APPENDIX T

ALTERNATIVES EVALUATION

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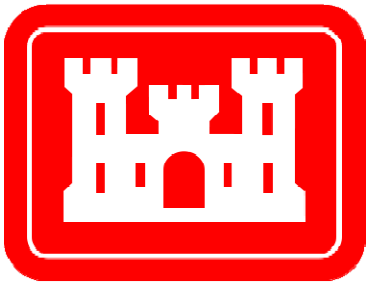
KEMPER COUNTY IGCC PROJECT



SUPPLEMENTAL SUBMITTALS

TO SUPPORT

U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT

DEPARTMENT OF THE ARMY PERMIT APPLICATIONS

SAM-2008-1759-DMY

AND

SAM-2009-1149-DMY

APRIL 2010

Note: Information enclosed was provided by the applicant to support the Environmental Impact Statement. Final evaluation of alternatives by the U.S. Army Corps of Engineers, Mobile District will be performed in the permit review process.

MISSISSIPPI POWER
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April 7, 2010

Mr. Damon M. Young
Regulatory Division
U.S. Army Corps of Engineers
Mobile District CESAM-RD0I
109 St. Joseph St.
Mobile, AL 36628-0001

RE: Alternatives Evaluation related to the proposed Integrated Gasification Combined Cycle (IGCC) Plant and Surface Mine in Kemper County, Mississippi

Dear Mr. Young,

Attached for your use and files is a general description of the process that was used to select the proposed location for the above-referenced project.

If you have any questions or require additional information, please feel free to contact our offices at your convenience.

Sincerely,

Rick Berry, Environmental Manager
Mississippi Power

Harry B. Tipton, Manager Red Hills Mine
North American Coal Corporation

ALTERNATIVES EVALUATION

Mississippi Power Company (Mississippi Power) and the North American Coal Corporation (NACC) are proposing the construction and operation of a power plant and the opening and operation of a lignite mine, respectively. The proposed power plant would be built in Kemper County, in east-central Mississippi, and would demonstrate an advanced integrated gasification combined-cycle (IGCC) generation system. The facility would convert lignite into a synthesis gas for generating 582 megawatts (nominal capacity) of electricity, while reducing emissions of carbon dioxide (CO_2), sulfur dioxide, oxides of nitrogen, mercury, and particulates compared to conventional lignite-fired power plants. New transmission lines and transmission and distribution line upgrades, a natural gas pipeline, a reclaimed water pipeline, and a CO_2 pipeline would be constructed in connection with the power plant. NACC's proposed lignite mine would be located on adjoining properties in Kemper County but would extend into Lauderdale County. See Figure 1.

At the request of the U.S. Army Corps of Engineers (USACE), due to its roles as a formal cooperating agency under the National Environmental Policy Act (NEPA) and the Federal agency responsible for compliance with Section 404 of the Clean Water Act (CWA), both NACC and Mississippi Power performed evaluations of alternative sites and the minimization of onsite impacts to aquatic resources through site plan alternatives evaluations. An evaluation of practicable alternatives is required to minimize environmental impacts under NEPA as part of the public interest review conducted by USACE when evaluating the NACC and Mississippi Power 404 Permit applications. These evaluations also assist in the evaluation of alternate sites in accordance with 33 CFR 320.4(b) and part of 40 CFR 230.10. As required by 40 CFR 230.10 (i.e., the (404)(b)(1) Guidelines), no discharge shall be permitted if there is a practicable alternative to the discharge which would have less adverse impact on the aquatic ecosystem.

Also, when the activity associated with a discharge proposed to occur in a special aquatic site does not require access, or proximity to, or location within the special aquatic site in question to fulfill its basic project purpose (i.e., is not water-dependent), practicable alternatives that do not impact special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. The basic purpose for this project is non-water dependent. Therefore, an evaluation of *practicable* alternatives is required by 40 CFR 230 to minimize impacts to special aquatic sites and is required under the NEPA for purposes of the USACE's public interest review. In order for an alternative to be practicable, it must fulfill the overall project purpose and meet the applicants' needs in the context of the desired geographic area and the type of project being proposed. *Practicable* means capable of being accomplished within existing constraints, depending on the situation and including consideration of many factors, such as the existing environment, cost, technology, and implementation time. USACE's evaluation of alternatives relates primarily to considerations associated with avoiding and minimizing impacts to the aquatic environment and protecting navigational interests in conjunction with practicability. Both NACC and Mississippi Power provided information in support of the EIS and concluded from the analysis that the proposed Kemper County site is the only practicable alternative site for the project.

Mississippi Power Avoidance and Minimization Analysis

As its planning review progressed, Mississippi Power identified lignite as an abundant, economic, local resource, that provided the only option for both consistent long-term fuel pricing and reliable supply. Moreover, it would diversify Mississippi Power's fuel stock, which already includes natural gas and bituminous and sub-bituminous coals. It soon became apparent that, due to the relatively high moisture and lower heating values of lignite, increased transportation costs meant that only a mine-mouth location would be economically viable for a lignite-fueled unit. Accordingly, Mississippi Power focused its review of possible sites using the following priorities:

- Location of accessible lignite reserves near Mississippi Power's service territory, shown in Figure 2.
- Proximity to infrastructure, including Mississippi Power's electrical transmission facilities and natural gas supply.
- Topography, including the location of floodplains and wetlands.
- Available open space.

Using more refined data from the U.S. Geological Survey (USGS) and from the mining industry, Mississippi Power studied the most promising lignite resources in the area of its service territory. Mississippi Power also approached NACC for its advice regarding the location of a lignite mine and plant site. Criteria used in this evaluation included the following:

- Size of recoverable reserve sufficient to supply a nominal 500- to 600-MW generation facility for at least 40 years.
- Economy of mining, based on the total depth of overburden (non-lignite materials above and between seams of lignite), thickness of the lignite seams, quality of the lignite, competing surface land uses, and initial mine development costs.
- Location of the reserve in relation to connecting the proposed generation facility to the electrical distribution system.

- Reliability of data available indicating the presence of sufficient economic reserves.
- Location near existing infrastructure for the construction of linear support facilities.

These efforts identified three general areas that could be suitable: the proposed site in Kemper County, the Red Hills Mine in Choctaw County, and an area identified as "Refuge" in northern Kemper County. Additional information on these sites is provided later in this document under NACC's site selection process. Of these sites, Mississippi Power preferred the southernmost because it is closest to existing infrastructure and would require the shortest linear support facilities. All three sites consist of generally similar landforms and topographies, and Mississippi Power had no expectation that any of the sites would involve materially different impacts to, for example, wetlands, or floodplains. However, selecting the site which minimized the nominal lengths of the linear support facilities would reduce the cost and environmental impact of those facilities proportionately. No existing sites within Mississippi Power's service territory met the evaluation criteria, provided greater cost savings, or reduced environmental impacts than the sites in Kemper County. NACC had also independently identified the southernmost site in 2002 as a potential mine location and had already gathered specific developmental information on the site.

Having determined that the selected site for the mine was the only feasible plant location, based on the availability of economic lignite and the relative proximity to existing infrastructure, Mississippi Power identified two options for the location of an immediately adjacent power plant, one on the western side and one on the eastern side of the lignite reserve block. In light of the previously stated factors (proximity to infrastructure, topography, and available open space), Mississippi Power rejected the west side of the mine as a possible site and preferred the selected site on the east side as the only viable alternative.

Minimization Process

Impact Minimization – Plant Site

Efforts were made during the initial design phases of the project to minimize impacts on the selected site using several layout alternatives. These included:

- Avoiding and minimizing impacts to the most high value wetlands and streams;
- Moving the core development project components (plant island and ancillary structures) to the largest contiguous upland area;
- Locating the ancillary development areas (ash management units, storm water management structures, make-up water reservoir, etc.) in the remaining contiguous upland areas within project design parameters.

