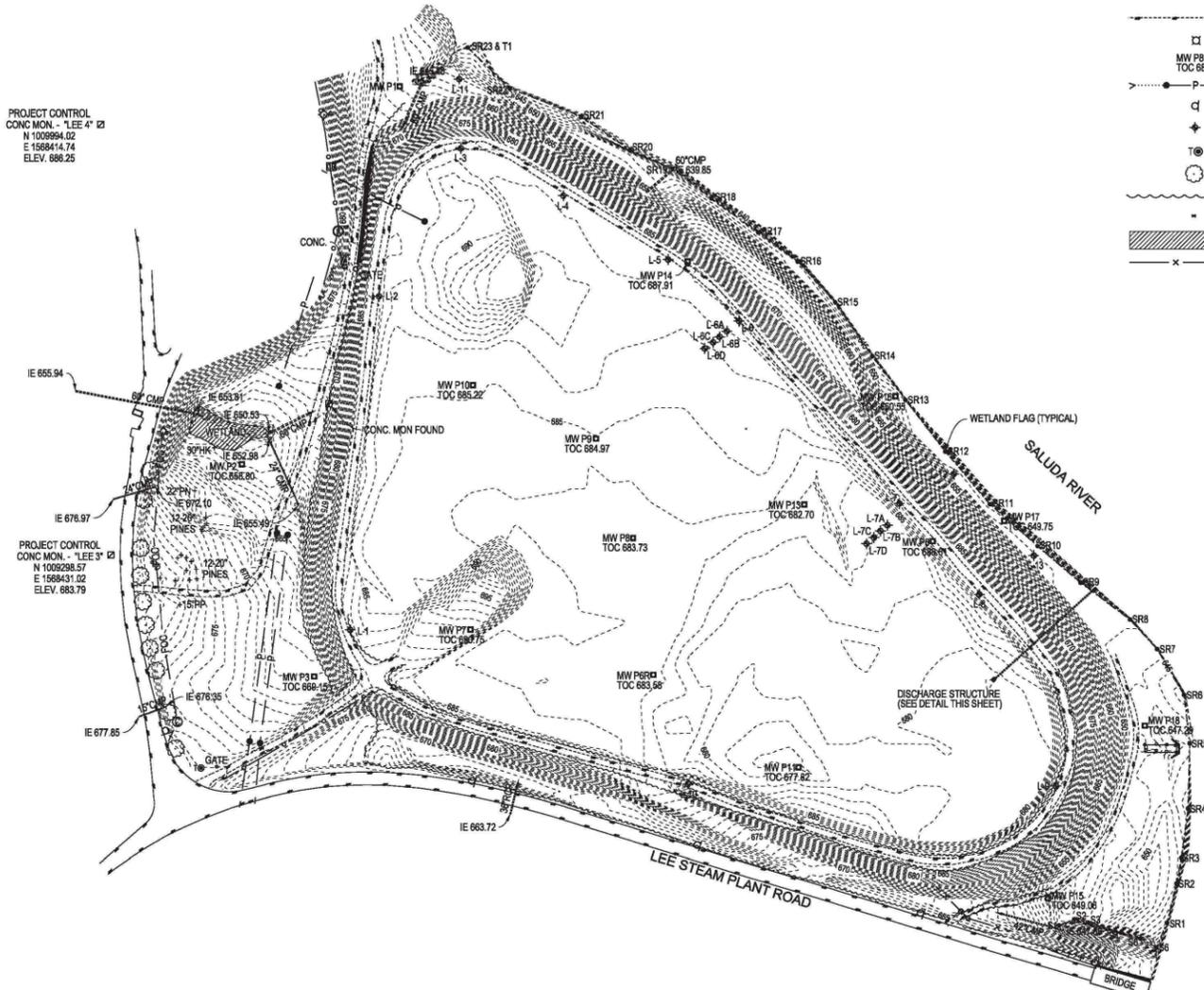
G-000

REV. A

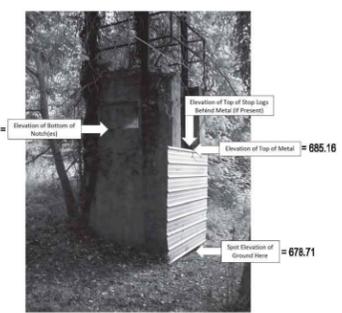
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THESE DRAWINGS AND THE DESIGN THEREON ARE THE PROPERTY OF DAVIS & FLOYD, INC. AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF THE ENGINEER / ARCHITECT AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

SOIL BORING TABLE

| ID # | NORTHING | EASTING | ELEVATION |
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| L-1 | 1009177.53 | 1568818.13 | 687.4 |
| L-2 | 1009716.45 | 1568865.17 | 688.9 |
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| L-8B | 1009651.01 | 1569418.38 | 686.6 |
| L-8C | 1009642.07 | 1569405.92 | 686.4 |
| L-8D | 1009632.06 | 1569392.56 | 685.8 |
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| L-7C | 1009326.92 | 1569866.03 | 682.0 |
| L-7D | 1009316.66 | 1569854.11 | 682.0 |
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| L-9 | 1008925.37 | 1569994.79 | 687.9 |
| L-10 | 1008928.55 | 1569394.70 | 686.9 |
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| L-13 | 1009297.51 | 1569924.63 | 648.8 |



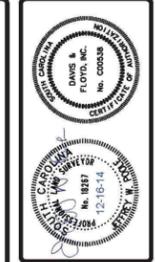
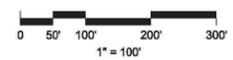
- LEGEND**
- ASPHALT PAVEMENT
 - CHAIN LINK FENCE WITH GATE POST
 - CONCRETE MONUMENT
 - EXISTING CONTOURS (1' INTERVAL)
 - FIBER OPTIC BOX
 - FIBER OPTIC LINE
 - FIRE HYDRANT
 - GRAVEL DRIVE
 - LIGHT POLE
 - MONITORING WELL WITH TOP OF CONCRETE ELEVATION
 - OVERHEAD POWER LINE WITH UTILITY POLE AND GUY WIRE CONNECTION
 - SIGN
 - SOIL BORING
 - TELEPHONE PEDESTAL
 - TREE
 - TREELINE
 - WATER VALVE
 - WETLAND
 - WOODEN FENCE



DISCHARGE STRUCTURE DETAIL

NOTES:

- THIS SURVEY REPRESENTS THE EXISTING PLANIMETRIC AND TOPOGRAPHIC FEATURES ONLY. IT DOES NOT INCLUDE EASEMENTS, RIGHTS OF WAY OR PROPERTY LINES.
- UTILITIES AS SHOWN WERE OBVIOUS AND APPARENT AT THE TIME OF THE SURVEY BUT THERE MAY BE OTHER UTILITIES PRESENT ON THE SITE THAT ARE NOT SHOWN.
- COORDINATES AND ELEVATIONS ARE BASED ON USGS MONUMENT "SR 2" USING THE NAD83(2011) HORIZONTAL DATUM AND THE NAVD88 VERTICAL DATUM.



DAVIS & FLOYD
Engineering Architecture
Environmental & Laboratory Services
GREENWOOD • CHARLESTON • COLUMBIA • GREENVILLE
FLORENCE • HICKORY, NC

DUKE ENERGY CORPORATION
CHARLOTTE, NORTH CAROLINA
1951 RETIRED ASH BASIN
PROJECT TITLE

CIVIL
SITE SURVEY
DRAWING TITLE

| | | | | |
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C101
SHEET 1 OF 1

amec
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD NW, SUITE 100
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W.S. LEE STEAM STATION
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| SCALE: AS SHOWN | DES: SA |
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| | REVISION |
| | A |

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |
| | | | | | | | | | |
| | | | | | | | | | |

SEAL

SEAL



PRIMARY ASH BASIN
STATE DAM ID NO. D-4887
NPDES PERMIT NO. SC0002291

652
100 YR FLOOD
ELEVATION
SEE NOTE 3

651
100 YR FLOOD
ELEVATION
SEE NOTE 3

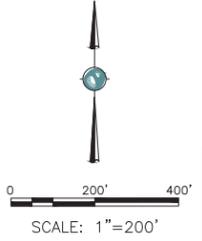
650
100 YR FLOOD
ELEVATION
SEE NOTE 3

NOTE:

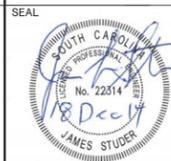
- SOURCE FOR TOPOGRAPHIC INFORMATION IS ANDERSON COUNTY USGS NATIONAL MAP VIEWER 2008.
- S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
- BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

LEGEND

--- 660 --- EXISTING CONTOURS



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1075 BIG SHAWNY ROAD NW, SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3555
FAX: (770) 421-3485



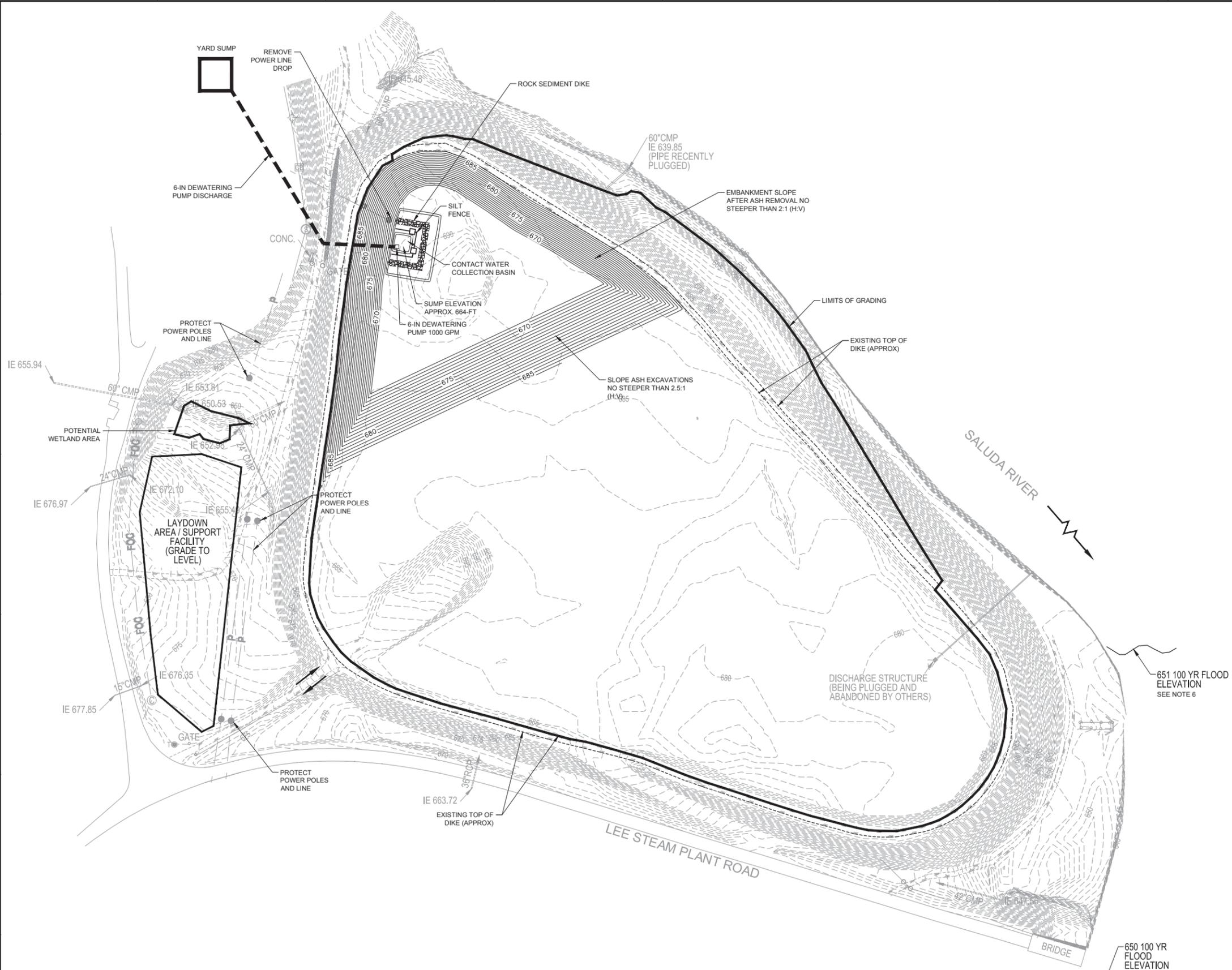
TITLE
ASH REMOVAL CONCEPT PLANS
INACTIVE ASH BASIN AND ASH FILL AREA
W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
OVERALL EXISTING CONDITIONS PLAN

FOR
NOT RELEASED FOR CONSTRUCTION

| | |
|-------------------------|----------|
| SCALE: AS SHOWN | DES: SA |
| DWG TYPE: DWG | DFTR: CB |
| JOB NO: 7810-14-0165 | CHKD: SJ |
| DATE: DECEMBER 18, 2014 | ENGR: JS |
| FILENAME: | APPD: KD |

| | | |
|-----------------------------------|-----------------------------|----------------------|
| DWG SIZE ARCH D 24.0"x35.5" | DRAWING NO. C-101 | REVISION A |
|-----------------------------------|-----------------------------|----------------------|

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |



- NOTES:**
1. THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADING, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 2. S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
 3. YARD SUMP PUMPS FLOWS TO THE PRIMARY ASH BASIN.
 4. LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 5. SURVEY AND TOPOGRAPHIC INFORMATION PROVIDED BY DAVIS & FLOYD, SURVEY DATED JULY 8, 2014, BASED ON THE NAD83 (2011) HORIZONTAL DATUM AND THE NAVD88 VERTICAL DATUM.
 6. BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

LEGEND

- 660--- EXISTING CONTOUR
- 660—— PROPOSED CONTOUR (BOTTOM OF ASH)
- CONVEY CONTACT WATER TO YARD SUMP
- SILT FENCE (SEE DETAIL ON DRAWING No. C-113)
- █ ROCK SEDIMENT DIKE (SEE DETAIL ON DRAWING No. C-114)
- ⇄ TRUCK ACCESS

