

To: Mayor Bruce Greenlee, Town of Bronson

From: Mark W. Thomas, PE

Date: March 16, 2026

RE: **Third-Party Review of ALT Analysis**
Kimley-Horn Project Number 242487000

BACKGROUND

The Town of Bronson ("Town") tasked Kimley-Horn with reviewing the Town's proposed membership in the Waccasassa Water and Wastewater Cooperative ("W3C"). The W3C is proposed to include the Town of Bronson, the City of Cedar Key ("Cedar Key"), and the Town of Otter Creek ("Otter Creek"). The purpose of the W3C is to provide bulk potable water supply and wastewater treatment to the three members. The Town is proposed to host the W3C water and wastewater facilities. The W3C project is in the planning process.

PURPOSE OF THE W3C

POTABLE WATER SUPPLY

The following is a summary of the stated purpose of the W3C according to the draft¹ water facilities plan. The Upper Floridan Aquifer ("UFA") provides low-quality water supplies for Cedar Key and Otter Creek due to influence of surrounding wetland flatwoods introducing undesirable constituents. With appropriate treatment, Cedar Key produces high-quality finished water for distribution to customers. Otter Creek produces low-quality finished water that customers reportedly do not use for consumption. The Town of Bronson has high-quality water available from the UFA due to its inland location and produces high-quality finished water for use by customers. The purpose of the W3C is to make high-quality UFA water supplies from the sources within the Town available to Cedar Key and Otter Creek.

WASTEWATER TREATMENT

The following is a summary of the stated purpose of the W3C according to the draft² wastewater facilities plan. Cedar Key has centralized wastewater collection and treatment infrastructure that serves most properties within the city. Treated effluent from Cedar Key's wastewater treatment facility ("WWTF") is infiltrated into the Gulf of America. Cedar Key hosts significant aquaculture operations. The aquaculture facilities may be affected by low-quality treated effluent from Cedar Key's WWTF that could occur under certain conditions, such as landfall of tropical weather systems in the area. The wastewater facility is also vulnerable to storm surges from tropical weather systems.

¹ Waccasassa Water and Wastewater Cooperative Facilities Plan. Water Facilities Plan. Dewberry, Wright Pierce, and Wetland Solutions Inc. Draft dated 12/17/24. Provided by the Town of Bronson to Kimley-Horn in February 2026.

² Waccasassa Water and Wastewater Cooperative Facilities Plan. Wastewater Facilities Plan. Dewberry, Wright Pierce, and Wetland Solutions Inc. Draft dated 12/16/24. Provided by the Town of Bronson to Kimley-Horn in February 2026.

Otter Creek residents use on-site treatment and disposal systems (“OSTDS” or “septic systems”) for wastewater treatment. The facility plan reports that use of OSTDS can lead to bacterial contamination of private domestic water supply wells within unincorporated areas of Levy County during flooding events.

The Town of Bronson provides centralized wastewater service for ±200 customers. The rest of the Town utilizes OSTDS, including a portion within the Rainbow Springs Basin Management Action Plan (“Rainbow Springs BMAP”). In general, the State of Florida requires OSTDS within BMAPs to be converted to centralized wastewater systems or to enhanced OSTDS capable of reducing nitrogen/nutrient loads.

The purpose of the W3C is to provide centralized wastewater treatment to Cedar Key, Otter Creek, and the Town of Bronson. The Town would host the W3C WWTF and treated effluent disposal area. This arrangement mitigates risk to Cedar Key’s aquaculture operations, eliminates storm surge risk to Cedar Key’s WWTF, and prevents infiltration of treated effluent into the Gulf of America. The W3C WWTF appears to provide capacity for septic-to-sewer conversion in Otter Creek and the Town.