Several alternative site layouts were considered by the applicant in order to minimize the potential environmental impacts of the project. Figures 3 - 5 show examples of various plant layout designs that have evolved during the site evaluation process. Mandatory components of the power plant design include the power generation equipment, pollution control equipment, cooling towers, by-product handling operations, onsite coal handling and processing facilities, flares, gasification ash management units, water control structures, and other ancillary infrastructure. There is no practicable way to reduce the size of the facility or scope of work and still meet the production and operational needs of the applicant.

Steps to establishing the IGCC plant site arrangement included a review of available space for the facility at a macro level. As part of site selection, the site area was overlaid with a rectangular area of 80 acres, representing the minimum space sufficient for the combined gasifier system and power block. Several locations on the site were preliminarily determined to be of sufficient size and at an elevation above the 100-year floodplain and with comparable amounts of site improvements required. With each of the locations considered for the footprint, companion areas in excess of 100 acres were

also identified for potential placement of ash storage. With several potential configurations initially possible, the site as proposed was deemed to have sufficient space and flexibility to allow continued development through continued engineering design and layout studies.

The proposed IGCC plant layout would have a similar set of engineering constraints and design requirements as other simple-cycle and combined-cycle plants that Southern Company has designed and constructed. Ideally:

- The CT machine axes are aligned parallel to each other and with the steam turbine axis.
- All of the generator step-ups for the combined-cycle block are in a line that is perpendicular to the generator axis.
- The HRSGs are on the opposite side of a CT from the generator, but on the same axis.
- The cooling towers associated with the HRSGs are reasonably close and aligned to the steam turbine. The cooling towers should be in an advantageous direction (downwind) and at a sufficient distance to minimize drift to the power block. One cooling tower is required per combined-cycle block. Cooling towers must also be at a minimum of 1,000 ft from roads or highways.
- Condensate storage tanks, a water plant, and administration/control building are located adjacent to the unit.
- Adequate buffer area is provided between surrounding properties and the power block and associated equipment. As with the simple-cycle and combined-cycle layouts, the buffer area for an IGCC facility will vary depending on local surroundings. Minimizing offsite noise is an important factor in providing buffer.

The proposed gasification component would also require its own 10-cell cooling tower that would also have to be located a minimum of 1,000 ft from roads or highways. The

proposed IGCC plant also would need to include coal handling facilities and provisions for ash storage onsite, as discussed previously. NACC's coal handling facilities, including settling ponds, would also need to fit within the 1,650-acre site. Another constraint on this site is the presence of low areas, including wetlands associated with Chickasawhay Creek, covering much of the western area of the site.

Additional onsite facilities would include an approximately 75-acre reservoir to store reclaimed effluent received from the Meridian POTWs. This water will be used exclusively as make-up cooling water. The initially preferred reservoir location east of MS 493 was chosen based on space availability, topography, and possible future expansion considerations. However, this area was subsequently determined to affect a larger total of linear stream feet, so a less preferable area, west of MS 493 and south of the power plant footprint, was identified.

Building and operating a series of tanks in an upland area with the capacity to provide adequate water supply storage would be prohibitively expensive. Excavation of upland areas to create the reservoir (e.g., south of the IGCC plant) would be less expensive than tanks, but still prohibitively expensive and thus not feasible. In addition, because of the limited upland space available within the plant property, both of these water storage methods would interfere with possible future expansion considerations. Thus, it would not be feasible to store a sufficient quantity of water onsite other than in a reservoir at the proposed location.

The proposed layout incorporating all of these facilities is shown in Figure 6. As this layout shows, meeting the basic design constraints would limit the possible options for placing equipment and facilities on the site. The proposed layout would meet the principal criteria (discussed previously), provide space for water and waste storage (if needed), and still avoid impacts to the western portion of the site.

Impact Minimization – Linear Facilities

All linear facilities associated with this project (a 6.5-mile natural gas pipeline and metering station, 65 miles of new transmission lines including 3 new substations, 24 miles of upgraded transmission lines, and a 29.5-mile reclaimed water pipeline) were routed according to Mississippi Power's *Transmission Line Routing and Design Procedure*. A 61-mile CO_2 pipeline will be built by others and, although not associated with Mississippi Power from a permitting standpoint, was also routed using this same procedure.

Proposed linear routes were generally arranged so as to minimize the distance between the two necessary end points thereby minimizing length and land affected while still avoiding built-up or sensitive areas. Additionally, wherever possible, rights-of-way were combined or situated adjacent to existing rights-of-way to minimize impacts.

The preferred route for the natural gas pipeline was determined by reviewing the shortest route (running directly east from the power plant site to Tennessee Gas Pipeline Company's existing large-diameter gas supply pipeline), then surveying and field-inspecting the route to adjust for areas to avoid (e.g., wetlands) as referenced in Mississippi Power's procedures.

For the longer new transmission lines, at least two alternative routes were developed and evaluated using available mapping and aerial photographs to select the primary route. The alternative routes were identified and evaluated considering factors that included:

- Avoidance of built-up and densely developed areas, including residential areas, buildings, bridges, airports, cemeteries, landfills, and irrigation systems.
- Avoidance of environmentally sensitive or problematic areas, such as wetlands, rivers, lakes, landfills, and contaminated sites; known locations of culturally or historically significant sites or areas; and known locations of sensitive species or their habitats.

- Avoidance of difficult terrain or other conditions that would pose engineering, construction, operating, or economic concerns or maintenance and reliability issues.
- Use of existing rights-of-way.

Once the primary routes were identified, a preliminary route was developed. Noteworthy features of some of the preliminary routes are:

- The routes for new transmission lines generally approximate the shortest distance between the required end points, thus minimizing length and land affected while still avoiding built-up or sensitive areas.
- Routes of the East Feeder and the reclaimed water pipeline coincide to minimize impacts.

Importantly, Mississippi Power might revise or amend the route for one or more of its linear facilities, although the analysis of impacts provided herein should cover any impacts resulting from any such revisions to those routes. It is not expected that any such route changes would result in the aggregate to any significant differences in the analysis of impacts discussed in this document.

Impacts Associated with the Project as Proposed

In response to agency comments, Mississippi Power conducted additional field work to update the wetlands delineation that was originally completed in 2007. Based on this field work, the project would disturb approximately 31 acres of wetlands and approximately 20,000 linear feet of perennial and intermittent stream impacts as originally proposed. In an effort to reduce these impacts, the Make-Up Water Reservoir has been relocated from the east side of MS 493 to an area on the west side, contiguous to the plant. By moving this reservoir, Mississippi Power would reduce the overall permanent impacts to 28.1 acres of wetlands and 11,550 linear feet of intermittent stream impacts. No perennial stream impacts would occur as a result of the modified site plan. Other minor changes to the proposed plant layout would include a necessary realignment

of the NACC's mine haul road and expansion of a fill area north of the coal handling facilities.

Secondary impacts, associated with the loss of wetlands function and value within 300 feet of the limits of fill in accordance with USACE's Wetland Rapid Assessment Procedure (WRAP), were also assessed in connection with the plant site. Based on this assessment, 13.0 acres of wetlands would be secondarily impacted by the development of the plant site.

Aquatic resource impacts associated with the construction of the linear facilities would generally result from the removal of vegetation for the installation of overhead transmission lines and open-trenching for the installation of pipelines. The right-of-way (ROW) clearing for the new transmission lines would not involve a discharge of fill and, therefore, no wetland loss. However, the ROW would be maintained as an herbaceous wetland system with no change in existing topography.