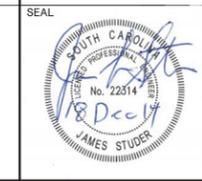
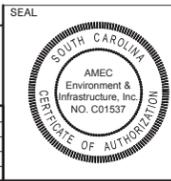


0 80' 160'
SCALE: 1"=80'

amec
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD NW, SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3555
FAX: (770) 421-3485

TITLE
ASH REMOVAL CONCEPT PLANS
INACTIVE ASH BASIN AND ASH FILL AREA
W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
INACTIVE ASH BASIN ASH REMOVAL CONCEPT PLAN INITIAL

FOR
NOT RELEASED FOR CONSTRUCTION



SCALE: AS SHOWN
DWG TYPE: DWG
JOB NO: 7810-14-0165
DATE: DECEMBER 18, 2014

DES: SA
DFTR: CB
CHKD: SJ
ENGR: JS

FILENAME:
DWG SIZE
ARCH D 24.0"x35.5"

DRAWING NO.
C-102

REVISION
A

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |

C-102

REV. A

NOTES:

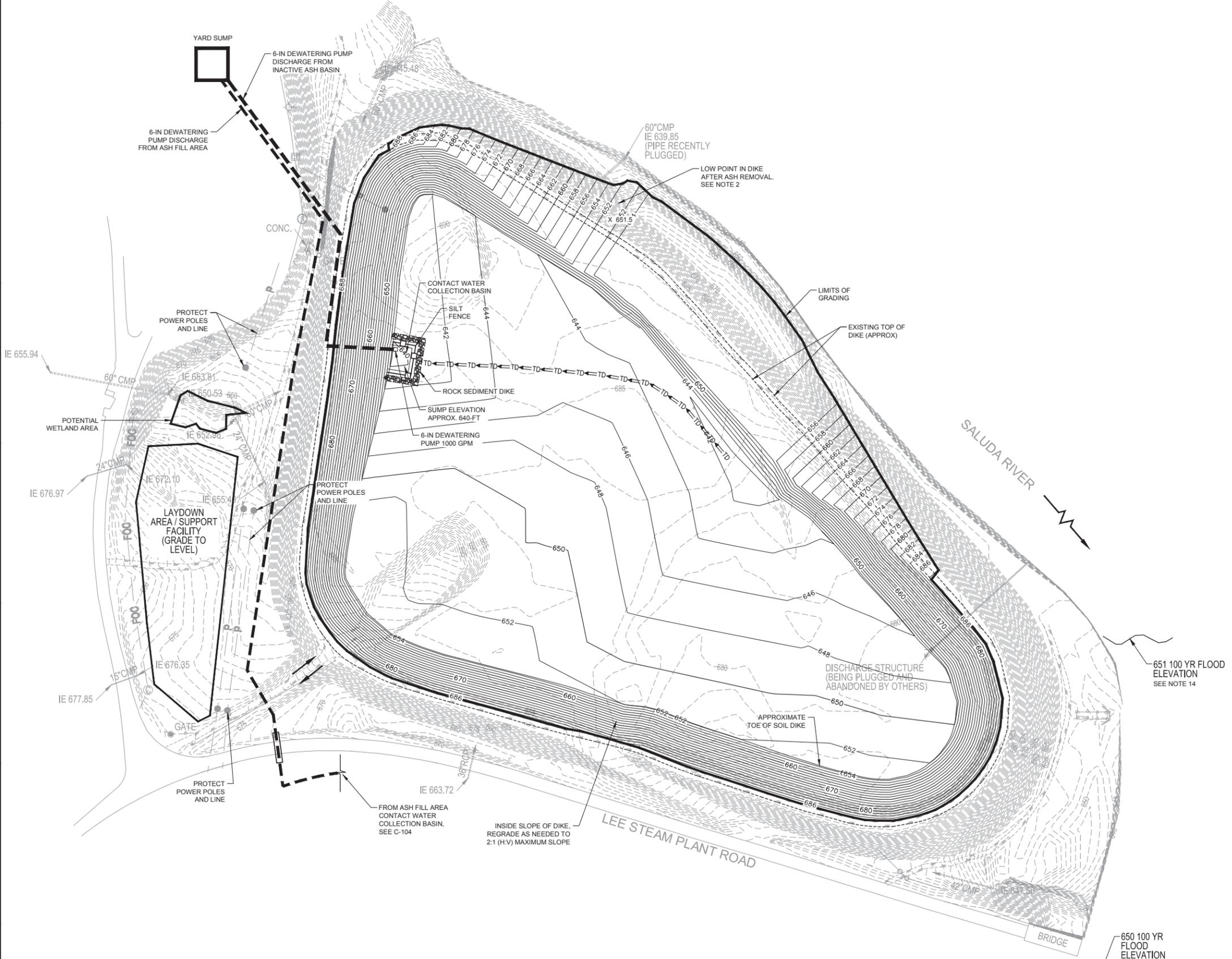
1. THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADINGS, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. EXCAVATION IN DIKE SHOWN TO EL. 651.5 FOR THE PURPOSE OF LIMITING POTENTIAL IMPOUNDMENT TO LESS THAN 50 ACRE-FEET AT FULL ASH REMOVAL. ALTERNATIVELY, THE EXCAVATION MAY BE LIMITED TO THE BOTTOM OF THE COMMINGLED SOIL/ASH LAYER (APPROXIMATELY EL. 655) AND STORAGE MANAGED BY FILLING LOW AREAS IN THE BASIN WITH DIKE MATERIAL THAT DOES NOT CONTAIN ASH, OR OTHER APPROVED BACKFILL.
3. CONTACT WATER COLLECTION BASIN LOCATION, SIZE AND DEPTH WILL BE ADJUSTED AS NEEDED TO FACILITATE THE WORK.
4. ASH REMOVAL WILL BE SEQUENCED FROM THE CONTACT WATER COLLECTION BASIN TO THE EAST, MAINTAINING POSITIVE DRAINAGE TO THE CONTACT WATER BASIN.
5. LIMIT CONTACT WATER COLLECTION BASIN SIZE AND DEPTH AND LOWER NORTHERN DIKE IN CONJUNCTION WITH ASH REMOVAL TO LIMIT POTENTIAL IMPONDMENT STORAGE TO LESS THAN 50 ACRE-FEET. OTHER AREAS OF THE DIKE MAY BE LOWERED AS NEEDED TO FACILITATE ASH REMOVAL OR ACCESS.
6. SEGREGATE AND STOCKPILE DIKE MATERIAL THAT DOES NOT CONTAIN ASH FOR FUTURE SITE GRADING.
7. S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
8. CONTRACTOR WILL CONSTRUCT ACCESS AREAS INTO THE IAB AS NEEDED USING DIKE MATERIAL THAT DOES NOT CONTAIN ASH, OR OTHER APPROVED BACKFILL.
9. CLEARING OF VEGETATION ON THE OUTSIDE OF THE IAB DIKE WILL BE LIMITED TO CUTTING THE TREES. STUMPS AND ROOT SYSTEMS WILL REMAIN AND ONLY BE REMOVED DURING EXCAVATION OF THE DIKE WHERE NEEDED.
10. AREAS OF THE DIKE TO BE REMOVED TO FACILITATE ASH REMOVAL OR ACCESS SHALL BE STABILIZED WITH EROSION CONTROL MEASURES PRIOR TO, DURING, AND AFTER EXCAVATION ACTIVITIES AS REQUIRED BY THE UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
11. LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
12. SURVEY AND TOPOGRAPHIC INFORMATION PROVIDED BY DAVIS & FLOYD, SURVEY DATED JULY 8, 2014, BASED ON THE NAD83 (2011) HORIZONTAL DATUM AND THE NAVD88 VERTICAL DATUM.
13. ASH REMOVAL WILL BE FOLLOWED BY ASSESSMENT, REMEDIATION (IF REQUIRED), AND SITE CLOSURE. THE CLOSURE PLAN WILL INCLUDE FINAL GRADING SUCH THAT THE DIKE IS FULLY BREACHED AND INCAPABLE OF IMPOUNDING WATER.
14. BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

LEGEND

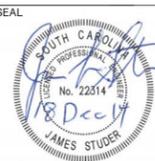
- - - - - 660 - - - - - EXISTING CONTOUR
- 660 — PROPOSED CONTOUR (BOTTOM OF ASH)
- — — — — CONVEY CONTACT WATER TO YARD SUMP
- → → TRUCK ACCESS
- TD → TD → TD → TEMPORARY DIVERSION DITCH OR SWALE
- ROCK SEDIMENT DIKE (SEE DETAIL ON DRAWING No. C-114)
- SILT FENCE (SEE DETAIL ON DRAWING No. C-113)



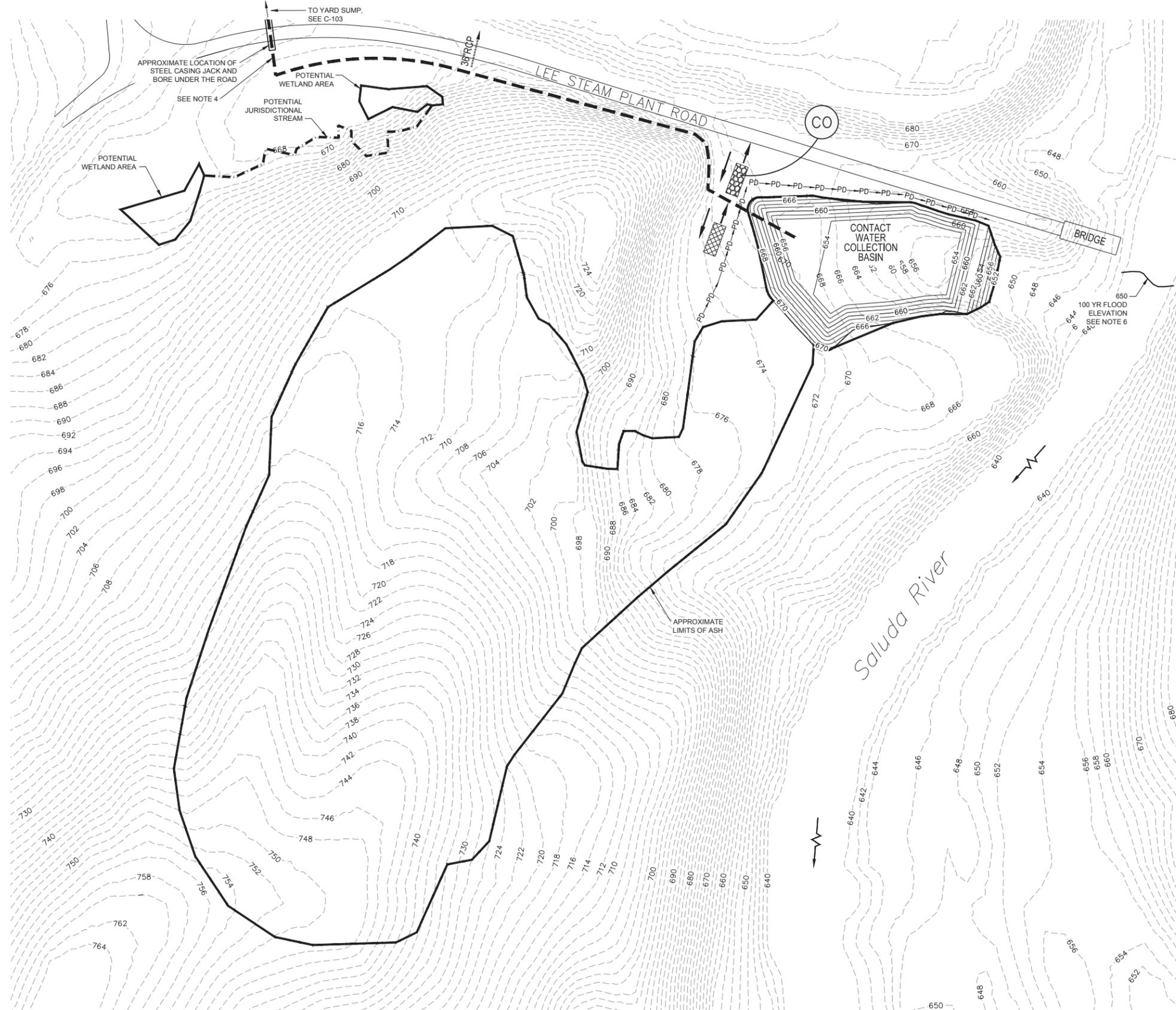
0 80' 160'
SCALE: 1"=80'



| | | |
|---|---|---|
| amec AMEC Environment & Infrastructure, Inc. 1075 BING SHANNY ROAD NW, SUITE 100 KENNESAW, GA 30144 TEL: (770) 421-3555 FAX: (770) 421-3485 | TITLE ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA W.S. LEE STEAM STATION ANDERSON COUNTY, SOUTH CAROLINA INACTIVE ASH BASIN ASH REMOVAL CONCEPT PLAN FINAL | |
| | FOR NOT RELEASED FOR CONSTRUCTION | |
| | SCALE: AS SHOWN DWG TYPE: DWG JOB NO: 7810-14-0165 DATE: DECEMBER 18, 2014 | DES: SA DFTR: CB CHKD: SJ ENGR: JS |
| | FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | DRAWING NO. C-103 |

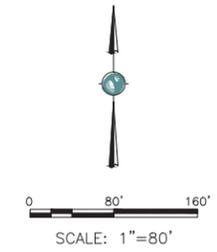


| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDEEC REVIEW |



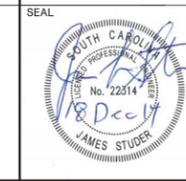
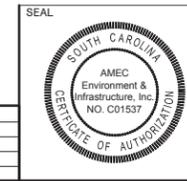
- NOTES:**
1. THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADING, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 2. S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
 3. SOURCE FOR TOPOGRAPHIC INFORMATION IS ANDERSON COUNTY USGS NATIONAL MAP VIEWER 2008.
 4. WATER CONVEYANCE PIPE TO BE INSTALLED IN STEEL CASING BORED UNDER LEE STEAM PLANT ROAD. ALTERNATIVELY, WATER MAY BE TRUCKED FROM THE CONTACT WATER COLLECTION BASIN TO THE YARD SUMP.
 5. LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 6. BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

