

Document Type: EIS-Administrative Record
Index Field: NEPA Guidance/Scoping
Project Name: Muscle Shoals Reservation
Redevelopment EIS
Project Number: 2007-61

ENVIRONMENTAL IMPACT STATEMENT
SCOPING REPORT

MUSCLE SHOALS RESERVATION REDEVELOPMENT
Colbert County, Alabama

PREPARED BY:
TENNESSEE VALLEY AUTHORITY

DECEMBER 2009

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Introduction

The Tennessee Valley Authority (TVA) has a duty to manage its land wisely for present and future generations. In November 2006, the TVA Board of Directors approved the TVA Land Policy to govern the retention, disposal, and planning of interests in real property. It is TVA's policy to manage its lands to protect the integrated operation of the reservoir and power systems, to provide for appropriate public use and enjoyment, and to provide for continuing economic growth in the Tennessee Valley. In support of this policy, TVA proposes to dispose of approximately 1,400 acres of the Muscle Shoals Reservation (MSR) to allow redevelopment of the property. Disposal and redevelopment of a portion of this land, likely through partnerships with local governments, can help foster economic development in the area. Disposal of this property could also reduce TVA's related operations and maintenance costs while furthering TVA's economic development mission.

Following the requirements of the *National Environmental Policy Act* (NEPA), TVA is preparing an environmental impact statement (EIS) to assess the potential impacts associated with the disposal and redevelopment of this portion of the MSR. See Appendix A for more information on NEPA. NEPA regulations require an early and open process for deciding the scope of an EIS. The scoping process involves requesting and using comments from the interested public, organizations, and agencies to help identify the issues and alternatives that should be addressed in the EIS. This document summarizes the input that TVA received during the scoping process and defines the scope of the MSR Redevelopment EIS.

Study Area

The MSR, approximately 2,640 acres, includes the TVA land south of the Tennessee River in Colbert County bounded on the west by Hatch Boulevard, on the south by Second Street, and on the east by Wilson Dam Road (State Route [SR] 133), as well as some land east of Wilson Dam Road near the south approaches to Patton Island Bridge and Wilson Dam. The MSR is geographically located in the center of the cities of Florence, Muscle Shoals, Sheffield, and Tuscumbia.

The land proposed for disposal and redevelopment includes the majority of the MSR land south of Reservation Road as well as three parcels north of Reservation Road as identified in Table 1 and illustrated in Figure 1, totaling approximately 1,400 acres. These 1,400 acres comprise the EIS study area, which is the area with respect to which TVA will evaluate potential alternative future land uses. The three parcels north of Reservation Road included in the study area are TVA property designated as the phosphorous slag pile, the Western Area Radiological Laboratory or WARL, and the Multipurpose Building Complex or MBP. The remainder of the study area is bounded to the north by Reservation Road, on the west by Hatch Boulevard (in Sheffield), on the south by Second Street (in Muscle Shoals), and on the east by Wilson Dam Road (also in Muscle Shoals). As also illustrated in Figure 1, within the area south of Reservation Road, TVA will retain ownership of approximately 64 acres of land included in five solid waste management units (SWMUs) in an Alabama Department of Environmental Management (ADEM) approved monitoring status. Under the current proposal, other limited areas inside the study area (outlined in red in Figure 1) would not be conveyed or transferred from federal ownership, including the Muscle Shoals TVA Employees Credit Union and the International Fertilizer Development Center sites.

Table 1. Three Parcels North of Reservation Road included in the Environmental Impact Statement Study Area

1. Phosphorus Slag Area (Proposed Access Corridor to the Tennessee River) (approximately 70 acres)
2. Western Area Radiological Laboratory (WARL) (approximately 10 acres)
3. Multipurpose Building Complex (MPB) (approximately 35 acres) <ul style="list-style-type: none">• Multipurpose Building• Office Service Warehouse• Office Service Warehouse Annex

Except for the three areas, including buildings, identified in Table 1 above, the TVA-managed land north of Reservation Road on the MSR is not part of this proposed land disposal action (see Figure 1). It will continue to be used for public access and conservation with the possibility of enhancements to recreation-related activities that are presently open to the public.

TVA's nonreservoir property, primarily power and commercial properties and mineral holdings, continues to be managed as power assets. Disposal decisions for this MSR nonreservoir property will be made by the TVA Board of Directors primarily based on business considerations consistent with the *TVA Act* and other applicable requirements. When disposing of nonreservoir property, it is TVA's policy to emphasize sales that generate the maximum competition among bidders at the Section 31 public auction and, where possible, shall not include use restrictions other than those designed to protect TVA's program interests or to meet legal or environmental requirements. It is expected that such conditions, restrictions, or required mitigation measures to protect the environment would be identified through the EIS development process.

Background

Wilson Dam Reservation, approximately 400 acres, lies on both sides of the Tennessee River and Wilson Dam and serves primarily for recreational use and to protect the integrity of the dam itself. Veterans Park, on the north side of the river and under a permanent recreation easement to the City of Florence, occupies a portion of this reservation. In 1996, TVA developed the Muscle Shoals/Wilson Dam Reservation Land Use Plan (Plan). This planning effort focused on identifying how much of both reservations was needed for TVA use, and then identifying portions of the reservations that could be made available for use by others to meet non-TVA needs. The public was very involved in the land planning process and a large percentage of the land, particularly on the north side of Reservation Road, was allocated for Public Recreation and Open Space (see Alternatives below). In the Plan, most of the land south of Reservation Road was allocated to Environmental Research Center Related Uses. At that time, very little acreage (only about 12 acres) was allocated for non-TVA regional economic development opportunities. Of those 12 acres, an approximate 3-acre tract of land north of the river lies a portion of the complex occupied by the Marriott Shoals Hotel and Spa and Convention Center (formerly Renaissance Tower).



