

TENNESSEE VALLEY AUTHORITY



TVA Muscle Shoals Reservation

Comprehensive Master Plan

Muscle Shoals, Alabama

March 26, 2015



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Comprehensive Master Plan
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Prepared by

Tennessee Valley Authority and
the Northwest Alabama Cooperative District

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ACRONYMS AND ABBREVIATIONS

ADEM	Alabama Department of Environmental Management
ARS	Adaptive Reuse Study
AHC	Alabama Historical Commission
AOC	Area of Concern
BMP	Best Management Practices
BWSC	Barge, Waggoner, Sumner, and Cannon, Inc.
CMP	Comprehensive Master Plan
EIS	Environmental Impact Statement
EO	Executive Order
GMP	Governance and Management Plan
LAS	Lord, Aeck, and Sargent, LLC
MOA	Memorandum of Agreement
MSC	McCallum-Sweeney Consulting
MSR	Muscle Shoals Reservation
MSRHD	Muscle Shoals Reservation Historic District
NACD	Northwest Alabama Cooperative District
NPS	National Park Service
NOI	Notice of Intent
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PAH	Polycyclic Aromatic Hydrocarbons
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
SWMU	Solid Waste Management Unit
SHPO	State Historic Preservation Officer
SDP	Strategic Development Plan
TVA	Tennessee Valley Authority
U.S.	United States
USACE	U.S. Army Corps of Engineers
WW	World War

EXECUTIVE SUMMARY

Congress established the Tennessee Valley Authority (TVA) in 1933 and immediately transferred to TVA 3,036 acres near Muscle Shoals, Alabama, formerly managed by the United States (U.S.) War Department. A portion of these lands (approximately 2,600 acres) is referred to as the Muscle Shoals Reservation (MSR). Since 1933, TVA's need for the MSR property has changed as programs evolved and eventually declined. In accordance with its economic development mission, TVA concluded that the surplus, sale, and redevelopment of approximately 1,000 acres of this property could positively impact the local and regional economy while reducing TVA's footprint and costs for operations and maintenance.

To encourage proper and responsible development of these approximate 1,000 acres, TVA, in cooperation with the locally formed Northwest Alabama Cooperative District (NACD), conducted studies; evaluated environmental, historical, and architectural impacts and alternatives; participated in public forums; collected public input; and evaluated the market potential of the MSR site. As a result of these efforts, TVA and the NACD have developed this Comprehensive Master Plan (CMP) to serve as an overarching guiding principles tool to encourage well-managed development. It includes data and inputs collected throughout the planning process, the actions taken to develop the CMP, the preferred reuse plan, and the steps necessary to bring this surplus property to auction.

In consideration of many contributing inputs, the surplus MSR property has been partitioned into eight distinct "Areas" (and their sub-areas) with stated preferred uses that include retail, commercial, office, institutional, light industrial, heavy industrial, and preservation. TVA and NACD believe that this balanced approach complements the important contributing inputs considered and serves as the best alternative to maximize the many natural and marketable attributes of the site while preserving the historic character and environmental integrity of the property. A description and the recommended design guidelines, preferred use options, and environmental and historic restrictions (where applicable) are detailed in this document.

As areas or portions of areas are readied and deemed marketable, TVA would hold public auctions in accordance with Section 31 of the TVA Act. Buyers would be required to comply with deed restrictions and/or covenants developed by TVA and abide by local zoning standards--both of which would promote the desired outcomes of this CMP. The transition of ownership in accordance with the guiding principles set forth in this CMP will set a new course for the best and balanced utilization of the MSR site resulting in new opportunities for the region.

1.0 INTRODUCTION

Congress established the TVA in 1933 as a regional development agency to support the national defense, supply reliable, competitively priced power, provide flood control, and support navigation in the 41,000-square-mile Tennessee Valley watershed. The agency was also created to stimulate sustainable economic development in the public interest. TVA assumed custody and control of 3,036 acres in Colbert County, Alabama, when Congress directed its transfer to TVA from the U.S. War Department in 1933. This acreage was subdivided into the MSR and the Wilson Dam Reservation, approximately 2,638 and 398 acres, respectively.

The MSR is located in northwest Alabama in an area generally referred to as the “Shoals” or the “Quad Cities.” For 80 years, TVA has championed numerous critical operational and social missions on the MSR. One of the most notable missions included development and manufacturing of fertilizer which revolutionized agricultural output in the U.S. and abroad. Other missions have included economic development, support of other government operations, research and development, stewardship of the Tennessee River Watershed, and power generation. However, in the 1990s, the U.S. government ceased allocating appropriated dollars for TVA operations. As a result, programs were scaled back or discontinued and the utilization of the MSR has steadily declined.

Local public and private sector entities have periodically expressed interest in the use or purchase of portions of the MSR property which has been virtually off limits to private development for almost 100 years. In response to this interest and because of lower utilization of the MSR property for operational missions, TVA made the decision to study the appropriateness of declaring a portion of the MSR as surplus. In accordance with its economic development mission, TVA has determined the sale and redevelopment of a portion of the MSR would greatly contribute to the vibrancy of the local and regional economies while reducing TVA’s footprint and costs for operations and maintenance. Both of these goals complement TVA’s commitment to maintaining low cost, reliable power for Valley residents.

During this evaluation period, several studies were initiated to thoroughly assess the development potential and limitations of the property. A final environmental impact statement (EIS) was completed in November 2011 which analyzed the environmental impacts associated with the proposed sale of approximately 1,400 acres of the MSR. Subsequently, approximately 400 acres of land within the MSR (mainly associated with former TVA operations) were determined unsuitable for development at this time. Therefore, in November 2012, the TVA Board of Directors declared approximately 1,000 acres of the MSR as surplus to TVA needs. These approximate 1,000 acres

would be sold at public auction in accordance with Section 31 of the TVA Act of 1933 when the property (or portions thereof) is deemed ready for sale.

An overarching CMP has been created to encourage proper and responsible development of the approximate 1,000 surplus acres of the MSR. Collectively represented through the NACD, leadership from the Shoals-area local governments has been involved in the CMP process. As the point organization for the Shoals, the NACD will be responsible for encouraging and obtaining “Governance and Management Plans” (GMPs) from the cities of Muscle Shoals and Sheffield, whom it has recommended take jurisdiction of the surplus property. When implemented, the GMPs would complement the guiding principles set forth in the CMP by expediting the process to establish zoning (and/or other land use controls) and planning for utilities and public services. This CMP describes the various inputs that were integrated into the vision for the MSR property, the resulting property use recommendations, and the path forward as the surplus acreage is divested from TVA control.

1.1 LOCATION OF THE MUSCLE SHOALS RESERVATION

The MSR is located in the “Shoals” or the “Quad Cities” in northwest Alabama. (Figure 1-1). Officially, the Shoals is recognized as the Florence-Muscle Shoals Metropolitan Area, and is comprised of the cities of Florence, Muscle Shoals, Sheffield, and Tuscumbia and the counties of Colbert and Lauderdale. According to the U.S. Census Bureau, the 2014 population of this area is 148,988.

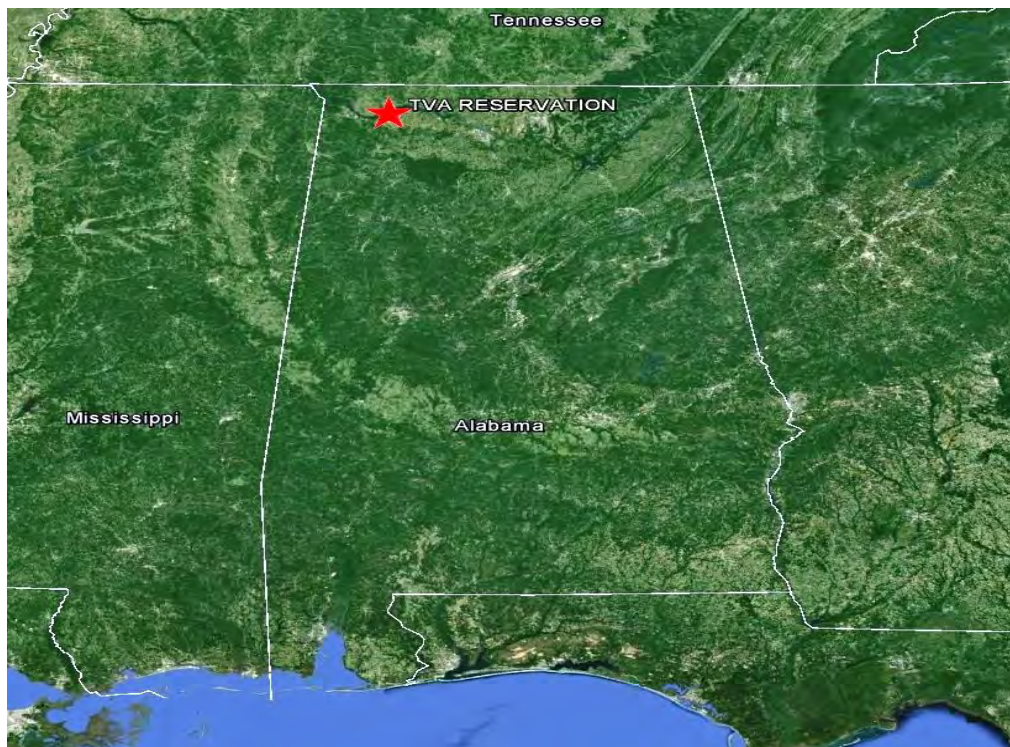


Figure 1-1. Location of TVA Property in Northwest Alabama

The current TVA-owned footprint is depicted in Figure 1-2. The red area represents the 1,400 acres initially identified for potential redevelopment.

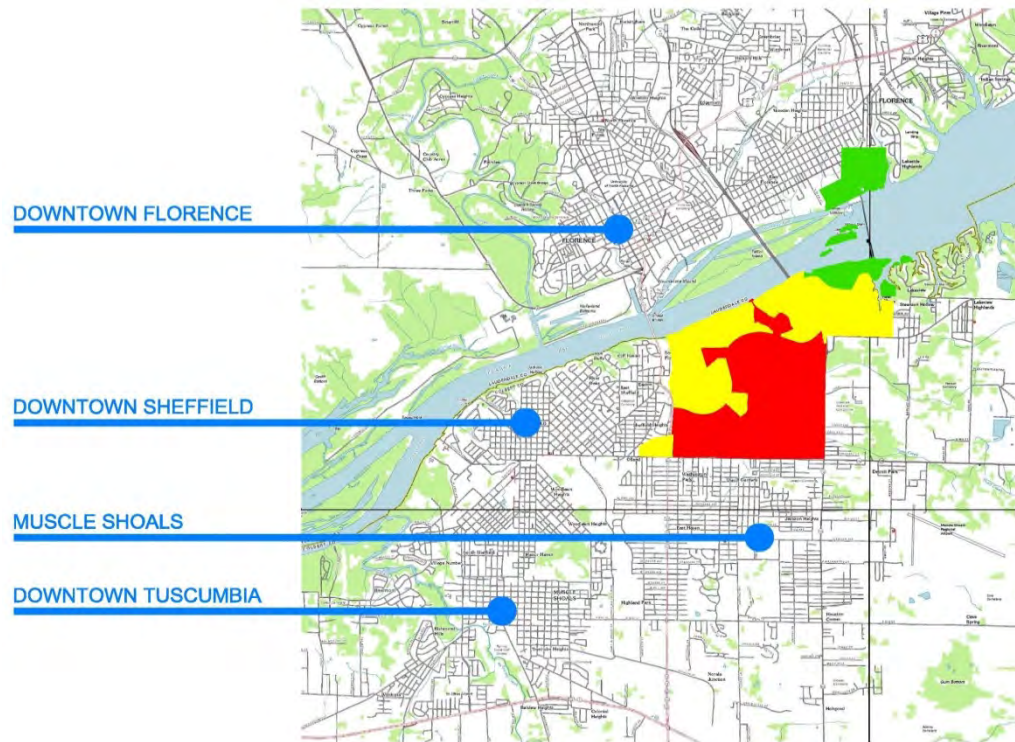


Figure 1-2. TVA-owned Property in the Shoals Area

Within this footprint, roughly 1,000 acres have been targeted for surplus, while the remaining 400 acres have been determined unsuitable for development (see Figure 1-3). These 400 acres and the surrounding reservoir and generation properties (depicted in yellow and green) will remain with TVA.

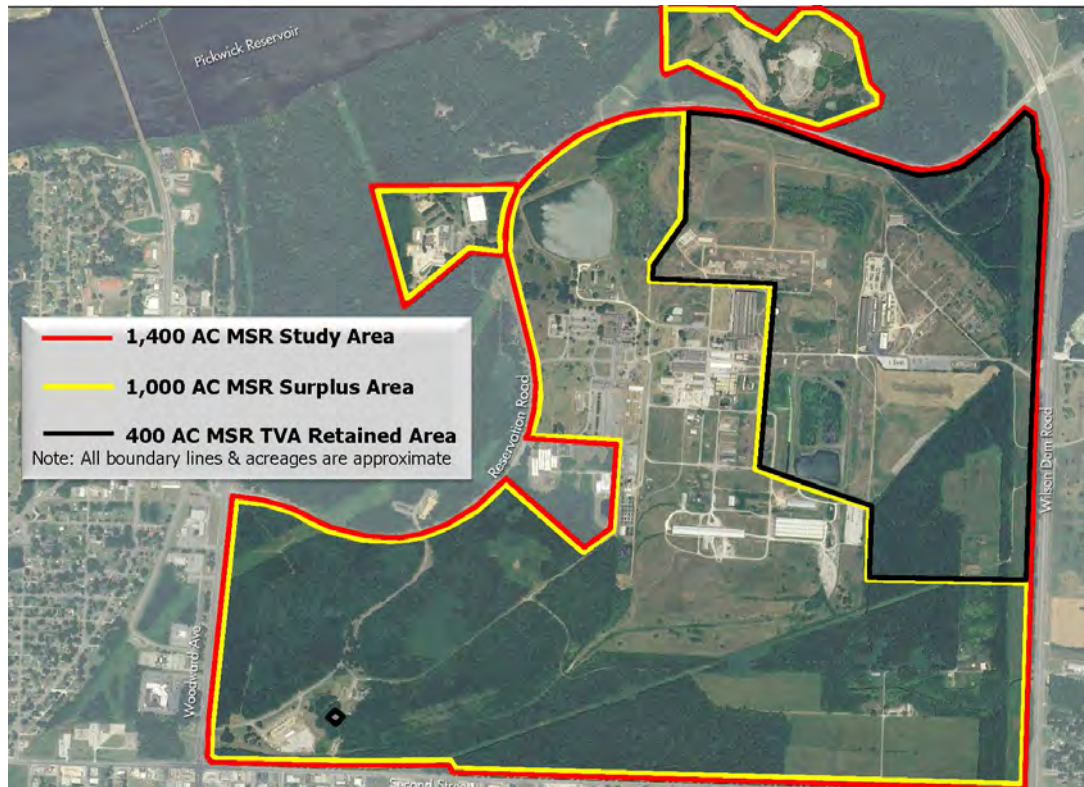


Figure 1-3. Muscle Shoals Reservation & Surplus Property Map

The majority of the northern boundary of the surplus MSR area is located along Reservation Road. The eastern, southern, and western boundaries of the surplus MSR area include State Highway 133, Second Street, and Woodward Avenue/Hatch Boulevard, respectively. This central location among Shoals area communities makes this property advantageous for potential public and/or private sector development.

1.2 MUSCLE SHOALS RESERVATION HISTORY

The MSR has been owned and operated by the Federal Government since 1918. Nitrate Plant No. 2 was constructed between February and October 1918 by the U.S. War Department to produce nitrates for World War (WW) I munitions. Concurrently, Wilson Dam was designed to supply the electricity needed to power the nitrate plants. The nitrate plant was being tested when the armistice was signed on November 1918 ending WWI. The plant was placed on standby due to the reduction in need for large quantities of munitions-grade nitrate. Despite idling nitrate production, construction of the dam continued and was completed in 1924.

TVA was created in 1933 during the presidency of Franklin D. Roosevelt. As a part of the TVA Act, Congress transferred the MSR lands and facilities (including Wilson

Dam) to TVA. Work began immediately to modify the nitrate facilities to produce fertilizer. During WWII, the plant supplied more than 60 percent of the elemental phosphorus needed for munitions and the facilities produced more than 200,000 tons of calcium carbide for the manufacture of synthetic rubber. TVA also manufactured temporary housing and trained military officials for malaria control.

Following WWII, TVA expanded the Research and Development (R&D) activities at the fertilizer complex. During this era, TVA added buildings to support the evolving missions for the site. For more than 60 years, TVA operated fertilizer R&D and manufacturing facilities on the MSR. At its peak in 1980, approximately 2,800 employees supported MSR's various missions.

TVA began scaling back fertilizer development and production in the early 1990s. By 1998, these missions had largely ceased. Efforts were reduced and refocused on environmental research and the support of TVA's power generation operations. Today, approximately 470 TVA employees (excluding contractors) support operations on both the Muscle Shoals and Wilson Dam Reservations.

2.0 COMPREHENSIVE MASTER PLAN DEVELOPMENT AND OBJECTIVES

Upon considering the appropriateness of divesting portions of the MSR, TVA recognized that the cooperation of the surrounding communities would be critical to ensure a proper assessment and successful outcome. To better collaborate, it was recommended that a single group be formed to represent the "voice" of the Shoals. The cities of Muscle Shoals, Sheffield, Florence, and Tuscumbia, and the counties of Colbert and Lauderdale subsequently came together to form the NACD for this purpose. The cities and counties each chose local officials to represent them on the NACD. Therefore, the governing body of the NACD is comprised of the mayors from the cities of Muscle Shoals, Sheffield, Florence, and Tuscumbia and one commissioner each from the counties of Colbert and Lauderdale.

While partnering with the NACD, it was determined that setting a constructive path for future development would require a CMP. The plan's contents would serve as "guiding principles" for future development by an entity(ies) other than TVA. This CMP is the culmination of multiple inputs that provide a balanced and responsible approach to the reutilization of the property.

The objectives of this CMP are to

- document the contributing inputs,
- present the recommended master plan for the transfer of approximately 1,000 acres of the MSR, and
- define the path forward for the sale of the surplus MSR property.

Each of these objectives is addressed in the following sections. Supporting documentation is provided in the Appendices.

3.0 CONTRIBUTING INPUTS

Many contributing inputs were collected in order to provide a thorough and multi-disciplinary platform for decision-making. These inputs included an adaptive reuse study, site evaluations, environmental reviews, historical and cultural assessments, market evaluations, stakeholder and public meetings and feedback, and miscellaneous inputs as described below.

3.1 MUSCLE SHOALS RESERVATION ADAPTIVE REUSE STUDY

In 2009, TVA commissioned the architectural firm Lord, Aeck, and Sargent, LLC (LAS) to develop an Adaptive Reuse Study (ARS) for the original 1,400-acre MSR study area. This study was developed in four parts and included architectural, historical, structural, and market assessments (Appendix A). In 2011, the study was expanded when TVA commissioned LAS to complete a Strategic Development Plan (SDP) based upon the collective intelligence gained from the initial study (Appendix B). The below sections detail the results of this study.

