ENVIRONMENTAL ASSESSMENT
for
TROY CABLEVISION, INC.

BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM (BTOP)
&
NATIONAL TELECOMMUNICATIONS & INFORMATION ADMINISTRATION (NTIA)

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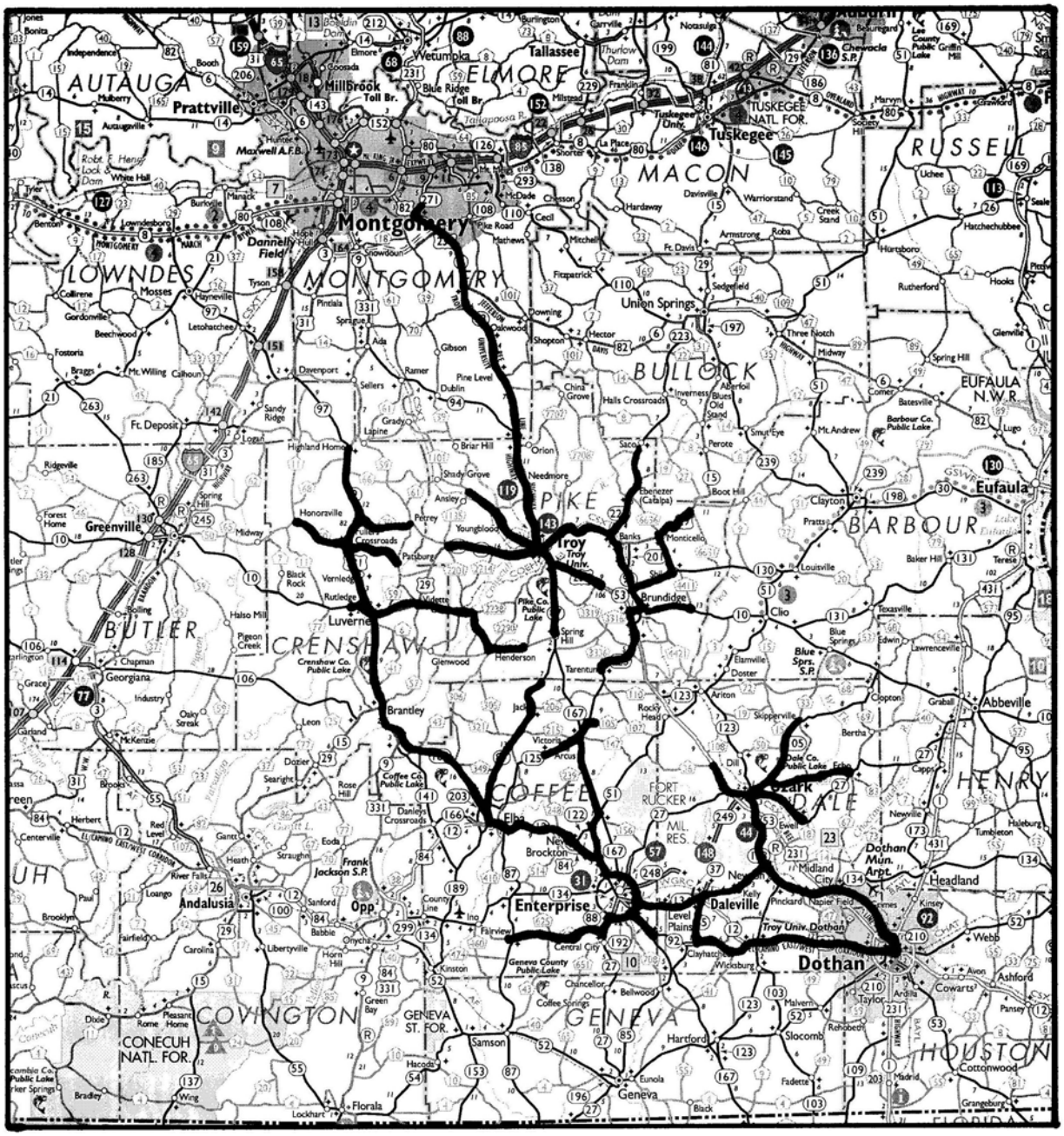


EXECUTIVE SUMMARY

The National Telecommunications and Information Administration (NTIA) through the Broadband Technology Opportunities Program (BTOP) has awarded Troy Cablevision, Inc. (TCV), in Troy, Alabama, grant funding so that they may install approximately 595 miles of fiber optic cable to connect approximately 53,809 households, 3,681 businesses, and 673 critical community institutions and public safety entities in a four county area totaling over 2,521 square miles. The Project will also provide key internet connection points to the global internet in the Cities of Montgomery and Dothan, Alabama. The network will also support economic growth by providing redundant rings, including two backhaul routes to Atlanta, Georgia, that will enable the high-capacity, reliable broadband capability that will attract major businesses to the area.

TCV has partnered with South Alabama Electric Cooperative (SAEC), which is a non-profit electric cooperative, and they have coordinated their efforts simultaneously to maximize public investment in Coffee, Crenshaw, Dale and Pike Counties in Southeast Alabama.

TCV has also partnered with the Cities of Enterprise, Ozark and Troy, along with Troy University and the area's community colleges. This 595 mile fiber optic Middle Mile network will offer speeds between 1 Mbps and 1 Gbps and will facilitate more affordable and accessible broadband service to the unserved and underserved areas in the four counties and will enable local internet providers the use of the Project's open network. The overall goal of this Project is to make higher speed broadband equal to that available in other major metropolitan areas and more populated states so that all of the rural communities in this four county area can participate in the global economy.

This Project consists of approximately 595 miles of fiber optic cable that will be constructed on existing utility poles along various existing, federal, state, city or county right-of-ways and utility easements throughout the Project area. There will be approximately 524 miles of fiber optic cable lashed to existing utility facilities within highway rights-of-way. There will be approximately 71 miles of buried fiber optic cable utilized in areas where electrical distribution and/or telecommunication cable routes are non-existent or conditions would be favorable for plowing.

The alternatives considered for the SmartBand Project are based on TCV's and SAEC's existing network throughout the Project area. Determining the routes of the proposed fiber cable routes first involved determining the connection points in the unserved and underserved areas along with connections to SAEC's substations and connections to all businesses and critical community institutions and public safety entities. Once these locations were determined routes were established along the existing network to minimize the temporary environmental impacts associated with the Project, while maximizing connectivity between the unserved and underserved areas.

This Environmental Assessment (EA) analyzes several alternatives to determine the least impact to the environment during construction activities. The first alternative is the No Action alternative. This alternative basically does nothing and would not support the purpose and need of the Project. The second alternative is the Preferred alternative. This alternative is a

combination of the aerial and buried alternatives. The third alternative is the all Aerial Cable alternative. This alternative considers constructing all the fiber optic cable in the air. The fourth alternative is the all Buried Cable alternative. This alternative considers constructing all the fiber optic cable underground. The fifth alternative is an all Wireless alternative. This alternative considers constructing a network of radio towers and microwave radio towers to provide a wireless broadband network. The all buried cable alternative, the wireless alternative and the all aerial alternative were excluded from further consideration because they will require significantly more ground disturbance and/or would not be as cost effective as the Preferred alternative.

This EA analyzes the existing conditions and the environmental consequences of the Preferred alternative and the No Action alternative. The areas reviewed include: Noise, Air Quality, Geology and Soils, Water Resources, Biological Resources, Historic and Cultural Resources, Aesthetic and Visual Resources, Land Use, Infrastructure, Socioeconomic Resources and Health and Human Safety. Cumulative impacts of each alternative were also evaluated.

The analysis of this Project as constructed utilizing the methods described herein, show that no significant adverse impacts would take place during construction or operation along the Preferred alternative to any of the areas reviewed as stated above. The Preferred alternative was chosen as the most suitable route due to the fact that it is the most economical route by which to serve the population. Also there are established rights-of-ways that are maintained on a regular basis and environmental issues will be minimally affected.

1.0 PURPOSE AND NEED

1.1 Background

TCV is located in the southeastern portion of Alabama. The Counties of Coffee, Crenshaw, Dale and Pike are known for their country character and legacy of overcoming adversity. There are fifteen (15) rural communities dotting the 2,521 square mile landscape that are working to achieve growth and compete in the global economy. These counties have strived to establish a sense of community and place amidst a backdrop of economic, education, healthcare, safety and energy challenges. Broadband services have all but been out of reach in these rural, unserved and underserved communities.

Southeast Alabama SmartBand (SmartBand) has recognized the needs of these communities and established a partnership of private, non-profit and public leaders who could make a difference in these communities. This partnership consists of TCV, a privately-held, majority woman-owned SDB broadband service provider, South Alabama Electric Cooperative (SAEC), a non-profit electric cooperative, the Cities of Enterprise, Ozark and Troy, Troy University and the area's community colleges. Together, SmartBand plans to build and operate a fiber optic ring connecting the rural communities to an innovative, sustainable, forward-looking middle mile broadband network. TCV will build, own and operate the network.

1.2 Project Purpose

Each of the four counties in the SmartBand service area meet one or more of the BTOP requirements for an underserved rural area. Residents of this region do not have adequate access to broadband because service providers must qualify for financing based on traditional lending covenants that require 25 homes per contiguous cable plant mile for a broadband build out. This has proven to be too great a hurdle for broadband providers in Southeast Alabama. SmartBand will serve an area with 5.3 homes per cable plant mile. Without this BTOP grant, people in this region are likely to remain technologically isolated and as a result of this, economic recovery will happen slower in this strikingly poor region of Southeast Alabama.

The four county network for this Project covers 136,106 people, 53,809 households, 3,681 businesses and 673 critical community institutions and public safety entities. The community institutions include 76 schools (K-12), 19 libraries, 222 medical and healthcare providers; 81 public safety entities, 8 community college campuses, 36 public housing facilities, Troy University, 116 community support organizations, and 114 other governmental facilities.

The network will offer broadband transport, redundancy, and diverse routing/business continuity for strategic community applications and wholesale services for Last Mile providers. Strategic institutions and applications include Alabama's Connecting Classrooms, Educators and Students Statewide (ACCESS), healthcare including mental health initiatives led by Southwest Alabama Mental Health's USDA's "Joining Hands", Organized Community Action Program (OCAP) HeadStart and public housing, New Horizons Enterprise Public Computer Center, Troy University's worldwide Distance Learning, wireless hot spots and interoperability for public safety officials.

SmartBand will offer fiber optic access, transport, and backhaul wholesale services. Access services range in capacity from 1 Mbps to 1 Gbps (increments of 1, 5, 10, 20, 50, 100, 250, 500 and 1 Gbps). Additional Internet, voice and video processing equipment enables direct connections to Community Anchor Institutions and businesses, as well as interconnections with future Last Mile service providers. Transport services to Montgomery and Dothan, Alabama enables Tier 2 interconnections and transport handoff to Atlanta enables Tier 1 interconnection. SmartBand will offer broadband backhaul to existing and new Last Mile providers in the four county region.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Project Description

SmartBand is an open network that will feature approximately 21 interconnection points on its Middle Mile ring. Last Mile providers will be encouraged to avail themselves of the Smartband network's high capacity, reasonable interconnect rates and non-discriminatory practices. TCV currently interconnects with several Last Mile providers in the region, including two independent telephone companies that are Rural Utilities Service (RUS) borrowers. TCV will serve as the agent of the interconnection access, taking responsibility for displaying non-discriminatory and network neutrality policies and managing the relationships. Several Last Mile providers have expressed interest in interconnecting with SmartBand, paving the way for competition, consumer options and economic growth in the region.

The proposed SmartBand fiber optic ring uses a scalable, standards-based open architecture optical system. There are three elements to the SmartBand network: direct connections to anchor institutions and businesses, Middle Mile transport and backhaul. The network will upgrade TCV's 1 Gbps Middle Mile ring to 10 Gbps connecting the master headend, located in Troy (Pike County, AL) to nine remote hubs. There are existing hub sites in Brundidge (Pike County, AL); Ozark and Daleville (Dale County, AL); Elba (Coffee County, AL); and Brantley and Luverne (Crenshaw County, AL). Of the three new proposed hub sites, one is located in Midland City (Dale County, AL) and two new proposed hub sites in Enterprise (Coffee County, AL). All existing hub sites are either brick, metal or are concrete telecom shelters. The proposed Enterprise 2 and Midland City Hub sites will be concrete telecom shelters with interiors being finished with fire resistant materials where possible. The proposed Enterprise 1 Hub site will be located in an existing metal building. A multiservice access platform at each hub supporting Metro Ethernet, Active Ethernet and SONET/TDM connections. Internet, video and voice servers will support Last Mile service providers.

New DWDM equipment at each site will initially support two OC-48 wavelengths and two 10 Gbps Ethernet wavelengths and will easily scale to a much higher capacity. SmartBand will construct 10 Gbps fiber links from TCV's master headend north to Montgomery and from Daleville and Ozark hub sites south to Dothan. Public Safety backhaul will be achieved with a MetroEthernet connection at 1 Gbps.

2.2 Geographic Setting

2.2.1 Physiographic Region

Coffee County - This county is in the Southern Coastal Plain Land Resource Area. The Pea River has cut a shallow valley from the northeast corner to the southwest corner of the county. The northern half of the county is a mass of low hills with narrow, winding ridgetops, gently rolling and rolling side slopes, and narrow drainage ways. The southern half of the county is broad, nearly level and gently sloping ridges with moderately sloping side slopes and narrow drainage ways. Elevation of the land ranges from about 150 feet above sea level in the Pea River Valley in the southwestern part of the county to more than 500 feet on ridges in the northern part.

Crenshaw County - The Conecuh River forms part of the eastern and southern borders. The county encompasses 391,030 acres, or about 611 square miles. About 390,920 acres consists of land areas and small bodies of water. About 110 acres consists of large areas of water in lakes and rivers. The county is in the East Gulf Coastal Plain Section of the Coastal Plain Physiographic Province. This area is characterized by gently rolling to strongly dissected, hilly topography. Elevations in the county range from about 200 feet above mean sea level on the flood plains along the Conecuh River at the southern tip of the county to about 650 feet near Mount Carmel in the northern part of the county.

