

March 17, 2022

**VIA EMAIL ONLY (greg.young@tn.gov)**

Gregory T. Young, Esq., Deputy Commissioner  
Bureau of Environment  
Tennessee Dept. of Environment  
312 Rosa L. Parks Avenue, 2<sup>nd</sup> Floor  
Nashville, TN 37243

**Re: Opposition to Proposed WADC Wastewater Discharge to Lick Creek**

Dear Deputy Commissioner:

As you are aware, my firm has been asked to represent several concerned citizens of Hickman County and the Lick Creek watershed in opposition to the Water Authority of Dickson County's ("WADC") proposed effluent discharge on Lick Creek near Primm Springs, Tennessee. Thank you and your colleagues for taking the time to meet with our clients and representatives from BDY Environmental last week to discuss our concerns about the proposed project. At the conclusion of our meeting, you requested a letter memorializing the issues we discussed. Please consider this letter our first response to your request as we continue to work on gathering information that will demonstrate that the WADC application is woefully inadequate and the proposed project does not and cannot comply with Tennessee Department of Environment & Conservation's ("TDEC") antidegradation rules and regulations.

**I. Background and Summary**

The WADC recently submitted a National Pollutant Discharge Elimination System ("NPDES") application to the TDEC Division of Water Resources ("DWR") for a new discharge of treated sewage wastewater to Lick Creek near Mile 10.3 in Hickman County. Along with the permit application materials, WADC submitted their Preliminary Engineering Report ("PER"), our review of which guides the basis for the following analysis of why TDEC should deny WADC's request for a permit.<sup>1</sup>

In summary, WADC has failed to demonstrate that the degradation that will occur as a result of the proposed discharge is necessary to accommodate important social and economic development in the area. It also failed to consider that the proposed effluent outfall would discharge to an Exceptional Tennessee Water ("ETW"). Furthermore, WADC failed to undertake

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<sup>1</sup> Water Management Services, LLC, "East Hickman County Water Reclamation Facility Preliminary Engineering Report," December 2021, (33 pages).

a thorough and complete alternatives analysis.

## **II. Lack of Important Social or Economic Development**

The antidegradation statement of the water quality criteria rules states, “[i]f the proposed activity will cause degradation above a de minimis level or if it is a new discharge of domestic wastewater, a complete application will: (ii) Demonstrate that the proposed degradation is necessary to accommodate important social or economic development in the area in which the waters are located.”<sup>2</sup>

WADC’s PER fails to adequately address the need for social or economic development in the area in which the waters are located. In fact, there is a significant disconnect in their report. The PER consistently refers to the WADC service area, rather than the area in which the waters are located, when discussing the necessity of additional treatment capacity.

The area in which the discharge point is located is not within the 75-year planned service area of WADC’s new system as demonstrated by its PER. (**Attached hereto as Figure 1**).<sup>3</sup> Rather, the proposed discharge location is approximately 8 miles away from the service area boundary. Furthermore, the 75-year planned service area for WADC does not include the Lick Creek Watershed according to its own PER. WADC notes, “[i]t is anticipated that most of the growth will occur within the City of Dickson, the City of Fairview, and the area bounded by Interstate 40, Highway 46, Interstate 840, and Highway 100.”<sup>4</sup> This area is nowhere near the discharge point and clearly not inside the Lick Creek watershed. (**Figure 2**).

Thus, based on the two most practical, common-sense definitions of “the area in which the waters are located,” WADC has not and cannot demonstrate that the proposed degradation is necessary to accommodate important social or economic development in the area in which the waters are located.

Simply stated, WADC neither identifies nor substantiates socio-economic benefits to the outfall area, instead relying only on its broad and unsupported estimate that “between 100 and 500 new jobs” will result (in an unspecified area) from the project in the “next five to ten years.”<sup>5</sup>

Although demographic growth may result from expanded discharges, growth also brings social and economic challenges, such as traffic congestion, higher demand for municipal services, and need for additional infrastructure, including schools, arterial transportation routes, etc. Not only has the Applicant failed to detail the “important social and economic development in the area,” that would result from the Lick Creek discharge, it has not weighed the social and economic costs.