3.1.1 Adaptive Reuse Study

In the ARS, LAS assessed targeted industrial, office, and laboratory buildings within the original 1,400-acre study area. Each building's physical condition and potential adaptability were characterized with classifications ranging from excellent to critical. The resource significance for the buildings was also assessed from an historical perspective. Thirteen percent (13%) of the assessed buildings were considered in "excellent" or "good" condition, while 87% were considered in "fair" or "poor" condition. None were determined to be in "critical" status.

Subsequently, a select number of these buildings were identified within a Memorandum of Agreement (MOA) between the Alabama State Historic Preservation Officer (SHPO) wherein TVA committed to promote the buildings for adaptive reuse (see Section 3.3). In 2013, TVA again commissioned LAS to perform an updated assessment of select MSR buildings identified in the 2011 MOA, otherwise known as a Cyclic Assessment Report. This assessment documented some visible changes in physical building conditions from 2009; however, the majority were unchanged (Appendix B).

The ARS also included a comprehensive market analysis of the Shoals which projected development potential over 20 years. LAS concluded that the surrounding market conditions could support a variety of additional mixed uses, including retail, R&D, entertainment, hospitality, office, and limited residential. The market analysis also supported the existence of active and passive recreation and sustainable green practices within development areas.

3.1.2 Strategic Development Plan

After the completion of the ARS, TVA tasked LAS with creating the SDP (Appendix C). This plan would be achieved by using suitable design principles, an analysis of market conditions, and an assessment of existing and potential site development limitations and opportunities. The SDP would also be heavily influenced by local stakeholder and public input.

In the fall of 2011, TVA and NACD arranged stakeholder interviews and public workshops to facilitate public participation. During these meetings, analysis and sample development opportunities within hypothetical “Redevelopment Focus Areas” were provided as a baseline for feedback. The participants were given the opportunity to provide comments during the meetings. More detail on this process can be found in subsection 3.6.2 of this document.

The Strategic Development Plan (SDP) was completed on February 10, 2012. This document included illustrations that reflected the stakeholder and public input previously gained. Due to the scale of the impacts of previous uses of the MSR, the SDP recommended subdividing the MSR property into segmented areas with different development characteristics. The SDP incorporated the site’s natural resources, historical significance, cultural value, adjacent parks and walking trails, river access opportunities, potential street/pedestrian connectivity, and potential design criteria.

The ARS and SDP documents were considered a valuable foundation for continued assessments by the TVA/NACD team and were considered “ideal world.” Many, but not all, of the study’s conclusions are supported by subsequent assessments and are integrated into the final CMP. In some cases, however, the TVA/NACD team concluded that some suggested property uses and management requirements would likely be considered too prescriptive and could result in reduced opportunity for investment into the property. Instead, the team decided to assign a broader or “thematic” approach to property segmentation. This allows more flexibility for potential uses, guided by a limited number of guidelines and restrictions (see Section 4.0).

3.2 SITE-READINESS EVALUATION

In January 2012, McCallum-Sweeney Consulting (MSC), a world-renowned site selection firm, was commissioned by TVA to evaluate 1,400 acres of the MSR. Given the firm’s vast background in representing both small and large U.S. companies in their site selection quests and, in particular, the firm’s experience with assessing and certifying large-scale sites (or ‘mega-sites’), MSC was asked to evaluate the attractiveness and preparedness of the MSR, in part and whole, from the perspective of a typical corporate client. Moreover, MSC was asked to recommend methods for

improving the marketability of the property and suggest potential target markets that might provide the best land utilization given natural and manmade conditions of the site.

After conducting a field study and reviewing the Adaptive Reuse Study, MSC also recommended multi-use development by dividing the reservation into distinct use “Areas” and marketing them separately (Appendix D). In the opinion of MSC, this would greatly improve the chances of maximizing the site’s potential to create jobs and capital investment while minimizing impacts to the natural landscape of the site. The development potential for each area would take into account the onsite conditions including topography, existing structures/buildings, monitoring wells, wetlands/floodplain, permanent easements (such as TVA transmission lines), underground and above-ground disposal areas, cemeteries, historic structures, walking trails, and existing third-party land-use agreements. MSC recommended removing as many development constraints as possible and marketing the areas in phases as the constraints were removed.

MSC recommended marketing four cornerstone areas of the original 1,400-acre study area (later reduced to 1,000 acres as detailed in Section 4.0). The southwest corner was suggested for commercial (including retail) or small light industrial projects. The southeast corner was suggested for use in a similar fashion as the southwest corner, but with smaller lot sizes located along Second Street, with the size of the lots increasing as the distance from Second Street increases. MSC suggested that the northwest corner should be considered for commercial (office) or light industrial uses if the existing reservoir were drained and filled and if the supporting infrastructure were removed. MSC envisioned the northeast corner of the site for more heavy manufacturing needs. This northeast corner would eventually fall outside of the approved 1,000-acre surplus area.

While accepting (and generally agreeing with) the recommendations from MSC for the southwest, southeast, and northwest areas, the TVA/NACD team concluded that a more suitable and flexible environment for heavy manufacturing existed in the center portion of the site, later identified as “Area 7” (see Section 4.7). The team also later determined that the northeast corner of the MSR study area was not suitable for development at this time and subsequently removed that section of the MSR from the surplus recommendation.

MSC reinforced the LAS recommendation that TVA develop a master plan for the MSR property. The master plan would identify areas which are immediately ready for development, and those which, with modifications, could be ready for development during future phases. Once the properties are identified, MSC recommended that a layout be developed which illustrates utility service, transportation access, sales price, zoning, and environmental monitoring. This layout could be utilized to assist in marketing the site.

3.3 HISTORICAL AND CULTURAL ASSESSMENTS

Pursuant to Section 106 of the *National Historic Preservation Act*, TVA consulted with the SHPO and other consulting parties to develop a Memorandum of Agreement (MOA) to outline agreed upon measures to avoid, minimize, or mitigate adverse effects to historic properties on the MSR. This MOA was executed in September 2011 (Appendix E). TVA, in consultation with the SHPO, identified 51 historic properties eligible for listing in the National Register of Historic Places (NRHP). These buildings were divided into two time periods: (1) 1914 - 1933 referred to as the “First Architectural Period” in which buildings were constructed in the industrial Army vernacular style and (2) 1933 - 1998 referred to as the “Second Architectural Period” in which buildings were constructed by TVA in the international style. Two cemeteries are also located on the MSR surplus property (Murphy-Kemper-Cockburn and Cuba Cemeteries). The Murphy-Kemper-Cockburn cemetery was determined ineligible for listing in the NRHP. The Cuba cemetery is located within area 3B, which is planned as preservation (see Section 4). It is also fenced with a buffer. Access to both cemeteries is protected by applicable Alabama state law. No prehistoric archaeological sites eligible for the NRHP or Native American sacred sites were identified on the MSR surplus property.

3.3.1 Historically Significant Buildings

Of the 51 eligible historic properties, the MOA provides that 30 would be promoted for adaptive reuse due to their contribution to the historic context of the site, their existing structural and architectural conditions, and their relative adaptability for future uses. As part of this CMP, TVA has developed design guidelines and architectural controls based on the Secretary of Interior’s *Standards for the Treatment of Historic Properties* as part of this CMP for the treatment of these historic properties, as well as new construction surrounding these properties when the areas are transferred from TVA ownership (see subsection 3.3.2). The remaining 21 buildings were identified as having structural or architectural deficiencies or as having a relatively low capacity for adaptive reuse. These buildings are subject to demolition and removal from the MSR as TVA prepares to market and sell the surplus property. TVA will ensure these buildings have undergone National Park Service (NPS) Historic American Building Survey documentation before deconstruction.

The 2009 ARS and the subsequent 2013 Cyclic Building Assessment (Appendices A & C) provide a significant level of building condition information that potential buyers may reference when considering reuse of the above-referenced properties. Along with the transfer of the MSR areas, TVA would transfer information on the historical significance of each eligible property as well as information regarding incentives for the rehabilitation of historic properties and guidelines for infill construction (see subsection 3.3.3).

3.3.2 Historic District Design Guidelines and Architectural Controls

Preserving the historic context within the MSR is very important as adaptive reuses are considered. As stated above, TVA has consulted with the Alabama SHPO to establish which MSR buildings have both historical and adaptive reuse value. In November 2013, TVA submitted two important inter-related documents as partial fulfillment of the stipulations outlined in this MOA.

First, a registration form was submitted to the Keeper of the NRHP. This document proposed boundaries for the proposed Muscle Shoals Reservation Historic District (MSRHD). Upon acceptance, the district would consist of 44 buildings and seven structures over 172 acres. Within this area, development must adhere to pre-established architectural guidelines when either existing buildings are renovated or expanded and/or new infill facilities are constructed.

Secondly, to establish these guidelines, TVA commissioned the development of the Muscle Shoals Reservation Historic District Design Guidelines and Architectural Controls. The Guidelines were prepared in consultation with the Alabama Historical Commission (AHC). This document includes detailed descriptions of each building located within the historic district. It also provides design guidelines for rehabilitating existing buildings and constructing new buildings and/or other site elements. Review criteria and guidelines are listed to aid in the assessment of potential demolition, relocation, or mothballing of historic district buildings. Available incentives are also described in the document (see subsection 3.3.3 for more details).

The registration form and design guidelines can be found in Appendices F and G. When TVA property is sold within the historic district, the deed(s) would dictate that the buyer must adhere to these guidelines. Design review and enforcement mechanisms would be the responsibility of the cities of Muscle Shoals and Sheffield within their respective jurisdictions.

3.3.3 Historic District Incentives

State and federal incentives are available to play a vital role in encouraging redevelopment of MSR properties. These incentives include income tax credits, rehabilitation tax credits, and ad valorem tax reductions. Additionally, various funding, training, and technical courses are available. Up-to-date information regarding state and federal incentives offered or administered by the AHC can be found at <http://www.preserveala.org/>. To receive any of these incentives, owners must submit an application to AHC.

The State of Alabama offers a historic preservation income tax credit for owners who rehabilitate residential or commercial properties. Presently, a total of \$20 million is available yearly as tax credits. Owners may submit applications to the AHC which

reviews the applications and reserves credits as eligible in the order in which they are received.

Alabama also offers a property tax reduction for structures eligible for listing or contributing to a NRHP. The AHC reviews the applications. Eligible properties are assessed at 10 percent of the value for ad valorem tax purposes. This incentive is referred to as the Wallace Property Relief Constitutional Amendment (“Lid Bill”) and is located in Section 40-8-1 of the Code of Alabama.

Upon listing of the MSRHD in the NRHP, a federal rehabilitation tax credit for 20 percent of the eligible rehabilitation expenditures is available for certified rehabilitations of income-producing historic buildings and applies to the owner’s federal income tax. A certified historic structure is a building that is listed individually in the NRHP or a building that is located in a registered historic district and certified by the NPS as contributing to the historic significance of that district. The rehabilitation costs must be substantial and exceed the adjusted basis of the property. The rehabilitation must follow Rehabilitation Standards that protect the historic character and historic materials that comprise the building. Prior approval for project plans must be obtained from the NPS. The AHC helps owners through the application process with the NPS.

A 10-percent federal income tax credit is also available for rehabilitating income-producing buildings built before 1936 but not listed in the NRHP. The owner must own the building for five years after completing the rehabilitation, and any work on the building within five years must have prior approval by the NPS, or the credits can be recaptured. Details about this program are also available at the NPS website <http://www.nps.gov/tps/tax-incentives.htm>.

3.4 ENVIRONMENTAL DOCUMENTS AND ASSESSMENTS

TVA is subject to the requirements of permits issued by the State of Alabama as well as certain federal directives. To transfer the proposed redevelopment lands from the federal government and safeguard the site’s environmental integrity, several environmental assessments and studies were conducted. These include preparation of a required EIS, and completion of a floodplain study, and wetlands delineation. In addition, the TVA’s Resource Conservation and Recovery Act (RCRA) permit for the MSR would be modified to remove the surplus property from its scope upon transfer.

Results from these studies and procedural steps involved with RCRA permit modification are detailed below.

3.4.1 Environmental Impact Statement

The National Environmental Policy Act requires federal agencies to consider the impact of their proposed actions on the environment and to incorporate environmental

considerations into their decision-making with respect to those proposed actions. To satisfy its obligations, TVA prepared an EIS to analyze the potential impacts of declaring approximately 1,400 acres of MSR property as surplus and selling the property for future development. In the EIS, TVA evaluated a reasonable range of future land-use alternatives for the MSR property. Under the No Action Alternative (Alternative A), the MSR property would not be declared surplus and would remain in federal ownership to be managed in accordance with TVA's 1996 Muscle Shoals/Wilson Dam Reservation Land Management Plan. Under the five Action alternatives (Alternatives B, C, D, E, and F), the land would be declared surplus, be sold (likely at public auction) and be used for conservation and low-impact development (Alternative B); commercial, retail, and residential use (Alternative C); industrial use (Alternative D); a mix of these uses (Alternative E); or unrestricted land use (Alternative F). Under any of the action alternatives, TVA retains ownership of monitored solid waste management unit areas and continues to manage them in accordance with state regulations. The EIS also contemplates that TVA would work with the Shoals area community and appropriate local, state, and federal agencies to develop a master plan that would guide the redevelopment of the MSR property.

TVA issued the draft EIS on January 14, 2011, and public comments were accepted through February 28, 2011. An open-house style public meeting to receive comments on the draft EIS was held on February 3, 2011, at Muscle Shoals High School (see Section 3.6). Comments were considered and incorporated, and TVA issued the final MSR Redevelopment EIS in November 2011 (Appendix H).

Alternative F, reflecting unrestricted future land use, was selected as TVA's preferred alternative in the EIS. The TVA Board of Directors selected this alternative for implementation in November 2012, and a Record of Decision documenting TVA's decision was published on September 13, 2013, in the Federal Register. The Record of Decision and additional information can be found on TVA's website at http://www.tva.com/environment/reports/muscle_shoals.

3.4.2 Floodplain Study

The MSR surplus area is relatively flat and contains known floodplains which could affect and be affected by reuse options. TVA staff commissioned a floodplain boundary determination to accurately delineate the floodplains located on the MSR surplus area. Barge, Waggoner, Sumner, and Cannon, Inc. (BWSC) conducted the floodplain study in September 2012 to identify actual flood boundaries. Inputs used to perform the flood study included field survey data collected by BWSC and light detection and ranging data (remote sensing technology using a laser) for Colbert County which was provided by the Alabama Department of Economic and Community Affairs, Office of Water Resources. The conclusions of this study can be found in Appendix I.

One perennial stream, Pond Creek, flows northerly through the eastern section of the MSR surplus area and into the Tennessee River immediately downstream of Wilson Dam. Potential flood impacts are located along Pond Creek on both surplus and non-surplus property. During heavy rains, there is potential for flooding in the southern and eastern MSR areas surrounding Pond Creek.

Presently, TVA is constructing an elevated embankment that would result in an overall reduction in inundation levels within a portion of the MSR surplus area. Construction is expected to be completed in 2015. Purchasers of property within the study area would be supplied with the details of the floodplain study (and any subsequent updates), as well as the expected resulting impacts of the elevated embankment improvements, to encourage informed decision-making related to potential development risks.

As a federal agency, TVA must adhere to Executive Order (EO) 11988 on Floodplain Management, which requires federal agencies to consider and take appropriate measures to minimize adverse effects to beneficial floodplain functions. To this end, TVA and NACD have determined that most of the current floodplain boundaries should fall within Area 3A (Preservation) or remain with TVA within Area 8 (See Subsection 4.3.1). To ensure compliance with EO 11988, TVA must review any action proposed to be taken in the floodplain in order to evaluate impacts and determine whether a practicable alternative exists. Proposed development within the limits of the floodplain is subject to TVA approval pursuant to Section 26a of the *TVA Act*. Details regarding Section 26a permitting can be found at <http://www.tva.com/river/26apermits/index.htm>. Purchasers of MSR property must submit plans for development in the floodplain to TVA for approval prior to construction.

3.4.3 Wetland Survey

Throughout the MSR, land-use history and drainage alterations have changed the historic type, extent, and distribution of wetlands. In general, wetlands are associated with the floodplain of Pond Creek and lower-lying areas where the water table is near the surface during the spring rainy season and/or where ponding of surface water occurs after heavy or extended rain.

Historical National Wetland Inventory (NWI) maps indicate approximately 200 acres of the MSR are considered wetlands, as defined by NWI. To ensure comprehensive coverage of wetlands on the site, a wetlands delineation study was initiated in February 2012 in accordance with United States Army Corps of Engineers (USACE) standards. These standards require documentation of hydrophytic (wet-site) vegetation, hydric soil, and wetland hydrology (Environmental Laboratory 1987; Reed 1997; U.S. Department of Defense and Environmental Protection Agency 2003; USACE 2010). The *Muscle Shoals Reservation Wetland Report* (Appendix J)

identified nineteen (19) jurisdictional wetlands that meet the USACE regulatory wetland definition. In most cases, these jurisdictional wetlands are located within larger wetland habitats that are mapped on NWI maps.

As a federal agency, TVA must adhere to federal requirements for wetland protection, including Section 404 of the *Clean Water Act* and EO 11990. TVA's EIS identified several commitments that TVA must fulfill in order to maintain compliance with these federal requirements in offering areas of the MSR for future sale and development.

To ensure compliance with these requirements, purchasers of the MSR property must submit development plans to TVA for approval if impacts to either NWI or jurisdictional wetlands are planned. Submission of development plans must occur prior to any construction that could affect a wetland. Appendix K identifies the procedures purchasers must follow when submitting plans to TVA. Any such action proposed in wetlands or other waters of the U.S. are also subject to review and approval by the USACE and the Alabama Department of Environmental Management (ADEM).

3.4.4 Resource Conservation and Recovery Act Permit

History

The Resource Conservation and Recovery Act (RCRA) is the nation's primary law governing the management and disposal of solid and hazardous waste. The goals of RCRA include:

- Protecting human health and the environment from the potential hazards of waste disposal
- Conserving energy and natural resources
- Reducing the amount of waste generated
- Ensuring that wastes are managed in an environmentally-sound manner

Until the late 1980s, much of the work performed at the former TVA Environmental Research Center involved fertilizer research. Afterwards, the focus turned toward innovative environmental research related to remediation, alternative power generation, and sustainability. In support of these new missions, TVA applied for a RCRA permit which would allow for experimentation on various hazardous waste streams. As a part of the permitting process, the MSR was subjected to a series of RCRA facility inspections, followed by extensive sampling and corrective actions to address legacy disposal practices associated with former industrial activities at the site. Copies of these investigations are available upon request from TVA.

