LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

FINDING OF NO SIGNIFICANT IMPACT

Buhl Elrod Holman Water Authority
Tuscaloosa County

DWSRF#: FS010253-01

November 22, 2019

The Alabama Department of Environmental Management has made $2,424,000 in financial assistance available to Buhl Elrod Holman Water Authority using funds from the Drinking Water State Revolving Fund (DWSRF) loan program. In accordance with State and Federal regulations that govern the program, the Alabama Department of Environmental Management has conducted a review to assess potential impacts upon the environment that may result from implementation of these drinking water system improvements.

The Buhl Elrod Holman Water Authority proposes installation of a 700 GPM water treatment package plant (WTP), new operations building, 100,000 gallon clear-well, chemical feed system, aeration tower, and service pumps; development of new Well No. 3 (400 GPM); upgrade of Well No. 2 service pumps; new raw water transmission lines from both wells to the new WTP; and new water distribution line from the new WTP and connecting to the existing distribution system. Proposed improvements will ensure system compliance and the continued provision of adequate and safe drinking water to all service area customers.

The Department has determined that proposed projects will not have significant adverse impact upon the environment and consequently is herewith issuing a Finding of No Significant Impact (FONSI) in support of the use of SRF funds for construction of proposed projects. However, this determination may be reconsidered if significant adverse information concerning the potential environmental impacts of proposed projects is discovered. Attached is an Environmental Assessment that details the proposed projects and their impact upon the environment.

Comments relative to these projects should be submitted in writing to Mr. Stan Shirley, SRF Section, Permit and Services Division, Alabama Department of Environmental Management, P.O. Box 301463, Montgomery, Alabama 36130-1463, no later than 30 days after the date of the public notice. The Department will not take formal action to proceed with the proposed projects without carefully evaluating any public comments concerning funding of the proposed projects.

Sincerely,

Marilyn Elliott

Lance R. LeFleur
Director

LRL/DKB/SLS/kbh

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

ENVIRONMENTAL ASSESSMENT
Buhl Elrod Holman Water Authority
FS010253-01

A. Proposed Facilities and Actions

The Buhl Elrod Holman Water Authority proposes installation of a 700 GPM water treatment package plant, new operations building, 100,000 gallon clear-well, chemical feed system, aeration tower, and service pumps; development of new Well No. 3 (400 GPM); upgrade of Well No. 2 service pumps; new raw water transmission lines from both wells to the new WTP; and new water distribution line from new WTP and connecting to existing distribution system. Proposed improvements will ensure system compliance and the continued provision of adequate and safe drinking water to all service areas customers.

B. Existing Environment

Buhl Elrod Holman (BEH) Water Authority is located in Tuscaloosa County with water service area extending west to Pickens County, north to Fayette County, east to the community of Coker, and south to the community of Romulus. The BEH Water Authority office is located in the community of Buhl with the system's water treatment plant (WTP) located within the community of Elrod, along U.S. Highway 82, approximately 13 miles west northwest of the center of Tuscaloosa.

BEH Water Authority provides drinking water service to approximately 1,200 customers for an estimated population of approximately 3,570 individuals. Median household income (MHI) referenced from U.S. Census Data is $37,604 per household.

C. Existing Drinking Water Facilities/System

Existing Water Production &Treatment Facilities

BEH Water Authority drinking water is supplied from two (2) groundwater wells with a combined permitted pumping capacity of 473 gallons per minute (GPM). Both Well No. 1 and Well No. 2 were installed in 1983 at capacities of 123 GPM and 350 GPM respectively. Motors and pumps were replaced for Well No. 1 in 2017 and Well No. 2 in 2009. Water from both wells are treated at BEH WTP through addition of chlorine, lime, polymer, Aqua Gold, and potassium permanganate and use of pressure sand filters for iron removal and aeration for oxidation of iron. Finished water is then conveyed to a 3,600 gallon clearwell for additional chlorine contact and onsite storage.

Existing Water Storage & Distribution Facilities

BEH Water Authority water distribution consists of two (2) ground level water storage tanks (Buhl Tank at 400,000 gallons and Echola Tank at 500,000 gallons) with combined storage capacity of 900,000 gallons; one 110 GPM booster pump station; and approximately 20 miles of 8 inch and 65 miles of 6 inch polyvinyl chloride (PVC) distribution mains. Interconnections exists with Coker Water Authority for emergency supply and with Pickens County to allow purchase of potable water.

D. Need for Proposed Improvements

Potential Electrical Interruptions at BEH WTP

Electrical control paneling and filter piping are currently housed within close proximity at BEH WTP. Filter water leakage and moisture frequently occur, creating potentially hazardous working conditions, operational damage to existing electrical equipment, and disruption of water supply distribution service. New electrical equipment is needed due to age of intended design life and to provide safe and adequate separation from filter piping. Backup power is also recommended to insure uninterrupted operation.

Low Production of Water Supply Well No. 1

Although Well No. 1 was initially permitted at a capacity of 123 GPM, it currently supplies on average only 80 GPM or approximately 65% of initial capacity. Overall BEH water demand has not decreased with current average daily flow demand at 228 GPM and peak daily flow demand of 315 GPM. Should Well No. 2 fail or require maintenance, Well No. 1 would undoubtedly lack needed capacity to supply or meet demand. Even with limited additional water purchased from Coker Water Authority (140 GPM), there remains urgent need in providing redundancy to system water supply.

Lack of Redundant High Service Pump at BEH WTP

BEH WTP remains reliant upon the use of only one (1) high service pump for transmission and distribution of finished drinking water. Equipment failure or extended maintenance would jeopardize BEH WTP's ability to meet water demands and result in system wide shortages. One additional high service pump is urgently needed in providing redundancy.