- LEGEND**
- 660--- EXISTING CONTOUR
 - 660— PROPOSED CONTOUR (BOTTOM OF ASH)
 - CONVEY CONTACT WATER TO YARD SUMP
 - ⇄ TRUCK ACCESS
 - PD—PD— PERMANENT DIVERSION DITCH
 - CO CONSTRUCTION EXIT
 - ▣ WHEEL WASH



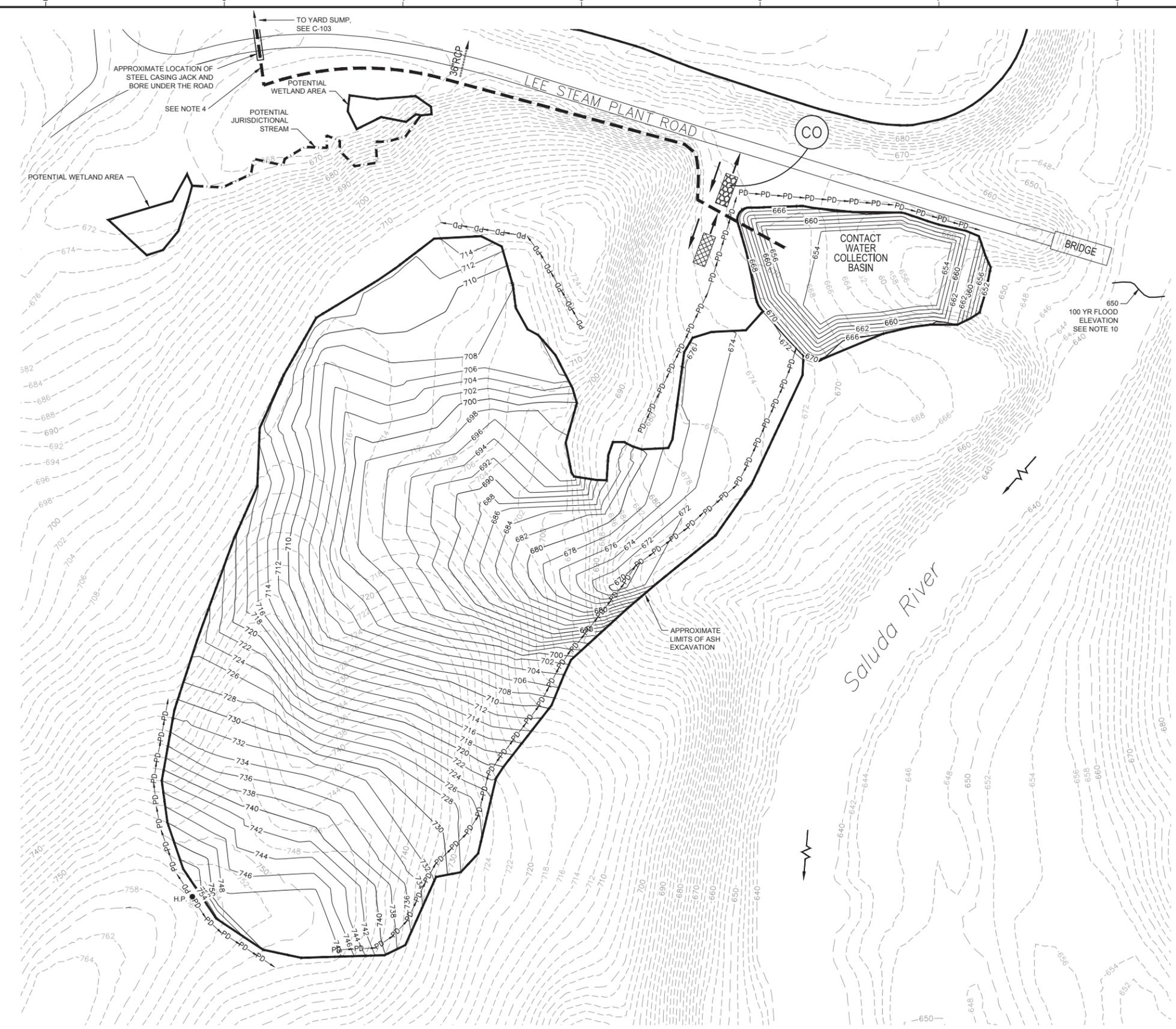
| | | |
|---|---|---|
| AMEC Environment & Infrastructure, Inc. 1075 BIG SHAWNY ROAD NW, SUITE 100 KENNESAW, GA 30144 TEL: (770) 421-3555 FAX: (770) 421-3488 | TITLE ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA W.S. LEE STEAM STATION ANDERSON COUNTY, SOUTH CAROLINA ASH FILL AREA ASH REMOVAL CONCEPT PLAN INITIAL | |
| | FOR NOT RELEASED FOR CONSTRUCTION | |
| | SCALE: AS SHOWN DWG TYPE: DWG JOB NO: 7810-14-0165 DATE: DECEMBER 18, 2014 | DES: SA DFTR: CB CHKD: SJ ENGR: JS |
| | FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | DRAWING NO. C-104 |

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDEEC REVIEW |



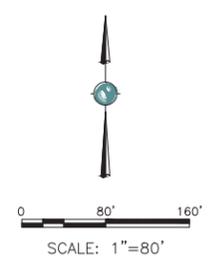
C-104

REV. A

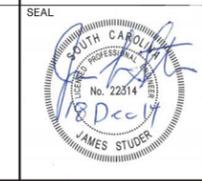
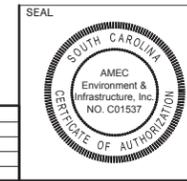


- NOTES:**
1. THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADING, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 2. S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
 3. SOURCE FOR TOPOGRAPHIC INFORMATION IS ANDERSON COUNTY USGS NATIONAL MAP VIEWER 2008.
 4. WATER CONVEYANCE PIPE TO BE INSTALLED IN STEEL CASING BORED UNDER LEE STEAM PLANT ROAD. ALTERNATIVELY, WATER MAY BE TRUCKED FROM THE CONTACT WATER COLLECTION BASIN TO THE YARD SUMP.
 5. CONTACT WATER COLLECTION BASIN SIZE, DEPTH AND LOCATION WILL BE ADJUSTED AS NEEDED TO FACILITATE THE WORK.
 6. CONSTRUCT DIVERSION DITCHES AS SHOWN TO PREVENT RUN-ON FROM ADJACENT AREAS.
 7. CONSTRUCT CUT-OFF DITCH ON THE EAST SIDE OF THE ASH FILL AREA AS SHOWN TO PREVENT RUN-OFF TO DOWNSTREAM AREAS AND DIRECT CONTACT WATER TO THE CONTACT WATER COLLECTION BASIN.
 8. ASH REMOVAL WILL BE SEQUENCED FROM THE CONTACT WATER COLLECTION BASIN TO THE SOUTH, MAINTAINING POSITIVE DRAINAGE TO THE CONTACT WATER BASIN.
 9. LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 10. BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

- LEGEND**
- - - - - 660 - - - - - EXISTING CONTOURS
 - 660 — PROPOSED CONTOURS (BOTTOM OF ASH)
 - — — — — CONVEY CONTACT WATER TO YARD SUMP
 - → → TRUCK ACCESS
 - PD — PD — PERMANENT DIVERSION DITCH
 - CO CONSTRUCTION EXIT
 - ▣ WHEEL WASH



| | | |
|---|---|---|
| AMEC Environment & Infrastructure, Inc. 1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW, GA 30144 TEL: (770) 421-3555 FAX: (770) 421-3485 | TITLE ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA W.S. LEE STEAM STATION ANDERSON COUNTY, SOUTH CAROLINA ASH FILL AREA ASH REMOVAL CONCEPT PLAN FINAL | |
| | FOR NOT RELEASED FOR CONSTRUCTION | |
| | SCALE: AS SHOWN DWG TYPE: DWG JOB NO: 7810-14-0165 DATE: DECEMBER 18, 2014 | DES: SA DFTR: CB CHKD: SJ ENGR: JS |
| | FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | DRAWING NO. C-105 |



| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDEEC REVIEW |

C-105
REV. A

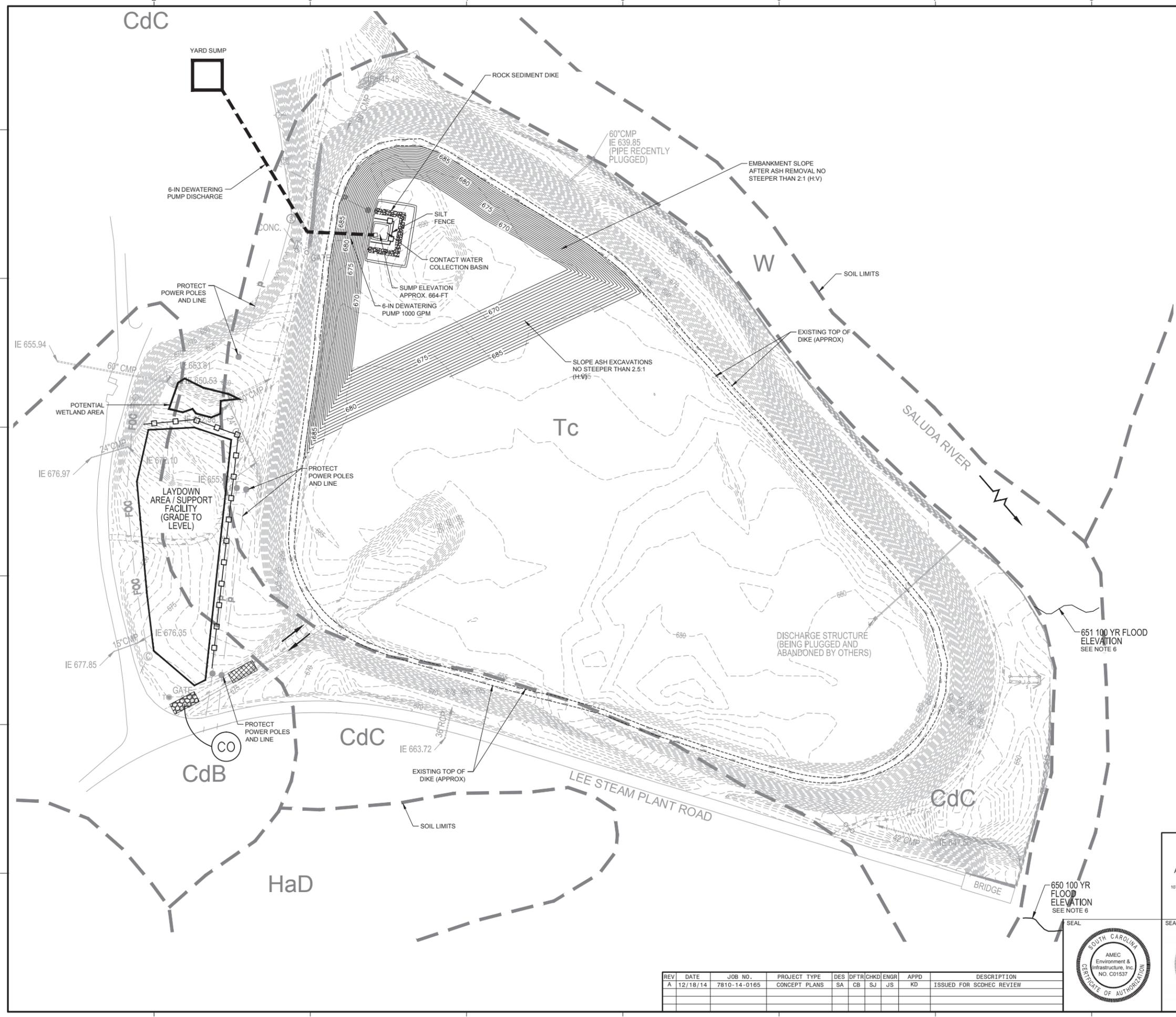
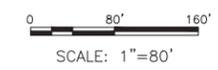
- NOTE:**
1. THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADING, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 2. S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR RESULTS ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
 3. REFER TO EROSION CONTROL BMP DETAILS ON DRAWINGS C-113 THROUGH C-115.
 4. LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 5. SURVEY AND TOPOGRAPHIC INFORMATION PROVIDED BY DAVIS & FLOYD, SURVEY DATED JULY 8, 2014. BASED ON THE NAD83 (2011) HORIZONTAL DATUM AND THE NAVD88 VERTICAL DATUM.
 6. BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

| SOILS LEGEND | |
|-----------------|---|
| MAP UNIT SYMBOL | MAP UNIT NAME |
| CdB | CECIL SANDY LOAM, 2 TO 6 PERCENT SLOPES |
| CdC | CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES |
| HaD | HIAWASSEE SANDY LOAM, 10 TO 15 PERCENT SLOPES |
| Tc | TOCCOA-CARTECAY COMPLEX |
| W | WATER |

SOURCE: SOIL MAP - ANDERSON COUNTY, SOUTH CAROLINA AND GREENVILLE COUNTY, SOUTH CAROLINA; USDA NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY; NATIONAL COOPERATIVE SOIL SURVEY

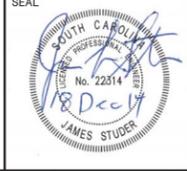
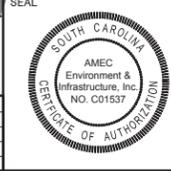
LEGEND