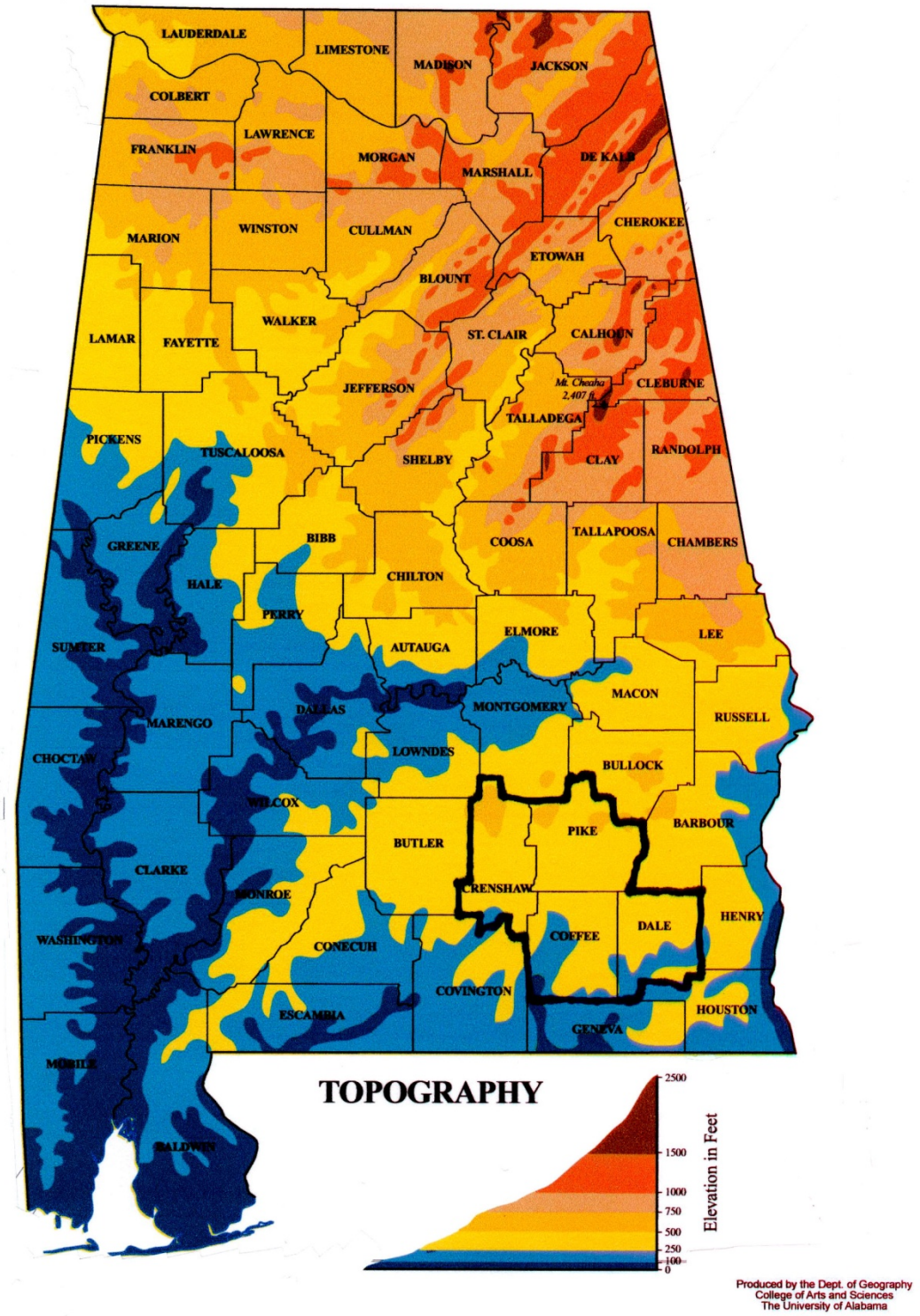
Dale County - It lies wholly within the Coastal Plain in the area commonly called the "Wiregrass Section." The county is about 29 miles long and 22 miles wide and has an area of about 358,400 acres, or 560 square miles. The Choctawhatchee and Little Choctawhatchee Rivers form the boundary between Dale and Houston Counties.

Houston County - It has a land area of approximately 369,920 acres. The Chattahoochee River, which flows southward, forms the county's eastern boundary. The Walter F. George Lock and Dam are located in Columbia. The county is located in the Major Land Resource Area (MLRA), which is the Coastal Plain. The elevation of the county ranges from about 120 feet above sea level in the southeastern part of the county to about 365 feet above sea level in Dothan. The topography is generally nearly level to gently sloping, but the northern part of the county has scattered strongly sloping areas, mainly along large creeks and the Little Choctawhatchee River.

Montgomery County - It is located in the northern part of the Coastal Plain. The county is about 37 miles from north to south and about 33 miles from east to west. Its total area is 790 square miles, or about 505,600 acres. The topography of the county ranges from the almost level plains and stream terraces in the northern part to the steep hills in the southern part. These steep hills make up Chunnenuggee Ridge, which is a strata ridge. This ridge is highly dissected and has local differences in elevation that range from 75 to 150 feet. Along the southern boundary of the county, there is another strip that is somewhat more hilly than the prairie belt but is less hilly than the strata ridge. The prairie belt is located in the central part of the county and the topography is almost level to strongly sloping.

Pike County - The total area of the county is 430,280 acres. About 429,960 acres of this total consists of land areas and small areas of water, and about 320 acres consists of large areas of water in the form of lakes and rivers. The elevation ranges from about 250 feet above sea level on a flood plain in the southern part of the county to about 680 feet near Becks Mountain in the northern part of the county.

Figure 2-1 - Topography



2.3 Construction Activities

The placement of cable along routes chosen for the Preferred alternative will be located within public highway rights-of-way, along established electrical distribution and/or telecommunication cable routes. There will be no cable constructed outside of the public highway right-of-way. The routes to be followed are the most economical ones by which to serve the population. Also, the routes chosen have established rights-of-ways which are maintained on a regular basis with mowing equipment and/or herbicide treatment. Due to location of construction along the Preferred route, the majority of the fiber optic cable will be lashed to existing utility facilities within highway right-of-way.

It has been determined that the placement of the fiber optic cable in the air along these existing rights-of-way would be most economical since: (1) boring cable on existing pole line routes would be impossible in areas where there is steep, rugged terrain; (2) relocating aerial routes to buried routes along existing roadways would significantly increase the amount of cable that would need to be added; (3) an excellent pole line system is already in place along already disturbed rights-of-way, which in turn will lessen the effect the proposed construction would have on the environment. As the routes are staked, buried construction will be considered wherever economics, routing, and demographics determine that buried plant is feasible. In the past TCV has had very good experience with aerial plant as compared to buried plant, due to vulnerability to cable cuts in buried plant.

There will be approximately 524 miles of aerial fiber optic cable constructed throughout the Preferred alternative. The installation of fiber optic cable on existing utility poles is similar to hanging telecommunications cable on utility poles. A bucket truck that contains a hydraulic basket lifting system will be used to affix the fiber cable to the utility pole. Along with the bucket truck, a pick-up truck will be needed to carry supplies and construction workers. Installation will include the use of metal hardware attachments to hang cable to the existing wood utility pole which carries existing power and telecom cables. If necessary, deteriorated wooden poles located along the roadside would be replaced in kind, concurrent with cable installation. Each utility that will be replacing any of their poles during the construction of this Project will be responsible for disposing of the pole as required by any and all local, state, and federal laws. To the best of their knowledge at this time, TCV will not be replacing any poles during construction. If a pole does requires replacement and it has useful life left, that pole would be reused in another location.

There will be approximately 71 miles of buried fiber optic cable constructed throughout the Preferred alternative. The decision to place the fiber optic cable in the ground is based on several different factors. First, there is not an existing pole line along the public right-of-way to attach the cable to. Second, there is not enough room on the existing pole for a new cable to be attached. This would require replacing poles that do not necessarily need to be changed out, which would in turn add unnecessary costs to the Project. Third, the existing pole line is way off of the public right-of-way, which would in turn cause more disturbance to the soil along routes that are not maintained on a regular basis.

Plowing techniques will be the primary method for installing the buried fiber optic cable. Plowing is a minimally invasive construction technique that does not require a substantial amount of soil excavation. A plow opens a plow slit in the earth and allows the cable to be placed at a depth approximately 30 to 48 inches below the ground surface. Once the cable is in place the plow slit is refilled and compacted with the soil that was moved to open the plow slit. No backfill soil will have to be brought in to cover the cable. A typical plowing installation consists of a truck and trailer to transport the equipment and supplies, a cable plow, a reel containing the fiber cable to be installed, and a truck to transport the construction workers.

Directional boring will be used for installation in urban areas to minimize disturbance of surface features such as roadways and sidewalks, at utility crossings and at locations where sensitive wetland features have been identified. A typical directional boring unit consists of a truck and trailer for transporting the equipment, a directional boring machine, a reel for the fiber duct, and a truck. Erosion control procedures will be utilized at all locations where significant ground disturbance will occur such as drilling and receiving pits for the directional boring locations.

TCV will apply for any required Alabama Department of Transportation (ALDOT) highway permits well in advance of construction and will follow the Best Management Practices (BMPs) for pole placement or cable installation. Proper signs, traffic control, and safety gear will be maintained at all times to ensure a safe work zone area for the workers and the motorists traveling in the vicinity.

All federal agency consultations have been made with the State of Alabama Historical Commission, U.S. Army Corps of Engineers, U.S. Department of the Interior Fish and Wildlife Service, and Natural Resources Conservation Service and the correspondence from each agency can be found in the Appendix section of this report.

2.4 Alternatives

There are five alternatives considered in this EA. These include the No Action alternative, the Preferred Alternative, the all Aerial Cable alternative, the all Buried Cable alternative, and the Wireless alternative.

No Action Alternative - The No Action alternative evaluates the impacts of not completing the Project and not making any changes to the infrastructure and any of the broadband services. This No Action alternative would not meet the needs of the area and the area would continue to be unserved and underserved and the purpose and need for this Project would not be accomplished. Therefore, TCV and their partners would be unable to provide affordable, high-speed broadband services to the unserved and underserved areas in the four county service area.

Preferred Alternative - In this alternative, SmartBand would make use of the existing utility infrastructure to provide a 595 mile fiber optic cable network to the underserved and unserved areas within the four county area in Southeast Alabama. The proposed construction is primarily aerial, which will include hanging fiber on existing utility poles. Installation will include the use of metal hardware attachments to hang cable to existing wood utility poles

carrying existing power and telephone cables. If necessary deteriorated wooden poles located along the route will be replaced in kind, concurrent with cable installation. The fiber cable will only be buried in instances where there are no existing utility and/or telephone poles for the cable to be attached to or in the instance where the conditions are favorable for plowing the cable into the ground. The fiber optic cable does not produce an electromagnetic field and it does not generate any noise during operation.

The method of installing aerial cable is time proven and tested as the most common and simple form of cable installation. The route is chosen in advance of the construction and is normally positioned on a designated portion of a federal, state or county right-of-way. Once the appropriate route is chosen, it is plainly marked in the field by staking. The staking is completed well in advance of the construction and all interested and involved parties can visibly inspect where the cable is to be installed. If any changes are necessary, they can be made prior to the development of a construction problem. This procedure is an excellent tool for minimizing any environmental conflicts, in that it allows the owner and regulatory agencies to reroute the location should an environmental problem become evident.

In this method of construction the only ground disturbance occurs when an approximately 12 inch diameter hole is drilled into the ground for the placement of the cable support structure. The depth of the hole and height of the pole varies with respect to cable sizes and span height requirements. The excavation for the pole is normally performed by a vertical drilling machine mounted on a utility truck. If adverse terrain is encountered, tracked vehicles may be used to transport trailer mounted drilling equipment to the designated location. In some cases the excavation may be performed by hand operated equipment, however, this is only done in very extreme cases. Once the excavation has been completed, the pole is inserted and the void left between the excavation (approximately 12 inch diameter) and the pole (approximately 8 inch diameter) is carefully backfilled and tamped. Any remaining earth spoil is distributed within the immediate vicinity. The amount of remaining soil is usually quite small and is quickly absorbed into the surroundings.

The poles are normally made of wood and are from varying diameters of 8 inches and heights of 35 feet to whatever heights and diameters are required by the particular situation. The wood structures are also impregnated with a preservative that increases their life with regards to normal elemental deterioration. Once the poles are in place, the cable itself is disengaged from the carrier reel and mounted to the support structure with the type fastener as dictated by the particular job requirement. As noted previously, the height of the support structure and thereby, the height of the cable varies with regards to federal, state, county and local requirements, but the actual construction results in a minimal disturbance to the environment.

Buried cable installation usually presents little or no detrimental environmental effects. The soil conditions along the Preferred route are favorable for plowing the fiber optic cable in the ground. Installing the fiber optic cable is accomplished quickly and cleanly by plowing the cable to a depth of 30 to 48 inches. This method of installation opens the ditch to a width of about 3 inches, the cable is fed off of a reel, down through the plow shoe and placed in the bottom of the plow slit. The excavation is then backfilled and tamped in one operation. Disturbance is short lived, and the small scar heals quickly, allowing very little run off siltation. Directional boring is

also utilized when trenching or excavating is not practical. It is a trenchless method of installing underground pipes, conduits and cables in a shallow arc along a prescribed bore path by using a surface launched drilling rig, with minimal impact on the surrounding area. Directional boring minimizes environmental disruption. It is suitable for a variety of soil conditions and jobs including road, landscape and river crossings.

Whenever streams, creeks or rivers are encountered, the cable is spanned between poles located well away from the stream banks. In the event that a major riverway is encountered, the cable is attached to a bridge, therefore, no disturbance to the river, the riverbed or its immediate terrain is affected. The trenching of any streams, creeks or rivers during construction of this Project will be avoided.

This Preferred alternative would be accomplished using typical utility vehicles, operating primarily on public roadways. The construction vehicles would be able to utilize existing access points and would install the cable underground along already disturbed rights-of-way and by aerial attachment on existing utility poles.

In order to protect both workers and motorists, the construction contractor will be required to follow standard ALDOT methods for construction work zone traffic control within right-of-ways. While the majority of the work will be off the roadway, adequate signage and barricades are necessary for the safe operation of equipment within the right-of-way. It is anticipated interruptions to traffic will be minimal and only required when construction equipment is entering or leaving the work zone. In addition to ALDOT standards, OSHA standards for worker protection will be followed. These protections include adequate, high visibility safety vests for construction zone workers.

There are three (3) new proposed hub sites. Two (2) of the hub sites will be pre-fabricated concrete telecom shelters with interiors being finished with fire resistant materials where possible. These shelters are 16’ wide x 24’ long x 12’ high with an access road and will be enclosed with a fence. The equipment for the hub site will be powered with aerial power service. The third new hub site will be located in an existing building with modifications being made to the interior of the building only. There will be no additions to any of the existing buildings or hub-site locations.

These hub sites are being built in order to allow regeneration of the transport signal along the fiber routes as well as provide access to specific Anchor Institutions along the Preferred route. The pre-fabricated building will be secured to a slab, which will require minimum excavation to create a level surface.

The land for the new Enterprise 2 hub site is currently unused. The lot will be purchased from the developer of a new Industrial Park that is currently under construction. The land for the Midland City hub site is also currently unused.

SmartBand is an open network that will feature approximately 21 interconnection points on its Middle Mile ring. Last Mile providers will be encouraged to avail themselves of the SmartBand network’s high capacity, reasonable interconnect rates and non-discriminatory practices. TCV

currently interconnects with several Last Mile providers in the region, including two independent telephone companies that are RUS borrowers. TCV will serve as the agent of the interconnection access, taking responsibility for displaying non-discriminatory and network neutrality policies and managing the relationships. Several Last Mile providers have expressed interest in interconnecting with SmartBand, paving the way for competition, consumer options and economic growth in the region.

There are 3,681 businesses and 673 critical community institutions and public safety entities. The community institutions include 76 schools (K-12), 19 libraries, 222 medical and healthcare providers; 81 public safety entities, 8 community college campuses, 36 public housing facilities, Troy University, 116 community support organizations, and 114 other government facilities.

All construction work will meet any and all applicable codes, including but not limited to: federal, state, and local code, statutes and ordinances; NTIA/U.S. Department of Commerce specifications for telecommunications facilities; National Electric Code; and ALDOT.

Aerial Cable Alternative - In this alternative, all 595 miles of fiber optic cable would be installed in the air. This alternative would require that the cable be installed along existing and/or new pole lines along the right-of-way. In some cases there would not be an existing electrical distribution or telecommunications pole line to attach the fiber cable to and a new pole line would have to be constructed which would result in greater ground disturbance. The method of installation for the fiber optic cable will follow the same procedure as described in the Preferred alternative section above.

Buried Cable Alternative - In this alternative, all 595 miles of fiber optic cable would be installed underground. This alternative would require that the cable be plowed in along the right-of-way. In some cases there would not be enough room along the already disturbed right-of-way where the existing pole line is located and construction would have to take place along the other side of the road, resulting in greater ground disturbance. The method of installation for the buried fiber optic cable will follow the same procedure as described in the Preferred alternative section above.