BEH WTP Shut-down During Wash-down and Sludge Removal of Settling Basins

Wash-down and sludge removal of BEH WTP settling basins typically requires plant shut-down for an entire day. Conditions are further worsened during hot, dry, high demand periods in which the plant cannot be shutdown due to lack of adequate system storage. Considerable increases in sludge volume result in sediment carryover to pressure sand filters requiring ever more frequent backwashing.

Inadequate Distribution Flow Volume and Pressure

BEH Water Authority currently experiences significant decrease in distribution flow volume and pressure during high demand periods. Finished water is transmitted by way of 6-inch water main from the existing BEH WTP, which diverges into two (2) 8-inch water mains. One water main serving the area west of Sipsey River, the other serving the area east of the Sipsey River. These 8-inch mains, however, are limited in flow volume by that of the primary 6-inch water main exiting the plant. These two (2) 8-inch water mains extend respectively into both east and west areas with the majority of distribution ultimately conveyed by 6-inch water mains throughout the service area. BEH water distribution extends approximately 23 miles from Romulus in the South to the Fayette County line in the North. Water flow from Echola Tank is conveyed over fifteen (15) miles before reaching the system's northern boundary. Extensive travel distance incurs high friction losses with significant reduction in flow capacity and pressure.

Reduced Storage Capacity of WTP Sedimentation Pond

The BEH WTP utilizes a sedimentation pond in storing sludge from sand filter backwash and sedimentation basin washout. Inadequate elevation difference between sedimentation basin and pond frequently requires

pumping of sludge. Sodium bisulfate is added to pond supernatant effluent to reduce residual chlorine before discharge to Elrod Creek. Over time, the pond has lost intended design storage capacity due to sludge build up. Sludge dredging of WTP sedimentation pond may be required.

Undersized Aeration Tower

Raw water obtained from Well No. 2 exhibits high iron concentration. Introduction of oxygen by aeration causes rapid separation and settling of iron. Continuous added difficulty and effort is required with cleaning and maintenance. Deteriorated conditions of existing aeration tower warrant replacement with new upgraded capability to more readily handle higher levels of iron.

Replacement of Dilapidated and Outdated Chemical Feed Equipment

Existing chemical feed systems at BEH WTP need replacing with new and more efficient equipment. Lime, potassium permanganate, and polymer feed systems need replacing and redundant pumping provided.

E. Proposed Facility Improvements

In 2018, BEH Water Authority purchased a used packaged water treatment plant from Huntsville Utilities, which was transported to a vacant area of BEH property just south of existing WTP. This package plant consists of two (2) separate treatment trains with upflow adsorption clarifier, downflow mixed media filter, and design flow capacity of 700 GPM. The plant will be sandblasted, repainted, and assembled prior to being placed in operation. Additional proposed plant improvements include the following:

- Construction of new operations building to house the newly refurbished water treatment package plant and new chemical feed systems and electrical equipment. Electrical equipment will be provided separate, designated location to prevent exposure to moisture and create a safer work environment. Protective indoor conditions will reduce overall maintenance. Chlorination supplies and equipment will be housed separately.

- Installation of new larger capacity aeration tower to accommodate increased flow and with greater surface area to more effectively manage settled iron.

- Installation of new high service and backwash pumps to provide needed redundancy and uninterrupted service in the event of pump failure or needed maintenance.

- Installation of emergency generator as alternative power source in the event of power outage or failure.

- Construction of a new 100,000-gallon clearwell for increased chlorine contact time and additional storage needed for backwashing of upflow clarifier and filters.

- Purchase and installation of new chemical feed systems.

Provision of a two-train operation will ensure continuous production of potable drinking water during, filter backwashing, basin washdowns, and required maintenance.

Upgrade of Existing Pump at Well No. 2

Existing pump at Well No. 2 is both downgrade of the proposed WTP and near intended use design life. Upgrade of existing pump is needed.

Development of Well No. 3

BEH Water Authority has already installed test and monitoring wells at a location approximately 1,250 feet southwest of existing Well No. 2. This site was recommended by geologic service as having little to no impact to water levels of currently existing wells. Subsequent testing and monitoring were successful in confirming and establishing the location as a viable water supply source. BEH Water Authority's intent is to transition to actual water production with projected flow of approximately 400 GPM.

Installation of Raw Water Main from New Well No. 3 to New WTP

A new 8-inch raw water main will be needed in connecting Well No. 3 with the new WTP. Water will be conveyed to the proposed aeration tower prior to the new WTP.

Installation of New 6-inch Raw Water Main from Existing Well No. 2 to the New WTP

Installation of a new 6-inch raw water main will be required to transfer water from Well No. 2 to the new WTP.

New 10-inch Finished Water Distribution Main from New WTP to CR 140

A new 10-inch water distribution main will be installed leaving the new WTP, and extend several hundred feet north to Backbone Church Road, cross Gulf Mobile Railroad tracks, continue along Old Elrod Echola Road to CR-140, and tie-in to existing distribution at Elrod Road. Upgrade of WTP force main will significantly improve distribution flow volume and pressure.

Sludge Disposal

Installation of new sludge/backwash line is proposed in connecting the new WTP to existing sedimentation pond. While the existing pond may need dredging, consideration will also be given to other potential long-term alternatives for sludge disposal.