Figure 1. Muscle Shoals Reservation Redevelopment Project Scope

Over the years, from its peak in about 1980, the number of TVA employees on the MSR has declined while the square-footage of work space has remained almost constant. In 2001, consistent with good business practices and supported by an internal TVA strategic facilities plan, TVA laid the foundation for an agencywide optimization of the use of TVA buildings and support facilities. Furthermore, it provided an exit strategy for disposing of surplus property, including some portions of MSR, for which TVA has no current or future planned use.

The disposal of land and the subsequent redevelopment of unused parts or the adaptive reuse of other parts (i.e., buildings) of the MSR is consistent with TVA's economic development mission. Due to its central location, flat terrain, highway access, and availability of utilities, the surrounding cities and Colbert and Lauderdale counties have expressed interest in the redevelopment of the MSR for many years. In the past, many requests for use of MSR land were made by local governments to provide economic development opportunities in the Sheffield and Muscle Shoals areas. In response to these requests, TVA previously made a few areas on the periphery of the MSR available for commercial use, e.g., along Hatch Boulevard, and allocated a small amount of land for development opportunities in the 1996 Plan. Influenced in part by the current state of the national economy, local governments have intensified efforts to pursue restoring the economic viability of the Shoals area. The current proposed actions would make a much larger area, approximately 1,400 contiguous acres, available for use.

The former U.S. Nitrate Plant No. 2 was built for the U.S. War Department during World War I on property that is now part of the MSR. Following the end of the war in 1918, the plant was idle until the creation of TVA in 1933, when it became the nucleus of TVA's National Fertilizer Development Center. At its peak around 1980, approximately 2,800 employees worked in Muscle Shoals, while approximately 600 to 700 people work there today. Fertilizer development and production operations began scaling back around 1990 and by 1998 had largely ceased. Some unused buildings are deteriorating, and a number have become unsafe. TVA began demolishing some unused nonhistoric buildings and other structures in 1983, and since then, 34 structures (36 percent of the structures present in 1983) have been removed. TVA plans to demolish other nonhistoric and historic buildings and structures on the MSR that are structurally unsafe and/or are not economically feasible for reuse. The MSR presently provides TVA office space, laboratories, and support facilities for staff primarily involved in environmental services, research and technology; central support and repair; environmental stewardship; and power system operations and maintenance.

Earlier plant operations, fertilizer production, and past disposal practices left parts of the MSR contaminated with various chemicals and a low-level radioactive slag. Some of these areas were remediated to industrial standards. A few areas require ongoing monitoring and will likely be retained by TVA. Parts of the remediated areas are covered in forests and habitat capable of supporting numerous species of birds, mammals, reptiles, and other terrestrial wildlife.

Hardwood and mixed hardwood-pine forests, wetlands, grassland, and reverting old fields occur on the MSR property. Some fields have a long history of being licensed to local farmers for their hay crops production through agricultural use licenses. This has allowed TVA to manage vegetation growth on some areas of the MSR while positively contributing financially to the local agricultural community and economy.

The Muscle Shoals Historic District (MSHD) includes historic properties associated with five prehistoric and historic contexts. Because a large number of buildings and structures, as a whole, demonstrate significant historic events associated with the area, the MSHD was recognized by the Alabama Historical Commission (AHC) in October 2007 as eligible for listing in the National Register of Historic Places (NRHP). The boundaries of the MSHD include the approximate 1,400 acres of the MSR in the EIS study area.

During the summer of 2009, surrounding cities and counties worked together to form the Northwest Alabama Cooperative District (NACD) under Alabama law. The cities of Florence, Muscle Shoals, Sheffield, and Tuscumbia and Colbert and Lauderdale counties comprise the NACD. The NACD, which represents the interests of citizens of the area through their elected officials, is working in partnership with TVA on the potential redevelopment of the MSR property. As a possible property owner or facilitator of development and to avoid piecemealed or other potentially undesirable development patterns or characteristics, TVA envisions NACD and/or a private developer possibly working with local citizens, interest groups, and others to create a comprehensive master development plan. This would help provide a framework, focus, standards, and guidance to allow more effective long-term planned development.

Scoping Activities

TVA has sought extensive public involvement to help determine the scope of the EIS and issues to be addressed, and to identify alternative uses for the MSR lands proposed to be disposed of and redeveloped. The major public involvement steps are listed below.

- June 18, 2009 A notice of intent (NOI) was published in the *Federal Register* informing other agencies and the public of TVA's intent to prepare the EIS. Project-related scoping information, including a site map, the NOI, mailing list sign-up sheet, notice of the public scoping meeting, and online comment option, was posted on the TVA Web site. The public comment period officially opened.
- July 9, 2009, and July 13, 2009 An announcement of the July 14, 2009, public scoping meeting (Notice of Open House) was published in two local newspapers: *The Times Daily* (Florence) and *The Huntsville Times*.
- July 11, 2009 An announcement of the July 14, 2009, public scoping meeting was published in *Standard & Times/Lauderdale County News*.
- July 14, 2009 A public scoping meeting was held at Muscle Shoals High School in Muscle Shoals, Alabama, and was attended by about 100 people.
- June 18, 2009, to August 5, 2009 TVA held a 48-day scoping comment period, which resulted in the receipt of 90 comments from 82 commenters. One hundred forty people provided names and addresses for the mailing lists to receive notification of other project-related information to be made available during the environmental review process.