Wireless Alternative – This alternative would replace the fiber optic cable lines with radio and microwave towers. This would require the construction of several towers at altitudes from 40 to 400 feet above ground level. Microwave dishes would be installed on these towers and hubs with diesel generators would have to be installed at the base of each tower. These diesel generators at each tower site would increase greenhouse gas (GHG) emissions. This alternative would not address the purpose and need of the Project. Microwave radio technology does not currently support the broadband speeds that are being proposed in this Project. Furthermore, the construction of the towers would require significant ground disturbance and will visually impact areas all over the four county region. In addition, unlike fiber optic networks, microwave signals require straight line-of-sight path from transmission and the signal can become degraded during heavy rain, sleet, or snow, which can be a concern to providing services to the public safety entities during an emergency situation.

2.5 Alternatives Considered but Eliminated from Further Action

An Aerial Cable alternative was considered but was eliminated from further action because of the increase in the disturbance of the soil in the areas where there is not an existing electrical distribution and/or telecommunication pole line. This greater disturbance in the soil would require more permitting and further consultation with the required agencies as a result of the added ground disturbing activity. There would be an increase in the visual or aesthetic effect with the placement of a new pole line with new fiber optic cable on the new utility poles. This alternative would also increase the total cost of the Project and would therefore not be feasible.

A Buried Cable alternative was considered but was eliminated from further action because of the increase in the disturbance of the soil which would require more permitting and further consultation with the required agencies as a result of the further ground disturbing activity. There would be a greater impact on the air quality and noise due to the more intensive construction activities. This alternative would decrease any visual or aesthetic effect as would the placement of the cable on the existing utility poles. This alternative would increase the total cost of the Project and would therefore not be feasible.

A Wireless alternative was considered but was eliminated from further action because of the added cost that would be required to construct the necessary towers and fiber optic cable. The internet connection speeds which can be provided by utilizing wireless technologies is insufficient to meet the existing data demands. Although construction of wireless facilities may result in a larger initial area served than the Project as proposed, the level of service which this type of system is capable of is insufficient to address the purpose and needs of this Project and therefore does not represent a viable alternative for further consideration.

3.0 EXISTING ENVIRONMENT

3.1 Noise

The Project will be located along existing federal, state, city or county roadways which run through agricultural areas, rural communities and larger cities. These areas experience ambient noise from automobiles and other modes of transportation and agricultural related activities on a regular basis. The ambient noise along the routes that pass through the agricultural areas are attributed to wind, passing cars, and farm machinery. Along the routes that pass through the rural communities and the larger cities, noise can be attributed to traffic, industrial operations, ventilation equipment, lawn mowers, railroad operations, and other varying sources. The placement of the aerial or buried cable will not create any new sources of noise along the Preferred route.

Sensitive receptors are land use types that have an increased sensitivity to sound. There are several sensitive receptors for noise located within the Project area and they are hospitals, churches, libraries, schools, and residential properties.

3.2 Air Quality

3.2.1 Current Air Quality Conditions

Section 110 of the Clean Air Act, 42 U.S.C. §7410, requires state and local air pollution agencies to adopt federally approved control strategies to minimize air pollution. State Implementation Plans (SIP's) generally establish limits or work practice to minimize emissions of the criteria air pollutants or their precursors including sulfur dioxide, particulate matter, nitrogen oxides, lead, carbon monoxide, and ozone. The Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for these pollutants.

Air quality data is fairly limited within the four county Project area. The most current State of Alabama Ambient Air Monitoring Consolidated Network Review was reviewed. The air quality surveillance system is operated by the Alabama Department of Environmental Management (ADEM) and two local programs in Jefferson County and the City of Huntsville.

Monitors in the State of Alabama are operated for a variety of monitoring objectives. These objectives include determining whether areas of the state meet the NAAQS, for public information, Air Quality Index reporting for larger Metropolitan Statistical Areas (MSA's), for use in Air Quality models and to provide data to Air Quality Researchers.

There are two (2) Air Quality Control Regions that cover the Preferred route for this Project. The Columbus (GA)-Phenix City (AL) Interstate Air Quality Control Region covers Crenshaw County, Montgomery County, and Pike County. The Southeast Alabama Intrastate Air Quality Control Region covers Coffee County, Dale County and Houston County.

The U.S. Environmental Protection Agency (EPA) has classified the Columbus (GA)-Phenix City (AL) Interstate Air Quality Control Region as "attainment/unclassifiable" for all NAAQS for all criteria pollutants, with the exception of lead. The nonattainment classification for lead is due to the report that was published by the U.S. Environmental Protection Agency. This report has determined that 16 areas across the country are not meeting the agency's NAAQS for lead. A site located in Troy, AL has been listed in this report.

The Sanders Lead Company is a facility that recycles lead-acid batteries, scrap metal and lead bearing by-products into lead alloys. This site has been designated as "nonattainment" because their 2007 to 2009 air quality monitoring data showed that they did not meet the agency's health-based standards. Exposure to lead has been shown to impair a child's IQ, learning capabilities and behavior. These sites that do not meet the standards will have to develop and implement a plan to reduce pollution to meet the lead standards. The nonattainment area must meet the standards by December 31, 2015.

The U.S. Environmental Protection Agency (EPA) has classified the Southeast Alabama Intrastate Air Quality Control Region as "attainment/unclassifiable" for all NAAQS for all criteria pollutants.

3.2.2 Climate, Greenhouse Gases, and Global Warming

On October 9, 2009, President Barack Obama signed Executive Order 13514 that sets sustainability goals for Federal agencies and focuses on making improvements in their environmental, energy and economic performance. The Executive Order requires Federal agencies to set a 2020 greenhouse gas emissions reduction target within 90 days; increase energy efficiency; reduce fleet petroleum consumption; conserve water; reduce waste; support sustainable communities; and leverage Federal purchasing power to promote environmentally-responsible products and technologies.

The climate range in the proposed Project area located in Coffee, Crenshaw, Dale, Houston, Montgomery, and Pike Counties in Southeast Alabama is characterized by long, hot summers because moist tropical air from the Gulf of Mexico persistently covers the area. Winters are cool and fairly short, with only a rare cold wave that moderates in 1 or 2 days. Precipitation is fairly heavy throughout the year. It reaches a slight peak in winter, and prolonged droughts are rare. Summer precipitation, mainly afternoon thundershowers, is normally adequate for all crops. Severe local storms, including tornadoes, strike occasionally in or near this area. They are short in duration and cause variable and spotty damage. Every few years in summer or fall, a tropical depression or a remnant of a hurricane that has moved inland causes extremely heavy rains for 1 to 3 days. The average seasonal snowfall is about 0.6 inches. The greatest snow depth at any one time during the period of record was 11 inches. On the average, less than 1 day of the year has at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

Greenhouse gases (GHGs) are components of the atmosphere that trap heat relatively near the surface of the earth, and therefore contribute to the greenhouse effect and global warming. Most GHGs occur naturally in the atmosphere, but increases in their concentration result from human activities such as the burning of fossil fuels. Global temperatures are expected to continue to rise as human activities continue to add carbon dioxide, methane, nitrous oxide, and other greenhouse gases to the atmosphere. Since 1900, the Earth's average surface air temperature has increased by 1.2 to 1.4^{o} F since that time. The warmest global average temperatures on record have all occurred within the past 10 years, with the warmest year being 2005 (USEPA, 2007b). Most of the U.S. is expected to experience an increase in average temperature. Precipitation changes, which are also very important to consider when assessing climate change effects, are more difficult to predict. Whether or not rainfall will increase or decrease remains difficult to Project for specific regions (USEPA, 2010a; IPCC, 2007). The extent of climate change effects, and whether these effects prove harmful or beneficial, will vary by region, over time, and with the ability of different societal and environmental systems to adapt to or cope with the change. Human health, agriculture, natural ecosystems, coastal areas and heating and cooling requirements are examples of climate-sensitive systems. Rising average temperatures are already affecting the environment. Some observed changes include shrinking of glaciers, thawing of permafrost, later freezing and earlier break-up of ice on rivers and lakes, lengthening of growing seasons, shifts in plant and animal ranges and earlier flowering of trees (USEPA, 2010a; IPCC, 2007).

3.3 Geology and Soils

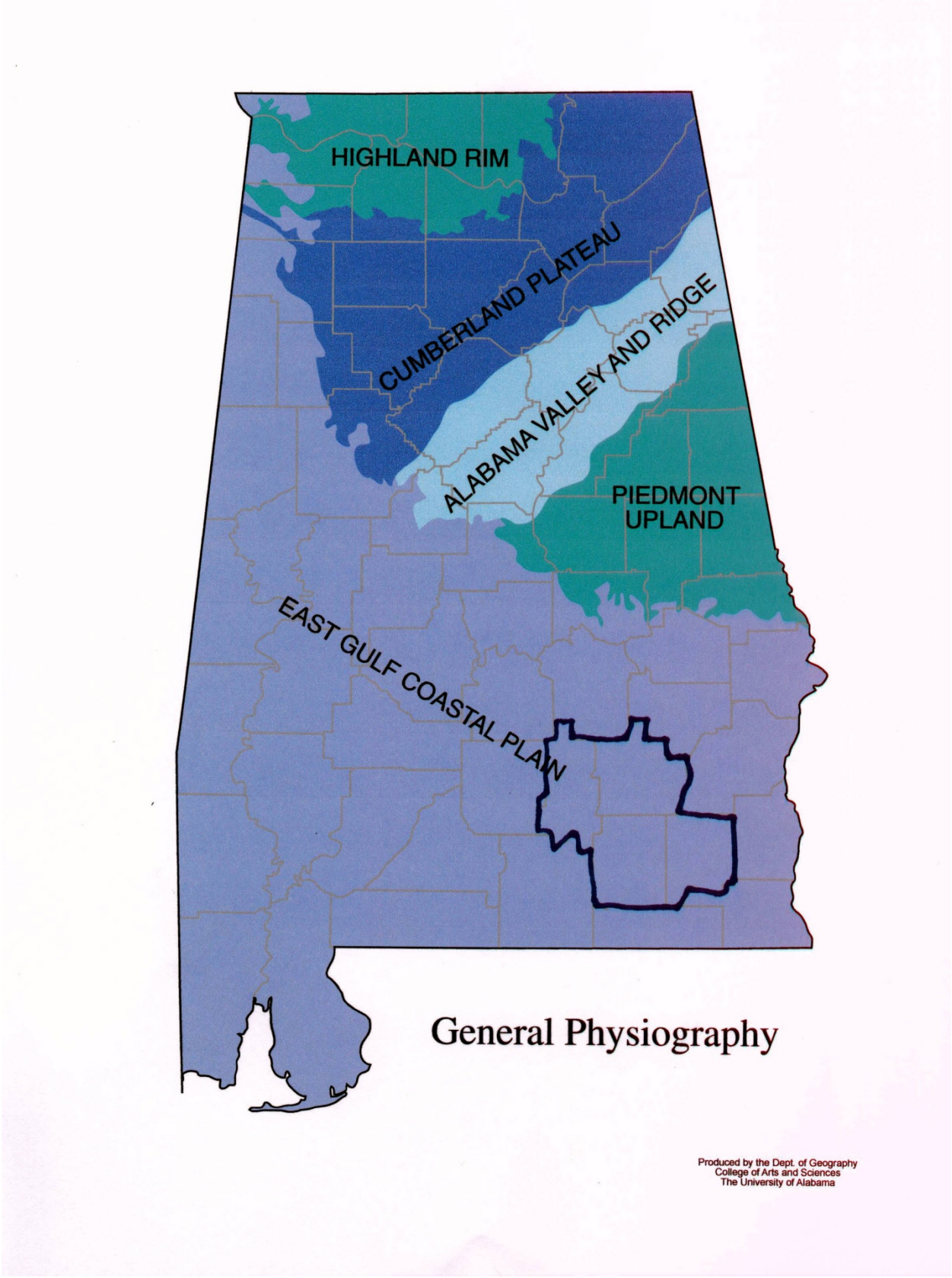
3.3.1 Physiographic Region

The Coastal Plain section is the southernmost part of the Coastal Plain province of the Atlantic Plain Region and it is Alabama's largest physiographic section, occupying about 60 percent of the state. The section encompasses entirely or in part of 40 of Alabama's 67 counties. The Coastal Plain includes a wide variety of landscapes. It is flat and relatively featureless in some areas, but elsewhere it consists of rounded and eroded hills.

The Coastal Plain developed on geologically young Mesozoic to recent (from about 140 million years ago to the present) sedimentary rocks and sediment. The geologic units, composed mainly of sediments, are described variously as gravels, sands, silts, and clays. The rocks are mainly composed of chalk, sandstone, limestone and claystone. The beds slope gently southward at about 40 feet per mile and are progressively younger from the fall line to the coast. Locally, higher elevations are underlain by more resistant material (in some areas it is sediment, in others sedimentary rock), and the lowlands are underlain by softer material. The type of resistant material varies from one physiographic district to another.

Geologically, this region is much younger than the upland regions and it lacks well-consolidated rocky formations. Most of the soils in this area are derived from marine and fluvial sediments eroded from the southwestern Appalachian and Piedmont Plateaus. Topography is generally flat to gently rolling, but some portions have relief of 200 to 300 feet.

Figure 3-1 – General Physiography



3.3.2 Geology and Soils

Alabama's East Coast Gulf Coastal Plain is one of Alabama's five physiographic sections, each of which is recognized by its pattern of relief features and landforms that differ from those of adjacent sections. The Coastal Plain Section is the southernmost part of the Coastal Plain and it is the largest physiographic section, occupying about 60 percent of the state. The section encompasses entirely or in part 40 of Alabama's 67 counties. Although called a plain, the Coastal Plain includes a wide variety of landscapes. It is flat and relatively featureless in some areas, but elsewhere it consists of rounded and eroded hills, topographic features known as cuestas and flatwoods, and the floodplains of the Alabama, Tombigbee, and Black Warrior Rivers.

The land overlying the Mooreville Chalk is low and rolling and is characterized by thick black top soil and vegetation typical of a prairie ecosystem. At the northern border of the Mooreville Chalk, a resistant limestone forms the Arcola cuesta where the formation meets the Demopolis Chalk. In contrast, the land overlying the Demopolis Chalk, which is more resistant to erosion, tends to have a very thin soil horizon, and sparser vegetation. The Black Prairie's boundary with the Chunnenuggee Hills district changes from east to west. In the east in Russell County, the boundary is the Enon cuesta, which is about 130 feet in height. In the central and western areas, the boundary is the Ripley cuesta, which is between 50 feet and 125 feet high.

The Chunnenuggee Hills district, which includes the Sand Fork, Enon, Lapine, High Ridge and Ripley cuestas, formed on sands and sandstones. Along the 175-foot-high Lapine cuesta, in the central region, the hills reach elevations of more than 570 feet above sea level. In the western regions, the Chunnenuggee Hills are very narrow and are bounded by the Ripley and Troy cuestas.

The Southern Red Hills district formed on sands, limestone, marls, clay, and silt, and elevations in these hills commonly reach more than 400 feet above sea level with local relief of as much as 200 feet. The northern boundary is the Troy cuesta (between 80 and 140 feet high), which developed on sand. The southern boundary occurs where the hills give way to the flatlands of the Dougherty Plain district in the east and central areas.

The Dougherty Plain district is a flatland slightly tilted to the south and underlain by residual material from the weathering of limestone, sand, and clay. It runs from just east of Monroeville, Conecuh County, east-southeast for about 100 miles to the Alabama-Florida-Georgia border. It widens to about 25 miles in Covington and Houston counties. Elevations are between 300 and 350 feet along its boundary with the Southern Pine Hills district and as low as 160 feet in Houston County. The plain includes much of the Wiregrass region of Alabama. A characteristic of this area is the absence of streams, because the rocks are so soluble that most water flows beneath the surface.

3.3.3 Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short-and long-range needs for

feed and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognized that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland has been defined as the land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 8 percent.