Solid Waste Management Units and Areas of Concern

A number of solid waste management units (SWMUs) and one Area of Concern (AOC) were identified during the course of the RCRA process:

SWMU is defined in the TVA Permit as follows:

any unit which has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA-regulated hazardous waste management units are also solid waste management units. SWMUs include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities (e.g., product or process spills). (ADEM, Hazardous Waste Facility Permit, September 28, 2012, Part 1, § I.D, pg. 8 of 9)

AOC is defined in the TVA Permit as follows:

any area having a probable release of hazardous waste or hazardous constituent which is not from a solid waste management unit and is determined by the Department [ADEM] to pose a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action as required under Section 3005(c)(3) of the Resource Conservation and Recovery Act (RCRA) and ADEM Admin Code r. 335-14-8-.03(3)(b)2 in order to ensure adequate protection of human health and the environment. (ADEM, Hazardous Waste Facility Permit, September 28, 2012, Part 1, § I.D, pg. 7 of 9)

SWMUs may include areas which have been contaminated by the release of hazardous or non-hazardous waste. However, by definition, property (typically buildings or equipment) may be classified as a SWMU if the property contains or has contained waste. For example, a storage tank may be a SWMU, not because there is evidence of contamination surrounding the tank, but only because the tank still contains waste at the time of assessment (or there is no record that the waste has ever been completely removed from the tank).

The term “Solid Waste” can include discarded material in a solid, liquid, or gas form. SWMUs which were investigated on the MSR included the following:

- Product Storage Areas
- Landfills
- Process Areas
- Location of previous or existing drums, existing staining, or historical clean-up sites
- Sumps

The original RCRA assessment occurred in 1988 and subsequent investigations have followed. As of this date, a total of 211 SWMUs have been identified within the original 1,400-acre redevelopment study area. Of this number, 185 have either required no cleanup or were cleaned to industrial standards or better. However, 26 SWMUs were improved or stabilized and subsequently partitioned (fenced) when

cleanup was not practical and will continue to be maintained and monitored. All 26 SWMUs are located within Area 8A which is not within the 1,000-acre MSR surplus footprint. Area 8A would remain under the ownership of TVA where these SWMUs would continue to be maintained and monitored (see Figure 3.1).



Figure 3-1. Area 8: TVA Maintained Solid Waste Management Units

There is one AOC (AOC 998) located within the MSR (see Appendix L). The contributing contaminant, polycyclic aromatic hydrocarbons (PAHs) were generated as a combustion by-product of coal fired equipment which was utilized in the original construction of industrial facilities in the early 1900s. Thirty surface soil samples were taken within the AOC boundaries in June 1997 to assess the potential presence of hydrocarbons. Twenty locations were pinpointed that indicated PAHs above residential action levels; however, given the wide area of industrial equipment that was once located within the MSR as part of TVA's former operations, the Environmental Protection Agency (EPA) determined that a select area, the current AOC boundaries, could be reasonably expected to also possess elevated PAHs within the soils. Therefore, development within the AOC 998 must be utilized only for industrial and commercial uses.

RCRA Permit

The MSR surplus area is currently regulated under a single RCRA permit (AL3640 090004) which establishes environmental management requirements and use restrictions for the land while it remains under TVA ownership. The RCRA permit also extends into Areas 8A and 8B which would be retained by TVA. The permit details security, maintenance, and monitoring requirements. Though the RCRA permit applies to the MSR surplus area, the majority of permit requirements apply to the TVA-retained areas.

When the surplus property transfers from TVA ownership, an application would be submitted to remove the property from the TVA RCRA permit and the requirements of the permit such that the requirements of the permit would not apply to the new owners. However, within AOC 998 and for SWMUs that have not been improved to residential standards, restrictive covenants would limit redevelopment to industrial or commercial use only. Any amendment or termination of the restrictive covenants would require ADEM and TVA approval.

3.4.5 Wildlife Corridor

A proposed “Wildlife Corridor” would traverse easterly from Reservation Road through Areas 3A, 3B and 7 and connect with the TVA-retained Area 8A (Appendix P). The creation of this corridor is supported by comments received during the EIS and the SDP processes to protect existing/future wildlife and is within TVA’s mission of environmental stewardship. Since no hunting has historically been allowed on the surplus MSR, the woodlands within its boundaries are considered a safe haven from most human influences. The corridor, which contains hardwoods, native vegetation, water, wetlands, and floodplain, will serve as a set-aside for the continued movement of various forms of wildlife to access a rich habitat that stems from Pond Creek to the Tennessee River. Purchasers of Areas 3B, 7 and 3A will not be allowed to fence within 150 feet on each side of this wildlife corridor. However, the purchaser of Area 7 will be allowed to construct a connecting roadway and/or railway through the Wildlife Corridor as it is a necessary path to allow access to Second Street. A Second Street connection is viewed as important to reduce unsafe and incompatible traffic flows that would likely occur with access to Reservation Road only. Existing wildlife is accustomed with impediments associated with crossing Reservation Road. Since Area 8A will not be sold and will remain largely in its present condition with woodlands, wetlands, and floodplain, the wildlife corridor’s connection to this area will further promote wildlife habitat.

3.5 DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS MAPPING

After reviewing the various inputs, TVA personnel began a process of creating “Development Opportunities and Constraints” mapping files. These terms in the context of the MSR surplus property were defined as listed below.

Development Opportunities:

- External Paved Roadways
- Internal Paved Roadways
- Paved Parking Surfaces
- Rail (if rehabilitated)
- (River) Water Intake Systems
- TVA and local power service provider power infrastructure
- Other Existing Utilities (water, wastewater, gas, and telecommunications)
- Existing Buildings with Slight to High Adaptability, in Fair to Excellent Condition with Fair to Excellent Structures

Development Constraints:

- TVA Monitoring Locations
- Existing TVA Easements
- Other Utility Locations/Easements
- Roadway Rights-of-Way
- NWI Wetlands
- Jurisdictional Wetlands
- Solid Waste Management Units (SWMUs)
- Buildings with limited to no adaptability, in deteriorated to critical condition and with deteriorated structures
- Unmarketable Structures or Pads
- Cemeteries
- Set Aside Properties
- Floodplain
- Pond Creek

These site characteristics were “layered” on mapping software in order to gain a full appreciation of their locations within the original 1,400-acre MSR study area. This layering approach was a significant contributing tool for determining preferred property uses, “Area” boundary lines, market focus, design guidelines, and development restrictions for the MSR lands.

Appendices M and N provide references for the development opportunities and constraints that contributed to the boundary line determinations for each area.

3.6 PUBLIC NOTIFICATIONS, MEETINGS, AND COMMENT OPPORTUNITIES

There were two separate opportunities for public participation during both the EIS and CMP phases:

3.6.1 EIS-Related Public Meetings

TVA held public meetings to solicit input during the development of the EIS (see subsection 3.4.1). TVA's Notice of Intent (NOI) to prepare an EIS and request for comments appeared in the Federal Register on June 18, 2009, which initiated a 48-day scoping public comment period. Announcements of the public scoping meeting were published in the NOI and three local newspapers in the Shoals area. TVA hosted a public scoping meeting in Muscle Shoals on July 14, 2009. Approximately 100 members of the public attended the meeting. During the public meeting, TVA personnel were available to answer questions and discuss the proposed redevelopment.

TVA received 90 comments from 82 commenters during the public scoping comment period. Approximately 140 people requested to be included on a project mailing list, which allowed them to receive notification of the availability of project-related information and participate further in the future. A copy of the scoping report can be found on TVA's web site, http://www.tva.gov/environment/reports/muscle_shoals/scoping_report.pdf.

The MSR Redevelopment draft EIS was issued to the public on January 5, 2011, and the Notice of Availability was published in the Federal Register on January 14, 2011. This initiated a 45-day public comment period, which closed on February 28, 2011. TVA provided the draft EIS or postcard notification of its availability to individuals on the mailing list, agencies, federally recognized tribes, organizations, interest groups, and institutions. The draft EIS was posted on TVA's website and placed in 13 public libraries in the surrounding areas. A news release and public notices were published in four newspapers announcing the public meeting. The public meeting was held on February 3, 2011, at Muscle Shoals High School. Approximately 80 people registered and participated in the meeting. Commenters were given the opportunity to provide their comments online or by e-mail, fax, commercial mail, or telephone. TVA received 146 comment submissions on the draft EIS. TVA reviewed and responded to the comments in Appendix B of the final EIS (see Appendix H of this document).

3.6.2 Comprehensive Master Plan-Related Public Meetings

In 2011, TVA and NACD jointly sought input from stakeholders and the general public to discuss the potential economic opportunities in redeveloping the MSR property. LAS led these interactions as input into the Strategic Development Plan.

Stakeholder Input

In October 2011 LAS met with over 20 stakeholders and conducted joint and individual interviews. These stakeholders were collaboratively chosen by both the NACD and TVA as a representative cross-section of the Shoals area and represented the education, political, business, and financial sectors of the Shoals area. Also in attendance were officials from the AHC and local environmental groups. The feedback gained from these meetings provided valuable input in the formation of the Strategic Development Plan.

Public Input

Public input into the Strategic Development Plan process was achieved through two open meetings--one in Lauderdale County and the other in Colbert County on back-to-back nights with over 40 attendees at each. The first meeting was held at the Shoals Conference Center in Lauderdale County on November 14, 2011, and the second at the Northwest Shoals Community College-Patriot Center in Colbert County on November 15, 2011. The goals of the public meetings involved presenting the draft plan framework, showing how prior comments were integrated, and soliciting additional input.

4.0 COMPREHENSIVE MASTER PLAN DESCRIPTION

Based on the recommendations and information gained from the contributing inputs, TVA and the NACD began developing the process for divestiture of MSR property. It was determined that the sale of the property to a single entity was not likely to materialize given the natural and manmade characteristics that segment the property's interior. Therefore, the general consensus from these resources suggested the property should be marketed to promote a smart and balanced mixed-use development that would most likely materialize through multiple entity ownership. However, the sale of the property to a single buyer for mixed-use development should remain an option.

TVA and the NACD have worked together to develop this CMP in a manner that is viewed as the most feasible approach for future development of the MSR surplus area. Its results are supported by the alignment of ideas and expertise of the public at large and subject-matter experts. While it was not possible to accommodate or support every input within the CMP (since not every person or entity views the merits of development from the same perspective), the diversity of ideas was highly valued. TVA and the NACD worked together to propose outcomes that complemented the mixture of ideas proposed, but filtered the results to suggest only the most feasible development options. In many instances, this diverse idea-sharing has been incorporated in a segmented fashion within different "Areas" rather than applied throughout the entire MSR surplus area. For example, some area residents preferred a total development focus while others preferred total preservation. As later sections of this document will detail, both development and preservation were infused into the CMP, sometimes in different areas and sometimes mixed within the same area.

Some suggestions and opinions, whether from the public at large or from subject-matter experts, could not be accommodated because of limiting factors, such as cost to implement, the lack of mechanisms to reach the desired outcome, potential impacts to the environment, negative value impacts to the site at large, threats to existing TVA missions, or perceived lack of public or market support in the short or long term. Based on recommendations from the input resources and the completion of the opportunities/constraints mapping exercise, the original 1,400-acre study area reflected in the EIS has been divided into nine (9) distinct areas (and their sub-areas) as shown in Figure 4.1 and Appendix O. A concept illustration has also been developed to communicate the maximum development potential of the property based upon the targeted uses of these areas (Appendix P).



Figure 4-1. The focus MSR lands divided into 9 Areas (and their sub-areas)

Seven of the MSR Areas and sub-areas would be sold at auction and one area (Area 9) would be made available as easement property for a utility corridor. Approximately 400 acres (encompassing Areas 8A and 8B) would not be sold to the public at this time because of existing development constraints. This property would be retained by TVA.

The “Area Descriptions” below detail the preferred uses for the approximate 1,000 surplus acres. Each description provides the recommended design guidelines, preferred use options, and development restrictions for each area.

Administrative responsibilities to ensure alignment with the guiding principles identified within the CMP would be a shared responsibility between TVA (via deed restrictions) and local units of governments (via zoning and other land-use enforcement mechanisms). In the following sections, administrative responsibilities for design guidelines and development restrictions are codified as follows:

[D] = TVA Deed Restriction, Covenant, or Easement Running with the Land

[Z] = Local Unit of Government Zoning and/or other Mechanisms

Note: Until surveys are performed for each parcel area, acreages identified are approximate. TVA reserves the right to alter boundaries if additional information gained suggests movement of such boundaries either enhances the marketability of the surplus property, protects the environment, and/or protects TVA's operational needs. Moreover, TVA may reconsider Area boundaries, preferred uses, market focus, design guidelines, and development restrictions in the event a single buyer expresses an interest in purchasing more than one Area, in part or whole. Design guidelines and development restrictions should be considered a minimum level of guidance. The cities of Sheffield and Muscle Shoals may impose additional measures as each city deems appropriate. Other mechanisms that the cities may use to enforce design guidelines and development restrictions include tools such as overlays, districts, and special-use easements.

4.1 AREA 1 – RETAIL/COMMERCIAL

Area 1 is subdivided into Areas 1A and 1B to accommodate differing scale land uses but similar design guidelines and development restrictions.

4.1.1 Area 1A – Retail/Commercial

Area 1A is located on the western border of the MSR and is comprised of approximately 60 acres. It is bordered on the west by Hatch Boulevard, on the south by Garage Road, on the north by TVA's Reservation Road, and on the east by Area 2A (Figures 4-2 and 4-3).

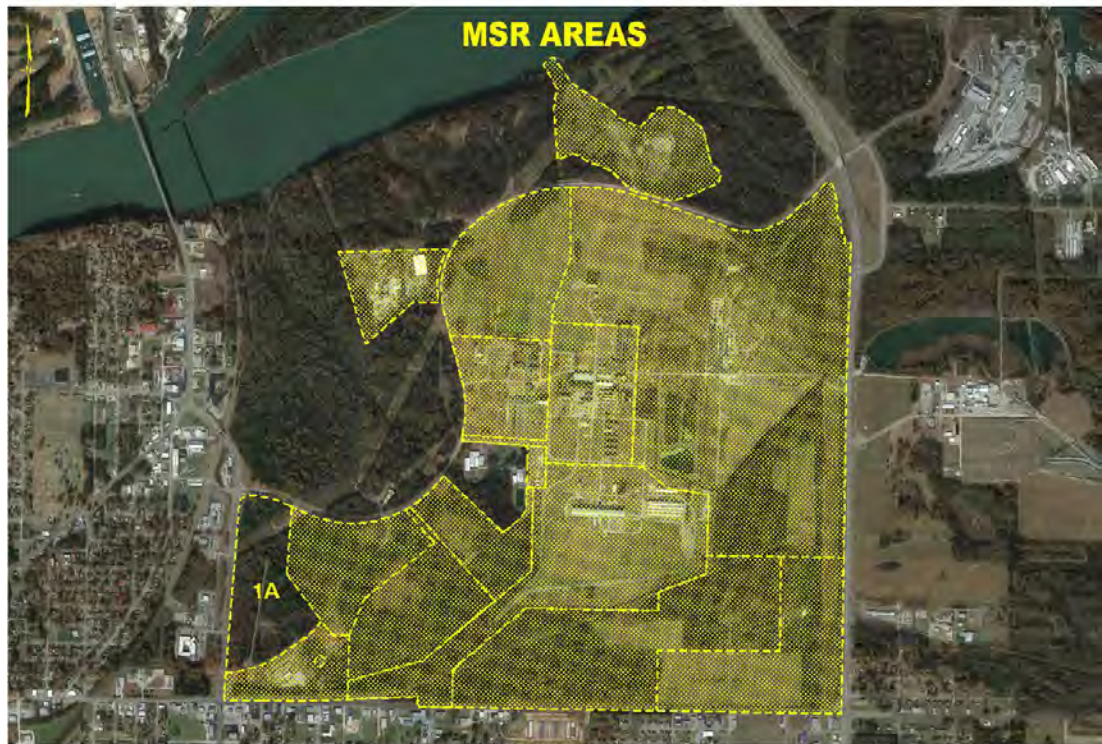


Figure 4-2. Area 1A Location.

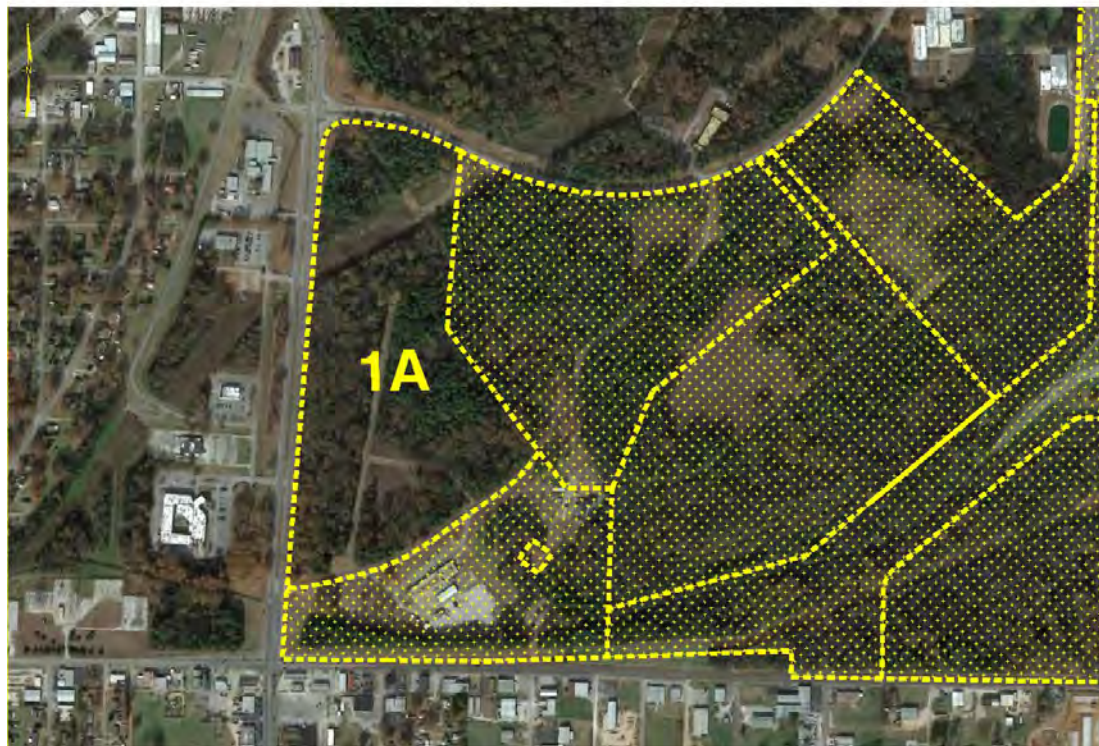


Figure 4-3. Area 1A Approximate Boundaries

Over 80 percent of the area is comprised of woodlands with the rest of the area covered in ground-level vegetation. No buildings are located within the tract. TVA transmission lines and Muscle Shoals Electric Board distribution lines traverse through the northern portion of Area 1A. Muscle Shoals Electric Board distribution lines also bisect the property in a north/south direction. Two jurisdictional wetlands are located within the site (Appendix J).