F. Alternative Analysis

No Action Alternative

In the absence of needed improvements, little assurance could be given to existing WTP capability in meeting current drinking water demands. Production from Well No, 1 would likely continue in decline. Existing aeration tower would become less functional. Existing treatment equipment would become increasingly unreliable due to age and wear. Sludge buildup within sedimentation basins would require more frequent backwashing of sand filters. Sludge buildup within the sedimentation pond would also worsen without dredging. Lack of redundancy in treatment, high service pumping, and alternative power could easily and potentially result in overall shutdown of water production. The need and urgency for implementing improvements precludes inaction. **(Estimated Cost: $0.00)**

Alternative A: Upgrade of Existing WTP to 2-Train Treatment with New Office Building & Clearwell

Improvements would consist of upgrades and improvements to existing WTP at present location. This alternative would include modifications to existing WTP that would transform operation into a two (2) train water treatment facility. Proposed work items would be similar to those proposed for the selected alternative as described previously. They would include further development of Test Well No. 3 as an operational production source with installation of water main to existing WTP; new office and chlorine buildings; upgrade of flash mix system; installation of plate settlers and sludge collectors; new pressure filters; new aeration tower; construction of a new 500,000 gallon clearwell; installation of new high service

and backwash pumps; new emergency generator; sprayfield irrigation system; and new 12-inch finished water main from WTP to existing distribution system at CR-140 and Elrod Road. Overall water production capacity would be increased to approximately 600 GPM.

Two (2) train treatment would provide needed redundancy in the event of equipment failure and/or needed maintenance. Addition of Well No. 3 would insure adequate water supply. Increased surface area of plate settlers would significantly aid sedimentation. Sludge collectors would provide more efficient means of sludge removal. While this alternative would essentially satisfy all needs for improvement, estimated cost would be near twice that of the selected alternative. BEH Water Authority would also lose any benefit or advantage from having already purchased the two (2) train package water treatment plant.
(Estimated Cost: $4,360,840)

Alternative B: Upgrade of Existing Single Train Treatment at existing WTP and New Office Building

Alternative B would represent upgrade of existing WTP as a one (1) train water treatment plant. Proposed work items would include installation of plate settlers and sludge collector in one of existing sedimentation basins. Other improvements would include final development of Well No. 3 as a fully operational water supply source; installation of new aeration tower and new filters; new high service, backwash, and sludge pumps; and emergency generator. This alternative would not, however, incorporate construction of a new clearwell and would also result in size reduction of proposed new office building without construction of a separate, designated chlorine building. This alternative would not provide needed redundancy for uninterrupted operation in the event of equipment failure or required maintenance. BEH Water Authority would again lose benefit of having already purchased the two (2) train package water treatment plant. **(Estimated Cost: $3,217,060)**

Alternative C: Development of Well No. 3 with Installation of Raw Water Main to Existing WTP

Other than the No Action Alternative, this alternative would require the least expenditure. Increased water production would satisfy current water use demands. All other concerns would not be adequately addressed. There would be no redundancy in operation to insure continuous water treatment during routine maintenance or equipment failure. Employee safety conditions would not improve and existing treatment equipment would further worsen due to age and wear beyond intended design life. Far more action is warranted and proposed. **(Estimated Cost: $386,100)**

Selected Alternative

The selected alternative would consist of installing a refurbished 700 GPM two (2) train packaged water treatment plant on vacant BEH property several hundred feet south of existing WTP. Other improvements would again include construction of a new operations building to house the plant along with new chemical feed systems and electrical equipment; separated housing for chlorination supplies and equipment; new larger aeration tower; new high service and backwash pumps; emergency generator; and new 100,000-gallon clearwell. Additional system improvements include pump upgrade at Well No. 2 with new water main to new WTP; development of Well No. 3 into production with new main to new WTP; new finished water distribution main from new WTP to tie-in to existing distribution; and new sludge/backwash line in connecting new WTP to existing sedimentation pond. This alternative represents the most cost-effective and viable solution in resolving all current and foreseeable system concerns. **(Estimated Cost: $2,423,700)**

G. Environmental Justice

As defined by the Environmental Protection Agency (EPA), environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Presidential Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

The Environmental Justice map for the proposed project location reveals an overall area that is predominately Non-EJ. A Low Income area occurs within the southeast section of the service area, representing approximately 15% of total area served. Proposed water system improvements will benefit all service area customers and ensure continued provision of safe quality drinking water. Various proposed alternatives were carefully evaluated in terms of their effect upon all citizens within the service area, as well as, upon the environment with respect to health benefit, cost, and time efficiency, if implemented.

H. Environmental Consequences; Mitigative Measures

Proposed project activities represent no overall or lasting adverse environmental impact except as normally and minimally associated with construction activities. Some short term effects including increased noise levels, dust, exhaust emissions, increased stream turbidity and/or the disruption of normal traffic flow maybe of minimal impact and occur during actual construction. While all such effects cannot be totally avoided, adherence to Best Management Practices (BMPs) during the course of the project will significantly minimize such conditions. Traffic disruptions will be greatly lessened by conformance to an approved traffic maintenance plan.

Endangered Species and Critical Habitat

Project review and concurrence was requested from the U.S. Fish and Wildlife (F&W) Service. Review of the proposed project by the U.S. Fish and Wildlife (F&W) Service confirmed that related construction activities would neither encroach upon nor occupy the critical habitat of any currently known or recognized endangered, threatened, or candidate animal species. No further or additional endangered species consultation was considered necessary provided that Best Management Practices (BMPs) specific to project/construction activities (as presented) are observed.

Historical and Archaeological

Review of proposed project work by the Alabama Historical Commission found no potential adverse impact of cultural resources. Project approval was granted upon the condition that the location, scope, and nature of construction activities remain as originally presented and occur within existing highway right-of-ways or previously disturbed areas. Should artifacts or archaeological features be encountered during execution of project activities, work shall be required to cease and the Alabama Historical Commission contacted immediately.

Wetlands and Floodplains

The Department of the Army Corps of Engineers (COE) was also solicited for comment and concurrence of proposed project work. Review of proposed project work by the COE determined that there would be no adverse impact to wetlands or waters of the U.S. and that a Department of the Army permit pursuant to Section 404 of the Clean Water Act would not be required.