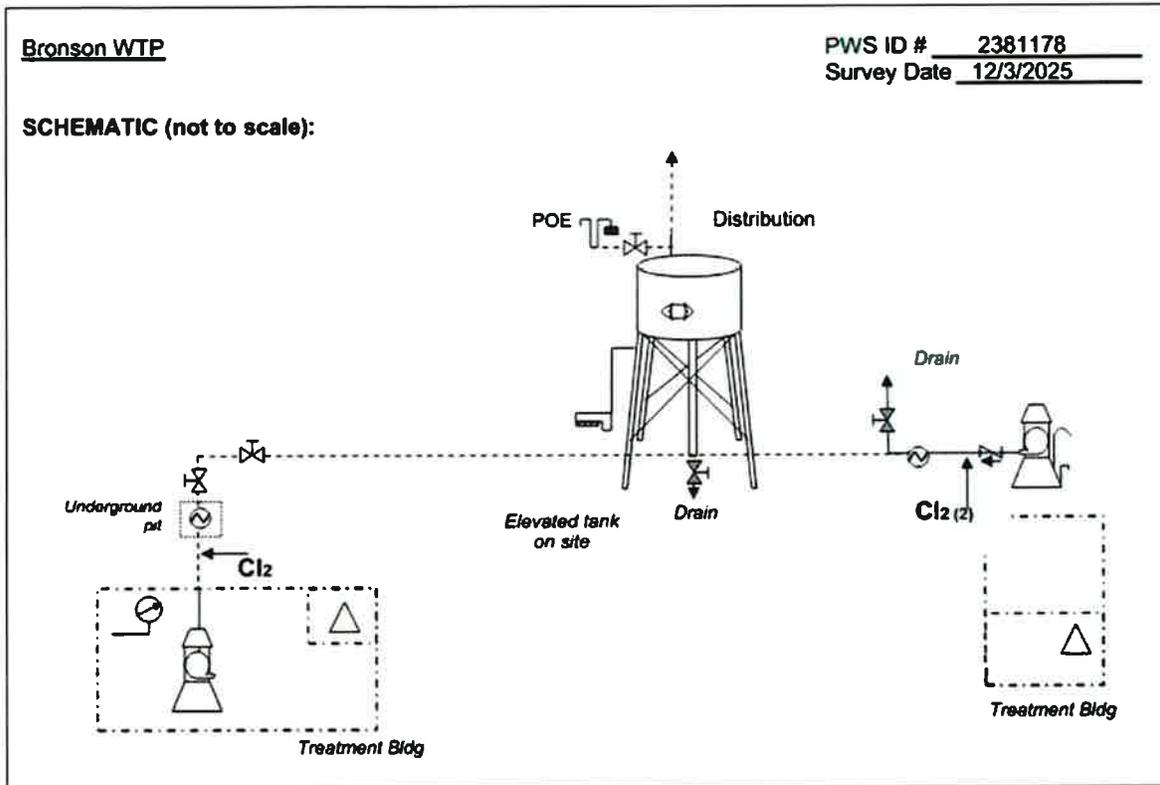
EXISTING FACILITIES

WATER TREATMENT PLANT

The Town operates the “Bronson Water Treatment Plant” (“Bronson WTP”) under the Florida Department of Environmental Protection (“FDEP”) public water system (“PWS”) ID 2381178. The Bronson WTP is a category V class 3 facility with a maximum-day design capacity of 1.6 million gallons per day (“MGD”) according to FDEP permit P0080301-005-DSGP. As shown by **Figure 1**, the Bronson WTP consists of an 8-inch well and a 12-inch well that draw from the UFA and a 150,000-gallon elevated storage tank. The PWS serves a population of ±1,125 persons via ±687 service connections. The Town’s Suwannee River Water Management District (“SRWMD”) consumptive use permit³ limits groundwater withdrawals to 1.1808 MGD.

³ Consumptive Use Permit 2-84-00834.002. Suwannee River Water Management District. 2013 – 2033.