The activities associated with the installation of the pipelines would result in a temporary loss of wetland functions through mechanical land clearing and open-trenching. Approximately 9.27 acres of forested wetlands would be temporarily disturbed by these activities. All open trenches would be backfilled and restored to pre-existing contours. There would be a conversion of habitat from forested and shrub habitats to a maintained emergent habitat. Mississippi Power would coordinate with the Mississippi Department of Environmental Quality (MDEQ) and USACE concerning compensatory wetland mitigation. Additional information on compensatory mitigation, submitted in support of the DOE's Environmental Impact Statement, has been provided to your office under separate cover. Based on an estimated 10-foot impact zone within the proposed ROW widths, temporary stream impacts for the linear facilities would be 1,871 linear feet.

In summary, the proposed project would result in the permanent loss of approximately 28.1 acres of wetlands and 11,550 linear feet of stream channel, 13.0 acres of secondary

wetlands impacts, and temporary impacts to 9.27 acres of wetlands and 1,871 linear feet of stream.

No Action Alternative for Mississippi Power

The "no action" alternative would be for USACE to deny Mississippi Power's permit application and not allow the Mississippi Power to fill any jurisdictional wetlands or streams. Because of the location and orientation of the wetlands and streams on the parcel, it is not possible to construct the proposed project at the site without impacting waters of the U.S.; therefore, a permit denial would most probably cause Mississippi Power to abandon plans to develop the project at this site. Also, since a practicable alternative location is not feasible, the Kemper County IGCC Project would not likely be built. The cancellation of this project would have wide-reaching effects not only on the immediate area of Kemper and the surrounding counties, but for all of Mississippi Power's service territory.

Mississippi Power would be forced to pursue more costly power generation alternatives in order to meet the predicted need of between 318 MW and 601 MW of baseload generation capacity beginning during the summer season of 2014. This need has been documented in direct testimony before the Mississippi Public Service Commission in 2009. The decision to abandon the project as proposed would also result in the loss of the projected 105 permanent operational-phase jobs and the projected 1,150 construction-related jobs that the facility is predicted to provide.

In addition, local government revenues would not experience the benefit of sales tax proceeds associated with worker spending, sales tax proceeds associated with equipment and materials procurement locally, property taxes for the improvements and increased value of the power plant, and ad valorem taxes for workers purchasing residential property. The Regional Industrial Multiplier System (RIMS), developed by the U.S. Bureau of Economic Analysis to estimate regional input-output multipliers, estimated that the impact to the region from construction of the power plant would be an additional $71.54 million and 159 jobs. RIMS estimates that the impact to the region from

operation of the power plant for the first six years would be an additional $5.5 million and 34 jobs and for the remainder of the life of the power plant to be an additional $4.26 million and 29 jobs.

The North American Coal Corporation Avoidance and Minimization Analysis

- Enough reliable data must be available to confirm the presence of sufficient economic reserves in terms of quantity, quality, and cost.
- Minimum site size of adequate developable acres with a strong preference for contiguous acreage;
- Site has suitable geotechnical conditions;
- Majority of the site located outside the 100-year floodplain;
- Site able to operate on a 24-hour, 7-day basis;
- Area able to support construction and operating labor requirements;
- Compatible surrounding land uses.

As discussed earlier, NACC worked with Mississippi Power to evaluate potential reserve sites using each of these criteria. A total of three general areas that might be suitable were evaluated: the proposed location and two additional areas to the north. In each of these categories, the southernmost site (the currently proposed site in Kemper County) ranked equal to or higher than other potential reserve sites. The currently proposed site is also most proximate to the Mississippi Power service territory and existing infrastructure.

The first alternative site considered was the existing Red Hills Mine in Choctaw County. This consideration involved expanding the existing mine in terms of additional reserves, additional equipment, and additional handling capacity that would enlarge the existing "footprint". Initial evaluation of the potential additional reserve at Red Hills indicated that there was not adequate volume of proven, economical reserve to fulfill the existing contractual obligation plus the additional demand from the IGCC plant for 40 years. Additionally, the Red Hills Mine location is well north of the Mississippi Power service area. This location, remote from Mississippi Power's service area, would require transporting the fuel to the IGCC plant. There is no railroad servicing the Red Hills Mine and the proposed IGCC plant location. Truck transportation would significantly increase the volume of large truck traffic and would significantly increase the cost of the fuel. Upon discussions with Mississippi Power, the remote location of the fuel from their service area was problematic. Upon further economic evaluation, the remote location

was cost prohibitive due to the distance required to transport the fuel from its source to the proposed location of the IGCC plant. Because this site was economically prohibitive, no further evaluation of this site occurred.

The second alternative site considered was an area identified as the "Refuge" located in northern Kemper County. This site contains enough proven reserves; however, again because of its location north of Mississippi Power's service area, it would require transporting the fuel to the IGCC plant, which would be located within or near Mississippi Power's service area. There is no railroad service between this reserve location and the proposed IGCC plant location. As a result, the fuel would be trucked. This mode of transportation would significantly increase the volume of large truck traffic on local area roads and would significantly increase the cost of the fuel. In addition, the coal in "Refuge" is lower quality, which means more lignite would be required to fuel the IGCC plant, thereby translating into the disturbance of more land to fulfill the energy demand from the proposed IGCC plant. Also, surface encumbrances are present at the "Refuge" site. There is a naval auxiliary air station located in the middle of the reserve, which would require extra cost to mine around or relocate, loss of some reserves, and other planning considerations. As a result of all of these considerations, it was determined that the "Refuge" location would be uneconomical to provide the fuel required for the Kemper County IGCC project.

Because of the remote location of the Red Hills and Refuge sites to Mississippi Power's service area, selection of these two sites would require substantial fuel transportation distances. This factor, along with the other factors discussed above, renders these two options uneconomical. No additional work beyond the economic evaluation of the transportation, reserve quantity and quality, and surface encumbrances was completed.

Minimization Process

Several alternative site layouts were considered by NACC in order to minimize the potential environmental impacts of the project. There is no practicable way to reduce the

size of the life of mine footprint and still meet the production level (tonnage/Btu) required by the IGCC power plant.
Efforts to minimize impacts in the site layout design alternatives included:

- Avoiding and minimizing impacts to the highest value wetlands and streams.
- Modifying the pit layout and configuration to minimize the duration of the impact on local area streams.

During the development of the mine plan, the proposed configuration of the mine was revised to balance coal recovery, economics, and the environment effects. These efforts resulted in several alternate configurations. The following alternatives were evaluated.

Alternative A: this plan maximized the recovery of the lignite reserve and maximized the economy of the mining technique. Fundamentally, the most economically viable lignite reserve was identified, a 40-year mine plan was developed, and water control structures were designed. As a result, Alternative A maximized the footprint of the mine impacts and represented a large wetland disturbance that included a large area to the north of Block G, disturbance to the west of Blocks D, E, and F, disturbance of all of Penders Creek within the area of mine impact, and disturbance to Okatibbee Creek and the Wildlife Management Area at Lake Okatibbee (See Figure 7).

Alternative B: this plan was still focused on the economy of the mining technique but focused on reducing hydrologic impacts to Okatibbee Creek and the Wildlife Management Area (WMA) associated with Okatibbee Lake. The southwestern mine block was shifted north to avoid disturbance to Okatibbee Creek and some of the associated riparian wetlands and stayed completely out of the WMA (See Figure 8).

Alternative C: this plan built on the previous two alternatives but was developed to further protect the overall project-area hydrologic balance. Several large reservoirs and fresh water drainages were eliminated thereby retaining all surface water within the

Chickasawhay drainage basin. The mine blocks were reoriented from a full east-west extension to three east-west panels to minimize the time of impact to the individual watersheds of all creeks within the project area. This alternative reduced the environmental impact due to reducing duration of impact yet allowed for mining of economically viable, low recovery ratio lignite reserves in the mine study area (See Figure 9).