Project concurrence dated May 24, 2019, was also received from West Alabama Regional Commission

Public Participation: Sources Consulted

A Public Meeting was held at 5:30 p.m. on Monday, July 22, 2019, at the office of Buhl Holman Elrod Water Authority at 11965 Sipsey Valley Road, in Buhl, Alabama. The meeting provided open forum for public discussion of information and concerns related to the nature, scope, and justification of improvements proposed for funding by the DWSRF loan. No objections or adverse comments to proposed project work were expressed.

Sources to be consulted about this project for information or concurrence include the following:
Alabama Department of:
- Agriculture and Industries
- Conservation and Natural Resources
- Economic and Community Affairs (ADECA)
- Public Health

State Soil and Water Conservation
Alabama Forestry Commission
Alabama Historical Commission
US Army Corps of Engineers
US Department of Interior – Fish and Wildlife Service
US Environmental Protection Agency
Tuscaloosa County Health Department

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, MOBILE DISTRICT
218 SUMMIT PARKWAY, SUITE 222
HOMEWOOD, ALABAMA 35209

REPLY TO
ATTENTION OF

December 20, 2018

North Branch
Regulatory Division

SUBJECT: File Number SAM-2018-01247-CMS, Buhl Water Treatment Plant Upgrade, Buhl Elrod Holman Water Authority

Buhl Elrod Holman Water Authority
Attention: Mike Hogue, Chairman
Post Office Box 127
Buhl, Alabama 35446

Dear Mr. Hogue:

This letter is in response to the letter, dated November 27, 2018, sent on your behalf by The Cassady Company, Inc. regarding the proposed Buhl Water Treatment Plant upgrades. This project has been assigned file number SAM-2018-01247-CMS, which should be referred to in all future correspondence regarding this project.

Section 404 of the Clean Water Act requires that a Department of the Army (DA) permit be obtained for the placement or discharge of dredged and/or fill material into waters of the United States (U.S.), including wetlands, prior to conducting the work (33 U.S.C. 1344). If the project will involve work in or a discharge or placement of dredged and/or fill material into waters of the U.S. under our regulatory jurisdiction, issuance of a DA permit will be required prior to conducting the proposed work. It is unclear from your submittal if the project will require a discharge into jurisdictional waters of the U.S. from the limited information provided in the letter. A wetland/waters of the U.S. delineation should be performed by a qualified professional and submitted to our office for verification. If no discharge of dredged and/or fill material is necessary, then a DA permit is not required.

The statements contained herein do not convey any property rights or any exclusive privileges, and do not authorize any injury to property or obviate the requirements to obtain other local, State, or Federal assent required by law for the activities discussed above. If the scope of work or project location changes, you are urged to contact this office.

Thank you for your cooperation with our permit program. If you have any questions concerning this matter, please feel free to contact me at (205)-290-9096 or courtney.m.shea@usace.army.mil.

A copy of this letter is being provided to Ms. LizAnne Espy with the Cassady Company at 4700 Highway 69 North, Northport, Alabama 35473.

For additional information about our Regulatory Program, visit our web site at http://www.sam.usace.army.mil/Missions/Regulatory.aspx. Also, please take a moment to complete our customer satisfaction survey located near the bottom of the webpage. Your responses are appreciated and will allow us to improve our services.

Sincerely,

SHEA.COURTNEY.M.1387610231

Digitally signed by SHEA.COURTNEY.M.1387610231
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=SHEA.COURTNEY.M.1387610231
Date: 2018.12.20 12:37:25 -06'00'

Courtney Shea
Senior Project Manager

SCHOEL
Consulting Engineers

February 18, 2019

The Cassady Company, Inc.
4700 Highway 69 North
Northprot, AL 35473

Attention: Mr. Brian Green, P.E.

Reference: Buhl Water Treatment Plant Delineation
Permit Number: SAM-2018-01247-CMS
Tuscaloosa County, Alabama

Dear Mr. Green:

Buhl Elrod Holman Water Authority has applied for a State Revolving Fund (SRF) loan from the Alabama Department of Environmental Management (ADEM) to fund proposed improvements to install and implement a new well and water treatment facility. Schoel Engineering was tasked with delineating a 50-foot corridor along the proposed utility lines to determine whether the proposed project will result in impacts to waters of the United States. Two jurisdictional streams, RPW 1 (Elrod Creek) and RPW 2 were identified to exist within the proposed project area.

According to the proposed layout received from The Cassady Company, three utility line crossings will be constructed across RPW 2 and one utility line crossing will be constructed across RPW 1. Activities associated with the proposed project are expected to result in approximately 0.0125 acres of impacts to jurisdictional waters. Table 1 below summarizes impacts expected to result from construction of the proposed project.

Table 2 – Summary of Impacts

Stream ID	Impact Length	Impact Width	Area (ac)
RPW 1	8	8	0.011
RPW 2	60.12	8	0.0015
Total:			**0.0125**

The text of Nationwide Permit 12 regarding submittal of a pre-construction notification to the Corps of Engineers states: "*The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section*

10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials."

Based on the reporting requirements outlined in Nationwide Permit 12 and the proposed site plan provided by The Cassady Company, it is expected that the proposed project should proceed under Nationwide Permit 12, non-reporting should all general conditions of the permit be met. Enclosed with this letter is a Delineation Report prepared for the above-referenced project. Please feel free to call me if you have any questions. We appreciate your assistance with this project.

Sincerely,

SCHOEL ENGINEERING COMPANY, INC.

Bradley McWilliams

Bradley E. McWilliams, REM

Enclosures

DELINEATION REPORT
BUHL WATER TREATMENT PLANT UPGRADE
USACE PROJECT: SAM-2018-01247-CMS
TUSCALOOSA COUNTY, ALABAMA

1.0 PROJECT BACKGROUND

Buhl Elrod Holman Water Authority has applied for a State Revolving Fund (SRF) loan from the Alabama Department of Environmental Management (ADEM) to fund proposed improvements to install and implement a new well and water treatment facility. The proposed project is located south of the existing water treatment plant in Elrod, Alabama and consists of constructing a new water treatment facility and installing necessary utility lines. Exhibits showing the location and layout of the proposed project can be found in Attachment 1.