TVA and NACD designate the following use plan for redevelopment of Area 1A:

Acreage: 60 acres

Preferred Use: Retail/Commercial

Market Focus: Attraction of unique and differentiated “market gap” businesses located within well-planned developments; discouragement of redundant retail/commercial uses.

Historic District: No

Design Guidelines:

- Controlled design and aesthetics that favor a “common thread” architectural style and material elements consistent with appearance of other MSR redevelopment and which complements the historical context [Z]
- Exterior materials for any new building construction should consist of no more than 25-percent metal on each side of the building [Z]
- Preference for multiple, separate, and/or mixed retail/commercial destinations with building design/placement diversity [Z]
- Building, signage, and landscape design pre-approval [Z]
- Best management practices (BMPs) required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- At least 100-foot wide setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and

walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]

- Signage only allowed which promotes businesses within the development [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.1.2 Area 1B - Retail/Commercial

Area 1B is located in the southwest corner of the MSR and is comprised of approximately 35 acres. It is bordered on the west by Hatch Boulevard, on the south by Second Street and privately-held land, on the north by Garage Road and Area 2A and on the east by Areas 2B and 7 (Figures 4-4 and 4-5).

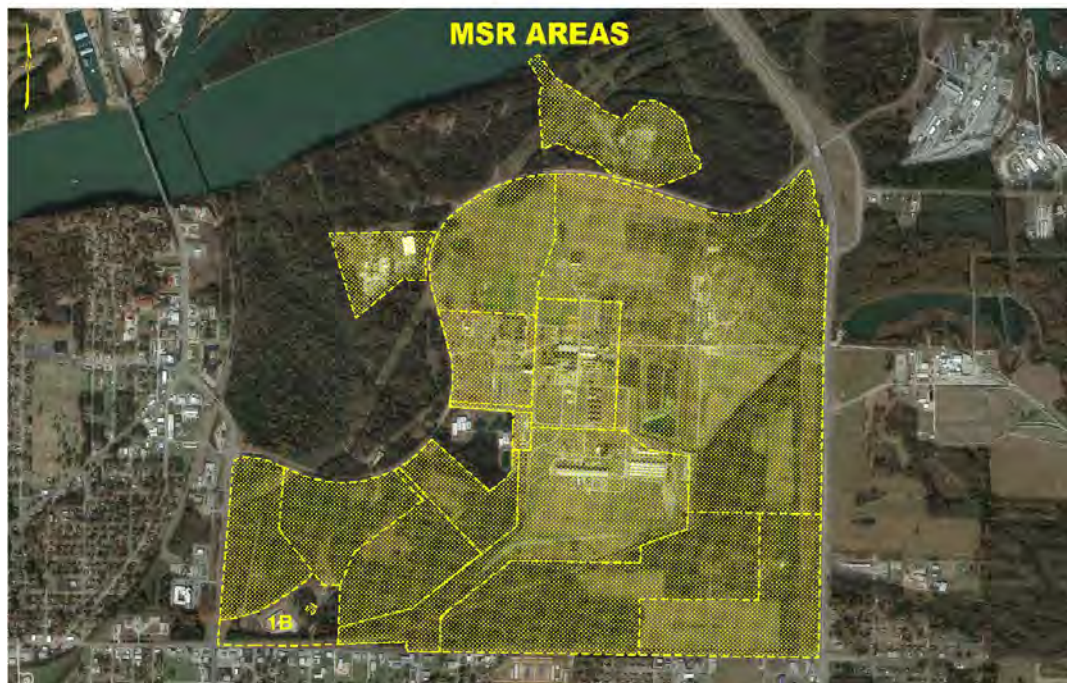


Figure 4-4. Area 1B Location



Figure 4-5. Area 1B Approximate Boundaries

Two building complexes are located within Area 1B:

- A. Greenhouse Complex (presently occupied by Jack O'Lantern Farms via license)
- B. TVA Customer Service Center (presently occupied by TVA)

Both buildings would be promoted for reuse, which could include continuation of operations by TVA or other tenants as they exist at the time of sale pursuant to a lease or other appropriate agreement.

A railroad easement would be reserved along the southern section of Area 1B for the benefit of the purchasers of Areas 2B and 7. Located behind the greenhouse is an approximately 0.4 acre (100-feet long X 100-feet wide) area that TVA would retain along with access rights (see Subsection 4.8)

TVA and NACD designate the following use plan for redevelopment of Area 1B:

Acreage: 35 acres

Preferred Use: Retail/Commercial

Market Focus: Attraction of unique and differentiated “market gap” businesses located within well-planned developments; discouragement of redundant retail/commercial uses.

Historic District: No

Design Guidelines:

- Controlled design and aesthetics that favor a “common thread” architectural style and material elements consistent with appearance of other MSR redevelopment and which complements the historical context [Z]
- Exterior materials for any new building construction should consist of no more than 25-percent metal on each side of the building [Z]
- Preference for multiple, separate, and/or mixed retail/commercial destinations with building design/placement diversity [Z]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- At least 100-foot wide setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes businesses within the development [Z]
- 100-foot easement for railway [D]
- 25-foot wide access corridor retained by TVA within the 100-foot wide rail easement to ensure access to/from Area 8B by way of Woodward Avenue [D]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.2 AREA 2 – MIXED-USE COMMERCIAL/OFFICE AND LIGHT INDUSTRIAL

Area 2 is subdivided into Areas 2A and 2B to accommodate dissimilar land uses but encourage complementary design guidelines, development restrictions, and certain woodlands preservation safeguards.

4.2.1 Area 2A – Mixed-Use Commercial/Office

Area 2A is located near the southwest corner of the MSR and is comprised of 61 acres. It is bordered on the west by Area 1A, on the south by Areas 1B and 2B, on the north by Reservation Road, and on the east by Area 3B (Figures 4-6 and 4-7).



Figure 4-6. Area 2A Location

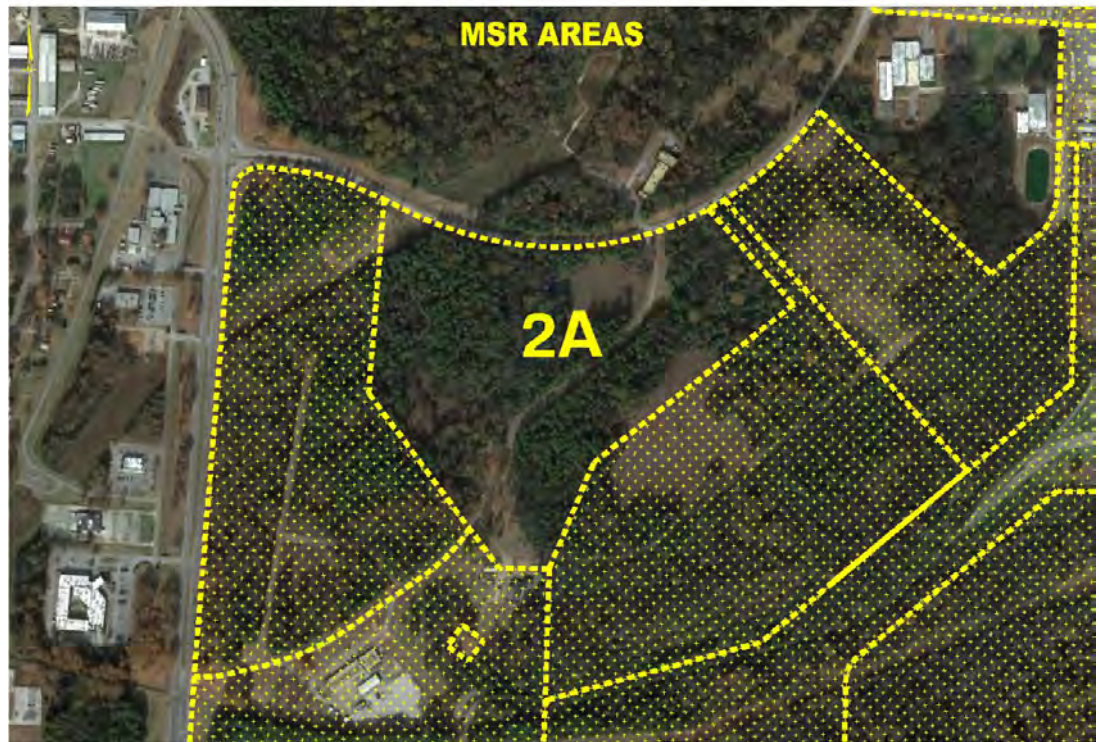


Figure 4-7. Area 2A Approximate Boundaries

A two-lane paved roadway known as Garage Road initiates from the southwest corner of Area 1B and traverses Area 2A in a northeasterly fashion until connecting to Reservation Road. Approximately 2,000 feet of Garage Road is located within Area 2A. Over 80 percent of Area 2A is comprised of woodlands with the rest of the area covered in ground-level vegetation. No buildings are located within the tract. TVA transmission lines and Muscle Shoals Electric Board distribution lines traverse through the extreme northwestern portion of Area 2A.

TVA and NACD designate the following use plan for redevelopment of Area 2A:

Acreage: 61 acres

Preferred Use: Mixed-Use Commercial/Office

Market Focus: Attraction of businesses located within well-planned developments (including regional/national headquarters, government, tourism, R&D, financial, and data management) that provide a balance of job creation with land-use conservation; preference for green-friendly operations with infrequent heavy truck traffic.

Historic District: No

Design Guidelines:

- Controlled design and aesthetics that favor a “common thread” architectural style and material elements consistent with appearance of other MSR redevelopment and which complements the historical context [Z]
- Exterior materials for any new building construction should consist of no more than 25-percent metal on each side of the building [Z]
- Office park environment [Z]
- Environmental impact minimization integrated into design (woodlands integration/removal minimization, wildlife habitat protection, noise and lighting impact prevention, etc.) [Z]
- Retain/promote public access in select areas for bird-watching and walking trails and integrated with similar amenities in surrounding parcels, if any [Z]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- No manufacturing and/or assembly of products [Z]
- No single “strip” developments; preference for master planned development with building design/placement diversity [Z]
- Very low emissions [Z]
- At least 100-foot wide setback from existing external roadway boundaries with easements for utilities (underground only), signage, roadway expansion and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes businesses within the development [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.2.2 Area 2B - Light Industrial

Area 2B is located near the southwest corner of the MSR and is comprised of 66 acres. It is bordered on the west by Area 1B, on the south and east by Area 7, on the north by Areas 2A and 3B and Reservation Road (Figures 4-8 and 4-9).

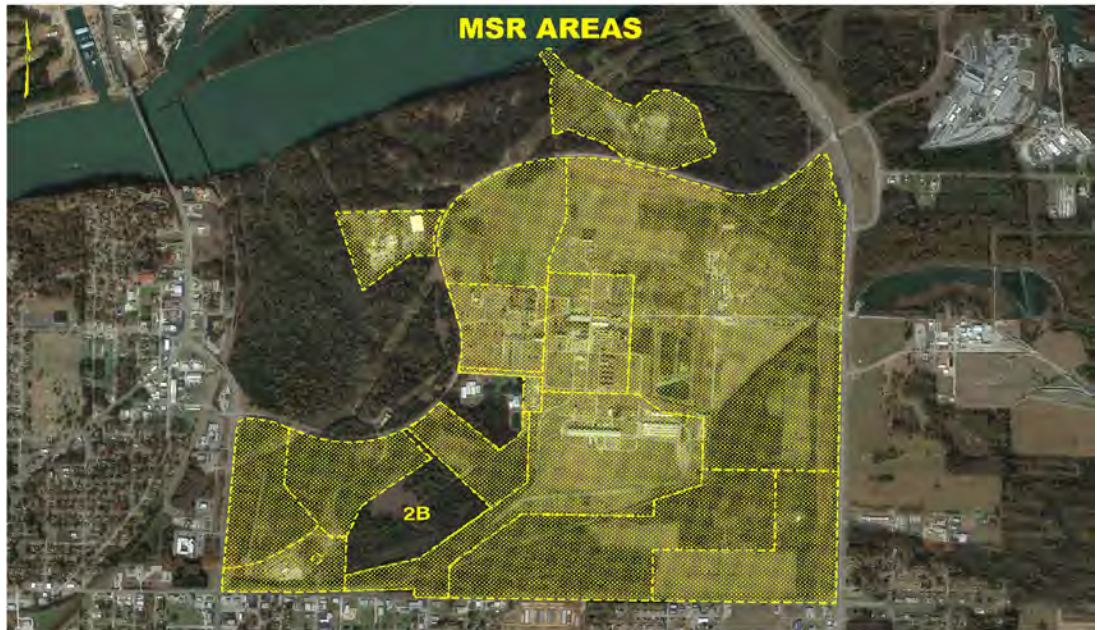


Figure 4-8. Area 2B Location

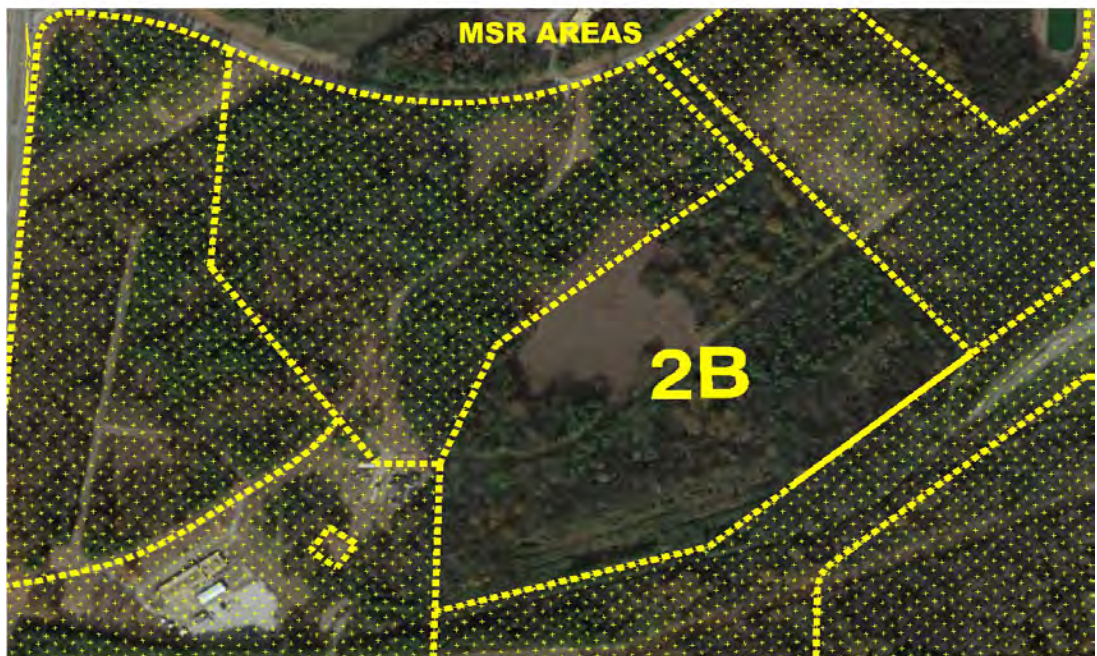


Figure 4-9. Area 2B Approximate Boundaries

An abandoned two-lane semi-paved roadway (2,100 feet) passes from the western boundary of Area 2A through Area 2B in a northeasterly direction and into Area 3B and Area 5B before terminating. Access to Reservation Road has been accommodated within the parcel boundaries. Over 80 percent of the area is comprised of woodlands with the rest of the area covered in ground-level vegetation. No buildings are located within the tract. A railroad easement would be provided along the southern boundary of Area 2B inside Area 7 to accommodate the rail needs (if any) of the tenant(s) locating within Area 2B.

TVA and NACD designate the following use plan for redevelopment of Area 2B:

Acreage: 66 acres

Preferred Use: Light Industrial

Market Focus: Attraction of small-scale, “clean” light industries that provide a balance of job creation and land-use conservation; preference for green-friendly operations.

Historic District: No

Design Guidelines:

- Controlled design and aesthetics that favor a “common thread” architectural style and material elements consistent with appearance of other MSR redevelopment and which complements the historical context [Z]
- Exterior materials for any new building construction should consist of no more than 50 percent metal on each side of the building [Z]
- Light industrial park environment; manufacture and/or assembly of products [Z]
- Environmental impact minimization integrated into design (woodlands integration/removal minimization, wildlife habitat protection, noise and lighting impact prevention, etc.) [Z]
- Retain/Promote public access in select areas for bird-watching and walking trails and integrated with similar amenities in surrounding parcels, if any [Z]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings of any form [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]

- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- At least 100-foot setback from existing external roadway boundaries with easements for utilities (underground only), signage, roadway expansion and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes businesses within the development [Z]
- No/Low emissions [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.3 AREA 3 – WOODLANDS PRESERVATION AREA

Area 3 is divided into Areas 3A and 3B to accommodate access to Second Street for the Area 7 purchaser. Both areas have similar design guidelines and development restrictions.

4.3.1 Area 3A - Woodlands Preservation Area

Area 3A is located along the southern border of the MSR and is comprised of 162 acres. It is bordered on the west and north by Areas 7 and 8, on the south by Second Street, and on the east by Area 4 (Figures 4-10 and 4-11).