Alternative D: this plan is more protective of the project area hydrologic balance however, it precludes the recovery of a substantial volume of economically viable reserves by avoiding portions of the Penders Creek basin and the area immediately northeast of Okatibbee Creek. This plan no longer diverts water into sections of the Okatibbee Creek and reduces the need for the large pond on the south side of the mine block north of the WMA. It avoids mining reserves on the west side of the main channel of Pender's Creek and increases the offset from Okatibbee Creek to avoid a large portion of the wetlands associated with Okatibbee Creek. This alternative, which is the currently proposed mine plan, minimizes wetland and floodplain impacts but leaves approximately 10.0 million tons of lignite in the ground (See Figure 10).

These alternatives were evaluated in a step-wise manner to reduce the environmental impact of the mine project while remaining cognizant of the Surface Mining Control and Reclamation Act of 1977 and the subsequent Surface Mining Regulations of the Mississippi Department of Environmental Quality (MDEQ) regulation requirements to maximize the utilization and conservation of the coal so that re-affecting the land in the future through surface coal mining operations is minimized.

If NACC's Section 404 Permit application is approved by USACE, compensation for un-avoidable impacts to aquatic resources would be provided in accordance with the Compensatory Mitigation Rule. Extensive best management practices are planned and will be incorporated to minimize impacts to aquatic resources during construction of facilities and the operation of the mine.

Impacts Associated with Project as Proposed

NACC's preferred alternative and current proposed location and layout would result in the excavation or filling of 2,374 acres of wetlands and the displacement and reestablishment of 296,509 linear feet of stream over the 40-year (life-of-mine) duration of the project.

No Action Alternative for NACC

The no-action alternative would be to deny NACC's Section 404 Permit application and not allow the applicant to excavate or fill wetlands or impact streams. Because it is not practicable to develop the proposed lignite mine at the site without impacting waters of the U.S., a permit denial would cause the NACC to abandon the project. The Kemper County IGCC Project would not likely be built. No impacts to aquatic resources would occur, however, this would result in the loss of the projected permanent and construction related jobs that the facility would provide. Also, the expected economic benefits to the local and regional area would not be realized if the facility were not constructed.

This option would not contribute to the goal of the CCPI program, which is to accelerate commercial deployment of advanced coal technologies that provide the United States with clean, reliable, and affordable energy. It would also not contribute to the loan guarantee program's goals of facilitating energy projects that "avoid, reduce, or sequester air pollutants …" and "employ new or significantly improved technologies".

Conclusion

potential mitigation have been provided to your office under separate cover. Based on these efforts, compensation for unavoidable impacts, the preferred alternative is the least environmentally damaging alternative that meets the overall project purpose, is financially feasible, the most practicable, and demonstrates meaningful avoidance and minimization of impacts to aquatic resources. A final evaluation in determining the selection of the preferred alternatives in accordance with 33 CFR 320.4(b) and as required by 40 CFR 230.10 (i.e., the 404)(b)(1) Guidelines) regarding avoidance and minimization of impacts to the aquatic ecosystem will be made by USACE during its final evaluation of Mississippi Power and NACC Section 404 Permit applications.

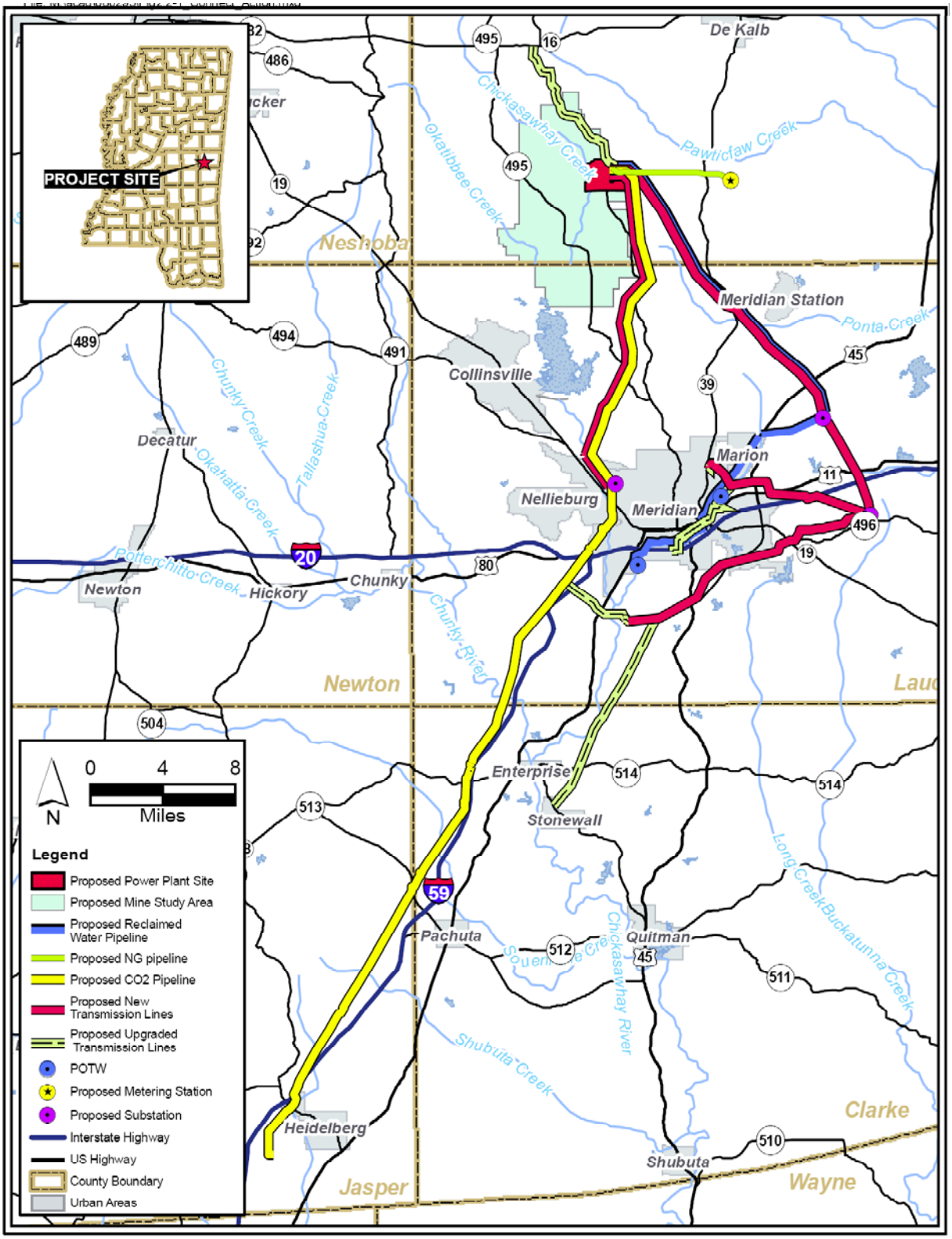

Figure 1 – Kemper County IGCC Project

Figure by ECT, Inc.