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<sup>2</sup> Tenn. Comp. R. & Regs. 0400-40-03-.06 (1)(b)(2)(ii).

<sup>3</sup> For clarity, the map attached as Figure 1 to this letter is labeled “Figure 2” in the PER and found at p. 4 of the PER.

<sup>4</sup> Water Management Services, LLC, “*East Hickman County Water Reclamation Facility Preliminary Engineering Report*,” December 2021, p. 3.

<sup>5</sup>*Id.* at 22.

Notwithstanding the burden of proof is upon the applicant, the citizens opposing this project have very eloquently, professionally, and in large numbers demonstrated many social and economic rationale *against* this project. As noted by the public comments and the concerns at the recent citizen meetings, the community has several legitimate concerns that will significantly impact farming operations and residences due to increased flooding as a result of doubling the volume of water in Lick Creek, organic farming on and near Lick Creek, recreational fishing and paddling, property values, tourism, and the intrinsic value of the natural resource. We will continue to develop information, facts, and supplementing documentation of the many other economic and social factors that should be considered in support of a permit denial.

### **III. WADC failed to Fully Consider Alternatives to the Proposed Discharge Location**

A critical component of the antidegradation analysis should be examination of an alternative discharge location, such as the Cumberland River or another larger receiving stream. The primary consideration for this alternative is avoiding the future obsolescence of discharge to a small stream, such as WADC is now experiencing. Discharging to a receiving water with ample assimilative capacity and absence of ETW concerns would have greater longevity and be appropriate to the magnitude and duration of WADC's proposed 75-year expansion plan.

WADC considered only a limited range of alternatives that focused strictly on technological options for managing a projected increase in sewer service demand. None of the alternatives considered in the PER included examining options to the proposed Lick Creek outfall location that will discharge treated effluent to an ETW with limited assimilative capacity.

In its PER, WADC declared the only feasible alternative is to double-down on the past, exhausted strategy of discharging to small streams.<sup>6</sup> The existing WADC discharge locations on Jones Creek, Trace Creek, and Flatrock Branch are approaching capacity on these effluent-dominated systems. Surprisingly, WADC's preferred alternative is to discharge to yet another small stream.

At the ultimate proposed discharge of 12 million gallons per day (mgd), the Lick Creek outfall would again result in a WADC creating an effluent-dominated flow, far exceeding the stream's 7Q10 of 8.5mgd. WADC's cursory analysis of its preferred alternative included no consideration for the quality or quantity of the proposed discharge's effects to Lick Creek as an ETW, its pollutant load, its value as a recreational fishery, its aquatic habitat, or diminishment of resource values.

A complete alternatives analysis would consider other discharge locations. These locations would best exclude ETWs or streams with current pollutant loads and limited assimilative capacities that would soon render their use as effluent receiving waters to be obsolete, leading to

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<sup>6</sup> "[a]ll three existing treatment facilities discharge into small streams in the Harpeth River Basin," *Supra*, PER, p. 18.

a repetition of WADC's current need for additional capacity.

The limitations of small streams to handle effluent loads in rapidly growing areas is intuitive, but also demonstrated by WADC's own experience. Other localities in intensive growth communities, such as Spring Hill, have encountered similar limitations. It is short-sighted for WADC not to consider a longer-term solution for their ambitious 75-year plan. In particular, a discharge location on the Cumberland River (on which WADC also has a water intake and water supply treatment plant) needs consideration as an alternative. This location would not encounter ETW restrictions or assimilative capacity limitations. Moreover, it would be more squarely within WADC's service area within which the social and economic benefits of the project might accrue.

#### **IV. Lick Creek is an Exceptional Tennessee Water**

Although apparently unrecognized by the Applicant, Lick Creek and its downstream reaches at which the effluent outfall location is proposed has been designated as an Exceptional Tennessee Water because of the presence of the coppercheek darter (*Etheostoma aquali*), a State-listed (threatened) species. Tennessee's Antidegradation Statement provides that a proposed activity resulting in more than *de minimis* degradation of aquatic habitat may only be justified by achieving "important economic or social development in the area."