- 660 --- EXISTING CONTOUR
- 660 — PROPOSED CONTOUR (BOTTOM OF ASH)
- — □ — SILT FENCE (SEE DETAIL ON DRAWING No. C-113)
- ▬▬▬▬▬ CONVEY CONTACT WATER TO YARD SUMP
- - - - - SOIL LIMITS
- ⊙ CO CONSTRUCTION EXIT
- ⊞ ROCK SEDIMENT DIKE (SEE DETAIL ON DRAWING No. C-114)
- ▨ WHEEL WASH
- ⇄ TRUCK ACCESS



amec
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD NW, SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3555
FAX: (770) 421-3485

TITLE
ASH REMOVAL CONCEPT PLANS
INACTIVE ASH BASIN AND ASH FILL AREA
W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
INACTIVE ASH BASIN INITIAL E&S PLAN
FOR
NOT RELEASED FOR CONSTRUCTION



| | |
|-------------------------|----------|
| SCALE: AS SHOWN | DES: SA |
| DWG TYPE: DWG | DFTR: CB |
| JOB NO: 7810-14-0165 | CHKD: SJ |
| DATE: DECEMBER 18, 2014 | ENGR: JS |
| APPD: KD | |

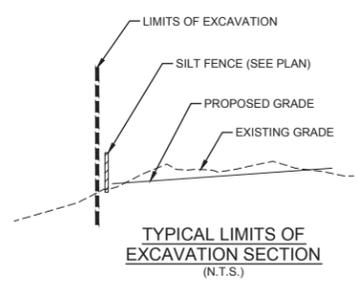
| | | |
|-----------------------|-------------|----------|
| FILENAME: | DRAWING NO. | REVISION |
| ARCH D 24.0"x35.5" | C-106 | A |

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
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| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |

C-106

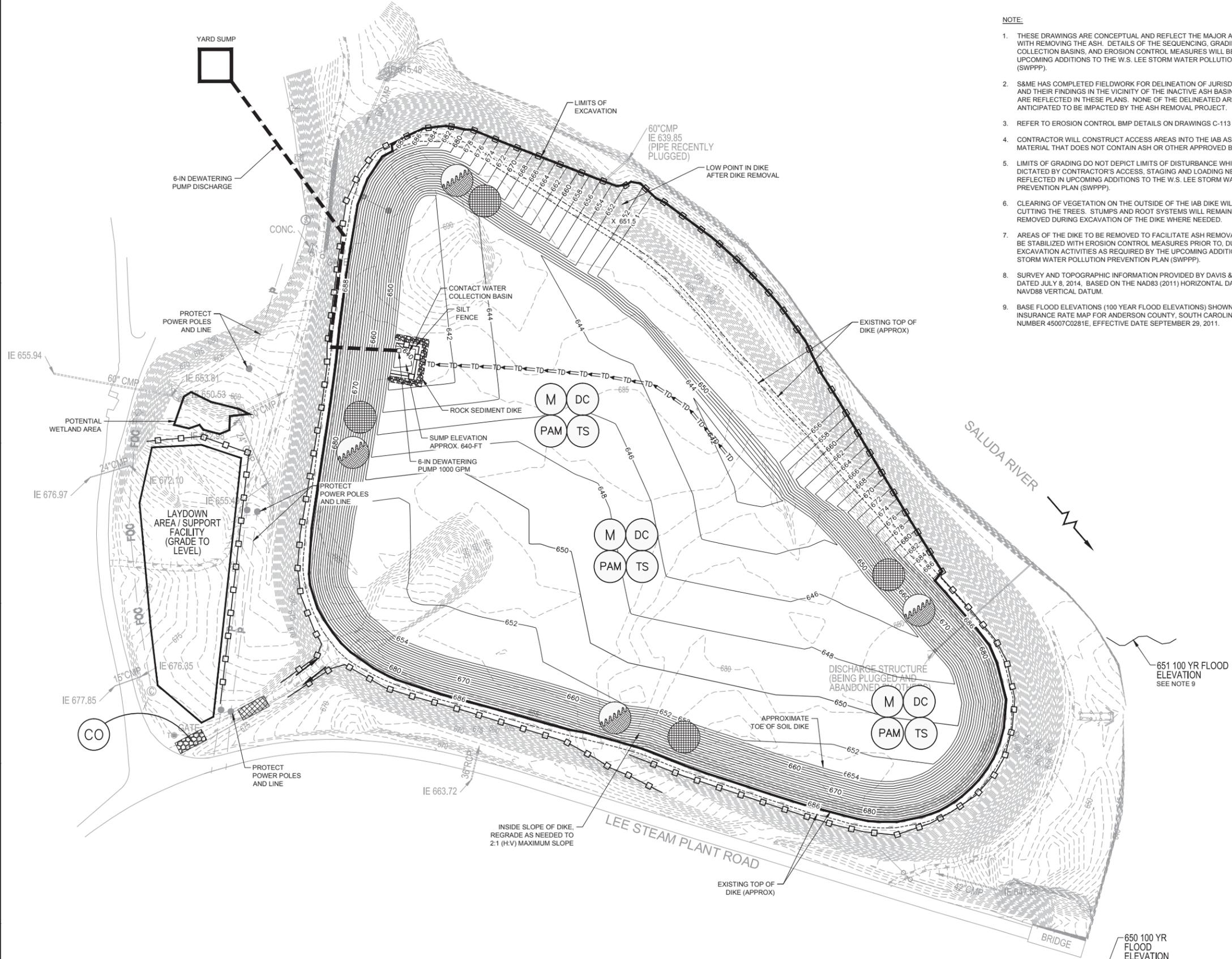
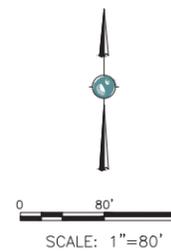
REV. A

- NOTE:**
- THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADING, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
 - REFER TO EROSION CONTROL BMP DETAILS ON DRAWINGS C-113 THROUGH C-115.
 - CONTRACTOR WILL CONSTRUCT ACCESS AREAS INTO THE IAB AS NEEDED USING DIKE MATERIAL THAT DOES NOT CONTAIN ASH OR OTHER APPROVED BACKFILL.
 - LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - CLEARING OF VEGETATION ON THE OUTSIDE OF THE IAB DIKE WILL BE LIMITED TO CUTTING THE TREES. STUMPS AND ROOT SYSTEMS WILL REMAIN AND ONLY BE REMOVED DURING EXCAVATION OF THE DIKE WHERE NEEDED.
 - AREAS OF THE DIKE TO BE REMOVED TO FACILITATE ASH REMOVAL OR ACCESS SHALL BE STABILIZED WITH EROSION CONTROL MEASURES PRIOR TO, DURING, AND AFTER EXCAVATION ACTIVITIES AS REQUIRED BY THE UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - SURVEY AND TOPOGRAPHIC INFORMATION PROVIDED BY DAVIS & FLOYD, SURVEY DATED JULY 8, 2014, BASED ON THE NAD83 (2011) HORIZONTAL DATUM AND THE NAVD88 VERTICAL DATUM.
 - BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

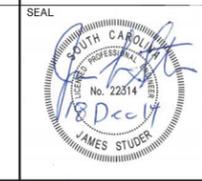
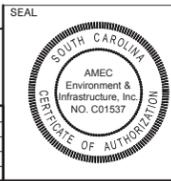


LEGEND

- 660 --- EXISTING CONTOUR
- 660 — PROPOSED CONTOUR (BOTTOM OF ASH)
- □ □ SILT FENCE (SEE DETAIL ON DRAWING No. C-113)
- --- CONVEY CONTACT WATER TO YARD SUMP
- ⇒ TD ⇒ TEMPORARY DIVERSION DITCH OR SWALE
- PD — PD — PERMANENT DIVERSION DITCH:
- CO CONSTRUCTION EXIT
- M MULCHING
- Surface Roughening Symbol SURFACE ROUGHENING
- ECB EROSION CONTROL BLANKET (ECB) OR HYDROSEEDING AS APPROVED BY ENGINEER
- PAM POLYACRYLAMIDE (PAM)
- TS TEMPORARY SEEDING
- DC DUST CONTROL
- Rock Sediment Dike Symbol ROCK SEDIMENT DIKE (SEE DETAIL ON DRAWING No. C-114)
- Wheel Wash Symbol WHEEL WASH
- Truck Access Symbol TRUCK ACCESS



| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |



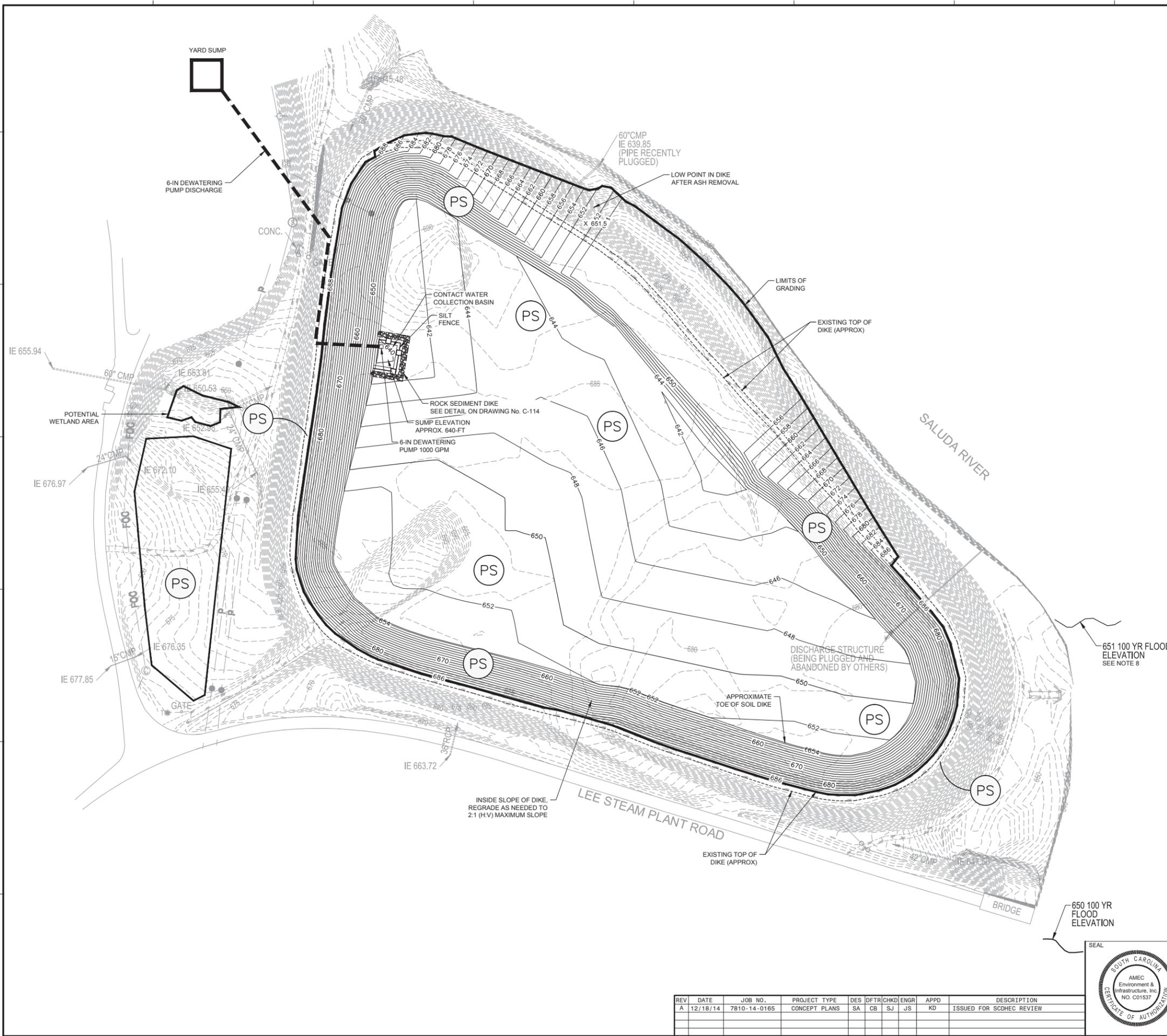
amec
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD NW, SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3555
FAX: (770) 421-3485

TITLE
ASH REMOVAL CONCEPT PLANS
INACTIVE ASH BASIN AND ASH FILL AREA
W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
INACTIVE ASH BASIN CONSTRUCTION E&S PLAN
FOR
NOT RELEASED FOR CONSTRUCTION

| | | |
|-----------------------------|-------------------------|----------|
| FILENAME: | SCALE: AS SHOWN | DES: SA |
| DWG SIZE: | DWG TYPE: DWG | DFTR: CB |
| ARCH D 24.0"x35.5" | JOB NO: 7810-14-0165 | CHKD: SJ |
| DRAWING NO. C-107 | DATE: DECEMBER 18, 2014 | ENGR: JS |
| REVISION A | APPD: KD | |

C-107

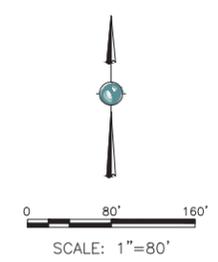
REV. A



- NOTE:**
1. THESE DRAWINGS ARE CONCEPTUAL AND REFLECT THE MAJOR ACTIVITIES INVOLVED WITH REMOVING THE ASH. DETAILS OF THE SEQUENCING, GRADING, CONTACT WATER COLLECTION BASINS, AND EROSION CONTROL MEASURES WILL BE DEFINED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 2. S&ME HAS COMPLETED FIELDWORK FOR DELINEATION OF JURISDICTIONAL WATERS AND THEIR FINDINGS IN THE VICINITY OF THE INACTIVE ASH BASIN AND ASH FILL AREA ARE REFLECTED IN THESE PLANS. NONE OF THE DELINEATED AREAS ARE ANTICIPATED TO BE IMPACTED BY THE ASH REMOVAL PROJECT.
 3. REFER TO EROSION CONTROL BMP DETAILS ON DRAWINGS C-113 THROUGH C-115.
 4. CONTRACTOR WILL CONSTRUCT ACCESS AREAS INTO THE IAB AS NEEDED USING DIKE MATERIAL THAT DOES NOT CONTAIN ASH.
 5. CLEARING OF VEGETATION ON THE OUTSIDE OF THE IAB DIKE WILL BE LIMITED TO CUTTING THE TREES, STUMPS AND ROOT SYSTEMS WILL REMAIN AND ONLY BE REMOVED DURING EXCAVATION OF THE DIKE WHERE NEEDED.
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 7. LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 8. BASE FLOOD ELEVATIONS (100 YEAR FLOOD ELEVATIONS) SHOWN BASED ON FLOOD INSURANCE RATE MAP FOR ANDERSON COUNTY, SOUTH CAROLINA, PANEL 281, MAP NUMBER 45007C0281E, EFFECTIVE DATE SEPTEMBER 29, 2011.