In addition, newspaper articles on the subject were published prior to and during the comment period by the news media, including:

Muscle Shoals Reservation Redevelopment

- “TVA Land Considered for Development,” in *The Times Daily*, published on May 8, 2008, <http://www.timesdaily.com/article/20080508/NEWS/805080338>
- “TVA Land,” in *The Times Daily*, published on May 9, 2008, <http://www.timesdaily.com/article/20080509/NEWS/805090304>
- “New Entity Would Oversee Development of TVA Land,” in *The Times Daily*, published on January 25, 2009, <http://www.timesdaily.com/article/20090125/ARTICLES/901250334>
- “Paying for Land Again,” in *The Times Daily*, published on February 20, 2009, <http://www.timesdaily.com/article/20090220/ARTICLES/902200316>
- “Alabama Agency Proposed to Develop TVA land,” in the *Knoxville News-Sentinel*, published on January 26, 2009, <http://www.knoxnews.com/news/2009/jan/26/alabama-agency-proposed-develop-tva-land/>
- “Public Input Sought on Reservation Plan,” in *The Times Daily*, published on July 5, 2009, <http://www.timesdaily.com/article/20090705/ARTICLES/907055034>
- “Redeveloping the TVA Reservation,” in the *Courier Journal*, Volume 125, Number 31, published on July 8, 2009, http://www.courierjournal.net/article.php?article_id=3548
- “TVA Seeks Input on Development,” in *The Times Daily*, published on July 13, 2009, <http://www.timesdaily.com/article/20090713/ARTICLES/907135009>
- “TVA’s Muscle Shoals Site May Be Sold,” in the *Chattanooga Times Free Press*, published on July 14, 2009, <http://www.timesfreepress.com/news/2009/jul/14/tvas-muscle-shoals-site-may-be-sold/>
- “TVA Hears Comments, Concerns,” in *The Times Daily*, published on July 15, 2009, <http://www.timesdaily.com/article/20090715/ARTICLES/907155018>
- “Redevelopment of Historic Site Topic of Town Hall Meeting,” in *The Times Daily*, published on July 25, 2009, <http://www.timesdaily.com/article/20090725/ARTICLES/907255028>
- “Group: Move With Caution – TVA Urged to Consider All Options With Property Development,” in *The Times Daily*, published on July 29, 2009, <http://www.timesdaily.com/article/20090729/ARTICLES/907295034>
- “Public Input Sought on Property Use,” in *The Times Daily*, published on October 4, 2009, <http://www.timesdaily.com/article/20091004/ARTICLES/910045007>

Information about the proposed MSR redevelopment NOI to prepare an EIS, including maps, an interactive comment form, and mailing list sign-up, was also made available at http://www.tva.gov/environment/reports/muscle_shoals/index.htm. This Web site now also includes a TVA-commissioned study, released in October 2009, known as the Adaptive Re-

Use Study. This study evaluates the importance and condition of buildings potentially eligible for listing in the NRHP. It will help TVA in its work with the Shoals community and NACD as well as during consultations with the Alabama State Historic Preservation Officer, the Advisory Council on Historic Preservation, federally recognized tribes, and other consulting parties on this undertaking, which has the potential to affect historic properties. This process is required to comply with the *National Historic Preservation Act* and is an integral part of the EIS.

The comments received during summer 2009 public scoping activities are summarized in Appendix B. The results of the public scoping regarding the MSR redevelopment proposal provided recommendations on alternative land uses, strategies for possible land transfers, development themes and concepts, and environmental issues to be evaluated in the EIS.

Alternatives

TVA currently relies on allocations in the 1996 *Muscle Shoals/Wilson Dam Reservation Land Use Plan* to guide decision-making regarding use of reservation lands. The current EIS will analyze a range of alternatives for redeveloping applicable portions of the 1,400-acre study area. Continued use of the 1996 Plan would represent the No Action Alternative in the EIS. Under the Plan, TVA allocated reservation property for various potential TVA and non-TVA uses including economic development opportunities. Under Alternative A, No Action, TVA would continue to use the MSR for program purposes and regional economic development in accordance with the 1996 Plan. The land in the EIS study area that is south of Reservation Road is largely allocated to Environmental Research Center-related uses. Some land allocated to Public Recreation and Open Space occurs on the southwestern part of this area. The remainder of the MSR north of Reservation Road was allocated for TVA program purposes and Public Recreation and Open Space; this land is outside the scope of this EIS except as specifically noted in Table 1.

TVA will be evaluating a variety of alternative uses of the approximately 1,400-acre portion of the MSR for economic development. The EIS will address anticipated impacts of four action alternatives involving the disposal and potential future uses of the EIS study area. Under the action alternatives, TVA proposes to dispose of this land without restrictions on the future use of the property other than those designed to protect TVA's program interests or to meet legal or environmental requirements. Under any of these alternatives, Muscle Shoals/Wilson Dam Reservation land outside the EIS study area, approximately 1,640 acres, would continue to be allocated and managed in accordance with the 1996 Plan. This remaining land covered under the Plan could be reevaluated and replanned in the future, recognizing the possible changes in land ownership and use within the EIS study area.

The EIS will evaluate four action alternatives associated with diverse potential future land uses. Some elements common to all action alternatives include:

1. Requirements to protect or mitigate impacts to historic properties and listed as endangered and threatened species; mitigate other potential environmental impacts; protect TVA's statutory, programmatic, and other interests; and ensure continued ongoing operational requirements, which include but are not limited to monitoring of SWMUs.
2. The potential disposal of an access corridor to the Tennessee River, WARL, and MPB north of Reservation Road; the corridor in the vicinity of the slag pile could be used for utilities or other supporting infrastructure development.

3. The encouragement of the adaptive reuse of existing buildings, including historic buildings.
4. The retention by TVA of five SWMUs that have long-term monitoring requirements and restrictions on use.

TVA has used the results of the public scoping process and additional internal consultations and technical scoping studies to define a range of action alternatives that will be evaluated in detail in the EIS. Compared to information included in the project NOI, TVA has added a new action alternative and combined two of the previously identified action alternatives into a single alternative. The action alternatives presently under consideration by TVA include the following:

Alternative A – No Action Alternative: Under the No Action Alternative, TVA would continue to use the 1996 Plan as a guide to land use decision-making and would dispose of a small remaining parcel of the property allocated for economic development (about 9 acres in Sheffield) only as allowed under this Plan.

Alternative B – Conservation Alternative: Based on public inputs, this is a newly added action alternative that was not proposed in the project NOI. Adoption of this alternative would promote conservation of natural resources and allow some forms of sustainable low impact development, e.g., recreation, green energy research and development, education, ecotourism, etc.