Figure 3-2 – Physiographic Regions

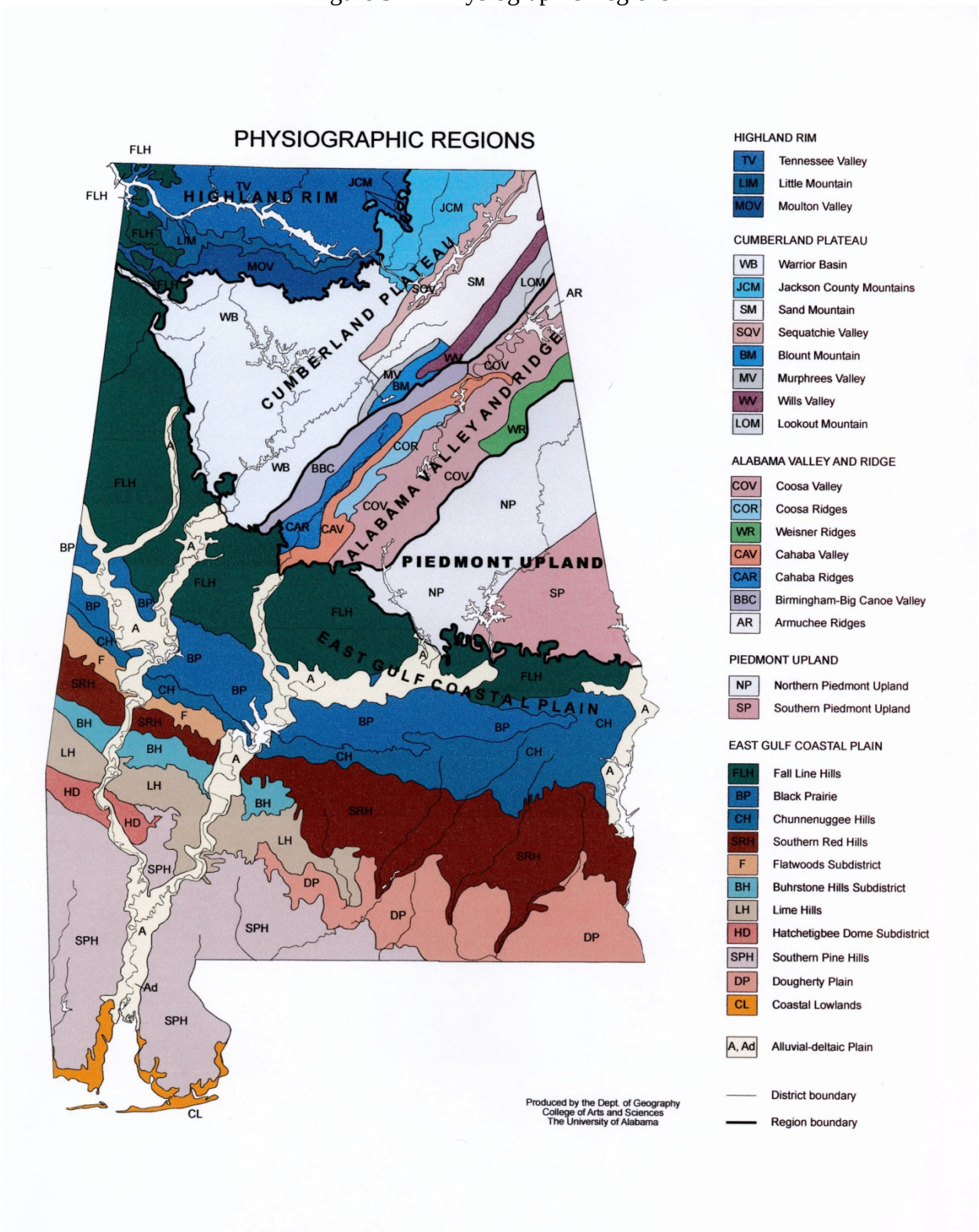
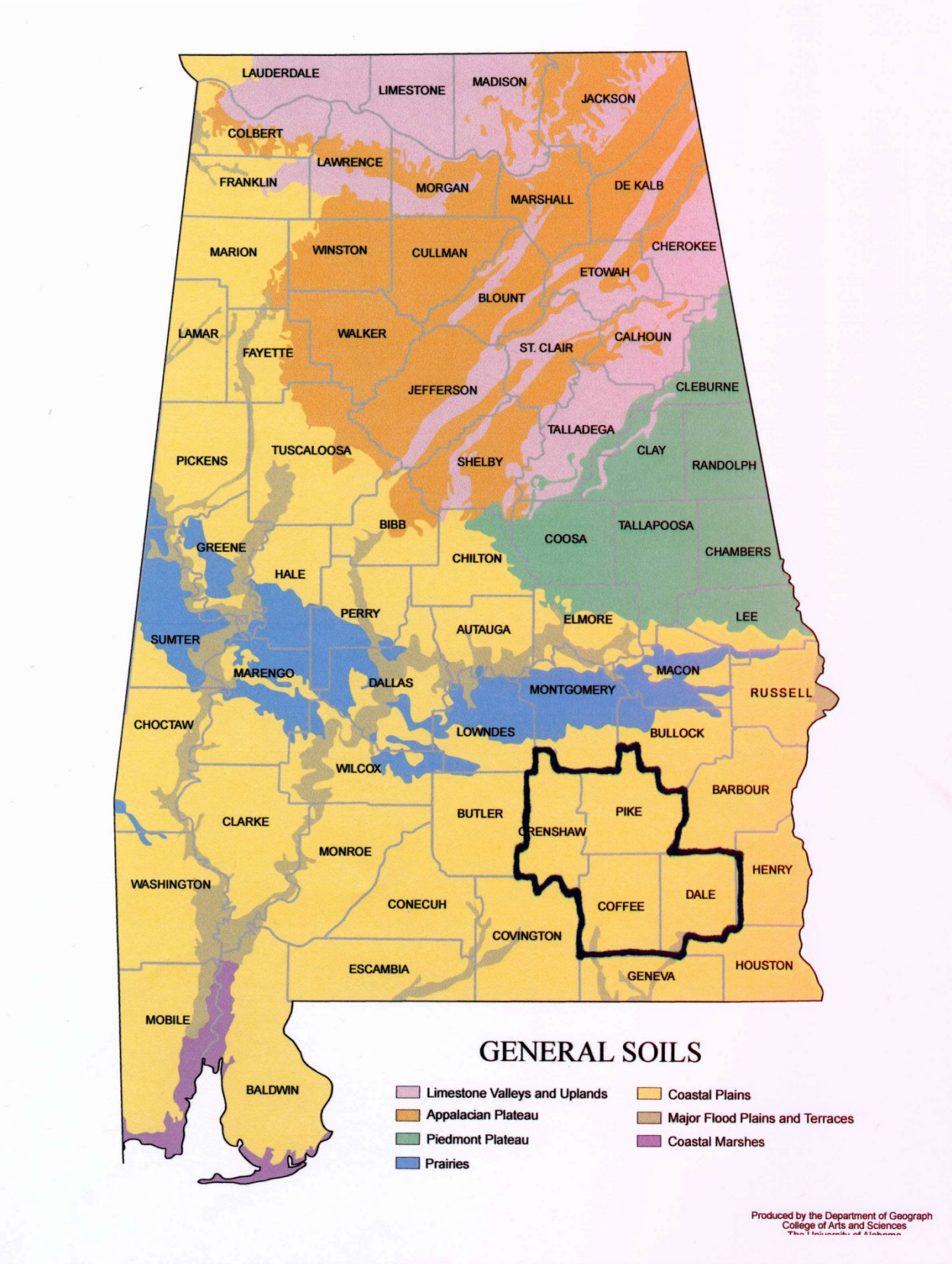


Figure 3-3 – Soils



3.4 Water Resources

3.4.1 Streams and Rivers

There are numerous streams and rivers that flow throughout the Project area. These have been identified on the U.S. Geological Survey (USGS) 7.5 minute topographic maps. Perennial rivers in the Project area include the Choctawhatchee River, the Conecuh River, the Pea River and the West Fork Choctawhatchee River.

The Pea River, the largest tributary of the Choctawhatchee River, runs from north to south in the center of Coffee County. Several small tributaries of the Pea River, including Double Bridges, Tight Eye, Beaverdam, Whitewater, Big, and Steep Head creeks, intersect the county.

Most of the streams in Crenshaw County drain southward into Patsaliga Creek or the Conecuh River. Most of the northern, central, and southwestern parts of the county are drained by Patsaliga Creek. Major streams draining into Patsaliga Creek include Blue, Little Patsaliga, Piney Woods, and Sweetwater Creeks. The southeastern third of the county is drained by the Conecuh River. Major streams draining into the Conecuh River include Dry, Bushy, Buck, Hornet, Moody Mill, and Three Mile Creeks. Stream Valleys generally are narrow in the upper reaches and become broader in the lower reaches. A very small area located in the northern part of the county drains into the Alabama River. Streams that drain northward into the Alabama River include Beaver Dam and Pintlala Creeks.

The Choctawhatchee River runs along Dale County's southern border, and several of its tributaries, including Little Choctawhatchee River and Claybank and Little Judy creeks, traverse the area.

The Chattahoochee River and its lower tributaries flow throughout Houston County.

The Conecuh River runs diagonally through the county from the northeast to the southwest. The Pea River forms part of Pike County's eastern border and is the largest tributary of the Choctawhatchee River. Big Creek and Whitewater Creek, significant tributaries of the Pea River, originate just below Troy.

Figure 3-4 – Navigable Waterways

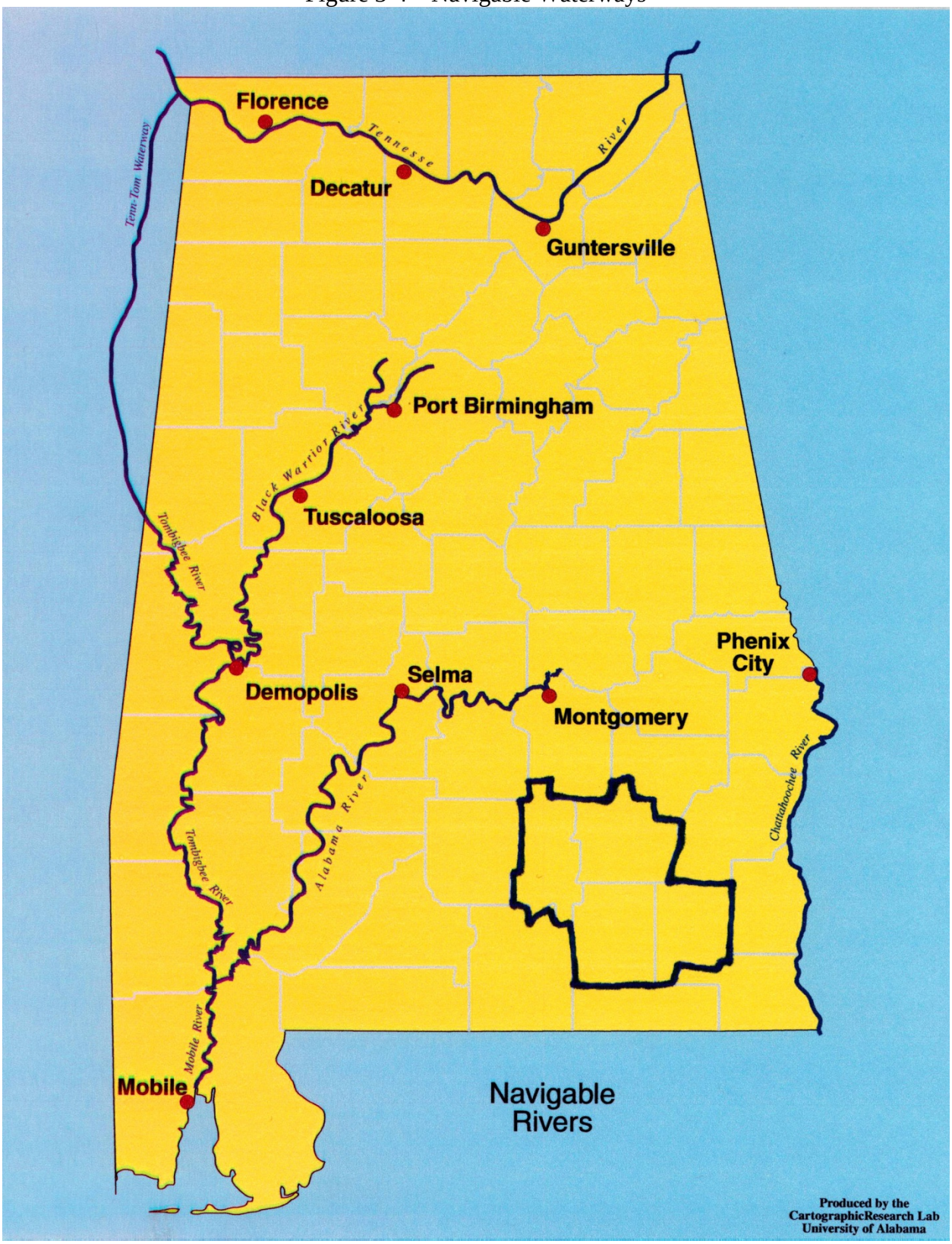
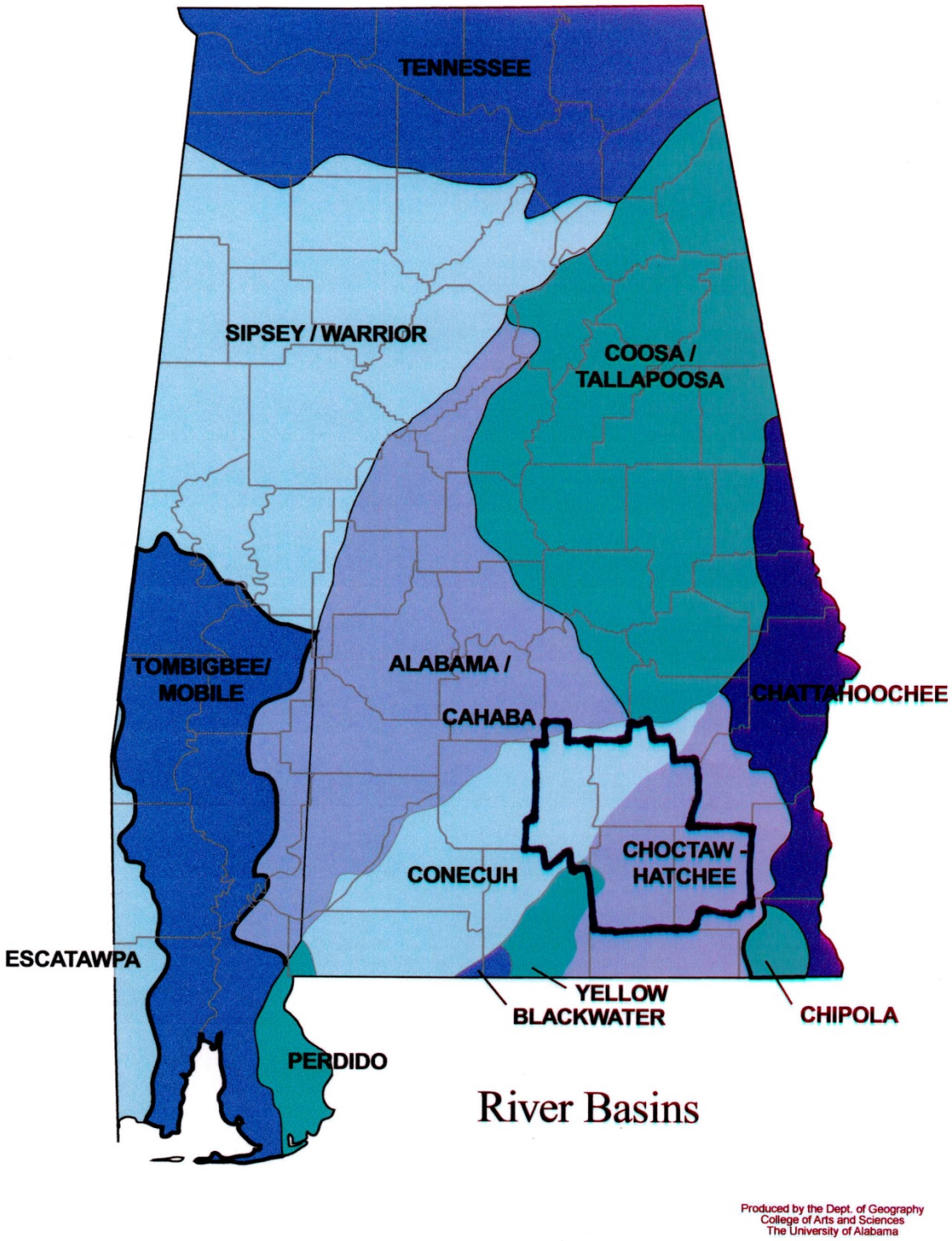


Figure 3-5 – River Basins



3.4.2 Wetlands

For regulatory purposes, the Corps of Engineers defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. Numerous hydric soils are mapped within the Project corridor. Hydric soils are generally formed in ponded or flooded conditions and can be an indicator of potential wetland areas.