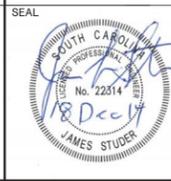
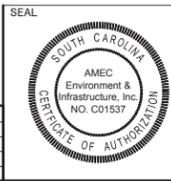
LEGEND

- 660 --- EXISTING CONTOURS
- 660 — PROPOSED CONTOUR (BOTTOM OF ASH)
- ▬▬▬▬▬▬ CONVEY WATER TO YARD SUMP
- PS PERMANENT SEEDING
- ▣ ROCK SEDIMENT DIKE (SEE DETAIL ON DRAWING No. C-114)
- SILT FENCE (SEE DETAIL ON DRAWING No. C-113)



| | | | |
|---|--|--|---|
| AMEC Environment & Infrastructure, Inc. 1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW, GA 30144 TEL: (770) 421-3555 FAX: (770) 421-3485 | | TITLE ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA W.S. LEE STEAM STATION ANDERSON COUNTY, SOUTH CAROLINA INACTIVE ASH BASIN STABILIZATION E&S PLAN FOR NOT RELEASED FOR CONSTRUCTION | |
| | | SCALE: AS SHOWN DWG TYPE: DWG JOB NO: 7810-14-0165 DATE: DECEMBER 18, 2014 | DES: SA DFTR: CB CHKD: SJ ENGR: JS APPD: KD |
| FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | | DRAWING NO.: C-108 REVISION: A | |

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
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C-108 REV. A

| SOILS LEGEND | |
|-----------------|--|
| MAP UNIT SYMBOL | MAP UNIT NAME |
| CdB | CECIL SANDY LOAM, 2 TO 6 PERCENT SLOPES |
| CdC | CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES |
| HaD | HIWASSEE SANDY LOAM, 10 TO 15 PERCENT SLOPES |
| Tc | TOCCOA-CARTECAY COMPLEX |
| W | WATER |

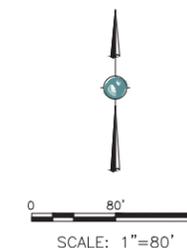
SOURCE: SOIL MAP - ANDERSON COUNTY, SOUTH CAROLINA AND GREENVILLE COUNTY, SOUTH CAROLINA; USDA NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY; NATIONAL COOPERATIVE SOIL SURVEY

NOTES:

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- LIMITS OF GRADING DO NOT DEPICT LIMITS OF DISTURBANCE WHICH WILL BE DICTATED BY CONTRACTOR'S ACCESS, STAGING AND LOADING NEEDS AND WILL BE REFLECTED IN UPCOMING ADDITIONS TO THE W.S. LEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
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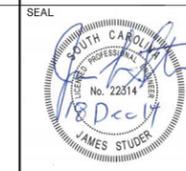
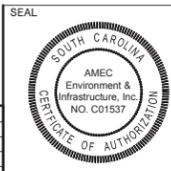
LEGEND

- - - 660 - - - EXISTING CONTOUR
- 660 — PROPOSED CONTOUR (BOTTOM OF ASH)
- □ □ SILT FENCE
- - - CONVEY WATER TO YARD SUMP
- - - SOIL LIMITS
- ⊙ CO CONSTRUCTION EXIT
- ⊗ WHEEL WASH



| | | |
|---|--|---|
| AMEC Environment & Infrastructure, Inc. 1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW, GA 30144 TEL: (770) 421-3555 FAX: (770) 421-3485 | TITLE ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA W.S. LEE STEAM STATION ANDERSON COUNTY, SOUTH CAROLINA ASH FILL AREA INITIAL E&S PLAN | |
| | FOR NOT RELEASED FOR CONSTRUCTION | |
| | SCALE: AS SHOWN DWG TYPE: DWG JOB NO: 7810-14-0165 DATE: DECEMBER 18, 2014 | DES: SA DFTR: CB CHKD: SJ ENGR: JS |
| | FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | DRAWING NO. C-109 |

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |



C-109

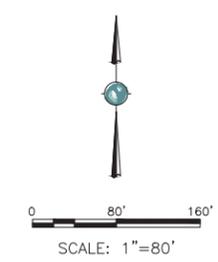
REV. A



LEGEND

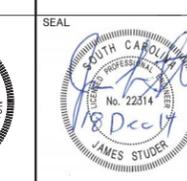
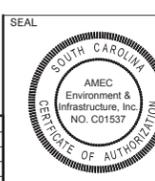
- 660 --- EXISTING CONTOUR
- 660 — PROPOSED CONTOUR (BOTTOM OF ASH)
- SILT FENCE
- CONVEY WATER TO YARD SUMP
- TD → TD → TEMPORARY DIVERSION DITCH OR SWALE
- PD — PD — PERMANENT DIVERSION DITCH
- CO CONSTRUCTION EXIT
- M MULCHING
- PAM POLYACRYLAMIDE (PAM)
- TS TEMPORARY SEEDING
- DC DUST CONTROL
- ▨ WHEEL WASH

- NOTES:**
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| | FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | DRAWING NO.: C-110 |

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |



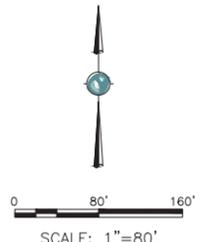
C-110 REV. A



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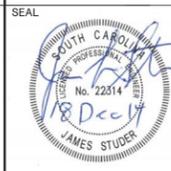
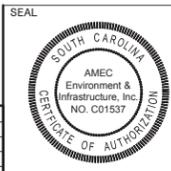
LEGEND

- 660--- EXISTING CONTOUR
- 660— PROPOSED CONTOUR (BOTTOM OF ASH)
- CONVEY WATER TO YARD SUMP
- PS PERMANENT SEEDING



| | | |
|--|--|---|
| amec AMEC Environment & Infrastructure, Inc. 1075 BIG SHANTY ROAD NW, SUITE 100 KENNESAW, GA 30144 TEL: (770) 421-3555 FAX: (770) 421-3485 | TITLE ASH REMOVAL CONCEPT PLANS INACTIVE ASH BASIN AND ASH FILL AREA W.S. LEE STEAM STATION ANDERSON COUNTY, SOUTH CAROLINA ASH FILL AREA STABILIZATION E&S PLAN | |
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| | FILENAME: DWG SIZE: ARCH D 24.0"x35.5" | DRAWING NO.: C-111 |

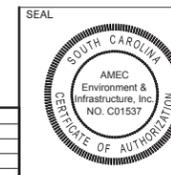
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|-----|----------|--------------|---------------|-----|------|------|------|------|-------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDEH REVIEW |



EROSION CONTROL STANDARD NOTES:

1. IF NECESSARY, AS DETERMINED BY THE ENGINEER, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW:
 - A. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
 - B. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS IF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER GRADING COMPLETION.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL REMOVE MUD/SOIL FROM PAVEMENT DAILY, AS REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
8. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
9. LITTER, CONSTRUCTION DEBRIS, OILS AND FUELS WITH SIGNIFICANT POTENTIAL FOR IMPACT AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORMWATER DISCHARGES.
10. A COPY OF THE SWPPP, INSPECTION RECORDS AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
12. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN AN ALTERNATIVE CONTROL THAT PROVIDES TREATMENT PRIOR TO DISCHARGE.
13. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (FILTER BAG, ETC.).
14. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
 - A. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
 - B. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
15. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED IN ALL AREAS OF THE CONSTRUCTION SITE.
16. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF SOUTH CAROLINA'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
17. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.
18. ALL EROSION CONTROL BMPS SHALL BE AS SPECIFIED IN THE SOUTH CAROLINA STORMWATER MANAGEMENT BMP HANDBOOK AND IN THE DETAILS ON DRAWINGS C-113 THROUGH C-115.

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |
| | | | | | | | | | |



TITLE
 ASH REMOVAL CONCEPT PLANS
 INACTIVE ASH BASIN AND ASH FILL AREA
 W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
EROSION & SEDIMENTATION CONTROL NOTES

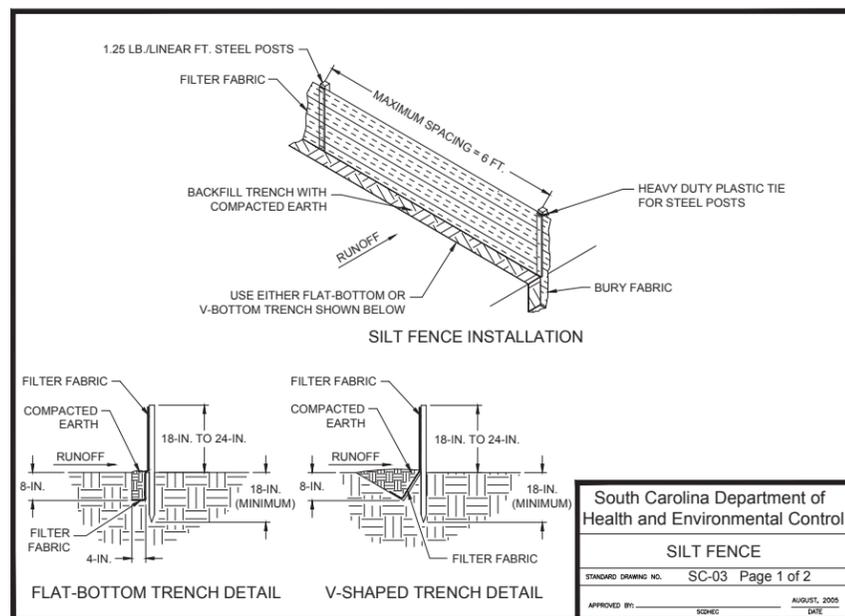
FOR
 NOT RELEASED FOR CONSTRUCTION

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|-------------------------|----------|
| SCALE: AS SHOWN | DES: SA |
| DWG TYPE: DWG | DFTR: CB |
| JOB NO: 7810-14-0165 | CHKD: SJ |
| DATE: DECEMBER 18, 2014 | ENGR: JS |

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| FILENAME: | APPD: KD |
| DWG SIZE: | DRAWING NO. |
| ARCH D 24.0"x35.5" | C-112 |
| | REVISION A |

C-112

REV. A



SILT FENCE DETAIL

When and Where to Use It
 Silt fence is applicable in areas:

Where the maximum sheet or overland flow path length to the fence is 100-feet.
 Where the maximum slope steepness (normal [perpendicular] to fence line) is 2H:1V.
 That do not receive concentrated flows greater than 0.5 cfs.

Do not place silt fence across channels or use it as a velocity control BMP.

Materials

Steel Posts
 Use 48-inch long steel posts that meet the following minimum physical requirements:
 Composed of high strength steel with minimum yield strength of 50,000 psi.
 Have a standard "T" section with a nominal face width of 1.38-inches and nominal "T" length of 1.48-inches.
 Weigh 1.25 pounds per foot (± 8%).
 Have a soil stabilization plate with a minimum cross section area of 17-square inches attached to the steel posts.
 Painted with a water based baked enamel paint.

Use steel posts with a minimum length of 4-feet, weighing 1.25 pounds per linear foot (± 8%) with projections to aid in fastening the fabric. Except when heavy clay soils are present on site, steel posts will have a metal soil stabilization plate welded near the bottom such that when the post is driven to the proper depth, the plate will be below the ground level for added stability.
 The soil plates should have the following characteristics:
 Be composed of minimum 15 gauge steel.
 Have a minimum cross section area of 17-square inches.

Geotextile Filter Fabric

Filter fabric is:
 Composed of fibers consisting of long chain synthetic polymers composed of at least 85% by weight of polyolefins, polyesters, or polyamides. Formed into a network such that the filaments or yarns retain dimensional stability relative to each other. Free of any treatment or coating which might adversely affect its physical properties after installation. Free of defects or flaws that significantly affect its physical and/or filtering properties. Cut to a minimum width of 36 inches.

Use only fabric appearing on SCDOT Approval Sheet #34 meeting the requirements of the most current edition of the SCDOT Standard Specifications for Highway Construction.