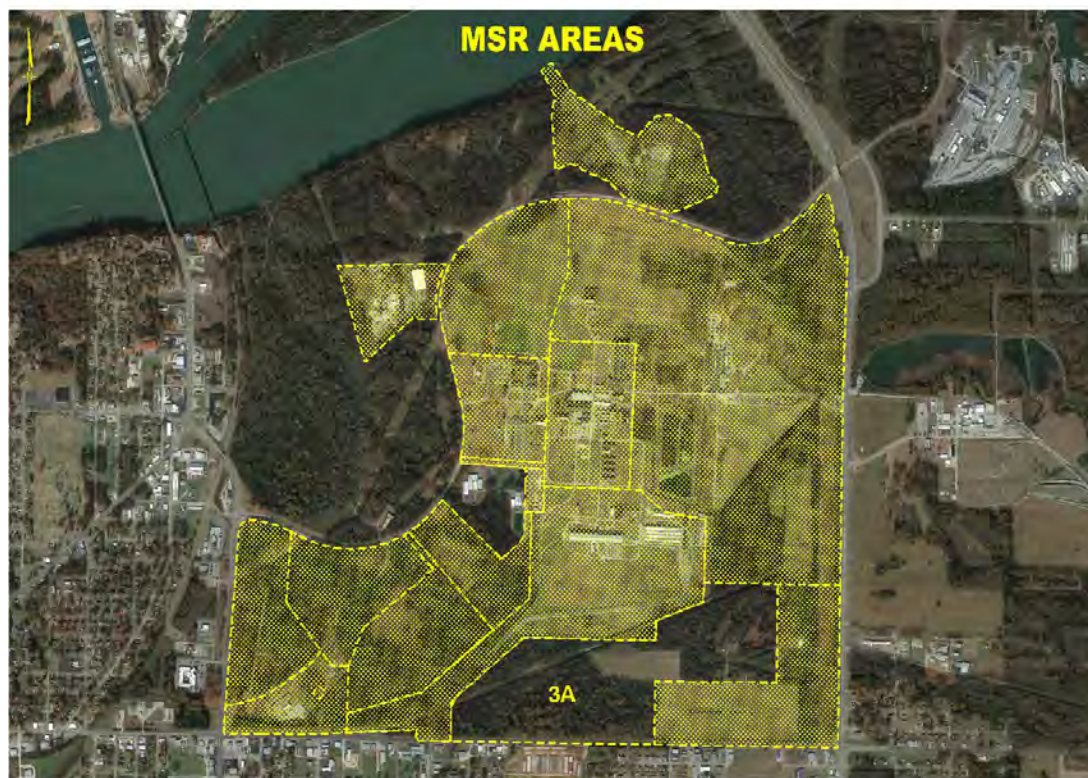


Figure 4-10. Area 3A Location

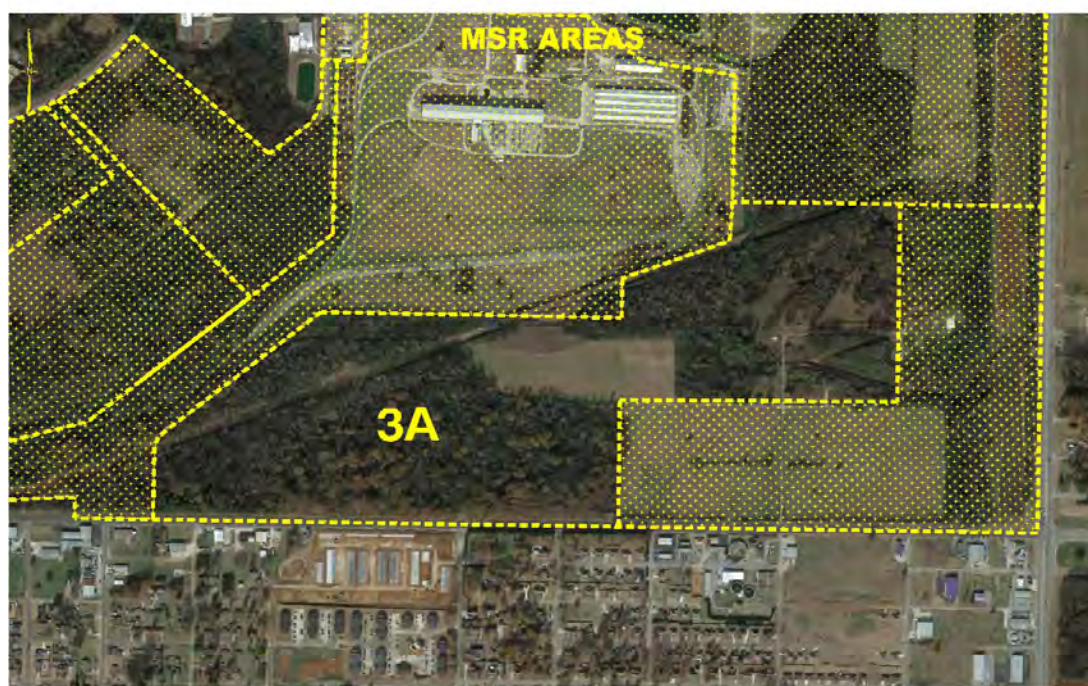


Figure 4-11. Area 3A General Boundaries

Over 80 percent of the area is comprised of woodlands with the rest of the area covered in ground-level vegetation. There are no existing buildings. Significant wetlands and portions of the existing floodplain are found in Area 3A, thus making the property ideal for a preservation (Appendices I and J). However, as indicated in Subsection 3.4.2, TVA's current efforts to construct an elevated embankment within Areas 3A and 4 is expected to reduce the total number of acres threatened by potential flooding. Additionally, water, sewer, electrical, and drainage easements traverse the parcel.

TVA and NACD designate the following use plan for redevelopment of Area 3A:

Acreage: 162 acres

Preferred Use: Environmental Missions (Preservation, Education, Enhancement, and Mitigation)

Market Focus: Woodlands and natural habitat; minimization of man-made impacts except where unavoidable to support operations in other areas (easements, rights-of-way, etc.); value-added opportunities (e.g., bird watching, environmental education, wetlands mitigation, flood risk minimization, recreation etc.).

Historic District: No

Design Guidelines:

- Structures permissible that support the preservation of, education for or enhancements to the natural environment of Area 3A or greater context [D]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [D]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- No commercial, retail, or industrial structures of any form [D]
- Required protection of "Sensitive Resources" including resources protected by state or federal law or executive order and other land/features or natural resources TVA considers important to the area viewscape or natural environment [D]
- Restricted natural resource activities that assure no/low impacts to the existing woodlands, wetlands, and floodplain (e.g., wildlife observation, hiking, or walking trails) [D]
- Restricted recreation activities that assure no/low impacts to existing woodlands, wetlands, or floodplain. TVA approval required. [D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]

- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- At least 100-foot setback from existing external roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- No new easements beyond the 100-foot setback except along the boundaries of Area 3A or along roadways built to support activities within Area 3A [D]
- No fencing within 150 feet of the designated “Wildlife Corridor” as illustrated in Appendix P [D]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.3.2 Area 3B - Woodlands Preservation Area

Area 3B is located along the western-central border of the MSR surplus area at Reservation Road and is comprised of about 41 acres. It is bordered on the southwest by Area 2B, on the east by Area 7, and on the north by the International Fertilizer Development Center (not included in the 1,000 acres of surplus MSR property). See Figures 4-12 and 4-13.

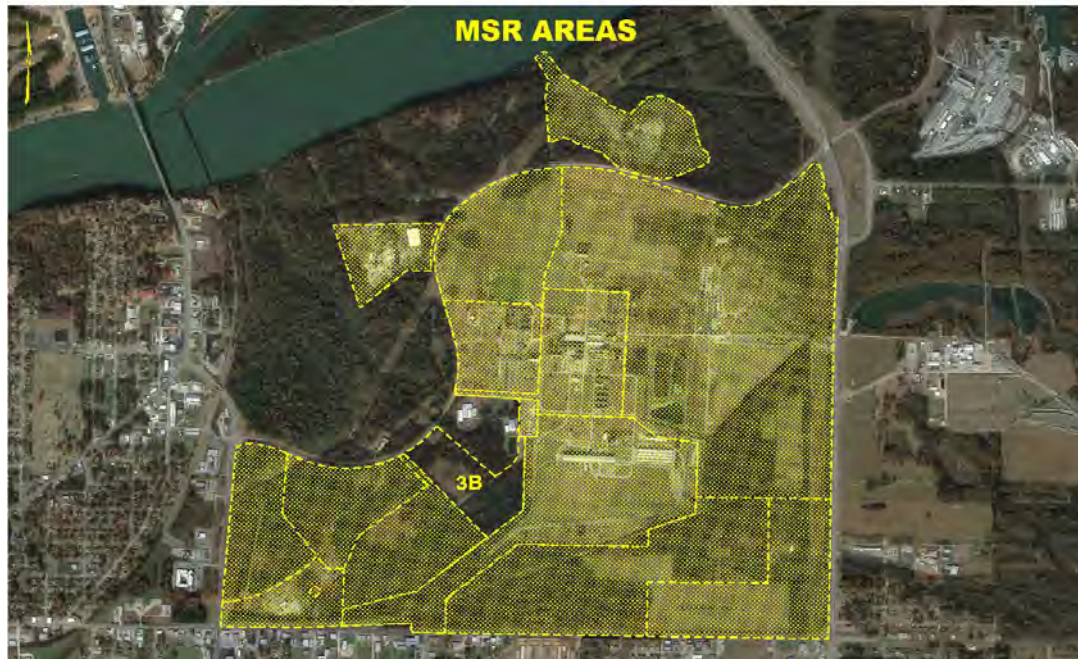


Figure 4-12. Area 3B Location

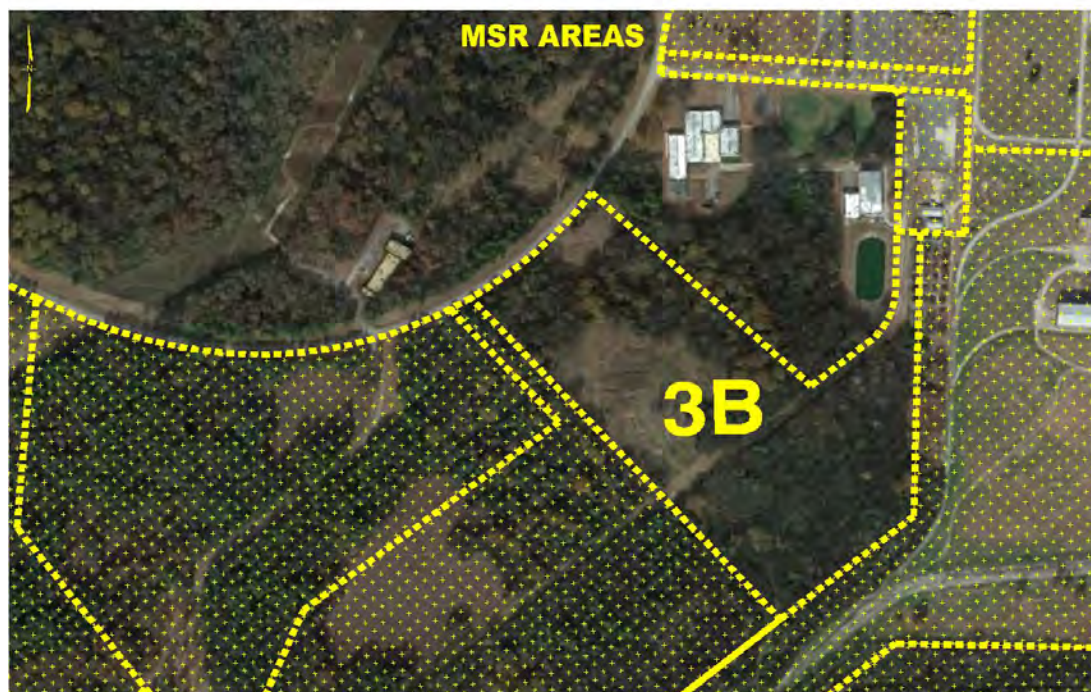


Figure 4-13. Area 3B General Boundaries

An abandoned two-lane semi-paved roadway passes from the western boundary of Area 2B through Area 3B in a northeast direction and into Area 5B before terminating. Approximately 950 feet of this roadway traverses the site. The Cuba Yard Cemetery is located within the parcel and state law may require the owner of this parcel to allow

certain persons (e.g., family members, genealogists) the right to access the cemetery. Over 60 percent of 3B is comprised of woodlands with the rest of the area covered in ground-level vegetation. There are no existing buildings. Both NWI and jurisdictional wetlands are present within the 3B boundaries (Appendix K).

TVA and NACD designate the following use plan for redevelopment of Area 3B.

Acreage: 41 acres

Preferred Use: Environmental Missions (Preservation, Education, Enhancement, and Mitigation)

Market Focus: Woodlands and natural habitat; minimization of man-made impacts except where unavoidable to support operations in other areas (easements, rights-of-way, etc.); value-added opportunities (e.g. bird watching, environmental education, wetlands mitigation, flood risk minimization, recreation, etc.).

Historic District: No

Design Guidelines:

- Structures permissible that support the preservation of, education for, or enhancements to the natural environment of Area 3B or greater context [D]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [D]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- No commercial, retail, or industrial structures of any form [D]
- Required protection of “Sensitive Resources” including resources protected by state or federal law or executive order and other land/features or natural resources TVA considers important to the area viewscape or natural environment. [D]
- Restricted natural resource activities that assure no/low impacts to the existing woodlands, wetlands, and floodplain (e.g., wildlife observation, hiking, or walking trails) [D]
- Restricted recreation activities that assure no/low impacts to existing woodlands, wetlands, or floodplain. TVA approval required [D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- If applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review

and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]

- At least 100-foot setback from existing external roadway boundaries with easements for utilities (underground only), signage, roadway expansion and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- No new easements or rights-of-way beyond the 100-foot setback except along the boundaries of Area 3B or along roadways built to support activities within Area 3B [D]
- No fencing within 150 feet of the designated “Wildlife Corridor” as illustrated in Appendix P [D]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.4 AREA 4 - RETAIL/COMMERCIAL

Area 4 is located in the southeast corner of the MSR surplus area and is comprised of 98 acres. It is bordered to the south by Second Street, on the east by Wilson Dam Road, and to the north and west by Area 3A and Area 8A as shown in Figures 4-14 and 4-15.

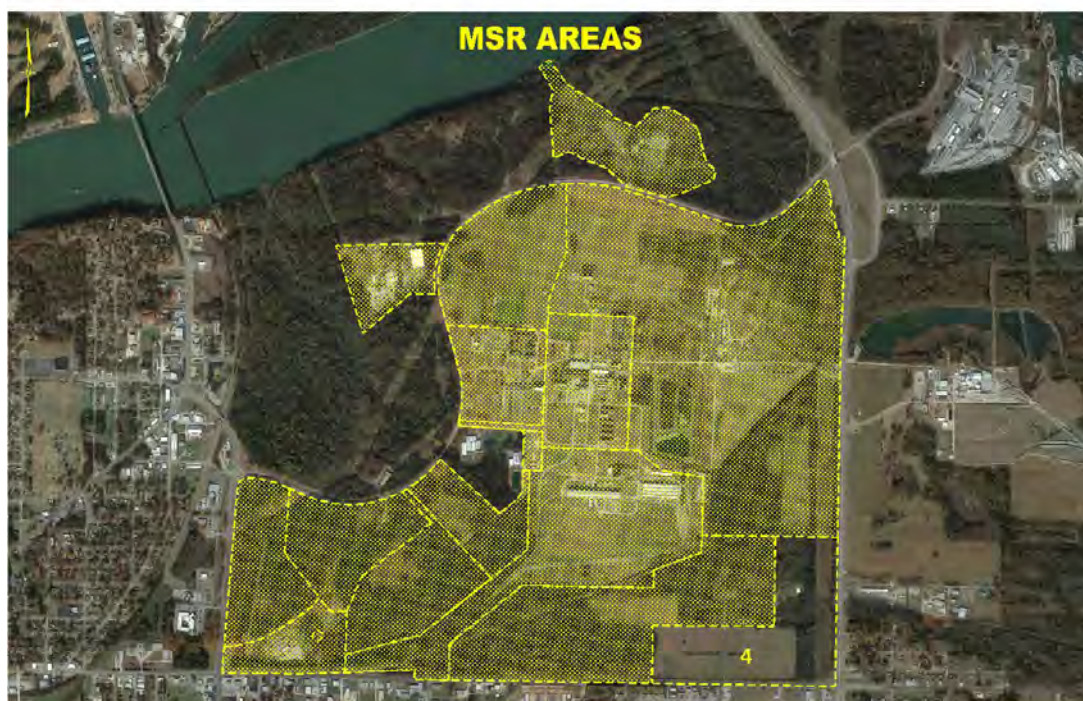


Figure 4-14. Area 4 Location

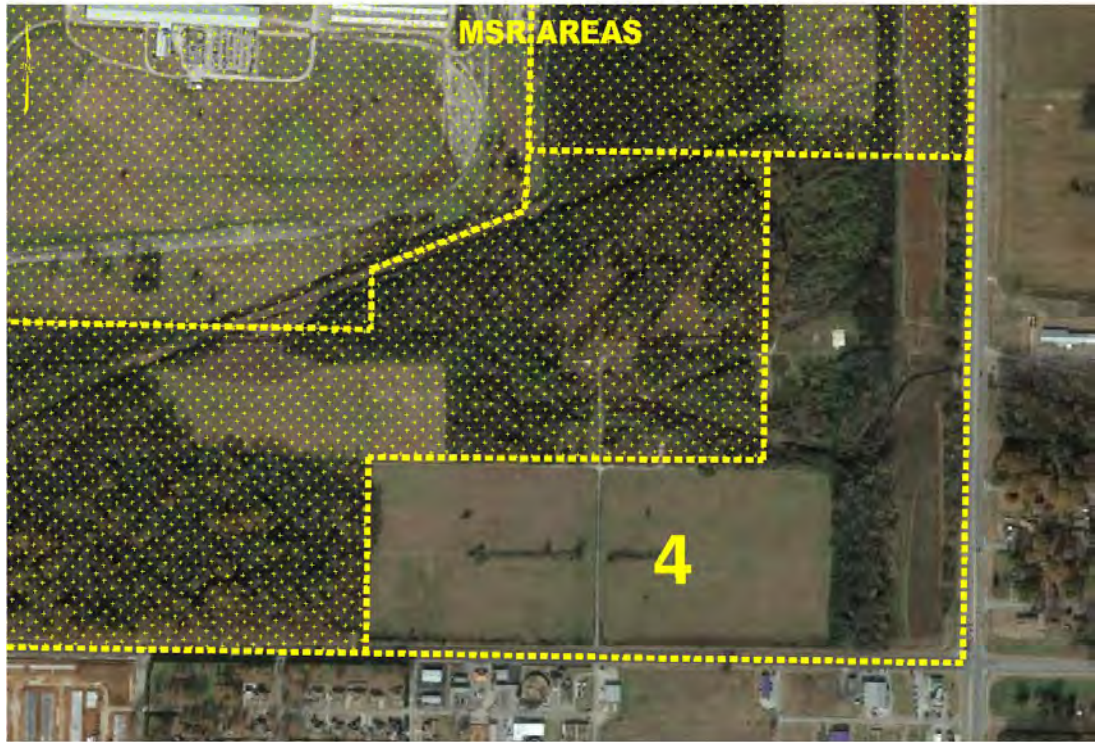


Figure 4-15. Area 4 Approximate Boundaries

Area 4 is comprised of cleared lands that were farmed as recently as 2011. Pond Creek bisects Area 4 on its eastern side, traveling under Wilson Dam Road, and traveling southwest through the property and into Areas 3A and 8A. A gravel access road runs north from Second Street through Area 4 and into Area 3A.

The northern section of Area 4 contains approximately 70-percent woodlands with the rest of the area covered in ground-level vegetation. The southern section consists of approximately 20-percent woodlands with the rest of the area covered in ground-level vegetation. Significant wetlands and portions of floodplain are presently found in Area 4, according to the 2012 floodplain study (Appendices I and J). However, as indicated in Subsection 3.4.2, TVA's current efforts to construct an elevated embankment within Areas 3A and 4 is expected to reduce the total number of acres threatened by potential flooding.

TVA and NACD designate the following use plan for redevelopment of Area 4:

Acreage: 98 acres

Preferred Use: Retail/Commercial

Market Focus: Attraction of unique, "market gap" businesses located within well-planned developments; discouragement of redundant retail/commercial uses.