Alternative C – Commercial, Retail, and Residential Alternative: Individual action alternatives that would have evaluated the potential use of the property solely for commercial/retail and solely for residential purposes have been combined. Adoption of this alternative would promote commercial/retail and residential uses of the applicable MSR property in combination.

Alternative D – Industrial Alternative: Adoption of this alternative would promote use of the applicable MSR property solely for industrial purposes.

Alternative E – Mixed Use Alternative: Adoption of this alternative would promote a mixture of conservation, commercial/retail, residential, and industrial uses of the applicable MSR property in combination.

Issues and Resources to be Addressed

The EIS will contain descriptions of the existing environmental and socioeconomic resources within the study area and surrounding environs that would be affected by the range of proposed alternative uses of the property. Based on the analysis of the public scoping comments, as well as its internal scoping, TVA has identified the following resources and issues that would be affected by the potential disposal and redevelopment of land within the EIS study area of the MSR. For each resource, the potential direct, indirect, and cumulative effects of each alternative will be described in the EIS. In addition, other land use and development activities that may cumulatively affect resources of concern on the MSR will be identified. The potential socioeconomic effect of these activities on the Northwest Alabama area and the region will also be assessed. As part of the analysis, TVA will evaluate the relationship of short term uses and long term productivity, as well as the

irreversible and irretrievable commitment of resources resulting from the MSR redevelopment.

TVA uses its own staff experts, contractors, and/or other specialists with appropriate qualifications and experience in an interdisciplinary approach to the preparation of needed studies and analyses for the EIS. The major resources (issues) that will be considered in the EIS are listed below.

Historic and Archaeological Resources – In 2007, the AHC and TVA recognized the MSHD, which includes all the land within the scope of this EIS. Archaeological sites, historic buildings and structures, and cultural landscapes in the EIS study area including sites eligible for listing in the NRHP will be identified, and the effects of implementing each alternative will be evaluated. This includes one site in the potential river access corridor north of Reservation Road. This process, consistent with requirements of Section 106 of the *National Historic Preservation Act*, will include necessary consultation with the AHC, State Historic Preservation Officer. As appropriate, the Advisory Council on Historic Preservation and federally recognized tribes would be consulted.

Solid and Hazardous Waste including existing SWMUs – The entire EIS study area is currently included within the boundary of an ADEM *Resource Conservation and Recovery Act* (RCRA) permit and includes a number of existing SWMUs. TVA has met the corrective action requirements of the permit. This area also includes some sites, roughly 17 noncontiguous acres, cleaned up to industrial standards that could be subject to TVA's proposed disposal action. Plans to potentially reduce the size of the RCRA permit area have been discussed with ADEM, and more talks are planned during the process of conducting this environmental review. TVA will retain ownership of an approximate 64-acre area containing five existing SWMUs that are subject to ongoing monitoring requirements as outlined in the RCRA permit. Some areas on the MSR (e.g., phosphorous slag pile) have also been used for the processing, storage, or handling of regulated or hazardous materials. The potential environmental effects of these SWMUs, the slag pile, and other sites that could affect public health and safety will be evaluated under each potential land use alternative.

Water Quality – Surface water and groundwater quality conditions affect the overall ecological health of Pond Creek and Pickwick Reservoir. Water quality is influenced by activities causing or contributing to earthen injection, soil disturbance, vegetation removal, shoreline erosion and potential resultant infiltration, siltation, and sedimentation. The effect of implementing each alternative on water quality will be evaluated.

Wetlands – Wetlands are important to terrestrial and aquatic ecosystems. Those found on TVA land will be identified, and the effects of implementing each alternative will be evaluated. Compliance with Executive Order 11990 (Protection of Wetlands) and the *Clean Water Act* will be demonstrated and evidenced in this EIS.

Land Use – Existing land use patterns on the MSR have been established by TVA’s use of the property over the years. Adjacent uses on a few properties have been determined by prior TVA disposals and/or appropriate land use agreements for commercial purposes. Surrounding lands are included in the corporate boundaries of the cities of Muscle Shoals or Sheffield and are used in accordance with applicable land use regulations and zoning ordinances. These various uses will be examined and effects evaluated under each alternative considered in the EIS. A comprehensive development plan, perhaps provided by NACD or other potential developers, would likely include zones or allocated uses within the study area (e.g., industrial, residential, retail/commercial, etc.).

Socioeconomic Resources – The current population, labor force, employment statistics, income, property values, and other demographics of the Shoals area (Colbert and Lauderdale counties) surrounding the MSR will be described. A subset of these issues, environmental justice (see below), will also be examined. The potential socioeconomic effects of adopting and implementing each alternative will be evaluated.

Terrestrial Ecology – This category includes the vegetation and wildlife comprising the terrestrial ecosystems and communities found on the EIS study area on the MSR, including naturalized and exotic or invasive species. Issues include the identification and protection of noteworthy natural features such as forests, rare species’ habitat(s), resident and migratory birds, important wildlife habitat, and locally uncommon natural community types. Effects on these valuable natural resources will be evaluated under each alternative.

Aquatic Ecology – Aquatic ecology includes the plants and animals found in the waters of Pond Creek and upper Pickwick Reservoir (Wilson Reservoir tailwater). Issues that will be evaluated include the identification and protection of rare species’ habitat(s), important aquatic habitat(s), or locally uncommon aquatic community types. The effect of implementing each alternative on aquatic ecology will be evaluated.

Endangered and Threatened Species – State- and federally listed as threatened and endangered plants and animals are known or are likely to exist in the Tennessee River (Wilson Dam tailwater) in the vicinity of the MSR and on land in the EIS study area on the MSR. These species will be identified, including their occurrence and habitats in the river and on TVA lands, and the effects of implementing each alternative will be evaluated. Compliance with the *Endangered Species Act* and similar state laws will be demonstrated and evidenced in this EIS.