South Carolina Department of Health and Environmental Control
SILT FENCE
 STANDARD DRAWING NO. SC-03 Page 2 of 3
 APPROVED BY: [Signature] DATE: AUGUST, 2005

SILT FENCE DETAIL

Installation

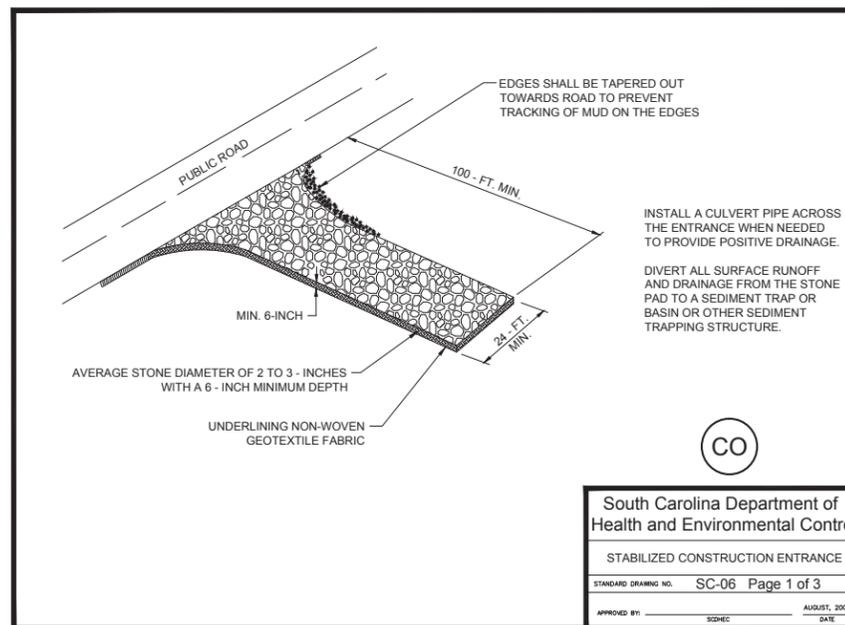
Excavate a trench approximately 6-inches wide and 6-inches deep when placing fabric by hand. Place 12-inches of geotextile fabric into the 6-inch deep trench, extending the remaining 6-inches towards the upslope side of the trench. Backfill the trench with soil or gravel and compact. Bury 12-inches of fabric into the ground when pneumatically installing silt fence with a slicing method. Purchase fabric in continuous rolls and cut to the length of the barrier to avoid joints. When joints are necessary, wrap the fabric together at a support post with both ends fastened to the post, with a 6-inch minimum overlap. Install posts to a minimum depth of 24-inches. Install posts a minimum of 1- to 2- inches above the fabric, with no more than 3-feet of the post above the ground. Space posts to maximum 6-foot centers. Attach fabric to wood posts using staples made of heavy-duty wire at least 1 1/2-inch long, spaced a maximum of 6-inches apart. Staple a 2-inch wide lathe over the filter fabric to securely fasten it to the upslope side of wooden posts. Attach fabric to the steel posts using heavy-duty plastic ties that are evenly spaced and placed in a manner to prevent sagging or tearing of the fabric. In call cases, ties should be affixed in no less than 4 places. Install the fabric a minimum of 24-inches above the ground. When necessary, the height of the fence above ground may be greater than 24-inches. In tidal areas, extra silt fence height may be required. The post height will be twice the exposed post height. Post spacing will remain the same and extra height fabric will be 4-, 5-, or 6-feet tall. Locate silt fence checks every 100 feet maximum and at low points. Install the fence perpendicular to the direction of flow and place the fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.

Inspection and Maintenance

Inspect every seven calendar days and within 24-hours after each rainfall event that produces 1/2-inches or more of precipitation. Check for sediment buildup and fence integrity. Check where runoff has eroded a channel beneath the fence, or where the fence has sagged or collapsed by fence overtopping. If the fence fabric tears, begins to decompose, or in any way becomes ineffective, replace the section of fence immediately. Remove sediment accumulated along the fence when it reaches 1/3 the height of the fence, especially if heavy rains are expected. Remove trapped sediment from the site or stabilize it on site. Remove silt fence within 30 days after final stabilization is achieved or after temporary best management practices (BMPs) are no longer needed. Permanently stabilize disturbed areas resulting from fence removal.

South Carolina Department of Health and Environmental Control
SILT FENCE
 STANDARD DRAWING NO. SC-03 Page 3 of 3
 APPROVED BY: [Signature] DATE: AUGUST, 2005

NOTE: WIRE MESH OR CHAIN LINK REINFORCEMENT WILL BE USED TO SUPPORT THE FILTER FABRIC IN SENSITIVE OR HIGH FLOW AREAS.



STABILIZED CONSTRUCTION ENTRANCE

When and Where to Use It
 Stabilized construction entrances should be used at all points where traffic will be leaving a construction site and moving directly onto a public road.

Important Considerations

If washing is used, provisions must be made to intercept the wash water and trap the sediment before it is carried offsite. Washdown facilities shall be required as directed by SCDHEC as needed. Washdown areas in general must be established with crushed gravel and drain into a sediment trap or sediment basin. Construction entrances should be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by vehicles.

Installation:

Remove all vegetation and any objectionable material from the foundation area.

Divert all surface runoff and drainage from stones to a sediment trap or basin.

Install a non-woven geotextile fabric prior to placing any stone.

Install a culvert pipe across the entrance when needed to provide positive drainage.

The entrance shall consist of 1-inch to 3-inch D50 stone placed at a minimum depth of 6-inches.

Minimum dimensions of the entrance shall be 24-feet wide by 100-feet long, and may be modified as necessary to accommodate site constraints.

The edges of the entrance shall be tapered out towards the road to prevent tracking of mud at the edge of the entrance.

South Carolina Department of Health and Environmental Control
STABILIZED CONSTRUCTION ENTRANCE
 STANDARD DRAWING NO. SC-06 Page 2 of 3
 APPROVED BY: [Signature] DATE: AUGUST, 2005

STABILIZED CONSTRUCTION ENTRANCE

Inspection and Maintenance:

Inspect construction entrances every seven (7) calendar days and within 24-hours after each rainfall event that produces 1/2-inches or more of precipitation, or after heavy use. Check for mud and sediment buildup and pad integrity. Make daily inspections during periods of wet weather. Maintenance is required more frequently in wet weather conditions. Reshape the stone pad as needed for drainage and runoff control.

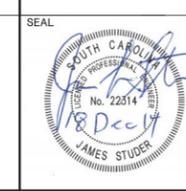
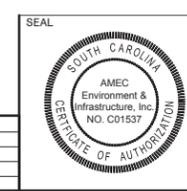
Wash or replace stones as needed and as directed by the inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce mud being carried off-site by vehicles. Frequent washing will extend the useful life of stone.

Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.

Repair any broken pavement immediately.

South Carolina Department of Health and Environmental Control
STABILIZED CONSTRUCTION ENTRANCE
 STANDARD DRAWING NO. SC-06 Page 3 of 3
 APPROVED BY: [Signature] DATE: AUGUST, 2005

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
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| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |



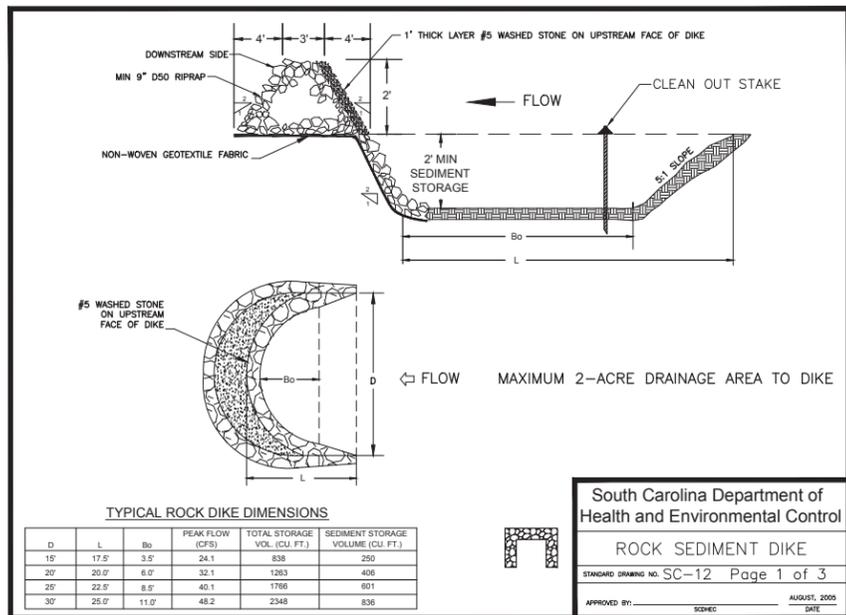
amec
 AMEC Environment & Infrastructure, Inc.
 1075 BIG SHANTY ROAD NW, SUITE 100
 KENNESAW, GA 30144
 TEL: (770) 421-3555
 FAX: (770) 421-3485

TITLE: ASH REMOVAL CONCEPT PLANS
 INACTIVE ASH BASIN AND ASH FILL AREA
 W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
 EROSION & SEDIMENTATION CONTROL DETAILS 1 OF 3
 FOR NOT RELEASED FOR CONSTRUCTION

SCALE: AS SHOWN
 DWG TYPE: DWG
 JOB NO: 7810-14-0165
 DATE: DECEMBER 18, 2014

DES: SA
 DFTR: CB
 CHKD: SJ
 ENGR: JS
 APPD: KD

FILENAME: ARCH D 24.0"x35.5"
 DRAWING NO. C-113
 REVISION A



TYPICAL ROCK DIKE DIMENSIONS

| D | L | B _o | PEAK FLOW (CFS) | TOTAL STORAGE VOL. (CU. FT.) | SEDIMENT STORAGE VOLUME (CU. FT.) |
|-----|-------|----------------|-----------------|------------------------------|-----------------------------------|
| 15' | 17.5' | 3.5' | 24.1 | 838 | 250 |
| 20' | 20.0' | 6.0' | 32.1 | 1283 | 406 |
| 25' | 22.5' | 8.5' | 40.1 | 1786 | 601 |
| 30' | 25.0' | 11.0' | 48.2 | 2348 | 836 |

South Carolina Department of Health and Environmental Control

ROCK SEDIMENT DIKE

STANDARD DRAWING NO. SC-12 Page 1 of 3

APPROVED BY: _____ DATE: _____

ROCK SEDIMENT DIKE

When and Where to Use It:

Rock sediment dikes are most effective in areas where sediment control is needed with minimal disturbance. They can be used as sediment control structures for the outfalls of diversion swales, diversion dikes, in low areas or other areas where concentrated sediment laden flow is expected. Rock sediment dikes should not be placed in Waters of the State or any other streams that have a base flow.

Installation:

A non-woven geotextile fabric shall be installed over the soil surface where the rock sediment dike is to be placed. The body of the rock sediment dike shall be composed of minimum 9-inch D50 Riprap. The upstream face of the rock sediment dike shall be composed of a 1-foot thick layer of 3/4-inch to 1-inch D50 washed stone placed at a slope of 2H:1V. Rock sediment dikes shall have a minimum top flow length of 3-feet (2-foot flow length through the riprap and 1-foot flow length through the washed stone). The rock must be placed by hand or mechanical placement (no dumping of rock to form the sediment dike) to achieve the proper dimensions. A sediment sump shall be located on the upstream side of the structure to provide sediment storage. The upstream side of the sediment sump shall have a slope of 5H:1V to inhibit erosion of the sediment storage area. The minimum depth of the sediment sump shall be 2-feet. Mark the sediment cleanout level of the sediment dike with a stake in the field. Seed and mulch all disturbed areas.

South Carolina Department of Health and Environmental Control

ROCK SEDIMENT DIKE

STANDARD DRAWING NO. SC-12 Page 2 of 3

APPROVED BY: _____ DATE: _____

ROCK SEDIMENT DIKE

Inspection and Maintenance:

The key to a functional rock sediment dike is continual monitoring, regular maintenance and regular sediment removal. Regular inspections should be done every seven (7) calendar days and within 24-hours after each rainfall event that produces 1/2-inches or more of precipitation. Remove sediment when it reaches 50% of the sediment storage volume or when reaches the top of cleanout stake. Removed sediment from the sump should be removed from, or stabilized on site. All rock sediment dikes should be removed within 30 days after final site stabilization is achieved or after they are no longer needed. Disturbed areas resulting from the removal of rock sediment dikes should be permanently stabilized.

South Carolina Department of Health and Environmental Control

ROCK SEDIMENT DIKE

STANDARD DRAWING NO. SC-12 Page 3 of 3

APPROVED BY: _____ DATE: _____

TABLE 6.11.a (Modified based on Duke Energy W.S. Lee Steam Station VMIP 2014)

HERBACEOUS PLANTS-Seeding recommendations for immediate stabilization/nurse crops (2 to 5 weeks for development; effectiveness goal: 6 months to 1 year stabilization)

NURSE CROP SPECIES - TEMPORARY SEEDING

| COMMON NAME | BOTANICAL NAME | NATIVE/ INTRODUCED | SEEDING RATES LBS/ACRE | FERTILIZATION/LIMESTONE LBS/ACRE | PLANTING DATA RANGE FOR PIEDMONT | SUN/SHADE TOLERANT | RIPARIAN BUFFERS | INVASIVE YES OR NO | INSTALLATION/MAINTENANCE CONSIDERATIONS | OTHER INFORMATION, COMMENTARY |
|---------------|-----------------|--------------------|------------------------|---|----------------------------------|--------------------|------------------|--------------------|---|---|
| RYE GRAIN | SECALE CEREALE | I | 125 LBS | BY SOIL TEST OR 2000 LBS/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LBS/ACRE 10-10-10 FERTILIZER | 8/15-12/30 | SUN | YES | NO | MUST BE MOWN TO REDUCE COMPETITIVENESS WITH PERMANENT OR LONG TERM VEGETATION | |
| GERMAN MILLET | SETARIA ITALICA | I | 50 LBS | BY SOIL TEST OR 2000 LBS/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LBS/ACRE 10-10-10 FERTILIZER | 1/1-5/1 | SUN | YES | NO | CROP SHOULD BE CUT/DISC PRIOR TO PLANTING PRIMARY OR LONG TERM VEGETATION | NOT WATER TOLERANT. MAY BE USED IN WETLANDS THAT ARE NOT CONTINUOUSLY SATURATED |

NOTES:

- SEEDING RATES ARE FOR HULLED SEED UNLESS OTHERWISE NOTED.
- FERTILIZER AND LIMESTONE - RATES TO BE APPLIED IN ABSENCE OF SOIL TESTS. RECOMMENDED APPLICATION RATE ASSUMES SIGNIFICANTLY DISTURBED SITE SOILS WITH LITTLE OR NO RESIDUAL VALUE.
- SPRIGGING IS NOT RECOMMENDED FOR IMMEDIATE STABILIZATION UNLESS TERRAIN IS FLAT HEAVY MULCH IS APPLIED AND NO OTHER IMMEDIATE STABILIZATION METHOD IS PRACTICAL.
- THIS PROJECT SITE IS LOCATED WITHIN THE PIEDMONT REGION.
- OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JULY.
- MULCH - 4000 LBS/ACRE STRAW. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING, OR MULCH ANCHORING TOOL.