Historic District: No

Design Guidelines:

- Controlled design and aesthetics that favor a “common thread” architectural style and material elements consistent with other MSR redevelopment and which complements the historical context [Z]
- Exterior materials for any new building construction should consist of no more than 25 percent metal on each side of the building [Z]
- Preference for multiple, separate, and/or mixed retail/commercial destinations with building design/placement diversity [Z]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- No single “strip” developments; preference for master planned development with building design/placement diversity [Z]
- At least 100-foot wide setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes businesses within the development [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.5 AREA 5 – CAMPUS/VENUE

Area 5 has been divided into three sub-areas (A, B, and C) to accommodate varying scale facility/land uses while encouraging complementary design guidelines and development restrictions.

4.5.1 Area 5A - Mixed Use Large-Scale Campus/Venue

Area 5A is located along the northern border of the MSR along Reservation Road and is comprised of approximately 85 acres. It is bordered on the north and west by Reservation Road, on the south by Area 5B, and on the east by Area 8A, and a small portion of Area 6 (Figures 4-16 and 4-17).

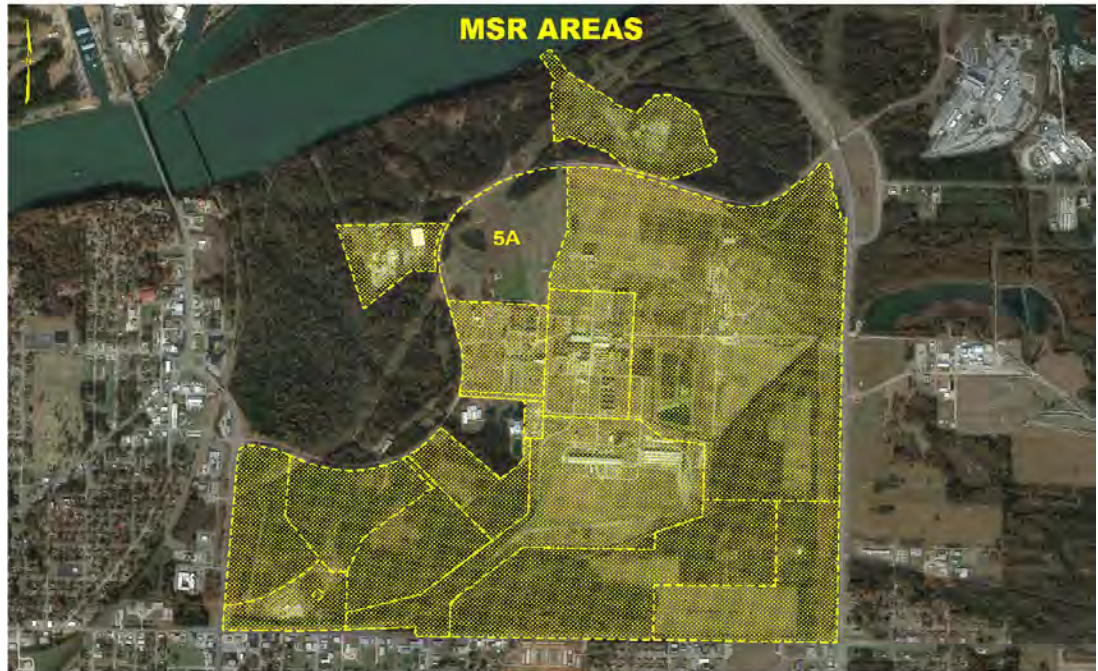


Figure 4-16. Area 5A Location



Figure 4-17. Area 5A Approximate Boundaries

Previously, Area 5A contained TVA's process water treatment plant and associated reservoir, cisterns, and buildings to support TVA's previous industrial operations. In order to increase the utility of 5A, TVA removed this infrastructure in 2012 and 2013 with one exception. The exception is one building known as the Chemical Feed House facility. This building contributes to the significance of the MSHRD (second architectural period) and would be promoted for reuse. The result of the 5A improvements can be seen in Figure 4-18.



Figure 4-18. Area 5A After Site Improvements

An 1800s-era cemetery (Murphy Kemper Cockburn Cemetery) is located in the southwest corner of 5A and state law may require the owner of this parcel to allow certain persons (e.g., family members, genealogists) the right to access the cemetery. An NWI wetland is located within the parcel; however, no floodplain exists (See Appendices I and J).

TVA and NACD designate the following plan for redevelopment of Area 5A:

Acreage: 85 acres

Preferred Use: Large Scale Campus/Venue

Market Focus: Campus environment; attraction of single entity or mixed-use development utilizing a campus-style setting; commercial, office, civic, cultural, institutional, educational, government, healthcare, R&D; accommodation of complementary public-use venues of larger-scale currently limited within the Shoals area.

Historic District: Partial

Design Guidelines:

- Areas outside the MSRHD: Controlled design and aesthetics; preference for “common thread” architectural style and material elements consistent with the appearance of other MSR redevelopment; complements the historical context [Z]
- Areas inside the MSRHD: Design guideline adherence per the proposed “*Muscle Shoals Reservation Historic District Design Guidelines and Architectural Controls*” [D]
- Exterior materials for any new building construction should consist of no more than 25-percent metal on each side of the building for areas outside the MSRHD; Historic district design guidelines apply for areas inside the district [D]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- Groundwater withdrawal restriction [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- Compatible land uses consistent within RCRA AOC 998 (See subsection 3.4.4) [D]
- No single “strip” developments; large-scale single structure or multi-structure [Z]

- At least 100-foot wide setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes facilities within the development [Z]
- Very low emissions [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.5.2 Area 5B - Mixed-Use Medium-Scale Campus/Venue

Area 5B is located along the western border of the MSR surplus area along Reservation Road and is comprised of about 50 acres. It is bordered on the north by Area 5A, on the west by Reservation Road, on the south by Area 6, and on the east by Areas 6 and 7 (Figures 4-19 and 4-20).

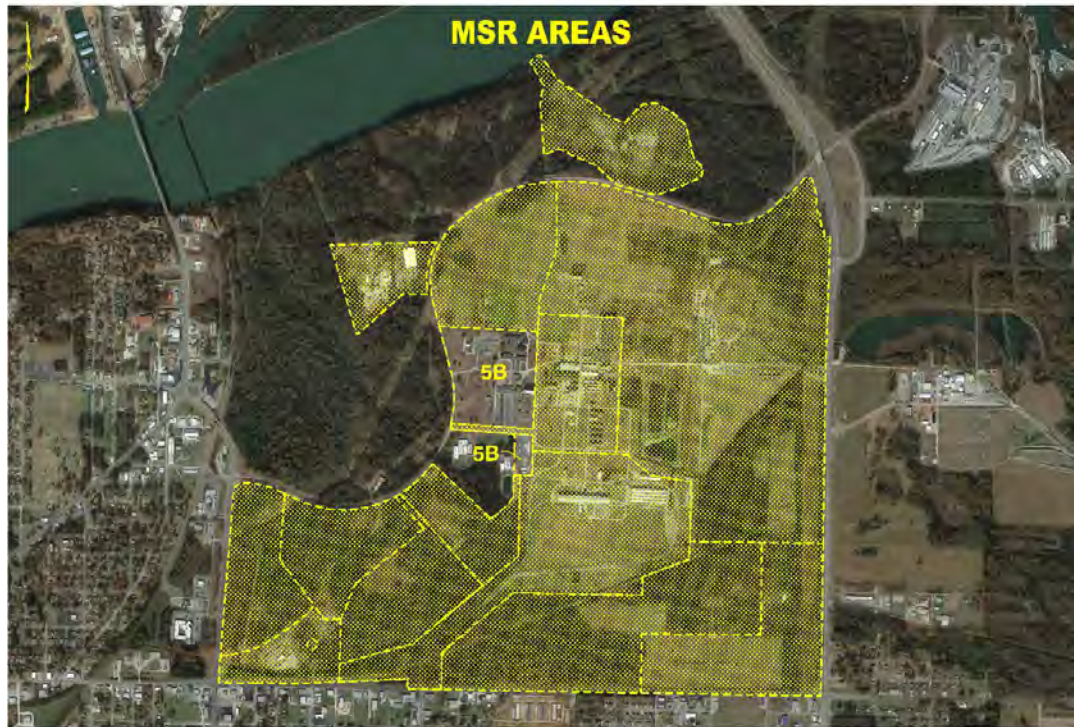


Figure 4-19. Area 5B Location

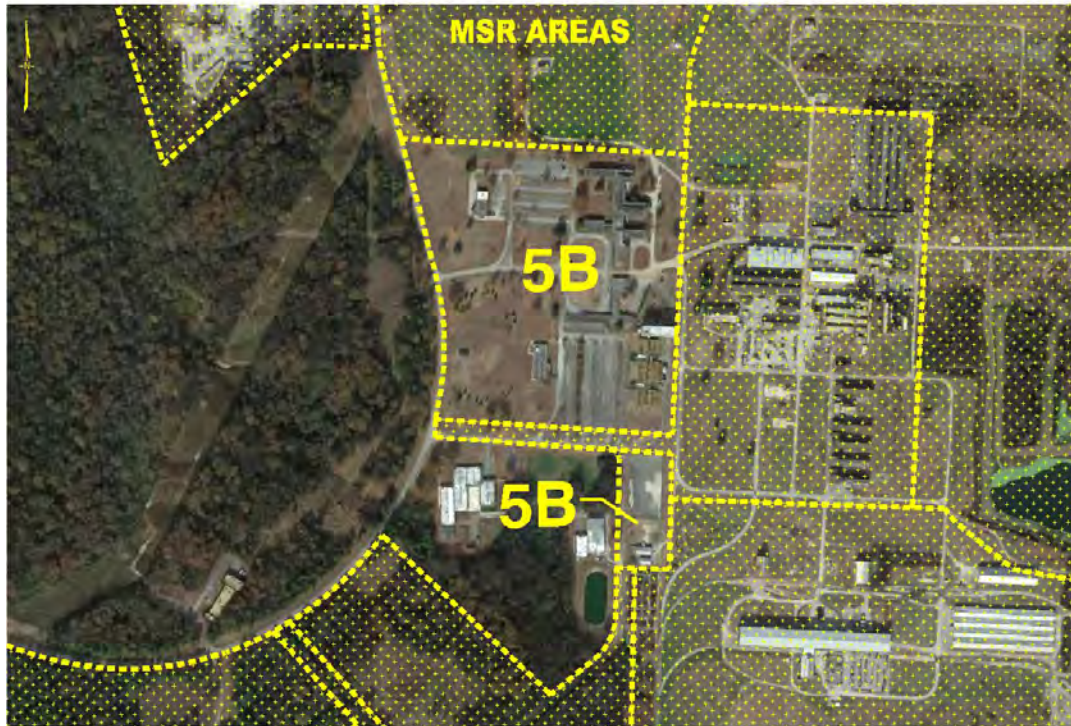


Figure 4-20. Area 5B Approximate Boundaries

This relatively flat area is covered by approximately 50 percent grasses and landscape vegetation and the rest with buildings, roads, and parking areas. No floodplains or wetlands are found within 5B. Area 5B includes facilities previously utilized for TVA's

R&D initiatives. Located on the property are the following buildings:

- A. TVA Environmental Research Center (in partial TVA use)
- B. TVA Service Building (empty)
- C. TVA Chemical Engineering Building Office (empty)
- D. TVA Chemical Engineering Lab Wing (empty)
- E. PPI Building (currently leased by the Alabama Department of Revenue)
- F. TVA Community Credit Union Facility (not owned by TVA)
- G. Training Facility 1
- H. Training Facility 2

Buildings A-C above are located within the MSRHD. All buildings would be promoted for reuse, which could include continuation of operations by TVA or other tenants as they exist at the time of sale pursuant to a lease or other appropriate agreement. Detail specifications and condition assessments for most of these buildings/structures can be found within the Cyclic Building Assessments (Appendices A and C).

TVA and NACD designate the following plan for redevelopment of Area 5B:

Acreage: 54 acres

Preferred Use: Medium Scale Campus/Venue

Market Focus: Campus environment; attraction of single entity or mixed-use development utilizing a campus-style setting; commercial, office, civic, cultural, institutional, educational, government, healthcare, R&D

Historic District: Partial

Design Guidelines:

- Areas outside proposed MSRHD: Controlled design and aesthetics; preference for “common thread” architectural style and material elements consistent with the appearance of other MSR redevelopment; complements the historical context [Z]
- Areas inside proposed MSRHD: Design guideline adherence to the “*Muscle Shoals Reservation Historic District Design Guidelines and Architectural Controls*” [D]
- Exterior materials for any new building construction should consist of no more than 25-percent metal on each side of the building for areas outside the MSRHD; Historic district design guidelines apply for areas inside the district [D]
- Historic district design guidelines apply for areas inside the district [D]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- Compatible land uses consistent within RCRA AOC 998 (See subsection 3.4.4) [D]
- At least 100-foot wide setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and

walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]

- Signage only allowed which promotes facilities within the development [Z]
- Very low emissions [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.5.3 Area 5C - Mixed Use Small-Scale Campus

Area 5C is located on the north side of Reservation Road across from Area 5A and 5B and is comprised of about 35 acres. It is bordered on the north, west, and south by wooded TVA Reservoir Property and on the east by Reservation Road (Figure 4-21 and 4-22).

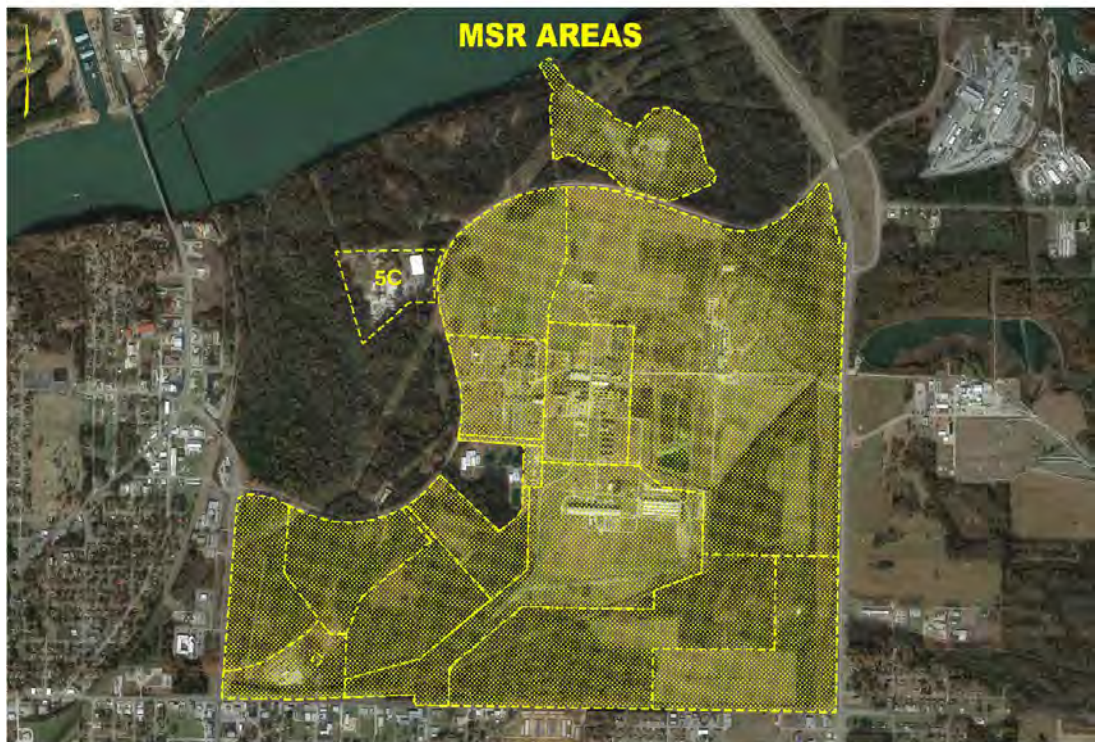


Figure 4-21. Area 5C Location



Figure 4-22. Area 5C Approximate Boundaries

Area 5C is an existing multi-use facility campus and is 80 percent covered with existing buildings and parking spaces. Area 5C contains woods and ravines around the buildings and parking areas. The nationally-recognized Reservation Road trail is also located within this area. This four-foot wide asphalt walking/jogging trail is located on the property and travels along the west side of Reservation Road. A two-lane paved road enters the area from Reservation Road and travels due west through the property before dead-ending. There are no floodplains or wetlands within 5C.

The following buildings are located on the property:

- A. TVA Multipurpose Building (in TVA use);
- B. TVA Office Service Warehouse (in TVA use);
- C. TVA Office Service Warehouse Annex (in TVA use);

All buildings would be promoted for reuse, which could include continuation of operations by TVA or other tenants as they exist at the time of sale pursuant to a lease or other appropriate agreement.

TVA and NACD designate the following plan for redevelopment of Area 5C:

Acreage: 35 acres

Preferred Use: Small Scale Campus/Venue

Market Focus: Campus environment; attraction of single entity or mixed-use development utilizing a campus-style setting; commercial, office, civic, cultural, institutional, educational, government, healthcare, or R&D.

Historic District: No

Design Guidelines:

- Controlled design and aesthetics; preference for “common thread” architectural style and material elements consistent with the appearance of other MSR redevelopment; complements the historical context [Z]
- Exterior materials for any new building construction should consist of no more than 25 percent metal on each side of the building [Z]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- TVA easement for walking/jogging trail located on the property [D]
- Signage only allowed which promotes facilities within the development [Z]
- Very Low emissions [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.6 AREA 6 – BUSINESS VILLAGE/MIXED USE COMMERCIAL

Area 6 is located in the center of the MSR and is comprised of approximately 74 acres. It is bordered on the north and east by Area 8A, on the south by Area 7, and on the west by Areas 5A and 5B (Figures 4-23 and 4-24).