The National Wetland Inventory (NWI) maps show several wetland areas in the Project area. These wetlands are primarily associated with streams or rivers. The NWI maps are a means of establishing the possible presence of wetlands in a given area. It is intended as a planning tool which can serve to identify the likely presence of wetlands in a given area. Most of the wetland areas along the proposed route are associated with drainage ways, streams or rivers.

3.4.3 Floodplains

Floodplains of all recurrence intervals are found throughout the Project area and along the Preferred route. These areas are valuable resources that provide critical functions that include wildlife habitat, groundwater recharge and water quality maintenance. There are several areas along the Preferred route that are designated Special Flood Hazard Areas, which are inundated by 100 year flood events. These areas have been identified utilizing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps.

3.4.4 Groundwater and Surface Water

The Southeastern Coastal Plain aquifer system consists of four regional aquifers that are composed predominately of clastic rocks ranging in age from Cretaceous to late Tertiary. The aquifer system underlies an area of about 90,000 square miles in the Coastal Plain of Alabama, Georgia, and South Carolina and extends for a short distance into northern Florida. The system also extends westward throughout much of Mississippi, where it underlies an area of about 32,000 square miles. The upper part of the Southeastern Coastal Plain aquifer system grades into the Mississippi embayment aquifer system in western Alabama.

The southern and southeastern limits of the aquifer system extend past the coastline in most places. That is, the rocks that comprise some of the water-yielding units of the aquifer system are permeable enough to maintain their character as aquifers for some distance offshore. However, the aquifers contain saltwater with dissolved-solids concentrations of 10,000 milligrams per liter or more near the coast in most areas. The limit of the aquifer system in peninsular Florida is the place at which the rocks of the lowermost regional aquifer change from a sand and clay sequence to low-permeability, calcareous clay and sand, and carbonate rocks.

Rocks of the Southeastern Coastal Plain aquifer system were deposited in fluvial, deltaic and shallow-marine environments during a series of transgressions and regressions of the sea. Coarser grained, fluvial to deltaic sediments are located primarily near the updip extent of the

aquifer system and consist primarily of coarse sand and gravel that form productive aquifers Most of the aquifers in the system, however, consist chiefly of fine to coarse sand.

The Chattahoochee River aquifer lies above the Black Warrior River aquifer and the two are separated by the Black Warrior River confining unit. The Chattahoochee River aquifer is separated from the overlying Pearl River aquifer by the Chattahoochee River confining unit. The Chattahoochee River aquifer extends from southeastern North Carolina westward into central Alabama, where the lower part of the aquifer changes from sand to clay and chalk, and the clay confining unit over it pinches out. West of this area, equivalent permeable rocks are grouped with those of the Pearl River aquifer, and the fine-grained rocks in the lower parts of the aquifer are included in the Black Warrior River confining unit. The southern limit of the Chattahoochee River aquifer is where it grades into carbonate rocks of the lower part of the Floridian aquifer system.

Like the overlying Pearl River aquifer, the Chattahoochee River aquifer slopes gently seaward from its outcrop belt. Geologic formations included in the Chattahoochee River aquifer range in age from Late Cretaceous to Late Paleocene. The rocks are mostly sand beds with thin, lignitic clay lenses and locally include glauconitic sand and limestone.

Recharge enters the Southeastern Coastal Plain aquifer system from precipitation on the outcrop areas of the aquifers. When reaching the water table, most of this water moves laterally to discharge at small streams in the outcrop area, evaporates, or is transpired by plants. Only a small part of the water percolates downward into the deeper parts of the aquifer system. In the outcrop areas, movement of the water is downward along generally short flowpaths until it reaches the area where the aquifers are confined. From this area, most of the movement is horizontal, along generally long flowpaths, until the water approaches discharge points, where its movement becomes again predominately vertical-but here, it moves upward, either toward a surface-water body or a shallower aquifer, either of which is a discharge area.

Water in each of the regional aquifers of the Southeastern Coastal Plain aquifer system undergoes similar chemical changes as it moves from outcrop areas down the hydraulic gradient into deeper, confined parts of the aquifers. Initial changes are gradual and result from chemical interactions between the water and the minerals comprising the rocks. In deep parts of the aquifers, changes result from the mixing of freshwater with saltwater.

Figure 3-6 – Chattahoochee River Aquifer

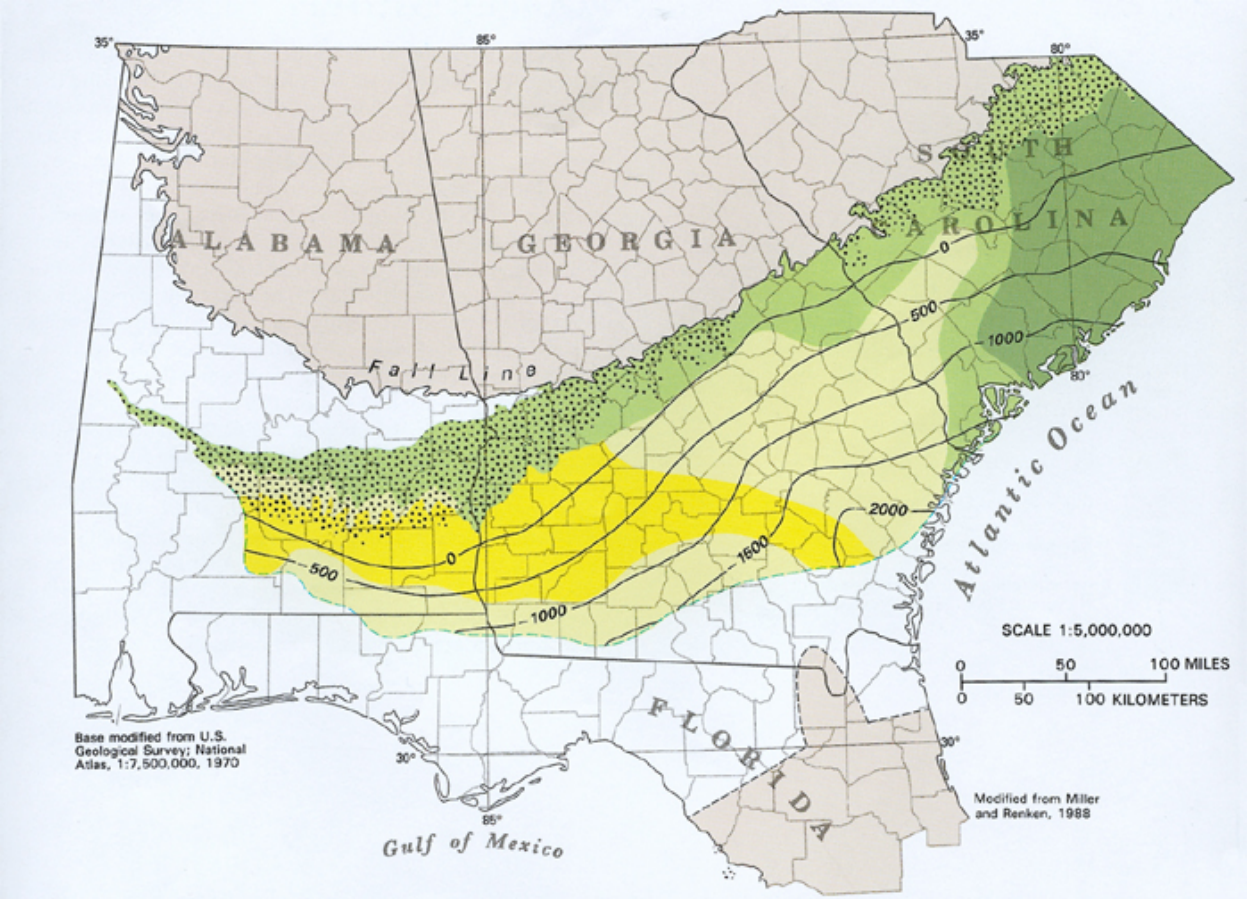


Figure 78. The Chattahoochee River aquifer underlies the Pearl River aquifer and extends from southeastern North Carolina to central Alabama. Rocks of four different ages comprise the top of the aquifer.

Figure 3-7 – Black Warrior River Aquifer

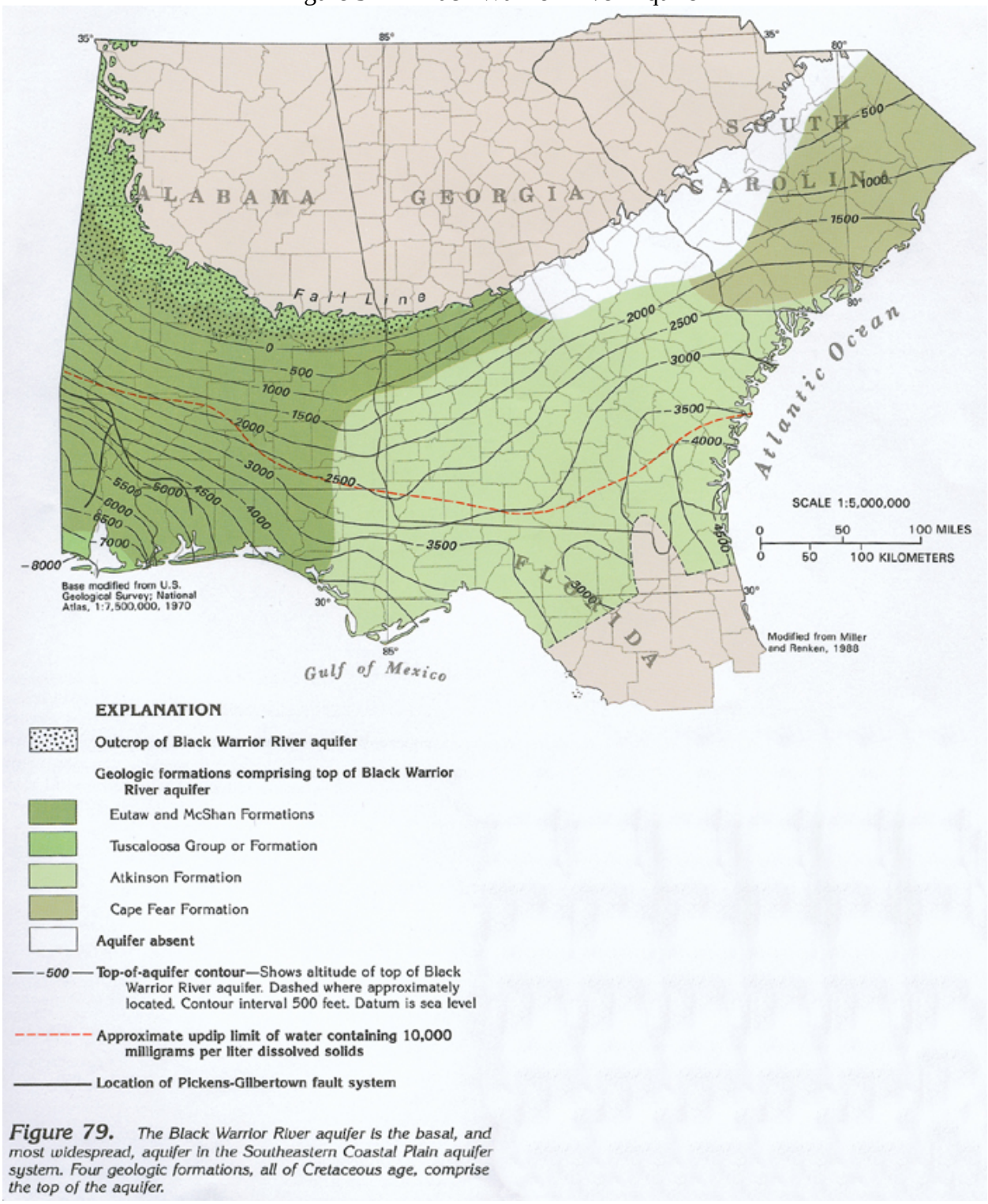


Figure 79. The Black Warrior River aquifer is the basal, and most widespread, aquifer in the Southeastern Coastal Plain aquifer system. Four geologic formations, all of Cretaceous age, comprise the top of the aquifer.

3.4.5 Coastal Zone

There are no coastal zones within the Project area.

3.5 Biological Resources

The U.S. Fish and Wildlife website was consulted to identify any federally-listed threatened and endangered species in each of the six counties within the Project area. There are several vulnerable species that may be present within these counties. These include: the Wood Stork, the Gulf Sturgeon, the Southern Sandshell, the Fuzzy pigtoe, the Choctaw Bean, the Tapered Pigtoe, the Red Hills Salamander, the Bald Eagle, the Flatwoods Salamander, the Shiny-rayed Pocketbook, the Gulf Moccasinshell, and the Oval Pigtoe.

The area for the proposed Project area is comprised of established roadway right-of-ways which are seasonally mowed for maintenance where practical. Low lying areas where standing water or a high groundwater table occurs are not maintained through mowing.

An assessment of each of the threatened or endangered species follows:

Wood Stork - Wood storks (*Mycteria Americana*) plan their breeding season around a time when there will be plenty of food. They need over four hundred pounds of fish during a single breeding season to feed themselves and their babies. Wetland drying seasons help the wood storks feed their babies. When lakes dry up and shrink, all the fish have to live in smaller ponds where they are easier for the wood stork parents to catch. They make their nests in the tops of tall trees, and they live in colonies.

Gulf Sturgeon - Gulf sturgeon (*Acipenser oxyrinchus desotoi*) are anadromuous fish with a sub-cylindrical body imbedded with bony plates or scutes. The snout is greatly extended and bladelike with four freshy barbels in front of the mouth, which is protractile on the lower surface of the head. The upper lobe of the tail is longer than the lower lobe. The subspecies is light brown to dark brown in color, and pale underneath.

The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) designated the Gulf sturgeon as a threatened species on September 30, 1991. As part of the listing, a special rule was promulgated to allow taking of the subspecies for educational purposes, scientific purposes, the enhancement of propagation or survival of the subspecies, zoological exhibition, and other conservation purposes consistent with the Endangered Species Act.

Southern Sandshell – The southern Sandshell (*Lampsilis australis*) has been found in clear creeks and rivers with slow to moderate currents over sandy substrates. The southern Sandshell begins brooding in the summer. The southern Sandshell is endemic to the Escambia River drainage in Alabama and the Yellow and Choctawhatchee River drainages in Alabama and Florida.

Fuzzy Pigtoe - The fuzzy pigtoe (*Pleurabema strodeanum*) is a small mussel that attains a maximum length of 58 mm. The shell is moderately thick, subtriangular in outline, with a rounded anterior margin and a bluntly pointed posterior margin. The fuzzy pigtoe inhabits medium sized creek to rivers with slow to moderate currents in sand and silty substrates.