Schoel Engineering was tasked with delineating a 50-foot corridor along the proposed utility lines to determine whether the proposed project will result in impacts to waters of the United States. This delineation was conducted in response to a letter received from the Corps of Engineers on December 20, 2018, which stated "A wetland/waters of the U.S. delineation should be performed by a qualified professional and submitted to our office for verification." A copy of the letter received from the Corps of Engineers is included in Attachment 2. This report summarizes observations made in the field during delineation of the project site.

2.0 DELINEATION METHODOLOGY

Prior to visiting the site, a field plan was prepared in the office that concentrated on areas showing the potential to contain waters of the United States. The USFWS National Wetlands Inventory, USGS topographic maps, NRCS Web Soil Survey, and aerial photographs were utilized to develop the field plan. The USGS topographic maps were utilized to identify wetlands and "blue line" streams that may be present on the site. Aerial photography was used to identify saturated areas and obvious changes in vegetation composition.

Wetlands were delineated in the field using the methods contained within the *1987 COE Wetlands Delineation Manual, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Regions (Version 2.0), Field Indicators of*

Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 7.0, 2010.

Streams were delineated in the field using the methods contained within the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook*. Field methods were also extracted from the North Carolina Division of Water Quality's *Methodology for Identification of Intermittent and Perennial Streams and Their Origins*. The entire length of each stream was walked from its confluence of the receiving water to its origin or to the point of jurisdictional severance. Walking the entire length of each stream allows the evaluator(s) to properly assess the various geomorphic, hydraulic, and biologic parameters associated with determining stream classification.

3.0 SITE SOILS

The soils within the property primarily fall within 2 major map units: 1) Iuka-Mantachie complex, 0 to 2 percent slopes, frequently flooded; and 2) Smithdale-Luverne association, 12 to 35 percent slopes. Each of these soils is moderately to poorly drained soils. The map units correspond to soil map obtained from the NRCS Web Soil Survey website included in the Appendix as Attachment 3. A brief description of each of the soil types is included below.

3.1 Map Unit 19 – Iuka Component

The Iuka component makes up 47 percent of the map unit. Slopes are 0 to 2 percent. This component is on natural levees, coastal plains. The parent material consists of coarse-loamy alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, and December. Organic matter content in the surface horizon is about 1 percent. Non-irrigated land capability classification is 5w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

3.2 Map Unit 19 – Mantachie Component

The Mantachie component makes up 43 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains, coastal plains. The parent material consists of loamy alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available

water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April, May, June, November, and December. Organic matter content in the surface horizon is about 2 percent. Non-irrigated land capability classification is 5w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

3.3 Map Unit 39 – Smithdale Component

The Smithdale component makes up 50 percent of the map unit. Slopes are 12 to 35 percent. This component is on hillslopes, coastal plains. The parent material consists of loamy fluviomarine deposits derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

3.4 Map Unit 39 – Luverne Component

The Luverne component makes up 35 percent of the map unit. Slopes are 12 to 35 percent. This component is on hillslopes, coastal plains. The parent material consists of loamy marine deposits derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Non-irrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

These soil map units make up almost 100 percent of the property. These soils tend to have high permeability, are largely level and sometimes flooded, and are generally not hydric. Some small areas of minor hydric components may be found in the lower positions on the landform within each of these map units

4.0 DELINEATION RESULTS

A site visit was conducted by Schoel personnel on February 8, 2019 to determine possible presence of "waters of the United States," as defined by the U.S. Army Corps of Engineers. Given the nature of the proposed activities, a 50-foot corridor along the proposed utility lines was delineated to determine if the proposed activities would result in impacts to waters of the United States. Sections 3.1-3.3 below provide a summary of the delineation results.

4.1 Wetlands

Review of the National Wetlands Inventory mapper indicated a potential presence of wetlands within the proposed project area. However, evaluation of soil samples and vegetation within the 50-foot corridor indicated that wetlands do not exist within the proposed project area. Soil samples analyzed within the review area did not exhibit hydric indicators. The Web Soil Survey report from the USDA Natural Resources Conservation Service's database is included in Attachment 3.

Vegetation observed within the review area consisted mostly of pine trees. An obvious change in vegetation from planted pine to bottomland hardwood, including *Fagus grandifolia*, *Carya glabra*, and *Quercus alba,* was observed along the riparian corridor. This change in vegetation is also visible on aerial imagery. Vegetation species observed during the delineation was not consistent with species known to inhabit wetland areas. Data sheets were prepared in the field and are included in the Appendix as Attachment 4.

4.2 Streams

Observations were made to each stream to evaluate hydrology, channel morphology, general biological and ecological functions. Two perennial streams were identified within the review area. RPW 1 (Elrod Creek) was identified west of the existing water treatment facility. RWP 2 is a tributary to Elrod Creek and is located south of the existing water treatment facility. An exhibit showing streams identified on the site is included in Appendix 1 as Exhibit 5. Data sheets prepared for each stream are included in the Appendix as Attachment 4. Table 1 below summarizes streams observed within the review area.

Table 1 – Summary of Streams

Stream ID	Width (ft)	Depth	Classification
RPW 1 (Elrod Creek)	6	2	Perennial
RPW 2	8	3	Perennial

5.0 SUMMARY

This delineation was conducted in response to a letter received by The Cassady Company from the Corps of Engineers, which stated a wetland/waters of the U.S. delineation should be performed by a qualified professional and submitted for verification. Schoel personnel conducted a delineation of the project area and concluded that the proposed utility line project will impact two streams, RPW 1 (Elrod Creek) and RPW 2 (a tributary to Elrod Creek). Activities associated with the proposed project are expected to result in impacts to approximately 0.0125 acres of jurisdictional waters. Exhibits, photographs, and supporting documentation are included in the Appendix to this report.