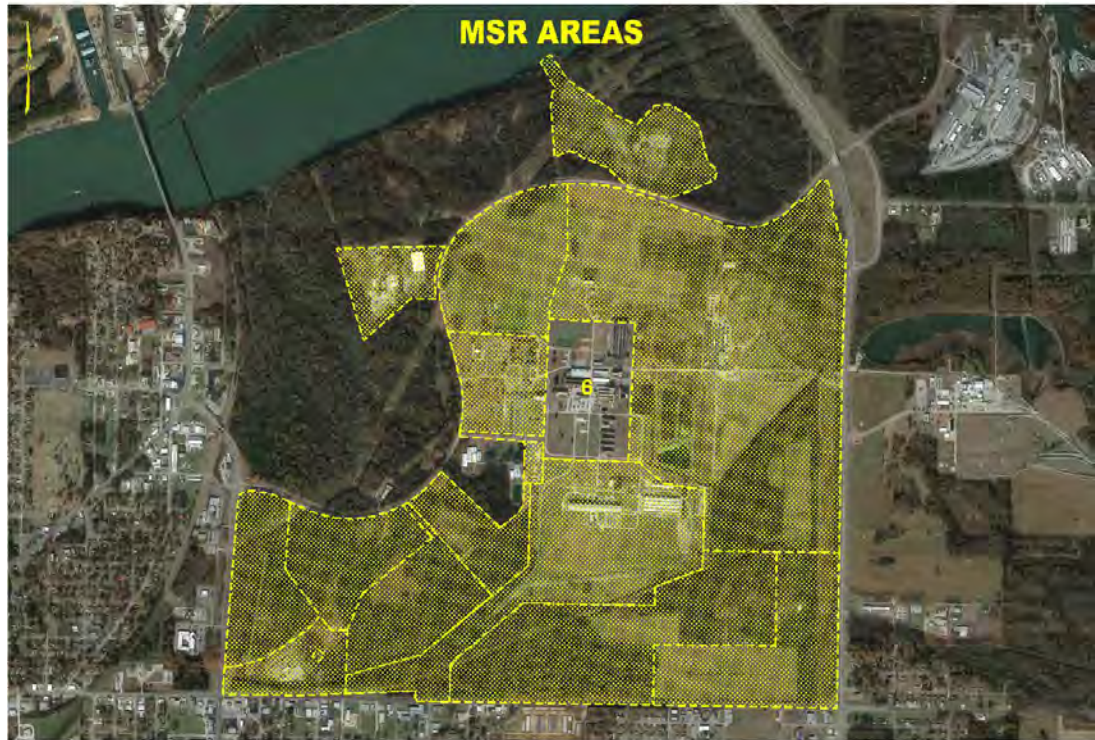


Figure 4-23. Area 6 Location



Figure 4-24. Area 6 Approximate Boundaries

Area 6 is relatively flat with approximately 30 percent of the area covered in grass, and the remaining area is occupied with buildings, access roadways, storage areas, and parking lots. This area has historically been the heart of the MSR, having possessed a significant portion of the former manufacturing operations since the early 1900's. No wetlands or floodplain are found within Area 6.

Below is a list of existing buildings and structures located within Area 6. Most of these facilities are no longer utilized and are in various states of disrepair.

- A. L/N Building (unoccupied)
- B. Chemical Plant Warehouse (in TVA use)
- C. Machine Shop (in TVA use)
- D. Engineering Lab (in TVA use)
- E. Sheet Metal Shop (in TVA use)
- F. Pipe Shop (in TVA use)
- G. Project Operations Bath House (in TVA use)
- H. Pilot Plant Building (unoccupied)
- I. Paint Storage Building (unoccupied)
- J. Autoclave Building (unoccupied)
- K. Tin Shop (unoccupied)
- L. Grinding Building (unoccupied)
- M. Boiler House and stack (unoccupied)
- N. Catalyzer Buildings 1 - 6 (unoccupied)
- O. Nitric Acid Storage Tanks 1 - 2 (abandoned)
- P. Warehouse Z (in TVA use)

A select number of these buildings have been identified in the MOA between TVA and SHPO as historically significant and are targeted for adaptive reuse. Others may be promoted or demolished depending upon their condition. Remaining buildings would be promoted for reuse, which could include continuation of operations by TVA or other tenants as they exist at the time of sale pursuant to a lease or other appropriate agreement.

Detail specifications and condition assessments for most of the Area 6 buildings and structures can be found within the LAS study and subsequent Cyclic Building Assessments (Appendices A and B). Area 6 is located entirely within the MSRHD. Accordingly, owners would be subject to the afore-mentioned MSRHD design guidelines and architectural controls.

TVA and NACD recommend the following plan for redevelopment of Area 6:

Acreage: 74 acres

Preferred Use: Office, commercial, service, retail, light-to-medium industrial, civic, government

Market Focus: Attraction of small-to-medium scale operations able to provide adaptive reuse of existing buildings; marketing of infill green or cleared spaces to support or complement overall development

Historic District: Yes

Design Guidelines:

- Design guideline adherence per the “*Muscle Shoals Reservation Historic District Design Guidelines and Architectural Controls*” [D]
- Building, signage and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights of way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- Compatible land uses consistent within RCRA AOC 998 (See subsection 3.4.4) [D]
- At least 100-foot wide setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion, and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes facilities within the development [Z]
- Very low emissions [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.7 AREA 7 – DIFFERENTIATED INDUSTRIAL DEVELOPMENT

Area 7 is located in the center of the MSR and is comprised of about 163 acres. It is bordered on the north by Areas 6 and 8, on the west by Areas 3B, 2B, and 5B, on the south by Area 3A and Second Street, and on the east by Areas 3A and 8A (Figures 4-25 and 4-26).

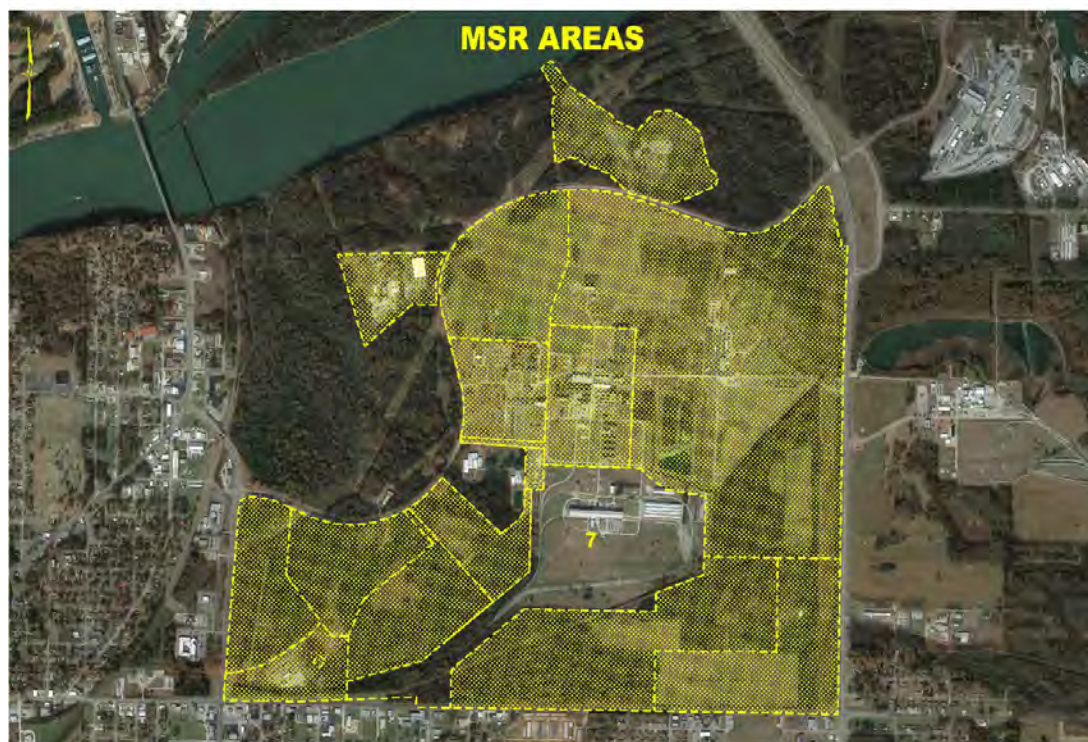


Figure 4-25. Area 7 Location



Figure 4-26. Area 7 Approximate Boundaries

Area 7 is slightly sloped (from northwest to southeast) and is comprised of approximately 70 percent grasslands, existing buildings, storage areas, and parking lots. Similarly to Area 6, facilities located in Area 7 have also supported industrial operations since the early 1900s. Portions of the floodplain and wetlands are located within the southern and eastern portions of Area 7 (Appendices I and J).

The remaining three TVA buildings found in Area 7 are listed below:

- A. Bulk Fertilizer Storage Building (in TVA use)
- B. 3A Building (unoccupied)
- C. 5A Building (in TVA use)

All buildings would be promoted for reuse, which could include continuation of operations by TVA or other tenants as they exist at the time of sale pursuant to a lease or other appropriate agreement.

Area 7 extends to Second Street to accommodate potential employee and shipping traffic, railway extension, and necessary utilities which are important to promote the intended use of industrial development.

TVA and NACD designate the following plan for redevelopment of Area 7:

Acreage: 163 acres

Preferred Use: Mid-to-heavy industrial

Market Focus: Attraction of manufacturing (or similar) operations with the potential for significant job creation and capital investment

Historic District: Partial

Design Guidelines:

- Areas outside proposed MSRHD: Controlled design and aesthetics preference for “common thread” architectural style and material elements consistent with the appearance of other MSR redevelopment complements the historical context [Z]
- Areas inside proposed MSRHD: Design guideline adherence per the “*Muscle Shoals Reservation Historic District Design Guidelines and Architectural Controls*” [D]
- Minimized operational emissions (air, noise, and wastewater) and environmental impacts [Z]
- Preference for enclosed and encapsulated development [Z]
- Building, signage, and landscape design pre-approval [Z]
- BMPs required [Z]

Development Restrictions:

- No residential dwellings of any form [Z]
- No groundwater withdrawal [D]
- All retention/detention basins and/or surface water features must be lined with approved separator materials [Z and D]
- No fencing within 150 feet of the designated “Wildlife Corridor” as illustrated in Appendix P [D]
- Continuation of existing easements in place at the time of sale for the period of time established [D]
- Establishment of new utility easements and rights-of-way to maintain TVA service or to accommodate TVA transmission line locations [D]
- As applicable, wetland and/or floodplain impact avoidance unless prior approval provided. Any development within wetlands or floodplain would require review and approval from TVA prior to construction (in addition to those approvals required by other regulatory authorities) [D]
- Compatible land uses consistent within RCRA AOC 998 (See subsection 3.4.4) [D]
- Ingress/egress from Second Street and/or Highway 133 only [D]
- Easements to the City of Muscle Shoals to maintain outflow drainage to Pond Creek, per their agreement with TVA [D]
- At least 100-foot setback from existing exterior roadway boundaries with easements for utilities (underground only), signage, roadway expansion and walking trails only; no building construction and/or parking allowed inside the setback [Z] and [D]
- Signage only allowed which promotes businesses within the development [Z]
- Low emissions [Z]
- Other deed restrictions deemed necessary after the completion of the Comprehensive Master Plan [D]

4.8 AREA 8 - TVA PROPERTY

Area 8 is comprised of Areas 8A and 8B which together comprise approximately 400 acres (Figures 4-27, 4-28, 4-29, and 4-30). Both areas will be retained by TVA and are not part of the 1,000-acre MSR surplus footprint for five primary reasons:

1. Presently, these areas do not contain enough developable land for meaningful non-TVA development. Natural and man-made constraints include:
 - a. Floodplain
 - b. Pond Creek

- c. NWI and jurisdictional wetlands
 - d. SWMUs
 - e. Existing TVA transmission line easements
 - f. Remaining infrastructure from previous TVA operations
2. TVA has existing operations on portions of this property.
 3. TVA has maintenance and monitoring responsibilities for select areas that fall under the RCRA Permit (see subsection 3.4.4 for more details).
 4. TVA has maintenance and monitoring responsibilities for select acreage that falls under the monitoring and periodic inspection of the Nuclear Regulatory Commission.
 5. Portions of these areas include property presently utilized for walking trails and a chestnut orchard (supported by the American Chestnut Foundation).