Choctaw Bean - The Choctaw Bean (*Villosa* choctawensis) is a small mussel with a moderately thick shell that obtains a maximum length of 49 mm. The shell is somewhat inflated, ovate in outline, with rounded anterior and posterior margins. The Choctaw Bean is known from large creeks and rivers with moderate current over sand to silty-sand substrates.

Tapered Pigtoe - The tapered pigtoe (*Quincuncina burkei*) is a small mussel that attains a maximum length of 60 mm. The shell is inflated and sub elliptical in outline. The anterior margin is broadly rounded and the posterior margin is narrowly pointed. The posterior ridge is well defined with radial ridges on the posterior slope. The tapered pigtoe is found in medium-sized creeks to large rivers in stable sand or sand and gravel substrate, occasionally occurring in silty sand in slow to moderate current.

Red Hills Salamander - The Red Hills Salamander (*Phaeognathus hubrichti*) is a threatened species, found nowhere outside of the coastal plains of Alabama. Its current estimated range is limited to approximately 50,000 acres. It is less common than the other 40 salamanders occurring in Alabama. It has probably always been confined to moist deciduous forest over a narrow east-west geologic band called the Tallahatta formation. Below the steep bluffs and ravines is a water-retaining chalky clay called siltstone, and the Red Hills salamander's burrows invariably come in contact with this source of moisture. Although the formation extends into both Mississippi and Georgia, the salamander has apparently never become established across the Alabama River to the west or the Conecuh River to the east.

The Red Hills salamander grows to a maximum length of about 10 inches, making it our largest non-aquatic salamander. Having no close relatives, it is the sole member of its genus. Adding to its uniqueness, the Red Hills salamander is the only terrestrial vertebrate species that is found only in Alabama. Its entire range falls within parts of Butler, Conecuh, Covington, Crenshaw, and Monroe counties.

The rugged Tallahatta terrain supports an Appalachian-like forest with beech, magnolias, oaks, hickories, rhododendrons, and mountain laurel. As many as five species of magnolia can be found on some slopes, and where undisturbed, such habitats are among the most biologically diverse and visually impressive in the Eastern United States. Up until the middle of this century, man's activities probably had little lasting effect on the Red Hills salamander, since its habitat is generally too steep for easy cultivation, and logging was usually in the form of select cutting.

Bald Eagle - The Bald Eagle (*Haliaeetus leucocephalus*) is one of North America’s largest raptors with adult females reaching weights of 14 pounds and standing 42 inches tall. Adult males are slightly smaller. The bright white head and tail contrasted against dark body feathers are key characteristics used to identify the bald eagle. However, these white feathers as well as the yellow color of the bill do not develop until the eagles reach sexual maturity at about five years of age. The eyes, legs, and talons are yellow. Immature bald eagles are often

mistaken as golden eagles because they lack the white head and tail feathers. Unlike the golden eagle, the legs of bald eagles are free of feathers and their wing feathers are held flat when soaring. The primary feathers of a golden eagle curve upward on the ends while soaring. Federal status is categorized by state/region, rather than by subspecies.

Bald eagles inhabit areas near coasts, bays, rivers, lakes or other bodies of water where food is plentiful.

Eagles feed opportunistically on fishes, injured waterfowl and seabirds, various mammals, reptiles, and carrion. The majority of their diet is comprised of fish. They hunt live prey, scavenge, and pirate food from other birds.

Bald eagles mate for life and share all nesting and brood-rearing responsibilities. Large nests are most often built in the crowns of tall trees, usually near water. Occasionally, nests will be constructed on the sides of cliffs, however it is uncommon in southern areas. Typically, breeding pairs will return to the same nests year after year, and repair or restore the nest by adding new material. Nests are very large reaching 10 feet across and weighing about 2,000 pounds. One to three eggs are laid in December or January and are incubated for 30 to 32 days. Relatively small at hatching, eaglets need nearly three months of development before leaving the nest. Juveniles are about the same size as adults when they leave the nest, but they don't reach sexual maturity until they are approximately five years of age. The normal life span of the bald eagle is estimated to be about 30 years.

Flatwoods Salamander - The flatwoods salamander (*Ambystoma cingulatum*) is on the U.S. Endangered Species List. It is classified as threatened throughout its range in Alabama, Florida, Georgia, and South Carolina. Like many species that live in small, isolated populations, it has suffered from industrial, residential, and agricultural development in its habitat, which consists of pine flatwoods and seasonal breeding ponds. Additionally, too much or too little rainfall can hamper breeding success, making this species even more vulnerable.

Shiny-Rayed Pocketbook - The shiny-rayed pocketbook (*Hamiota subangulata*) is a medium-sized mussel that reaches approximately 8.4 cm in length. The shell is sub elliptical, with broad, somewhat inflated umbos and rounded posterior ridge. The shell is fairly thin but solid. The surface is smooth and shiny, light yellowish brown in color with fairly wide, bright emerald green rays over the entire length of the shell. The shiny-rayed pocket book inhabits small to medium-sized creeks to rivers in clean or silty sand substrates in slow to moderate current. Specimens are often found in the interface of stream channel and sloping bank habitats, where sediment particle size and current strength are transitional.

Gulf Moccasinshell - The Gulf Moccasinshell (*Medionidus penicillatus*) is a small mussel that reaches a length of about 5.6 cm. It is elongate-elliptical or rhomboidal in outline, fairly inflated and has relatively thin valves. The ventral margin is nearly straight or slightly rounded. The posterior ridge is rounded to slightly angles and intersects the end of the shell as the base line. The Gulf Moccasinshell inhabits the channels of small to medium-sized creeks to large rivers with sand and gravel or silty sand substrates in slow to moderate current.

Oval Pigtoe - The oval pigtoe (*Pleurobema pyriforme*) is equally small and can be brownish but tends to have greenish radiating lines on the valves. Medium-sized creeks to small rivers, usually with slow to moderate current and clean substrates of silty sand to sand-gravel mix.

3.6 Historic and Cultural Resources

The Alabama Historical Commission (AHC) is the state agency charged with safeguarding Alabama's historic buildings and sites. The mission of this agency is "To protect, preserve, and interpret Alabama's historic places". The AHC's goals and objectives parallel those in the Alabama Statewide Comprehensive Preservation Plan. These goals guide the agency's federally funded historic preservation programs, the state funded preservation programs and the AHC's historic sites.

According to the National Park Service (NPS) there are 15 buildings, sites, structures, districts and objects in the four county Project area that are identified on the National Register of Historic Places. Many of these sites are found along the Preferred route. However, the Project is designed as a Middle Mile Project and would not include end point connections in any of these historic structures. See Appendix K for the properties listed in the National Register of Historic Places for Coffee, Crenshaw, Dale, and Pike Counties.

There are 26 structures listed in the State of Alabama Register for Historic Places. Many of these structures are also included in the National Register of Historic Places. See Appendix L for the properties listed in the State of Alabama Register for Historic Places in Coffee, Crenshaw, Dale, and Pike Counties.

3.7 Aesthetic and Visual Resources

Alabama's visual resources are an important part of the state's tourism industry. These include a broad range of natural and developed area and a tremendous variety of land uses, water bodies, and types of vegetation. The types of area range from small, unincorporated townships to a few larger developed cities. There are no protected lands, public/national parks or nature reserves located within the Project area.

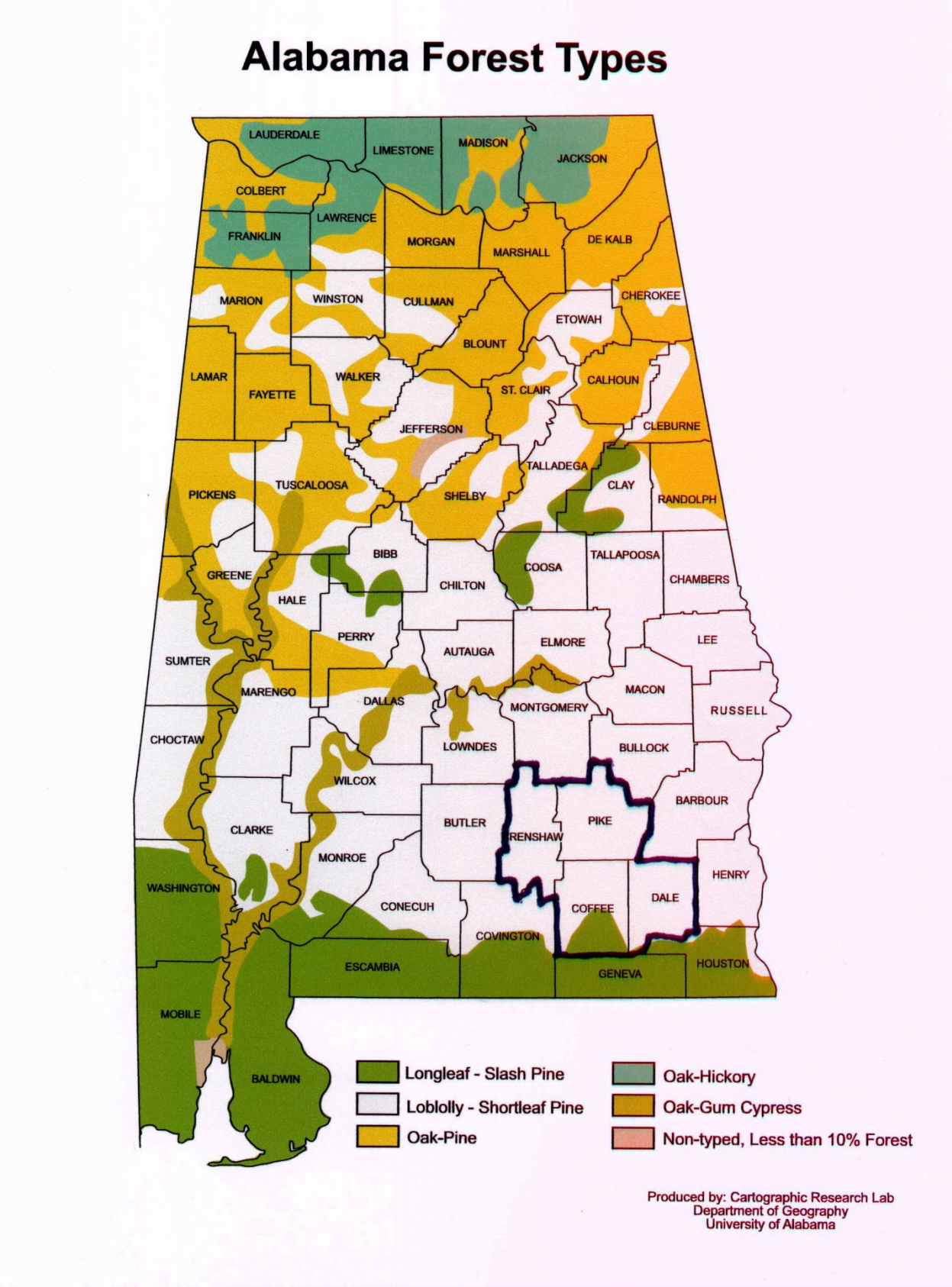
There are two prefabricated, single story buildings proposed for the Enterprise 2 Hub site and the Midland City Hub site. These buildings will be 16' wide by 24' long by 12' high and are planned in developed areas within industrial parks and commercial areas. The prefabricated buildings have an exposed aggregate exterior that blend in with the existing landscape and existing commercial buildings. The Enterprise 1 Hub site will be placed in an existing metal building. The City of Enterprise Planning Commission has given TCV the okay to turn the existing building into a Hub Site. These sites are not within the vicinity of any protected lands, state parks or national parks and the exterior of the building is comparable to the existing landscape and buildings in the area. This Project will not have any impact to aesthetic and visual resources.

3.8 Land Use

The land uses within the Project area along the Preferred fiber optic route are varied. Each of the four counties has incorporated cities and rural communities that include a variety of uses such as residential, commercial, industrial, government, and open space. The portions of the Preferred route that is located outside of the urban areas are primarily forest land or agriculture.

The existing land use in the construction corridor consists of previously disturbed utility corridors and public right-of-way. The existing land use in the locations of the prefabricated buildings is commercial/industrial. There will not be any fiber optic cable constructed outside of the existing utility easements or rights-of-way

Figure 3-8 - Land Use



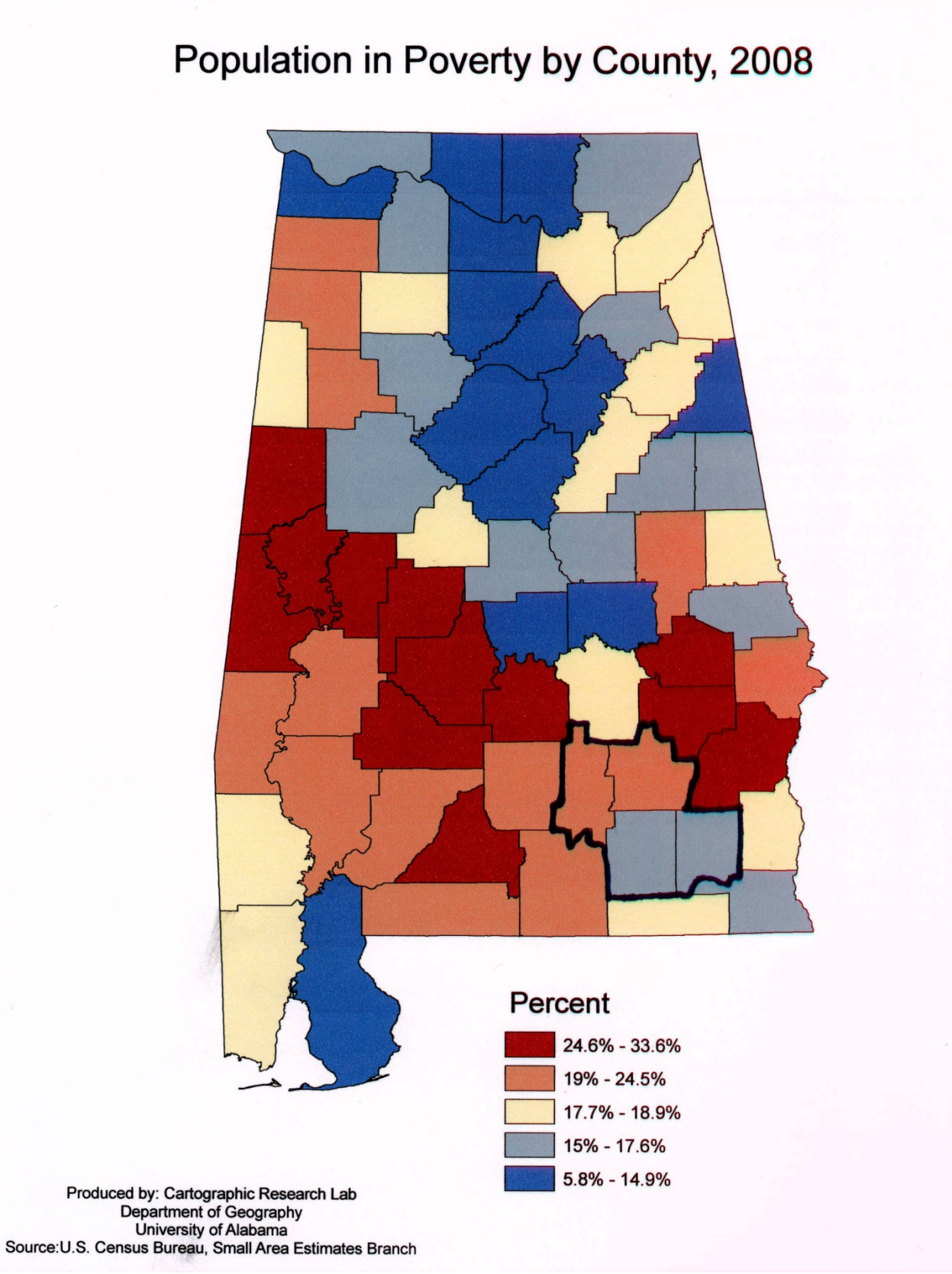
3.9 Infrastructure

The Project area is served by an extensive network of local roadways, communication lines, water lines, sewer lines, natural gas lines and electric lines. In general broadband services are available within the major population areas, but are unavailable or limited within the more rural communities and throughout the agricultural areas of the four counties.