Figure 1: Town of Bronson Water Treatment Plant Schematic

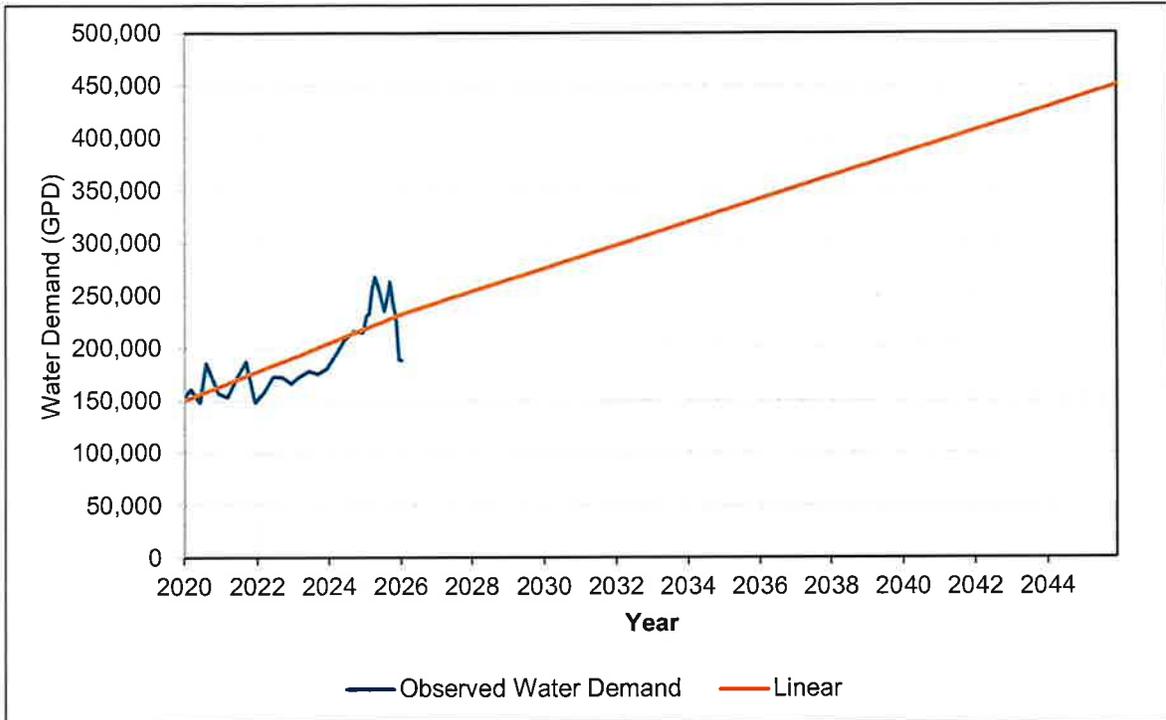


(Obtained from Sanitary Survey dated 12/3/2025)

WATER DEMAND PROJECTIONS

Kimley-Horn reviewed monthly operating reports (“MORs”) for January 2020 through February 2026. Reports were reviewed on a quarterly basis for 2020 through 2024 and a monthly basis for 2025 and early 2026. Kimley-Horn used reported water production to develop a linear projection model through 2045. This approach was taken because it is unclear how the Town plans to expand the area served by centralized water. The linear projection model achieves a reasonable fit with observed data. As shown in **Figure 2**, the projections indicate that potable water demand could approximately double from ±225,000 gallons per day (“GPD”) to ±450,000 GPD over the next 20 years. This is within the existing permitted capacity of the Bronson WTP and would not be expected to trigger a need for capacity expansion directly. Based on these projections, Kimley-Horn notes that the Town does not appear to need additional water treatment capacity over the next 20 years.

Figure 2: Water Demand Projections



WASTEWATER TREATMENT FACILITY

The Town operates the “Bronson WWTF” under FDEP permit FLA317659. It is located at the northeast corner of the Ishie Avenue / NE 80th Avenue intersection. The Bronson WWTF is permitted for 0.083 MGD. Primary disposal is via a slow-rate restricted-access 8.2-acre sprayfield and two rapid infiltration basins (“RIBs”) with a combined bottom area of 37,000 square feet (“ft²”), providing backup disposal capacity. The Bronson WWTF was originally designed to use the modified Ludzack-Ettinger activated sludge process but currently operates using an extended aeration activated sludge process. Effluent water quality is limited as follows:

- 5-day carbonaceous biological oxygen demand (“BOD”): 20 milligrams per liter (“mg/L”) annual average
- Total suspended solids (“TSS”): 20 mg/L annual average
- Nitrite plus nitrate (as nitrogen): report monthly
- Total nitrogen (“TN”): report bimonthly
- Total phosphorus (“TP”): report bimonthly