Further, no violation of water quality criteria in the receiving waters is allowable. In addition to harboring a population of *E. aquali*, there is anecdotal evidence of naturally-reproducing trout (not stocked) occurring within Lick Creek. Local residents have reportedly caught and photographed both brown trout and rainbow trout from Lick Creek. **(See attached photographs)**. A review of the Tennessee Wildlife Resources Agency (TWRA) trout stocking schedule confirms that the Agency only stocks two streams in Hickman County, Cane Creek and Mill Creek.<sup>7</sup> WADC should have the burden of proving the lack of trout in Lick Creek in order to allow the proposed discharge of water with dissolved oxygen ("DO") of less than 6 and potentially 8. Currently, WADC's model indicates that the DO of the effluent *will be below* 6.

In its application materials, WADC fails to consider Lick Creek's status as an ETW, or the effects to aquatic habitat resulting from the proposed effluent discharge. Consequently, WADC's application is incomplete and illustrates its lack of concern for or accommodation of sensitive habitats and regulatory requirements.

#### **V. WADC Discharges to Lick Creek Will Result in More than *de minimis* Degradation**

Downstream of the WADC's proposed outfall location, Lick Creek receives flows from tributaries that are impaired by *Escherichia coli*, resulting from ubiquitous and intensive livestock production in the Lick Creek watershed **(Figure 3)**. TDEC has documented that *E. coli*

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<sup>7</sup> <https://www.tn.gov/content/dam/tn/twra/documents/fishing/trout/Trout-Stocking-Schedule-Complete.pdf>



concentrations in Lick Creek, both upstream and downstream of the proposed WADC outfall discharge, at times exceed the water quality criterion for recreation. During these conditions of high *E. coli* concentrations in Lick Creek, no assimilative capacity is available for additional *E. coli* loads.

Further, TDEC monitoring data include *E. coli* water quality exceedances downstream of two of WADC's existing effluent discharges (Jones Creek and Trace Creek) (**Figure 4**). TDEC monitoring data are not available from Flatrock Branch, to which WADC discharges from its Fairview WWTP, but we note that a moratorium previously has been imposed on additional sewage connections because of chronic system overflows that likely affected Flatrock Branch.

In their application materials, WADC does not address the level of degradation resulting from the proposed discharge to Lick Creek, nor consider the existing conditions in the stream, which will not accommodate system exceedances of *E. coli*.

## **VI. Additional Background Information**

Currently, WADC operates three wastewater treatment plants ("WWTPs") that serve portions of Dickson and Williamson Counties, and which respectively discharge to Jones Creek, Trace Creek, and Flatrock Branch, all of which are tributaries to the Cumberland River (**Figure 4**). Each of these plants is approaching its design capacity and all of them discharge to small, effluent-dominated tributaries to the Harpeth River.

If approved, the proposed discharge to Lick Creek would be the first step of a planned overhaul and expansion of WADC's wastewater treatment system. The expansion is comprehensive, assumes an ambitious, 75-year planning horizon, and includes construction of multiple facilities, including:

- A proposed new treatment plant (East Hickman County Water Reclamation Facility), targeted to be located in Hickman County, and which would receive flows diverted from existing WADC facilities in Williamson and Dickson Counties;
- Construction of two new regional pump stations to convey raw sewage from Williamson and Dickson Counties to Hickman County;
- Construction of two new raw-sewage force mains, respectively flowing from Williamson and Dickson Counties to Hickman County;
- Construction of a proposed treatment plant in Hickman County (the prospective East Hickman Water Reclamation Facility) that will receive both new and diverted raw sewage from Williamson and Dickson Counties;

- Reversal of flow in an existing force main that would deliver raw sewage from the Dickson area to the proposed new Hickman plant;
- Construction of an effluent force main from the prospective new East Hickman treatment plant (location is yet to be determined) to a proposed outfall on Lick Creek;
- Future upgrades of the prospective East Hickman facility to an ultimate 12 million gallon per day (mgd) capacity.