Recreation – Current recreation facilities available to meet public recreation needs will be identified, as will those lands that are important for nonconsumptive dispersed recreation. The effects of implementing each alternative on recreation opportunities in the EIS study area will be evaluated. Any loss of recreation opportunities could potentially be mitigated with enhancements on TVA land north of Reservation Road.

Natural Areas – TVA will identify special and unique designated natural areas on or in the vicinity of the EIS study area set aside for a particular management objective and lands that are known to contain sensitive biological, geological, cultural, or scenic resources. The effects of implementing each alternative will be evaluated.

Noise – Noise level can be a nuisance to people particularly during times when they are more disturbed by increased levels (e.g., nighttime). TVA will determine normal background noise levels in the existing setting and potentially sensitive receptors (e.g., residential communities) in the area surrounding the MSR. Effects of noise levels generated in association with implementing each of the alternative uses of the property will be evaluated.

Air Quality – Air quality is important for public health and welfare. The effect of implementing each alternative on National Ambient Air Quality Standards, which establish safe concentration limits of various air pollutants, is an important issue that will be identified and evaluated under each alternative.

Navigation – Structures constructed in, over, or along the Tennessee River, including upper Pickwick Reservoir/Wilson Reservoir tailwater, or its shoreline have the potential to affect commercial and recreation navigation or become hazards or obstructions to navigation. The phosphorous slag pile area could be used as a river corridor to accommodate utility access (e.g., barge terminal, road, rail, pipeline, electric, etc.) to the land south of Reservation Road in support of future use of this property. The EIS will evaluate the potential uses of this corridor and potential effects on river navigation across the range of alternative uses.

Transportation – The EIS will examine the current network of roadways on and in the vicinity of MSR and, based on each potential action alternative, evaluate effects on existing and potentially new needed support infrastructure, level of service, and resultant traffic and related noise. In its comments to TVA dated August 18, 2009, the Alabama Department of Transportation (ALDOT) indicated that it has future plans to improve SR 184 (Second Street) between Woodward Avenue and Wilson Dam Road (SR 133). In addition, ALDOT foresees the future widening of U.S. Highway 72 from SR 184 to Jackson Highway. Both actions would involve requests for an expanded 50-foot road easement from TVA.

Geology and Soils – Underlying bedrock geology and soils play an important role in determining potential effects of surface land uses on foundation stability, building weight capacity, potential for groundwater contamination, and other important aspects of sound engineering and construction practices on a site, particularly for industrial use. The effect of implementing each alternative on local geology and soils will be evaluated.

Floodplains Management – Much of the city of Muscle Shoals is constructed atop wetland fill material, and portions of the MSR lie within the limits of the 100-year floodplain. Over the years, Muscle Shoals has developed flood retention structures and physical barriers to divert high waters, and the redevelopment of approximately 1,400 acres of the MSR could impact flooding

frequencies and elevation nearby. Muscle Shoals, Sheffield, and Colbert County are participants in the National Flood Insurance Program. Floodplains are important to flood control and water quality issues and are productive natural areas. Those found on TVA land and along Pond Creek will be identified, and the effects of implementing each alternative will be evaluated. Compliance with Executive Order 11988 (Floodplain Management) will be demonstrated and evidenced in this EIS.

Prime Farmland – Prime farmland as defined in the *Farmland Protection Policy Act* is an important resource. Its occurrence within the EIS study area will be identified, and the effects of the implementation of each alternative will be evaluated.

Environmental Justice – The EIS will evaluate the potential for the alternatives being evaluated to have a disproportionately adverse impact on minority and low-income communities in the area.

Visual Resources – Scenic resources are an important element of the human environment and have societal value. Changes in the landscape caused by implementing the proposed future alternative uses of the MSR will be evaluated and their effects determined. The threshold of significance is the extent or magnitude of alteration of the existing landscape that is sufficient to change the scenic value class by two levels or more. Measures to buffer or mitigate adverse visual effects could be prescribed.

Issues and Resources Not to be Addressed

Based on the analysis of the scoping information, including size of land tract and types of industrial development likely to be involved, TVA has determined that the disposal and subsequent redevelopment of the MSR is unlikely to have an impact on greenhouse gases. An insufficient amount of sequestered carbon to affect climate change would be released to the environment under any of the alternatives.

Some comments submitted during scoping dealt with vacant or unused buildings and facilities on private land in the area. TVA has no land or landrights and no authority over these properties, and they are outside the scope of this environmental review. Comments regarding other nonenvironmental issues, such as appreciation or critiques of TVA processes and guidelines, will be forwarded to the appropriate TVA organization for attention, and will not be addressed further in this environmental review.

Related Environmental Documents

Tennessee Valley Authority. 1996. *Muscle Shoals/Wilson Dam Reservation Land Use Plan Final Environmental Assessment*. Muscle Shoals, Ala.: TVA Muscle Shoals Land Management Office, November 1996.

Tennessee Valley Authority. 2002. *Pickwick Reservoir Final Environmental Impact Statement and Land Management Plan, Colbert and Lauderdale Counties, Alabama, Tishomingo County, Mississippi, and Hardin County, Tennessee*. TVA Resource Stewardship, Pickwick Watershed Team, August 2002. Available from <<http://www.tva.gov/environment/reports/pickwickplan/index.htm>>.

Other Environmental Review and Consultation Requirements

TVA will be the lead federal agency in the preparation of the MSR redevelopment EIS. Other environmental and permitting agencies, including the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, ADEM, and AHC, will be sent a copy of the draft EIS for review.

Delegation of Work Assignments

Office of Environment and Research, Environmental Permitting and Compliance, NEPA Compliance, will have primary responsibility for management of the EIS process and assembly of the draft and final EISs, in consultation with Administrative Services, Facilities Management; Customer Resources, Customer Service and Economic Development; Government and Valley Relations, Valley Relations; and Land and Water Stewardship. Other TVA groups, including Environmental Resources and Environmental Policy, Science, and Technology may contribute to the analysis and document review.