3.10 Socioeconomic Resources

Few places in America have the same degree of economic need as the proposed four county service area in Southeast Alabama, which are identified on the list of the 100 poorest counties by median household income in the nation. According to the US Census Bureau, the four county average rate for individuals living in poverty is 20.8%, which is 7.5% above the national rate of 13.3%. The average rate for families living in poverty, 16.7%, is nearly double the national average of 9.8%. Vulnerable populations in Southeast Alabama are bearing the brunt of the recession. For instance, over half the female head of household families (56.9%), and nearly half (45.5%) of African American Families in Pike County live in poverty. The poverty rate in this four county area for persons over the age of 65 (17% in poverty), and persons under the age of 18 (33% in poverty) are nearly double the national averages for these age groups. The programmatic purpose of the BTOP program is to facilitate rural economic development. The disproportionate number of families, children, seniors, and minorities living in poverty speak for itself.

Figure 3-9 – Poverty Rates by County



3.11 Human Health and Safety

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), requires the cleanup and remediation of sites that have been contaminated by hazardous waste. These sites have been designated on the National Priorities List (NPL). CERCLA and other federal regulations have federal authority to clean up the release or threatened release of hazardous materials that may endanger the public health or the environment.

The Resource Conservation and Recovery Act (RCRA) designate brownfield sites that require corrective action. These sites are designated as Voluntary Response Action Program (VRAP), uncontrolled sites (which are state superfund programs), and landfill closures.

Non-hazardous solid waste is managed in accordance with Subtitle D of the Resource Conservation and Recovery Act (RCRA). In 1991 the EPA established regulations for municipal solid waste landfills. These regulations contain requirements or restrictions for location, facility operation and design, ground water monitoring, corrective actions, and closure/post-closure activities. EPA studies have revealed that more than 1 billion tons of solid waste is generated each year in the United States. Some solid waste can be recycled, incinerated, composted, or combusted as energy. Landfills, however, have historically been the least expensive way to dispose of solid waste. It is a violation of federal and state law if hazardous, liquid, or other unauthorized items are disposed in regular trash cans, dumpsters, or landfills. These items can also cause potential safety risks to personnel who transport solid waste or work at the landfills.

A report published by the U.S. Environmental Protection Agency has determined that 16 areas across the country are not meeting the agency's NAAQS for lead. A site located in Troy, AL has been listed in this report. The Sanders Lead Company is a facility that recycles lead-acid batteries, scrap metal and lead bearing by-products into lead alloys. The waste which is managed in the container storage area and the containment building is a hazardous waste according to state regulations because it exhibits corrosive and toxic characteristics. A hazardous waste permit for the operation of the containment building, container storage area and post closure care of the landfill was issued to Sanders on September 13, 2002. The landfill has an approved cap and cover installed over the remaining waste. These actions are intended to mitigate the potential for future groundwater contamination. The current permit contains provisions for post-closure care of the landfill and corrective action for groundwater contamination. The anticipated closure schedules for the container storage area and the containment building are anticipated to begin April 2018 and conclude by October 2020.

This site has also been designated as "nonattainment" because their 2007 to 2009 air quality monitoring data showed that they did not meet the agency's health-based standards. Exposure to lead has been shown to impair a child's IQ, learning capabilities and behavior. These sites that do not meet the standards will have to develop and implement a plan to reduce pollution to meet the lead standards. The nonattainment areas must meet the standards by December 31, 2015.

The U.S. Army Aviation Center of Excellence and Fort Rucker has been listed as a Superfund NPL site. A superfund site is any land in the United States that has been contaminated by

hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

At Fort Rucker, clean rock, concrete, and asphalt is disposed of in old borrow pits on the installation. All other solid waste (except hazardous waste) is hauled to a local landfill which conforms to the requirements of RCRA Subtitle D.

Fort Rucker currently maintains one closed sanitary landfill. Groundwater and methane from the landfill are monitored at regular intervals to ensure compliance with all applicable regulations. Other closed landfills on post which were used in the past are being investigated under the Installation Restoration Program to determine if they are causing any environmental damage/issues.

There have been no known health issues identified with a network of fiber optic cable. The cable does not give off any electromagnetic field and cables that are lashed to each other do not interfere with each other. The fiber cable does not interfere with other utility transmission lines, such as telephone, copper cable or electric distribution cables.

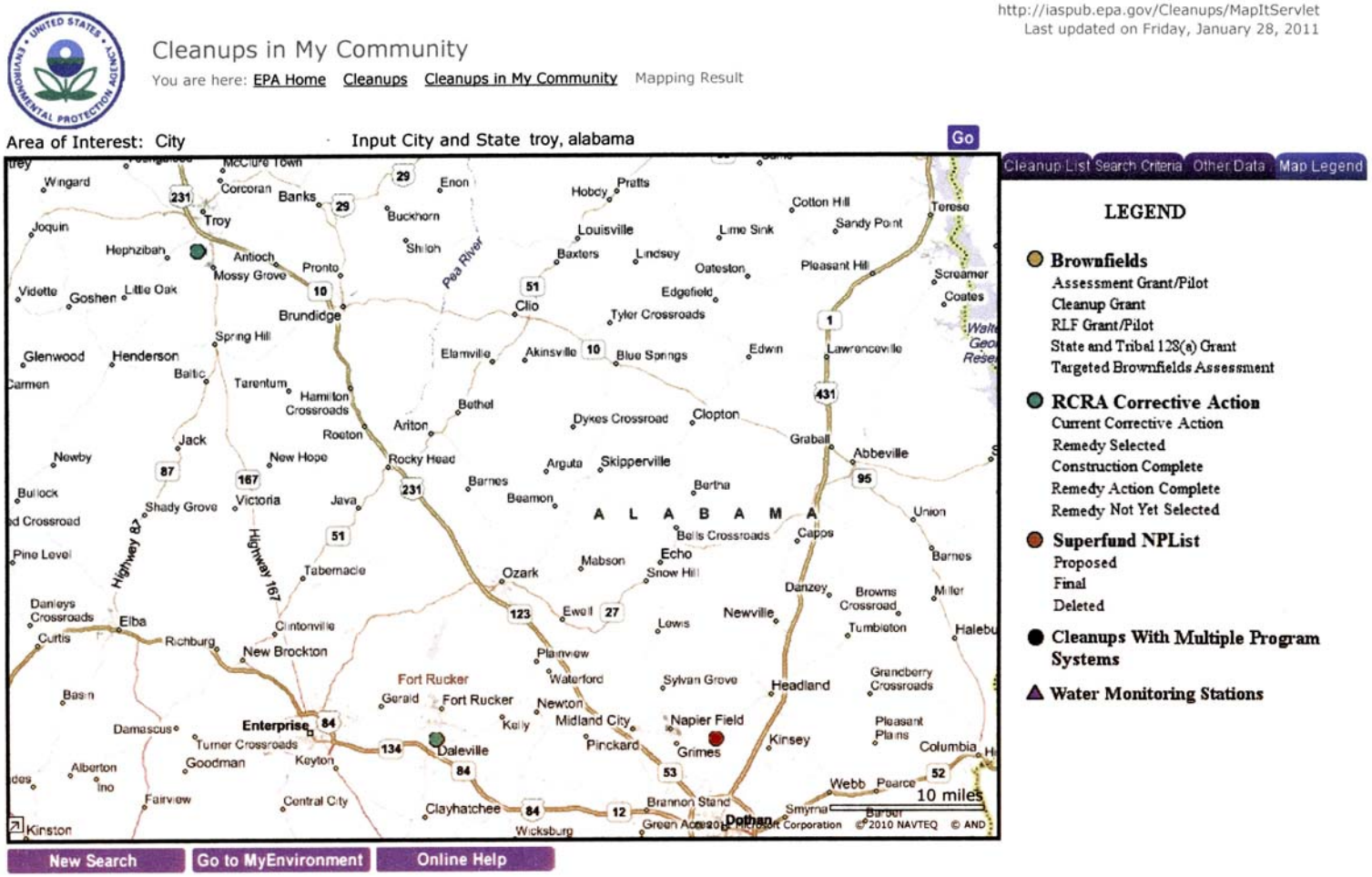


Figure 3-10 - Cleanups in My Community

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Noise

Preferred Alternative - There will be no new sources of noise related to this Project along the Preferred route. There will only be a short term effect due to construction along the Preferred route. In most areas, the fiber strands will be hung on existing poles and any noise will be held to a minimum. The temporary increase in noise level can be equated to what currently occurs when regular maintenance is done on the existing utility lines. The construction of this Project will require the use of construction machinery but the associated noise will be limited to the construction period of the Project. Special care will be taken to limit construction to normal working hours during the week, and all local noise ordinances will be followed throughout the construction period. It is unlikely that construction equipment will be located adjacent to any sensitive receptors along the Preferred route for more than one or two days. Some noise is unavoidable near these sensitive receptors and the impact due to construction noise will be mitigated by restricting the work hours in these areas. Long term noise effect along the Preferred route will be at a minimum also. The fiber optic cable transmits by lightwave and not by electrical current as copper cables do. Therefore, there is no potential for any humming, crackling or other noise as associated with the arcing across powerline related hardware.

During the construction phase of the proposed Project, short term noise impacts are anticipated. All applicable OSHA regulation requirements will be followed. On-site activities will be restricted to daylight hours. Construction equipment will possess properly working mufflers and will be kept properly tuned to reduce backfires. Implementation of these measures will reduce the expected short term noise impacts to an insignificant level in and around the construction routes.

No Action Alternative – There will be no construction of fiber optic cable, therefore, there will be no impact on noise levels.

4.2 Air Quality

Preferred Alternative – There will be a short-term minor increase in the use of fossil fuel and associated GHG emissions during construction. GHG emissions would occur as a result of Project construction. The Preferred alternative would result in the release of approximately 402.65 metric tons of CO2 emissions over the three year construction period. The Council on Environmental Quality (CEQ) has issued draft guidance on when and how federal agencies should consider GHG emissions and climate change in NEPA. The draft guidance includes a presumptive effects threshold of 25,000 metric tons of CO2 equivalent emissions from an action (CEQ, 2010). The GHG emissions associated with the Preferred alternative are well below the CEQ threshold. Therefore, GHG emissions from the Preferred alternative would not contribute appreciably to climate change or global warming.

There will be temporary increase in vehicle and dust emissions during the construction of the Project. Exhaust emissions are associated with the operation of the heavy equipment and will be

minor and would not affect attainment of the applicable air quality standards. Dust emissions will be held to a minimum by deploying best management practices (BMPs) for controlling dust.

There will only be short term minor increases in fossil fuel use and the associated GHG emissions during construction. The heavy equipment that will be used for construction would affect the immediate Project area while burying the fiber cable or if new poles (if required) are being installed. The dust emissions will vary depending on the weather and soil conditions encountered during construction. There will also be potential emissions from truck exhaust along the road right-of-way, resulting from installing fiber strand on the existing utility poles. Most of the installation of the fiber cable will be along existing utility poles and there will be limited impact to the ground, therefore there will not be any long term impact on the air quality along the Preferred route.

Mitigation measures will be incorporated to ensure that fugitive dust emission levels do not rise above the minimum threshold, as required per 40 CFR § 51.853(b)(1). Standard construction BMPs will be used to control fugitive dust during the construction phases of the proposed Project. Additionally, all construction equipment and vehicles will be required to be maintained in good operating condition to minimize exhaust emissions.

No Action Alternative – There will be no construction of fiber optic cable, therefore, there will be no impact on the air quality and there would be no increase in GHG emissions.

4.3 Geology and Soils

Preferred Alternative – There will be minor adverse impact on soil in areas where new utility poles will be installed, where deteriorated poles will be replaced or where the buried fiber cable will be plowed. However, all such areas are located along existing right-of-way and these areas have already experienced some level of disturbance. Any additional impacts to geology and soils will be minimal, as the soils will be regraded to its original condition in any excavated areas.

The Natural Resources Conservation Service (NRCS) was contacted about the potential affects to soils and prime farmland. The two proposed Hub sites, Enterprise 2 and Midland City in Coffee County, currently are not being used as farmland. Therefore the impact on converting the prime farmland to non-agricultural use would not have any adverse impact to the surrounding area. The lots where the hub sites will be constructed are small and there are no active farm areas located adjacent to them, suggesting that there is no potential that the land will be converted to agricultural use.

Vehicular traffic associated with the construction activities and operation support activities will remain on established roads. Areas with highly erodible soils will be given special consideration when designing the proposed Project to ensure incorporation of various erosion control techniques, such as, straw bales, silt fencing, aggregate materials, and rehabilitation where possible to decrease erosion. Rehabilitation will include re-vegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over the disturbed area to reduce erosion while allowing the area to naturally vegetate. Additionally, erosion control measures and

appropriate BMPs, as required will be implemented before, during, and after construction activities.

No Action Alternative - There will be no construction with this alternative, therefore there would be no impact to the soil and geology in the Project area.

4.4 Water Resources

4.4.1 Streams and Rivers

Preferred Alternative – This alternative contains several crossings of streams and rivers. Impacts to these resources will be avoided because the fiber optic cable would be affixed to existing utility poles. The U.S. Army Corp of Engineers (USACOE) regulates construction activities near these resources. An assessment of water resources and discussion of the construction activities proposed was submitted to the USACOE on October 11, 2010. A copy of the letter is included in Appendix F.

In a limited number of circumstances, replacement of utility poles might be necessary; however, the new pole will be placed in the existing footprint of the previous installation and so no new disturbance to surface water or floodplain resources would occur. During replacement, appropriate BMP's would be used to prevent soil mobilization to water bodies.

Whenever streams, creeks or rivers are encountered, the cable is spanned between poles located well away from the stream banks. There will be no fiber optic cable attached to any bridge during the construction of this Project. This method of spanning a stream or river is not expected to impact the streams. The heavy equipment that will be used during construction will not enter the stream or river bed.

There are no streams or rivers located in close proximity to the lots where the hub sites will be constructed.

Standard erosion control measures will be implemented to minimize the potential for erosion and sedimentation during construction. All work shall cease during heavy rains and will not resume until conditions are suitable for the movement of equipment and material. Other environmental design measures for erosion control will be implemented, such as the use of straw bales, silt fencing, aggregate materials, and re-vegetation with native plant species, where possible, to decrease erosion and sedimentation.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to the streams and river beds in the Project area.

4.4.2 Wetlands

Preferred Alternative - There will be minimal impact to the wetlands along the Preferred route because in most areas the fiber cable will be attached to existing utility poles along already disturbed areas. The USACOE stated in their response letter dated November 18,

2010, that the exact extent of wetlands and other waters of the U.S. within the Project area cannot be determined without an extensive field investigation which is not warranted at this time. There will be no discharge of dredged or fill material into any wetlands under Section 404 of the Clean Water Act.

There will be new pole placement and replacement of old poles as well as burying fiber optic cable activities that may result in incidental erosion or sediment discharge into wetlands or waters. However, every precaution will be taken to minimize erosion and sediment discharge so that there will not be any significant cumulative impact on these wetland areas.

The lots where the hub sites will be constructed are not located within any mapped wetland area. Therefore, there will not be any impact to any wetland areas within the Project area.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to any wetland areas in the Project area.