It is important to note that the proposed new treatment plant in Hickman County and its discharge to Lick Creek are primarily intended to accommodate existing and projected capacity needed by Dickson and Williamson Counties (chiefly, the Dickson and Fairview communities, but also, more distant communities such as Burns and White Bluff). The estimated additional capacity needed to serve Hickman County is substantially less than the aggregate of the other served communities and includes the speculative demand from a hypothetical “large wet industry” that may someday locate in Hickman County. Accordingly, most of the additional projected capacity of the proposed WADC expansion, and its related discharge to Lick Creek, will benefit areas other than Hickman County, and certainly not areas within the Lick Creek watershed.

Lastly, as discussed during our meeting, residents in the Lick Creek watershed obtain their drinking water from springs adjacent to Lick Creek or from wells. Several citizens have expressed concerns, not only about contamination, but about the effluent discharge raising the water levels to the extent they no longer have access to their springs for drinking water.

## **VII. Conclusion**

For all the foregoing discussions, frankly, it is outrageous for WADC to propose spending \$249,000,00.00 to build a sewer plant to dump *12 Million Gallons a Day* of effluent into Lick Creek, an Exceptional Tennessee Water with a low flow of 8mgd, thereby over doubling the volume of the creek with effluent. The discharge predominantly will service areas outside of Hickman County, while at the same time potentially devastating the lives and livelihoods of the local citizens in the Lick Creek area.

Thank you for advising us of your upcoming meeting with WADC, and we respectfully suggest that you consider just telling them outright that they should withdraw their woefully inadequate, pending application and go back to the drawing board and begin by performing a detailed and exhaustive alternatives analysis eliminating all practicable alternatives before wasting any more time and resources on a project that appears failed from the start.

Gregory T. Young, Esq.

March 17, 2022

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Yours truly,

BUTLER SNOW LLP

A handwritten signature in blue ink, appearing to read 'B. Hart Knight', with a long horizontal flourish extending to the right.

B. Hart Knight

cc: Commissioner David Salyers, TDEC (*via email only*)

Jennifer Dodd, TDEC (*via email only*)

Stephanie Durman, Esq., TDEC (*via email only*)

David Jackson, BDY (*via email only*)