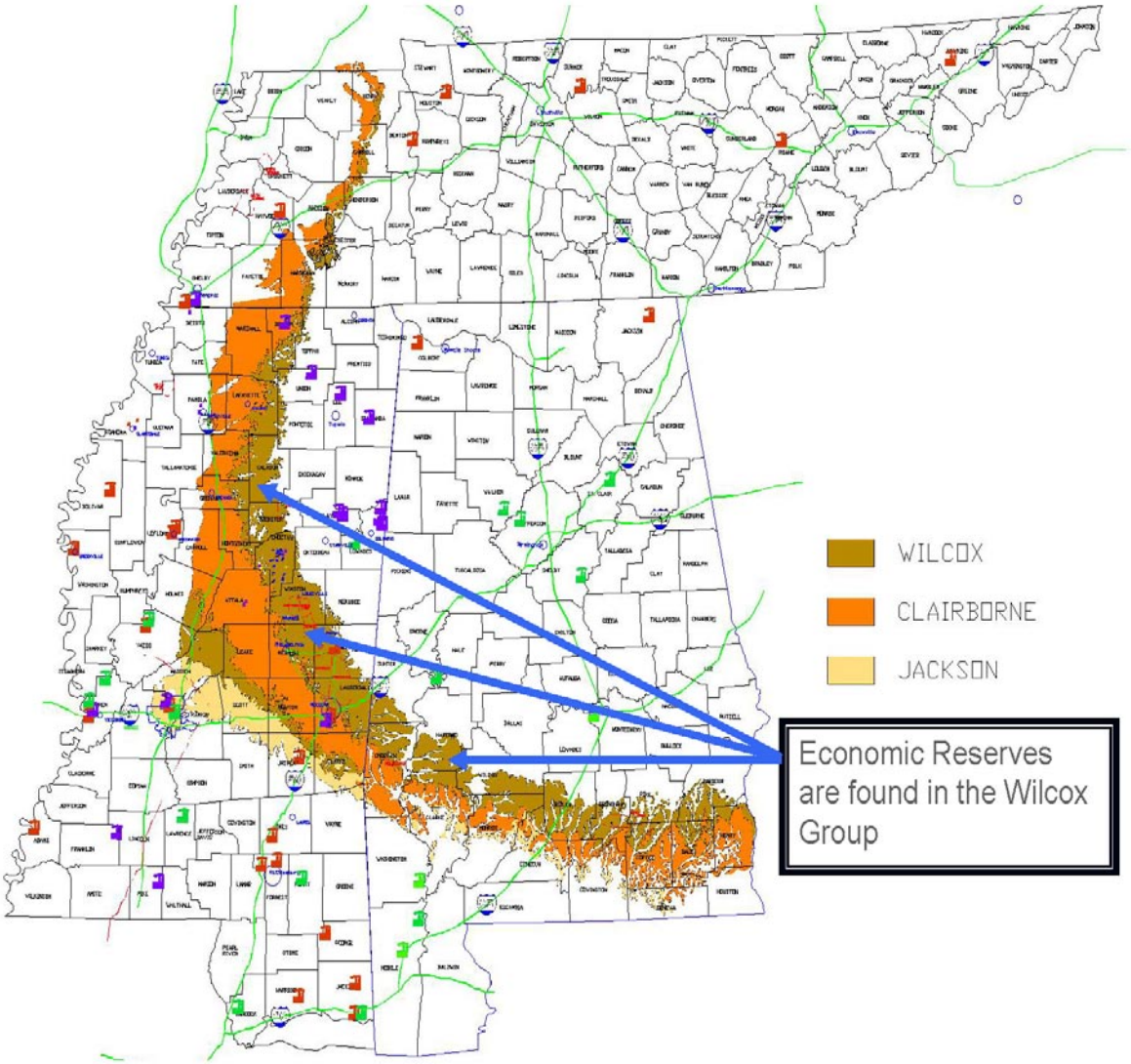

Figure 2 – Mississippi Lignite Reserves
Figure provided by Mississippi Power

Figure 3 – Original Power Block Site for Kemper County IGCC Project (February 2007)

Figure provided by Mississippi Power

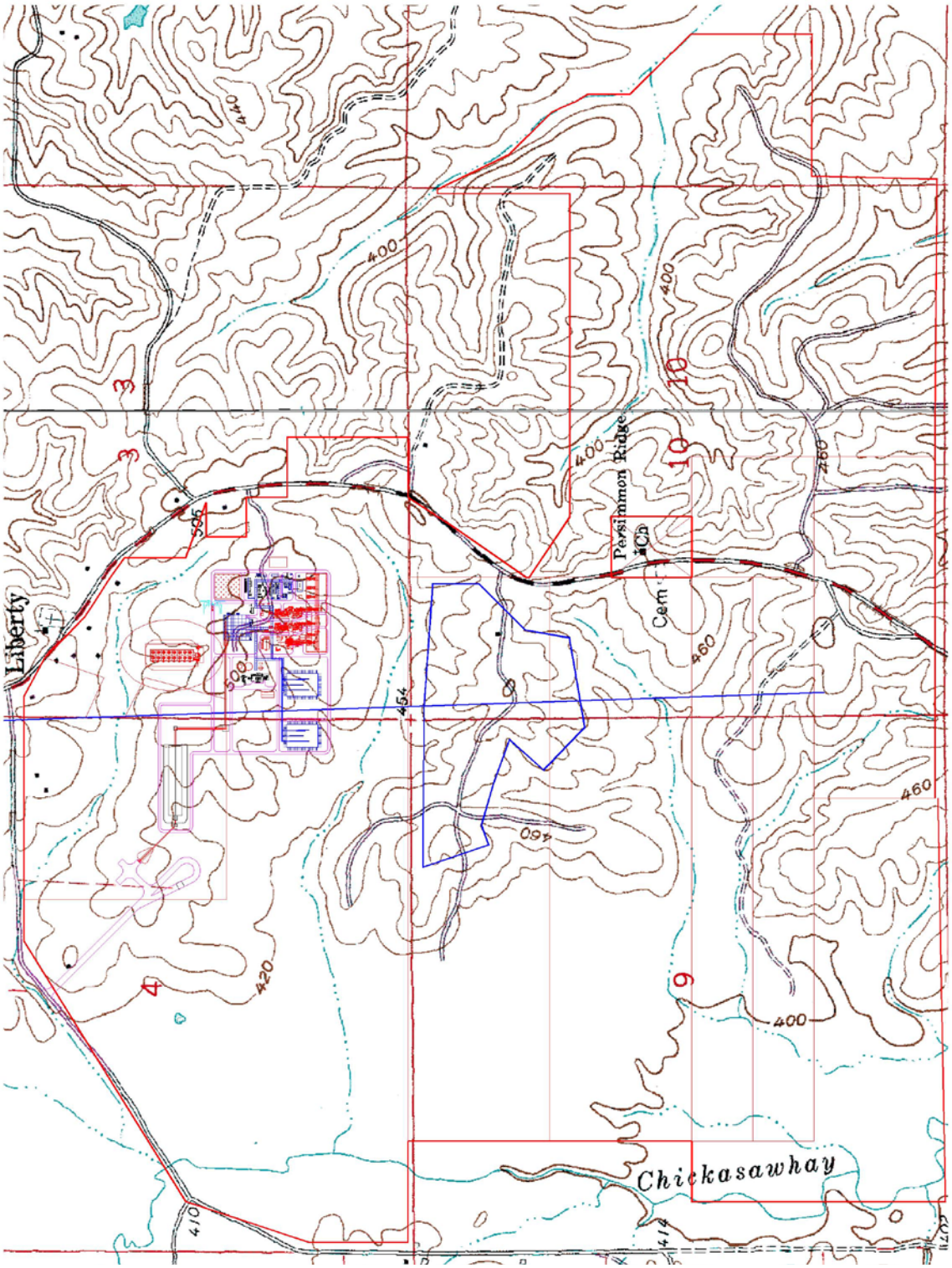

Figure 4 – Alternative Site Layout for Kemper County IGCC Project (May 2007)
Figure provided by Mississippi Power