4.4.3 Floodplains

Preferred Alternative - There will be minimal impact to the flood zones along the Preferred route because in most areas the fiber cable will be attached to existing utility poles along already disturbed areas. There will be no permanent alteration to the surrounding landscape that would affect any drainage patterns or the flood carrying capacity of a watercourse. The construction sites for the proposed hub sites are not located within a mapped floodplain. Therefore, there will be no impact to any floodplains during construction of the Project.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to any floodplain areas in the Project area.

4.4.4 Groundwater and Surface Water

Preferred Alternative - There will be minimal impact along the Preferred route to any groundwater supplies during the construction of the Preferred route. Significant groundwater sources are not present at such limited depths when installing a new pole or replacing an old pole. The only ground disturbance occurs when an approximately 12 inch diameter hole is drilled into the ground for the placement of the cable support structure. The depth of the hole and height of the pole varies with respect to cable sizes and span height requirements. The excavation for the pole is normally performed by a vertical drilling machine mounted on a utility truck. Therefore, there will be no impact to any groundwater resources.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to any groundwater resources in the Project area.

4.5 Biological Resources

Preferred Alternative - In accordance with Section 7(c) of the Endangered Species Act, as amended, 16 U.S.C. §1531 et seq., TCV has obtained, from the U.S. Fish and Wildlife Service

(USFWS), a list of federally threatened and endangered species that may be present within the Project area. The USFWS has reviewed the proposed Project and determined that there will be no impact to any federally listed aquatic species as long as the cable lines are placed in the air and placed in the ground by directional boring. If at any time during construction it is determined that directional boring or aerial construction methods cannot be used and trenching through a stream will be necessary, USFWS recommends further consultation with their office. Therefore, there will be no adverse impact to any federally threatened or endangered species for the Preferred Route during construction of this Project.

The U.S. Department of the Interior Fish and Wildlife Service was contacted by NTIA on October 19, 2010 and follow up information was sent by Ladd Engineering Associates, Inc. (LEA) TCV's engineering consultant on October 12, 2010. A letter received from the Fish and Wildlife Service was received on November 16, 2010. The letter stated that it does not appear that this Project will impact any federally listed species. However, the information provided in your letter indicated that cable lines may cross several streams within the associated counties. There are several listed aquatic species that may be affected should these streams be impacted by construction activities. If at any time during this Project it is determined that directional boring or aerial construction methods cannot be used and trenching through a stream will be necessary, we recommend contacting this office for further consultation. There will not be any trenching of fiber optic cable across any stream or river; therefore there will be no need for further consultation with the USFWS. The cable will be spanned between poles located well away from the stream or river banks.

To minimize critical habitat impacts, designated travel corridors will be marked with easily observed removable markers, and travel will be restricted to the established corridor under most circumstances.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to any biological resources in the Project area.

4.6 Historic and Cultural Resources

Preferred Alternative – The State of Alabama Historical Commission was contacted by NTIA and follow up information was sent by Ladd Engineering Associates, Inc. (LEA) TCV's engineering consultant. A letter received on November 3, 2010 from the Alabama Historical Commission which stated that after review of the information, a determination was made that the proposed activities should not affect any archaeological resources listed or eligible for the National Register of Historic Places (NRHP) provided that the activities remain in previously disturbed right-of-way. The Historical Commission also requested plans for the proposed Hub sites and that information was provided to them on November 16, 2010 and on January 21, 2011. Further correspondence was received December 8, 2010 that stated that the Enterprise 2 Hub site was clear of any impacts to historical or cultural resources and the January 25, 2011 letter stated that the Midland City Hub site was clear of any impacts to historical or cultural resources.

There is one historic bridge listed on the State of Alabama Register of Historic Places. The Veterans Memorial Bridge, located in Dale County is over the Pea River on U.S. Highway 231

north of the town or Ariton. There is no new fiber optic cable being proposed in the area of this historic bridge.

NTIA utilized the Federal Communications Commission automated Tower Construction Notification System (TCNS) to facilitate and expedite outreach to federally recognized tribes and other Native American groups. Mr. Bryant Celestine, Tribal Historic Preservation Officer (THPO) of the Alabama-Coushatta Tribe of Texas requested information regarding this Project. Information was provided to Mr. Celestine via email. A response was received stating that there would be no impact to religious, cultural, or historical assets of the Alabama-Coushatta Tribe of Texas. He also stated that in the event of inadvertent discovery of human remains and/or archaeological artifacts, activities in proximity to the location must cease and appropriate authorities, including his office, be notified without delay for additional consultation. A response was also received from the Eastern Shawnee Tribe of Oklahoma through the TCNS system. The THPO for this tribe stated that they are currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. They have requested that they be notified in the event of any items that fall under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction. They have no objection to the proposed construction.

All construction will be restricted to previously disturbed areas. If any cultural material is discovered during construction, the SHPO and NTIA will be notified immediately and all activities halted until a qualified archaeologist assesses the cultural remains. As a consulting party to the Section 106 process, the THPO and NTIA will be contacted if any human remains should be unearthed, per the NAGPRA guidelines.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to any historic or cultural resources in the Project area.

4.7 Aesthetic and Visual Resources

Preferred Alternative - The fiber optic cable will be installed along major roadways to the existing utility poles. The cables will be placed along the same line as the existing cables, which are consistent with the existing visual character along the Preferred route and would pose no adverse effect on the local aesthetics. There are some areas where installation will be accomplished by plowing the cable into the ground. There are no protected lands, public/national parks or nature reserves located in the Project area.

The typical time period for new Hub site preparation and construction is 20 business days per site. To minimize aesthetic and visual impacts viewed from the roadway, all construction equipment will be removed at the end of the workday. The area of visual disruption will be limited within the construction site to the new driveway area and the area of the building pad. All of the proposed work will be completed in either a public right-of-way, which has already been disturbed or within an existing utility easement. Construction of the proposed pre-fabricated hub sites will be completed on property that will be owned by TCV.

Disruption to aesthetic and visual resources will be limited to the duration of the construction and there will only be a short term presence of the construction equipment.

No Action Alternative - There will be no construction or excavation with this alternative, therefore there will be no impact to any aesthetic or visual resources in the Project area.

4.8 Land Use

Preferred Alternative - There are several types of land use along the Preferred route. Such as, land use for residences, business, agricultural, medical, and educational. The construction will take place along existing rights-of-way and existing utility easements. The improvements being made are consistent with the normal use of these rights-of-way and easements.

The criteria in Form AD 1006 (Farmland Conversion Impact Rating), were used in rating the value of the parcels for farmlands. This rating was done with the assistance of the USDA-NRCS staff. The rating is based on soil characteristics as well as site assessment criteria such as agricultural and urban infrastructure, support services, farm size, compatibility factors, on-farm investments, and potential farm production loss to the local community and county. The two proposed Hub site locations currently are not being used as farmland. Therefore the impact on converting the prime farmland to non-agricultural use would not have any adverse impact to the surrounding area.

The Preferred route will be providing a benefit to the types of land uses proposed. The improvements will provide benefits of higher broadband speeds at lower costs than are currently available. This increase in the broadband speeds is anticipated to aid in attracting more industries to the area. Therefore, no adverse impacts are anticipated on land use during construction of the Preferred route.

No Action Alternative - Not constructing the Project will have a negative impact on the land use. If not constructed, the increase in the value of the land will not be realized.

4.9 Infrastructure

Preferred Alternative - The communications infrastructure will be extended to those locations served by the proposed Project. Other than these communication infrastructure improvements, this Project would not have any negative impacts to other infrastructure in the Project area. The existing roadway infrastructure throughout the Project area is adequate for the types of vehicles and construction equipment that it will take to construct this Project.

Construction activities along the Preferred route will generate non-hazardous waste materials, including cable trimmings, packaging materials, etc. that would necessitate proper handling and disposal methods. It is anticipated that these materials will be disposed of properly in a local landfill and/or recycling center.

No Action Alternative – Under this alternative there would be no change to the existing infrastructure, therefore there would not be any adverse impacts.

4.10 Socioeconomic Resources

Preferred Alternative - There will be no negative impacts on the socioeconomic conditions within any of the counties along the Preferred route. The construction of the Project will provide benefits associated with the increased broadband speeds to the unserved and underserved population within the rural areas of the Project. There will be an increase in employment opportunities, there will be more opportunities for online education and classrooms can be connected for expanded learning opportunities. Construction of the Project is estimated to create 355 jobs of which 227 are direct/indirect jobs and 128 induced jobs.

No Action Alternative - There will be no short term effects or long term effects to any socioeconomic resources from the no action alternative.

4.11 Human Health and Safety

Preferred Alternative – Human health and safety will be improved after construction of this Project. The broadband service will be connected directly to the medical facilities throughout the Project area providing enhanced emergency and medical services.

There could be some hazardous wastes encountered through contact with contaminated water and soil. It is highly unlikely, since the majority of the proposed construction will be done by attaching the fiber optic cable to existing utility poles along the Preferred route. In areas where there are known contaminations they are contained and are undergoing various stages of clean-up and remediation. There will not be any fiber optic cable constructed near the RCRA listed site or the NPL Superfund site that is located in the Project area. There are no Brownfield sites located in the Project area.

The construction contractor will be a qualified, licensed contractor with the State of Alabama. The construction of the fiber optic cable will be in accordance with any and all OSHA safety regulations and the National Electric Safety Code (NESC). All construction personnel will be required to wear Personal Protective Equipment (PPE) when performing any work on utility poles. When working in the power space, additional PPE is required such as rubber gloves and rubber sleeves and electrically rated and approved bucket trucks. All rubber gloves and sleeves PPE must be visually inspected for defects prior to use.

A plan will be implemented for hazardous materials management, waste management spill prevention and response, stormwater management, and pesticide management. Employees will be trained to promptly contain, report, and/or clean up any oil or hazardous material spill. All vehicles will contain portable spill containment and clean up equipment. All vehicles will be kept in good working order to prevent oil and fuel leaks.

All bucket trucks being used to work in the “power space” must have the boom electrically and structurally tested and approved on an annual basis by a certified third party vendor. If a pole is

being climbed, the technician must inspect the integrity of the pole for visual damage due to rot, insects, and physical damage prior to climbing the pole.

All traffic control measures during construction will be followed. Traffic control will be provided by a certified flagging company or local law enforcement.

BMPs will be implemented as standard operating procedures during all construction activities and would include proper handling, storage, and/or disposal of hazardous and/or regulated materials. The refueling of machinery will be completed in accordance with accepted industry and regulatory guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips.

Following these mitigation measures, there will be no adverse affects to human health and safety.

No Action Alternative - There will be no contact with any hazardous waste or contaminated soil or groundwater and therefore, there will be no adverse impacts to human health and safety.

4.12 Summary of Individual and Cumulative Impacts

The regulations implementing the National Environmental Policy Act require that the cumulative effects of a proposed action be assessed (40 CFR Parts 1500-1508). A cumulative impact is an "impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably future actions" (40 CFR 1508.7).

4.12.1 Past, Current, and Future Projects

This Project spans 595 miles along federal, state, and county roads within the four counties that are part of this Project along with two other routes into two other southeast Alabama counties. The Project route runs along existing roads with existing utility infrastructure. Operation of these existing utility lines and roadways require routine maintenance and repairs. ALDOT has planned numerous road Projects in the next five years in each of these counties. These Projects include numerous smaller scale surface treatment and road maintenance Projects. TCV will work with ALDOT to coordinate scheduling details to avoid conflicts.

4.12.2 Cumulative Effects of Project

The Southeast Alabama SmartBand Project consists of attaching fiber optic cable to existing utility poles along existing roadways along with replacement of occasional deteriorated poles as necessary. These actions will have few negative effects, and as such, the cumulative effects of the Project are considered less than significant for most of the resources analyzed, and would therefore not incrementally result in any significant environmental effect, when combined with other Projects such as road maintenance or construction.

The increase in noise as related to use of construction equipment will be minor and temporary. Replacement of poles or adding a new pole may result in incidental erosion or sediment

discharge into wetlands or waters, but with the use of BMPs for erosion and sediment control, this effect will be minimized and will not represent any significant cumulative effect to soils or water resources. Biological resources will not be impacted due to lack of wildlife habitats along established right-of-ways that are maintained on a regular basis. Any noise disturbance to wildlife during construction will be temporary. Historic and Cultural resources will not be impacted in any way that will change the significance of the property. There will be a minor impact to infrastructure that results in the adding of fiber optic cable to the exiting utility infrastructure. There will be a positive impact on socioeconomic resources and health and human safety in that the increased broadband speeds will allow numerous underserved and unserved communities to improve their opportunities to engage in the global economy, educational opportunities will be increased, and public safety will be improved.

5.0 ENVIRONMENTAL PERMITS AND REGULATORY REQUIREMENTS

Army Corps of Engineers through the Alabama Regulatory Office; Montgomery, AL

Section 404 of the Clean Water Act of 1977 (33 U.S.C. 1344) requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including wetlands, prior to conducting the work. An extensive field investigation is not warranted at this time. Once specific fill locations for the property have been determined and a Project plan developed, a more detailed site inspection may be required to determine the actual impacts to waters of the U.S.

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the Ordinary High Water elevation of navigable waters of the U.S. be approved and/or permitted by the USACOE. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the U.S. are those waters of the U.S. that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past or may be susceptible to used to transport interstate or foreign commerce. There are no navigable waterways located in the Project area and therefore no Section 10 permits will be required for construction of this Project.

U.S. Fish and Wildlife Service

In accordance with Section 7(c) of the Endangered Species Act, as amended, 16 U.S.C. 1531 et seq., LEA has obtained, from the Alabama Ecological Services Field Office in Daphne, Alabama, a list of federally threatened and endangered Species that may be present along the Preferred route of this Project. The USFWS has determined that, as proposed, the Project will not impact any federally listed species. They also recommended that if at any time during this Project that directional boring or aerial construction methods cannot be used at stream locations and trenching across the stream would be necessary, contact their office for further consultation.

Whenever streams, creeks or rivers are encountered, the cable is spanned between poles located well away from the stream banks. In the event that a major riverway is encountered, the cable is attached to a bridge, therefore, no disturbance to the river, the riverbed or its immediate terrain is affected.

State of Alabama Historical Commission

In compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended), the State of Alabama Historic Commission was contacted and has concurred that the proposed Project would not have an adverse effect on archaeological and historical property sites provided that the activities remain in previously disturbed right-of-way. The Historical Commission also requested plans for the proposed Hub sites and that information was provided to them on November 16, 2010 and on January 21, 2011. Further correspondence was received December 8, 2010 that stated that the Enterprise 2 Hub site was clear of any impacts to historical or cultural resources and the January 25, 2011 letter stated that the Midland City Hub site was clear of any impacts to historical or cultural resources.

Mr. Bryant Celestine responded through the Federal Communications Commission automated Tower Construction Notification System (TCNS) requesting information on the Project. He responded stating that there would be no impact to religious, cultural, or historical assets of the Alabama-Coushatta Tribe of Texas. He also stated that in the event of inadvertent discover of human remains and/or archaeological artifacts, activities in proximity to the location must cease and appropriate authorities, including his office, notified without delay for additional consultation.

A response was also received from the Eastern Shawnee Tribe of Oklahoma through the TCNS system. The THPO for this tribe stated that they are currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. They have requested that they be notified in the event of any items that fall under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction. They have no objection to the proposed construction.

Natural Resources Conservation Service

Impacts to Prime Farmland and wetlands/hydric soils were studied and determinations were made. There are several hydric soils in the area and NRCS stated that best management practices (BMPs) be utilized during construction to protect wetlands, natural drains and stream channels from soil siltation as a result of soil disturbance.

6.0 LIST OF AGENCIES AND PERSONS CONTACTED

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Ms. Elizabeth Ann Brown
Mr. Greg Rhinehart
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