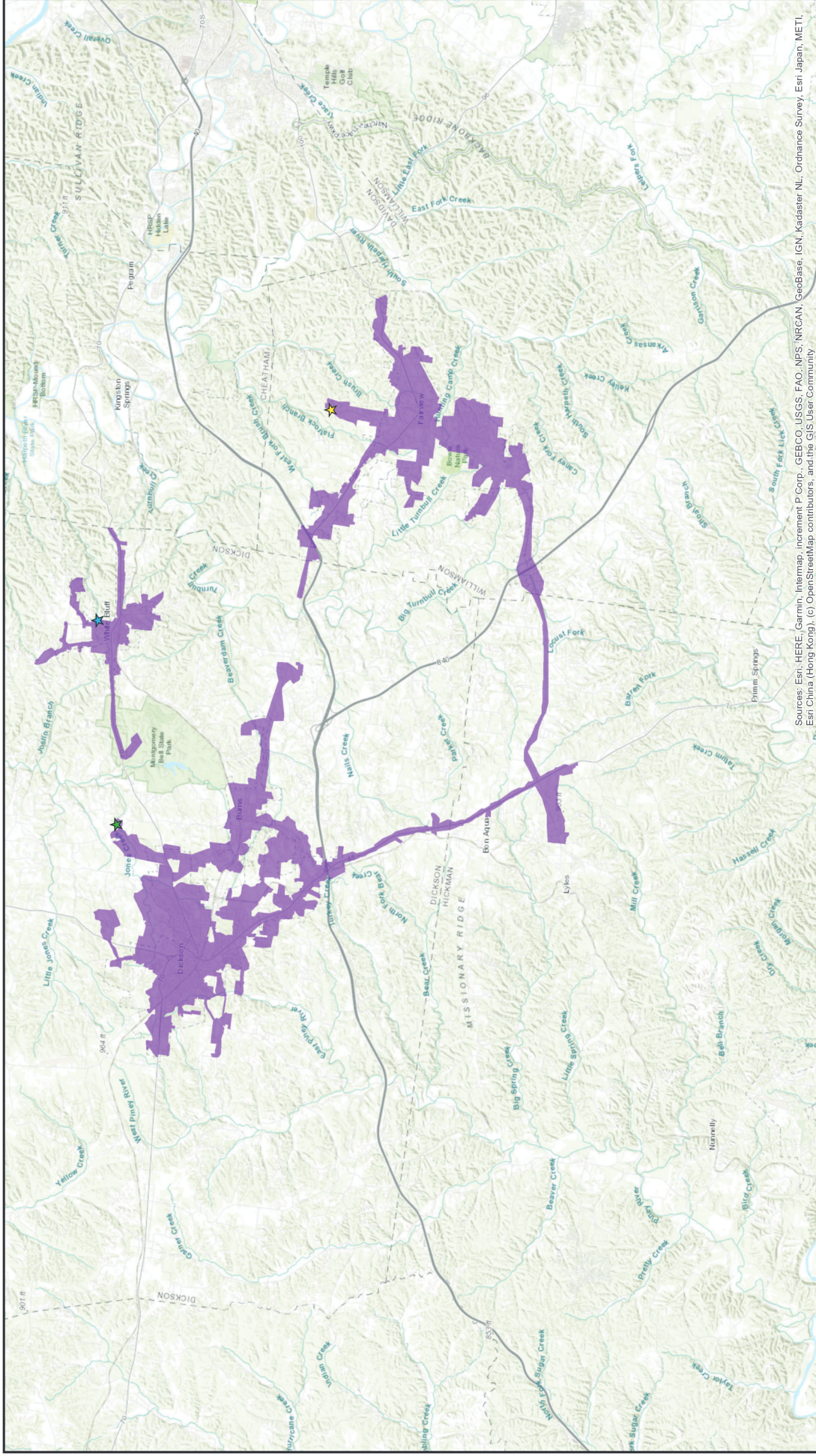
Sam Parish, BDY (*via email only*)

Glen Rohrbach, BDY (*via email only*)

J.W. Luna, Butler Snow (*via email only*)

Amanda Mathis (*via email only*)

Rodes Hart (*via email only*)



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

PREPARED BY:  
  
**WATER MANAGEMENT SERVICES, LLC**  
 PROFESSIONAL ENGINEERS  
 NASHVILLE, TN



**FIGURE 2**  
**PROJECTED FUTURE SEWER SERVICE AREAS**  
**75-YEAR PLANNING PERIOD**

**FIGURE 2**  
**EAST HICKMAN, TENNESSEE**

**WATER AUTHORITY OF DICKSON COUNTY**  
3033 County Road 100, Dickson, Tennessee 37055  
 615-444-0088 | www.wadickson.com