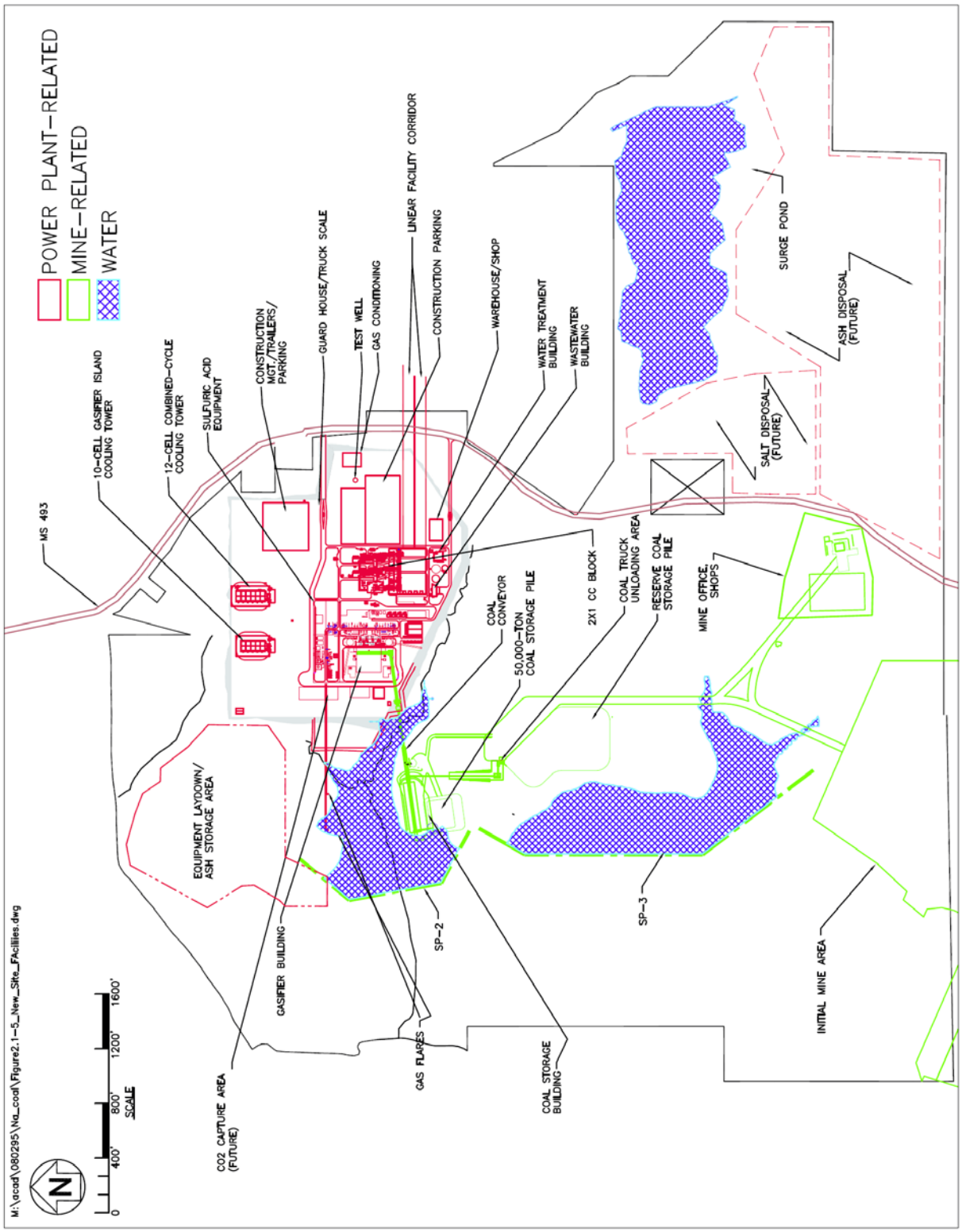

Figure 5 – Alternative Site Layout for Kemper County IGCC Project (February 2010)