Schedule for Draft EIS Preparation and Review

The following is a tentative schedule for the completion of the EIS.

Milestone	Target Start	Target Finish
Prepare draft EIS	10/01/09	04/28/10
Release draft EIS	04/28/10	04/28/10
Publish notice of availability (NOA) in the <i>Federal Register</i>	05/07/10	05/07/10
Draft EIS comment period	05/07/10	06/21/10
Development of final EIS	06/17/10	09/28/10
Release final EIS	10/06/10	10/06/10
Publish NOA in the <i>Federal Register</i>	10/15/10	10/15/10
Prepare draft record of decision (ROD)	10/06/10	11/06/10
Consideration by TVA Board of Directors	November 2010	November 2010
Issue final ROD	12/03/10	12/03/10

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**Appendix A – The National Environmental Policy Act and
Environmental Impact Statement Process**

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The National Environmental Policy Act and Environmental Impact Statement Process

Authority

Wholly owned by the U.S. Government, TVA was established by Congress in 1933 primarily to foster the social welfare of residents in the Tennessee Valley region and promote the wise use of the region's natural resources.

As a Federal agency, the evaluation of a proposed undertaking by TVA must be performed within the framework of the *National Environmental Policy Act* (NEPA) 42 USC § 4321 et seq.; Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA 40 CFR Parts 1500-1508; and TVA's environmental review procedures.

National Environmental Policy Act

NEPA requires TVA, as a federal agency, to consider the impact of their proposed actions on the environment before making any decisions. If an action is expected to have a significant impact on the environment, TVA must develop a study for public and agency review that analyzes the potential impacts to the natural and human environment from the proposed action, as well as from a range of reasonable alternatives. This study is called an environmental impact statement (EIS). In making a decision on a proposed major action, TVA must consider the full range of alternatives addressed in the EIS. The CEQ regulations require TVA to make environmental review documents, comments, and responses to comments a part of their administrative record supporting the decision that is ultimately made.

Environmental Impact Statement Process

As soon as possible after the decision to prepare an EIS is made, TVA prepares and makes available a notice of intent (NOI) to prepare an EIS. This notice briefly describes the proposed action, reasonable alternatives, and probable environmental issues to be addressed in the EIS. The NOI also describes the scoping process for the particular project, and where and when public scoping meetings will be held. Typically there is a public input period of 30 days from the date of publication of the NOI in the *Federal Register*. After the public input period ends, TVA prepares a scoping document to summarize the public input and comments from interested agencies received on the proposed action, the alternatives to be evaluated, and environmental and other major issues relevant to the project.

Based on the information obtained and decisions made during the project scoping process, a draft EIS is prepared. The completed draft EIS is distributed to interested individuals, groups, and federal, state, and local agencies. It is also transmitted to the U.S. Environmental Protection Agency (USEPA), which publishes a notice of availability (NOA) in the *Federal Register*.

The draft EIS public comment period begins with the publication of the NOA by USEPA in the *Federal Register* and normally lasts at least 45 days. During this public comment period, TVA may hold public meetings as a forum to obtain comments on the draft EIS. Notice of public meetings is distributed through appropriate media and direct mailings.

At the close of the draft EIS public comment period, TVA will respond to the comments received and incorporate any required changes in the final EIS. Notification of the

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completion of the final EIS is sent to those who received the draft EIS or submitted comments on the draft EIS. It is also transmitted to USEPA, which publishes an NOA in the *Federal Register*.

TVA makes the decision on the proposed action no sooner than 30 days after the NOA of the final EIS was published in the *Federal Register*. This decision is based on the anticipated environmental impacts, as documented in the EIS, along with cost, schedule, and technological and other considerations. TVA then issues a record of decision (ROD). The ROD normally includes: (1) what the decision was; (2) the rationale for the decision; (3) what alternatives were considered; (4) which alternative was considered environmentally preferable; and (5) any required mitigation measures and monitoring and enforcement requirements.

Appendix B – Summary of Public Scoping Comments

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Overview

From June 2009 to August 2009, TVA solicited comments from state and other federal agencies and from people in the Muscle Shoals area of Colbert and Lauderdale counties to assist TVA in determining issues, alternatives, and the scope of an environmental impact statement (EIS) on the potential disposal and redevelopment of approximately 1,400 acres of the Muscle Shoals Reservation (MSR).

Public Notification and Comment Opportunities

TVA's notice of intent (NOI) to prepare an EIS and request for comments appeared in the *Federal Register* on June 18, 2009. Announcements of the public scoping meeting were published in the NOI and three local newspapers on various dates between July 9, 2009, and July 13, 2009. Numerous articles and editorials were also published in newspapers throughout the area in late June and early July about the proposal. TVA hosted a public meeting in Muscle Shoals, Alabama, on July 14, 2009. About 100 people attended the meeting, 70 registered, and 25 comments were received at the public meeting. During the meeting, TVA personnel were available to answer questions and discuss the proposed redevelopment.

TVA also posted its NOI, containing a description of the proposal and preliminary issues and alternatives, on its Web site. Commenters were given the opportunity to provide their comments easily online. Commenters could also sign up online to be included on a project mailing list, which will allow them to receive notifications of the availability of project-related information and participate further in the process in the future. About 140 individuals signed up to be included on the mailing list.

Analysis

TVA received a total of 90 comments. Each comment was categorized by major issue(s). This summary includes the potential environmental issues and themes identified from all the comments received during the public scoping process.

During the public scoping meeting, commenters were given the opportunity to identify issues through a checklist survey. The preliminarily identified issues were aquatic ecology, transportation, endangered and threatened species, visual resources, historical and archaeological resources, wetlands, land use, social and economic concerns, recreation, environmental justice, natural areas, air quality, solid and hazardous waste, floodplains management, surface water and groundwater quality, and vegetation and wildlife. Seventeen people participated in the survey. Sixty-five percent of participants identified vegetation and wildlife as their primary issue of concern. Fifty-three percent of participants felt that natural areas, wetlands, land use, historical and archaeological resources, and threatened and endangered species were of concern to them. Twelve percent of participants were concerned about the effect of the TVA proposal on transportation.