- ★ Fairview WWTP
- ★ Jones Creek WWTP
- ★ White Bluff WWTP



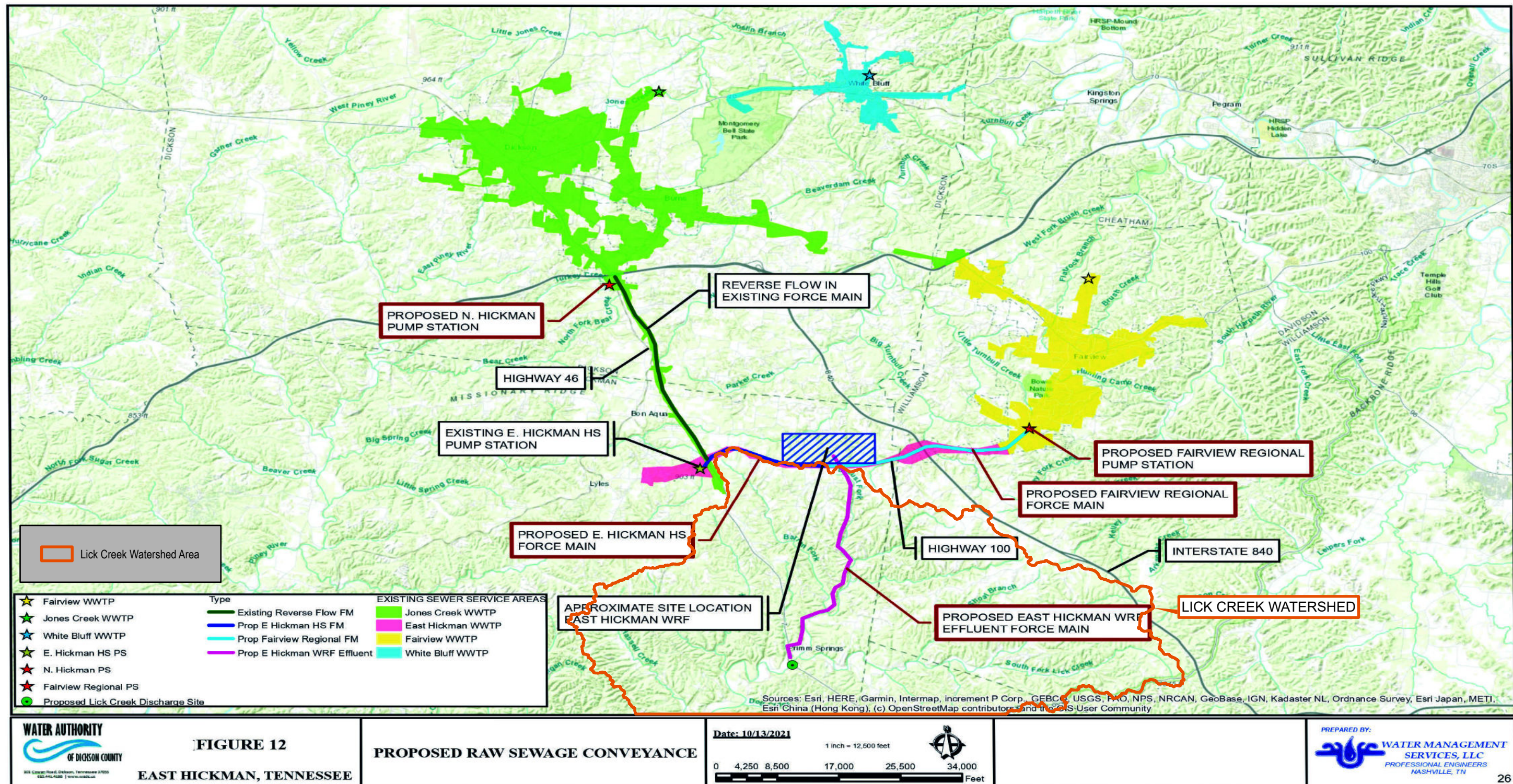
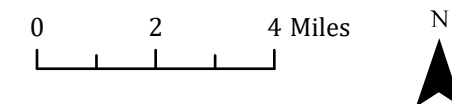