Figure provided by Mississippi Power

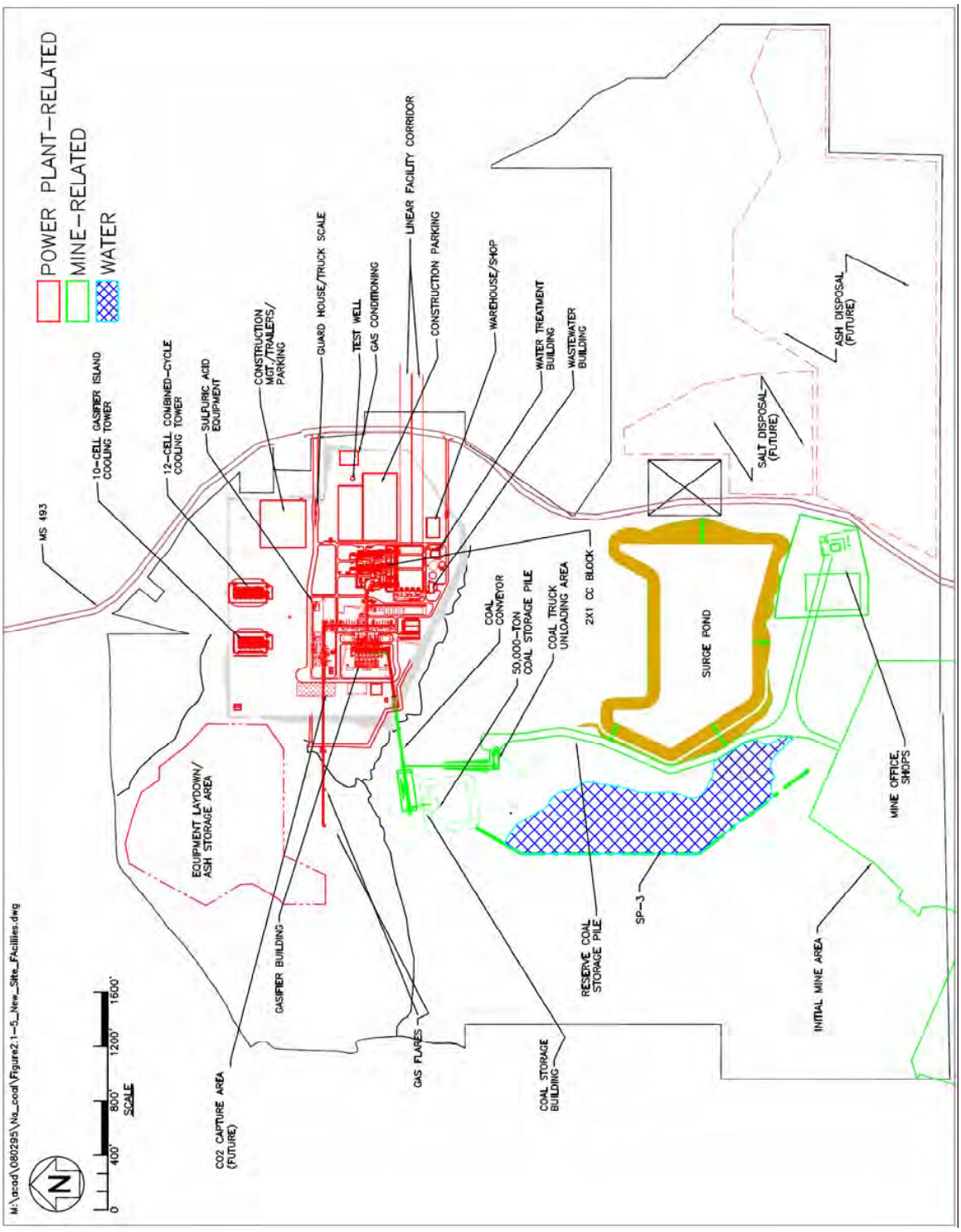

Figure 6 – Proposed Site Layout for Kemper County IGCC Project

Figure provided by Mississippi Power

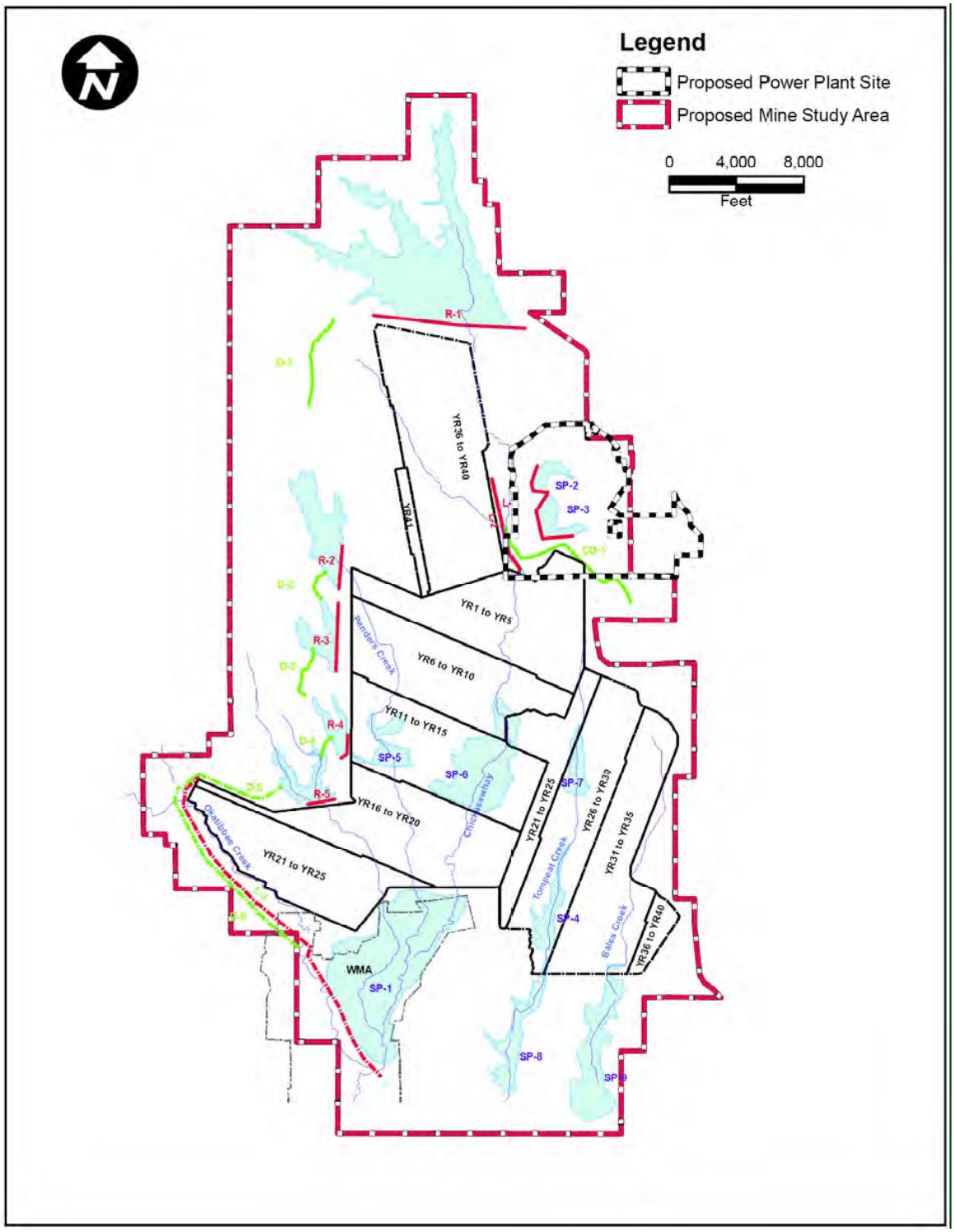

Figure 7 – Alternative Mine Plan "A"
Source: NACC, 2009.

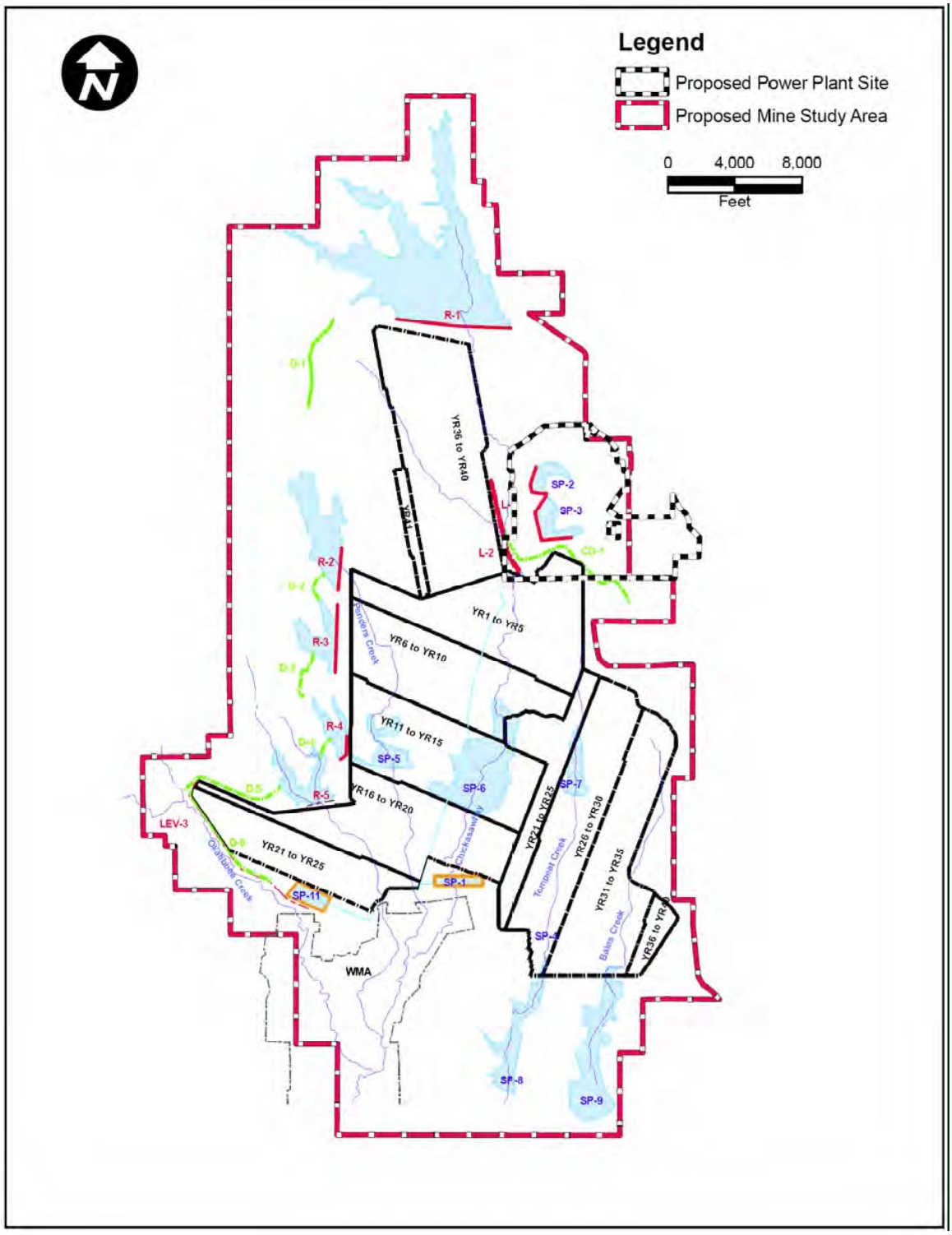

Figure 8 – Alternative Mine Plan "B"
Source: NACC, 2009.