Figure 3: Overview of Bronson WWTF and Disposal Sites

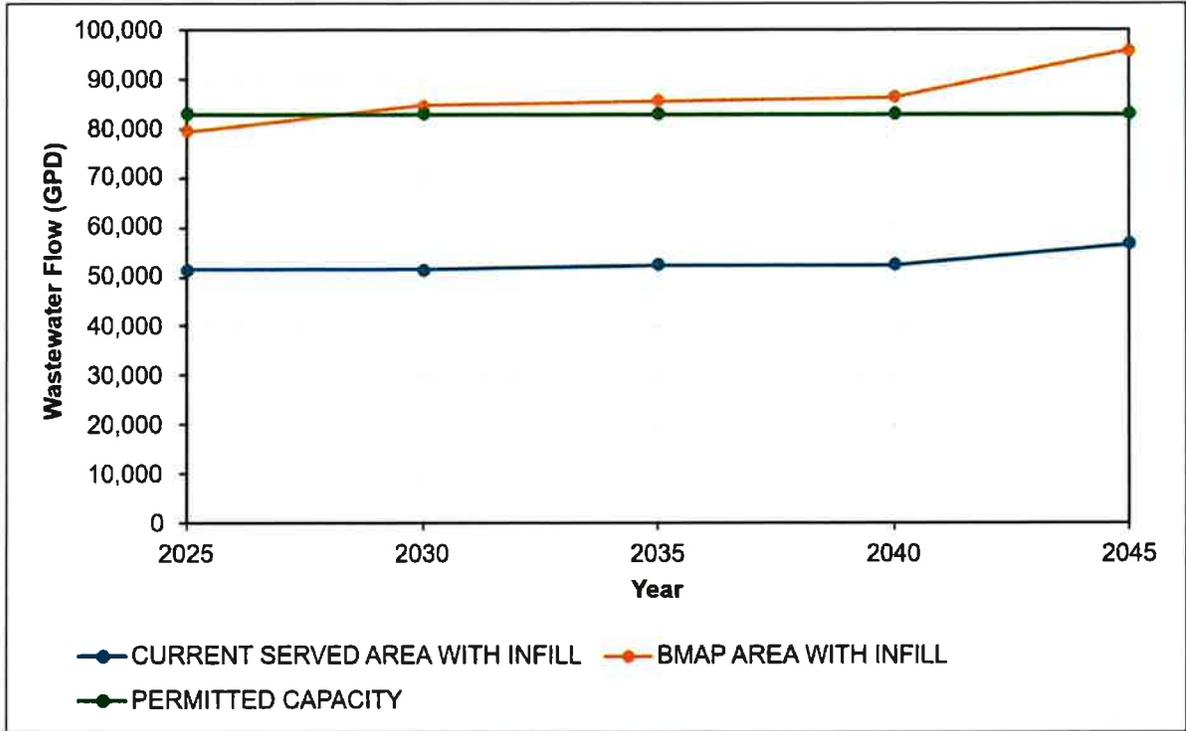


(Obtained from FDEP Operating Permit FLA317659)

WASTEWATER FLOW PROJECTIONS

A portion of Bronson is within the Rainbow Springs BMAP, and it is required that parcels within that area be converted from septic to sewer or enhanced septic systems. Additionally, the current service area contains infill parcels that will contribute wastewater flow to the Town’s WWTF when they become occupied. The Southwest Florida Water Management District (“SWFWMD”) develops population projections and makes them publicly available via shapefiles, which include Levy County. Using the population projections for the existing served area, Kimley-Horn estimates a gross wastewater production rate of 65 GPD per capita (“GPDC”). Kimley-Horn prepared wastewater flow projections through 2045. The projections assume that vacant infill parcels within the currently served area will be connected upon development. With septic-to-sewer funding not guaranteed, it is unknown when parcels within the Rainbow Springs BMAP will connect to the Town’s collection system. **Figure 3** summarizes these flow projections. Projections indicate that converting the septic tanks that are within the Rainbow Springs BMAP area will result in wastewater flows that exceed the existing WWTF permitted capacity by approximately 15,000 GPD. It is likely that the plant could be rerated with minor improvements to accommodate flows from the Rainbow Springs BMAP area. However, the Town could support partial septic to sewer conversions within the Rainbow Springs BMAP area without WWTF improvements. The Town could seek grant funding for necessary WWTF improvements as part of full septic to sewer conversion in the Rainbow Springs BMAP area.

Figure 4: Wastewater Flow Projections



REGULATORY ENVIRONMENT

RAINBOW SPRINGS BASIN MANAGEMENT ACTION PLAN

The Rainbow Springs BMAP was adopted in 2015 under the authority of the Florida Watershed Restoration Act and the Impaired Surface Waters Rule. The plan sets forth strategies to reduce nitrogen loading into the UFA. The intent is to reduce nitrogen concentrations into the Rainbow Springs Group to the adopted total maximum daily load (“TMDL”) of 0.35 milligrams per liter of nitrate. A significant strategy for reducing nitrogen loading is to convert OSTDS to central sewer and limit nitrogen concentrations in WWTF effluent.