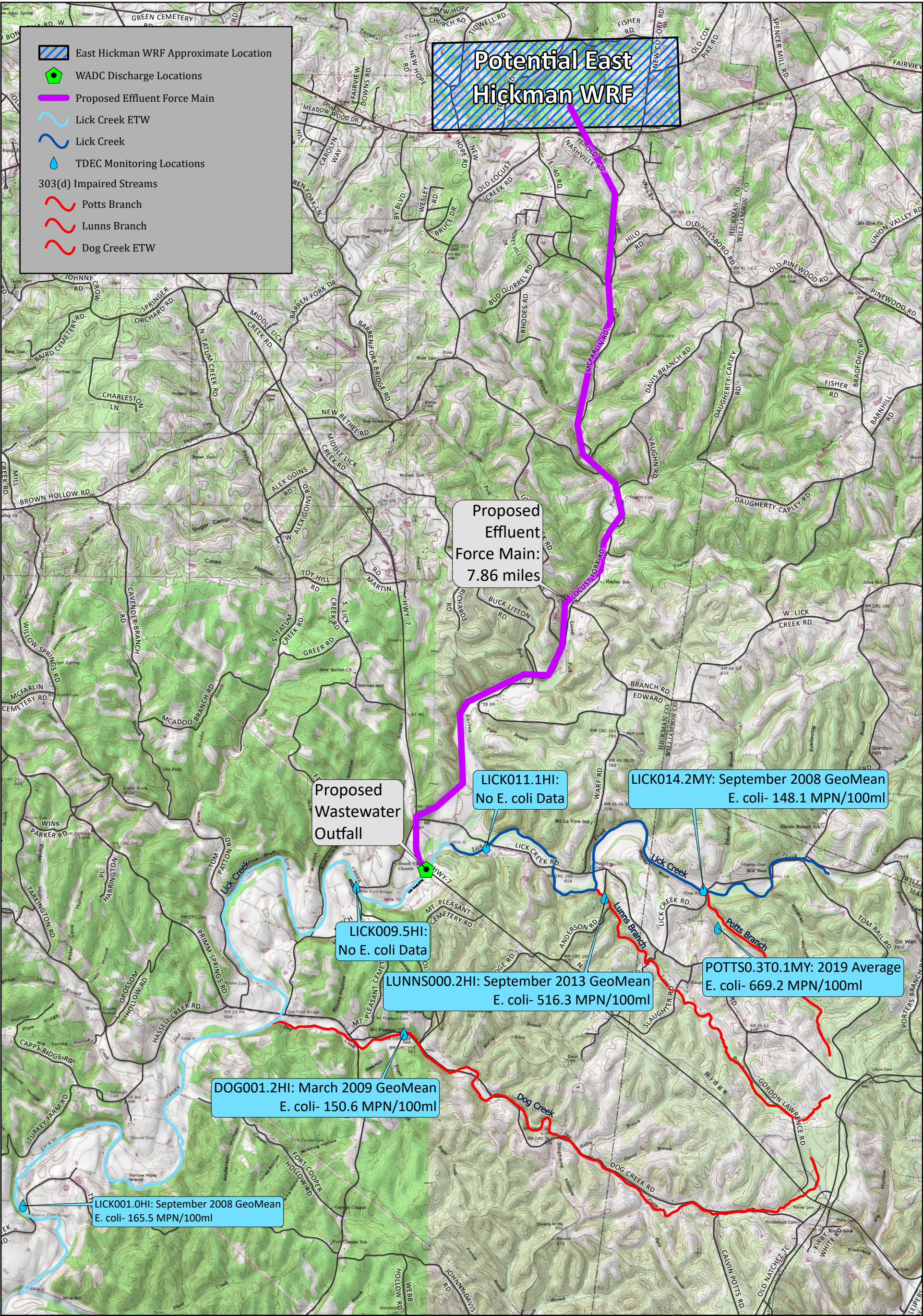
Figure 2. Overview of Existing and Proposed Expansion of WADC Wastewater Treatment System (Lick Creek Watershed Denoted in Orange Boundary) Dickson, Hickman, and Williamson Counties Tennessee



Date: 3/16/2022

87.26802°W 35.96115°N  
 Prepared for: Butler Snow; TDEC  
 Prepared by: G. Rohrbach / BDY Environmental, LLC.  
 Sources: ESRI USA Topo Map, WADC Proposed Sewer Service Areas Document