Summary

Overall Public Comment Themes:

Six predominant themes or general issues were identified from all of the comments provided: Land Use Planning and Policy, Natural Resources, Recreation, Hazardous Material and Waste, Cultural Resources, and Socioeconomic Concerns. Other comments included concerns about Public Participation and effects of the proposal on Transportation, Visual, and Floodplains.

Summary of Predominant Themes:

Comments received during public scoping, including those received via the court reporter at the public meeting, online form on the TVA Web site, letters, faxes, and e-mails totaled 90 comments from 84 commenters. Some individuals commented more than once. Many comments were lengthy and expressed great passion about the Muscle Shoals area and the history of the MSR and TVA, and commenters offered their vision for the future uses of the land. A few individuals wrote of childhood memories and experiences, and of their caring for the area and its future. Several questioned the need to develop a portion of the MSR and why TVA just didn't keep it in federal ownership.

All comments in their original form have been retained by TVA as a part of the project administrative record. Predominant themes within the comments as well as a sense of the issues of concern are presented below:

Land Use Planning and Policy

These comments are related to loss of public lands, maintaining natural areas and habitats, future land use and development options, and other considerations for the currently proposed redevelopment effort. Some ideas were presented about how the land might be used, including land use proposals from the Muscle Shoals City Schools' Career and Technical Programs and the American Chestnut Foundation. Several people suggested that the MSR would be best used for an innovative secondary school career academy to prepare more skilled people for the expected steady growing demand for employment in the region and state. Other comments focused on the availability of other existing vacant buildings, facilities, and sites on private land in the area suggesting that there is little or no need for similar commercial development on the MSR. Many observed what was characterized as a "glut" of vacant commercial lots, buildings, and houses on the market in the Shoals area (e.g., along the south side of Second Street), which suggests little need for establishing any commercial land base on the north side of this corridor.

Several commenters spoke of the Jack-O-Lantern Farm (at the TVA greenhouses), where local farmers sell their seasonal produce, being good for TVA and the community. They suggested that a portion of the MSR be used for organic and hydroponic farming operations and could serve as an educational tool as well. Several people want to keep more of the area natural, wooded, and undeveloped. Several recommended that only sustainable, smart growth be allowed in accordance with planning to guard against sprawl and conflicting uses. Preservation and protection of the natural systems within the MSR reservation were emphasized. Several people suggested that this decision would be a large part of the legacy TVA leaves behind for future generations.

A number of individuals and organizations recommended leaving the MSR as it is, using it solely as recreational open green space, or using it for other low-impact development such as an educational, research, and development institution, botanical garden, ecotourism, or a

green energy research center. Several people urged TVA to consider other potential development alternatives, including an emphasis on attracting green industries, the use of alternative energy sources, and the requirement of energy-efficient designs in any new construction or reuse of existing buildings. Some recommended that tourism development projects, targeting natural beauty and education, botanic/horticultural research, green/energy research, and recreation, which provide increased opportunity to attract visitors for this valuable property, should be a focus of this redevelopment.

A few commenters also suggested job creation through traditional industrial development, including use of the MSR for green industry, light to moderate industrial, or a film/entertainment complex, would be key to having a positive effect on the future economy.

A few commenters were also critical of the local governments' lack of use of urban planning principles to revitalize, enhance, and beautify the existing older parts of the adjoining cities to make them more economically viable. Numerous individuals indicated that they were not necessarily against development, but wanted to avoid the creation of urban sprawl, strip development, and traffic congestion. Some fear that the replication of existing strip development along adjacent roadways (e.g., Woodward Avenue) would occur on MSR land.

Several people questioned the process of how the land will be disposed of and how this disposal complies with TVA's current Land Policy.

Natural Resources

Many comments were received related to various aspects of natural resource preservation, conservation, and management including water quality, air quality, wildlife and forestry, wetlands, and vegetation. Several commenters favored the evaluation of an alternative focused on conservation, green space, and sustainable low-impact development.

Several individuals questioned the value and extent of wetlands on the MSR, particularly forested wetlands. They were concerned about the potential effects of the redevelopment on forested wetlands and whether TVA would allow them to be adversely impacted by potential new owners or if mitigation would be required. Some contend that the estimated 400 acres of wetlands on MSR should be preserved and protected because they provide wildlife habitat, flood control, and recreation, and play a role in mitigating global warming and cleaning the air. Some believe that the great majority of forested wetlands, as represented by sites along Second Street and Hatch Boulevard, have already been eliminated in this region. Some fear the loss of these and other wetlands could further exacerbate flooding problems, particularly along and in the vicinity of Second Street.

People are concerned about potential impacts on species listed as endangered and threatened and suggest a thorough search to determine if the Indiana bat is present on the MSR. They also wonder if any development near Pond Creek or in the vicinity of the slag pile could potentially have any adverse effect on endangered mussels in the Tennessee River or whether toxins could affect rare terrestrial species or their crucial habitats. Similarly, people are concerned about the potential for the redevelopment project to impact forestland and wildlife including birds, mammals, reptiles, amphibians, and other terrestrial animals. Potential effects to forests (through fragmentation), the Alabama Birding Trail, and particular bird species like the Carolina wren are of concern to some commenters. People want to see as much natural vegetation, particularly forests and open green space, as possible remain on the MSR. Some people want their local governments to develop and

approve appropriate level zoning plans or other ordinances to create and protect streetscape and integrate and protect the functions and values of nature features such as trees and farmland. People are also concerned about the potential redevelopment of a portion of the MSR site affecting air and surface water quality, particularly in Pond Creek, and floodplains.