TABLE 6.11.c (Modified based on Duke Energy Allen Steam Station VMIP 2014)

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization
Successful development depends on planting date (effectiveness goal: 6 months to 3 years without an ongoing maintenance program)

NATIVE SPECIES - PERMANENT SEEDING

| COMMON NAME | BOTANICAL NAME/CULTIVAR | NATIVE/ INTRODUCED | SEE TABLE 6.11.d FOR VARIETY SEEDING RATES | FERTILIZATION/LIMESTONE LBS/ACRE | PLANTING DATA RANGE FOR PIEDMONT | SUN/SHADE TOLERANT | RIPARIAN BUFFERS | INVASIVE YES OR NO | INSTALLATION/ MAINTENANCE CONSIDERATIONS | OTHER INFORMATION, COMMENTARY |
|------------------|-------------------------|--------------------|--|---|----------------------------------|--------------------|------------------|--------------------|--|-------------------------------|
| FESCUE, TALL MIX | FESTUCA ARUNDINACEA | N | 100 LBS/ACRE | BY SOIL TEST OR 4000 LBS/ACRE 1000 LBS/ACRE 10-10-10 FERTILIZER | 8/20-10/25 2/1-4/15 | SUN | WELL DRAINED | NO | 227,000 SEED PER POUND. USE ALONE ONLY ON BETTER SITES. NOT FOR DROUGHTY SOILS. MIX WITH PERENNIAL LESPEDEZAS OR CROWN VETCH. APPLY TOP DRESSING IN SPRING FOLLOWING FALL PLANTINGS. | WARM SEASON GRASS |

NOTES:

- SEEDING RATES ARE FOR HULLED SEED UNLESS OTHERWISE NOTED.
- FERTILIZER AND LIMESTONE - RATES TO BE APPLIED IN ABSENCE OF SOIL TESTS. RECOMMENDED APPLICATION RATE ASSUMES SIGNIFICANTLY DISTURBED SITE SOILS WITH LITTLE OR NO RESIDUAL VALUE.
- NATIVE, WARM SEASON GRASSES REQUIRE 6 OR MORE MONTHS TO GERMINATE UNDER OPTIMUM CONDITIONS. IF THEY ARE PLANTED IN THE SUMMER, THEN A WHOLE YEAR WILL HAVE TO PASS BEFORE THEY GERMINATE.
- LONG TERM STABILIZATION CAN ONLY BE ACCOMPLISHED WITH AN ADEQUATE, IMMEDIATE AND PRIMARY STABILIZATION PROGRAM.
- BETWEEN MAY 1 AND AUGUST 15, ADD 10 LBS/ACRE GERMAN MILLET OR 15 LBS/ACRE SUDONGRASS. PRIOR TO MAY 1 OR AFTER AUGUST 15, ADD 40 LBS/ACRE RYE (GRAIN).
- 4000 - 5000 LBS/ACRE GRAIN STRAW OR EQUIVALENT COVER AT ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING, OR NETTING. NETTING IS THE PREFERRED ANCHORING METHOD ON STEEP SLOPES.

PS PERMANENT SEEDING
NTS

| SPECIES | LBS/AC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RYE (GRAIN) | 125 | | | | | | | | | | | | |
| GERMAN MILLET | 50 | | | | | | | | | | | | |

NOTE: MODIFIED BASED ON DUKE ENERGY W.S. LEE STEAM STATION VEGETATION MANAGEMENT & IMPLEMENTATION PLAN (VMIP).

LIME

APPLY 2,000 LBS. OF GROUND COURSE TEXTURED AGRICULTURAL LIMESTONE PER ACRE (70 POUNDS PER 1000 SQUARE FEET).

FERTILIZER

APPLY A MINIMUM OF 1000 POUNDS PER ACRE OF A COMPLETE 10-10-10 FERTILIZER (23 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING PERMANENT SEEDING OF GRASSES. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4 TO 6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW. DO NOT MIX THE LIME AND THE FERTILIZER PRIOR TO THE FIELD APPLICATION.

SEEDING

LOOSEN THE SURFACE OF THE SOIL JUST BEFORE BROADCASTING THE SEED. EVENLY APPLY SEED BY THE MOST CONVENIENT METHOD AVAILABLE FOR THE TYPE OF SEED APPLIED AND THE LOCATION OF THE SEEDING. TYPICAL APPLICATION METHODS INCLUDE BUT ARE NOT LIMITED TO CYCLONE SEEDERS, ROTARY SPREADERS, DROP SPREADERS, BROADCAST SPREADERS, HAND SPREADERS, CULTIPACKER SEEDER, AND HYDRO-SEEDERS. COVER APPLIED SEED BY RAKING OR DRAGGING A CHAIN OR BRUSH MAT, AND THEN LIGHTLY FIRM THE AREA WITH A ROLLER OR CULTIPACKER. DO NOT ROLL SEED THAT IS APPLIED WITH A HYDRO-SEEDER AND HYDRO-MULCH.

MULCHING

COVER ALL PERMANENT SEEDED AREAS WITH MULCH IMMEDIATELY UPON COMPLETION OF THE SEEDING APPLICATION TO RETAIN SOIL MOISTURE AND REDUCE EROSION DURING ESTABLISHMENT OF VEGETATION. APPLY THE MULCH EVENLY IN SUCH A MANNER THAT IT PROVIDES A MINIMUM OF 75% COVERAGE. TYPICAL MULCH APPLICATIONS INCLUDE STRAW, WOOD FIBER, HYDROMULCHES, BFM AND FGM. USE HYDROMULCHES WITH A MINIMUM BLEND OF 70% WOOD FIBERS.

THE MOST COMMONLY ACCEPTED MULCH USED IN CONJUNCTION WITH PERMANENT SEEDING IS SMALL GRAIN STRAW. SELECT STRAW THAT IS DRY AND FREE FROM MOLD DAMAGE AND NOXIOUS WEEDS. THE STRAW MAY NEED TO BE ANCHORED WITH NETTING OR ASPHALT EMULSIONS TO PREVENT IT FROM BEING BLOWN OR WASHED AWAY. APPLY STRAW MULCH BY HAND OR MACHINE AT THE RATE OF 2 TONS PER ACRE (90 POUNDS PER 1000 FEET). FREQUENT INSPECTIONS ARE NECESSARY TO CHECK THAT CONDITIONS FOR GROWTH ARE GOOD.

TS M TEMPORARY SEEDING UPSTATE / MULCHING
NTS

| SPECIES | LBS/AC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RYE (GRAIN) | 50 | | | | | | | | | | | | |
| GERMAN MILLET | 50 | | | | | | | | | | | | |
| FESCUE, TALL (KY31) ALONE | 40 | | | | | | | | | | | | |
| FESCUE, TALL (KY31) MIX | 20 | | | | | | | | | | | | |

NOTE: MODIFIED BASED ON DUKE ENERGY W.S. LEE STEAM STATION VEGETATION MANAGEMENT & IMPLEMENTATION PLAN (VMIP).

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SEEDING

LOOSEN THE SURFACE OF THE SOIL JUST BEFORE BROADCASTING THE SEED. EVENLY APPLY SEED BY THE MOST CONVENIENT METHOD AVAILABLE FOR THE TYPE OF SEED APPLIED AND THE LOCATION OF THE SEEDING. TYPICAL APPLICATION METHODS INCLUDE BUT ARE NOT LIMITED TO CYCLONE SEEDERS, ROTARY SPREADERS, DROP SPREADERS, BROADCAST SPREADERS, HAND SPREADERS, CULTIPACKER SEEDER, AND HYDRO-SEEDERS. COVER APPLIED SEED BY RAKING OR DRAGGING A CHAIN OR BRUSH MAT, AND THEN LIGHTLY FIRM THE AREA WITH A ROLLER OR CULTIPACKER. DO NOT ROLL SEED THAT IS APPLIED WITH A HYDRO-SEEDER AND HYDRO-MULCH.

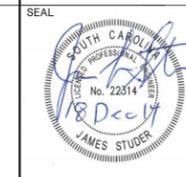
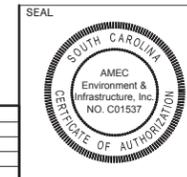
MULCHING

COVER ALL PERMANENT SEEDED AREAS WITH MULCH IMMEDIATELY UPON COMPLETION OF THE SEEDING APPLICATION TO RETAIN SOIL MOISTURE AND REDUCE EROSION DURING ESTABLISHMENT OF VEGETATION. APPLY THE MULCH EVENLY IN SUCH A MANNER THAT IT PROVIDES A MINIMUM OF 75% COVERAGE. TYPICAL MULCH APPLICATIONS INCLUDE STRAW, WOOD FIBER, HYDROMULCHES, BFM AND FGM. USE HYDROMULCHES WITH A MINIMUM BLEND OF 70% WOOD FIBERS.

THE MOST COMMONLY ACCEPTED MULCH USED IN CONJUNCTION WITH PERMANENT SEEDING IS SMALL GRAIN STRAW. SELECT STRAW THAT IS DRY AND FREE FROM MOLD DAMAGE AND NOXIOUS WEEDS. THE STRAW MAY NEED TO BE ANCHORED WITH NETTING OR ASPHALT EMULSIONS TO PREVENT IT FROM BEING BLOWN OR WASHED AWAY. APPLY STRAW MULCH BY HAND OR MACHINE AT THE RATE OF 2 TONS PER ACRE (90 POUNDS PER 1000 FEET). FREQUENT INSPECTIONS ARE NECESSARY TO CHECK THAT CONDITIONS FOR GROWTH ARE GOOD.

PS M PERMANENT SEEDING UPSTATE / MULCHING
NTS

| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |



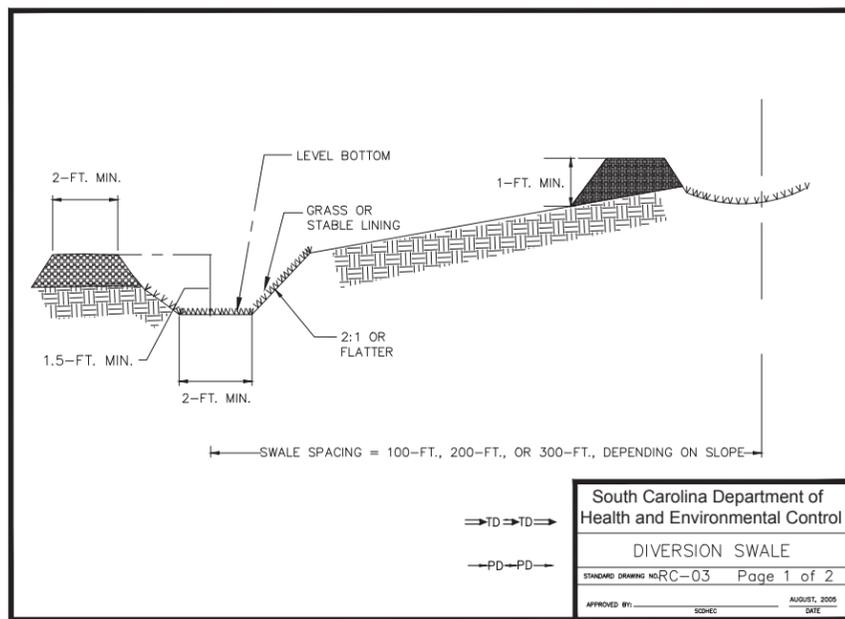
AMEC Environment & Infrastructure, Inc.
1075 BIG SHANTY ROAD NW, SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3555
FAX: (770) 421-3488

DUKE ENERGY

FILENAME: _____
DWG SIZE: ARCH D 24.0"x35.5"
DRAWING NO. C-114
REVISION: A

SCALE: AS SHOWN
DWG TYPE: DWG
JOB NO: 7810-14-0165
DATE: DECEMBER 18, 2014

DES: SA
DFTR: CB
CHKD: SJ
ENGR: JS
APPD: KD



South Carolina Department of Health and Environmental Control
 DIVERSION SWALE
 STANDARD DRAWING NO. RC-03 Page 1 of 2
 APPROVED BY: _____ DATE: _____

DIVERSION SWALE

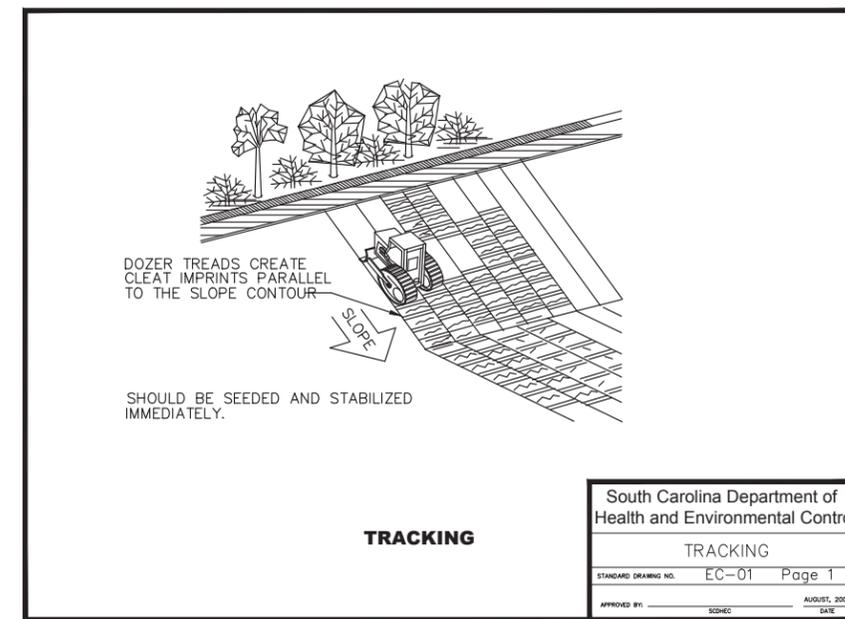
Installation

The bottom width should be a minimum of 2-feet, and the bottom should be level.
 The depth should be a minimum of 1.5-feet and the side slopes should be 2H:1V or flatter.
 The maximum grade shall be 5%, with positive drainage to a suitable outlet.
 Slopes shall be stabilized immediately using vegetation, sod, and erosion control blankets or turf reinforcement mats to prevent erosion.
 The upslope side of the swale should provide positive drainage so no erosion occurs at the outlet. Provide energy dissipation measures as necessary.
 Sediment-laden runoff shall be directed to a sediment trapping facility.