Please feel free to contact William Thomas or Bradley McWilliams with Schoel Engineering should you have any questions or comments regarding the information contained in this document. Our contact information is provided below.

WALTER SCHOEL ENGINEERING COMPANY, INC

William R. Thomas, P.E.
Direct: (205) 313-1150
Email: wthomas@schoel.com

Bradley McWilliams, REM
Direct: (205) 313-1129
Email: bmcwilliams@schoel.com

LizAnne Espy

From: Shea, Courtney M CIV USARMY CESAM (US) <Courtney.M.Shea@usace.army.mil>
Sent: Friday, March 01, 2019 9:34 AM
To: Brian Green
Subject: RE: [Non-DoD Source] SAM-2018-01247-CMS - Buhl Water Treatment Plant Upgrade

Brian,
The Corps does not object to the City of Buhl obtaining grant money for the water treatment plant upgrade.

Courtney Shea
Senior Project Manager - Regulatory Division U.S. Army Corps of Engineers Mobile District Birmingham Field Office
218 Summit Parkway Suite 222
Homewood, Alabama 35209
205-290-9096 (main line)
205-941-9849 (direct line)
Please take a moment and click the link below to fill out a customer satisfaction survey. Your responses are greatly appreciated.
http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

-----Original Message-----
From: Brian Green [mailto:briang@thecassadyco.com]
Sent: Wednesday, February 27, 2019 2:33 PM
To: Shea, Courtney M CIV USARMY CESAM (US) <Courtney.M.Shea@usace.army.mil>
Subject: [Non-DoD Source] SAM-2018-01247-CMS - Buhl Water Treatment Plant Upgrade

Ms. Shea,

Following receipt of you letter dated December 20, 2018, Walter Schoel Engineering Company, Inc. was contacted to perform a wetland delineation to determine if the project will result in impacts to waters of the United States. The report concluded the project could proceed under Nationwide Permit 12, non-reporting should all the general conditions of the permit be met.

The Buhl Elrod Holman Water Authority submitted an ADEM State Revolving Fund (SRF) loan pre-application for funding this project. Please advise if the USACE objects or concurs with Buhl Elrod Holman Water Authority receiving funding for this project.

Please do not hesitate to contact me if you have any questions.

Thanks,

Brian Green, P.E.

The Cassady Company, Inc.

4700 Highway 69 North

Northport, AL 35473

Phone: 205-330-0098

Fax: 205-330-0099

Cell: 205-292-9202

********** N O T I C E **********

TA/AF 2019-TA-0248

The Cassady Company, Inc.

Providing Solutions for Water, Wastewater, and Storm Water Problems

4700 Highway 69 North • Northport AL 35473
Phone (205) 330-0098 • Fax (205) 330-0099

November 26, 2018

Mr. William J. Pearson
U.S. Fish and Wildlife Service
Daphne ES Field Office
1208b Main Street
Daphne, Alabama 36526-4419

Re: Buhl Water Treatment Plant Upgrade
ADEM DWSRF Loan Program
Buhl Elrod Holman Water Authority
Tuscaloosa County, Alabama

Dear Mr. Pearson:

Buhl Elrod Holman Water Authority has applied for a State Revolving Fund (SRF) loan from the Alabama Department of Environmental Management (ADEM) to fund proposed improvements to install and implement a new well and water treatment facility. As part of the application process, concurrence must be obtained from your agency.

Project information is as follows:

1. Applicant: Buhl Elrod Holman Water Authority
Mike Hogue, Chairman
P.O. Box 127
Buhl, Alabama 35446
Phone: 205-339-7283
Fax: 205-339-7290

2. The proposed project is located in Tuscaloosa County. The enclosed map more specifically shows the location of the proposed improvements.

3. This proposed project will consist of assembling and installing a new water treatment plant, upgrading the existing Well No. 2 pump, developing Well No. 3 into a production well as an additional water source, installing a raw water transmission main from Well No. 3 to the new water treatment plant, installing a raw water main from the existing

Mr. William Pearson
U.S. Fish and Wildlife Service
November 26, 2018
Page Two

Well No. 2 to the new water treatment plant, and installing a water main from the new water treatment plant to County Road 140.

4. The majority of work included in this project is within previously disturbed road rights-of-way and Buhl Elrod Holman Water Authority property. It is not anticipated that this project will disturb any endangered species. Agencies contacted for permits or concurrences include U.S. Fish and Wildlife, Alabama Historical Commission, U.S. Army Corps of Engineers, ADECA's Office of Water Resources, and West Alabama Regional Commission.

Please advise us of any present concerns you may have related to the project listed above. If you need additional information or have any questions, please do not hesitate to call. Your prompt attention to this matter will be greatly appreciated.

Sincerely yours,

THE CASSADY COMPANY, INC.

Liz Anne Espy

LizAnne Espy

LDE/kap
Enclosures
cc: Mr. Mike Hogue, Chairman
File 16-113

U.S. Fish and Wildlife Service
1208-B Main Street – Daphne, Alabama 36526
Phone: 251-441-5181 Fax: 251-441-6222

No federally listed species/critical habitat are known to occur in the project area. As described, the project will have no significant impact on fish and wildlife resources. IF PROJECT DESIGN CHANGES ARE MADE, PLEASE SUBMIT NEW PLANS FOR REVIEW. We recommend use of best management practices specific to your project (See http://www.fws.gov/daphne/section7/bmp.html).