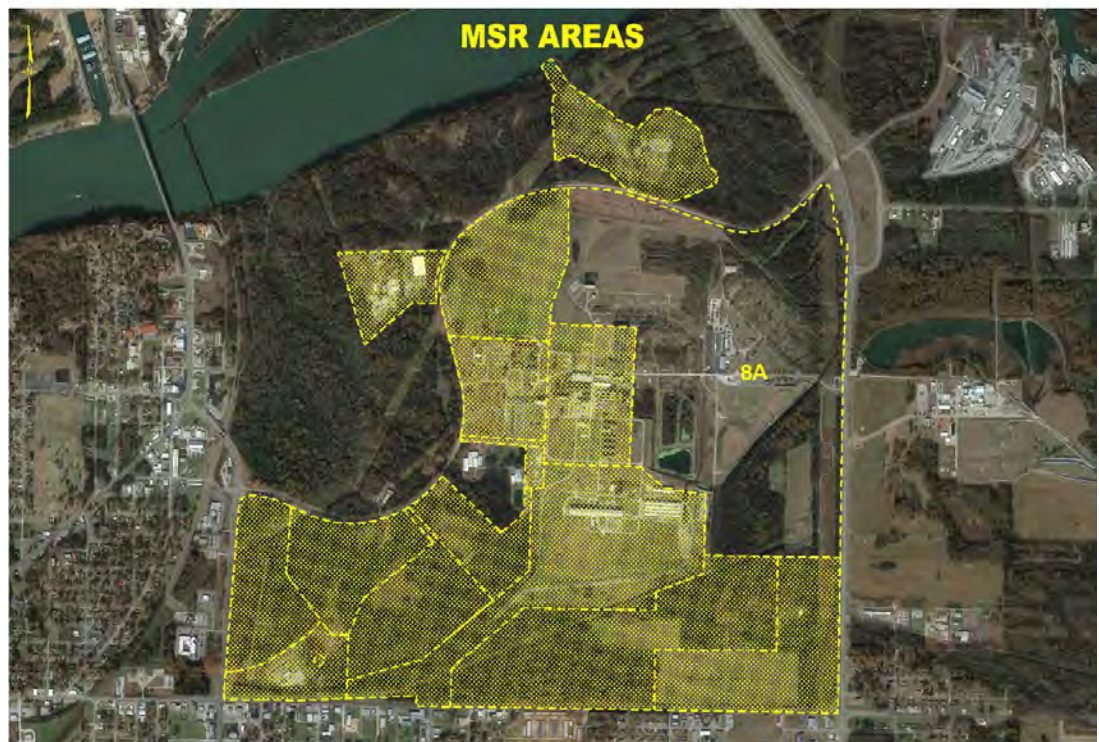


Figure 4-27. Area 8A Location

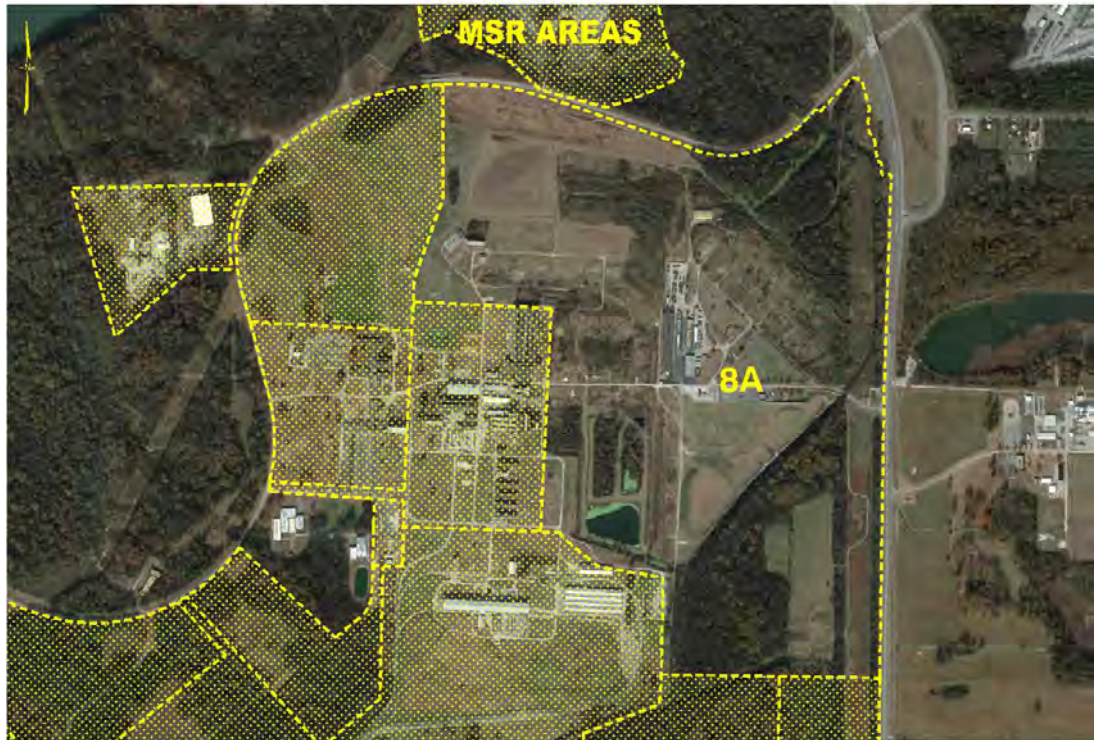


Figure 4-28. Area 8A Approximate Boundaries

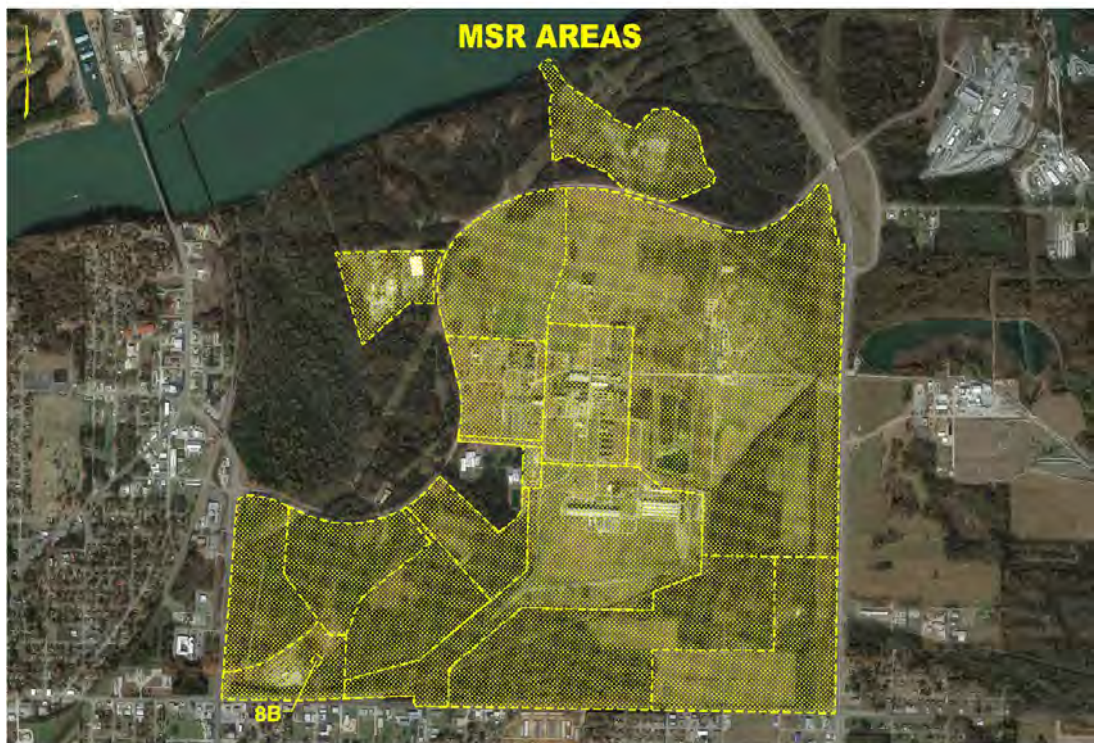


Figure 4-29. Area 8B Location

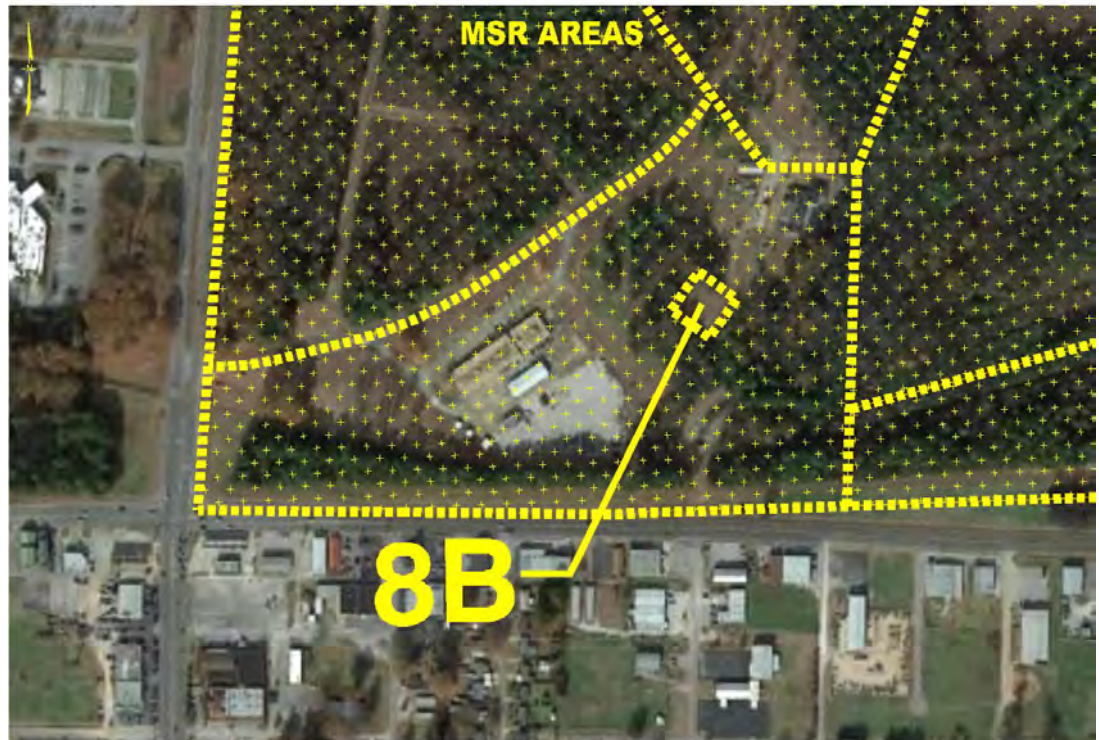


Figure 4-30. Area 8B Approximate Boundaries

4.9 AREA 9 - EASEMENT AREA

Area 9 is comprised of approximately 66 acres. It is located to the south of the Tennessee River and north of Reservation Road. The eastern and western boundaries are bordered by woodlands owned by TVA (Figures 4-31 and 4-32).

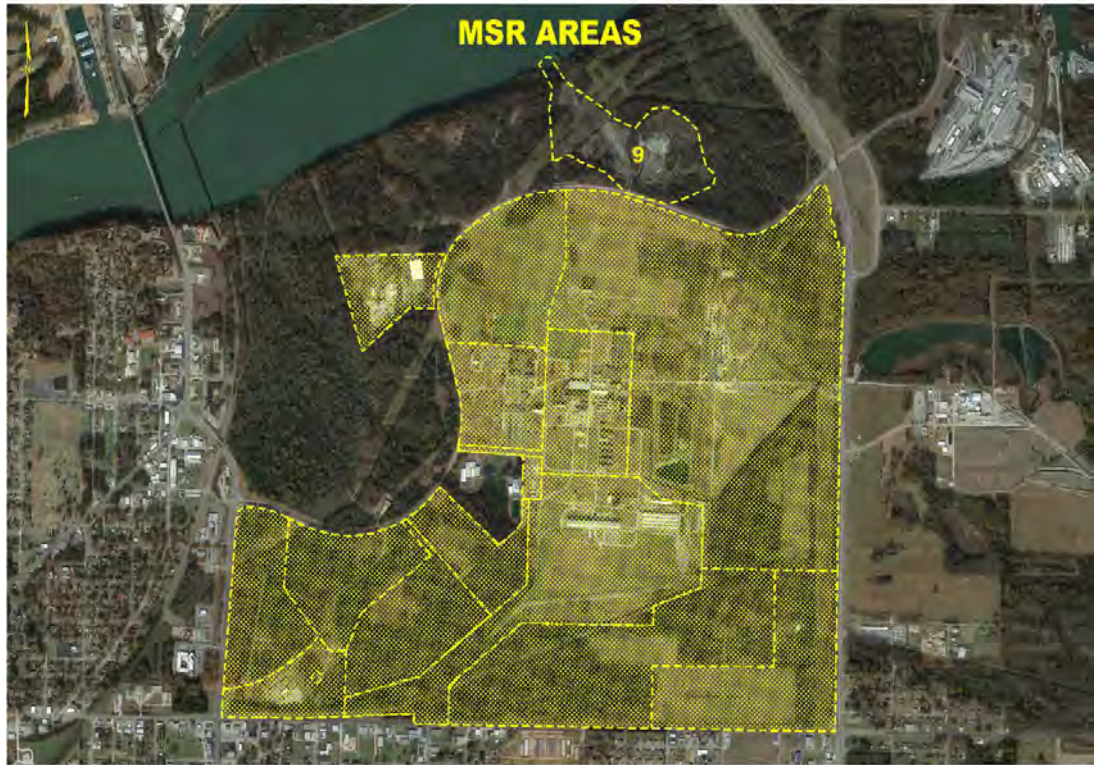


Figure 4-31. Area 9 Location



Figure 4-32. Area 9 Approximate Boundaries

Area 9 contains residual phosphorus slag piles originally stockpiled from historical fertilizer production processes. Some of this material has very low level radioactive constituents; therefore, in its current status, Area 9 is not suitable for new construction or permanent public occupancy. Therefore, TVA would maintain ownership of this area for the foreseeable future.

The potential benefit of this property is that it provides a potential connecting point to the Tennessee River. Specifically, it would be marketed as a utility access corridor for construction, maintenance, and operation of potential new non-TVA operations within other portions of the MSR surplus area.

TVA would make Area 9 available under specific use agreements, such as easements or licenses. Because of environmental and reservoir operations constraints along the left-descending (south bank) shoreline of the Tennessee River in the vicinity of the utility corridor, TVA would not approve a barge terminal, commercial dock, or other similar shoreline facility.

If conditions at the phosphate slag storage area would be altered and it becomes necessary to reevaluate radiation exposure, TVA would verify in consultation with the Alabama Department of Public Health any change to the phosphate slag storage area that would result in increased exposure times. This would include any effort to mitigate radioactive levels at the site through the use of soil cover or caps of various materials. For subsurface infrastructure enhancements (e.g., buried pipeline), further radiological measurement and monitoring would be necessary to determine a worker's potential exposure and take appropriate measures to ensure safety.

TVA and NACD recommend the following plan for use of Area 9:

Acreage: 66 acres

Preferred Use: Specialized Use by easement or license (e.g., utility corridor)

Market Focus: Limitation of uses for purposes that complement the overall success of the MSR redevelopment

Design Guidelines:

- Not Applicable

Development Restrictions:

- No development of occupied facilities allowed.
- No barge terminal, commercial dock, or other similar shoreline facility.

5.0 COMPREHENSIVE MASTER PLAN IMPLEMENTATION

As stated above, TVA must follow Section 31 of the *TVA Act* which requires that the surplus MSR property be sold at public auction. In preparation, TVA has established the necessary milestones for the implementation of the CMP that must occur prior to auction. These prerequisites are described below.

5.1 NACD GOVERNANCE AND MANAGEMENT PLAN COMMITMENT RESOLUTION

Before approaching the TVA Board to request surplus designation for the targeted 1,000 acres of MSR property, TVA staff requested, and NACD agreed to provide, a resolution committing to obtain a Governance and Management Plan (GMP) from each local government that agrees to take jurisdiction of the surplus MSR property. The resolution was passed on October 19, 2012 (Appendix Q). This resolution dictates that each GMP would be required prior to auction and *“shall address jurisdictional issues, development regulations, enforcement measures and other matters necessary to assure the property is developed in a manner consistent with the Comprehensive Master Plan.”* Therefore, this resolution provides an assurance that the NACD and the willing local governments are committed to supporting measures within their power that assure the spirit of the guiding principles identified in the CMP would be transformed into policy.

5.2 TVA BOARD OF DIRECTORS APPROVAL OF PROPERTY SURPLUS

After assessing contributing inputs, drafting the CMP with the NACD and obtaining the above-referenced NACD resolution, TVA staff prepared a recommendation to sell approximately 1,000 acres of MSR property. In November 2012, the TVA Board of Directors approved this recommendation. This Board action allows TVA staff to move forward with the sale of the property, when appropriate.

5.3 PROPERTY IMPROVEMENTS

TVA has utilized the MSR property since 1933 and has added or repurposed facilities to meet its historical missions. Prior to that, the U.S. War Department had operations on the property. As a result, the buildings and structures have a wide range of construction dates. Some were constructed as early as 1918 and some as late as 1979.

As indicated in previous sections, TVA has entered into an MOA with the Alabama SHPO to promote historically-significant and contextually-significant structures that have the potential for reuse. However, many of the buildings and structures that were

not identified in the MOA are in various stages of deterioration. To make portions of the MSR property more useful for future development, TVA developed a plan that allows for the demolition of and/or enhancements to targeted buildings, structures, and land while taking careful consideration to abide by the MOA and the 2011 EIS.

These improvements began in 2013 and are area-focused. For instance, significant improvements were made in Areas 5A and 6 during 2013 while improvements began for Area 7 in 2014. Continued improvements are being planned for implementation during 2015 and potentially beyond.

Some improvements for other areas have been smaller-scale, yet potentially very impactful toward the usefulness of the property. For instance, in 2014, TVA began removing unwanted undergrowth from Areas 1A, 1B, 2A, and 2B. The removal centered mainly on the removal of non-native species plants that often limit the growth of native vegetation, thereby impacting natural habitat. TVA has been careful to minimize impacts to the approximately 200 acres (20 percent of the total surplus MSR property) located within Areas 3A and 3B, which are designated for preservation.

Removing unwanted legacy buildings and structures and adding value in select locations creates more development-capable acreage for new development, therefore, allowing for a wider variety of uses and potentially attracting a wider audience of potential bidders. As improvements are completed, the property's market positioning would improve and would allow these areas to enter subsequent phases of the auction preparation process.

5.4 FINAL PUBLIC MEETING

As indicated in Section 3.6, TVA and the NACD hosted two public meetings and one stakeholder meeting in preparation of the CMP, in addition to the public meetings held in preparation of the EIS. A final public meeting was held on September 30, 2014, at Marriott Shoals Conference Center in Florence, Alabama. TVA provided notice of the public meeting through local media and direct mailings. The draft CMP was distributed to interested individuals, groups, and federal, state, and local agencies two weeks prior to the public meeting. The document was also made available on TVA's website (http://www.tva.gov/environment/reports/muscle_shoals/index.htm). TVA accepted comments on the draft CMP document from September 16 to October 16, 2014.

Following the close of the public comment period, TVA addressed and incorporated the comments received into the final CMP, as appropriate. Appendix S contains TVA's responses to the comments received from the public during the comment period. Upon finalization of this document, TVA will issue a second Record of Decision documenting the completion of the CMP that will be published in the Federal Register.

5.5 GOVERNANCE AND MANGEMENT PLAN SUBMITTALS

As indicated in Section 5.1, the NACD passed a resolution in October 2012 agreeing to obtain a GMP from each local government it recommends take governing authority over the surplus MSR property. The GMP is a preferred prerequisite by TVA before auctioning the property.

In accordance with its initial resolution, the NACD passed a second resolution on May 15, 2014, identifying the cities of Sheffield and Muscle Shoals as the best-positioned governing bodies to assume governance over the surplus MSR land (Appendix R). Exhibit A of the resolution graphically defines the specific areas of the MSR in which the NACD recommends jurisdiction. Exhibit B sets forth the process by which the GMPs for these cities should be developed. Completed plans should be submitted to the NACD for concurrence before being forwarded to the TVA for review and approval.

5.6 TVA REQUEST FOR ANNEXATION

Upon receipt and approval of the GMPs from the cities of Sheffield and Muscle Shoals, TVA would provide written requests for annexation to the cities and move forward with the auction of the surplus property. TVA anticipates these annexation requests would be approved and commitments identified in the GMPs fulfilled in a timely manner to complement the auction schedule.

5.7 AUCTION PREPARATION

Section 31 of the *TVA Act* requires that *"...any land purchased by the Authority and not necessary to carry out plans and projects actually decided upon shall be sold by the Authority as agent of the United States, after due advertisement, at public auction to the highest bidder."* Accordingly, TVA would hold one or more public auctions to sell the MSR lands identified by the TVA Board as surplus to TVA's needs. The winning bid for each tract will reflect, at a minimum, the fair market value plus TVA's apportioned administrative costs.

TVA would have a strategic approach to marketing, but would decide the best marketing methodology based on the parcel's targeted market (retail, office, industrial, etc.) as described in the CMP. TVA has the flexibility to utilize various forms of marketing for the property, as well as offer for sale the surplus property in parcel configurations other than those outlined in Section 4. Moreover, in the event a single buyer expresses an interest in purchasing more than one Area, in part or whole, TVA may reconsider Area boundaries, preferred uses, market focus, design guidelines, and development restrictions.

The auction materials would include details of the CMP, the GMPs from the cities of Muscle Shoals and Sheffield, site conditions, and anticipated deed restrictions and notifications. Notifications would include those required as part of TVA's MOA with the Alabama SHPO:

- a. Information on the history of the MSR property and the first and second architectural periods, including detailed information on character defining features;
- b. Information on known applicable federal, state, and local tax incentives for the redevelopment of historic properties;
- c. Information indicating that the design guidelines and architectural controls specified in the CMP would be included as part of the transfer instrument as restrictions and/or covenants.

The auction date would be selected and advertised appropriately. TVA would include instructions in the auction materials detailing how a person or entity may qualify to bid at the auction. Prospective bidders must follow the instructions in the auction materials in order to bid at the auction. Based on factors involved in each area, the closing on the sale of the property would be negotiated by TVA and the winning bidder after the auction.

5.8 DEED PREPARATION AND ASSOCIATED TRANSFER DOCUMENTATION

Sale deeds and associated transfer documentation would include considerations typical in the sale of TVA real estate such as requirements for control of pollutants, use of BMPs, and reservations of rights necessary for continuing TVA operations, and would be made subject to rights of third parties under existing easements. Additional restrictions and limitations specific to some or all of the MSR surplus lands that would be contained in the sale deeds are listed below:

Groundwater Withdrawal Restriction

The deeds would contain a covenant that the Grantee shall not remove groundwater from the property or inject groundwater into the property for any purpose except as mandated by applicable regulatory agencies or for environmental sampling or remediation purposes. The deeds would also contain a covenant that the Grantee shall not construct any unlined retention/detention basins or surface water features on the property.

Environmental Covenant Use Restrictions

TVA will place an Environmental Covenant on the portion of the property within AOC 998 in order to limit its future uses (see Section 3.4.4). This Environmental Covenant is required by ADEM and recorded prior to sale. Within the portions of the property subject to Environmental Covenants, use of the property has been approved for industrial and commercial activities in accordance with the Alabama Risk-Based Corrective Action Guidance Manual, which allows traditional industrial uses and operations, commercial uses such as stores and businesses, and community college use such as offices, classrooms, parking areas, etc. The following shall not take place in areas covered by covenant use restrictions without obtaining prior written approval from ADEM: Use of the property for any residential or unrestricted use, which includes but is not limited to primary and secondary schools, dwellings, homes, hospitals, childcare centers, nursing homes, playgrounds, recreation centers, and any other areas or structures with sensitive human activity. Additionally, digging or excavation would be prohibited within the portion of the property identified as SWMU 141.

Approval by TVA for Wetlands and Floodplains Impacts

In order to assure compliance with EO 11988 (Floodplain Management) and EO 11990 (Protection of Wetlands), TVA would include specific language in any conveyance documents for the property and requiring that any proposal for future improvements in a floodplain or wetland area would be subject to TVA review and approval prior to construction (in addition to any other regulatory approval).

Muscle Shoals Reservation Design Guidelines and Architectural Controls

As stated in Section 3.3.3, when TVA property is sold, the deed would require the buyer to adhere to the “Muscle Shoals Reservation Historic Design Guidelines and Architectural Controls” pertaining to redevelopment and new development within the historic district boundaries. Design review and enforcement would be addressed within the GMPs from the cities of Sheffield and Muscle Shoals.

RCRA Permit Modification

Prior to and in conjunction with the sale of any portion of the property, TVA would be required to coordinate with ADEM with respect to necessary modifications to the existing TVA RCRA permit. TVA would inform ADEM of its intentions to sell property prior to auction in order to solicit feedback and assure alignment with necessary procedures. After parcels are sold, TVA must formally request the property be removed from the existing RCRA permit. A public notice (typically 45 days) is required. Upon approval, ADEM would remove the land from the RCRA permit, and the requirements of the permit would no longer apply to the land under new ownership.

6.0 CONCLUSIONS

TVA and the NACD have worked collectively and comprehensively to plan the future of this surplus 1,000 acres of MSR land. The guiding principles set forth in the CMP reflect the collective input of the public, local stakeholders, and subject-matter experts. A strong commitment to a “smart and balanced” outcome is weaved into every aspect of the CMP. TVA and the NACD have concluded that to achieve this outcome, offering an opportunity for retail, commercial, institutional, office, and industrial growth by specific, pre-determined tracts or “Areas,” rather than an unplanned approach, would result in the highest and best use of property utilization. The CMP includes descriptions of preferred property utilization, applicable use restrictions and requirements, and the processes necessary for property transfer.

TVA and NACD team members believe this development is further complemented by non-development. Preservation is a cornerstone of the redevelopment initiative. Over 20 percent of the total 1,000 acres will be directly held in preservation while other targeted tracts offer a mix of preservation measures in their proposed land-use descriptions. These protected lands, when mixed with the hundreds of acres of surrounding wooded, landscape managed by TVA, offer a unique opportunity to showcase how preservation can be successfully integrated with development for the single benefit of the Shoals area. Over the last 80 years, the MSR has been a critical operation center for the TVA. While its uses have changed with time, the site’s legacy of offering opportunity to the Shoals area would continue through the implementation of this CMP.

7.0 REFERENCES

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