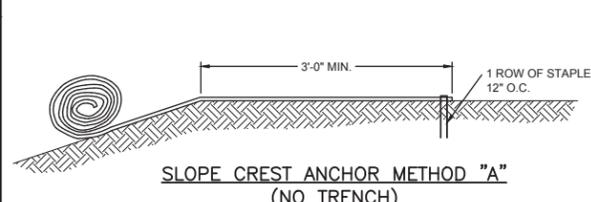
Inspection and Maintenance:

Swales should be inspected, every seven (7) calendar days and within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation and repairs made as necessary.
 Damage caused by construction traffic or other activity must be repaired before the end of each working day.

South Carolina Department of Health and Environmental Control
 DIVERSION SWALE
 STANDARD DRAWING NO. RC-03 Page 2 of 2
 APPROVED BY: _____ DATE: _____

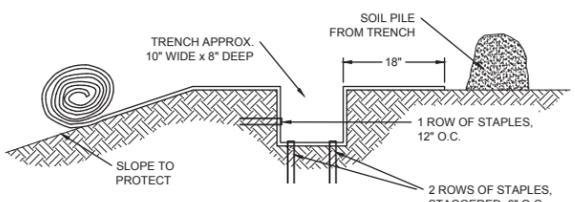


South Carolina Department of Health and Environmental Control
 TRACKING
 STANDARD DRAWING NO. EC-01 Page 1
 APPROVED BY: _____ DATE: _____

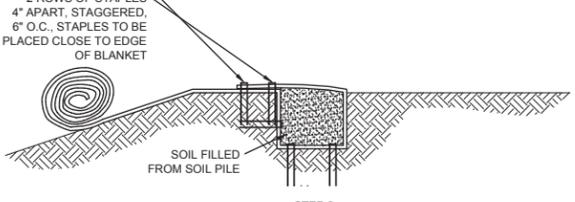


SLOPE CREST ANCHOR METHOD "A" (NO TRENCH)

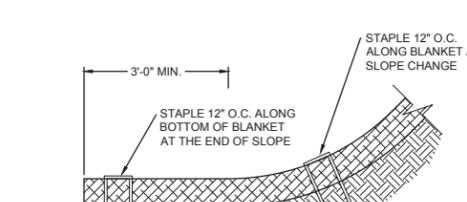
DO NOT NEED TO TRENCH BLANKET IF IT CAN BE EXTENDED A MINIMUM OF 3'-0" OVER THE CREST OF THE SLOPE.



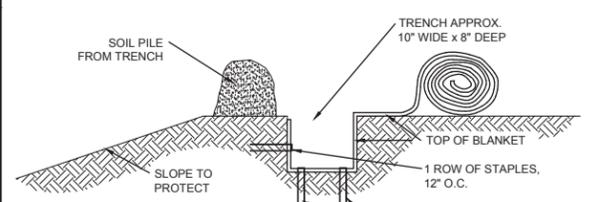
SLOPE TRENCHING METHOD "C" STEP 1



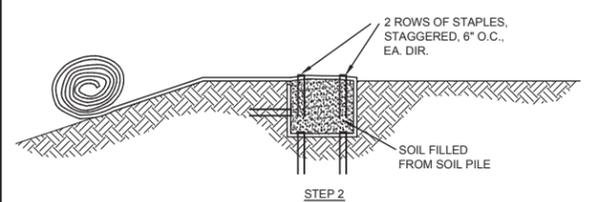
SLOPE TRENCHING METHOD "C" STEP 2



BOTTOM OF SLOPE TERMINATION DETAIL



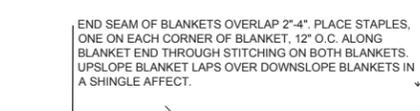
SLOPE TRENCHING METHOD "B" STEP 1



SLOPE TRENCHING METHOD "B" STEP 2

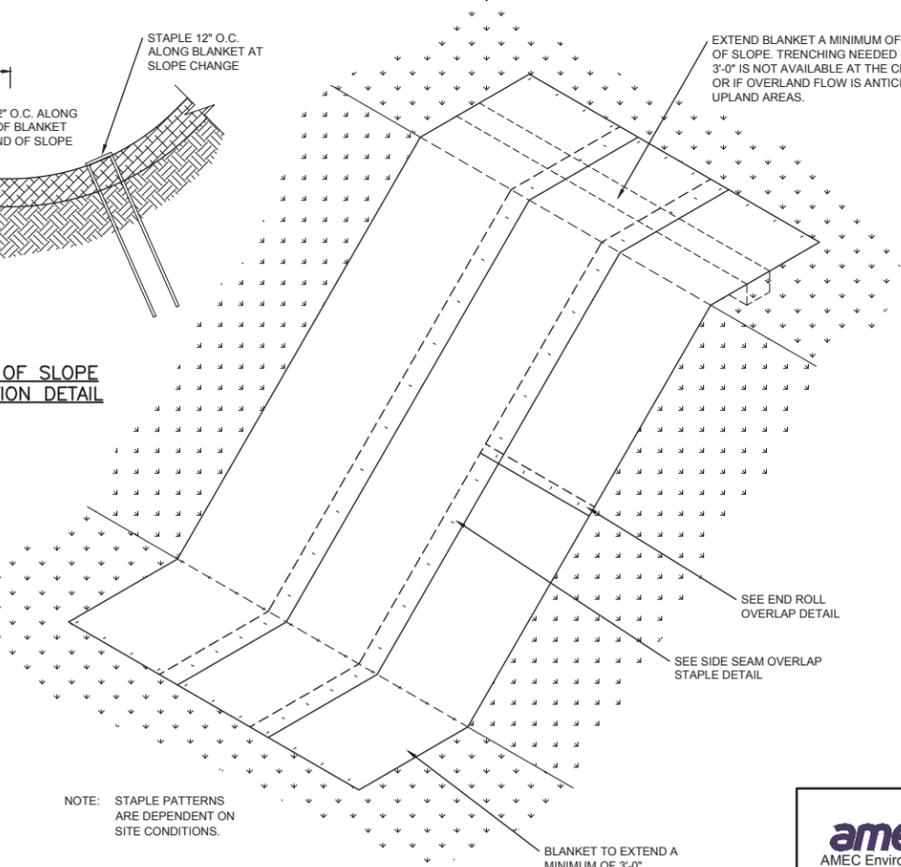


SIDE SEAM OVERLAP STAPLE DETAIL



END ROLL OVERLAP DETAIL

 **EROSION CONTROL BLANKET (ECB)**
 NTS



SLOPE DETAIL

NOTE: STAPLE PATTERNS ARE DEPENDENT ON SITE CONDITIONS.

BLANKET TO EXTEND A MINIMUM OF 3'-0" BEYOND TOE OF SLOPE. SEE BOTTOM OF SLOPE TERMINATION DETAIL.

amec
 AMEC Environment & Infrastructure, Inc.
 1075 BIG SHANTY ROAD NW, SUITE 100
 KENNESAW, GA 30144
 TEL: (770) 421-3555
 FAX: (770) 421-3485

DUKE ENERGY

TITLE: ASH REMOVAL CONCEPT PLANS
 INACTIVE ASH BASIN AND ASH FILL AREA
 W.S. LEE STEAM STATION
ANDERSON COUNTY, SOUTH CAROLINA
 EROSION & SEDIMENTATION CONTROL DETAILS 3 OF 3
 FOR NOT RELEASED FOR CONSTRUCTION

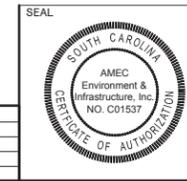
SCALE: AS SHOWN
 DWG TYPE: DWG
 JOB NO: 7810-14-0165
 DATE: DECEMBER 18, 2014

DES: SA
 DFTR: CB
 CHKD: SJ
 ENGR: JS
 APPD: KD

FILENAME: _____
 DWG SIZE: _____
 ARCH D 24.0"x35.5"

DRAWING NO. **C-115**

REVISION **A**



| REV | DATE | JOB NO. | PROJECT TYPE | DES | DFTR | CHKD | ENGR | APPD | DESCRIPTION |
|-----|----------|--------------|---------------|-----|------|------|------|------|--------------------------|
| A | 12/18/14 | 7810-14-0165 | CONCEPT PLANS | SA | CB | SJ | JS | KD | ISSUED FOR SCDHEC REVIEW |

C-115
 REV. A

Appendix B: Glossary

The following table defines the terms used in this Plan.

| Term | Definition |
|--|--|
| ABSAT | Duke Energy organization acronym for Ash Basin Strategic Action Team |
| Ash Fill Area | Area located within the W.S. Lee property directly across Lee Steam Plant Road from the IAB where CCR was used as backfill into a borrow area. Also referred to as the “Abandoned Borrow Area” or the “Former Borrow Area” |
| Ash Basin | A topographic depression, excavation, or dammed area that is primarily formed from earthen materials; and an area that is designed to hold accumulated coal combustion residuals in the form of liquid wastes, wastes containing free liquids, or sludge, and that is not backfilled or otherwise covered during periods of deposition |
| Ash Removal Plan | Plan required by the Consent Agreement for the removal of ash from the William States Lee (W.S. Lee) “Inactive Ash Basin” (IAB) and the “Ash Fill Area” and all areas where ash, other coal combustion residuals, or their constituents, including contaminants, may have potentially migrated from these ash placement areas (the Site) |
| Bottom Ash | The agglomerated, angular ash particles formed in pulverized coal furnaces that are too large to be carried in the flue gases and collect on the furnace walls. Bottom Ash falls through open grates to an ash hopper at the bottom of the furnace |
| Coal Combustion Residuals (CCR) | Residuals including fly ash, bottom ash, boiler slag, mill rejects, and flue gas desulfurization residue produced by a coal-fired generating unit |
| Consent Agreement | Consent Agreement 14-13-HW between the South Carolina Department of Health and Environmental Control and Duke Energy to assess and remove ash from the “Site” at W.S. Lee Steam Station |
| Contact Water | Surface water which accumulates during rainfall events and seepage from stockpiles of ash with entrapped water |
| Decanting | The act of removing water from ash |
| Dewatering | The act of removing water from an ash basin |

W.S. Lee Steam Station – Ash Removal Plan

December 18, 2014

| Term | Definition |
|----------------------------------|--|
| Duke Safe Work Practices | Document detailing the Duke Energy safety guidelines |
| Engineer of Record | Duke Energy or 3rd party contracted engineer responsible for final verification of specific plan actions and documents |
| Excavation Activities | Tasks and work performed related to the planning, engineering and excavation of ash from an ash basin or fill area |
| Factor of Safety | In reference to dam safety, the ratio of the forces or moments resisting mass movement to the forces or moments tending to produce mass movement |
| Free Water | Water above the ash contained in the IAB |
| Fly Ash | Very fine, powdery material, composed mostly of silica with nearly all particles spherical in shape, which is a product of burning finely ground coal in a boiler to produce electricity and is removed from the plant exhaust gases by air emission control devices |
| Inactive Ash Basin | Unregulated basin located southeast of the WS Lee power plant. Constructed in 1951 and expanded in 1959. Used to impound CCR from 1951 to 1974 |
| Implementation Schedule | Schedule for the major activities required to complete the work included in the ash removal project |
| NPDES | National Pollutant Discharge Elimination System |
| NPDES Permit | A permit that regulates the direct discharge of wastewater to surface waters |
| Off-Site Storage Facility | A structural fill or disposal facility for the long term storage of coal combustion residuals, located outside the W.S. Lee Steam Station property boundary |
| Permitting | Federal, state, county or local government authorizing document |
| Primary Ash Basin | Southeastern cell of the active ash basin system located at W.S. Lee Steam Station |
| SCDHEC | The South Carolina Department of Health and Environmental Control |

| Term | Definition |
|----------------------------|--|
| Secondary Ash Basin | Northwestern cell of the active ash basin system located at W.S. Lee Steam Station |
| Site | Inactive Ash Basin, Ash Fill Area, and all areas at W.S. Lee where ash, other coal combustion residuals, or their constituents, including contaminants, may have potentially migrated from these ash placement areas |
| Work Plan | Document detailing activities to accomplish a specific task or scope of work |
| W.S. Lee | William States Lee Steam Station located at 205 Lee Steam Road, Belton, South Carolina in Anderson County (Tax Map Number 260-00-01-003-000) |

Appendix C: Reference Documents

The following documents were referenced in preparation of this Plan.

| Ref | Document | Date |
|-----|---|--------------------|
| 1 | Consent Agreement 14-13-HW | September 29, 2014 |
| 2 | Retired (1951) Ash Pond Dam Access Route Stability Evaluation | July 25, 2014 |
| 3 | Existing Basin Dike Stability Evaluation and Liquefaction Potential Study, 1951 Retired Ash Basin | September 12, 2014 |
| 4 | Investigative Derived Waste Clarification Letter | November 12, 2014 |
| 5 | Supplement to Retired (1951) Ash Basin Dike Stability Evaluation Excavation Stability Evaluation | November 21, 2014 |
| 6 | Supplement 2 to Retired (1951) Ash Basin Dike Stability Evaluation Excavation Stability Evaluation (Construction Loading) | December 11, 2014 |
| 7 | Interim Report of Exploration Activities, Abandoned Borrow Area | November 7, 2014 |
| 8 | Supplement to Retired (1951) Ash Pond Dam Access Route Stability Evaluation | December 10, 2014 |
| 9 | Investigative Derived Waste Sampling Abandoned Borrow Area-Lee Steam Station | November 26, 2014 |