William J. Pearson DEC 13 2018

William J. Pearson, Field Supervisor Date #3

FAX LABEL

To: Liz Anne Espy From: Bill Pearson
Fax: 205.330.0099 Pages: 2
Phone: Date: DEC 13 2018

ALABAMA HISTORICAL COMMISSION

468 South Perry Street
Montgomery, Alabama 36130-0900
334-242-3184 / Fax: 334-240-3477

Lisa D. Jones
Executive Director
State Historic Preservation Officer

May 2, 2019

Brian Green
Cassady Company, Inc.
4700 Highway 69 North
Northport, AL 35473

Re: AHC 19-0216
Buhl Water Treatment Plant Upgrade
Tuscaloosa County

Dear Mr. Green:

Upon review of the additional information forwarded by your office, we have determined that project activities will have no effect on any cultural resources listed on or eligible for the National Register of Historic Places. Therefore, we concur with the proposed project activities.

However, should artifacts or archaeological features be encountered during project activities, work shall cease and our office shall be consulted immediately. Artifacts are objects made, used or modified by humans. They include but are not excluded to arrowheads, broken pieces of pottery or glass, stone implements, metal fasteners or tools, etc. Archaeological features are stains in the soil that indicate disturbance by human activity. Some examples are post holes, building foundations, trash pits and even human burials. **This stipulation shall be placed on the construction plans to insure contractors are aware of it.**

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Amanda McBride at 334.230.2692 or Amanda.McBride@ahc.alabama.gov. Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

Lee Anne Wofford
Deputy State Historic Preservation Officer

LAW/EDS/amh

West Alabama
Regional Commission

4200 Highway 69 North, Suite 1 • P.O. Box 509 • Northport, Alabama 35476-0509
205.333.2990 • Facsimile 205.333.2713

May 24, 2019

The Cassady Company, Inc.
4700 Highway 69 North
Northport, AL 35473
Attn: LizAnne Espy

Re: Buhl Elrod Holman Water Authority DWSRF Water Treatment Plant Upgrade

Dear Ms. Espy:

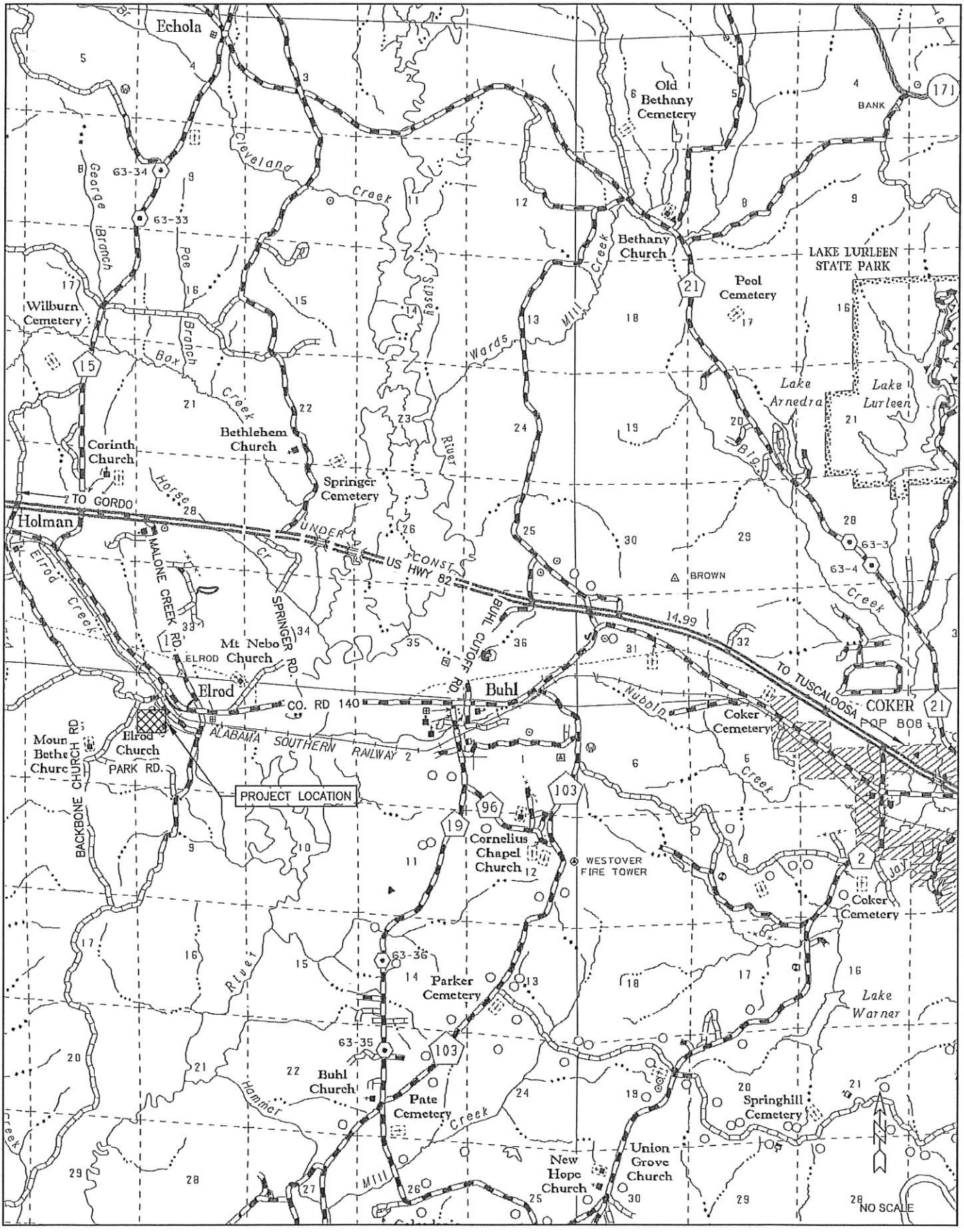
We have received your request for review of the Buhl-Elrod Holman Water Authority project to make system improvements including water well and treatment plant upgrades.