Several people are concerned about how the redevelopment could affect the American Chestnut Foundation's tree stock and facility as well as the area certified by the Wildlife Habitat Council on the MSR. The Chestnut Foundation propagates American chestnut trees, and the current research orchard site was chosen for developing a biological control of the chestnut blight disease in an effort to restore the species to its former range. Several members of the American Chestnut Foundation and the public suggested that the current land and an additional 20 acres be retained by TVA to be used by the foundation for their research orchard site.

Recreation

Comments were received related to the availability and use of the MSR's nationally recognized hiking/biking/walking trail system and requests to continue to use abandoned roads as a part of plans to expand the trail system. Commenters suggest that there is a more pressing need for recreational areas in North Alabama, than for more sites for commercial, retail, or residential development. Although the majority of recreational use is on the north side of the MSR, there is recreational use in portions of the EIS study area being considered for redevelopment.

Some commenters want centrally located recreation opportunity, particularly in forested areas. Some appear to remain concerned about potential loss of recreation opportunity north of Reservation Road, particularly the trails and designated natural areas not subject to potential disposal and redevelopment.

Some commenters are concerned about how the proposed access corridor over the slag pile could affect the Rock Pile Trail and how any effects might be mitigated. Additionally, people are concerned about the fate of an approximate 1-mile stretch of the Reservation Road Trail inside the EIS study area, whether it could be affected by the redevelopment and, if so, whether those effects would be mitigated. If affected, some commenters want any Department of Transportation funds that might have been used in the costs of this trail's construction to create handicapped accessibility to be compensated for by TVA or the developer and the issue to be addressed in the EIS.

Hazardous Material and Waste

Comments largely pertain to TVA's handling of the hazardous material located on the property and its potential effects on the surrounding natural resources. Other commenters, including the Alabama Department of Public Health, expressed concerns about the extent of contamination on the property, notification of health risks, and potentially allowing any development on the phosphorus slag pile located in the access corridor.

A few commenters were curious about potential sources of contamination that could have been buried on this property years ago by the Army and whether any records were kept of those possible activities from the 1930s and 1940s. People also want to know if TVA would be responsible for damages potentially caused from hazardous materials contamination after property is sold. In addition, commenters were concerned about how any contaminated land would be used and what it would take to get it ready for such use. They

wanted to know who would pay for any additional needed cleanup of the reservation or whether those areas would be off limits for development.

Furthermore, commenters want to know how the solid waste management units (SWMUs) are currently being monitored, whether they are having any environmental effects (e.g., on surface water, vegetation, wildlife, etc.), and how long this monitoring would continue. They want to know if any of the SWMUs could be degrading the groundwater, and whether the redevelopment would change the way they are being monitored. They also want to know if TVA would allow any development adjacent to any of these SWMUs. Additionally, commenters were concerned about whether disturbance to the slag pile (potential utility corridor) would occur and the nature, cause, and potential environmental effects of such disturbance.

Cultural Resources

Comments were received related to historic structures, archaeological sites, and the Muscle Shoals Historic District (MSHD) and how redevelopment could possibly occur without removal of some or all of the buildings. Some commenters encouraged TVA to begin the nominating process to place the MSHD or some contributing elements (buildings and structures) of the district in the National Register of Historic Places. They asked how the MSHD's eligibility for listing would be taken into account in considering the potential to redevelop the area. Some commenters accepted and encouraged some level of reuse as long as it complies with applicable regulations.

Several people commented that the MSR's many historic sites and centrally located green spaces offer the public a unique opportunity for recreation, observation of nature, and the appreciation of local history. Its redevelopment should be undertaken with great care, and no harm should be done to the integrity of any historic sites or structures.

Commenters also pointed out that they believe there are two (or possibly three) cemeteries on the MSR in the EIS study area proposed to be redeveloped. Some graves could date to the 1700s or even to the Civil War era. Others mentioned that the Cuba Cemetery was thought to be located on this property as well as an African-American cemetery, associated with TVA Village #2. The archaeological remains of the original Wilson Dam Village also lie within the redevelopment area. If the redevelopment could not avoid these areas, the potential for indirect and cumulative impacts should be strongly considered.

Socioeconomic Concerns

Comments were received related to the current state of the national and state economies (e.g., vacant buildings, closed businesses, etc.), impacts of MSR redevelopment on the local economy, tax revenues, and how monies might be acquired or raised to purchase the MSR. Comments included concerns about whether there would be an adjustment of the in-lieu-of-taxes payments TVA currently makes if the property were transferred out of federal ownership. A few commenters were also concerned about which municipality or county would get any new tax revenues that might result from the property redevelopment.

Several commenters wanted to know how redevelopment would impact the local economy and what long-term effects it would have on the social well-being of the Northwest Alabama region. Some mentioned the comparative economic impacts of outdoor recreation, ecotourism, and values associated with the natural environment (e.g., woodlands, green space, nature trails, and an interpretive center).

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A few commenters mentioned that the economy had been slow for many years and that it would be difficult to imagine that, without a substantial infusion of jobs into the Shoals, the area could support any additional large-scale retail or office development, especially considering the underuse of the spaces already available and the number of large and small retail stores that have already closed. Others speculate that the worst is yet to come for Alabama's economy, especially retail, commercial, and industrial markets.

Other

Several commenters expressed concerns about whether this redevelopment would potentially increase traffic congestion, urban sprawl, and strip development along the main transportation corridors around the MSR. They suggested that TVA needs to implement smart growth practices within the redevelopment area. Other commenters were concerned about protecting the viewshed on the portion of the MSR to be redeveloped and asked if vegetative buffers would be created or retained such as those areas addressed in the 1996 *Muscle Shoals/Wilson Dam Reservation Land Use Plan and Final Environmental Assessment*. A few people were also concerned about the potential for the redevelopment, particularly added impervious surfaces and uncontrolled sprawl, to cause or contribute to localized flooding. They were especially concerned about potential effects along Hatch Boulevard, Second Street, and Wilson Dam Road. This is viewed as a major problem already in the city of Muscle Shoals.