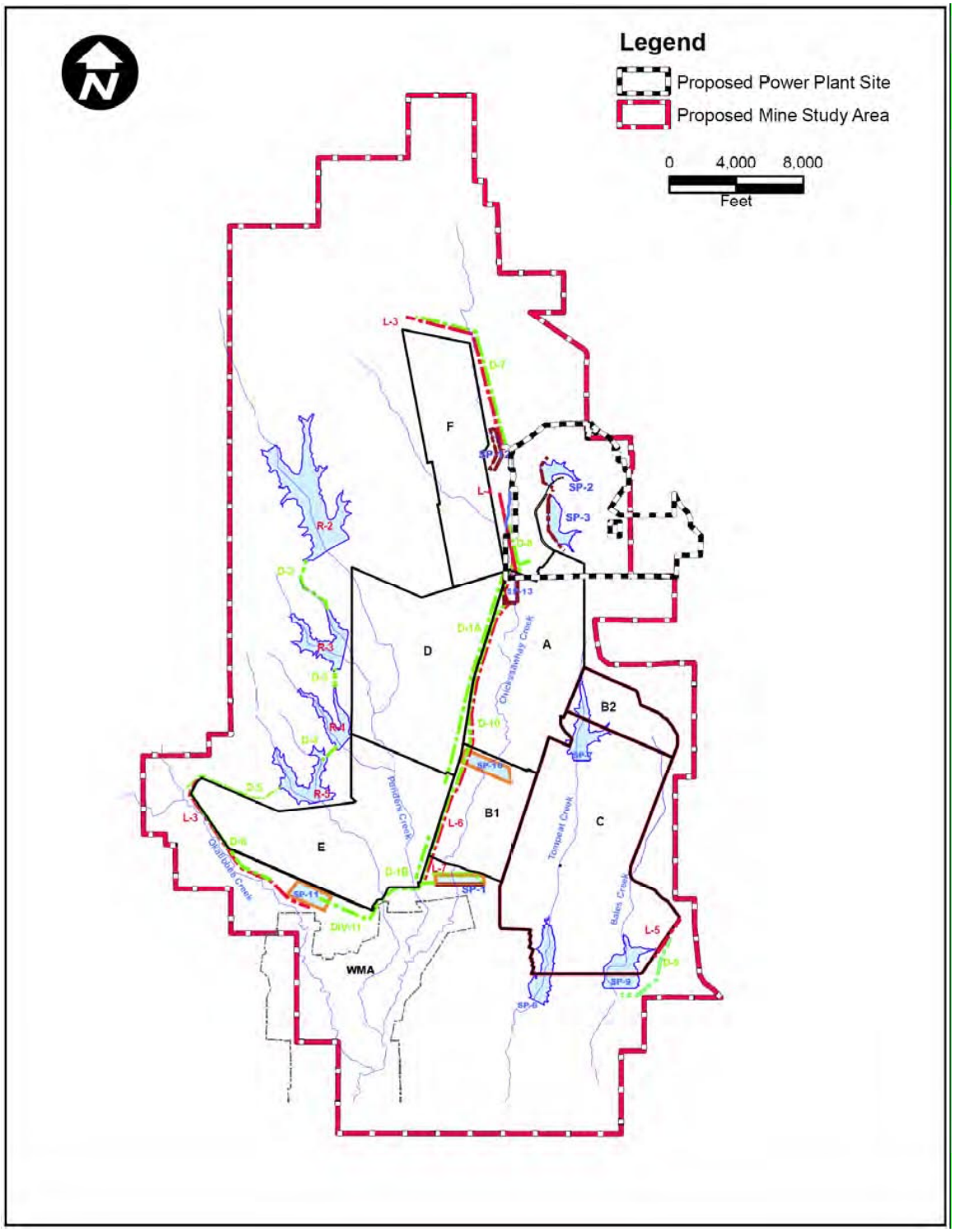

Figure 9 – Alternative Mine Plan "C"
Source: NACC, 2009.

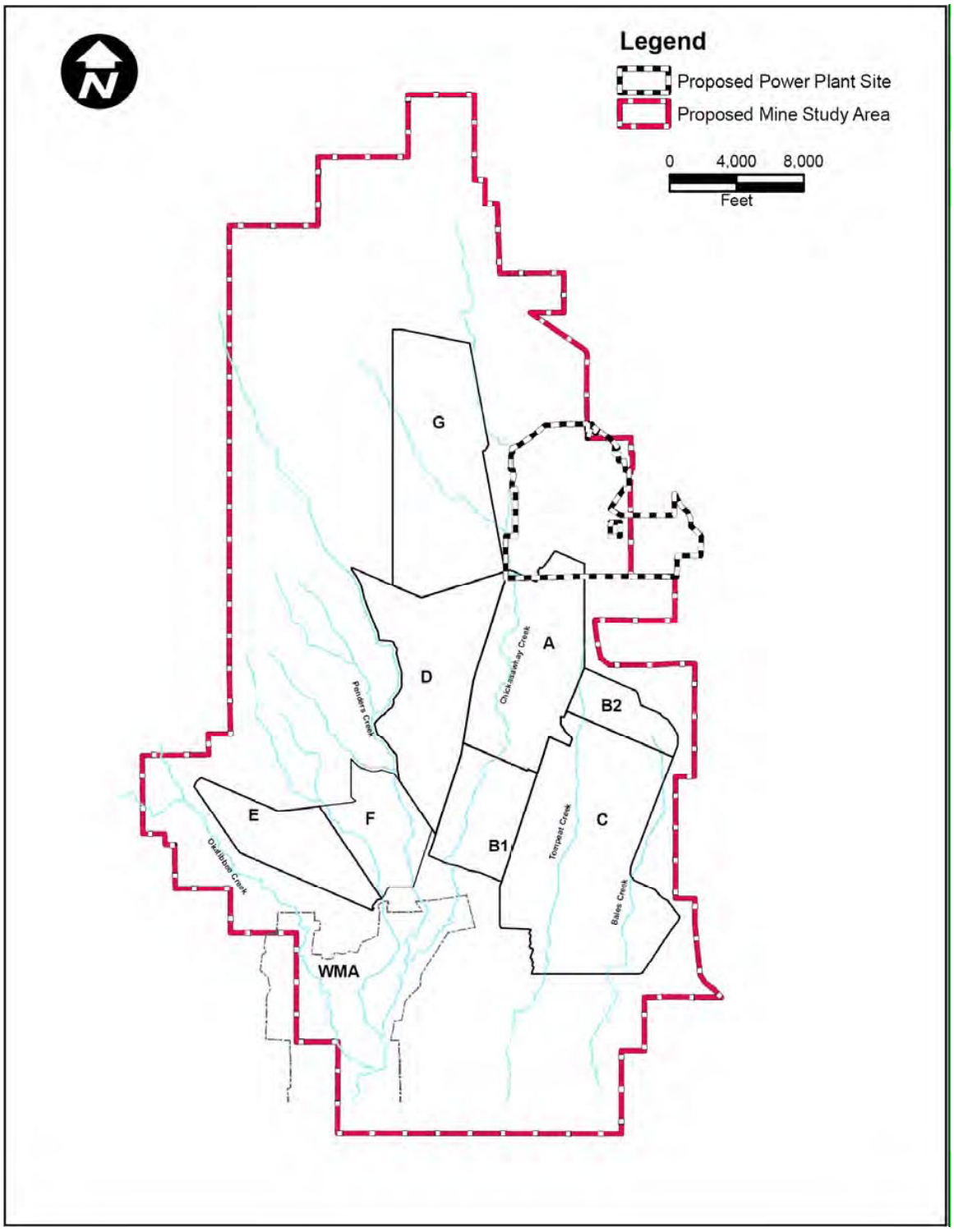

Figure 10 – Alternative Mine Plan "D"

Source: NACC, 2009.