The West Alabama Regional Commission concurs with the project as proposed.

With best regards,

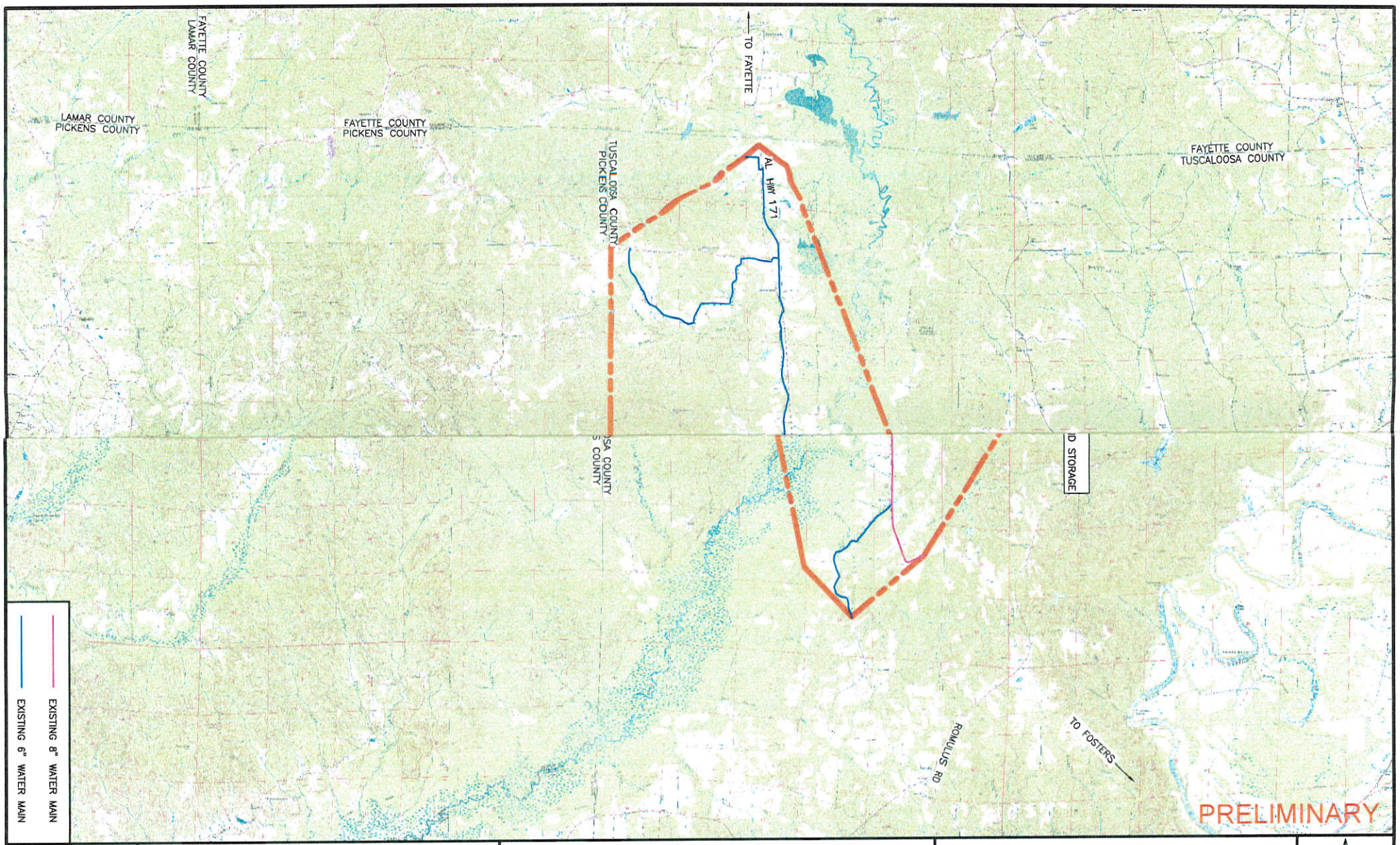
Cory Johnson
Director of Community and Economic Development

RECEIVED
MAY 28 2019
Per_____



DRAWN BY:	APPROVED BY: JCC	The Cassady Company, Inc.	PROJECT	SHT. NO.
DATE: Dec 10, 2018	PROJ. NO.: 16-113	*Providing Solutions for Water, Wastewater, and Storm Water Problems*	VICINITY MAP PROPOSED WATER TREATMENT PLANT UPGRADE BUHL, ELROD AND HOLMAN WATER AUTHORITY	1
DWG LAYOUT: T1	DWG.: LOCATION MAP	4700 Highway 69 North • Northport, AL 35473 Phone (205) 330-0098 • Fax (205) 330-0099		

The Cassady Company, Inc.
Last Saved By: LESPY
Drawing File: X:\16\113\Drawings\Overall Map.dwg
Layout: 22x34
Date Plotted: 11/12/2018 4:27 PM



EXISTING 8" WATER MAIN

EXISTING 6" WATER MAIN

DWG. NO. MAP

SHEET 1 of 1

DRAWN BY: MME
DATE: October 29, 2018
REVISED NO. ###
APPROVED BY: JCC
REV.

BUHL WATER TREATMENT PLANT UPGRADE
BUHL ELROD HOLMAN WATER AUTHORITY
TUSCALOOSA COUNTY, ALABAMA

The Cassady Company, Inc.
Providing Solutions for Water, Wastewater, and Storm Water Problems
4700 Highway 69 North • Northport, AL 35473
Phone (205) 330-0098 • Fax (205) 330-0099

OVERALL MAP

SCALE: 1"=1000'