WASTEWATER TREATMENT FACILITY (WWTF) BMAP REMEDIATION PLAN

Florida Statute 403.067(7)(a)9 requires local governments within BMAPs to develop a wastewater treatment/OSTDS remediation plan. In 2024, The Town of Bronson prepared a BMAP remediation plan⁴ in accordance with this requirement in 2024. The plan proposes septic-to-sewer conversions for areas within the Rainbow Springs BMAP. Future septic-to-sewer conversions would be contingent upon grant funding because the Town does not have the fiscal capacity to undertake these projects directly.

⁴ BMAP Remediation Plan for Town of Bronson, Florida. Mittauer & Associates, Inc. July 2024.

OBLIGATIONS

With respect to wastewater treatment, the Town's obligations under the Rainbow Springs BMAP appear limited to converting OSTDS to centralized sewer to the extent that grant funds are made available to fund septic to sewer projects. In addition, the Town could adopt an ordinance requiring enhanced OSTDS within the Rainbow Springs BMAP for replacement systems and new development.

REGULATORY RISKS**RAINBOW SPRINGS BMAP AREA EXPANSION**

Although the Rainbow Springs BMAP sets limits for WWTF effluent quality, the Town's WWTF and disposal areas are approximately 0.5 miles outside of the Rainbow Springs BMAP and are thus subject to only the requirements of 62-600.420 Florida Administrative Code ("FAC"), which are consistent with the Town's current operating permit. Kimley-Horn contacted the FDEP about potential expansion of the Rainbow Springs BMAP area. At the time of this report, FDEP confirmed that there were no plans to expand the Rainbow Springs BMAP. The FDEP has previously confirmed to the Town that the Town's WWTF is not required to meet advanced wastewater treatment ("AWT") standards because it is outside of a BMAP area. It is possible that the Town's WWTF could be within an expanded Rainbow Springs BMAP area in the future. This would result in limiting concentrations for total nitrogen in the Town's WWTF effluent. However, this would not occur before 2035 due to certain requirements of the BMAP process.

CAPACITY ANALYSIS REPORTING REQUIREMENTS

Rule 62-600.405(3), FAC, states that if the three-month average daily flow of a treatment facility exceeds 50% of the permitted capacity of the treatment plant, a capacity analysis report ("CAR") is required to be submitted within 180 days of the last day of the last month in the three-month average or with the facility's next permit renewal, whichever comes first. Depending on the findings of the CAR, additional report updates are needed either annually or on a five-year basis. If the CAR shows that the plant will equal its permitted capacity in the following 4 years, the report will require a statement, signed and sealed by an engineer, that plans and specifications are being prepared for the expansion of the plant. If the CAR shows the plant will equal its capacity in 3 years, the permittee is required to submit a complete permit application for the expansion of the plant.

The Bronson WWTF is projected to reach the 50% capacity threshold based upon continued infill within the currently serviced area. Flow projections show the Bronson WWTF will exceed its current permitted capacity upon full septic-to-sewer conversion for properties within the Rainbow Springs BMAP. These conversions are dependent upon grant funding provided by the State, and the timing is unknown. In the case of business as usual, there does not appear to be a near-term need to expand the Town's WWTF.

SUMMARY

Flow projections indicate that the Bronson WWTF will exceed the existing permitted capacity by approximately 15,000 GPD with full septic-to-sewer conversion of the septic systems within the Rainbow Springs BMAP. However, septic to sewer conversion is dependent on grant funding with uncertain timing. Grant funds could be sought for WWTF improvements to accommodate additional flows from the Rainbow Springs BMAP area as future septic to sewer conversions are brought online. Because the timing of future septic to sewer conversions is unknown, current data shows there is no immediate need for expansion, as wastewater flows are not expected to exceed the Bronson WWTF capacity under present conditions. The

Town does not have an immediate or near-term need for increased wastewater treatment capacity offered by the proposed W3C WWTF.

Flow projections indicate that the Bronson WTP has sufficient capacity through 2045. The Town does not have an immediate need for increased water capacity offered by the proposed W3C WTP.

Review of W3C facility plans and related presentations reveals discrepancies in permitted capacities and projected wastewater flows, with some estimates conflicting between documents and surveys. The conversion of homes from septic to sewer will increase flow but remains within the WWTF's permitted capacity, though it may trigger reporting requirements. Different methodologies used for flow estimation have resulted in inconsistent projections, highlighting the need for clarity and alignment in future planning and reporting. Overall, expansion of the Town's WWTF is not required at this time based on the available information.