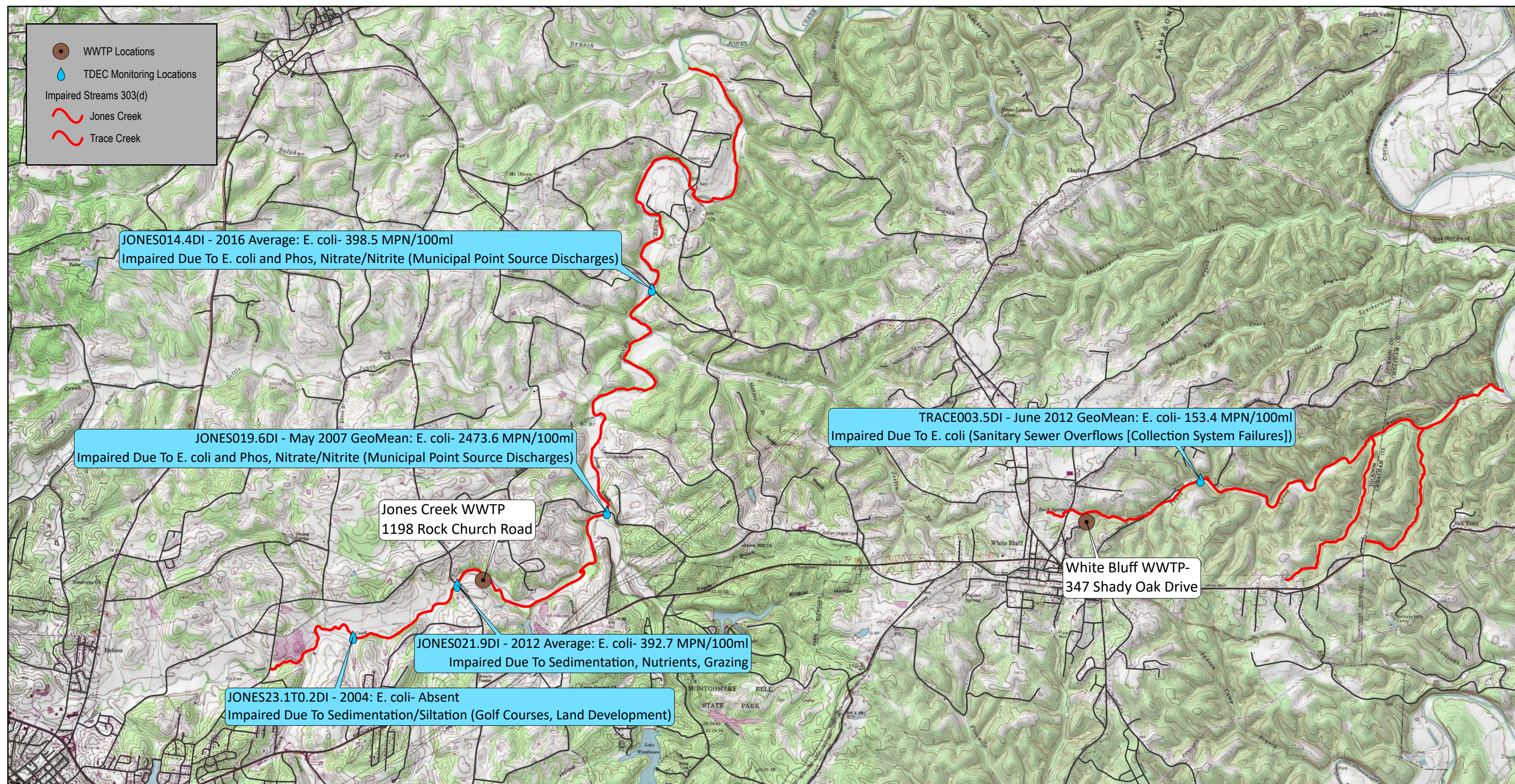


**Figure 3. Proposed WADC East Hickman Water Reclamation Facility and Outfall Proposed WADC Wastewater System Expansion  
Dickson, Hickman, and Williamson Counties  
Tennessee**

0 0.5 1 Miles N

Date: 3/16/2022  
NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US  
87.24588°W 35.86581°N  
Prepared for: TDEC  
Prepared by: G. Rohrbach / BDY Environmental  
Sources: TDOT Aerial Imagery, Esri cUSA Topo Maps,  
TDEC Div. of Water Resources Monitoring Data





**Figure 4. Jones Creek WWTP and White Bluff WWTP Locations, Receiving Streams, and *E. coli* Data Proposed WADC Wastewater Systems Expansion Dickson County, Tennessee**

0 0.5 1 Miles