MWT/AJG/sab

CC: File

<https://kimleyhorn.sharepoint.com/sites/AlanGarrisTeamCoordination/Shared Documents/General/Third Party Review and ALT Analysis - 242487000/Documents/Reports/SUMMARYTownOfBronson260305bnl.docx>

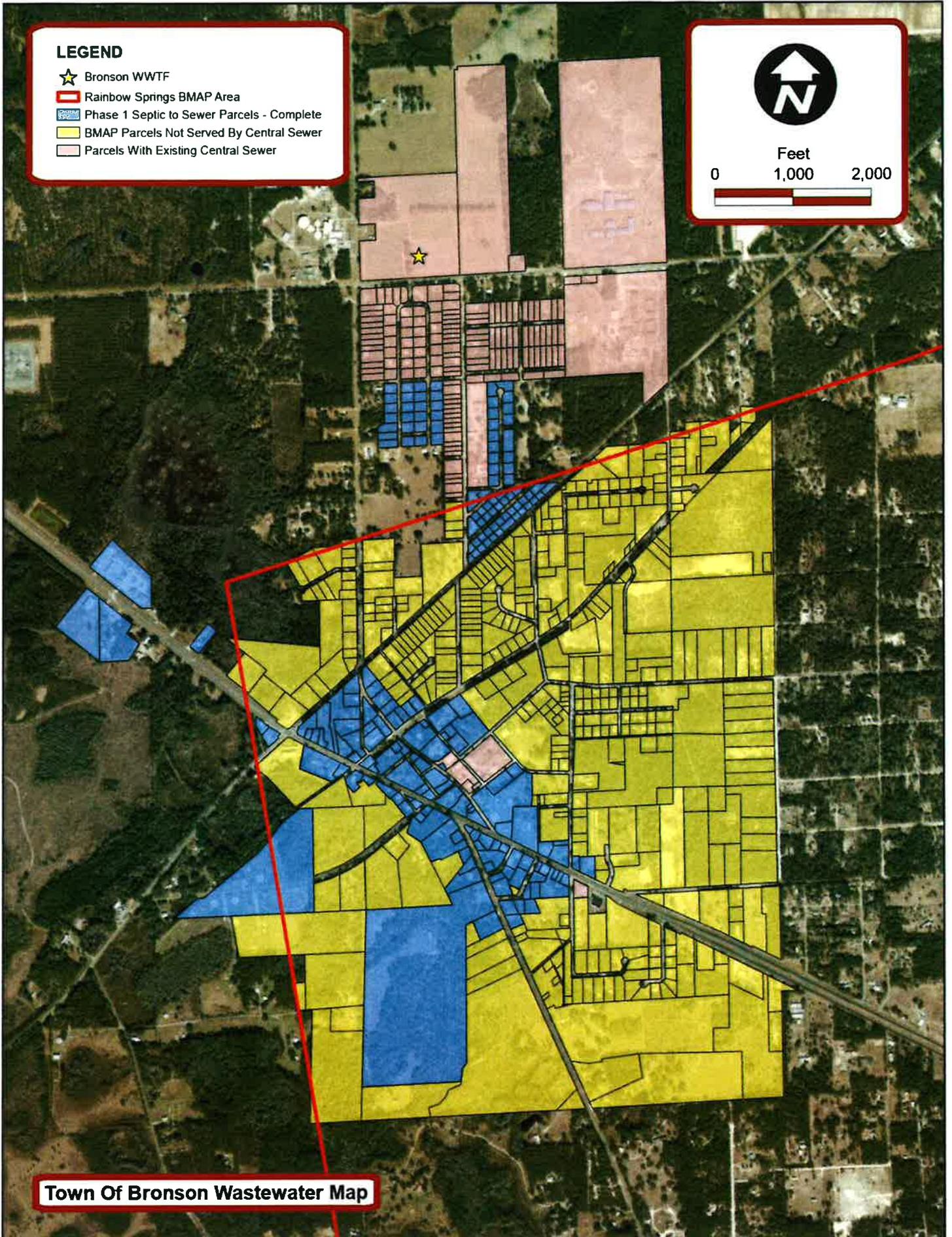
ATTACHMENTS

LEGEND

- ★ Bronson WWTF
- ▭ Rainbow Springs BMAP Area
- ▭ Phase 1 Septic to Sewer Parcels - Complete
- ▭ BMAP Parcels Not Served By Central Sewer
- ▭ Parcels With Existing Central Sewer



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Town Of Bronson Wastewater Map